Global Authenticity, Consent, and Royalty Infrastructure for Voice, Image, Film, Music, and Synthetic Media

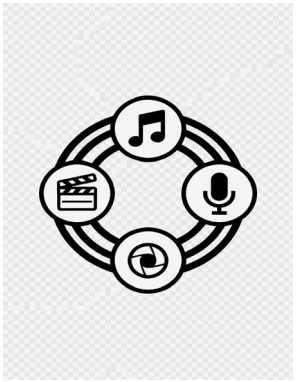
Provenance, Authorized Use, Derivation Lineage, and Bounded Verification for Rights, Revenue, and Review Workflows

(Non-Normative)

This submission presents a cryptographic infrastructure for the verifiable provenance, consent, and monetization of digital and synthetic media. It details an auditable operational architecture designed to mitigate intellectual property risks and secure royalty supply chains while upholding U.S. market integrity and investor protection standards.

Submission to the U.S. Securities and Exchange Commission (SEC)

Date: March 19, 2026



"A technical blueprint for synchronizing digital and synthetic media provenance with cryptographic authenticity and immutable royalty settlement workflows."

Cover Letter

To: The U.S. Securities and Exchange Commission (SEC)

Date: March 19, 2026

Subject: Submission of the Global Authenticity, Consent, and Royalty Infrastructure Framework

Dear Sir/Madam,

I am pleased to submit the *Global Authenticity, Consent, and Royalty Infrastructure for Voice, Image, Film, Music, and Synthetic Media* for your review.

As digital and synthetic media increasingly intersect with financial markets, tokenized securities, and corporate revenue reporting, traditional auditing mechanisms face unprecedented structural challenges. This submission provides a cryptographic, "examiner-safe" framework to verify the authenticity, authorized use, and financial lineage of media assets.

To address the complexities of modern media monetization and protect market integrity, this framework introduces:

- **Immutable Provenance & Lineage:** Cryptographic tracking of original and AI-assisted derivative works to ensure accurate revenue attribution and mitigate intellectual property litigation risks.
- **Bounded Verification (Tiered Access):** Privacy-preserving auditing models that allow regulatory examiners to verify royalty streams and financial flows without exposing underlying commercial trade secrets.
- **Financial Settlement Integrity:** Standardized Evidence Packs that link rights-chain integrity directly to auditable payout and settlement systems.

Designed to seamlessly integrate with established operational tracks—including the Polaris and KPP baselines—this architecture provides a rigorous governance solution for the financial oversight of next-generation media assets.

I look forward to discussing how this technical infrastructure can support the SEC’s mission to protect investors and maintain fair, orderly, and efficient markets in the era of synthetic media.

Sincerely,

/s/ Daniel Bruno Corvelo Costa

Proponent & Lead Architect

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0. Executive Summary

0.1 The Core Problem

Digital media artifacts — voice recordings, images, film sequences, musical works, and their synthetic or AI-assisted derivatives — increasingly drive economically consequential decisions: licensing transactions, royalty calculations, distribution approvals, commercial authorizations, and institutional review determinations. Yet the operational infrastructure supporting those decisions has not kept pace with the complexity of how these artifacts are created, transformed, distributed, and monetized.

Three structural failures converge:

Failure Domain	Operational Manifestation
Authenticity and source integrity	Institutions cannot reliably distinguish official-release objects from drafts, derivatives, or unauthorized synthetic replicas without pervasive disclosure
Consent and authorized-use state	Consent records are fragmented, oversimplified, or severed from the scope of use they were intended to govern
Royalty and settlement evidence	Revenue calculations proceed downstream from weak usage evidence, incomplete authorization chains, and unlinked payout confirmations

These failures are not isolated. They compound: weak authenticity evidence contaminates consent-scope determinations; incomplete derivation lineage breaks royalty-split logic; unresolved consent disputes block settlement finality; and opaque trust assumptions replace replayable audit trails throughout.

The result is a class of institutionally unresolvable disputes — disputes in which no party can independently reconstruct who originated a work, who authorized its use, how it was transformed, who monetized it, and who should have been paid — without defaulting to assertions, screenshots, or fragmented contractual records.

0.2 Why the Problem Has Intensified

The proliferation of AI-generated, AI-assisted, and AI-modified outputs has structurally altered the origin-attribution problem. In prior media workflows, provenance was assumed to be reconstructable from physical artifacts, master recordings, production chain documentation, or studio registries. That assumption no longer holds as a general proposition.

Synthetic voice clones, composite image outputs, AI-dubbed film scenes, machine-generated music, and computationally assembled derivative works can be produced at scale, at low cost, and with minimal observable connection to any canonical source object. The operational consequence is not primarily a legal or ethical one — it is an evidentiary one: institutions that need to verify, audit, or dispute these artifacts lack a reliable mechanism to do so under bounded access conditions.

Simultaneously, the economic stakes attached to these determinations have increased. Voice likeness licensing, synthetic dubbing rights, AI training data authorization, streaming royalty splits, and derivative-use clearances now constitute material revenue streams with corresponding institutional review exposure.

0.3 What This Framework Addresses

Core Thesis: The objective of this framework is to make authenticity, consent, derivation, and royalty states evidentiary, replayable, and governable. It does not determine artistic, legal, or commercial truth by decree and does not replace contracts, institutional review, editorial judgment, or legal adjudication; it provides an operational evidence layer that allows media artifacts, authorization states, transformation histories, and revenue-linked claims to be independently reconstructed, verified, escalated, preserved, corrected, and reviewed under bounded access conditions.

This framework addresses seven operational pillars, in priority order:

Priority	Pillar	What It Governs
1	Authenticity and source integrity	Whether a media artifact can be traced to a verified canonical source object
2	Consent and authorized-use state	Whether a use is within the evidenced scope of authorization granted by the appropriate signatory
3	Derivation and version lineage	How a media artifact was transformed from its source, and through what chain of approvals
4	Rights-chain and scope-of-use integrity	Which parties hold what rights, under what territory, duration, channel, and purpose constraints
5	Royalty calculation and settlement evidence	Whether usage evidence, calculation artifacts, and payout confirmations are linked and replayable
6	Bounded reviewer and examiner access	How institutional reviewers access evidence without triggering pervasive disclosure
7	Reconciliation, escalation, and correction	How disputes, breaks, supersession events, and holds are governed without destructive overwrite

0.4 What This Framework Is and Is Not

This framework is:

- A non-normative, examiner-ready, institution-usable operating model for authenticity, consent, derivation, and royalty workflows across voice, image, film, music, and synthetic media.
- A cross-domain application of evidence, reconciliation, governance, provenance, settlement, and bounded-verification disciplines drawn from baseline financial infrastructure frameworks.
- Designed for use by institutional reviewers, creators' representatives, rightsholders, distributors, platforms, auditors, and supervisory readers.

This framework is not:

- A universal identity system or centralized registry of individuals or performers.
- A copyright manifesto, publicity-rights advocacy paper, or media ethics essay.
- A platform moderation, content takedown, or censorship framework.
- A replacement for contracts, collecting societies, guilds, studios, labels, publishers, courts, or institutional review.
- A legal treatise or source of legal conclusions regarding infringement, authorship, fair use, or liability.
- A framework focused primarily on end-user identity verification; it centers on authority, provenance, consent state, transformation state, rights state, usage evidence, and replayable auditability.

0.5 Baseline Architecture

This framework is directly grounded in five operational baselines:

Baseline	Role in This Framework
Ownership Integrity Reconciliation Pack for Tokenized Securities (Baseline A)	Reconciliation architecture, break taxonomy, EP Delta correction chains, offboarding proof bundles, content-addressed manifests
SEC Submission – Operationalization Track (Baseline B)	Evidence pack specifications, tiered supervisory access (Tier 0/1/2), conformance playbooks, governance structures, hold-and-release runbooks
FCCK Pilot Operational Assurance Artifacts Addendum (Baseline C)	Chain-of-custody discipline, post-access review, examiner query packs, standard checks packs, RACI structures
Payments and Settlement Operating Model (Baseline D)	Settlement confirmation linkage, payout evidence, unmatched-payment break handling, operational finality discipline
ZKP Programmable Privacy Framework (Baseline E — optional)	Proof-based minimization, bounded reviewer disclosure, freshness/revocation discipline, reviewer-safe verification outputs

All operational vocabulary, control patterns, artifact structures, and governance disciplines in this framework are drawn from or directly compatible with these baselines. New terms are introduced only where no adequate baseline equivalent exists.

0.6 How to Read This Document

Reviewers with examiner or audit responsibilities should begin at Section 14 (Standard Checks Pack and Query Pack) and navigate backward using Appendix K (Reader Navigation Map). Reviewers evaluating a specific dispute type should consult Section 12 and the relevant worked example in Section 15. Reviewers evaluating royalty evidence should begin at Section 8 and cross-reference Appendix I.

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1. Non-Normative Disclaimer and Scope Boundaries

1.1 Scope

This document is a non-normative operational framework. It describes evidence states, control patterns, governance disciplines, artifact structures, and operational workflows applicable to authenticity, consent, derivation lineage, rights-chain integrity, royalty calculation, settlement confirmation, and bounded reviewer access across voice, image, film, music, and synthetic-media workflows.

The framework applies to:

- Natural and AI-generated voice recordings, synthetic voice outputs, and derivative vocal performances.
- Still images, moving images, likenesses, and synthetic image composites used in commercial, promotional, or distributive contexts.
- Film and audiovisual works including edits, dubs, trailers, clips, highlights, and scene-level transformations.
- Musical works, recordings, stems, samples, remixes, and AI-assisted or AI-generated audio outputs.
- Any synthetic or composite media artifact whose authenticity, authorization state, derivation lineage, or associated revenue entitlements may be subject to institutional review, dispute, or audit.

1.2 Explicit Non-Goals

The following are outside the scope of this framework and must not be inferred from its contents:

Non-Goal	Clarification
Universal identity system	This framework does not propose a centralized registry of individuals, performers, creators, or rights-holders
Legal conclusions	No statement in this document constitutes legal advice or a legal conclusion regarding copyright ownership, infringement, fair use, authorship, publicity rights, defamation, fraud, admissibility, or liability
Platform moderation or censorship	This framework does not govern what content may be published, removed, or restricted on any platform
Replacement of contracts or collecting societies	Contracts, guilds, labels, studios, publishers, collecting societies, and institutional review bodies remain the operative governance layer for

Non-Goal	Clarification
	legal rights and obligations
Mandate or final rule	This framework creates no new legal obligations; it describes operational patterns that institutions may adopt
NFT, collectibles, or fandom frameworks	Speculative token economics and consumer collectibles are outside scope
Single-domain focus	The framework is explicitly cross-domain; it must not be read as applying to music only, image only, AI only, or royalties only

1.3 Baseline Anchors and Vocabulary Reuse

This framework reuses, without modification, the following operational vocabulary from the named baselines:

From Baselines A and C (Reconciliation and Assurance): Evidence Pack (EP), EP Delta, immutable log, content-addressed manifest, preservation bundle, chain-of-custody, break taxonomy, standard checks pack, hold-only containment, offboarding proof bundle, recertification cadence, material change trigger, examiner query pack.

From Baseline B (Operationalization Track): Tiered supervisory access (Tier 0, Tier 1, Tier 2), purpose limitation, TTL (time-to-live for access grants), post-access review, conformance playbook, change control board, pilot steering committee discipline, RACI insert, evidence-linked settlement confirmation, evidence pack specification.

From Baseline D (Payments and Settlement): Settlement confirmation linkage, payout evidence, payment instruction, unmatched-payment break, operational finality, reversals and adjustments, escrow-equivalent hold-only posture.

From Baseline E (ZKP — optional, where used): Proof-based minimization, verifier-safe output, freshness discipline, revocation proof, bounded disclosure, reviewer-safe credential presentation.

New terms introduced in this framework: *authenticity state*, *consent state*, *derivation state*, *rights-chain state*, *royalty calculation state*, *official source object*, *derivative object*, *distribution object*, *scope-of-use boundary*, *transformation event log*, *lineage break*, *version supersession*. Each is defined in Section 3.

1.4 No New Obligations / No Legal Conclusions Posture

This framework does not:

- Determine who owns a copyright, moral right, publicity right, or contractual entitlement.
- Determine whether any particular use constitutes infringement, breach, or violation.
- Prescribe what evidence is legally admissible in any jurisdiction.
- Require any institution to adopt its patterns or artifact structures.

Where the framework uses the language of "alignment objectives," this means operational control objectives that tend toward the described outcome, not legal requirements or compliance mandates. Where the framework describes what a state "may influence," this identifies operational relevance, not legal effect.

1.5 Relationship to Existing Contractual, Editorial, Distribution, Licensing, Audit, and Supervisory Processes

This framework operates as an evidence and governance layer that sits alongside — not above or below — existing institutional processes. Its outputs (evidence packs, manifests, reconciliation reports, examiner query packs) are designed to inform, support, and make replayable the determinations made by:

Process Layer	How This Framework Supports It
Contractual review	Provides replayable evidence of authorization state, scope-of-use, and transformation lineage to inform contract performance assessments
Editorial and creative review	Provides version integrity records and official-source-object anchors without overriding editorial judgment
Distribution and licensing operations	Provides consent-state evidence and rights-chain integrity records without replacing licensing negotiations or agreements
Royalty audit and collecting-society reconciliation	Provides usage evidence, calculation artifacts, and payout linkage records to support or contest royalty claims
Institutional review and examination	Provides bounded examiner access paths, standard checks packs, and query packs without creating new supervisory authority
Dispute resolution and arbitration	Provides preserved, replayable evidence packs and lineage records to support dispute reconstruction without supplanting adjudication

The framework explicitly preserves the primacy of contractual and institutional review. Where a technical determination under this framework conflicts with a legal, contractual, or editorial determination, the contractual or institutional determination governs.

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2. Problem Statement: Authenticity, Consent, and Royalty Friction in the Synthetic Media Era

Secondary Thesis: In the AI era, the core problem is no longer only who created a work. The operational problem is whether institutions can reliably reconstruct who originated, who authorized, who transformed, who distributed, who monetized, and who should be paid — with enough evidentiary integrity to support review without defaulting to blind trust or pervasive disclosure.

2.1 Digital Media Artifacts Increasingly Drive Economically Consequential Decisions

Media artifacts — recordings, images, audiovisual sequences, and their derivatives — are no longer primarily cultural objects. They are operational inputs to licensing determinations, royalty calculations, commercial approval workflows, distribution gating decisions, and institutional audit processes. The economic and reputational stakes attached to individual artifacts have increased substantially.

A single voice recording may serve simultaneously as the source object for a streaming release, the basis for a synthetic dubbing license, the subject of a royalty-split claim among multiple

contributors, and the evidentiary anchor for a performance rights dispute. Each of these functions requires a different evidentiary reconstruction of the same artifact's authenticity, authorization, and revenue-linked state.

The operational infrastructure typically available to support those reconstructions — contract archives, production chain documentation, metadata embedded in distribution files, label or studio internal records — was not designed for this level of multi-use evidentiary demand.

2.2 AI-Generated, AI-Assisted, and AI-Modified Outputs Create Ambiguity Around Origin, Authorship Context, and Transformation Lineage

The deployment of AI tools across the full media production lifecycle — from initial synthesis to post-production modification, localization, and derivative generation — has introduced a structural ambiguity that prior operational frameworks did not contemplate.

AI Involvement Category	Operational Ambiguity Introduced
Fully AI-generated voice output	No human performance origin to anchor consent state; authorization must trace to training data or synthesis license
AI-assisted composition or arrangement	Boundary between human contribution and machine contribution is operationally undefined without transformation event logs
AI-modified existing recording	Whether the modified output constitutes a derivative of the source or a new work is unresolvable without version-lineage evidence
Synthetic likeness or image composite	The official source object may not exist as a discrete artifact; authenticity evidence must be constructed from generation provenance records
AI-dubbed audiovisual content	Scene-level transformation creates ambiguity about which consent state governs the dubbed output versus the source performance

Without transformation event logs, content-addressed source manifests, and derivation lineage records, institutions cannot distinguish an authorized AI-modified output from an unauthorized synthetic replica, or an official AI-assisted release from a counterfeit derivative. The operational consequence is a posture of blind trust: institutions either accept claims without evidence or demand pervasive disclosure that creates disproportionate privacy and commercial exposure.

2.3 Consent Is Often Recorded Poorly, Oversimplified, or Detached from Actual Scope of Use

Consent and authorization records in media workflows suffer from three chronic deficiencies:

First, they are oversimplified. Standard consent instruments often reduce a complex, multi-dimensional authorization to a binary yes/no field or an omnibus grant whose scope is defined only by the broadest possible contractual language. This produces consent records that are formally valid but operationally uninformative: they cannot answer whether a specific use — a synthetic voice clone for a specific product category in a specific territory for a specific duration — was within the authorized scope.

Second, they are poorly linked to use events. Consent records and use events exist in separate operational domains. The consent record resides in a contract archive or a talent management system; the use event is logged (if at all) in a distribution platform, a content delivery network, or a

licensing administration system. The linkage between them is frequently manual, inconsistent, or absent.

Third, they do not track the consent lifecycle. Consent states are not static. They expire, are revoked, are superseded by renegotiated terms, or are conditioned on circumstances that may no longer obtain. Operational systems that record initial consent but do not maintain consent-state diffs, revocation events, expiry triggers, or recertification cadences cannot support reliable authorized-use determinations.

The operational consequence is that consent evidence, when examined for institutional review purposes, frequently cannot establish more than that a consent instrument existed at some point — not that the specific use in question was within its authorized scope at the time it occurred.

2.4 Official Version, Derivative Version, Draft, Remix, Edit, Dub, Clone, and Unauthorized Version States Are Frequently Conflated

Distribution systems, content delivery infrastructure, and metadata schemas do not uniformly distinguish between:

Object Type	Operational Significance
Official source object	The canonical release anchoring rights-chain, royalty calculation, and consent scope
Official derivative	An authorized transformation with its own rights-chain and consent state, linked to the source
Internal draft	A pre-release version not subject to distribution rights or public royalty obligations
Remix or edit	A derivative whose authorization state may differ from the source's across territory, channel, or purpose
Synthetic clone	An output whose derivation from the source may be asserted but lacks transformation event evidence
Unauthorized version	A copy, transformation, or synthetic replica produced outside the authorized scope

When these object types are conflated in distribution pipelines, the royalty calculation proceeds against the wrong object state, the consent-scope determination is made against an inapplicable authorization record, and institutional review cannot reconstruct the authoritative version lineage.

This conflation is not primarily a technical problem. It is a governance problem: there is no operational discipline requiring version integrity controls, supersession chains, or content-addressed manifests that would make these distinctions operationally enforceable rather than contractually asserted.

2.5 Royalty Obligations Are Often Calculated Downstream from Weak or Incomplete Evidence of Use and Authorization

Royalty calculation in media workflows typically proceeds through a chain of operational dependencies, each of which introduces potential evidentiary weakness:

```
Usage Event
    → Usage Report (from platform or distribution layer)
        → Matching (to catalog metadata)
```

```
→ Calculation (applying split and rate logic)
    → Payout Instruction
        → Settlement Confirmation
```

At each step, the chain may break or weaken:

Chain Link	Common Evidentiary Weakness
Usage event	Incomplete or aggregated reporting; non-standardized identifiers
Usage report	Delay between event and report; platform-specific formats; missing territory or channel attributes
Matching	Ambiguous metadata; missing ISRC, ISWC, or equivalent identifiers; derivative works matched to wrong parent
Calculation	Split logic applied without version-specific rights confirmation; rates applied without current licensing state verification
Payout instruction	Payment instruction not cryptographically linked to calculation artifact
Settlement confirmation	Confirmation not linked back to originating usage evidence; unmatched payouts not formally flagged as breaks

The cumulative effect is that royalty payout evidence, even when a payout was made, cannot be replayed to confirm that the correct amount was calculated, applied to the correct rights-holders, for the correct usage events, under the correct authorization state. Disputes then proceed on the basis of assertions and counter-assertions rather than replayable evidence.

2.6 Institutions Need Bounded Verification Paths Rather Than Full Raw Disclosure or Opaque Trust

The verification problem in media authenticity and royalty review is not binary. It does not require a choice between full raw disclosure (which creates disproportionate privacy and commercial exposure) and opaque trust (which is operationally insufficient for institutional review). What institutions need is a third path: bounded verification — the ability to confirm that a specific state is as claimed, without accessing all underlying evidence.

Examples of bounded verification requirements:

Verification Need	What Is Required	What Must Not Be Disclosed
Confirm consent was in scope at time of use	Scope-bounded authorization state at a specific date	Full contract terms, payment rates, other deal terms
Confirm source authenticity	Hash match to content-addressed manifest	Full production chain, unreleased versions
Confirm royalty was paid to correct party	Payout-linked confirmation	Individual split percentages, other parties' payment details
Confirm no unauthorized derivative exists	Version integrity check against official lineage	Unpublished creative work, development history
Confirm examiner had authorized access	Post-access review log	Contents of what was accessed

Baseline E (ZKP Programmable Privacy Framework) provides optional tooling for proof-based minimization in bounded verification contexts. Where it is applied in this framework, it is used narrowly to strengthen reviewer-safe disclosure and freshness/revocation discipline, not as a general-purpose privacy mechanism.

2.7 Disputes Require Replayable Evidence, Not Only Assertions, Screenshots, or Fragmented Logs

When authenticity, consent-scope, lineage, or royalty disputes arise, the operational challenge is reconstruction: can the relevant states be rebuilt from evidence that was preserved at the time they obtained, or must the dispute proceed on the basis of party assertions and retrospective claims?

The baseline frameworks ground this requirement in four disciplines:

Immutable logs: Events are recorded in tamper-evident, hash-chained logs that cannot be modified after the fact. A log entry asserting that a consent record was in scope at time T cannot be backdated or altered.

Content-addressed manifests: Artifacts are identified by their content hash, not merely by name or version label. A manifest record binding a specific hash to an official-release designation cannot be silently superseded.

EP Delta chains: Changes to evidence states — consent revocations, version supersessions, rights-chain modifications — are recorded as incremental deltas preserving both the prior state and the change event. There is no destructive overwrite.

Preservation bundles: At defined triggers (hold events, dispute initiation, offboarding), the evidence state is bundled, sealed, and made available for reconstruction without requiring ongoing system access.

These disciplines, drawn directly from the baselines, form the evidentiary foundation of this framework's dispute and escalation model (Section 12).

2.8 Summary: Operational Control Objectives

Translating the problem domains above into the operational control objectives this framework is designed to address:

Problem Domain	Operational Control Objective
Weak authenticity evidence	Establish content-addressed canonical source objects with minimum replay requirements
AI-output ambiguity	Require transformation event logs linking any AI-modified or AI-generated output to its generation provenance record
Consent oversimplification	Model consent as a multi-dimensional, time-bounded, scope-bounded state with diff and revocation tracking
Version conflation	Enforce version integrity controls and supersession chains distinguishing official source objects from derivative and distribution objects
Weak royalty evidence chain	Require explicit linkage: usage event → calculation artifact → authorization state → payout instruction → settlement confirmation
Opaque trust dependency	Provide bounded verification paths that allow institutional review without pervasive disclosure
Assertion-based disputes	Require preserved, replayable evidence packs with immutable logs, content-addressed manifests, and EP Delta chains

3. Definitions and Neutral Taxonomy (Baseline-Aligned)

> **Glossary discipline:** Terms defined in the baseline frameworks are reused without modification. New terms are introduced only where no adequate baseline equivalent exists. Each new term is marked **(new)**. All terms are treated as operational state descriptors, not legal categories.

3.1 Authenticity State

Definition: The operationally evidenced condition of a media artifact with respect to its correspondence to a claimed canonical source object, as established by content-addressed verification, provenance linkage, and origin assertion records.

Authenticity state is not a binary. It exists on a spectrum of evidentiary resolution:

Authenticity State Value	Operational Meaning
`VERIFIED`	Content hash matches a registered canonical source object manifest; provenance linkage is intact and replayable
`CORROBORATED`	Hash match not available; multiple independent provenance records support source claim without contradiction
`ASSERTED`	Source claim made by a party with apparent authority; no independent verification performed or available
`CONTESTED`	One or more parties dispute source claim; evidence packs have been exchanged but not resolved
`UNRESOLVABLE`	Insufficient evidence exists to establish or refute source claim; hold-only containment applies

Authenticity state is maintained in the Evidence Pack for the relevant source object and updated via EP Delta when new evidence changes the state. Authenticity state does not determine legal ownership or copyright authorship.

3.2 Source and Origin State (new)

Definition: The recorded operational attributes of a media artifact's point of origin, including the creation environment, the identity class of the originating party (human performance, AI generation, hybrid process), the timestamp of first fixation or synthesis, and the content-addressed hash of the artifact at first registration.

Source and origin state distinguishes:

Origin Category	Operational Characteristics
Human-performed original	Live or studio performance; fixation event documented; performer consent state directly attached
AI-generated output	Synthesis provenance record required; training data authorization and synthesis license referenced
Human-assisted AI output	Hybrid; both human contribution scope and AI generation provenance must be documented

Origin Category	Operational Characteristics
Derivative of existing work	Parent source object identified; transformation event log required; derivation authorization state attached

Source and origin state is the anchor for all downstream consent-state, rights-chain, and royalty-calculation determinations. A media artifact without a registered source and origin state is operationally unanchored.

3.3 Consent State

Definition: The operationally evidenced condition of an authorization granted by an appropriate signatory permitting a specified use of a media artifact, as bounded by scope, territory, medium, duration, and purpose attributes recorded in the consent instrument and tracked through its lifecycle.

Consent state is multi-dimensional. A single consent record may be valid for one use dimension and expired or out-of-scope for another:

Consent Dimension	Governing Attribute
Scope of use	Specific permitted uses enumerated: commercial, promotional, editorial, training, synthetic derivative, etc.
Territory	Geographic boundaries of authorized use
Medium or channel	Broadcast, streaming, theatrical, online, out-of-home, synthetic output, etc.
Duration	Start date, end date, or event trigger for expiry
Purpose	Specific campaign, product category, or use context
Derivative authorization	Whether transformation, dubbing, cloning, or AI-assisted modification is permitted

Consent state values mirror authenticity state resolution levels:

Consent State Value	Operational Meaning
`IN_SCOPE`	Use is within all verified dimensions of an active, non-revoked consent record
`PARTIALLY_IN_SCOPE`	Use is within some dimensions but not all; partial hold or escalation required
`EXPIRED`	Consent instrument has passed its duration boundary without renewal
`REVOKED`	Consent was actively withdrawn by the authorizing signatory prior to or during the use period
`DISPUTED`	Scope of use is contested; evidence packs exchanged; hold-only containment applies to affected revenue
`ABSENT`	No consent instrument can be located for the use in question

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3.4 Authority and Signatory State

Definition: The operationally evidenced condition establishing which party had the authority to grant consent or execute an authorization at a specific point in time, and whether that authority was validly delegated, current, and within its scope at the time of execution.

Authority state is separate from consent state. A consent instrument may exist and appear formally valid while the signatory lacked authority to grant it — because the relevant rights had been assigned, the signatory's delegated authority had expired, or a co-rights-holder's required co-signature was absent.

Authority state attributes:

Attribute	Description
Signatory identity class	Rights-holder, authorized representative, label/studio agent, collecting society, legal successor
Delegation scope	Whether the signatory acted under delegated authority and the boundaries of that delegation
Authority-at-time confirmation	Whether the signatory held the requisite rights at the date of execution
Co-authorization requirements	Whether joint rights-holders were required to co-sign and did so
Authority EP Delta trail	Record of any subsequent assignment, transfer, or reversion affecting the original authority

3.5 Rights-Chain and Scope-of-Use State

Definition: The operationally evidenced chain of rights assignments, licenses, sublicenses, and restrictions that governs who may authorize what use of a media artifact, under what conditions, and for what period.

Rights-chain state is not equivalent to consent state. Consent state records what was authorized for a specific use; rights-chain state records the underlying framework of entitlements within which authorizations may be granted. A use may be within consent state but outside rights-chain state (e.g., a sublicense granted beyond the sublicensor's scope).

Rights-chain state components:

Component	Operational Role
Primary rights reference	The originating rights instrument establishing the initial entitlement structure
Assignment and transfer chain	Sequential record of rights movements from original holder to current holder(s)
License and sublicense tier	Which licenses have been granted downstream and whether they are within the licensor's scope
Restriction inventory	Territory, duration, channel, purpose, and derivative-use restrictions that persist through the chain
Reversion triggers	Conditions under which rights return to a prior holder (e.g., non-use clauses, breach events)
Out-of-scope use flags	Detected uses that exceed the boundaries of any recorded license tier

3.6 Derivation, Transformation, and Version State

Definition: The operationally evidenced record of how a media artifact relates to its source object through a chain of transformation events, each of which is logged with its authorization state, transformation type, contributing parties, and output content hash.

Version state taxonomy:

Object Version Class	Definition
Official source object	The canonical, rights-anchored artifact designated as the authoritative release; all rights-chain and royalty calculations reference this object
Official derivative	An authorized transformation of the source object, with its own rights-chain and consent state, linked by derivation lineage
Internal draft	A pre-release or working version; not subject to public distribution rights or external royalty obligations
Remix / edit	A derivative whose transformation type involves recombination, sequencing, or structural modification
Synthetic clone	An output derived from or replicating source characteristics through AI or computational means; requires synthesis provenance record
Distribution object	A format or packaging variant of an official release; content hash may differ from source due to encoding; parent linkage required
Superseded version	A prior official version that has been replaced; retained for lineage integrity; no longer the calculation anchor
Unauthorized version	An artifact that reproduces or transforms source material without a traceable authorization record

Derivation state is maintained as a transformation event log (Section 6), not merely as a label.

3.7 Usage Event State

Definition: The operationally evidenced record of a specific instance of use of a media artifact, including the use type, the time and territory of use, the channel, the volume or duration of use, and the linkage to the relevant consent state and rights-chain state at the time of the event.

Usage event state is the trigger for royalty calculation. A usage event without a linked consent state and rights-chain state at time of occurrence cannot be reliably incorporated into a royalty calculation without manual reconciliation.

Usage event attributes:

Attribute	Description
Use type	Stream, broadcast, sync, download, performance, training data use, synthetic output generation, etc.
Artifact identifier	Content-addressed hash or registered identifier (ISRC, ISWC, equivalent)
Timestamp	Date, time, and territory of use event
Channel	Platform, broadcast network, physical medium, AI training pipeline, etc.
Volume / duration	Play count, stream duration, impression count, or equivalent metric

Attribute	Description
Authorization linkage	Pointer to consent state and rights-chain state in effect at time of event

3.8 Royalty Calculation State

Definition: The operationally evidenced condition of the calculation that translates usage event evidence into a revenue entitlement for each rights-holder in the contribution chain, including the rate applied, the split logic, the calculation artifact, and the authorization state confirmed at calculation time.

Royalty calculation state components:

Component	Description
Calculation artifact	The versioned, immutable record of inputs, logic, rates, and outputs for a specific calculation run
Rate basis	Contractual rate, statutory rate, or negotiated rate applied; rate source document referenced
Split allocation	Contribution chain with percentage or share allocation for each identified rights-holder
Authorization confirmation	Confirmation that rights-chain and consent states were verified prior to calculation
Calculation hash	Content-addressed hash of the calculation artifact enabling replay
Unmatched event flags	Usage events incorporated into calculation that lack full authorization linkage at time of run

3.9 Settlement and Payout Confirmation State

Definition: The operationally evidenced condition confirming that a royalty calculation has been translated into a payment instruction, executed against a designated payment mechanism, and confirmed as received by the intended rights-holder, with all steps linked to the originating calculation artifact.

This is operational finality, not legal finality. Operational finality means the evidence chain from usage event to payout is complete and replayable. It does not foreclose dispute, correction, or reversal under applicable contractual or legal frameworks.

Settlement state values:

State Value	Operational Meaning
`CALCULATED`	Calculation artifact exists; payment instruction not yet issued
`INSTRUCTED`	Payment instruction issued and linked to calculation artifact
`CONFIRMED`	Payment received confirmation obtained; linked to instruction and calculation
`DISPUTED`	Rights-holder contests calculation, split, or payment; hold-only containment on subsequent cycles
`CORRECTED`	An EP Delta has been issued adjusting a prior calculation; correction payout instructed and confirmed

State Value	Operational Meaning
`UNMATCHED`	Payment confirmation received but cannot be matched to a calculation artifact; break flagged

3.10 Dispute, Supersession, and Revocation State

Definition: The operationally evidenced condition of a challenge, replacement, or withdrawal affecting any of the states defined in 3.1–3.9, including the trigger event, the parties involved, the evidence packs exchanged, the hold-only containment applied, and the resolution or monitored-exception outcome.

State Class	Trigger	Resolution Path
Authenticity dispute	Contested source claim or version identity	EP comparison; content-hash verification; hold-only containment pending resolution
Consent-scope dispute	Contested interpretation of authorization boundaries	Consent instrument review; EP Delta for scope clarification; escalation to contractual review
Lineage dispute	Contested derivation chain or transformation authorization	Transformation event log review; missing-link investigation; contamination assessment
Royalty dispute	Contested calculation, split, rate, or payout	Calculation artifact replay; usage evidence review; hold-only containment on disputed amount
Supersession	An official version is replaced by a newer authoritative version	Supersession EP Delta issued; prior version retained in lineage; calculation anchor updated
Revocation	A consent or authorization is withdrawn	Revocation EP Delta issued; downstream uses flagged; affected royalty states reviewed

3.11 Official Source Object vs. Derivative Object vs. Distribution Object

These three object classes are operationally critical and must not be conflated in any evidence pack, manifest, or royalty calculation:

Object Class	Key Attributes	Rights and Royalty Consequence
Official source object	Canonical release; content-addressed hash registered; rights-chain anchored here	Primary royalty calculation reference; all derivatives trace back to this object
Derivative object	Authorized transformation; derivation lineage recorded; own consent and rights-chain state	May carry independent royalty obligations; cannot exceed scope of source object's rights-chain
Distribution object	Format or packaging variant; parent linkage required; content hash may differ from source	No independent royalty basis; all calculations flow through parent source or derivative object

An artifact that cannot be classified into one of these three classes is operationally unanchored and must be assigned `UNRESOLVABLE` authenticity state until classification evidence is obtained.

3.12 Bounded Reviewer Access vs. Unrestricted Disclosure

Definition (bounded reviewer access): A structured access path through which an authorized reviewer — examiner, auditor, rights-holder representative, or supervisory party — obtains the evidence necessary to verify a specific state without accessing the full underlying evidence set.

This maps directly to the tiered supervisory access model from Baseline B:

Access Tier	Description	Application in This Framework
Tier 0	Aggregate, anonymized, or proof-based outputs; no artifact-level disclosure	Default for systemic monitoring; royalty aggregate reporting; authenticity summary dashboards
Tier 1	Artifact-level or state-level access for a defined purpose and TTL; post-access review required	Routine examiner review; rights-holder audit; consent-scope verification for a specific use event
Tier 2	Full evidence pack access including derivation lineage and contribution chain; elevated authorization required; mandatory post-access review	Active dispute reconstruction; escalated regulatory examination; emergency hold investigation

Unrestricted disclosure is never the default. The framework requires that all reviewer access be purpose-limited, TTL-bounded, and logged for post-access review regardless of tier.

---

4. Authenticity and Source Integrity Operating Model

4.1 Canonical Source Objects and Official-Release Anchors

The foundational discipline of this framework is the registration and maintenance of canonical source objects: the authoritative, content-addressed, rights-anchored artifacts from which all derivative, distribution, and synthetic-output lineage must ultimately trace.

A canonical source object is not simply a file with a label. It is an operational construct combining:

Element	Description
Content-addressed hash	SHA-256 or equivalent; computed from the artifact at first registration; immutable thereafter
Origin assertion record	Documented statement of who created the artifact, under what process, at what time, in what environment
Rights-chain anchor	Pointer to the primary rights instrument governing the artifact
Consent-state anchor	Pointer to the initial authorization record (or absence record if rights-holder consent is not required)
Official-release designation	Explicit operator-assigned status distinguishing this object from drafts, derivatives, and working versions
Registration timestamp	Tamper-evident timestamp of first registration in the evidence infrastructure

Once registered, a canonical source object is immutable. It may be superseded by a newer official version, but it cannot be modified in place. Supersession is recorded via EP Delta, preserving the prior object in the lineage.

Minimum registration requirements by media type:

Media Type	Minimum Registration Evidence
Voice recording	Audio file hash; session metadata (date, studio or capture environment, engineer identifier class); performer reference
Image	Image file hash; capture or generation metadata; camera/device or synthesis provenance; photographer or generator reference
Film / audiovisual	Master file hash; scene manifest (if multi-segment); production chain reference; distribution master distinction from edit versions
Musical work	Recording file hash; composition reference (ISWC or equivalent); session metadata; contributor reference list
Synthetic media output	Output file hash; synthesis provenance record (model version class, generation parameters hash, training data authorization reference)

4.2 Origin Assertions and Source-Hierarchy Logic

Not all artifacts enter the framework with equivalent evidentiary support. Origin assertions exist at different confidence levels and must be recorded as such rather than treated uniformly.

Origin assertion hierarchy:

Assertion Level	Evidence Basis	Operational Treatment
Level 1 — Directly evidenced	Content hash registered at creation by a party with documented custody; creation environment logs available	Assign `VERIFIED` authenticity state
Level 2 — Corroborated	Multiple independent records (production logs, distribution manifests, third-party registration) consistent with source claim	Assign `CORROBORATED` authenticity state
Level 3 — Asserted	Single-party claim; no independent corroboration; no contradicting evidence	Assign `ASSERTED` authenticity state; flag for recertification
Level 4 — Contested	Conflicting claims from two or more parties; evidence packs exchanged	Assign `CONTESTED` authenticity state; hold-only containment
Level 5 — Legacy or reconstructed	Artifact predates evidence infrastructure; origin asserted from archival records	Assign `CORROBORATED` or `ASSERTED` per quality of archival evidence; document reconstruction method

When multiple source claims exist for the same artifact (a common pattern in AI-assisted and remix workflows), the source-hierarchy logic applies the following resolution sequence:

1. Does a content-addressed manifest registration exist that predates all competing claims? → Use that registration as the anchor.

2. Are multiple registrations present? → Apply EP Delta comparison to identify which registration is the earliest non-derivative entry.
3. No registration predates the dispute? → Assign `CONTESTED` state; escalate to Section 12 dispute workflow.

4.3 Provenance Linkage Across Asset Creation, Editing, Packaging, Release, and Distribution

Authenticity is not a property of a single artifact at a single point in time. It is a chain property — it holds or breaks across the full lifecycle from creation through distribution. Each lifecycle stage introduces potential provenance break points.

Lifecycle provenance map:

Stage	Provenance Requirement	Common Break Point
Creation / capture	Origin assertion record; creation environment log; performer or generator reference	Creation environment log absent; performer reference not linked to consent record
Editing / post-production	Transformation event log entry for each material edit; editor reference; output hash registered	Edit versions not distinguished from official source; edit authorization not recorded
Packaging / mastering	Distribution-master hash registered; parent linkage to source object; format variant notation	Distribution master treated as source object; parent linkage absent
Official release	Official-release designation assigned; rights-chain anchor confirmed; consent-state anchor confirmed	Release designated without rights-chain confirmation; prior drafts not superseded
Distribution	Distribution object linked to official release or official derivative; territory and channel attributes recorded	Distribution object hash differs from registered release without explanation; territory metadata absent
Secondary distribution / licensing	License tier recorded in rights-chain state; sublicense scope boundaries documented	Sublicense scope not verified against licensor's rights-chain; territory restrictions not propagated
Synthetic derivative generation	Synthesis provenance record created; parent source object linked; generation authorization confirmed	Synthetic output registered without parent linkage; generation authorization absent

Provenance linkage is maintained in the Evidence Pack for each artifact. A provenance gap at any stage does not invalidate the entire chain, but must be recorded as a break (Section 9.6) and addressed before the affected state can be used in royalty calculation or institutional review.

4.4 Content-Addressed Manifests and Immutable Lineage Records

Content-addressed manifests are the primary instrument for establishing and maintaining authenticity evidence. They function identically to the content-addressed manifest patterns in Baseline A and Baseline B, extended to media artifact types.

Manifest structure for a media artifact:

```
MEDIA_ARTIFACT_MANIFEST
  manifest_id:          [unique identifier]
  artifact_hash:        [SHA-256 of artifact at registration]
  artifact_type:        [voice | image | film | music | synthetic]
  object_class:         [source_object | derivative | distribution_object]
  registration_ts:      [ISO 8601 timestamp; tamper-evidenced]
  registrant_class:     [creator | label | studio | distributor | platform |
agent]
  parent_manifest_id:   [if derivative or distribution object; null if source]
  transformation_type:  [if derivative; null if source]
  rights_anchor_ref:    [pointer to rights instrument; null if absent]
  consent_anchor_ref:   [pointer to consent record; null if absent]
  origin_assertion_lvl: [1–5 per Section 4.2]
  authenticity_state:   [VERIFIED | CORROBORATED | ASSERTED | CONTESTED |
UNRESOLVABLE]
  superseded_by:        [manifest_id of superseding object; null if current]
  prev_manifest_hash:   [hash of prior manifest in lineage chain]
  manifest_hash:        [hash of this manifest record]
```

Immutable lineage records are the sequential chain of manifest entries and EP Deltas that together constitute the artifact's provenance history. The chain is tamper-evident: each manifest record includes the hash of the prior record, making retroactive modification detectable.

Key properties:

- No manifest entry may be deleted. Superseded entries are retained and marked `superseded_by`.
- EP Deltas record all state changes (authenticity, consent, rights-chain) as incremental entries; they do not overwrite prior states.
- A complete lineage record must be reconstructable from manifest entries and EP Deltas alone, without requiring access to the underlying artifact.

4.5 Authenticity Evidence States and Minimum Replay Requirements

For an authenticity state to be operationally valid — that is, usable as evidence in institutional review, royalty calculation, or dispute resolution — it must meet minimum replay requirements. These define the evidence that must be producible on demand.

Authenticity State	Minimum Replay Requirement
`VERIFIED`	Content hash; manifest registration record; chain-of-custody log from

Authenticity State	Minimum Replay Requirement
	registration to present; no gap in manifest chain
CORROBORATED	At least two independent provenance records with consistent source attribution; manifest entry documenting corroboration basis; no contradicting evidence in EP
ASSERTED	Single origin assertion record with identified asserting party and assertion timestamp; manifest entry noting absence of independent corroboration
CONTESTED	Both competing evidence packs; manifest entries for both competing claims; hold-only containment record; escalation log
UNRESOLVABLE	Documentation of investigation conducted; evidence sought and not found; hold-only containment record; monitored exception register entry

An authenticity state that cannot meet its minimum replay requirement is operationally downgraded to the next lower state (e.g., a VERIFIED claim that cannot produce a chain-of-custody log is downgraded to CORROBORATED or ASSERTED).

4.6 Source-Integrity Boundary Tests

Source-integrity boundary tests are the operational equivalent of the standard checks pack entries from Baseline C, applied to authenticity workflows. They are run at defined trigger points (registration, recertification, dispute initiation, offboarding) and at configurable periodic intervals.

Standard source-integrity boundary tests:

Test ID	Test Description	Pass Condition	Fail Action
SI-01	Hash match: registered manifest vs. current artifact	Artifact hash equals manifest-registered hash	Flag as potential modification; open SI investigation; assign CONTESTED
SI-02	Parent linkage completeness	All derivative and distribution objects have non-null parent_manifest_id	Flag unlinked objects; initiate provenance investigation
SI-03	Official-release designation consistency	Exactly one non-superseded official source object per release event	Flag duplicates; escalate to rights-chain review
SI-04	Supersession chain integrity	Every superseded object has a valid superseded_by reference; no orphaned supersessions	Reconstruct supersession chain; issue EP Delta if gap found
SI-05	Origin assertion level adequacy	Artifacts used in royalty calculation have assertion level ≤ 3 (i.e., not CONTESTED or UNRESOLVABLE)	Block calculation; flag for resolution; apply hold-only containment to affected revenue
SI-06	Manifest hash chain continuity	Each manifest entry's prev_manifest_hash matches the hash of the preceding entry	Flag chain break; initiate integrity investigation; escalate to Tier 2 access if tampering suspected
SI-07	Synthetic output	All synthetic media objects have a	Flag absent provenance; assign

Test ID	Test Description	Pass Condition	Fail Action
	provenance completeness	non-null synthesis provenance record	`ASSERTED` or lower authenticity state
SI-08	Distribution object parent linkage	All distribution objects have a verified parent source or derivative manifest	Flag unlinked distribution objects; block from royalty calculation until resolved

Tests SI-01 and SI-06 are always mandatory. Tests SI-02 through SI-08 apply conditionally based on artifact type and workflow stage.

4.7 What Counts as Operationally Verified Authenticity vs. Unresolved Authenticity Posture

This distinction is operationally significant. It governs whether an artifact may serve as the basis for royalty calculation, consent-scope determination, or institutional review without additional qualification.

Operationally verified authenticity requires all of the following:

1. Authenticity state of `VERIFIED` or `CORROBORATED`.
2. Minimum replay requirements met (Section 4.5).
3. No active `CONTESTED` or `UNRESOLVABLE` flag in the EP.
4. Source-integrity boundary tests SI-01 and SI-06 passed within the recertification window.
5. No open EP Delta outstanding that would change the authenticity state if applied.

Unresolved authenticity posture applies when any of the above conditions is not met. Under unresolved authenticity posture:

- The artifact may not serve as the sole anchor for a royalty calculation.
- Any consent-scope determination based on the artifact must carry an unresolved-authenticity qualifier in the EP.
- Institutional review output referencing the artifact must disclose the posture.
- Hold-only containment applies to any revenue whose calculation chain includes an artifact under unresolved authenticity posture.

The transition from unresolved to verified posture requires either (a) resolution of the outstanding condition through the dispute workflow (Section 12) or (b) issuance of a corrective EP Delta upgrading the authenticity state with supporting evidence.

4.8 Authenticity Workflow: Assertion → Evidence → Reconciliation → Escalation → Preservation → Correction

The full lifecycle of an authenticity determination follows the baseline operational pattern, adapted for media workflows:

```
[REGISTRATION]
      ↓
```

```
Origin assertion lodged → Manifest entry created → Authenticity state assigned
    ↓
[STANDARD CHECKS]
    ↓
Source-integrity boundary tests run → Pass / Fail recorded in EP
    ↓
[RECONCILIATION]
    ↓
Manifest chain reviewed → Provenance gaps identified → Break taxonomy entry
created (if applicable)
    ↓
[ESCALATION — if break or dispute]
    ↓
Contested artifacts → Hold-only containment → EP comparison → Tier 1 or Tier 2
reviewer access
    ↓
[PRESERVATION — at trigger events]
    ↓
Preservation bundle sealed → EP state snapshot → Hold-set created if legal-hold
trigger met
    ↓
[CORRECTION — post-resolution]
    ↓
Corrective EP Delta issued → Authenticity state updated → Prior state retained
in lineage
    ↓
[OFFBOARDING — if applicable]
    ↓
Final state snapshot → Offboarding proof bundle → Open-break disclosure
```

This workflow is applied identically for all media types. The artifact type determines which source-integrity tests are mandatory and what provenance records are required; the workflow structure is invariant.

4.9 Governance of the Authenticity Evidence Layer

The authenticity evidence layer is not self-governing. It requires defined roles, change controls, and recertification cadences consistent with Baselines B and C.

Governance Element	Description
Registrant accountability	The party registering a canonical source object is accountable for the accuracy of the origin assertion record and the content-addressed hash; registrant identity class is recorded in the manifest
Change control for manifest corrections	Manifest entries may not be modified; corrections are issued as EP Deltas with documented justification and dual-party authorization
Recertification cadence	Source-integrity boundary tests are rerun at minimum annually and upon any material change trigger (new derivative registered, rights-chain assignment, consent revocation, dispute initiation)
No-master-key posture	No single party holds the ability to alter the manifest chain unilaterally; EP Delta issuance requires multi-party authorization consistent with Baseline B
Distributed governance	Manifest chains may be maintained by any conforming implementation; cross-implementation reconciliation uses content-addressed hash comparison, not proprietary identifiers
Escalation authority	Authenticity disputes exceeding the resolution capacity of the standard checks workflow are escalated to the dispute and exception governance layer (Section 12)

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5. Consent, Authority, and Scope-of-Use Model

5.1 Consent as an Operationally Evidenced State, Not a Checkbox

The operational failure mode that most frequently generates unresolvable disputes is not the absence of a consent instrument. It is the treatment of a consent instrument as a binary, static, scope-undifferentiated record — a checkbox that was ticked at some prior time and is thereafter assumed to remain valid, applicable, and sufficient for any downstream use that can be loosely associated with its subject matter.

This framework treats consent as a multi-dimensional, time-bounded, scope-bounded, lifecycle-tracked operational state. A consent instrument is the originating record of that state; it is not the state itself. The state evolves as the instrument expires, is revoked, is superseded, is renegotiated, or as the use context shifts relative to its originally authorized boundaries.

Operational requirements for a consent record to constitute evidence of an in-scope consent state:

Requirement	Description
Instrument existence	A durable, retrievable consent instrument exists and can be produced
Signatory authority confirmation	The signatory's authority to grant the consent has been confirmed per Section 5.2
Scope specificity	The instrument specifies the permitted use dimensions (Section 5.3) with sufficient precision to determine whether a given use is within scope
Lifecycle currency	The instrument has not expired, been revoked, or been superseded as of the date of the use in question
Use-event linkage	The consent record has been explicitly linked to the specific use event it is claimed to authorize

Requirement	Description
EP registration	The consent record and all subsequent lifecycle events (revocations, renewals, diffs) are registered in the Evidence Pack

A consent record that does not meet all six requirements may still be relevant evidence, but it cannot sustain an `IN_SCOPE` consent state determination without supplementary evidence bridging the gap.

5.2 Who Can Authorize What, Under Which Role and Scope

Authorization authority is not uniform across parties or use types. The framework records authority at the level of the specific authorization act, not at the level of a party's general identity.

Authority role taxonomy:

Authority Role	Scope of Authorization Power	Limitation
Primary rights-holder	May authorize any use within the rights-chain; may grant licenses and sublicenses up to rights-chain boundaries	Cannot authorize uses that exceed the rights-chain scope (e.g., territory restrictions in a prior assignment)
Authorized representative	May authorize uses within the delegated scope only; delegation must be documented and current	Delegation expiry or revocation voids authorizations granted after the delegation lapses
Label / studio / publisher agent	May authorize uses within the scope of the artist or creator agreement governing the representation	Scope boundaries are determined by the representation agreement, not by the agent's general commercial practice
Collecting society	May authorize uses within the society's mandate (typically performance rights, mechanical rights, or neighboring rights within defined territories)	Cannot authorize uses outside mandate scope; cannot bind parties not affiliated with the society
Legal successor	May authorize uses to the same extent as the predecessor rights-holder following a documented succession event	Succession must be documented in the rights-chain EP; gap between predecessor's death or dissolution and successor confirmation creates an authority gap
Co-rights-holder	May authorize uses only with co-holder agreement unless the rights instrument specifies independent authorization rights	Unilateral authorization by one co-holder where co-holder agreement is required voids the consent state
Synthetic output generator	For AI-generated outputs: may authorize uses permitted under the applicable synthesis license and training data authorization	Cannot authorize uses that exceed the training data authorization scope

Authority verification steps (minimum):

1. Identify the claimed authorizing party and their role class.
2. Retrieve the instrument establishing the role (representation agreement, rights assignment, succession document, synthesis license).

3. Confirm the role was active and within scope at the date of the authorization act.
4. Confirm no co-authorization requirement was outstanding.
5. Record authority confirmation in the EP with pointer to the establishing instrument.

5.3 Time-Bounded, Territory-Bounded, Medium-Bounded, and Purpose-Bounded Authorization

Every consent state is defined by the intersection of its active scope dimensions. A use that is within one dimension but outside another is not `IN_SCOPE`; it is `PARTIALLY_IN_SCOPE` at best, and triggers escalation.

Scope dimension matrix:

Dimension	Operationally Recorded As	Common Underdefinition Pattern
Time / duration	Start date + end date, or start date + trigger event for expiry	Open-ended grants with no expiry date; grants with expiry tied to ambiguous trigger events
Territory	Enumerated jurisdiction list, or "worldwide" with explicit exclusions	"Worldwide" without exclusion list treated as unlimited when territorial restrictions exist in the rights-chain
Medium / channel	Enumerated list: theatrical, broadcast, streaming, download, sync, training data, synthetic output, etc.	Grants made before AI/synthetic channels existed, treated retrospectively as covering those channels
Purpose	Specific campaign, product category, editorial context, or use class	Broad purpose language ("promotional use") treated as covering uses that were not contemplated at time of grant
Derivative authorization	Explicit statement of whether transformation, dubbing, cloning, AI modification, remixing, or sampling is permitted	Silence treated as permission; or silence treated as prohibition — both without evidentiary basis
Volume / impression cap	Where applicable: stream count, broadcast count, print run, impression limit	Cap-based authorizations not monitored against actual usage volume

Scope resolution rule: When a use event is evaluated against a consent state, the narrowest documented scope dimension governs. If the territory dimension permits worldwide use but the medium dimension permits streaming only, a theatrical use is outside scope regardless of the territorial dimension.

Underdefined scope treatment: Where a scope dimension is absent from the consent instrument, the framework assigns an `ASSERTED` sub-state for that dimension rather than defaulting to either permission or prohibition. Royalty calculations may proceed under `ASSERTED` sub-state with a documented assumption, but the assumption must be flagged for recertification and cannot be used to resolve a dispute.

5.4 Human Performance, Voice, Image, Likeness, Archive, Derivative, and Synthetic-Use Consent States

Different categories of media subject matter require consent from different categories of rights-holding parties, and the scope dimensions take different operational forms depending on the subject matter.

Subject Matter Category	Primary Consent Party	Key Scope Dimensions	Synthetic-Use Specifics
Human vocal performance	Performer and/or label per applicable agreement	Territory, medium, duration, derivative authorization	Explicit authorization required for voice cloning, synthetic dubbing, or AI-assisted replication; silence is not consent
Human image or likeness	Subject (and/or their authorized representative)	Territory, medium, purpose, duration, commercial vs. editorial distinction	Explicit authorization required for synthetic image generation, deepfake, or composite use of likeness
Archival recording or image	Rights-holder (may differ from performer or subject)	Archive-specific rights terms; reversion risk; orphan works considerations	Synthetic reuse of archival material requires rights-chain review; archive consent does not automatically extend to synthetic derivation
Musical composition	Composer, publisher, or collecting society per applicable mandate	Territory, medium, sync vs. performance distinction, arrangement rights	AI training data use requires explicit authorization in composition consent; derivative arrangement rights must be confirmed
Sound recording	Label, distributor, or master rights-holder	Territory, medium, sampling rights, derivative recording rights	Sampling and AI training data use require explicit authorization in master recording consent
Film / audiovisual scene	Studio, production company, or relevant rights consortium	Scene-level vs. whole-work authorization; territory; medium	Scene-level synthetic alteration, dubbing, or AI modification requires scene-specific consent review
AI-generated output	Synthesis license and training data authorization chain	Governed by synthesis license scope; no performer consent if no human performance element	Requires synthesis provenance record; training data authorization must cover the output use type

For voice and likeness specifically, the framework records consent at the granular level of the use type rather than at the artifact level. A performer's consent to a studio recording does not imply consent to synthetic voice cloning derived from that recording unless explicitly stated.

5.5 Revocation, Supersession, Expiry, and Renewal Discipline

Consent lifecycle events are operationally significant. They change the consent state for all future uses and, in some cases, for uses currently in progress. They must be recorded as EP Deltas immediately upon occurrence.

Consent lifecycle event taxonomy:

Event Type	Trigger	Operational Effect	EP Delta Required
Expiry	Duration boundary reached or trigger event occurs	Consent state transitions to `EXPIRED`; all future uses require new authorization	Yes — expiry EP Delta with timestamp
Revocation	Rights-holder or authorized signatory withdraws consent	Consent state transitions to `REVOKED`; uses initiated after revocation are outside scope; uses in progress must be reviewed	Yes — revocation EP Delta with effective date and reason class
Supersession	A new consent instrument replaces a prior instrument	Prior instrument assigned `SUPERSEDED` state; new instrument registered; scope diff recorded	Yes — supersession EP Delta linking old and new instrument IDs
Renewal	Prior instrument extended or re-executed	Renewal EP Delta extends duration; new scope terms, if any, recorded as scope diff	Yes — renewal EP Delta with updated scope attributes
Scope modification	One or more scope dimensions amended without full renewal	Scope diff EP Delta records changed dimensions; prior scope retained in lineage	Yes — scope diff EP Delta
Suspension	Consent temporarily withdrawn pending dispute or investigation	Consent state transitions to `PARTIALLY_IN_SCOPE` or `DISPUTED`; hold-only containment applies	Yes — suspension EP Delta with expected resolution timeline

Post-revocation treatment: A revocation EP Delta does not retroactively invalidate uses that were `IN_SCOPE` at the time they occurred. It takes effect from the revocation effective date forward. Uses that were initiated before revocation and completed after revocation are flagged for review; the review outcome determines whether they were within scope.

Renewal gap treatment: If a consent instrument expires and a renewal is executed with a gap between the expiry date and the renewal effective date, uses occurring during the gap period cannot be assigned `IN_SCOPE` consent state retroactively. They must be assigned `ABSENT` or `ASSERTED` depending on available evidence, and flagged for resolution.

5.6 Consent-State Diffs and EP Delta Treatment

A consent-state diff is the operational record of a change in one or more consent state dimensions. It is the mechanism by which consent lifecycle events are recorded without overwriting the prior state. Consent-state diffs function identically to EP Deltas in the baseline frameworks.

Consent-state diff structure:

```
CONSENT_STATE_DIFF
  diff_id:               [unique identifier]
  prior_consent_ref:     [pointer to prior consent instrument or state record]
  event_type:            [EXPIRY | REVOCATION | SUPERSESSION | RENEWAL |
SCOPE_MOD | SUSPENSION]
  effective_date:        [date on which new state takes effect]
  changed_dimensions:    [list of scope dimensions affected; null if full-
instrument event]
  prior_state_snapshot: [snapshot of consent state before this diff]
  new_state_snapshot:    [snapshot of consent state after this diff]
  authorizing_party:     [party executing the lifecycle event]
  authority_basis:       [instrument or role establishing the party's authority
to execute this event]
  reason_class:          [standardized reason code; narrative available in
supplementary record]
  diff_hash:             [content-addressed hash of this diff record]
  prev_diff_hash:        [hash of prior diff in the consent chain; null if first
diff]
```

EP Deltas for consent state are chained in the same manner as manifest entries in Section 4.4. The chain is tamper-evident. Retroactive insertion of a diff is detectable by hash chain verification.

Consent chain replay: For any use event, the consent state at the time of that event can be reconstructed by replaying the consent instrument and all subsequent diffs up to the event timestamp. This replay is the evidentiary basis for consent-scope determinations in disputes.

5.7 Exceptional Reviewer Access When Consent Evidence Is Disputed or Incomplete

When a consent-scope dispute cannot be resolved at Tier 0 or Tier 1 reviewer access, elevated access to the full consent evidence chain is required. This follows the tiered access model from Baseline B.

Consent dispute access escalation path:

Stage	Access Level	What Is Accessed	Authorization Required
Initial inquiry	Tier 0	Consent state summary; scope dimension flags; lifecycle event count	Reviewer standard credentials
Standard review	Tier 1	Consent instrument summary; scope dimension detail; diff chain summary; expiry and revocation flags	Documented purpose; TTL defined; post-access review

Stage	Access Level	What Is Accessed	Authorization Required
Dispute reconstruction	Tier 2	Full consent instrument; complete diff chain with all EP Deltas; authority verification records; counterparty evidence packs	Elevated authorization; dual-party approval; mandatory post-access review; all access events logged

Incomplete consent evidence treatment: Where consent evidence is incomplete — the instrument exists but scope dimensions are underdefined, or the diff chain has a gap — the reviewer's output must document the incompleteness explicitly. The reviewer does not fill in missing scope dimensions by inference; they record the gap and its operational consequence (typically `ASSERTED` sub-state for the underdefined dimension, with hold-only containment on affected revenue).

5.8 Consent Workflow: Instrument → Scope Registration → Lifecycle Tracking → Use-Event Linkage → Dispute or Confirmation

```
[INSTRUMENT REGISTRATION]

    ↓

Consent instrument obtained → Signatory authority confirmed → Scope dimensions recorded

    ↓

[EP REGISTRATION]

    ↓

Consent record registered in EP → Content-addressed → Consent state assigned

    ↓

[USE-EVENT LINKAGE]

    ↓

Use event occurs → Consent state checked at time of event → Linkage recorded in EP

    ↓

[LIFECYCLE MONITORING]

    ↓

Expiry, revocation, scope modification → EP Delta issued → State updated

    ↓

[ROYALTY CALCULATION INPUT]

    ↓

Consent state at time of each usage event confirmed → In-scope uses proceed to calculation

    ↓

[DISPUTE OR EXCEPTION]
```

```
    ↓
Contested consent state → Hold-only containment on affected revenue → Section 12
workflow
    ↓
[CORRECTION OR OFFBOARDING]
    ↓
Corrective EP Delta issued → Final consent state snapshot → Offboarding proof
bundle
```

---

6. Derivation, Transformation, and Version Lineage

6.1 Official Version vs. Derivative Version Taxonomy

Version management in media workflows fails operationally when version distinctions are treated as editorial conventions rather than evidence-bearing operational states. The framework enforces a strict version taxonomy anchored to the object classes defined in Section 3.6, extended here with additional derivative-type granularity.

Full version taxonomy:

Version Class	Definition	Royalty Calculation Role	Consent Requirement
Official source object	Canonical, rights-anchored, content-addressed registered release	Primary calculation anchor	Confirmed at registration
Official derivative — authorized transformation	Derivative produced with documented transformation authorization; linked to source by lineage	May carry independent royalty obligations; split logic references both source and derivative rights	Transformation-specific consent required
Official derivative — authorized re-recording	New recording of an existing composition; distinct from source recording	Independent neighboring-rights chain; composition rights confirmed	Re-recording authorization confirmed
Draft / working version	Pre-release iteration; not subject to distribution rights	No royalty basis	No public consent required; internal authorization sufficient
Internal edit	Post-production iteration not designated as official release	No independent royalty basis; may affect source object royalty calculation if released	Editing authorization per production agreement
Remix	Derivative involving structural recombination of	Independent royalty event if released; sample clearance and remix	Sampling and remix consent confirmed per source element

Version Class	Definition	Royalty Calculation Role	Consent Requirement
	stems, samples, or segments	authorization required	
Edit for platform / format	Technical adaptation for distribution (bitrate, format, duration edit)	No independent royalty basis; flows through parent	Platform distribution authorization; no new consent required if within scope of source
Synthetic clone	AI-generated or computationally synthesized output replicating source characteristics	Royalty obligations governed by synthesis license terms	Synthesis authorization; training data authorization
Composite media object	Output combining elements from multiple source objects	Royalty calculation requires multi-source contribution chain	Consent required per contributing source element
Superseded version	Prior official version replaced by newer official version	Historical royalty calculation reference only; no current basis	Retained for lineage; not independently authorized for new uses
Unauthorized version	Reproduces or transforms source without traceable authorization	Excluded from royalty calculation; flagged for dispute	No valid consent; hold-only containment

Version class assignment is recorded in the manifest (Section 4.4, `object_class` and `transformation_type` fields) at registration. Reclassification requires an EP Delta with documented justification.

6.2 Transformation Event Logs

A transformation event log is the operational record of each discrete transformation applied to a media artifact between its source state and its output state. It is the evidentiary backbone of derivation lineage.

Transformation event log entry structure:

```
TRANSFORMATION_EVENT

  event_id:              [unique identifier]

  source_manifest_id:    [manifest ID of input artifact]

  output_manifest_id:    [manifest ID of output artifact; may be provisional
until output is registered]

  transformation_type:   [see Section 6.3 taxonomy]

  transformation_date:   [date or date range of transformation activity]

  operator_class:        [human editor | AI system | hybrid | automated pipeline]

  authorization_ref:     [pointer to transformation authorization instrument or
consent record]
```

```
  authorization_state:  [CONFIRMED | ASSERTED | ABSENT | CONTESTED]
  contributing_parties: [list of contributing party reference classes, if
applicable]
  output_hash:          [content-addressed hash of output artifact at event
completion]
  prev_event_hash:      [hash of prior transformation event in chain; null if
first transformation]
  event_hash:           [hash of this event record]
```

Key properties of the transformation event log:

- Each discrete transformation is a separate log entry, even if multiple transformations were applied in a single production session.
- The chain of event hashes creates tamper-evident lineage: a retroactively inserted transformation event is detectable.
- A synthetic or AI-assisted transformation requires an `operator_class` of `AI system` or `hybrid` and a non-null synthesis provenance record linked via `authorization_ref`.
- Where the transformation was unauthorized, the entry is still created (with `authorization_state: ABSENT`) to preserve lineage integrity; the unauthorized status triggers the contamination detection logic (Section 6.5).

6.3 Remix, Sample, Dub, Edit, Clip, Trailer, Stem, Synthetic Clone, and Composite-Media Lineage

Each transformation type carries distinct lineage requirements and operational consequences. The taxonomy below defines the minimum lineage evidence required per transformation type.

Transformation Type	Definition	Minimum Lineage Evidence	Authorization Requirement
Remix	Structural recombination of stems, segments, or samples from one or more source objects	Transformation event per source element; sample clearance reference per source	Sample clearance and remix authorization per contributing source
Sample	Incorporation of a discrete segment of a source recording into a new work	Transformation event identifying sampled segment (timestamp range); sample clearance reference	Sample clearance confirmed; master and composition rights both addressed
Dub (human)	Replacement of vocal or dialogue track with a new human performance	Transformation event; new performer consent; source object linkage	Dubbing authorization; new performer consent in scope
Dub (synthetic)	Replacement of vocal or dialogue track with a synthetic voice output	Transformation event; synthesis provenance record; source voice	Synthetic dubbing authorization; if replicating a specific

Transformation Type	Definition	Minimum Lineage Evidence	Authorization Requirement
		authorization if voice characteristic is replicated	voice: explicit voice-likeness consent
Edit (content)	Removal, reordering, or modification of content segments	Transformation event; description of content change; editorial authorization reference	Editorial authorization per production or distribution agreement
Clip / highlight / trailer	Extraction of a segment from a source work for standalone use	Transformation event identifying extracted segment; clip distribution authorization	Clip distribution authorization; separate from whole-work distribution authorization
Stem separation	Isolation of individual audio components (vocals, instruments) from a mixed recording	Transformation event; output stem manifest entries; stem use authorization	Stem use authorization; may require separate consent from each contributor
Synthetic clone	AI-generated output replicating characteristics of a source object or performer	Transformation event with synthesis provenance record; training data authorization reference	Explicit synthesis authorization; source voice or likeness consent if replicating identifiable characteristics
Composite media	Combination of elements from multiple independent source objects into a new work	Transformation event per source element; source manifest linkage per element	Authorization per contributing source object; rights-chain confirmed for each element
Format / encoding adaptation	Technical re-encoding for distribution without content change	Transformation event; parent manifest linkage; notation that content is unchanged	Distribution authorization only; no new content consent required
AI-assisted modification	AI-applied enhancement, restoration, colorization, noise reduction, or style transfer	Transformation event with operator_class = hybrid or AI system; synthesis provenance record	AI modification authorization; if output is substantially altered, derivative authorization may be required

6.4 Transformation Approval and Authorization States

Not every transformation requires the same level of authorization evidence. The framework applies a materiality threshold to distinguish transformations that require explicit authorization from those covered by existing agreements.

Transformation materiality classification:

Materiality Class	Description	Authorization Evidence Required
Class A — High	Transformation creates a new publicly distributed work; synthetic output	Explicit transformation authorization instrument; rights-chain confirmation;

Materiality Class	Description	Authorization Evidence Required
	replicating a performer's voice or likeness; AI-generated derivative	new consent record where performer or subject rights are involved
Class B — Moderate	Transformation creates a new distribution variant; remix or edit for secondary platform; clip or trailer; stem use in new composition	Authorization confirmable under existing agreement scope; scope diff review; EP registration of authorization basis
Class C — Low	Format or encoding adaptation; internal draft iteration; production edit not separately distributed	Authorization confirmed by production or distribution agreement; no new consent record required; transformation event log entry sufficient

Where the materiality class cannot be determined at the time of transformation (common in AI-assisted workflows where the degree of modification is algorithmically determined), the operator defaults to Class A treatment until a class determination is made and recorded via EP Delta.

Authorization state transitions for transformations:

Event	Authorization State	Operational Consequence
Authorization confirmed and linked to transformation event	`CONFIRMED`	Transformation may proceed; output may be registered as official derivative
Authorization claimed but not yet verified	`ASSERTED`	Transformation may proceed with flag; output registered as `ASSERTED` derivative; royalty calculation proceeds with qualifier
Authorization not sought or not available	`ABSENT`	Transformation is unauthorized; contamination logic triggered; output cannot be registered as official derivative
Authorization disputed after transformation	`CONTESTED`	Hold-only containment on affected revenue; dispute workflow initiated; output status suspended

---

6.5 Lineage Breaks, Missing Links, and Contamination Patterns

A lineage break occurs when the chain of transformation events between a registered source object and a distributed artifact cannot be fully reconstructed from the evidence infrastructure. Lineage breaks are classified by type and severity.

Lineage break taxonomy:

Break Type	Description	Severity	Operational Response
Missing transformation event	A transformation is apparent from comparing source and output hashes, but no transformation event log entry exists	High	Flag artifact as unanchored derivative; assign `ASSERTED` or lower authenticity state; initiate provenance investigation
Unlinked parent	Output artifact has no parent_manifest_id; cannot be	High	Block from royalty calculation; assign `UNRESOLVABLE` authenticity state

Break Type	Description	Severity	Operational Response
	traced to a source object		pending investigation
Authorization gap	Transformation event exists but authorization_state is `ABSENT` or `ASSERTED` for a Class A transformation	High	Hold-only containment on output revenue; escalate to dispute or correction workflow
Operator class ambiguity	Transformation event exists but operator_class is undetermined (human vs. AI)	Moderate	Flag for reclassification; treat as Class A for authorization purposes until resolved
Temporal gap	Transformation event timestamps are inconsistent with registered manifest timestamps	Moderate	Flag for chain integrity investigation; SI-06 boundary test triggered
Scope creep derivation	Derivative created within an authorized transformation type but for a use dimension outside the authorization scope	Moderate	Scope-of-use review; `PARTIALLY_IN_SCOPE` consent state assigned to affected uses
Contamination	An unauthorized version has been incorporated into the lineage of an otherwise authorized derivative	Critical	Full lineage review; hold-only containment on all revenue from contaminated chain; escalate to Tier 2

Contamination patterns — the most severe lineage break class — arise when an unauthorized transformation or unauthorized source element enters the derivation chain and is subsequently treated as authorized because the downstream derivative carries an authorization record. Contamination is detected by running the full lineage chain against the authorization state of each transformation event. A single `ABSENT` authorization state in a Class A transformation event contaminates all downstream derivatives until the contamination is resolved or quarantined.

Contamination response sequence:

1. Flag all artifacts derived from the contaminated link as `CONTESTED`.
2. Apply hold-only containment to all revenue whose calculation chain includes a contaminated artifact.
3. Open a lineage investigation EP (Section 9).
4. Escalate to Section 12 dispute workflow.
5. Issue corrective EP Delta once contamination scope is determined — either quarantining the unauthorized element or, if the unauthorized use is subsequently authorized, recording the retroactive authorization with its effective date.

6.6 Version Integrity Controls and Supersession Chains

Version integrity controls ensure that exactly one non-superseded official source object exists per release event, that distribution objects are traceable to an official release or derivative, and that superseded versions are retained in lineage without being available as active calculation anchors.

Version integrity control set:

Control	Description	Boundary Test Reference
Single-official-version enforcement	Only one official source object per release event may carry non-superseded status at any time	SI-03
Supersession chain completeness	Every official version superseded by a newer version must carry a valid `superseded_by` reference	SI-04
Distribution object parent linkage	All distribution objects must trace to a non-superseded official source or official derivative	SI-08
Draft non-distribution enforcement	Internal drafts must not appear in distribution object manifests	Checked at distribution object registration
Unauthorized version isolation	Unauthorized versions must not appear in the lineage chain of any official object	Contamination detection per Section 6.5

Supersession chain structure:

```
[Official Source Object v1.0]  ←── superseded_by ──→  [Official Source Object v2.0]
        ↓                                                        ↓
[Distribution Objects]                                  [Distribution Objects]
(no longer current calculation anchor)                  (current calculation anchor)


[Official Derivative D1 from v1.0]   ← retained; derivation lineage preserved; royalty history intact
```

When an official source object is superseded:

- The superseded object is retained in the manifest chain with `superseded_by` populated.
- All distribution objects referencing the superseded version are reviewed; those not yet distributed may be redirected to the new version; those already distributed retain their historical linkage.
- Royalty calculations initiated after the supersession date must reference the new official version as the primary anchor.
- Royalty calculations initiated before the supersession date retain their reference to the prior version for historical accuracy.

6.7 Lineage Replay for Disputes and Reviewer Reconstruction

The purpose of the transformation event log, manifest chain, and EP Delta structure is to make derivation lineage replayable. A reviewer — examiner, auditor, rights-holder representative — must be able to reconstruct the full derivation path of any artifact from source to distributed output, at any point in time, without requiring access to the underlying artifacts themselves.

Lineage replay requirements:

Replay Requirement	Evidence Required	Access Tier
Confirm artifact is an official derivative of a claimed source	Manifest chain from source to output; transformation event chain; source-hash match at chain origin	Tier 1
Confirm each transformation was authorized	Authorization_state of each transformation event in chain; authorization instrument references	Tier 1
Reconstruct lineage for a disputed artifact	Full transformation event chain; EP Deltas for any state changes; counterparty evidence packs	Tier 2
Detect contamination in a lineage chain	Full chain traversal; authorization_state check per transformation event; source manifest authentication check per contributing element	Tier 2
Confirm version at time of specific usage event	Manifest state at usage event timestamp; supersession chain state at that timestamp	Tier 1

Lineage replay output format for reviewers:

```
LINEAGE_REPLAY_REPORT

  artifact_id:              [identifier of artifact under review]

  report_timestamp:         [date of replay]

  replay_as_of:             [timestamp to which lineage is reconstructed]

  source_object_confirmed:  [YES | NO | UNRESOLVABLE]

  source_hash:              [hash of registered source object at chain origin]

  transformation_count:     [number of transformation events in chain]

  authorization_gaps:       [count of transformation events with ABSENT or
CONTESTED authorization]

  contamination_detected:   [YES | NO]

  lineage_completeness:     [COMPLETE | PARTIAL | UNRESOLVABLE]

  open_breaks:              [list of break types from Section 6.5 taxonomy]

  replay_basis:             [list of manifest IDs and transformation event IDs
used in reconstruction]

  reviewer_access_tier:     [1 | 2]

  post_access_review_ref:   [pointer to post-access review log entry]
```

The lineage replay report is the primary output for Section 12 dispute workflows involving lineage questions, and is a mandatory attachment to any royalty calculation that incorporates a derivative artifact.

6.8 Governance of the Lineage Evidence Layer

Governance Element	Description
Transformation event accountability	The party executing a transformation is accountable for creating the transformation event log entry within a defined window (recommended: prior to or at the time of output registration)
Authorization	The party claiming authorization for a Class A or Class B transformation

Governance Element	Description
confirmation accountability	is accountable for registering the authorization reference and obtaining confirmation of authorization state
Change control for transformation event corrections	Transformation event entries may not be modified; corrections are issued as EP Deltas with documented justification and dual-party authorization
Recertification triggers	Full lineage review is triggered by: dispute initiation; rights-chain assignment affecting a source object; consent revocation affecting a derivative; offboarding
Contamination response authority	A contamination finding requires Tier 2 access and dual-party authorization to initiate; hold-only containment is automatic upon detection
No-master-key posture	Transformation event chains are maintained under the same distributed governance and no-master-key posture as manifest chains (Section 4.9)
Cross-platform lineage reconciliation	Where a media artifact has been distributed across multiple platforms with independently maintained lineage records, cross-platform reconciliation uses content-addressed hash comparison as the primary match key

---

6.9 Lineage Workflow: Registration → Transformation Logging → Authorization Confirmation → Integrity Check → Dispute or Confirmation

```
[SOURCE OBJECT REGISTRATION]

    ↓

Official source object registered → Manifest entry created → Authenticity state
assigned

    ↓

[TRANSFORMATION EVENT]

    ↓

Transformation executed → Transformation event log entry created

    → operator_class recorded → authorization_ref populated

    ↓

[AUTHORIZATION CONFIRMATION]

    ↓

Authorization state confirmed or flagged → Class A/B/C determination made

    → Output artifact manifest registered → Parent linkage confirmed

    ↓

[VERSION INTEGRITY CHECKS]

    ↓

SI-03, SI-04, SI-08 boundary tests run → Version taxonomy confirmed

    → Supersession chain reviewed if applicable
```

```
    ↓
[LINEAGE INTEGRITY REVIEW]
    ↓
Transformation event chain traversed → Authorization gaps identified
    → Contamination check run → Break taxonomy entries created if applicable
    ↓
[ROYALTY CALCULATION INPUT]
    ↓
Lineage completeness confirmed → Official version anchor confirmed
    → Derivation lineage attached to calculation artifact
    ↓
[DISPUTE OR EXCEPTION]
    ↓
Lineage break or contamination → Hold-only containment → Section 12 workflow
    ↓
[CORRECTION OR OFFBOARDING]
    ↓
Corrective EP Delta issued → Lineage replay report archived
    → Final version state snapshot → Offboarding proof bundle
```

---

7. Rights-Chain and Commercial Scope Integrity

7.1 Rights-Holder References and Authority Boundaries

The rights-chain is the ordered record of entitlements that governs who may authorize what use of a media artifact, under what conditions, and for what period. It is not a static document. It evolves through assignments, licenses, sublicenses, reversions, successions, and terminations — each of which must be recorded as an EP Delta to maintain operational integrity.

The rights-chain does not determine legal ownership. It records the operational evidence available to establish the entitlement structure as of any given date, with sufficient precision to support royalty calculation, consent-scope determination, and institutional review under bounded access conditions.

Rights-chain evidence components:

Component	Description	EP Registration Requirement
Primary rights instrument	The originating instrument establishing the initial entitlement structure (production agreement, assignment, work-for-hire agreement, publishing contract, synthesis license)	Registered at source object registration; content-addressed
Assignment and transfer records	Instruments documenting movement of rights from one holder to another	EP Delta per assignment event; effective date recorded
License tier records	Instruments granting downstream use rights to licensees, including scope, territory, duration, and sublicensing authority	EP Delta per license grant; sublicensing scope explicitly recorded
Sublicense tier records	Instruments granted by licensees within their sublicensing authority	EP Delta per sublicense; scope may not exceed licensor's scope
Reversion records	Instruments or trigger events returning rights to a prior holder	EP Delta per reversion event; reversion trigger documented
Succession records	Instruments documenting transfer of rights following death, dissolution, or corporate restructuring	EP Delta per succession event; gap period identified if applicable
Termination records	Instruments or trigger events ending a license or sublicense	EP Delta per termination; downstream sublicenses reviewed for continued validity

Authority boundary principle: No license or sublicense may grant more than the licensor holds. A sublicense that purports to grant rights exceeding the licensor's scope is void beyond that scope, regardless of its face terms. The rights-chain EP must flag any sublicense whose stated scope exceeds the verified scope of the granting party, assigning an `OUT_OF_SCOPE` status to the excess.

7.2 Contribution Chain, Participation Chain, and Split Logic

The contribution chain records the parties whose creative, financial, or operational contributions entitle them to a share of revenue generated by a media artifact. It is the input to royalty split logic. The participation chain records the parties whose ongoing operational roles — distribution, licensing administration, platform hosting — generate fee or commission entitlements that are deducted from or applied alongside royalty obligations.

These two chains are distinct. Conflating them is a common source of royalty calculation errors.

Contribution chain components:

Contribution Type	Rights Basis	Split Logic Input
Composition authorship	Composition rights (ISWC or equivalent)	Publishing royalty split per composition agreement
Sound recording performance	Neighboring rights / master recording rights	Master royalty split per artist or performer agreement
Sound recording production	Producer agreement	Producer royalty split per producer agreement

Contribution Type	Rights Basis	Split Logic Input
Session musician / featured artist	Performance agreement or session agreement	Specified share per agreement; may be flat fee rather than ongoing royalty
Sync license contribution	Sync agreement	Sync fee allocation per agreement
AI synthesis contribution	Synthesis license	Governed by synthesis license terms; human contribution scope defined alongside
Archival licensing contribution	Archive license	Archive fee allocation per agreement
Derivative composition contribution	Derivative composition agreement	New composition share applied to derivative royalty stream

Participation chain components:

Participation Role	Fee or Commission Basis	Deduction or Addition
Distributor	Distribution agreement	Deducted from gross revenue before royalty calculation
Platform or streaming service	Platform agreement	Platform share deducted; net revenue is royalty calculation basis
Licensing administrator / collecting society	Administration agreement	Administration fee deducted from collected royalties
Label / publisher overhead	Artist or publishing agreement	Recoupment or overhead deduction per agreement terms

Split logic integrity requirements:

- Split percentages or shares for all contribution-chain parties must sum to 100% of the applicable royalty pool, or the residual must be assigned to an identified holder (e.g., unrecouped advance, undistributed mechanical royalty).
- Split logic is version-specific: a remix or derivative may carry a different split from the source object.
- Split logic is use-type-specific: a streaming royalty split may differ from a sync fee split for the same artifact.
- Split logic must be recorded in the calculation artifact (Section 8.3) with pointers to the instruments establishing each contributor's share.
- Where a contributor's share is subject to recoupment, the recoupment state must be recorded and updated per payout cycle.

7.3 Licensing State and Sublicensing State

Licensing state is the operationally evidenced condition of the active licenses governing use of a media artifact, including their scope, current validity, and sublicensing authority.

License state values:

License State	Operational Meaning
`ACTIVE`	License is current, within scope, and not subject to any outstanding dispute or

License State	Operational Meaning
	suspension
EXPIRED	License duration has elapsed; renewal has not been executed
SUSPENDED	License is temporarily inactive pending dispute resolution or cure of a breach condition
TERMINATED	License has been ended by notice, breach, or trigger event
SUBLICENSED	License has been further granted to a downstream party within sublicensing scope
OUT_OF_SCOPE	License purports to grant rights beyond the licensor's verified rights-chain scope
CONTESTED	License terms or validity are disputed; hold-only containment applies to affected revenue

Sublicensing integrity checks:

Check	Description
Scope ceiling	Sublicense scope does not exceed licensor's verified license scope
Territory ceiling	Sublicense territory does not exceed licensor's authorized territory
Duration ceiling	Sublicense duration does not extend beyond licensor's license term
Sublicensing authority confirmation	Licensor's instrument explicitly grants sublicensing authority; absent explicit authority, sublicensing is flagged as ASSERTED
Chain depth limit	Sublicense chains beyond a defined depth (recommended: three tiers) require elevated review before registration

---

7.4 Territory, Channel, Duration, and Purpose Restrictions

Restrictions recorded in the rights-chain propagate through all downstream licenses and sublicenses. They are not contract-specific; they are chain-level constraints that no downstream instrument can override.

Restriction propagation rules:

Restriction Type	Propagation Rule	Operational Consequence of Violation
Territory restriction	Any license or sublicense is void as to uses in restricted territories regardless of its face terms	Flag as OUT_OF_SCOPE; hold-only containment on revenue from restricted territory
Channel restriction	Any license or sublicense for a restricted channel is void as to that channel	Flag channel-specific uses; exclude from royalty calculation for restricted channel
Duration restriction	No downstream license may extend beyond the upstream license term	Flag sublicenses with later expiry than licensor's license; treat extension as OUT_OF_SCOPE
Purpose restriction	Uses for a restricted purpose are unauthorized regardless of other license terms	Flag purpose-restricted uses; escalate to Section 12 dispute workflow
Derivative restriction	If the primary rights instrument restricts derivative creation, no downstream license may authorize derivatives	Flag derivatives created under a derivation-restricted chain; contamination logic triggered

Restriction Type	Propagation Rule	Operational Consequence of Violation
Sublicensing restriction	If the primary rights instrument prohibits sublicensing, all sublicenses are void	Flag all sublicenses in the chain; hold-only containment on sublicensed revenue

Restriction registry: Restrictions are maintained in a dedicated Restriction Registry EP entry for each source object. The registry is updated via EP Delta when a new restriction is identified or an existing restriction expires. Royalty calculation workflows query the Restriction Registry before processing any usage event associated with a territory, channel, purpose, or use type.

7.5 Archive, Library, Re-Release, Promotional, and Derivative Rights States

Rights states for archival, library, re-release, promotional, and derivative uses frequently carry different scope boundaries from primary commercial release rights. They must be tracked as distinct license tiers within the rights-chain EP.

Rights Category	Distinct Scope Attributes	Common Integrity Risk
Archive rights	Time-limited or perpetual; may be restricted to non-commercial or educational use; may require attribution	Archive license treated as equivalent to commercial release license
Library / catalog rights	May include synchronization rights for library placements; often administered by separate entity	Library sync placement proceeds without confirmation that sync rights are within the library license scope
Re-release rights	May require renegotiation if original license term has elapsed; may trigger reversion provisions	Re-release proceeds under expired license; reversion check not performed
Promotional rights	Restricted to specific campaign, product, or use context; typically time-limited	Promotional use continues after campaign ends or is applied to non-approved products
Derivative rights	May be granted separately from primary rights; may have independent split logic	Derivative created under primary license without confirming derivative authorization
AI training data rights	Explicit authorization required; scope restricted to defined model or pipeline	Training data use proceeds under general license that does not address AI training
Synthetic output distribution rights	Governed by synthesis license; may be more restricted than source object distribution rights	Synthetic output distributed under source object's license rather than synthesis license

Each of these rights categories is recorded as a separate license tier in the rights-chain EP with its own scope attributes, validity period, and split logic reference. They are not inferred from the primary commercial release license.

7.6 Out-of-Scope Use Detection and Hold-Only Containment Triggers

Out-of-scope use detection is the operational process of identifying uses that exceed the verified rights-chain scope and triggering the appropriate containment response before or after the use event.

Detection methods:

Detection Method	Description	Timing
Pre-use eligibility check	Rights-chain scope verified against planned use attributes before distribution or licensing action	Pre-event; preventive
Usage event scope review	Each usage event is compared against the active rights-chain state at event time	At event or batch reconciliation
Royalty calculation scope audit	Calculation artifact reviewed for scope consistency before payout instruction is issued	Pre-payout
Periodic reconciliation scan	Full usage event log reviewed against rights-chain state for a defined period	Periodic; scheduled
Dispute-triggered review	Rights-chain scope reviewed in response to a dispute submission	Reactive

Hold-only containment triggers for out-of-scope use:

Trigger Condition	Containment Action
Usage event in restricted territory	Hold revenue attributable to restricted territory; flag event in EP; notify rights-chain administrator
Usage event in restricted channel	Hold channel-specific revenue; flag event; notify
Usage event after license expiry	Hold all revenue from post-expiry events; flag for re-licensing review
Usage event under sublicense with `OUT_OF_SCOPE` designation	Hold sublicensed revenue; escalate to rights-chain administrator
Derivative distributed without derivative authorization	Hold derivative revenue; initiate contamination review (Section 6.5)
AI training data use without explicit authorization	Hold any revenue attributable to AI training use; escalate to Section 12

Hold-only containment means revenue is accrued but not disbursed pending resolution. It does not mean revenue is forfeited. Resolution may result in retroactive authorization (if authorization is subsequently confirmed), corrective payout adjustment (if royalty was mis-allocated), or dispute adjudication (if the out-of-scope use is contested).

7.7 Rights-State Evidence Linkage to Downstream Monetization

Every monetization event — stream, sync placement, license grant, sublicense grant, promotional use, derivative distribution — must be traceable to a valid rights-state in the rights-chain EP at the time of the event. This linkage is the foundation of the royalty calculation model in Section 8.

Rights-state linkage requirements per monetization event:

```
MONETIZATION_EVENT_RIGHTS_LINKAGE

  event_id:                 [usage event identifier]

  artifact_manifest_id:     [manifest ID of monetized artifact]

  rights_chain_ref:         [pointer to rights-chain EP entry active at event
time]
```

```
  license_tier_ref:          [pointer to specific license tier governing this use
type]
  restriction_registry_ref: [pointer to restriction registry entry at event
time]
  scope_check_result:        [IN_SCOPE | PARTIALLY_IN_SCOPE | OUT_OF_SCOPE |
ASSERTED]
  scope_check_timestamp:     [timestamp of scope check execution]
  containment_applied:       [YES | NO; if YES, pointer to hold record]
  calculation_eligible:      [YES | NO; derived from scope_check_result]
```

A monetization event without a completed rights-state linkage record is ineligible for inclusion in a royalty calculation. It is assigned `UNMATCHED` status and flagged as a reconciliation break (Section 9.6).

7.8 Rights-Chain Workflow

```
[SOURCE OBJECT REGISTRATION]
    ↓
Primary rights instrument registered → Rights-chain EP entry created
    ↓
[LICENSE AND SUBLICENSE RECORDING]
    ↓
Each license or sublicense → EP Delta → Scope ceiling checks run
    → Restriction Registry updated if new restrictions identified
    ↓
[RESTRICTION PROPAGATION CHECK]
    ↓
Restriction Registry queried per use type, territory, channel, purpose
    → Out-of-scope flags assigned where applicable
    ↓
[LIFECYCLE EVENTS]
    ↓
Assignment, reversion, termination, succession → EP Delta per event
    → Downstream licenses reviewed for continued validity
    ↓
[MONETIZATION EVENT LINKAGE]
    ↓
Each monetization event → Rights-state linkage record created
```

```
    → Scope check executed → Calculation eligibility assigned
    ↓
[OUT-OF-SCOPE DETECTION]
    ↓
Scope check failures → Hold-only containment → Section 12 workflow
    ↓
[ROYALTY CALCULATION INPUT]
    ↓
Calculation-eligible events forwarded to Section 8 → Split logic applied
    ↓
[RECERTIFICATION AND CORRECTION]
    ↓
Rights-chain recertified at defined cadence → EP Deltas for any changes
    → Corrective EP Delta if error detected → Affected calculations reviewed
```

---

8. Royalty, Settlement, and Payout Evidence Model

8.1 Royalty Event Taxonomy

A royalty event is any usage event that, upon confirmation of rights-chain scope and consent state, generates a calculable revenue entitlement for one or more parties in the contribution chain. Royalty events are classified by type because the applicable rate basis, split logic, and payout mechanism differ by type.

Royalty event taxonomy:

Royalty Event Type	Revenue Basis	Rate Basis	Typical Payout Mechanism
Streaming play	Per-stream or pro-rata pool share	Statutory rate or platform agreement	Monthly aggregated payout via distributor or collecting society
Broadcast performance	Per-play or per-duration	Blanket license or per-use tariff	Collecting society distribution
Sync placement	Per-placement fee	Negotiated sync agreement	Direct license payment
Download / mechanical	Per-unit	Statutory mechanical rate or negotiated rate	Distributor payout or collecting society
Theatrical performance	Per-performance or venue tariff	Blanket license or per-performance agreement	Collecting society distribution
Physical sale	Per-unit	Artist agreement royalty rate	Label or distributor payout

Royalty Event Type	Revenue Basis	Rate Basis	Typical Payout Mechanism
Sublicense fee	Per-sublicense grant or periodic	Sublicense agreement	Direct payment from sublicensee
AI training data license	Per-license or per-use	Negotiated training data agreement	Direct payment from licensee
Synthetic output distribution	Per-distribution event or period	Synthesis license royalty terms	Direct payment or platform payout
Derivative distribution	Per-event or per-period	Derivative license terms	Distributor or direct
Promotional use	Per-campaign or flat fee	Promotional agreement	Direct payment
Archive / library placement	Per-placement or period	Archive or library license	Direct payment or administrator
Re-release	Per-event or per-period	Re-release agreement	Distributor payout

Each royalty event type has a corresponding minimum evidence set that must be present before the event is included in a calculation. Usage events that cannot be classified into the taxonomy are assigned `UNCLASSIFIED` status and held pending classification.

8.2 Usage-Based Revenue Evidence Requirements

A usage event is only calculation-eligible if the following evidence requirements are met. These requirements are additive: the absence of any one disqualifies the event from calculation inclusion.

Evidence Requirement	Description	If Absent
Artifact identification	Usage event is linked to a specific artifact manifest ID or registered identifier (ISRC, ISWC, equivalent)	Assign `UNMATCHED`; hold pending identification
Use type classification	Event has been assigned a royalty event type from the taxonomy in Section 8.1	Assign `UNCLASSIFIED`; hold pending classification
Timestamp and territory	Event timestamp and territory of use are recorded	Flag for supplementary data; provisional calculation permissible with `ASSERTED` qualifier
Rights-state linkage	Rights-state linkage record completed per Section 7.7; scope check result is `IN_SCOPE` or `ASSERTED`	If `OUT_OF_SCOPE`: exclude from calculation, apply hold-only containment. If `ASSERTED`: include with qualifier
Consent-state confirmation	Consent state at time of event is `IN_SCOPE` or `ASSERTED`	If `EXPIRED`, `REVOKED`, or `ABSENT`: exclude from calculation; escalate
Volume or duration metric	Quantitative basis for calculation (play count, duration, units, impressions) is recorded	Provisional calculation using estimated metric with `ASSERTED` qualifier; flag for reconciliation
Reporting source	The party reporting the usage event	Unidentified source report treated as

Evidence Requirement	Description	If Absent
identity	is identified and the report format is on record	`ASSERTED` evidence level

Usage evidence quality tiers:

Tier	Criteria	Calculation Treatment
Tier 1 — Fully evidenced	All requirements met; scope check `IN_SCOPE`; volume metric confirmed	Included in calculation without qualifier
Tier 2 — Provisionally evidenced	All requirements met except one or two carry `ASSERTED` sub-state	Included with `PROVISIONAL` qualifier; flagged for reconciliation within defined window
Tier 3 — Partially evidenced	Two or more requirements carry `ASSERTED` sub-state or one requirement is absent	Held pending supplementary evidence; included only under documented exception with senior authorization
Tier 4 — Insufficient	Two or more requirements absent or scope check `OUT_OF_SCOPE`	Excluded from calculation; break record created; hold-only containment applied

---

8.3 Calculation Artifacts and Calculation Replay

A calculation artifact is the immutable, content-addressed record of a specific royalty calculation run. It captures all inputs, logic, rates, allocations, and outputs in sufficient detail to replay the calculation and produce the same result from the same inputs.

Calculation artifact structure:

```
ROYALTY_CALCULATION_ARTIFACT
  calc_id:                  [unique identifier]
  calc_run_timestamp:       [ISO 8601 timestamp of calculation execution]
  calc_period:              [start date — end date of usage period covered]
  royalty_event_types:      [list of event types included in this run]
  artifact_manifest_ids:    [list of artifact manifest IDs included]
  usage_event_count:        [total events processed]
  usage_event_eligible:     [count of Tier 1 + Tier 2 events included]
  usage_event_held:         [count of Tier 3 + Tier 4 events excluded or held]
  total_gross_revenue:      [gross revenue attributed to eligible events]
  participation_deductions: [list of participation-chain deductions applied;
amount per deduction]
  net_royalty_pool:         [gross revenue minus participation deductions]
  split_allocation:         [list of contributor references with share
percentage and calculated amount]
  rate_basis_refs:          [list of rate instruments applied per event type]
```

```
  rights_chain_refs:        [list of rights-chain EP entries confirmed at
calculation time]

  consent_state_refs:       [list of consent state records confirmed at
calculation time]

  provisional_events:       [count and list of Tier 2 events included with
PROVISIONAL qualifier]

  open_breaks:              [list of break IDs from Section 9.6 affecting this
calculation]

  calc_input_hash:          [content-addressed hash of all inputs to this
calculation run]

  calc_output_hash:         [content-addressed hash of all outputs]

  calc_artifact_hash:       [hash of this artifact record]

  prev_calc_artifact_hash:  [hash of prior calculation in the series; null if
first run]
```

Calculation replay requirement: Given the calculation artifact and the referenced input records (usage events, rights-chain EPs, consent state records, rate instruments), the calculation must be fully replayable, producing identical outputs from identical inputs. Any difference between the original output and the replay output indicates that an input record has been modified, which triggers a chain integrity investigation.

Provisional calculation protocol: Where Tier 2 events are included with a `PROVISIONAL` qualifier, the calculation artifact records the `PROVISIONAL` flag alongside the events and sets a reconciliation deadline. If the provisional qualifier is not resolved within the defined window (recommended: 90 days), the provisional events are reclassified to Tier 3 and a corrective EP Delta is issued for the affected calculation.

8.4 Split Allocation Evidence

Split allocation is the operational step that translates the net royalty pool into individual entitlements for each party in the contribution chain. It must be fully evidenced and replayable independently of the broader calculation.

Split allocation record structure:

```
SPLIT_ALLOCATION_RECORD

  alloc_id:                 [unique identifier]

  calc_id:                  [pointer to parent calculation artifact]

  royalty_event_type:       [event type to which this allocation applies]

  artifact_manifest_id:     [artifact to which this allocation applies]

  net_pool_amount:          [net royalty pool for this event type and artifact]

  contributor_allocations:

    - contributor_ref:      [contributor reference class and identifier]
```

```
      role:                [composition | recording | production | performance |
derivative | synthesis]
      share_basis:         [percentage | fixed amount | formula]
      share_value:         [percentage or amount]
      allocated_amount:    [calculated entitlement]
      instrument_ref:      [pointer to agreement establishing this share]
      recoupment_state:    [RECOUPED | UNRECOUPED | NOT_APPLICABLE]
      net_payable:         [allocated amount net of recoupment deduction if
applicable]
  residual_amount:         [amount not allocated due to unidentified contributors
or rounding]
  residual_treatment:      [HELD | ESCROW_EQUIVALENT |
ASSIGNED_TO_IDENTIFIED_HOLDER]
  alloc_hash:              [content-addressed hash of this record]
```

Residual treatment discipline: A non-zero residual amount is a reconciliation break requiring investigation. The most common causes are unidentified contributors, split percentages that do not sum to 100%, and rounding errors in multi-tier distributions. Residuals are held in an escrow-equivalent posture (Section 8.7) pending resolution and must not be absorbed into any identified contributor's allocation without documented authorization.

8.5 Payment Instruction, Settlement Confirmation, and Payout Linkage

The payout evidence chain connects the royalty calculation to the actual transfer of funds. This chain must be complete and replayable. An incomplete chain — where payment was made but cannot be traced to a specific calculation artifact and usage event set — is an `UNMATCHED` break (Section 8.6).

Payout evidence chain structure:

```
[CALCULATION ARTIFACT]
      ↓  (pointer)
[SPLIT ALLOCATION RECORD]
      ↓  (pointer)
[PAYMENT INSTRUCTION]
      ↓  (pointer)
[SETTLEMENT CONFIRMATION]
      ↓  (pointer)
[PAYOUT LINKAGE RECORD]
```

Payment instruction record:

```
PAYMENT_INSTRUCTION
```

```
  instruction_id:          [unique identifier]
  alloc_id:                [pointer to split allocation record]
  payee_ref:               [contributor reference class; no PII beyond
institutional identifier]
  payment_amount:          [amount to be paid in specified currency]
  currency:                [ISO 4217 currency code]
  payment_mechanism:       [wire | ACH | SEPA | platform distribution |
collecting society | equivalent]
  payment_due_date:        [date by which payment must be confirmed]
  instruction_hash:        [content-addressed hash of this record]
```

Settlement confirmation record:

```
SETTLEMENT_CONFIRMATION
  confirmation_id:         [unique identifier]
  instruction_id:          [pointer to payment instruction]
  confirmation_timestamp: [ISO 8601 timestamp of payment receipt confirmation]
  confirmed_amount:        [amount confirmed as received]
  currency:                [ISO 4217 currency code]
  confirmation_source:     [payee acknowledgment | bank confirmation | platform
confirmation]
  variance_amount:         [difference between instructed and confirmed amount;
zero if matched]
  variance_flag:           [YES | NO]
  confirmation_hash:       [content-addressed hash of this record]
```

Payout linkage record: The final element in the chain, confirming that the full chain from usage event to settlement confirmation is intact and replayable:

```
PAYOUT_LINKAGE_RECORD
  linkage_id:              [unique identifier]
  confirmation_id:         [pointer to settlement confirmation]
  calc_id:                 [pointer to originating calculation artifact]
  usage_event_ids:         [list of usage event IDs whose revenue is covered by
this payout]
  chain_complete:          [YES | NO]
  open_variances:          [count of settlement confirmation variance flags]
  linkage_hash:            [content-addressed hash of this record]
```

A `chain_complete: NO` flag or any open variances constitute breaks requiring investigation before the royalty cycle is closed.

8.6 Unmatched Calculation, Unmatched Use, and Unmatched Payout Breaks

Three distinct break categories arise in the payout evidence chain. Each has a distinct operational response.

Break Type	Definition	Detection Point	Operational Response
Unmatched usage event	Usage event reported but cannot be matched to a registered artifact manifest ID	Royalty calculation intake	Assign `UNMATCHED` status; hold pending identification; break record created
Unmatched calculation	Payment instruction issued but cannot be traced to a calculation artifact	Payout processing	Flag instruction; suspend payment pending calculation linkage; break record created
Unmatched payout	Settlement confirmation received but cannot be matched to a payment instruction or calculation artifact	Payout reconciliation	Hold confirmed amount in escrow-equivalent posture; break record created; investigate
Split residual	Net royalty pool not fully allocated across identified contributors	Split allocation	Hold residual; break record created; investigate unidentified contributor
Variance break	Confirmed payment amount differs from instructed amount	Settlement confirmation	Flag variance; investigate; corrective EP Delta if adjustment required
Provisional expiry	Tier 2 provisional events not resolved within reconciliation window	90-day (recommended) review	Reclassify events to Tier 3; issue corrective EP Delta; adjust calculation if required

All breaks are recorded in the Reconciliation Break Register (Section 9.6) with a severity band, an assigned investigation owner, and a target resolution date. Unresolved breaks beyond the target date escalate to the exception governance workflow (Section 12.9).

8.7 Escrow-Like or Hold-Only Containment Patterns for Disputed Royalty States

Hold-only containment for royalty revenue operates on the same principle as asset-hold mechanisms in the baseline frameworks: revenue is accrued and preserved but not disbursed until the disputed or unresolved state is cleared.

Hold-only containment triggers specific to royalty workflows:

Trigger	Revenue Held	Minimum Hold Period
Consent state `DISPUTED` at time of usage event	All revenue attributable to disputed-consent events	Until consent dispute is resolved
Rights-chain scope check `OUT_OF_SCOPE`	Revenue attributable to out-of-scope events	Until scope is resolved or retroactive authorization confirmed
Authenticity state `CONTESTED` for the monetized artifact	All revenue from contested artifact	Until authenticity state is resolved

Trigger	Revenue Held	Minimum Hold Period
Split allocation residual	Residual amount only	Until residual is allocated or assigned
Calculation provisional events unresolved	Revenue attributable to provisional events	Until provisional qualifier is resolved or corrective EP Delta issued
Payout chain incomplete	Full payout amount for incomplete chain	Until chain is completed
Active dispute filed against calculation	Amount under dispute	Until dispute is resolved per Section 12

Escrow-equivalent record structure:

```
ROYALTY_HOLD_RECORD
  hold_id:              [unique identifier]
  trigger_type:         [from taxonomy above]
  trigger_ref:          [pointer to triggering event, break, or dispute record]
  held_amount:          [amount held in escrow-equivalent posture]
  currency:             [ISO 4217]
  hold_start_date:      [date hold was applied]
  expected_resolution:  [target date for hold release; null if open-ended]
  hold_status:          [ACTIVE | RELEASED | PARTIALLY_RELEASED |
FORFEITED_TO_DISPUTE]
  release_authorization:[dual-party authorization record; null until release]
  release_date:         [date hold was released; null until release]
  hold_hash:            [content-addressed hash of this record]
```

Hold records are chained via their hashes to ensure no retroactive insertion or deletion. Release of a hold requires documented authorization basis and dual-party approval consistent with the no-master-key posture.

8.8 Operational Finality of Payout Evidence (Not Legal Finality)

A payout cycle achieves operational finality when all of the following conditions are met:

Finality Condition	Description
Calculation artifact complete	All Tier 1 and Tier 2 events processed; provisional qualifiers noted; Tier 3 and Tier 4 events held or excluded
Split allocation complete	Net royalty pool fully allocated; zero residual or residual assigned to identified holder
Payment instructions issued	All non-held entitlements have corresponding payment instructions
Settlement confirmations received	All payment instructions have corresponding settlement confirmations with zero variance or variance investigated

Finality Condition	Description
Payout linkage records complete	All linkage records show `chain_complete: YES`
Open breaks documented	All breaks from Section 8.6 are recorded in the Reconciliation Break Register with status
Hold records current	All active holds have current status and expected resolution dates

Operational finality is recorded via a Payout Cycle Finality Record, which is an EP entry sealing the evidence state for the relevant calculation period.

Payout Cycle Finality Record:

```
PAYOUT_CYCLE_FINALITY

  finality_id:            [unique identifier]

  calc_period:            [start date — end date]

  calc_id:                [pointer to calculation artifact]

  all_conditions_met:     [YES | NO]

  open_conditions:        [list of unmet finality conditions; null if all met]

  open_break_count:       [count of unresolved breaks at finality record
creation]

  total_disbursed:        [total amount paid out in this cycle]

  total_held:             [total amount held in escrow-equivalent posture]

  finality_timestamp:     [ISO 8601 timestamp]

  authorizing_parties:    [dual-party authorization record]

  finality_hash:          [content-addressed hash of this record]
```

Operational finality does not preclude subsequent correction. If new evidence materially changes a calculation after finality has been recorded, a corrective EP Delta is issued and a new, off-cycle calculation is run (Section 8.9).

8.9 Off-Cycle Corrections, Reversals, and Adjustment Lineage

Corrections to completed payout cycles are among the highest-risk operational events in royalty workflows. They create the potential for disputed adjustments, retroactive split changes, and loss of calculation integrity if not handled through a documented EP Delta chain.

Off-cycle correction triggers:

Trigger	Description
Usage volume revision	A reporting party revises usage volumes after a calculation has been finalized
Rate correction	An applicable rate is found to have been incorrectly applied
Contributor identification	A previously unidentified contributor is confirmed after finality; split must be revised
Consent retroactive	A disputed consent state is resolved; events previously held are now

Trigger	Description
resolution	calculation-eligible
Rights-chain correction	A rights-chain error is discovered that changes the calculation-eligible event set
Calculation error	A mathematical or logic error is identified in the calculation artifact
Overpayment or underpayment	A confirmed payment variance is resolved as requiring adjustment

Off-cycle correction procedure:

1. Issue a Correction EP Delta identifying the prior calculation artifact, the correction trigger, and the nature of the change.
2. Prepare a corrective calculation artifact that replays the original calculation with the corrected inputs and records the delta between original and corrected outputs.
3. Issue corrective payment instructions for the net adjustment (additional payment or recovery of overpayment).
4. Obtain dual-party authorization for the corrective instructions.
5. Record settlement confirmations for corrective payments.
6. Issue a Corrective Payout Cycle Finality Record linking the original finality record to the corrective run.

Adjustment lineage record:

```
ADJUSTMENT_LINEAGE_RECORD

  adjustment_id:          [unique identifier]

  original_calc_id:       [pointer to original calculation artifact]

  correction_ep_delta_id: [pointer to Correction EP Delta]

  corrective_calc_id:     [pointer to corrective calculation artifact]

  adjustment_amount:      [net adjustment per contributor; positive = additional
payment; negative = recovery]

  adjustment_basis:       [narrative reference to correction trigger]

  prior_finality_id:      [pointer to original Payout Cycle Finality Record]

  corrective_finality_id: [pointer to Corrective Payout Cycle Finality Record]

  adjustment_hash:        [content-addressed hash of this record]
```

Retroactive split revision discipline: Corrections that change the split allocation — adding a contributor, changing shares, or removing a contributor — are operationally the most complex. They require:

- Confirmation that the corrected split is supported by a valid instrument in the rights-chain EP.
- Review of all prior payout cycles that used the same split logic, to determine whether prior cycles require corresponding correction.
- Documentation of the instrument effective date to establish whether the correction applies retrospectively or only prospectively.

No retroactive split revision is operationally valid unless it is supported by an instrument in the rights-chain EP whose effective date predates the usage events being corrected.

8.10 Royalty Evidence Workflow

```
[USAGE EVENT INTAKE]

    ↓

Events received from reporting sources → Artifact identification check

    → Rights-state linkage record created → Consent state confirmed

    → Usage evidence quality tier assigned (Tier 1–4)

    ↓

[CALCULATION PREPARATION]

    ↓

Tier 1 and Tier 2 events aggregated by royalty event type

    → Participation-chain deductions applied → Net royalty pool calculated

    → Split logic applied per contribution chain → Split allocation records
created

    → Tier 3 and Tier 4 events held → Break records created

    ↓

[CALCULATION ARTIFACT CREATION]

    ↓

All inputs, logic, and outputs hash-chained → Calculation artifact registered

    → Provisional qualifiers recorded → Open breaks documented

    ↓

[PAYMENT INSTRUCTION ISSUANCE]

    ↓

Payment instructions issued per split allocation → Hold records created for held
amounts

    → Dual-party authorization obtained for instructions above defined threshold

    ↓

[SETTLEMENT CONFIRMATION]

    ↓

Confirmations received → Variances checked → Payout linkage records completed

    ↓

[FINALITY RECORD]

    ↓

All finality conditions reviewed → Payout Cycle Finality Record created
```

```
    → Open breaks documented → Active holds recorded
    ↓
[DISPUTE OR CORRECTION]
    ↓
Dispute filed → Hold-only containment → Section 12 workflow
    Correction triggered → Off-cycle procedure → Adjustment lineage record
    ↓
[ARCHIVAL AND OFFBOARDING]
    ↓
Calculation artifacts and payout chains preserved per retention schedule
    → Offboarding proof bundle includes full payout evidence chain
```

---

9. Evidence Artifacts, Manifests, Reconciliation, and Preservation

9.1 Evidence Pack Architecture for Authenticity, Consent, Lineage, and Royalty States

An Evidence Pack (EP) is the structured, content-addressed, tamper-evident collection of records that together constitute the operational evidence for a media artifact's states across all five pillars: authenticity, consent, derivation lineage, rights-chain, and royalty. The EP is not a static document. It is a living evidence layer that grows through EP Deltas as states change over the artifact's lifecycle.

The EP architecture mirrors the baseline evidence pack model from Baselines A and B, extended to cover the five media-specific state domains.

Evidence Pack structural layers:

Layer	Contents	Primary Records
Layer 0 — Identity and registration	Artifact identity, manifest registration, origin assertion	Canonical source object manifest; origin assertion record; registration timestamp
Layer 1 — Authenticity	Source integrity evidence; boundary test results; authenticity state	Source manifest chain; SI boundary test logs; authenticity state EP Deltas
Layer 2 — Consent and authority	Consent instruments; authority verification; lifecycle events	Consent state records; consent-state diffs; authority confirmation records
Layer 3 — Derivation and lineage	Transformation event chain; version taxonomy; lineage replay outputs	Transformation event logs; version manifest chain; lineage replay reports
Layer 4 — Rights-	Rights instruments; license	Rights-chain EP entries; license tier records;

Layer	Contents	Primary Records
chain	tiers; restriction registry; scope checks	restriction registry; monetization event linkage records
Layer 5 — Royalty and settlement	Usage events; calculation artifacts; split allocations; payout chain	Usage event records; calculation artifacts; split allocation records; payment instructions; settlement confirmations; payout linkage records; hold records; finality records
Layer 6 — Disputes and corrections	Dispute records; EP Deltas for corrections; hold-only containment records	Dispute classification records; corrective EP Deltas; adjustment lineage records
Layer 7 — Governance and access	Reviewer access logs; post-access review records; recertification records	Tier access logs; post-access review entries; recertification EP Deltas

EP integrity properties:

- Every record in every layer is content-addressed: its hash is computed at creation and linked to the prior record in its chain.
- No record is deleted. Superseded, revoked, or corrected records are retained with status flags and pointers to their replacement EP Deltas.
- The EP for any artifact must be fully reconstructable from its constituent records without requiring access to the underlying media file.
- Cross-layer references use content-addressed pointers (record hashes), not mutable identifiers.

EP per-artifact vs. EP per-series: For media artifacts released as part of a series (album, season, collection), each artifact carries its own EP for Layers 1–7. A Series EP covers Layer 0 for the series as a whole and holds cross-artifact rights-chain and consent records that apply uniformly. Individual artifact EPs reference the Series EP where applicable.

9.2 Minimum Logging Taxonomy

The minimum logging taxonomy defines the event classes that must be captured in the EP regardless of the operational system or implementation used. Events not captured cannot be replayed for institutional review.

Mandatory event classes:

Event Class	Examples	Layer	Retention
Registration events	Source object registration; derivative registration; synthetic output registration	L0, L1	Permanent
Authenticity state events	State assignment; state change; boundary test execution and result	L1	Permanent
Consent instrument events	Instrument registration; scope dimension recording; authority confirmation	L2	Permanent
Consent lifecycle events	Expiry; revocation; supersession; renewal; scope modification; suspension	L2	Permanent
Transformation	Transformation execution; operator class recording;	L3	Permanent

Event Class	Examples	Layer	Retention
events	authorization confirmation		
Version events	Official-release designation; supersession; unauthorized version detection	L3	Permanent
Rights-chain events	License grant; sublicense grant; assignment; reversion; termination; succession	L4	Permanent
Scope check events	Pre-use scope check; out-of-scope flag; restriction registry query	L4	7 years minimum
Usage events	Event receipt; artifact identification; evidence quality tier assignment	L5	7 years minimum
Calculation events	Calculation run initiation; provisional flag assignment; finality record creation	L5	7 years minimum
Payout events	Payment instruction issuance; settlement confirmation receipt; variance flag	L5	7 years minimum
Hold events	Hold application; hold monitoring; hold release; hold escalation	L5, L6	Permanent
Dispute events	Dispute filing; evidence pack exchange; hold-only containment; escalation; resolution	L6	Permanent
Correction events	Corrective EP Delta issuance; off-cycle calculation; adjustment lineage record	L6	Permanent
Reviewer access events	Access tier invoked; purpose recorded; TTL set; post-access review completed	L7	Permanent
Recertification events	Recertification trigger; boundary test results; state confirmations; EP Delta if change	L7	Permanent

Logging format requirements:

- Each log entry includes: unique event ID; ISO 8601 timestamp; event class; actor reference class; affected record IDs; event outcome; hash of prior entry in the class chain; hash of this entry.
- Timestamps are synchronized to an authoritative time source and are tamper-evidenced.
- Log entries are append-only. Modification of a log entry is detectable by hash chain verification.

9.3 Content-Addressed Manifest Patterns

The content-addressed manifest is the primary instrument for establishing artifact identity and enabling evidence replay without requiring access to the underlying media file. The manifest pattern established in Section 4.4 is extended here to cover the full EP across all layers.

Manifest chain properties across EP layers:

Property	Description
Per-layer chain	Each EP layer maintains its own hash chain of manifest entries and EP Deltas
Cross-layer pointer	Records in one layer may reference records in another by content-addressed pointer
Layer-zero	All per-layer chains are anchored to the Layer 0 source object manifest

Property	Description
anchor	
No orphaned records	Every EP Delta in any layer must reference a prior record in the same layer; orphaned deltas are flagged as integrity violations
Replay completeness	The full state of any layer at any historical timestamp must be reconstructable by replaying manifest entries and EP Deltas up to that timestamp

Content-addressed pointer format:

```
CROSS_LAYER_POINTER

  source_layer:         [0–7]

  source_record_id:     [unique record ID in source layer]

  source_record_hash:   [content-addressed hash of source record]

  target_layer:         [0–7]

  target_record_id:     [unique record ID in target layer]

  target_record_hash:   [content-addressed hash of target record]

  pointer_purpose:      [narrative descriptor of the cross-layer relationship]
```

Cross-layer pointers are themselves content-addressed and included in the EP index. A broken pointer — where the target record hash does not match the target record's current hash — is flagged as an integrity violation and triggers a chain investigation.

9.4 Chain-of-Custody for Media Evidence and Rights-State Evidence

Chain-of-custody records establish that evidence was collected, maintained, and transmitted without unauthorized modification. They apply both to the underlying media artifacts (where relevant to authenticity) and to the EP records themselves.

Chain-of-custody record for a media artifact:

```
CHAIN_OF_CUSTODY_RECORD

  coc_id:               [unique identifier]

  artifact_manifest_id: [manifest ID of artifact under custody]

  custodian_class:      [creator | label | studio | distributor | archive |
legal hold]

  custody_start:        [ISO 8601 timestamp of custody commencement]

  custody_end:          [ISO 8601 timestamp of custody transfer or release; null
if current]

  transfer_to_class:    [next custodian class; null if current]

  transfer_basis:       [instrument or event authorizing transfer]

  artifact_hash_at_transfer: [hash of artifact at point of transfer; must match
manifest]

  coc_hash:             [content-addressed hash of this record]
```

```
prev_coc_hash:        [hash of prior custody record in chain]
```

Chain-of-custody requirements for EP records:

- EP records are maintained in a tamper-evident, append-only store.
- Access to EP records is logged per Layer 7 requirements.
- Transfers of EP custodianship (e.g., at offboarding) are recorded via a Custody Transfer EP Delta that includes the content-addressed hash of the full EP state at the point of transfer.
- The receiving custodian confirms receipt by verifying the EP state hash and recording a custody acceptance entry.

9.5 Reconciliation Cadence Design

Reconciliation is the periodic process of verifying that EP states are internally consistent, that usage event records match reported volumes, that rights-chain states are current, and that no undetected breaks have accumulated between reconciliation runs.

Recommended reconciliation cadence by event class:

Reconciliation Type	Recommended Frequency	Trigger for Unscheduled Run
Authenticity boundary tests (SI-01 to SI-08)	Quarterly; at material change	New derivative registered; dispute filed; offboarding
Consent lifecycle review	Monthly; at material change	Consent instrument approaching expiry; revocation received; dispute filed
Rights-chain scope check	Monthly; at material change	Assignment or termination recorded; new license or sublicense registered
Usage event completeness review	Monthly per reporting source	Reporting gap detected; volume anomaly flagged
Calculation artifact integrity check	Per calculation cycle; and quarterly	Calculation disputed; correction EP Delta issued
Payout chain completeness review	Per payout cycle; and quarterly	Variance flag on settlement confirmation; unmatched payout detected
Hold record status review	Monthly	Hold approaching maximum duration without resolution
Full EP integrity scan	Annually; at offboarding	Integrity violation detected in any layer; examiner request

Reconciliation output: Each reconciliation run produces a Reconciliation Run Record (RRR) that is registered in the EP as a Layer 7 event. The RRR documents the scope of the run, the boundary tests executed, the break count by type and severity, the open break count from prior runs that remain unresolved, and the actions taken or scheduled.

9.6 Break Taxonomy and Severity Bands

A break is any condition identified during reconciliation or boundary testing that indicates a gap, inconsistency, or integrity failure in the EP. Breaks are classified by type and assigned a severity band that governs the response timeline and escalation path.

Break taxonomy — full classification:

Break ID	Break Type	Layer	Severity Band	Maximum Response Timeline
BR-A01	Hash mismatch: artifact vs. manifest	L1	Critical	Immediate
BR-A02	Manifest chain gap or orphaned record	L1	Critical	24 hours
BR-A03	Authenticity state `CONTESTED` without active dispute record	L1	High	5 business days
BR-A04	Authenticity state `UNRESOLVABLE` without monitored exception record	L1	High	5 business days
BR-A05	Synthetic output without synthesis provenance record	L1	High	10 business days
BR-C01	Consent state `ABSENT` for a monetized usage event	L2	Critical	Immediate; hold-only containment
BR-C02	Consent state `EXPIRED` for an active distribution event	L2	High	5 business days
BR-C03	Consent-state diff chain gap	L2	High	5 business days
BR-C04	Underdefined scope dimension for a Class A use	L2	Moderate	15 business days
BR-C05	Authority confirmation absent for consent instrument	L2	Moderate	15 business days
BR-L01	Missing transformation event for apparent derivative	L3	Critical	24 hours; hold-only containment
BR-L02	Unauthorized transformation event (`authorization_state: ABSENT`) in lineage	L3	Critical	Immediate; contamination check
BR-L03	Unlinked parent manifest (no `parent_manifest_id`)	L3	High	5 business days
BR-L04	Version integrity violation (duplicate official source object)	L3	High	5 business days
BR-L05	Contamination detected in lineage chain	L3	Critical	Immediate; full hold-only containment
BR-R01	Sublicense scope exceeds licensor's verified scope	L4	High	5 business days; hold-only containment
BR-R02	Usage event in restricted territory without scope check record	L4	High	5 business days
BR-R03	License state `EXPIRED` for active monetization event	L4	Critical	Immediate; hold-only containment
BR-R04	Missing rights-state linkage for monetization event	L4	High	5 business days
BR-P01	Usage event `UNMATCHED` — artifact not identified	L5	High	10 business days
BR-P02	Calculation artifact missing for a completed payout cycle	L5	Critical	Immediate

Break ID	Break Type	Layer	Severity Band	Maximum Response Timeline
BR-P03	Split allocation residual not assigned	L5	Moderate	15 business days
BR-P04	Payout chain `chain_complete: NO`	L5	High	5 business days
BR-P05	Settlement confirmation variance flag unresolved	L5	Moderate	15 business days
BR-P06	Provisional event qualification expired without resolution	L5	Moderate	10 business days
BR-P07	Hold record with no expected resolution date	L5, L6	Moderate	15 business days
BR-G01	Reviewer access log entry without post-access review	L7	Moderate	10 business days
BR-G02	Recertification overdue	L7	Moderate	15 business days

Severity band response requirements:

Severity Band	Response Requirement	Escalation if Unresolved
Critical	Immediate investigation; hold-only containment where applicable; senior authorization required	Escalate to Section 12 dispute and exception governance within 48 hours
High	Formal break investigation opened within 1 business day; assigned investigation owner; target resolution within stated timeline	Escalate to Section 12 if not resolved within timeline
Moderate	Break recorded in Reconciliation Break Register; assigned owner; target resolution within stated timeline	Flag as monitored exception if not resolved within timeline

---

9.7 Preservation Bundles and Legal-Hold-Ready Records

A preservation bundle is a sealed, point-in-time snapshot of the EP for a specific artifact or artifact set, created at defined trigger events to ensure that evidence is preserved in a form that supports dispute reconstruction, legal hold, or institutional review even if the live EP subsequently changes.

Preservation bundle trigger events:

Trigger	Bundle Scope
Dispute filing (Section 12)	Full EP for all artifacts named in the dispute; all layers
Legal hold notification received	Full EP for all artifacts within hold scope; all layers
Offboarding initiated (Section 13)	Full EP for all artifacts managed by offboarding party
Material authenticity state change to `CONTESTED` or `UNRESOLVABLE`	EP Layers 0–3 for affected artifact
Consent revocation with contested effective date	EP Layers 0–2 for affected artifact
Rights-chain assignment affecting multiple artifacts	EP Layers 0–4 for all affected artifacts
Examiner or supervisory request	Scope defined by request

Preservation bundle structure:

```
PRESERVATION_BUNDLE
  bundle_id:               [unique identifier]
  trigger_event:           [from taxonomy above]
  trigger_ref:             [pointer to triggering record]
  bundle_timestamp:        [ISO 8601 timestamp of bundle creation]
  artifact_scope:          [list of artifact manifest IDs included]
  layer_scope:             [list of EP layers included; 0–7]
  ep_state_hash:           [content-addressed hash of full EP state at bundle
timestamp]
  record_count:            [total records included across all layers]
  open_break_count:        [breaks unresolved at bundle creation]
  bundle_custodian_class: [party responsible for bundle integrity]
  legal_hold_flag:         [YES | NO]
  retention_minimum:       [date before which bundle must not be destroyed]
  bundle_hash:             [content-addressed hash of this bundle record]
```

Legal-hold-ready properties: A preservation bundle is legal-hold-ready if it meets the following conditions:

- The EP state hash can be independently verified against the constituent records.
- The bundle was created at or before the trigger event timestamp.
- No records in the bundle carry modification timestamps after the bundle creation timestamp (any post-bundle modifications are in subsequent EP Deltas, not in the bundle itself).
- The bundle custodian has acknowledged custody in a signed custody acceptance record.

9.8 Retrieval and Production Workflows

When an institutional reviewer, examiner, rights-holder representative, or legal party requests evidence from the EP, the retrieval and production workflow governs how the request is processed, what is produced, and how the production is documented.

Retrieval and production steps:

Step	Action	Documentation Required
1. Request receipt	Request received; requestor identity class confirmed; request scope defined	Request log entry in Layer 7
2. Access tier determination	Appropriate access tier (0, 1, or 2) determined per Section 10	Access tier assignment recorded
3. Scope confirmation	Records within scope identified by artifact manifest ID, layer, and date range	Scope confirmation record
4. Privilege and minimization review	Records reviewed for any minimization, redaction, or bounded disclosure requirements	Redaction log if applicable

Step	Action	Documentation Required
5. Evidence package assembly	Records assembled into a production package; index created	Production package manifest
6. Integrity verification	Content-addressed hashes of all produced records verified against EP	Verification log
7. Production delivery	Package delivered through defined secure channel	Delivery confirmation record
8. Post-production log	Production event recorded in Layer 7; post-access review scheduled	Layer 7 log entry

Production package manifest:

```
PRODUCTION_PACKAGE_MANIFEST
  production_id:          [unique identifier]
  request_ref:            [pointer to request log entry]
  access_tier:            [0 | 1 | 2]
  requestor_class:        [examiner | rights-holder | auditor | legal party |
supervisory authority]
  purpose:                [documented purpose of request]
  artifact_scope:         [list of artifact manifest IDs produced]
  layer_scope:            [list of EP layers produced]
  record_count:           [total records in package]
  redacted_record_count:  [count of records redacted or minimized]
  production_timestamp:   [ISO 8601]
  delivery_channel:       [defined secure channel identifier]
  package_hash:           [content-addressed hash of full production package]
  post_access_review_due: [date by which post-access review must be completed]
```

9.9 Examiner and Reviewer Replay Requirements

An examiner or reviewer must be able to replay any EP state at any historical timestamp using only the records in the EP, without requiring direct access to the underlying media artifacts or to live operational systems. This replay capability is the defining property of the evidence infrastructure.

Replay capability requirements:

Replay Scenario	Required EP Records	Access Tier
Confirm authenticity state at a specific date	Layer 0 manifest chain + Layer 1 EP Deltas up to target date	Tier 1
Confirm consent was in scope at time of a specific usage event	Layer 2 consent instrument + consent-state diffs up to event timestamp	Tier 1
Reconstruct derivation lineage of an	Layer 3 transformation event chain + Layer 0	Tier 1

Replay Scenario	Required EP Records	Access Tier
artifact	source manifest	
Confirm rights-chain scope at time of a specific monetization event	Layer 4 rights-chain EP + restriction registry at event timestamp	Tier 1
Replay a royalty calculation	Layer 5 calculation artifact + referenced usage events + split allocation records	Tier 1
Confirm payout chain completeness for a cycle	Layer 5 payment instructions + settlement confirmations + payout linkage records	Tier 1
Full dispute reconstruction	All layers for relevant artifacts; dispute records; EP Deltas for corrections	Tier 2
Integrity audit of full EP	All layers; manifest chains; hash chain verification across all layers	Tier 2

Replay output format: The replay output for any scenario must include:

1. The specific records used in the reconstruction (by record ID and hash).
2. The state value produced by the replay (e.g., `IN_SCOPE`, `VERIFIED`, `CONFIRMED`).
3. Any breaks or gaps encountered during replay.
4. The replay timestamp and the "as-of" timestamp to which the replay is anchored.
5. The access tier at which the replay was performed and the reviewer reference.

9.10 Evidence Integrity Failure and Recovery Posture

An evidence integrity failure is any condition in which the hash chain of an EP layer cannot be verified — because a record has been modified, deleted, or an unauthorized record has been inserted. Evidence integrity failures are the most severe operational events in the evidence infrastructure.

Integrity failure classification:

Failure Type	Description	Severity
Single-record hash mismatch	One record's hash does not match its declared content	Critical
Chain break	A record's `prev_record_hash` does not match the hash of the preceding record	Critical
Orphaned record	A record has no valid predecessor in the chain	High
Missing record	A gap in the event sequence suggests a record has been deleted	Critical
Cross-layer pointer mismatch	A pointer's declared target hash does not match the target record	High
Unauthorized modification	A record's content differs from its registered hash but no EP Delta was issued	Critical

Recovery posture:

Recovery Step	Action
1. Isolate	Immediately quarantine the affected EP layer; halt all operations dependent on the affected chain

Recovery Step	Action
2. Preserve	Create a forensic preservation bundle of the affected layer in its current state before any remediation
3. Investigate	Determine the nature, scope, and origin of the integrity failure; distinguish technical failure from intentional tampering
4. Notify	Notify affected rights-holders, calculation recipients, and (where applicable) supervisory parties
5. Reconstruct	Where backup chain records are available, reconstruct the affected segment; document reconstruction method
6. Issue integrity failure EP Delta	Record the failure, its scope, the reconstruction method, and the post-recovery state
7. Re-verify	Run full hash chain verification across all affected layers post-recovery
8. Post-recovery review	Conduct formal post-incident review; determine whether any calculations or payouts based on the affected chain must be reviewed or corrected

No operation that depends on an EP layer with an unresolved integrity failure may proceed until the failure has been isolated and either resolved or formally documented as a monitored exception with a hold-only containment record for all dependent operations.

---

10. Tiered Reviewer, Rights-Holder, and Examiner Access

10.1 Tier Definitions

The tiered reviewer access model is drawn directly from Baseline B (Tiered Supervisory Access) and adapted for the media authenticity, consent, lineage, and royalty context. The model provides three access tiers, each with a different disclosure depth, authorization requirement, and post-access obligation.

Tier definitions:

Tier	Name	Default?	Disclosure Depth	Authorization Requirement
Tier 0	Aggregate and proof-based	Yes — default for all access	Aggregated statistics; state summaries; proof outputs; no artifact-level record disclosure	Reviewer standard credentials; no additional authorization
Tier 1	Artifact-level and state-level	Requires documented purpose	Artifact manifest; state values; EP layer summaries; calculation summaries; payout chain summaries	Documented purpose; TTL defined; post-access review required
Tier 2	Full evidence pack	Requires elevated authorization	All EP layers; full manifest chains; calculation artifacts; transformation event chains; contribution chain detail	Elevated authorization; dual-party approval; mandatory post-access review; all access events immutably logged

Tier escalation path: Access begins at Tier 0 by default. Escalation to Tier 1 requires a documented purpose that cannot be served by Tier 0 outputs. Escalation to Tier 2 requires a documented purpose

that cannot be served by Tier 1 outputs plus elevated authorization. There is no direct access to Tier 2 without traversing the Tier 1 documentation requirement.

Reviewer categories and default tier:

Reviewer Category	Default Tier	Maximum Tier Without Special Authorization
External auditor (general)	Tier 0	Tier 1 with documented audit scope
Rights-holder or creator representative	Tier 0	Tier 1 for their own artifacts; Tier 2 with dispute-level authorization
Collecting society or royalty administrator	Tier 0	Tier 1 for calculation review within mandate
Platform or distributor self-audit	Tier 0	Tier 1 for their own reported usage events
Institutional examiner or supervisory authority	Tier 0	Tier 2 with dual-party authorization and defined examination scope
Legal party in active dispute	Tier 0	Tier 2 for records within dispute scope; Section 12 authorization
Internal governance reviewer	Tier 0	Tier 1 for routine review; Tier 2 for integrity investigation

---

10.2 Purpose Limitation and TTL

Every access grant above Tier 0 is governed by purpose limitation and a defined time-to-live (TTL). These are non-waivable requirements.

Purpose limitation requirements:

Requirement	Description
Purpose specificity	The access purpose must identify the specific state, calculation, artifact, or dispute to which access relates; general or exploratory purposes do not satisfy the requirement
Purpose recorded in Layer 7	The stated purpose is logged at access initiation and is immutable; it cannot be modified after access is granted
Purpose scope binding	Records accessed must fall within the stated purpose scope; access to records outside that scope requires a new access grant
Purpose consistency verification	Post-access review (Section 10.6) verifies that records accessed were within the stated purpose scope

TTL requirements:

Access Tier	Recommended TTL	Extension Requirement
Tier 1 — routine review	30 days	Documented re-authorization with updated purpose statement
Tier 1 — calculation audit	Duration of audit cycle + 10 business days	No automatic extension; new access grant required
Tier 1 — dispute support	Duration of dispute resolution period	Extension authorized by dispute governance record
Tier 2 — examination	Duration of examination + 30 days	Supervisory re-authorization required

Access Tier	Recommended TTL	Extension Requirement
Tier 2 — dispute reconstruction	Duration of dispute resolution period	Extension authorized by dispute governance record

TTL expiry terminates access to all records within the grant. Records accessed during the TTL window remain in the reviewer's possession for the stated purpose; further use outside that purpose requires a new access grant.

10.3 Default Reviewer-Safe Outputs

Tier 0 outputs are the default for all reviewer interactions. They are designed to allow institutional monitoring, aggregate compliance review, and rights-holder status checking without triggering artifact-level or record-level disclosure.

Tier 0 output types:

Output Type	Description	Use Case
Authenticity state summary	Count of artifacts by authenticity state value (`VERIFIED`, `CORROBORATED`, `ASSERTED`, `CONTESTED`, `UNRESOLVABLE`) within a portfolio or catalog	Portfolio-level compliance review
Consent coverage summary	Count of monetized events by consent state value; count of `ABSENT` and `EXPIRED` events flagged	Royalty audit preparation; rights-holder oversight
Lineage completeness summary	Count of derivatives with complete vs. incomplete transformation event chains	Derivation audit preparation
Royalty cycle health summary	Calculation cycle status; count of Tier 1–4 events; total held vs. disbursed; open break count	Royalty administrator oversight
Payout chain completeness summary	Count of payout linkage records by `chain_complete` status; open variance count	Payout audit preparation
Break register summary	Count of open breaks by severity band and layer; resolution rate for prior period	Governance review
Hold register summary	Count of active holds by trigger type; total held amount by category	Rights-holder and administrator oversight
State-proof output (Baseline E, optional)	Cryptographic proof that a specific state value is as asserted, without disclosing the underlying record	Bounded verification for external parties

Where Baseline E (ZKP) is implemented, state-proof outputs replace artifact-level disclosure for many Tier 0 use cases, enabling a rights-holder to verify that their consent record is `IN_SCOPE` for a given use without the verifier accessing the consent instrument itself.

10.4 Elevated Access Conditions

Tier 1 access is granted when the reviewer's purpose cannot be served by Tier 0 outputs. Tier 2 access is granted when the reviewer's purpose cannot be served by Tier 1 outputs. Both require documented conditions.

Tier 1 access conditions:

Condition	Minimum Evidence Required
Specific artifact authenticity review	Artifact manifest ID identified; purpose limited to authenticity state for that artifact
Consent scope verification for a specific use event	Usage event ID identified; purpose limited to consent state for that event
Royalty calculation review for a specific cycle	Calculation cycle identified; reviewer has standing (rights-holder, administrator, or examiner)
Derivation lineage verification for a specific artifact	Artifact manifest ID identified; purpose limited to lineage records for that artifact
Rights-chain scope review for a specific license tier	License tier reference identified; purpose limited to scope attributes for that tier

Tier 2 access conditions:

Condition	Additional Requirements Beyond Tier 1
Active dispute reconstruction	Dispute record in Section 12 governance; dispute scope defining artifact and record scope
Integrity investigation	Integrity failure record (Section 9.10); investigation scope defined; dual-party authorization
Formal institutional examination	Examination authority documented; examination scope defined; dual-party authorization from examination body and EP custodian
Legal hold production	Legal hold notification received; production scope defined by hold order; legal review completed
Contamination investigation	Contamination detection record (Section 6.5); investigation scope defined; dual-party authorization

Dual-party authorization for Tier 2: Tier 2 access requires independent authorization from two parties:

1. The requesting reviewer or examination authority.
2. An independent authorization officer from the EP custodian who has no direct interest in the outcome of the access.

Neither party may authorize Tier 2 access unilaterally. The dual-party authorization record is immutably logged in Layer 7.

10.5 Emergency and Dispute Escalation Access

Emergency access is a sub-category of Tier 2 available when a time-critical condition — active fraud, imminent asset dissipation, critical integrity failure, or legal emergency — requires immediate access before normal dual-party authorization can be completed.

Emergency access protocol:

Step	Action	Documentation
1. Emergency declaration	Requesting party declares emergency condition with specific factual basis	Emergency declaration record with timestamp
2. Single-party interim authorization	One authorized party grants interim Tier 2 access with defined scope and maximum TTL of 48 hours	Interim authorization record
3. Restricted scope enforcement	Access scope is narrowed to the minimum required for the emergency	Scope restriction log
4. Second-party authorization	Second authorization party reviews and confirms or revokes access within 24 hours	Second-party confirmation or revocation record
5. Full post-access review	Mandatory post-access review conducted within 5 business days	Post-access review record
6. Emergency access report	Full report of records accessed, actions taken, and justification	Emergency access report filed in Layer 7

Emergency access is an exception, not a routine path. Repeated emergency access declarations without subsequent dual-party confirmation are flagged as governance violations.

10.6 Post-Access Review

Post-access review is a mandatory governance control for all Tier 1 and Tier 2 access. It verifies that the access was within the stated purpose, that only records within scope were accessed, and that no unauthorized secondary use of accessed records has occurred.

Post-access review elements:

Review Element	Description
Access log verification	Layer 7 access log reviewed to confirm all accessed records fall within the stated purpose scope
Scope comparison	Records accessed compared to records authorized; any out-of-scope access flagged
Secondary use check	Reviewer's subsequent actions reviewed (where accessible) for evidence of unauthorized secondary use
Output review	Any outputs produced by the reviewer (reports, calculations, communications) reviewed for compliance with purpose limitation
Reviewer attestation	Reviewer provides signed attestation that access was within stated purpose and TTL
Finding record	Post-access review findings recorded in Layer 7; any violations escalated to Section 12 governance

Post-access review deadlines:

Access Tier	Post-Access Review Deadline
Tier 1 — routine	Within 15 business days of access
Tier 1 — dispute support	Within 10 business days of access
Tier 2 — examination	Within 10 business days of access completion
Tier 2 — dispute reconstruction	Within 10 business days of access

Access Tier	Post-Access Review Deadline
Emergency access	Within 5 business days of access

A post-access review not completed within its deadline is itself a governance break (BR-G01) subject to escalation.

10.7 Minimization, Redaction, and Bounded Disclosure Discipline

Minimization is the operational principle that reviewer access and evidence production are limited to the records genuinely necessary for the stated purpose, and that unnecessary disclosure of sensitive commercial, personal, or strategic information is avoided.

Minimization techniques:

Technique	Description	When Applied
Record scope limitation	Only records within the stated purpose scope are included in access or production packages	All Tier 1 and Tier 2 access
Field-level redaction	Fields within a record that are outside the purpose scope are redacted; redaction is logged	Where a record is partially relevant
Aggregation substitution	Where an aggregate statistic satisfies the reviewer's need, it is substituted for record-level disclosure	Wherever Tier 0 outputs suffice
Anonymization of contribution chain	Contributor identities are anonymized in calculation outputs unless contributor identification is within the access purpose	Royalty calculation review where individual identities are not required
Temporal scope limitation	Access is limited to the date range relevant to the stated purpose	All access
Proof substitution (Baseline E, optional)	A cryptographic proof of state is produced in place of the underlying record	Where state verification — not record review — satisfies the purpose

Redaction log entry:

```
REDACTION_LOG_ENTRY

  redaction_id:          [unique identifier]

  production_id:         [pointer to production package manifest]

  record_id:             [ID of record from which fields were redacted]

  redacted_fields:       [list of field names redacted]

  redaction_basis:       [purpose scope limitation | minimization | privilege |
third-party confidentiality]

  redaction_timestamp:   [ISO 8601]

  redaction_auth:        [authorization record for redaction decision]
```

Redactions are never silently applied. Every redacted record is disclosed to the reviewer as a redacted record — the existence of the record and the redaction basis are disclosed, even if the content is not.

10.8 Optional Proof-Based Verification Where It Materially Improves Bounded Access

Where Baseline E (ZKP Programmable Privacy Framework) is implemented, proof-based verification provides a mechanism for reviewers to confirm specific state values without accessing the underlying records. This is particularly relevant for:

High-value proof-based verification use cases:

Verification Need	Proof-Based Output	Benefit Over Record Disclosure
Confirm consent `IN_SCOPE` for a specific use event	Proof that consent state = `IN_SCOPE` at the event timestamp	Consent instrument terms not disclosed to verifier
Confirm royalty was paid to an identified contributor	Proof that payout linkage record exists for contributor and calculation ID	Split percentages and other contributors' payments not disclosed
Confirm artifact authenticity `VERIFIED`	Proof that artifact hash matches manifest registration	Production chain details not disclosed
Confirm no outstanding holds on an artifact	Proof that hold register shows no active holds for the artifact	Hold record details and amounts not disclosed
Confirm rights-chain scope covers a specific use type	Proof that rights-chain scope check result = `IN_SCOPE` for the use type	License terms, rates, and restriction registry details not disclosed

Proof-based verification requirements when used:

Requirement	Description
Proof freshness	Proofs are timestamped and have a defined validity window (recommended: 24 hours for use-event verification; 7 days for status verification)
Proof revocation	If the underlying state changes after a proof is generated, the proof must be revocable; stale proofs beyond their validity window are automatically invalid
Proof audit trail	Each proof generation event is logged in Layer 7 with the verifier reference, the proof type, and the timestamp
Proof scope	Proofs assert only the specific state claimed; they do not assert anything beyond their defined scope
Fallback to record disclosure	Where proof-based verification is inconclusive or the verifier disputes the proof, escalation to Tier 1 or Tier 2 record-level access is available through the standard access path

Proof-based verification supplements the tiered access model; it does not replace it. A reviewer who requires record-level evidence — for example, in a dispute reconstruction — uses the standard Tier 1 or Tier 2 path.

10.9 Access Governance Workflow

```
[ACCESS REQUEST RECEIVED]
    ↓
Requestor identity class confirmed → Purpose documented
    → Tier determination made (0, 1, or 2)
    ↓
[TIER 0]
    ↓
Aggregate outputs or proof outputs generated → Delivered without access log
    (proof generation logged in Layer 7 if Baseline E used)
    ↓
[TIER 1]
    ↓
Purpose scope confirmed → TTL defined
    → Records within scope identified → Minimization review
    → Redaction log created if applicable
    → Access grant logged in Layer 7 → Records delivered
    → Post-access review scheduled
    ↓
[TIER 2]
    ↓
Tier 1 documentation confirmed → Elevated purpose documented
    → Dual-party authorization obtained → Scope defined
    → Access grant logged in Layer 7 → Full EP records within scope delivered
    → Post-access review mandatory → Review deadline recorded
    ↓
[EMERGENCY ACCESS — if applicable]
    ↓
Emergency declaration recorded → Single-party interim authorization
    → Restricted scope enforced → Second-party confirmation within 24 hours
    → Post-access review within 5 business days
    ↓
[POST-ACCESS REVIEW]
    ↓
Access log verified → Scope compliance confirmed
```

```
    → Reviewer attestation obtained → Finding record in Layer 7
    → Violations escalated to Section 12 governance
    ↓
[TTL EXPIRY]
    ↓
Access terminated → Layer 7 TTL expiry record
    → Any extension requires new access grant
```

10.10 Access Tier Reference Summary

Scenario	Tier	Authorization	TTL	Post-Access Review
Rights-holder checks own royalty cycle status	0	Standard credentials	N/A	Not required
Auditor verifies aggregate consent coverage	0	Standard credentials	N/A	Not required
Rights-holder disputes a specific usage event	1	Documented dispute purpose	Dispute duration	Required within 10 days
Collecting society reviews a calculation cycle	1	Mandate scope documented	Audit cycle + 10 days	Required within 15 days
Examiner reviews a specific artifact lineage	1	Examination scope documented	30 days	Required within 10 days
Dispute reconstruction — contested lineage	2	Dispute record + dual-party	Dispute duration	Required within 10 days
Integrity investigation — hash chain failure	2	Integrity failure record + dual-party	Investigation period	Required within 10 days
Formal institutional examination	2	Examination authority + dual-party	Examination + 30 days	Required within 10 days
Emergency — active fraud or asset dissipation	2 (emergency)	Single-party interim; second party within 24h	48 hours	Required within 5 days

---

11. Governance, Change Control, Recertification, and Accountability

11.1 Governance Structure and Role Taxonomy

The governance structure of this framework is derived from the distributed governance and no-master-key posture established in Baselines B and C. It does not create new universal governance bodies or industry-wide authorities. It defines the minimum governance roles that any institutional operator of this evidence infrastructure must assign, document, and maintain.

Governance roles are functional designations, not organizational titles. A single institution may consolidate multiple roles; a distributed implementation may assign roles across multiple parties. In all cases, each role must be held by a named accountable party with documented scope.

Governance role taxonomy:

Role	Primary Responsibilities	Authority Scope
Evidence Infrastructure Operator	Maintains the EP architecture; ensures chain integrity; manages Layer 7 logs; oversees preservation bundle creation	Technical custody of EP; no unilateral authority over state determinations
Rights-State Administrator	Registers and maintains rights-chain EP entries; executes license and sublicense recordings; manages restriction registry	Rights-chain EP Layers 4; no authority over consent or authenticity state
Consent State Custodian	Registers consent instruments; issues consent-state EP Deltas; monitors consent lifecycle	Consent and authority EP Layer 2; no authority over rights-chain or royalty calculation
Royalty Calculation Officer	Executes calculation runs; issues payment instructions; oversees split allocation; manages hold records	Royalty EP Layer 5; calculation authority within defined mandate
Reconciliation Officer	Executes reconciliation runs; manages break register; assigns investigation owners; escalates unresolved breaks	Break register; no authority to resolve disputes unilaterally
Access Authorization Officer	Grants Tier 1 and Tier 2 access; co-authorizes dual-party approvals; oversees post-access review completion	Access grants within defined authorization matrix; no unilateral Tier 2 authority
Change Control Officer	Manages change requests; coordinates impact assessments; oversees recertification triggers	Change control process; no authority to implement changes without approval
Dispute and Exception Governor	Manages Section 12 dispute workflows; authorizes hold-only containment; oversees corrective EP Delta issuance	Dispute governance; no authority to determine legal outcomes
Audit and Examination Coordinator	Manages examiner and reviewer requests; coordinates evidence production; oversees post-access review	Evidence production within access tier constraints

Segregation of duties requirements:

Control	Segregation Requirement
EP Delta issuance	Issuer and authorizer must be different parties for any state-changing EP Delta
Tier 2 access grant	Dual-party authorization; neither party may be the requestor
Payout instruction issuance	Calculation officer and payment instruction issuer must be different parties above defined threshold
Hold application and release	Hold application and hold release must be authorized by different parties
Integrity failure remediation	Remediation executor and post-recovery reviewer must be different parties
Corrective calculation	Original calculation officer must not be the sole reviewer of their own

Control	Segregation Requirement
	correction

11.2 RACI Slices for Critical Activities

RACI matrices assign Responsible, Accountable, Consulted, and Informed designations per activity and role. The following slices cover the highest-risk governance activities.

RACI — EP Delta issuance for state-changing events:

Activity Step	Evidence Infra Operator	Rights-State Admin	Consent Custodian	Royalty Calc Officer	Dispute Governor	Access Auth Officer
Identify need for EP Delta	C	R/A (if rights)	R/A (if consent)	R/A (if royalty)	R/A (if dispute)	I
Draft EP Delta content	I	R (if rights)	R (if consent)	R (if royalty)	R (if dispute)	I
Independent review of Delta	A	C	C	C	C	I
Authorize issuance	A	C	C	C	C	I
Register in EP chain	R	I	I	I	I	I
Notify affected parties	I	R (if rights)	R (if consent)	R (if royalty)	R (if dispute)	I

RACI — Royalty calculation cycle:

Activity Step	Royalty Calc Officer	Rights-State Admin	Consent Custodian	Reconciliation Officer	Evidence Infra Operator
Aggregate usage events	R	I	I	C	I
Run rights-state linkage checks	C	R	I	C	I
Run consent-state checks	C	I	R	C	I
Execute calculation run	R/A	C	C	C	I
Review calculation artifact	C	I	I	R	I
Issue payment instructions	R	I	I	C	I
Authorize instructions above threshold	A (co-auth)	I	I	I	I
Record finality	R	I	I	A	R

RACI — Dispute initiation and hold-only containment:

Activity Step	Dispute Governor	Royalty Calc Officer	Reconciliation Officer	Access Auth Officer	Evidence Infra Operator
Receive and classify dispute	R/A	I	C	I	I
Apply hold-only containment	A	R (revenue)	C	I	R (EP)
Notify affected parties	R	C	C	I	I
Assign investigation owner	R/A	I	R	I	I
Authorize Tier 2 access for reconstruction	I	I	I	R/A (co-auth)	I
Issue corrective EP Delta post-resolution	A	C (if royalty)	C (if consent)	I	R

11.3 Authority and Delegation Controls

Delegated authority is a common source of operational risk in evidence infrastructure. Delegations must be documented, scoped, time-bounded, and recorded in the EP as governance events.

Delegation record structure:

```
DELEGATION_RECORD
  delegation_id:         [unique identifier]
  delegating_party:      [role of delegating party]
  delegated_party:       [role or named party receiving delegation]
  scope:                 [specific activities or decisions within the delegation]
  effective_date:        [start date]
  expiry_date:           [end date; mandatory — no open-ended delegations]
  conditions:            [any conditions or limits on exercise of delegated
authority]
  revocation_trigger:    [conditions under which delegation is revoked before
expiry]
  delegation_hash:       [content-addressed hash of this record]
  prev_delegation_hash: [hash of prior delegation in chain; null if first]
```

Delegation governance requirements:

Requirement	Description
No open-ended delegations	All delegations have a defined expiry date; perpetual delegations are not permitted
Scope specificity	Delegation scope must name specific activities; general or unlimited delegations are not permitted
EP registration	All delegations are registered as governance events in Layer 7
Revocation on role	Delegations are automatically revoked when the delegating party's role

Requirement	Description
change	changes or ends
Nested delegation restriction	A delegated party may not sub-delegate without explicit authority from the original delegating party
Conflict of interest prohibition	Delegations that create conflicts of interest (e.g., delegating royalty calculation authority to a calculation beneficiary) are flagged and require elevated authorization

11.4 Material Change Triggers

A material change is any event that requires reassessment of one or more EP state determinations, recertification of an operational process, or issuance of one or more EP Deltas. Material change triggers activate a defined response sequence rather than relying on discretionary review.

Material change trigger taxonomy:

Trigger Category	Examples	Response Required
Rights-chain event	Rights assignment; license termination; reversion; succession	Rights-chain EP Delta; downstream license review; restriction registry update
Consent lifecycle event	Revocation; expiry without renewal; scope modification; retroactive dispute	Consent-state EP Delta; usage event review for affected period; royalty hold review
Authenticity event	New contested source claim; hash mismatch detected; synthetic provenance record identified	Authenticity EP Delta; SI boundary tests re-run; affected calculation review
Lineage event	Contamination detected; missing transformation event identified; unauthorized version found	Lineage EP Delta; contamination response sequence (Section 6.5); affected revenue hold
Royalty and payout event	Calculation correction required; contributor identification change; rate revision	Corrective EP Delta; off-cycle calculation; adjustment lineage record
Governance event	Role change; delegation expiry; recertification failure; access governance violation	Layer 7 EP Delta; role reassignment; escalation if recertification fails
Technical integrity event	Hash chain break; integrity failure; backup restoration	Integrity failure response (Section 9.10); preservation bundle; notify affected parties
Regulatory or supervisory event	Examination request; legal hold; dispute escalation to supervisory authority	Evidence production workflow; preservation bundle; examiner coordination

Material change response timeline:

Trigger Category	EP Delta Issuance Deadline	Affected Party Notification
Critical authenticity or lineage event	Within 24 hours	Within 24 hours
Rights-chain event	Within 3 business days	Within 5 business days

Trigger Category	EP Delta Issuance Deadline	Affected Party Notification
Consent lifecycle event	Within 3 business days	Within 5 business days
Royalty correction	Within 5 business days	Within 5 business days
Governance event	Within 5 business days	Within 10 business days
Technical integrity event	Within 24 hours (isolation); 5 business days (EP Delta)	Within 24 hours of isolation

11.5 Recertification Cadence

Recertification is the periodic process of confirming that all EP states, delegation records, access grants, and operational controls remain current, accurate, and within their defined scope. It is distinct from reconciliation (which checks data consistency) in that it addresses the validity and currency of governance conditions.

Recertification schedule:

Recertification Subject	Frequency	Trigger for Unscheduled Recertification
Rights-chain EP entries	Annually; and at any rights-chain event	Assignment; termination; reversion; succession
Consent state records	Annually; and 60 days before any consent expiry	Revocation; scope dispute; approaching expiry
Delegation records	At expiry; and when delegating party's role changes	Role change; conflict of interest identified
Access grants (Tier 1 and Tier 2)	At TTL expiry	Post-access review finding; purpose scope violation
Calculation officer mandate	Annually	Royalty dispute involving calculation officer's decisions
Dispute Governor authority	Annually	Dispute resolution conflict of interest identified
Full EP integrity scan	Annually; and at offboarding	Integrity failure detected in any layer

Recertification output: Each recertification produces a Recertification Record registered in Layer 7. The record documents the subject recertified, the outcome (confirmed, modified, or revoked), any EP Deltas triggered by the recertification, and the next scheduled recertification date.

Recertification failure response: If a recertification reveals that a state is invalid, a delegation has been operating beyond its scope, or an access grant was used outside its purpose, the failure is treated as a governance break. The severity band is determined by the nature of the failure:

- A calculation officer mandate that has lapsed without renewal → High severity; hold new calculations pending renewal.
- A delegation operating beyond its expiry date → High severity; revoke delegation immediately; review actions taken under expired delegation.
- A Tier 1 access grant used beyond its TTL → Moderate severity; post-access review; notify affected parties.

11.6 Liability Trigger Catalog

The liability trigger catalog identifies the operational conditions that, when they occur, are most likely to give rise to disputes, claims, or escalations requiring institutional response. The catalog does not make legal conclusions; it identifies operational conditions that warrant heightened governance attention.

Liability trigger catalog:

Trigger ID	Condition	Governance Response
LT-01	Royalty payment issued under a calculation that cannot be replayed	Immediate calculation audit; hold subsequent payments; corrective EP Delta
LT-02	Consent state confirmed as `ABSENT` for a monetized usage event	Hold affected revenue; notify rights-holder; initiate consent resolution workflow
LT-03	Synthetic voice or likeness used without explicit authorization record	Hold all revenue from synthetic output; contamination review; Section 12 escalation
LT-04	Rights-chain sublicense scope exceeds verified licensor scope (BR-R01)	Hold sublicensed revenue; notify affected parties; restrict further sublicensing
LT-05	Contributor identified after payout cycle finalized	Off-cycle correction; retroactive split review; adjustment lineage record
LT-06	Calculation artifact hash mismatch with replayed calculation	Immediate audit; hold affected payouts; integrity investigation
LT-07	EP integrity failure (hash chain break)	Full isolation and recovery sequence (Section 9.10); supervisory notification
LT-08	Unauthorized Tier 2 access (single-party without emergency declaration)	Immediate access revocation; governance investigation; affected parties notified
LT-09	Transformation event log contamination detected	Full hold-only containment on contaminated chain revenue; Section 12 escalation
LT-10	Consent revocation not reflected in active distribution or royalty calculation	Immediate royalty hold for post-revocation period; distribution review
LT-11	Recertification overdue for a rights-chain entry used in active calculations	Flag calculations as provisional; hold new payouts; expedite recertification
LT-12	Legal hold notification received without corresponding preservation bundle	Emergency preservation bundle creation; legal hold flag applied

---

11.7 Incident Escalation and Containment

An incident is a governance event that deviates materially from expected operational conditions and requires a structured response. Incidents are distinct from reconciliation breaks in that they involve a potential failure of governance controls, not merely a data gap.

Incident classification:

Class	Description	Examples
Class I — Technical	Failure of a technical control; integrity event; system unavailability	Hash chain break; backup failure; logging gap

Class	Description	Examples
Class II — Operational	Failure of an operational control or procedure	Delegation lapse; recertification failure; access grant misuse
Class III — Evidence	Material gap or error in the evidence layer	Calculation artifact missing; consent instrument unregistered; transformation event absent
Class IV — Adversarial	Evidence of intentional manipulation, fraud, or unauthorized access	Unauthorized EP record modification; synthetic provenance record falsification

Incident escalation path:

```
[INCIDENT DETECTED]
    ↓
Classification assigned (I–IV)
    ↓
Class I or II: Reconciliation Officer → Change Control Officer → Dispute Governor if unresolved
Class III: Reconciliation Officer → Royalty Calc Officer or Consent Custodian → Dispute Governor
Class IV: Dispute Governor → Access Authorization Officer → Supervisory notification within 24 hours
    ↓
[CONTAINMENT]
    ↓
Hold-only containment applied to affected states and revenue
    → Preservation bundle created → Affected parties notified
    ↓
[INVESTIGATION]
    ↓
Investigation owner assigned → Evidence gathered → Root cause analysis
    ↓
[RESOLUTION OR ESCALATION]
    ↓
Resolution: Corrective EP Delta issued → Hold released → Post-incident review
Escalation: Section 12 dispute and exception governance invoked
```

Incident notification timelines:

Incident Class	Internal Notification	Affected Party Notification	Supervisory Notification
Class I	Within 4 hours	Within 24 hours if operations	If systemic; within 48 hours

Incident Class	Internal Notification	Affected Party Notification	Supervisory Notification
		affected	
Class II	Within 8 hours	Within 48 hours	If governance failure; within 5 business days
Class III	Within 24 hours	Within 48 hours	If calculation affected; within 5 business days
Class IV	Within 2 hours	Within 24 hours	Mandatory; within 2 hours

---

11.8 No-Master-Key Posture and Distributed Approvals

The no-master-key posture is the governance principle that no single party holds the unilateral ability to alter, create, or suppress any state-determining record in the EP. It is drawn directly from Baselines A and B.

Operational manifestations of no-master-key posture in this framework:

Governance Area	No-Master-Key Control
EP Delta issuance	All state-changing EP Deltas require independent review and authorization by a party other than the issuer
Tier 2 access grant	Dual-party authorization; neither party may be the requestor or a direct beneficiary of the access
Payout instruction above threshold	Co-authorization by a party independent of the calculation officer
Hold application and release	Different parties required for application and release
Calculation correction	Original calculation officer may not be the sole reviewer of the correction
Integrity failure remediation	Remediation executor and post-recovery reviewer must be different parties
Recertification	Recertification of any role's authority is conducted by a party outside that role

Distributed approval record:

```
DISTRIBUTED_APPROVAL_RECORD

  approval_id:          [unique identifier]

  subject_record_id:    [ID of record requiring approval]

  subject_record_type:  [EP Delta | Tier 2 grant | payment instruction | hold
release | correction]

  first_approver_role:  [governance role of first approver]

  first_approval_ts:    [ISO 8601 timestamp]

  second_approver_role: [governance role of second approver; must differ from
first]

  second_approval_ts:   [ISO 8601 timestamp]

  approval_outcome:     [APPROVED | REJECTED | DEFERRED]
```

```
rejection_basis:      [if REJECTED: documented reason]
approval_hash:        [content-addressed hash of this record]
```

Distributed approval records are immutably logged in Layer 7. A subject record that does not have a corresponding distributed approval record — where one is required — is flagged as a governance break and is operationally void until the approval gap is remediated.

11.9 Accountability for Corrections, Overrides, and Supersession Events

Corrections, overrides, and supersession events carry elevated accountability requirements because they alter the operational evidence landscape. They must not be treated as routine administrative actions.

Accountability requirements for corrections:

Event Type	Accountability Requirement
Corrective EP Delta — state correction	Issued by role-appropriate party; independently reviewed; distributed approval required; documented justification in EP
Calculation correction	Off-cycle calculation with adjustment lineage record; reviewed by party independent of original calculation officer
Split allocation revision	Instrument evidence required; retroactive application requires instrument effective date confirmation; distributed approval
Supersession of official source object	New official version registered; prior version retained with `superseded_by`; affected distribution objects reviewed; distributed approval
Override of a hold-only containment	Documented override basis; elevated authorization; post-override review within 10 business days
Recertification outcome — revocation	Revocation EP Delta issued; actions taken under revoked authority reviewed; affected parties notified

Override governance: An override is any action that releases a hold, proceeds with a calculation, or issues a payout in the presence of an unresolved break or contested state. Overrides are not prohibited, but they require:

1. Documented justification naming the specific break or contested state being overridden.
2. Distributed approval (two parties).
3. Retained liability: the overriding parties are named in the override record and accountable for consequences.
4. Post-override review within 10 business days to determine whether the override was appropriate.
5. Override record registered in Layer 7 as a permanent governance event.

No override may be issued silently. The existence of the override, its basis, and the overriding parties are disclosed to affected rights-holders within the notification timelines defined in Section 11.7.

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12. Disputes, Exceptions, Hold-Only Containment, and Corrective Actions

12.1 Dispute Classification

A dispute is a formal challenge by one or more parties to a state determination, calculation, authorization, or action recorded in the EP. Disputes are classified by domain because the evidence required, the hold scope, and the resolution path differ by domain.

Dispute classification taxonomy:

Dispute Class	Domain	Primary Evidence Layer	Hold Scope
D-AUTH	Authenticity dispute	L1	Revenue from contested artifact
D-CONS	Consent-scope dispute	L2	Revenue from disputed-consent usage events
D-LINE	Lineage dispute	L3	Revenue from artifacts in contested lineage chain
D-RIGH	Rights-chain dispute	L4	Revenue from disputed license tier or scope
D-CALC	Royalty calculation dispute	L5	Amount under calculation dispute
D-PAYS	Payout dispute	L5	Specific payout amount or recipient
D-GOVN	Governance dispute	L7	Dependent on nature of governance failure
D-MULT	Multi-domain dispute	All relevant layers	Union of all domain-specific hold scopes

Dispute record structure:

```
DISPUTE_RECORD
  dispute_id:              [unique identifier]
  dispute_class:           [D-AUTH | D-CONS | D-LINE | D-RIGH | D-CALC | D-PAYS |
D-GOVN | D-MULT]
  filing_party_class:      [rights-holder | contributor | licensee | distributor
| examiner | other]
  filing_timestamp:        [ISO 8601]
  artifact_scope:          [list of artifact manifest IDs in dispute scope]
  layer_scope:             [list of EP layers in dispute scope]
  disputed_state:          [specific state value being challenged]
  claimed_correct_state:   [state value claimed by filing party]
  evidence_pack_ref:       [pointer to filing party's evidence pack submission]
  hold_applied:            [YES | NO; if YES: pointer to hold records]
  investigation_owner:     [governance role assigned to investigation]
```

```
  target_resolution_date: [date by which resolution is expected]
  status:                 [FILED | UNDER_INVESTIGATION | ESCALATED | RESOLVED |
MONITORED_EXCEPTION]
  resolution_ref:         [pointer to resolution record; null until resolved]
  dispute_hash:           [content-addressed hash of this record]
```

12.2 Authenticity Disputes

An authenticity dispute arises when one or more parties contest the source claim, official-version designation, or version class assigned to a media artifact.

Common authenticity dispute patterns:

Pattern	Description	Typical Evidence Required
Competing source claims	Two or more parties claim to be the canonical source of the same artifact	Content-addressed manifests from both parties; registration timestamps; origin assertion records; creation environment logs
Unofficial version designated as official	An artifact designated as the official source object is claimed to be a draft, derivative, or unauthorized version	Version lifecycle records; production chain documentation; transformation event logs
Synthetic output misidentified as human performance	An AI-generated or AI-modified output is presented as an unaided human performance	Synthesis provenance records; operator class records; transformation event logs
Hash mismatch — claimed modification	A party claims the artifact currently in circulation has been modified from its registered version	Hash comparison between registered manifest and current artifact; chain-of-custody records

Authenticity dispute resolution sequence:

1. File dispute record (D-AUTH); apply hold-only containment to affected revenue.
2. Request and exchange evidence packs from all contesting parties (Tier 1 access; Tier 2 if full EP review required).
3. Run SI boundary tests against all submitted artifacts.
4. Compare content-addressed hashes against all submitted manifests.
5. Assess origin assertion levels for all competing claims.
6. Issue Dispute Finding Record stating the operationally supported authenticity state.
7. Issue corrective EP Delta updating the authenticity state with the finding.
8. Release hold-only containment for revenue whose calculation chain is no longer affected.
9. Document residual uncertainty if the finding is `CORROBORATED` or `ASSERTED` rather than `VERIFIED`.

12.3 Consent-Scope Disputes

A consent-scope dispute arises when the scope of an authorization is contested — either because the consent instrument's terms are ambiguous, the consent state has changed and the effective date is disputed, or a use is alleged to fall outside the evidenced scope.

Common consent-scope dispute patterns:

Pattern	Description
Temporal scope ambiguity	Parties disagree on the effective expiry date of a consent instrument
Channel scope ambiguity	Parties disagree on whether a specific distribution channel (e.g., AI training, synthetic output) is within the authorized scope
Synthetic use without explicit authorization	A synthetic voice clone or likeness use is claimed to be within the scope of an original performance consent
Revocation effective date dispute	Parties disagree on the date from which a revocation takes effect
Authority gap dispute	The validity of the consenting party's authority to grant the consent is challenged

Consent-scope dispute resolution sequence:

1. File dispute record (D-CONS); apply hold-only containment to revenue from disputed-consent events.
2. Replay consent instrument and full consent-state diff chain up to the disputed event timestamp (Tier 1 access).
3. Identify the specific dimension(s) in dispute.
4. Apply scope resolution rule (Section 5.3): narrowest documented dimension governs.
5. Where a dimension is absent from the instrument, assign `ASSERTED` sub-state with documented assumption.
6. Issue Dispute Finding Record stating the consent state determination for the disputed period.
7. Issue consent-state EP Delta if the finding changes the recorded state.
8. For retroactive consent disputes affecting payout cycles: initiate off-cycle correction if calculation was based on a now-revised consent state.
9. Release or maintain hold-only containment per finding.

12.4 Lineage Disputes

A lineage dispute arises when the derivation chain, transformation authorization, or version class of a media artifact is contested.

Common lineage dispute patterns:

Pattern	Description
Unacknowledged derivation	A party claims that a distributed artifact was derived from their source object without a recorded transformation event
Transformation authorization contested	A transformation event is recorded but the authorization state is disputed
Sample or stem dispute	A party claims an unregistered sample or stem of their work was

Pattern	Description
	incorporated into a distributed artifact
Version class misassignment	An artifact designated as an official source object is claimed to be a derivative, or vice versa
Synthetic clone dispute	A party claims an AI-generated output replicates their voice or likeness without authorization

Lineage dispute resolution sequence:

1. File dispute record (D-LINE); apply hold-only containment to revenue from artifacts in contested lineage chain.
2. Run full lineage replay for all disputed artifacts (Section 6.7); produce lineage replay reports.
3. Run contamination check across all artifacts in the claimed chain.
4. Exchange evidence packs from all parties (Tier 2 for full chain reconstruction).
5. Identify missing transformation events; assess origin assertion levels for all claimed derivations.
6. Issue Dispute Finding Record stating the supported lineage determination.
7. For confirmed contamination: issue contamination EP Delta; full hold-only containment on contaminated chain; corrective calculation.
8. For unresolved lineage: assign `CONTESTED` state; monitored exception registration.
9. Issue corrective EP Delta updating lineage records per finding.

12.5 Royalty and Payout Disputes

A royalty or payout dispute arises when the calculation, split, rate, payout amount, or payout recipient is contested.

Common royalty and payout dispute patterns:

Pattern	Description
Usage volume dispute	Reported usage volumes are contested by a rights-holder
Rate application dispute	A party claims an incorrect rate was applied to their usage events
Split allocation dispute	A contributor contests their allocated share or claims unrecognized entitlement
Payout recipient dispute	A payout is claimed by a party who asserts it was directed to the wrong party
Recoupment state dispute	A party disputes whether their advance has been recouped and therefore whether royalties are currently payable
Provisional event dispute	A rights-holder disputes the classification of events as Tier 2 provisional

Royalty and payout dispute resolution sequence:

1. File dispute record (D-CALC or D-PAYS); apply hold-only containment to disputed amount.

2. Replay calculation artifact using the same inputs (Tier 1 access); confirm calculation is reproducible.
3. If calculation replay produces a different result: open integrity investigation (Section 9.10).
4. Review usage event evidence quality tiers for disputed events.
5. Review split allocation records and instrument references for disputed contributor shares.
6. Review recoupment state records for recoupment disputes.
7. Issue Dispute Finding Record with corrected calculation if an error is confirmed.
8. Initiate off-cycle correction per Section 8.9 if correction is required.
9. Release hold-only containment for undisputed amounts; maintain hold for amounts under continued dispute.

12.6 Hold-Only Containment Logic

Hold-only containment is the default response to any unresolved dispute, critical break, or governance exception affecting revenue. It is not a punitive measure; it is a preservation discipline that prevents irreversible disbursement of revenue whose calculation chain is not yet fully verified.

Hold-only containment principles:

Principle	Description
Revenue preservation, not forfeiture	Held revenue accumulates and earns any applicable notional return; it is not forfeited unless a court or contractual mechanism so orders
Scope precision	Hold is applied to the minimum revenue scope necessary; undisputed portions of a calculation cycle are not held
Automatic trigger	Defined critical break conditions trigger hold-only containment automatically, without requiring a governance decision
Manual trigger	Dispute filings, escalations, and override requests may also trigger hold-only containment
Release requires distributed approval	No hold may be released unilaterally; dual-party authorization required
Monitored except for long-duration holds	Holds unresolved beyond 180 days are escalated to monitored exception status with mandatory senior review

Automatic hold triggers (from prior sections consolidated):

Trigger	Section Reference	Hold Scope
Consent state `ABSENT` for monetized event	BR-C01	Revenue from event
Rights-chain license `EXPIRED` for active monetization	BR-R03	All revenue from post-expiry events
Lineage contamination detected	BR-L05	All revenue from contaminated chain
Calculation artifact missing for completed payout	BR-P02	Full payout cycle amount
EP integrity failure affecting active layer	Section 9.10	All operations dependent on affected layer
Dispute filed (any class)	Section 12.1	Revenue within dispute scope

Trigger	Section Reference	Hold Scope
Synthetic voice or likeness used without authorization	LT-03	All revenue from synthetic output
Tier 2 access granted — investigation scope	Section 10.4	Revenue within investigation scope

Hold duration and escalation:

Duration	Action Required
0–30 days	Active investigation; weekly status review
31–90 days	Monthly senior review; investigation progress report
91–180 days	Quarterly governance committee review; escalation path confirmed
181+ days	Monitored exception registration; annual review minimum; disclosure to affected parties

---

12.7 Override Governance and Rationale Preservation

An override is any decision to proceed with an action — calculation, payout, distribution authorization, access grant — despite an unresolved break, contested state, or hold-only containment trigger. Overrides are not prohibited; they are governed.

Override governance requirements (from Section 11.9, operationalized here):

Requirement	Operationalization
Documented justification	Override record must name the specific break or contested state, the business or operational reason for proceeding, and the evidence considered
Distributed approval	Two-party authorization required; neither party may be a direct beneficiary of the overridden action
Liability assignment	Override record names the approving parties as accountable for consequences
Post-override review	Mandatory review within 10 business days; findings recorded in Layer 7
Disclosure	Affected rights-holders notified within timelines in Section 11.7
No override for Class IV incidents	Overrides are not available for incidents classified as adversarial (Class IV); those require full escalation

Override record structure:

```
OVERRIDE_RECORD

  override_id:            [unique identifier]

  overridden_hold_id:     [pointer to hold or break record being overridden]

  overridden_action:      [calculation | payout | distribution | access grant]

  override_justification: [documented basis for proceeding despite unresolved
condition]

  break_or_state_ref:     [pointer to the specific break or contested state
being overridden]

  first_approver_role:    [governance role; must not be direct beneficiary]

  first_approval_ts:      [ISO 8601]
```

```
  second_approver_role:   [governance role; must not be direct beneficiary; must
differ from first]

  second_approval_ts:     [ISO 8601]

  post_override_review_due: [date]

  post_override_finding:  [APPROPRIATE | INAPPROPRIATE | INCONCLUSIVE; null
until review]

  override_hash:          [content-addressed hash of this record]
```

Inappropriate override finding: If a post-override review finds the override was inappropriate — because the justification was insufficient, the beneficiary restriction was violated, or the action taken caused demonstrable harm — the finding triggers a Class II governance incident, corrective action, and notification to affected parties.

12.8 Corrective Replay, EP Delta Issuance, and Post-Resolution Review

When a dispute is resolved, the resolution must be operationalized through a corrective replay and EP Delta issuance sequence. Resolution is not simply a contractual or governance determination; it must be reflected in the EP evidence layer.

Post-resolution operational sequence:

Step	Action	Record Created
1. Resolution determination	Dispute Governor issues Dispute Finding Record stating the supported state and the basis for the determination	Dispute Finding Record
2. EP Delta issuance	Corrective EP Delta issued for each affected state; prior state retained in lineage; new state recorded	Corrective EP Delta per affected layer
3. Calculation review	If the resolved state affects a royalty calculation, the calculation is reviewed and corrected if necessary	Corrective calculation artifact; adjustment lineage record
4. Hold release	Hold-only containment is released for amounts no longer in dispute; dual-party authorization required	Hold release record
5. Payout instruction	Corrective payment instructions issued for any amounts due following calculation correction	Corrective payment instruction
6. Settlement confirmation	Corrective payment confirmed	Settlement confirmation
7. Post-resolution review	Independent review of the full resolution sequence; confirms no new breaks were introduced	Post-resolution review record in Layer 7
8. Dispute record closure	Dispute record status updated to `RESOLVED`; all resolution records cross-referenced	Dispute record closure EP Delta

Dispute Finding Record structure:

```
DISPUTE_FINDING_RECORD

  finding_id:             [unique identifier]
```

```
  dispute_id:              [pointer to dispute record]
  finding_timestamp:       [ISO 8601]
  dispute_class:           [from Section 12.1]
  finding_summary:         [concise statement of the determination]
  supported_state:         [state value supported by the evidence review]
  evidence_basis:          [list of record IDs and layer references that support
the finding]
  contrary_evidence:       [list of record IDs and reasons why contrary evidence
was not determinative]
  ep_delta_required:       [YES | NO; if YES: list of layers affected]
  calculation_correction: [YES | NO; if YES: pointer to corrective calculation
artifact]
  residual_uncertainty:    [description of any aspects not fully resolved by
available evidence]
  finding_hash:            [content-addressed hash of this record]
```

12.9 Unresolved Breaks and Monitored Exceptions

Not all breaks are resolvable within the response timelines defined in Section 9.6. Where a break cannot be resolved within its maximum response timeline, it transitions to monitored exception status. Monitored exceptions are not failures of the framework; they are a formal acknowledgment that some evidence states remain uncertain and are being actively managed.

Monitored exception registration:

```
MONITORED_EXCEPTION_RECORD
  exception_id:              [unique identifier]
  source_break_id:           [pointer to originating break record]
  exception_class:           [AUTHENTICITY | CONSENT | LINEAGE | RIGHTS | ROYALTY
| GOVERNANCE]
  exception_reason:          [documented reason why the break cannot be resolved
within timeline]
  affected_artifact_ids:     [list of artifact manifest IDs affected]
  affected_revenue_estimate:[estimated revenue held in escrow-equivalent
posture]
  hold_record_ref:           [pointer to active hold record(s)]
  review_cadence:            [monthly | quarterly; per severity band]
  assigned_monitor:          [governance role responsible for ongoing review]
  escalation_trigger:        [condition that would escalate the exception to
Section 12 active dispute]
  last_review_timestamp:     [ISO 8601 of most recent review]
```

```
  next_review_due:          [date of next mandatory review]
  status:                   [ACTIVE | RESOLVED | ESCALATED]
  exception_hash:           [content-addressed hash of this record]
```

Monitored exception disclosure: The existence of all active monitored exceptions is disclosed to affected rights-holders at defined intervals (recommended: quarterly). Disclosure does not require full EP access; a summary stating the exception class, the affected artifact scope, and the estimated revenue held is sufficient for Tier 0 disclosure. Full exception records are available at Tier 1 to affected parties.

Monitored exception resolution paths:

Resolution Path	Conditions	Action
Evidence obtained post-registration	New evidence resolves the underlying break	Corrective EP Delta; hold release; exception closed
Contractual resolution	Affected parties reach agreement outside the EP framework	Agreement EP Delta; hold release per agreed terms; exception closed
Escalation to dispute	Exception condition worsens or new party challenges	Monitored exception converted to active dispute record; Section 12 full workflow
Permanent retention	Evidence cannot be obtained and no agreement is reachable	Exception retained as permanent record; held revenue subject to applicable unclaimed property or escrow rules; annual review maintained

---

12.10 Dispute and Exception Governance Workflow

```
[DISPUTE OR BREAK DETECTED]
    ↓
Classify: dispute (Section 12.1) or break (Section 9.6)?
    ↓
[BREAK]
    Severity band assigned → Response timeline set
    → Critical/High: hold-only containment automatic
    → Moderate: break registered; investigation owner assigned
    ↓
    Resolved within timeline? YES → Corrective EP Delta → Close break
    NO → Escalate to monitored exception (Section 12.9)
    ↓
[DISPUTE]
    Dispute record filed → Domain classification assigned
    → Hold-only containment applied to dispute scope
```

```
    → Evidence packs requested → Access tier assigned (Tier 1 or Tier 2)
    ↓
[INVESTIGATION]
    Investigation owner assigned → Evidence reviewed
    → Replay performed per domain (Sections 12.2–12.5)
    → Dispute Finding Record drafted
    ↓
[RESOLUTION OR EXCEPTION]
    Resolution: Finding Record issued → EP Deltas issued → Holds released
        → Corrective calculation if required → Post-resolution review
        → Dispute record closed
    Exception: Monitored exception registered → Hold maintained
        → Periodic review → Resolution path pursued
    ↓
[OVERRIDE — if applicable]
    Override record filed → Distributed approval obtained
    → Action taken → Post-override review scheduled
    → Finding recorded in Layer 7
    ↓
[POST-RESOLUTION OR POST-OVERRIDE REVIEW]
    Independent review of full sequence
    → No new breaks introduced? YES → Close
    → New breaks identified? → Re-enter workflow at break detection
```

---

13. Offboarding, Portability, and Legacy / Cross-Platform Compatibility

13.1 Offboarding Triggers

Offboarding is the structured process by which an operator, administrator, or custodian concludes their operational relationship with the evidence infrastructure without destroying the integrity of the EP or compromising the rights of parties whose states remain active within it. Offboarding is not a deletion event. It is a custody transfer and final-state preservation event.

Offboarding trigger taxonomy:

Trigger Category	Examples	Offboarding Scope
Operator or platform exit	Platform ceases operations; distributor winds down; label	Full EP for all artifacts managed by the exiting operator

Trigger Category	Examples	Offboarding Scope
	dissolves	
Rights-chain transfer	All rights for a catalog are assigned to a new holder	EP Layers 4–5 for affected artifacts; consent and lineage layers reviewed
Administrative role change	Royalty administrator is replaced; collecting society mandate ends	EP Layer 5 for affected calculation and payout records; access governance layer
Catalog migration	Catalog is migrated to a new evidence infrastructure implementation	Full EP for all migrated artifacts
Dispute-triggered exit	A party withdraws from the framework following a dispute resolution	EP records relevant to the withdrawing party's states
Contract expiry	Distribution or licensing agreement expires and is not renewed	EP Layers 4–5 for artifacts governed by the expired agreement
Voluntary deregistration	An operator voluntarily deregisters from the evidence infrastructure	Full EP for all artifacts under the deregistering operator's custody

Offboarding is initiated by a formal Offboarding Declaration registered in Layer 7. The declaration identifies the offboarding party, the trigger, the scope of affected artifacts and EP layers, the intended receiving custodian (if applicable), and the target completion date.

13.2 Final State Snapshots

Before any custody transfer or offboarding process is completed, a Final State Snapshot (FSS) is created for each affected artifact and EP layer. The FSS is a point-in-time preservation bundle (per Section 9.7) that captures the complete EP state at the moment offboarding is initiated.

Final State Snapshot requirements:

Requirement	Description
Completeness	FSS must include all EP layers within the offboarding scope; no layer may be omitted
Timing	FSS is created before any offboarding action that alters the live EP; it represents the pre-offboarding state
Integrity verification	FSS content-addressed hash computed and registered; receiving custodian verifies hash upon receipt
Open break inclusion	All open breaks, active holds, and monitored exceptions within scope are included in the FSS with current status
Open dispute inclusion	All active dispute records within scope are included; dispute status and evidence pack references are preserved
Tamper-evidence	FSS is sealed at creation; no modification is permitted after sealing; modifications after offboarding are recorded as new EP Deltas in the receiving custodian's environment

Final State Snapshot record:

```
FINAL_STATE_SNAPSHOT

  fss_id:                    [unique identifier]
```

```
  offboarding_declaration:  [pointer to Offboarding Declaration record]
  fss_timestamp:            [ISO 8601 timestamp of snapshot creation]
  artifact_scope:           [list of artifact manifest IDs included]
  layer_scope:              [list of EP layers included; 0–7]
  ep_state_hash:            [content-addressed hash of full EP state at
fss_timestamp]
  record_count:             [total records across all layers]
  open_break_count:         [breaks unresolved at FSS creation; by severity
band]
  active_hold_count:        [active hold records at FSS creation]
  active_dispute_count:     [active dispute records at FSS creation]
  monitored_exception_count:[monitored exceptions at FSS creation]
  receiving_custodian_class:[class of party receiving custody; null if no
receiving custodian]
  custody_acceptance_ref:   [pointer to receiving custodian's acceptance record;
null until received]
  legal_hold_flag:          [YES | NO]
  retention_minimum:        [date before which FSS must not be destroyed]
  fss_hash:                 [content-addressed hash of this record]
```

13.3 Final Reconciliation Proof

Before the offboarding process is declared complete, a Final Reconciliation Proof (FRP) is produced. The FRP confirms that the EP state captured in the FSS is internally consistent — that all chains are intact, all open conditions are documented, and no integrity failures are present in the captured state.

Final Reconciliation Proof components:

Component	Description
Full hash chain verification	All manifest chains and EP Delta chains in scope verified for continuity; any breaks documented
Boundary test execution	All mandatory SI boundary tests (Section 4.6) and applicable break checks (Section 9.6) executed against FSS state
Open break inventory	Complete list of unresolved breaks at offboarding, by break ID, type, severity, and responsible party
Active hold inventory	Complete list of active holds, by hold ID, trigger, held amount, and expected resolution
Active dispute inventory	Complete list of active disputes, by dispute ID, class, scope, and status
Monitored exception inventory	Complete list of monitored exceptions, by exception ID and class
Calculation cycle status	Status of all calculation cycles within scope — finalized, in-progress, or

Component	Description
	with open provisional events
Payout chain status	Completeness status of all payout chains within scope
Receiving custodian confirmation	Receiving custodian's acknowledgment that they have verified the FSS hash and accepted custody

Final Reconciliation Proof record:

```
FINAL_RECONCILIATION_PROOF

  frp_id:                    [unique identifier]

  fss_id:                    [pointer to Final State Snapshot]

  frp_timestamp:             [ISO 8601]

  hash_chain_verified:       [YES | PARTIAL | NO; if PARTIAL or NO: list of
failures]

  boundary_tests_passed:     [count of passed tests]

  boundary_tests_failed:     [count of failed tests; list of failed test IDs]

  open_break_count:          [by severity band]

  active_hold_count:         [total; total held amount]

  active_dispute_count:      [total]

  monitored_exception_count:[total]

  calc_cycles_finalized:     [count]

  calc_cycles_open:          [count; list of open cycle IDs]

  payout_chains_complete:    [count]

  payout_chains_incomplete: [count; list of incomplete chain IDs]

  custodian_acceptance:      [YES | NO]

  frp_hash:                  [content-addressed hash of this record]
```

The FRP is co-signed by the offboarding operator and the receiving custodian (or by the offboarding operator and an independent reviewer if there is no receiving custodian). An FRP with `hash_chain_verified: NO` or with unresolved Critical-severity breaks cannot be used to close the offboarding process; remediation is required before offboarding is declared complete.

13.4 Legacy Transition Manifest

Where an offboarding involves migration to a new evidence infrastructure implementation — whether a new platform, a new operator, or a new technical environment — a Legacy Transition Manifest (LTM) documents the correspondence between records in the legacy environment and records in the receiving environment.

Legacy Transition Manifest purpose:

The LTM ensures that the receiving environment can reconstruct the full operational history of any artifact from the legacy EP without requiring ongoing access to the legacy system. It is the operational bridge between environments.

Legacy Transition Manifest structure:

```
LEGACY_TRANSITION_MANIFEST

  ltm_id:                    [unique identifier]

  fss_id:                    [pointer to Final State Snapshot]

  legacy_environment_class: [description of legacy system type]

  receiving_environment_class:[description of receiving system type]

  artifact_count:            [number of artifacts migrated]

  record_count:              [total records migrated across all layers]

  identifier_mapping:        [table mapping legacy artifact IDs to receiving-
environment manifest IDs]

  hash_preservation:         [YES | NO — confirms content-addressed hashes are
preserved unchanged]

  chain_reconstruction:      [YES | PARTIAL | NO — confirms EP chains can be
replayed in new environment]

  unconverted_records:       [list of record types that could not be converted;
reason; alternative evidence provided]

  migration_timestamp:       [ISO 8601 of migration completion]

  ltm_hash:                  [content-addressed hash of this record]
```

Identifier mapping discipline: Legacy artifact identifiers (IDs, catalog numbers, internal codes) are mapped to their content-addressed manifest IDs in the receiving environment. The content-addressed hash of the artifact itself is preserved unchanged across environments — it is the common key that makes cross-environment reconciliation possible without relying on either environment's proprietary identifiers.

13.5 Portable Evidence Set and Bounded Transfer

The portable evidence set is the subset of EP records that is transferred to the receiving custodian or made available to rights-holders at offboarding. It is distinct from the full FSS in that it is scoped to what the receiving party needs and is bounded by the minimization principles in Section 10.7.

Portable evidence set composition by rights-holder type:

Rights-Holder Type	Portable Evidence Set Contents
Primary rights-holder	Full EP Layers 0–5 for their artifacts; dispute and correction records for their artifacts; all hold records
Contributor (split participant)	Layer 5 split allocation records for their contributions; payout chain records for their entitlements; dispute records naming them
Licensee	Layer 4 license tier records for their licenses; scope check records for

Rights-Holder Type	Portable Evidence Set Contents
	their use events; payout records for their sublicensed revenue
Collecting society	Layer 5 calculation and payout records within mandate; usage event records within mandate territory and event type
Distributor	Layer 4–5 records for artifacts distributed under their agreement; usage event records they reported
Legal party in concluded dispute	Dispute record and all referenced evidence; Dispute Finding Record; corrective EP Deltas

Bounded transfer protocol:

1. Receiving party states the purpose of the transfer and the records required.
2. Minimization review confirms that only records necessary for the stated purpose are included.
3. Redaction applied to fields outside the receiving party's entitlement (e.g., other contributors' split percentages).
4. Transfer package assembled with a Production Package Manifest (Section 9.8 structure).
5. Package integrity verified by content-addressed hash of full package.
6. Transfer logged in Layer 7 as a custody event.
7. Receiving party confirms receipt by acknowledging the package hash.

13.6 Open-Break Disclosure Requirements

At offboarding, all open breaks, active holds, active disputes, and monitored exceptions within the offboarding scope must be formally disclosed to the receiving custodian and to affected rights-holders. Open-break disclosure is not optional; it is a condition of offboarding completion.

Open-break disclosure minimum contents:

Item	Disclosed To	Form of Disclosure
All open Critical and High severity breaks	Receiving custodian; affected rights-holders	Break ID; break type; affected artifact IDs; current status; investigation owner
All active holds	Receiving custodian; held-revenue beneficiaries	Hold ID; trigger; held amount; expected resolution; hold record reference
All active disputes	Receiving custodian; parties to each dispute	Dispute ID; class; scope; current status; evidence pack references
All monitored exceptions	Receiving custodian; affected rights-holders	Exception ID; class; affected artifact IDs; held revenue estimate; review cadence
All open provisional royalty events	Receiving custodian; affected contributors	Provisional event count; affected calculation cycle; expected resolution deadline
All incomplete payout chains	Receiving custodian; affected payees	Payout chain ID; missing element; incomplete amount

Disclosure record structure:

```
OFFBOARDING_DISCLOSURE_RECORD

  disclosure_id:          [unique identifier]
```

```
  fss_id:                 [pointer to Final State Snapshot]
  frp_id:                 [pointer to Final Reconciliation Proof]
  disclosure_timestamp:   [ISO 8601]
  recipient_class:        [receiving custodian | rights-holder | contributor |
dispute party]
  open_breaks_disclosed:  [count; list of break IDs]
  active_holds_disclosed: [count; list of hold IDs; total held amount]
  active_disputes_disclosed:[count; list of dispute IDs]
  monitored_exceptions_disclosed:[count; list of exception IDs]
  recipient_acknowledgment:[YES | NO | PENDING]
  disclosure_hash:        [content-addressed hash of this record]
```

13.7 Archival Retention and Post-Offboarding Monitoring

Offboarding does not end the evidence obligation. EP records must be retained for defined periods after offboarding, and active holds, disputes, and monitored exceptions must continue to be managed by the receiving custodian until they are resolved.

Retention schedule by record class:

Record Class	Minimum Retention Period	Retention Basis
Layer 0–1: Source manifests and authenticity records	Permanent	Authenticity evidence may be required indefinitely for derivative chain reconstruction
Layer 2: Consent instruments and lifecycle records	Permanent	Consent evidence may be required for retrospective dispute resolution
Layer 3: Transformation event logs	Permanent	Lineage evidence may be required indefinitely for contamination and derivation disputes
Layer 4: Rights-chain records	Permanent	Rights-chain evidence may be required for successor and reversion disputes
Layer 5: Calculation and payout records	7 years minimum from payout date; permanent for disputed calculations	Royalty audit and dispute requirements
Layer 6: Dispute and correction records	Permanent	Dispute history informs future disputes involving the same artifacts
Layer 7: Access logs and governance records	7 years minimum; permanent for integrity failure events	Accountability and post-access review
Final State Snapshots and FRPs	Permanent	Offboarding integrity baseline

Post-offboarding monitoring requirements:

Condition	Monitoring Requirement	Responsible Party
Active holds at offboarding	Monthly review until resolved; receiving custodian inherits hold governance	Receiving custodian
Active disputes at offboarding	Dispute workflow continues under receiving custodian; offboarding operator remains a named party	Receiving custodian (primary); offboarding operator (as named party)
Monitored exceptions at offboarding	Review cadence inherited by receiving custodian; offboarding operator provides evidence access if required	Receiving custodian
Retroactive claims filed after offboarding	Offboarding operator must be able to produce EP records within the retention period upon legitimate request	Offboarding operator (from archived records)
Post-offboarding integrity investigation	If a hash chain failure is detected in archived records, offboarding operator is notified and must cooperate with investigation	Receiving custodian (investigation); offboarding operator (cooperation)

13.8 Cross-Platform Compatibility and Legacy Record Interoperability

This framework is implementation-agnostic. EP records and manifest chains must be producible in formats that are portable across platforms and readable by any conforming implementation. Cross-platform compatibility is achieved through content-addressed hashing, standardized record schemas, and identifier mapping rather than through platform-specific APIs or proprietary formats.

Cross-platform compatibility requirements:

Requirement	Description
Content-addressed portability	Artifact hashes are computed using a declared, non-proprietary algorithm (SHA-256 or equivalent); they are the primary cross-platform identifier
Schema portability	EP records are expressed in a structured, human-readable format (JSON, XML, or equivalent) with defined field names matching this framework's schemas
Identifier mapping	Proprietary platform IDs are mapped to content-addressed manifest IDs at migration; the content-addressed ID is the durable cross-platform key
Chain portability	Manifest hash chains are expressed in a format that any conforming implementation can verify without access to the originating platform
Registered identifier interoperability	Where standard media identifiers exist (ISRC, ISWC, ISAN, EIDR, or equivalent), they are recorded in the manifest alongside content-addressed hashes
No vendor lock-in	EP records must not depend on a proprietary platform's continued operation for their integrity or readability

Legacy record interoperability: Where legacy records predate this framework — production chain logs, contract archives, prior royalty system records — they may be incorporated as corroborating evidence in the EP with an appropriate origin assertion level (Level 5 per Section 4.2). They are not required to conform to the schemas defined in this framework, but their incorporation must be

documented in the EP with a description of the legacy format, the evidence basis for their inclusion, and any limitations on their evidentiary value relative to natively structured records.

13.9 Offboarding Workflow

```
[OFFBOARDING TRIGGER]
    ↓
Offboarding Declaration filed in Layer 7
    → Scope defined (artifacts, layers, parties)
    → Target completion date set
    ↓
[FINAL STATE SNAPSHOT]
    ↓
FSS created before any offboarding action
    → All layers in scope included
    → ep_state_hash computed and registered
    ↓
[FINAL RECONCILIATION PROOF]
    ↓
Full hash chain verification executed
    → Boundary tests run against FSS state
    → Open break, hold, dispute, and exception inventories compiled
    → FRP co-signed by offboarding operator and receiving custodian
    ↓
[OPEN-BREAK DISCLOSURE]
    ↓
All open conditions disclosed to receiving custodian and affected rights-holders
    → Disclosure records registered in Layer 7
    → Recipient acknowledgments obtained
    ↓
[PORTABLE EVIDENCE SET TRANSFER]
    ↓
Minimization review applied → Portable evidence set assembled per rights-holder
type
    → Transfer package manifests created → Packages delivered
    → Receiving party acknowledgments obtained
```

```
    ↓
[LEGACY TRANSITION MANIFEST — if applicable]
    ↓
Identifier mapping table compiled
    → Hash preservation confirmed
    → Chain reconstruction confirmed in receiving environment
    ↓
[CUSTODY TRANSFER]
    ↓
Custody acceptance record from receiving custodian
    → Active holds, disputes, and exceptions formally transferred
    → Post-offboarding monitoring obligations confirmed
    ↓
[ARCHIVAL]
    ↓
FSS and FRP archived under permanent retention
    → EP records archived per retention schedule
    → Offboarding completion record filed in Layer 7
```

---

14. Examiner Readiness: Standard Checks Pack and Reviewer / Examiner Query Pack

14.1 Authenticity Checks

The Standard Checks Pack consolidates all mandatory verification steps that an examiner, auditor, or institutional reviewer must be able to execute against the EP for any artifact or artifact set. Each check maps to one or more break codes from Section 9.6 and one or more SI boundary tests from Section 4.6.

Authenticity standard checks:

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
AC-01	Artifact hash matches registered manifest	`artifact_hash` in manifest equals computed hash of current artifact	BR-A01	Flag; hold-only containment; open integrity investigation
AC-02	Manifest chain is continuous and unbroken	Each manifest entry's `prev_manifest_hash` matches hash of preceding entry	BR-A02	Flag chain break; preserve FSS; escalate

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
AC-03	Official source object designation is unique	Exactly one non-superseded official source object per release event	BR not assigned (version integrity)	Flag duplicates; request version reconciliation
AC-04	All superseded objects have valid `superseded_by` reference	No orphaned supersessions in the manifest chain	BR-A02	Flag; request supersession EP Delta
AC-05	Synthetic outputs have synthesis provenance records	All objects with `object_class: synthetic` have non-null `synthesis_provenance_ref`	BR-A05	Flag; assign `ASSERTED` authenticity state; request provenance record
AC-06	Authenticity state is supported by minimum replay evidence	State value meets replay requirements per Section 4.5	BR-A03, BR-A04	Flag; document gap; downgrade state if replay not producible
AC-07	No active `CONTESTED` state without corresponding dispute record	`CONTESTED` authenticity state has a linked active dispute record	BR-A03	Flag; open dispute record or resolve state
AC-08	Origin assertion level is adequate for royalty calculation use	Artifacts in calculation have assertion level ≤ 3	BR-A04	Block calculation; flag for resolution
AC-09	Distribution objects are linked to official parent	All objects with `object_class: distribution_object` have non-null `parent_manifest_id`	BR-L03	Flag unlinked objects; block from calculation
AC-10	Chain-of-custody records are continuous from registration to present	CoC chain has no gaps; each transfer is documented	No break code; governance check	Flag gaps; request CoC documentation

---

14.2 Consent and Authority Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
CA-01	Consent instrument exists for each monetized usage event	Non-null `consent_anchor_ref` for each event with royalty calculation	BR-C01	Hold revenue; flag; open consent resolution workflow
CA-02	Consent state is `IN_SCOPE` or	Consent-state replay to event timestamp produces `IN_SCOPE` or `ASSERTED`	BR-C01, BR-C02	Hold revenue; flag scope gap

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
	`ASSERTED` at time of usage event			
CA-03	Consent-state diff chain is unbroken	Each diff's `prev_diff_hash` matches hash of preceding diff	BR-C03	Flag chain break; preserve FSS
CA-04	Consent instrument scope dimensions are defined for the use type	All six scope dimensions populated or documented as `ASSERTED`	BR-C04	Flag underdefined dimensions; apply `ASSERTED` sub-state
CA-05	Signatory authority is confirmed for consent instrument	Authority confirmation record present with instrument pointer and role class	BR-C05	Flag; request authority documentation
CA-06	No active `EXPIRED` consent state for ongoing distribution	No distribution event after consent expiry date without renewal EP Delta	BR-C02	Hold post-expiry revenue; request renewal or re-licensing
CA-07	Revocation EP Deltas are reflected in subsequent royalty calculations	Calculations after revocation effective date exclude events covered by revoked consent	BR-C01	Review calculations; hold affected revenue; corrective calculation
CA-08	Synthetic use consent is explicit, not inferred	Artifacts with `transformation_type: synthetic_clone` or `AI_dub` have explicit `synthetic_use_authorized: YES` in consent record	BR-C04	Flag; assign `ABSENT` sub-state for synthetic dimension; hold revenue
CA-09	Delegation records are current and within scope	All delegations have non-expired `expiry_date` and scope matches actions taken	Governance check	Flag expired delegations; review actions taken under expired delegation
CA-10	Renewal gap periods are identified and documented	Any period between consent expiry and renewal is flagged with `ABSENT` or `ASSERTED` state	BR-C03	Flag gap; exclude gap-period events from calculation or flag as provisional

14.3 Lineage Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
LN-01	All derivative objects have complete transformation event chains	No gap between source manifest and derivative manifest in transformation event chain	BR-L01	Flag; open lineage investigation; hold revenue
LN-02	All transformation events have confirmed or asserted authorization	No transformation event with `authorization_state: ABSENT` for Class A transformation	BR-L02	Flag; contamination check; hold-only containment
LN-03	No contamination detected in active lineage chains	Full chain traversal produces no `authorization_state: ABSENT` for Class A events	BR-L05	Full hold; contamination response sequence
LN-04	Operator class is recorded for all transformation events	No transformation event with null `operator_class`	No break code; governance check	Flag; request classification
LN-05	Version class is assigned to all registered objects	No object with null `object_class` in manifest	No break code; registration check	Flag; request classification EP Delta
LN-06	Supersession chain is complete and non-circular	No circular supersession references; all prior versions trace to current official version	BR-A02	Flag; request supersession chain reconstruction
LN-07	Composite and multi-source objects identify all contributing sources	Objects with `transformation_type: composite` have non-null `parent_manifest_id` for each contributing source	BR-L03	Flag; request source manifest linkage
LN-08	Lineage replay is executable for disputed artifacts	Lineage replay report producible per Section 6.7 minimum requirements	No break code; replay check	Flag; produce partial replay; document gaps
LN-09	AI-generated outputs link synthesis provenance to training data authorization	Synthesis provenance record includes `training_data_auth_ref`	BR-A05	Flag; assign `ASSERTED` authorization state; hold revenue
LN-10	No unauthorized versions appear in official lineage	Manifest chain contains no objects with `object_class: unauthorized_version` in lineage	BR-L05	Full contamination review; hold

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
	chains	of official objects		

14.4 Rights-Chain and Scope Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
RC-01	Rights-state linkage records exist for all monetization events	All monetization events have a completed `MONETIZATION_EVENT_RIGHTS_LINKAGE` record	BR-R04	Flag; hold unlinked events from calculation
RC-02	Scope check results are `IN_SCOPE` or `ASSERTED` for all calculation-eligible events	No calculation-eligible event has `scope_check_result: OUT_OF_SCOPE`	BR-R03	Hold out-of-scope revenue; escalate
RC-03	Sublicense scope does not exceed licensor's verified scope	All sublicense records pass scope ceiling check	BR-R01	Flag; hold sublicensed revenue; notify parties
RC-04	License state is `ACTIVE` for all active monetization events	No active monetization event under an `EXPIRED`, `TERMINATED`, or `SUSPENDED` license	BR-R03	Hold affected revenue; request re-licensing review
RC-05	Restriction registry is current and queried at each scope check	Restriction registry entry exists for source object; query timestamp within recertification window	No break code; recertification check	Flag stale registry; run boundary test; recertify
RC-06	AI training data use has explicit authorization record	No usage event with `use_type: AI_training` without confirmed `training_data_auth_ref`	BR-R04	Hold training data revenue; escalate
RC-07	Territory restriction propagation is complete	All sublicenses and downstream licenses carry territory restrictions from primary rights instrument	BR-R02	Flag; review affected revenue by territory
RC-08	Rights-chain EP Delta chain is unbroken	Each rights-chain EP Delta's `prev_delta_hash` matches hash of preceding delta	BR-A02 analog for L4	Flag chain break; preserve FSS; escalate
RC-09	Split allocation instruments are referenced in calculation artifacts	Each contributor's split share is linked to a named instrument in the rights-chain EP	BR-P03 analog	Flag; request instrument reference; hold split if absent
RC-10	Reversion and succession events are recorded within	Rights-chain EP Delta for reversion or succession issued within 3 business days of trigger	Governance check	Flag late recording; review actions

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
	defined timelines			taken during gap

14.5 Royalty Calculation and Payout Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
RP-01	Calculation artifact exists for each completed payout cycle	Non-null `calc_id` for every payout linkage record	BR-P02	Immediate; hold all payouts from cycle; open investigation
RP-02	Calculation is replayable from referenced inputs	Replay of calculation artifact produces identical outputs	LT-06	Hold; integrity investigation; corrective calculation
RP-03	Usage event evidence quality tiers are documented	Each event in calculation has an assigned quality tier (1–4) with basis recorded	No break code; calculation integrity	Flag undocumented tiers; treat as Tier 3
RP-04	Split allocation sums to 100% of net royalty pool	Sum of `allocated_amount` across all contributors equals `net_royalty_pool`	BR-P03	Flag residual; hold residual amount; investigate
RP-05	Payment instructions are linked to split allocation records	All non-zero `net_payable` amounts have corresponding payment instructions	BR-P04	Flag missing instructions; hold; issue instructions
RP-06	Settlement confirmations are received for all instructions	All payment instructions have a `confirmation_id` within defined cycle window	BR-P04	Flag; investigate; hold payout chain open
RP-07	Payout linkage records show `chain_complete: YES`	All payout linkage records have `chain_complete: YES`	BR-P04	Flag incomplete chains; investigate missing elements
RP-08	Settlement confirmation variances are resolved	No `variance_flag: YES` in settlement confirmations beyond investigation deadline	BR-P05	Flag; open variance investigation; corrective instruction
RP-09	Provisional events are resolved within defined window	No Tier 2 provisional events outstanding beyond 90-day reconciliation window	BR-P06	Reclassify to Tier 3; corrective EP Delta; adjust calculation
RP-10	Payout Cycle Finality Records exist for all closed cycles	Non-null `finality_id` for each closed payout cycle	No break code; finality check	Flag; issue finality record; review open conditions
RP-11	Off-cycle corrections are documented with adjustment lineage	All corrective calculations have corresponding adjustment lineage records	No break code; correction integrity	Flag; request adjustment lineage; review correction
RP-12	Recoupment states are	Recoupment state for each	No break	Flag stale recoupment

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
	current at time of calculation	unrecouped contributor is confirmed at calculation run timestamp	code; calculation integrity	states; recertify; adjust calculation

14.6 Bounded-Access Compliance Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
BA-01	All Tier 1 and Tier 2 access events are logged in Layer 7	No access event without corresponding Layer 7 log entry	BR-G01	Flag; open governance investigation; assess exposure
BA-02	Post-access reviews are completed within deadlines	All Layer 7 access log entries have `post_access_review_ref` within deadline	BR-G01	Flag overdue reviews; escalate to governance officer
BA-03	Access purpose is documented and within defined scope	Layer 7 log entry has non-null `purpose` field; records accessed match purpose scope	BR-G01 analog	Flag purpose gap; post-access review escalated
BA-04	TTL is defined for all Tier 1 and Tier 2 access grants	No access grant with null `ttl_expiry`	Governance check	Flag; apply default TTL retroactively; log governance event
BA-05	No Tier 2 access granted without dual-party authorization	All Tier 2 access events have distributed approval record with two distinct approvers	LT-08	Flag; revoke access; governance investigation
BA-06	Emergency access declarations have second-party confirmation within 24 hours	All emergency access records have `second_approval_ts` within 24 hours of `first_approval_ts`	Governance check	Flag; post-emergency review; governance investigation
BA-07	Redaction log exists for all partially redacted productions	All production packages with redacted records have corresponding redaction log entries	Governance check	Flag; reconstruct redaction log; assess disclosure risk
BA-08	Access scope does not exceed stated purpose	Post-access review confirms no out-of-scope records were accessed	Post-access review check	Escalate inappropriate access; notify affected parties
BA-09	Proof-based outputs (Baseline E) have freshness timestamps within validity window	No proof output with timestamp outside declared validity window is accepted	Governance check	Reject stale proof; request fresh proof or Tier 1 access
BA-10	Reviewer attestations are on file for all Tier 2	All Tier 2 post-access review records have signed reviewer attestation	Governance check	Flag; request attestation; escalate if refused

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
	access events			

14.7 Governance and Recertification Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
GV-01	All governance roles are filled with named accountable parties	No governance role with null `assigned_party` reference	Governance check	Flag; request role assignment; hold dependent operations
GV-02	Segregation of duties is maintained for all high-risk activities	No activity where issuer and authorizer are the same party	Governance check	Flag SOD violation; review affected records; governance investigation
GV-03	Delegation records are within expiry and scope	No delegation with `expiry_date` in the past used to authorize a current action	Governance check	Flag; revoke delegation; review actions taken under expired delegation
GV-04	Material change EP Deltas are issued within defined timelines	All material change events have EP Deltas registered within timeline per Section 11.4	Governance check	Flag late registration; review gap-period actions
GV-05	Recertification schedule is current	No recertification subject overdue per Section 11.5 schedule	BR-G02	Flag; prioritize overdue recertification; hold dependent operations
GV-06	Distributed approval records exist for all dual-authorization events	All actions requiring dual authorization have a `DISTRIBUTED_APPROVAL_RECORD`	Governance check	Flag; void action pending approval; governance investigation
GV-07	Override records exist for all override events	All actions taken despite unresolved breaks have `OVERRIDE_RECORD` with dual approval	Governance check	Flag unauthorized override; governance investigation; correct if required
GV-08	Post-override reviews are completed within 10 business days	All override records have `post_override_finding` within 10 business days	Governance check	Flag overdue; escalate; assess override appropriateness
GV-09	Incident classification and escalation timelines are met	All incidents have classification within 4 hours (Class I/IV) or 24 hours (Class II/III)	Governance check	Flag late classification; review incident response
GV-10	Full EP integrity scan is completed	Layer 7 contains a Recertification Record for full EP integrity scan within	BR-G02	Schedule immediate scan; flag gap year

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
	annually	the past 12 months		

14.8 Offboarding Checks

Check ID	Check Description	Pass Condition	Fail Code	Examiner Action on Fail
OB-01	Offboarding Declaration is filed before any offboarding action	Layer 7 contains Offboarding Declaration with timestamp before any offboarding action	Governance check	Flag retroactive declaration; review actions taken before declaration
OB-02	Final State Snapshot is created and sealed before offboarding	FSS `fss_hash` computed; receiving custodian has verified hash	Offboarding check	Flag; create FSS before proceeding; halt offboarding if FSS absent
OB-03	Final Reconciliation Proof is co-signed	FRP has `custodian_acceptance: YES` and two signatories	Offboarding check	Flag; complete FRP; do not declare offboarding complete
OB-04	Open-break disclosure is complete	Offboarding Disclosure Records for all open conditions are acknowledged by recipients	Offboarding check	Flag missing acknowledgments; re-send disclosure; hold completion
OB-05	Legacy Transition Manifest exists for environment migrations	LTM is present for all catalog migrations; `hash_preservation: YES`	Offboarding check	Flag; reconstruct identifier mapping; verify hash preservation
OB-06	Custody acceptance record received from receiving custodian	Non-null `custody_acceptance_ref` in FSS	Offboarding check	Flag; obtain custody acceptance before closing offboarding
OB-07	Post-offboarding monitoring obligations are confirmed	Receiving custodian has acknowledged inherited hold, dispute, and exception monitoring	Offboarding check	Flag; obtain written acknowledgment
OB-08	Retention schedule is documented and communicated	Offboarding completion record includes retention schedule reference per Section 13.7	Offboarding check	Flag; document retention schedule; communicate to receiving custodian

14.9 Conceptual Query Families (SQL / Pseudocode / Retrieval Logic)

The following query families are expressed in implementation-agnostic pseudocode. They are conceptual templates; any conforming implementation must produce equivalent results from its EP record store.

QF-01 — Authenticity State Distribution for a Catalog

Purpose: Produce a Tier 0 summary of authenticity state values across a defined artifact set.

```
-- Conceptual
SELECT
  authenticity_state,
  COUNT(*) AS artifact_count
FROM ep_layer_1_authenticity_records
WHERE artifact_manifest_id IN (<catalog_scope>)
  AND record_is_current = TRUE  -- most recent EP Delta per artifact
GROUP BY authenticity_state
ORDER BY artifact_count DESC;
```

Output: Tier 0 summary table. No artifact-level detail disclosed without Tier 1 authorization.

QF-02 — Consent State at Time of a Specific Usage Event

Purpose: Replay consent state for a specific artifact and usage event timestamp.

```
-- Conceptual
SELECT
  consent_state,
  scope_dimension_territory,
  scope_dimension_medium,
  scope_dimension_purpose,
  scope_dimension_derivative_auth,
  effective_from,
  effective_to
FROM ep_layer_2_consent_state_replay(
  artifact_manifest_id => '<manifest_id>',
  replay_as_of         => '<usage_event_timestamp>'
)
WHERE consent_instrument_id IS NOT NULL;
```

Output: Consent state value per scope dimension at replay timestamp. Requires Tier 1 authorization. Consent instrument terms not disclosed unless within purpose scope.

QF-03 — Lineage Chain Completeness for a Derivative Artifact

Purpose: Traverse the transformation event chain from a derivative artifact to its source object and identify any authorization gaps or missing events.

```
-- Conceptual recursive traversal
```

```
WITH RECURSIVE lineage_chain AS (
  SELECT
    t.event_id,
    t.source_manifest_id,
    t.output_manifest_id,
    t.transformation_type,
    t.authorization_state,
    t.operator_class,
    0 AS depth
  FROM ep_layer_3_transformation_events t
  WHERE t.output_manifest_id = '<target_artifact_manifest_id>'

  UNION ALL

  SELECT
    t.event_id,
    t.source_manifest_id,
    t.output_manifest_id,
    t.transformation_type,
    t.authorization_state,
    t.operator_class,
    lc.depth + 1
  FROM ep_layer_3_transformation_events t
  INNER JOIN lineage_chain lc ON t.output_manifest_id = lc.source_manifest_id
  WHERE lc.depth < 50  -- depth limit to prevent runaway traversal
)
SELECT
  event_id,
  transformation_type,
  authorization_state,
  operator_class,
  depth
FROM lineage_chain
ORDER BY depth DESC;
-- Post-process: flag any row where authorization_state = 'ABSENT'
```

```
--               and transformation_class = 'A' as contamination candidate
```

Output: Full chain with authorization state per link. Requires Tier 1 for summary; Tier 2 for full chain detail.

QF-04 — Usage Events by Evidence Quality Tier for a Calculation Cycle

Purpose: Audit the composition of a calculation artifact by evidence quality tier.

```
-- Conceptual
SELECT
  quality_tier,
  royalty_event_type,
  COUNT(*)           AS event_count,
  SUM(volume_metric) AS total_volume,
  SUM(revenue_attributed) AS total_revenue
FROM ep_layer_5_usage_events
WHERE calc_period_start >= '<cycle_start>'
  AND calc_period_end   <= '<cycle_end>'
  AND artifact_manifest_id IN (<scope>)
GROUP BY quality_tier, royalty_event_type
ORDER BY quality_tier, total_revenue DESC;
```

Output: Tier distribution and revenue impact per tier. Requires Tier 1 authorization for cycle-level detail.

QF-05 — Split Allocation Verification for a Contributor

Purpose: Confirm that a specific contributor's split allocation is supported by an instrument reference and matches the calculation artifact.

```
-- Conceptual
SELECT
  sa.contributor_ref,
  sa.role,
  sa.share_basis,
  sa.share_value,
  sa.allocated_amount,
  sa.instrument_ref,
  rc.primary_rights_instrument_id,
  sa.recoupment_state,
```

```
  sa.net_payable
FROM ep_layer_5_split_allocation_records sa
JOIN ep_layer_4_rights_chain_entries rc
  ON sa.instrument_ref = rc.license_tier_id
WHERE sa.calc_id     = '<calculation_id>'
  AND sa.contributor_ref LIKE '<contributor_scope>';
-- Cross-check: sa.instrument_ref must resolve to a non-null, non-expired record
in Layer 4
-- Flag: allocated_amount differs from (net_pool_amount * share_value) by more
than rounding tolerance
```

Output: Contributor-specific split detail with instrument linkage. Requires Tier 1 with contributor-scope purpose. Other contributors' allocations excluded unless Tier 2 with full calculation scope.

QF-06 — Active Holds by Trigger Type and Duration

Purpose: Produce a Tier 0 hold register summary; escalate to Tier 1 for artifact-level hold detail.

```
-- Tier 0 version
SELECT
  trigger_type,
  COUNT(*)                        AS hold_count,
  SUM(held_amount)                AS total_held,
  AVG(DATEDIFF(NOW(), hold_start_date)) AS avg_hold_age_days,
  SUM(CASE WHEN DATEDIFF(NOW(), hold_start_date) > 180
           THEN 1 ELSE 0 END)     AS escalated_hold_count
FROM ep_layer_5_royalty_hold_records
WHERE hold_status = 'ACTIVE'
GROUP BY trigger_type
ORDER BY total_held DESC;

-- Tier 1 extension: add artifact_manifest_id, dispute_id to SELECT
-- and filter by rights-holder scope
```

Output: Tier 0 — aggregate only. Tier 1 — artifact-level hold detail for authorized scope.

QF-07 — Payout Chain Completeness Audit

Purpose: Identify incomplete payout chains within a defined scope.

```
-- Conceptual
```

```
SELECT
  pl.linkage_id,
  pl.calc_id,
  pl.chain_complete,
  pl.open_variances,
  pi.instruction_id,
  pi.payment_due_date,
  sc.confirmation_id,
  sc.variance_flag,
  sc.variance_amount
FROM ep_layer_5_payout_linkage_records pl
LEFT JOIN ep_layer_5_payment_instructions pi
  ON pl.confirmation_id = pi.instruction_id
LEFT JOIN ep_layer_5_settlement_confirmations sc
  ON pi.instruction_id = sc.instruction_id
WHERE pl.chain_complete = FALSE
  OR sc.variance_flag   = TRUE
  OR sc.confirmation_id IS NULL
ORDER BY pi.payment_due_date ASC;
```

Output: List of incomplete chains with missing elements identified. Requires Tier 1 authorization.

QF-08 — Open Breaks by Severity Band and Layer

Purpose: Produce a break register summary for governance review.

```
-- Conceptual
SELECT
  break_layer,
  break_type,
  severity_band,
  COUNT(*)                                          AS open_count,
  MIN(break_detected_timestamp)                     AS oldest_break,
  SUM(CASE WHEN resolution_status = 'OVERDUE'
           THEN 1 ELSE 0 END)                       AS overdue_count
FROM ep_reconciliation_break_register
WHERE resolution_status IN ('OPEN', 'UNDER_INVESTIGATION', 'OVERDUE')
GROUP BY break_layer, break_type, severity_band
```

```
ORDER BY severity_band, open_count DESC;
```

Output: Governance-level break register summary. Tier 0 for aggregate; Tier 1 for artifact-level detail.

QF-09 — Rights-Chain Scope Check for a Territory and Use Type

Purpose: Confirm that a specific use type in a specific territory is within scope for a given artifact at a given date.

```
-- Conceptual
SELECT
  rce.license_tier_id,
  rce.license_state,
  rce.territory_scope,
  rce.channel_scope,
  rre.restricted_territory,
  rre.restricted_channel,
  CASE
    WHEN '<target_territory>' = ANY(rce.territory_scope)
     AND '<target_channel>'   = ANY(rce.channel_scope)
     AND '<target_territory>' NOT IN (SELECT restricted_territory
                                      FROM ep_layer_4_restriction_registry
                                      WHERE artifact_manifest_id =
'<manifest_id>'
                                        AND restriction_active_at <=
'<event_date>')
    THEN 'IN_SCOPE'
    ELSE 'OUT_OF_SCOPE'
  END AS scope_determination
FROM ep_layer_4_rights_chain_entries rce
LEFT JOIN ep_layer_4_restriction_registry rre
  ON rce.artifact_manifest_id = rre.artifact_manifest_id
WHERE rce.artifact_manifest_id = '<manifest_id>'
  AND rce.license_state = 'ACTIVE'
  AND rce.effective_date <= '<event_date>'
  AND (rce.expiry_date IS NULL OR rce.expiry_date >= '<event_date>');
```

Output: `IN_SCOPE` or `OUT_OF_SCOPE` determination with supporting license tier and restriction registry references. Requires Tier 1 with scope-check purpose.

QF-10 — Post-Access Review Compliance Status

Purpose: Identify overdue post-access reviews for governance monitoring.

```
-- Conceptual
SELECT
  al.access_log_id,
  al.access_tier,
  al.access_timestamp,
  al.reviewor_class,
  al.post_access_review_due,
  al.post_access_review_ref,
  CASE
    WHEN al.post_access_review_ref IS NULL
     AND NOW() > al.post_access_review_due
    THEN 'OVERDUE'
    WHEN al.post_access_review_ref IS NULL
    THEN 'PENDING'
    ELSE 'COMPLETE'
  END AS review_status
FROM ep_layer_7_access_logs al
WHERE al.access_tier IN (1, 2)
  AND (al.post_access_review_ref IS NULL
       OR NOW() > al.post_access_review_due)
ORDER BY al.post_access_review_due ASC;
```

Output: Overdue and pending post-access reviews. Governance-level report; Tier 0 for count; Tier 1 for access log detail with authorization scope.

QF-11 — Monitored Exception Status Report

Purpose: Produce a current status report on all active monitored exceptions for senior governance review.

```
-- Conceptual
SELECT
  me.exception_id,
  me.exception_class,
  me.exception_reason,
```

```
  COUNT(me.affected_artifact_ids) AS artifact_count,
  me.affected_revenue_estimate,
  me.review_cadence,
  me.last_review_timestamp,
  me.next_review_due,
  CASE
    WHEN NOW() > me.next_review_due THEN 'REVIEW_OVERDUE'
    ELSE 'ON_SCHEDULE'
  END AS review_schedule_status,
  me.status
FROM ep_layer_6_monitored_exceptions me
WHERE me.status = 'ACTIVE'
ORDER BY me.affected_revenue_estimate DESC, me.next_review_due ASC;
```

Output: Tier 0 aggregate (exception class, count, total held revenue estimate). Tier 1 for exception-class detail with artifact scope. Tier 2 for full exception records including dispute references.

QF-12 — Offboarding Completion Verification

Purpose: Verify that all offboarding conditions are met before declaring offboarding complete.

```
-- Conceptual checklist query
SELECT
  od.offboarding_declaration_id,
  od.offboarding_scope,
  CASE WHEN fss.fss_id IS NOT NULL THEN 'COMPLETE' ELSE 'MISSING' END AS
fss_status,
  CASE WHEN frp.custodian_acceptance = TRUE THEN 'COMPLETE' ELSE 'INCOMPLETE'
END AS frp_status,
  CASE WHEN odr.recipient_acknowledgment = 'YES' THEN 'COMPLETE' ELSE 'PENDING'
END AS disclosure_status,
  frp.open_break_count,
  frp.active_hold_count,
  frp.active_dispute_count,
  frp.boundary_tests_failed,
  ltm.hash_preservation,
  fss.custody_acceptance_ref
FROM ep_offboarding_declarations od
```

```
LEFT JOIN ep_final_state_snapshots fss ON fss.offboarding_declaration =
od.offboarding_declaration_id

LEFT JOIN ep_final_reconciliation_proofs frp ON frp.fss_id = fss.fss_id

LEFT JOIN ep_offboarding_disclosure_records odr ON odr.fss_id = fss.fss_id

LEFT JOIN ep_legacy_transition_manifests ltm ON ltm.fss_id = fss.fss_id

WHERE od.offboarding_declaration_id = '<declaration_id>';

-- Offboarding is complete only when:

-- fss_status = COMPLETE AND frp_status = COMPLETE AND disclosure_status =
COMPLETE

-- AND boundary_tests_failed = 0 (or all failures documented as monitored
exceptions)

-- AND custody_acceptance_ref IS NOT NULL
```

Output: Checklist of offboarding completion conditions. Governance-level review; requires Tier 1 for full detail.

14.10 Examiner Jump Table

The following table provides direct navigation from an examiner's objective to the relevant section, check IDs, and query families.

Examiner Objective	Primary Section	Check IDs	Query Families
Confirm artifact is authentic and unmodified	4, 9	AC-01, AC-02, AC-03	QF-01
Confirm consent was in scope at time of a usage event	5, 9	CA-01, CA-02, CA-03, CA-08	QF-02
Reconstruct derivation lineage of a disputed artifact	6, 12	LN-01, LN-02, LN-03, LN-07	QF-03
Audit royalty calculation for a specific cycle	8, 9	RP-01, RP-02, RP-03, RP-04	QF-04, QF-05
Verify split allocation for a specific contributor	7, 8	RP-04, RP-05, RC-09	QF-05
Review active holds and held revenue	8, 12	RP-07, RP-08	QF-06
Audit payout chain completeness	8, 9	RP-05, RP-06, RP-07, RP-08	QF-07
Review open breaks for governance reporting	9, 11	All BR codes	QF-08
Confirm rights-chain scope for a specific use	7, 9	RC-01, RC-02, RC-04, RC-05	QF-09
Verify post-access review compliance	10, 11	BA-01, BA-02, BA-05	QF-10
Review monitored exceptions	9, 12	BR-G02	QF-11
Verify offboarding is complete	13	OB-01 through OB-08	QF-12
Detect contamination in a lineage chain	6, 12	LN-03, LN-09, LN-10	QF-03

Examiner Objective	Primary Section	Check IDs	Query Families
Confirm synthetic output has valid authorization	4, 5, 6	AC-05, CA-08, LN-09	QF-03, QF-09
Audit AI training data authorization	7, 9	RC-06, BA-09	QF-09
Review governance compliance — SOD, delegations	11	GV-02, GV-03, GV-05, GV-06	QF-08

15. Worked Examples (Paste-Ready)

Framing note: All entities, identifiers, and amounts in the following examples are fictional and for operational illustration only. Each example is self-contained and cross-references the operational constructs defined in prior sections. Record structures use the schemas established in Sections 4–13. Examples are designed to be paste-ready into institutional review documentation, training materials, and examiner briefing packs.

15.1 Authorized Voice-Clone Use with Time-Bounded Consent, Derivative Lineage, and Royalty Split Verification

Scenario summary: A commercial media producer licenses the voice of a session vocalist for a branded advertising campaign. The license explicitly authorizes a synthetic voice clone derived from the original recording for use in digital advertising within a defined territory and time window. The original session recording and the synthetic clone are both commercially distributed; royalties are due to the vocalist, the session producer, and the synthesis technology licensor. Eighteen months after the campaign launch, the vocalist's representative disputes whether the synthetic clone remains within the authorized scope.

Step 1 — Source object registration

The original session recording is registered as a canonical source object at the time of delivery to the producer.

```
MEDIA_ARTIFACT_MANIFEST [MAM-001]
  artifact_hash:        sha256:8f3a9c2e...
  artifact_type:        voice
  object_class:         source_object
  registration_ts:      2023-03-01T10:00:00Z
  registrant_class:     label
  parent_manifest_id:   null
  rights_anchor_ref:    RIGHTS-001
  consent_anchor_ref:   CONSENT-001
  origin_assertion_lvl: 1
```

```
  authenticity_state:   VERIFIED
```

Step 2 — Consent instrument registration

The vocalist grants consent with explicit scope dimensions, including synthetic derivative authorization.

```
CONSENT STATE RECORD [CONSENT-001]
  scope_of_use:         commercial advertising
  territory:            United States, Canada
  medium:               digital streaming, online video, social media
  duration:             2023-03-15 to 2024-09-14  (18 months)
  purpose:              BrandX autumn/winter campaign
  derivative_auth:      synthetic_voice_clone: YES
                        AI_dub: NO
                        remix: NO
  signatory_role:       authorized_representative
  authority_basis:      AUTHORITY-001 (management agreement)
  authenticity_state:   VERIFIED
```

Authority confirmation: management agreement (AUTHORITY-001) reviewed; scope confirmed as current at date of execution. Authority EP registration complete.

Step 3 — Synthetic clone registration as official derivative

The synthesis operator registers the clone as an official derivative linked to the source object.

```
MEDIA_ARTIFACT_MANIFEST [MAM-002]
  artifact_hash:        sha256:4d1b7f5a...
  artifact_type:        voice
  object_class:         derivative — authorized transformation
  transformation_type:  synthetic_clone
  parent_manifest_id:   MAM-001
  registration_ts:      2023-03-12T14:30:00Z
  rights_anchor_ref:    RIGHTS-002  (synthesis license)
  consent_anchor_ref:   CONSENT-001
  origin_assertion_lvl: 1
  authenticity_state:   VERIFIED
TRANSFORMATION_EVENT [TE-001]
  source_manifest_id:   MAM-001
```

```
  output_manifest_id:   MAM-002
  transformation_type:  synthetic_clone
  transformation_date:  2023-03-10
  operator_class:       AI system
  authorization_ref:    CONSENT-001 + RIGHTS-002
  authorization_state:  CONFIRMED
  output_hash:          sha256:4d1b7f5a...
```

Step 4 — Rights-chain registration

Two license tiers are registered: one for the original session recording (master recording license) and one governing the synthesis output.

```
RIGHTS-CHAIN [RIGHTS-002 — Synthesis License]
  license_state:        ACTIVE
  territory_scope:      [United States, Canada]
  channel_scope:        [digital streaming, online video, social media]
  duration:             2023-03-15 to 2024-09-14
  sublicensing_auth:    NO
  derivative_rights:    synthetic output distribution only
```

Restriction Registry updated: derivative rights restricted to synthetic output distribution; no further sub-derivation authorized.

Step 5 — Royalty calculation cycle (campaign period)

Usage events reported by three digital platforms for the 18-month campaign period.

```
ROYALTY_CALCULATION_ARTIFACT [CALC-001]
  calc_period:          2023-03-15 to 2024-09-14
  royalty_event_types:  [streaming_play, online_video_view]
  usage_event_count:    4,200,000
  usage_event_eligible: 4,197,500  (Tier 1: 4,100,000; Tier 2: 97,500)
  usage_event_held:     2,500  (Tier 4: territory outside scope — Mexico)
  total_gross_revenue:  USD 84,000
  participation_deductions:
    - platform_share:   USD 42,000  (50% per platform agreements)
  net_royalty_pool:     USD 42,000
  split_allocation:
```

```
    - vocalist (MAM-001 performance):  40%  → USD 16,800  [instrument: SESSION-
AGR-001]

    - session producer:                20%  → USD 8,400   [instrument: PROD-AGR-
001]

    - synthesis licensor:              15%  → USD 6,300   [instrument: SYNTH-
LIC-001]

    - label overhead/admin:            25%  → USD 10,500  [instrument: LABEL-
AGR-001]

  open_breaks:          [BR-P01: 2,500 events in Mexico — territory out-of-
scope; held USD 50]
```

Territory out-of-scope hold applied: USD 50 held for 2,500 Mexico events (HOLD-001).

Step 6 — Dispute initiation (month 19)

The vocalist's representative files a dispute claiming the synthetic clone continues to be distributed after the consent expiry date of 2024-09-14.

```
DISPUTE_RECORD [DISP-001]

  dispute_class:        D-CONS

  filing_party_class:   rights-holder

  filing_timestamp:     2024-10-20T09:00:00Z

  disputed_state:       consent state IN_SCOPE for post-2024-09-14 distributions

  claimed_correct_state:EXPIRED

  hold_applied:         YES → HOLD-002 (all revenue from post-2024-09-14 usage
events)
```

Step 7 — Consent-state replay

Consent-state diff chain replayed to 2024-09-15 (day after expiry):

Diff ID	Event Type	Effective Date	Resulting State
DIFF-001	Initial registration	2023-03-15	`IN_SCOPE`
DIFF-002	Expiry (duration boundary reached)	2024-09-14	`EXPIRED`

Replay confirms: consent state = `EXPIRED` from 2024-09-15 onward. No renewal EP Delta exists.

Step 8 — Resolution and corrective action

Dispute Finding Record issued:

```
DISPUTE_FINDING_RECORD [DFR-001]

  dispute_id:           DISP-001

  supported_state:      EXPIRED (from 2024-09-15)

  evidence_basis:       [CONSENT-001, DIFF-002, usage event timestamps from
platforms]
```

```
  calculation_correction: YES
  residual_uncertainty: None — expiry date is unambiguous
```

Off-cycle corrective calculation for post-expiry events:

- 340,000 usage events identified between 2024-09-15 and 2024-10-20.
- Revenue attributable: USD 6,800 → held in HOLD-002.
- Producer notified; distribution of synthetic clone halted.
- Corrective EP Delta issued: `CONSENT-001` status updated to `EXPIRED`; `MAM-002` distribution authorization updated to `OUT_OF_SCOPE` for post-expiry events.

HOLD-002 maintained pending contractual resolution of whether post-expiry revenue is owed to the vocalist or subject to clawback from the producer. Adjustment lineage record (ADJ-001) created.

Examiner check cross-reference:

Check	Result
CA-01	PASS — consent instrument present for all monetized events
CA-06	FAIL (post-expiry) — triggered dispute; corrected via DFR-001
RP-01	PASS — calculation artifact CALC-001 present
RP-04	PASS — split sums to 100%
RC-02	FAIL (Mexico events) — BR-P01 raised; HOLD-001 applied

15.2 Image and Likeness Use in Commercial Media with Scope-of-Use Validation and Out-of-Scope Escalation

Scenario summary: A talent agency licenses a photographer's portfolio image of an actor for use in a regional print advertising campaign. The license specifies print media, a single regional territory, and a 12-month window. The distributor subsequently uses the image in a nationally broadcast television commercial and in a social media campaign — both outside the licensed scope. The photographer and the actor's representative both file disputes.

Step 1 — Source object and rights-chain registration

```
MEDIA_ARTIFACT_MANIFEST [MAM-010]
  artifact_type:        image
  object_class:         source_object
  artifact_hash:        sha256:2c7e4a1b...
  origin_assertion_lvl: 1
  authenticity_state:   VERIFIED
  rights_anchor_ref:    RIGHTS-010  (photographer copyright)
  consent_anchor_ref:   CONSENT-010 (actor likeness consent)
```

```
CONSENT STATE RECORD [CONSENT-010]
  scope_of_use:          commercial advertising
  territory:             Pacific Northwest (defined: WA, OR, ID)
  medium:                print media only
  duration:              2023-06-01 to 2024-05-31
  purpose:               RetailCo summer/fall campaign
  derivative_auth:       NO
  synthetic_use_authorized: NO
```

Rights-chain license tier:

```
RIGHTS-CHAIN [RIGHTS-011 — Distribution License]
  licensee_class:        distributor
  license_state:         ACTIVE
  territory_scope:       [WA, OR, ID]
  channel_scope:         [print media]
  duration:              2023-06-01 to 2024-05-31
  sublicensing_auth:     NO
```

Step 2 — Scope check at distribution events

Three distribution events processed:

Event ID	Channel	Territory	Scope Check	Action
EVT-101	Print media	Pacific Northwest	`IN_SCOPE`	Proceeds to calculation
EVT-102	National television broadcast	National	`OUT_OF_SCOPE` — channel + territory	BR-R03; HOLD-003 applied
EVT-103	Social media	National	`OUT_OF_SCOPE` — channel + territory	BR-R03; HOLD-004 applied

Hold-only containment applied to all revenue from EVT-102 and EVT-103 immediately upon scope check failure.

Step 3 — Dual dispute filing

```
DISPUTE_RECORD [DISP-010]
  dispute_class:         D-RIGH + D-CONS  (D-MULT)
  filing_party_class:    rights-holder (photographer)
  disputed_state:        distribution license scope for television and social
media
  claimed_correct_state:OUT_OF_SCOPE
```

```
DISPUTE_RECORD [DISP-011]
  dispute_class:        D-CONS
  filing_party_class:   rights-holder (actor's representative)
  disputed_state:       likeness consent scope for television and social media
  claimed_correct_state:ABSENT (no consent for those channels)
```

Both disputes reference the same artifacts (MAM-010, EVT-102, EVT-103). Combined investigation opened.

Step 4 — Evidence review

Evidence Item	Finding
Rights-chain RIGHTS-011	`channel_scope: [print media]` — confirmed; television and social media not included
Consent CONSENT-010	`medium: print media only` — confirmed; no expansion or modification EP Delta exists
Usage event EVT-102 volume	42 broadcast placements (national)
Usage event EVT-103 volume	1,200,000 social media impressions
Distributor's claimed authorization	Distributor asserts verbal approval from agency; no EP registration; `ASSERTED` level only

Verbal approval claim assigned `ASSERTED` authorization state. Cannot upgrade to `CONFIRMED` without instrument evidence. Out-of-scope determination stands for both events.

Step 5 — Dispute findings and corrective actions

```
DISPUTE_FINDING_RECORD [DFR-010]
  supported_state:      OUT_OF_SCOPE for EVT-102 and EVT-103
  evidence_basis:       [RIGHTS-011 channel_scope, CONSENT-010 medium scope]
  contrary_evidence:    verbal approval claim — insufficient; no EP registration
  calculation_correction: YES — EVT-102 and EVT-103 excluded from royalty
calculation
```

Revenue held in HOLD-003 and HOLD-004:

- Television broadcast revenue: USD 18,000 → held pending contractual resolution.
- Social media revenue: USD 4,200 → held pending contractual resolution.

Additional EP Delta issued: `RIGHTS-011` updated with `out_of_scope_use_flag` for EVT-102 and EVT-103. Distributor notified; use halted.

Escalation note: The distributor's failure to obtain written authorization before proceeding with out-of-scope distribution is flagged as a governance incident (Class II). Override record reviewed;

no override was filed — the distributor proceeded without EP registration, which is a governance violation. Liability trigger LT-03 analog invoked (unauthorized use without authorization record).

Examiner check cross-reference:

Check	Result
RC-01	FAIL — no rights-state linkage for EVT-102, EVT-103 before scope check
RC-02	FAIL — OUT_OF_SCOPE events in calculation intake
CA-01	FAIL — no consent for television or social media channels
BA-07	N/A — no Tier 2 access required; dispute resolved at Tier 1

15.3 Film Scene with Synthetic Dubbing Requiring Version-Integrity Replay

Scenario summary: A film distributor licenses a foreign-language theatrical release for distribution in an English-speaking market. The distribution agreement authorizes human dubbing only. The distributor commissions an AI synthesis studio to produce a synthetic English dub, which is released theatrically and on a streaming platform. The original film's production company discovers the synthetic dub and disputes the version class and authorization state of the distributed artifact.

Step 1 — Source object registration

```
MEDIA_ARTIFACT_MANIFEST [MAM-020]
  artifact_type:        film
  object_class:         source_object
  artifact_hash:        sha256:9b2d5e7f...
  origin_assertion_lvl: 1
  authenticity_state:   VERIFIED
  rights_anchor_ref:    RIGHTS-020
  consent_anchor_ref:   CONSENT-020
CONSENT STATE RECORD [CONSENT-020]
  scope_of_use:         theatrical and streaming distribution
  territory:            English-speaking markets
  medium:               theatrical, SVOD streaming
  duration:             2023-09-01 to 2026-08-31
  derivative_auth:      human_dub: YES
                        synthetic_dub: NO  ← explicit prohibition
                        AI_modification: NO
```

Step 2 — Transformation event analysis

The distributor registers a dubbed version but records `operator_class: human` in the transformation event. The production company's dispute prompts a hash comparison.

```
TRANSFORMATION_EVENT [TE-020]  ← as filed by distributor
  source_manifest_id:   MAM-020
  output_manifest_id:   MAM-021
  transformation_type:  dub_human
  operator_class:       human  ← disputed
  authorization_ref:    CONSENT-020
  authorization_state:  CONFIRMED  ← disputed
```

Production company provides synthesis provenance records obtained from the AI studio showing that MAM-021 was produced using a neural TTS synthesis pipeline. Synthesis studio confirms `operator_class: AI system` upon request.

Step 3 — Version-integrity replay

SI boundary test AC-05 applied:

```
AC-05 CHECK — Synthetic output has synthesis provenance record
  artifact: MAM-021
  object_class_registered: derivative — authorized transformation (human dub)
  synthesis_provenance_found: YES (from AI studio records)
  operator_class_in_TE-020: human ← MISMATCH with synthesis provenance
  result: FAIL → BR-A05
```

Authenticity state of MAM-021 downgraded from `VERIFIED` to `CONTESTED`.

Lineage replay (QF-03) executed:

```
LINEAGE_REPLAY_REPORT [LRR-020]
  artifact_id:              MAM-021
  source_object_confirmed:  YES (MAM-020)
  transformation_count:     1
  authorization_gaps:       1  (operator_class mismatch; effective
transformation_type
                               should be synthetic_dub, which has ABSENT
authorization
                               in CONSENT-020)
  contamination_detected:   YES  ← synthetic_dub without authorization
  lineage_completeness:     PARTIAL
  open_breaks:              [BR-L02, BR-A05]
```

Step 4 — Dispute and containment

```
DISPUTE_RECORD [DISP-020]
  dispute_class:         D-LINE + D-CONS (D-MULT)
  disputed_state:        TE-020 operator_class and authorization_state
  claimed_correct_state:operator_class = AI system; authorization_state = ABSENT
  hold_applied:          YES → HOLD-020 (all theatrical and streaming revenue
from MAM-021)
```

Total revenue held: USD 340,000 (theatrical + streaming, full distribution period to date).

Step 5 — EP Delta and corrective actions

Dispute Finding Record:

```
DISPUTE_FINDING_RECORD [DFR-020]
  supported_state:       operator_class = AI system; authorization_state = ABSENT
  evidence_basis:        [synthesis provenance from AI studio, TE-020 hash
mismatch,
                          CONSENT-020 synthetic_dub: NO]
  calculation_correction: YES — MAM-021 revenue excluded from royalty
calculation
                            pending contractual resolution
```

Corrective EP Deltas issued:

1. TE-020 corrected: `operator_class → AI system`; `transformation_type → synthetic_dub`; `authorization_state → ABSENT`.
2. MAM-021 authenticity state updated: `CONTESTED → UNRESOLVABLE` pending contractual resolution.
3. Contamination EP Delta: MAM-021 flagged as contaminated; all downstream distribution objects linked to MAM-021 suspended.

HOLD-020 maintained. Distributor directed to cease distribution and negotiate either a retroactive synthetic dubbing authorization or removal of the distributed artifact.

Governance note: Transformation event operator_class misrepresentation constitutes a Class III evidence incident. Class III escalation path invoked (Section 11.7). Distributor's evidence integrity record noted.

Examiner check cross-reference:

Check	Result
AC-05	FAIL — BR-A05; synthesis provenance found but not registered
LN-02	FAIL — BR-L02; ABSENT authorization for Class A transformation
LN-03	FAIL — BR-L05; contamination confirmed

Check	Result
CA-08	FAIL — synthetic use not authorized; no explicit consent
RP-01	Calculation for MAM-021 suspended

15.4 Music Stem and Sample Workflow with Contribution Chain, Usage Evidence, and Payout Reconciliation

Scenario summary: A music producer creates a new track by combining: (a) an isolated vocal stem licensed from a prior commercial release; (b) an original composition produced in-session; and (c) a two-bar sample from a 1992 jazz recording. The new track is distributed on a streaming platform. Royalties are due to five parties: the original vocalist (stem), the vocalist's label (master recording), the jazz composer's estate (composition), the jazz label (master sample), and the new track's producer. A reconciliation break arises when the jazz composer's estate is not identified at first calculation.

Step 1 — Three-source composite registration

```
MEDIA_ARTIFACT_MANIFEST [MAM-030]  ← new track (composite)
  artifact_type:        music
  object_class:         derivative — authorized transformation
  transformation_type:  composite
  parent_manifest_ids:  [MAM-031 (vocal stem), MAM-032 (new composition), MAM-033 (jazz sample)]
  artifact_hash:        sha256:1e6c3d8b...
  origin_assertion_lvl: 1
  authenticity_state:   VERIFIED
```

Three transformation events registered:

TE ID	Source	Transformation	Authorization State
TE-031	MAM-031 (vocal stem)	stem separation + composite	CONFIRMED (stem license RIGHTS-031)
TE-032	MAM-032 (new composition)	original composition	CONFIRMED (session agreement)
TE-033	MAM-033 (jazz sample)	sample (2-bar segment, 0:34–0:46)	CONFIRMED (sample clearance RIGHTS-033)

Step 2 — Contribution chain and split allocation

First calculation run:

```
SPLIT_ALLOCATION_RECORD [ALLOC-030-v1]
  net_royalty_pool:      USD 9,200  (from streaming events, quarter 1)
  contributor_allocations:
```

```
    - vocalist (stem performance):   25%  → USD 2,300  [SESSION-AGR-031]
    - vocalist's label (master):     20%  → USD 1,840  [MASTER-LIC-031]
    - session producer (new track):  30%  → USD 2,760  [PROD-AGR-030]
    - jazz label (master sample):    15%  → USD 1,380  [SAMPLE-CLR-033]
    - jazz composer estate (composition): ??  ← UNIDENTIFIED
  residual_amount:       USD 1,920  ← 20.9% unallocated
  residual_treatment:    HELD
```

Break raised: BR-P03 (split allocation residual not assigned). Investigation opened.

Step 3 — Contributor identification

Reconciliation officer investigates jazz sample clearance documentation. Sample clearance (RIGHTS-033) covered the master recording rights but did not include the composition (mechanical license). Jazz composer's estate identified through:

- Original 1992 album liner notes.
- Publishing registry (ISWC: T-123.456.789-0).
- Composer's estate confirmed as mechanical rights holder.

Mechanical license obtained retroactively (instrument: MECH-LIC-033, effective from first distribution date).

Step 4 — Off-cycle corrective calculation

```
ADJUSTMENT_LINEAGE_RECORD [ADJ-030]
  original_calc_id:        CALC-030-v1
  correction_ep_delta_id:  EPD-030-001
  corrective_calc_id:      CALC-030-v2
  adjustment_basis:        Jazz composer estate identified; mechanical license
                           obtained retroactively; split revised
```

Corrected split allocation:

```
SPLIT_ALLOCATION_RECORD [ALLOC-030-v2]
  net_royalty_pool:      USD 9,200
  contributor_allocations:
    - vocalist (stem):              25%  → USD 2,300
    - vocalist's label (master):    20%  → USD 1,840
    - session producer:             25%  → USD 2,300  (revised down from 30%)
    - jazz label (master sample):   15%  → USD 1,380
    - jazz composer estate (mech):  15%  → USD 1,380  [MECH-LIC-033]
```

```
  residual_amount:       USD 0
```

Corrective payment instruction issued for USD 1,380 to jazz composer estate. Payment confirmed (CONF-030-C).

Note: Producer's share revised from 30% to 25% in accordance with negotiated adjustment to PROD-AGR-030. EP Delta issued for PROD-AGR-030 recording revised terms.

Step 5 — Payout chain finality

```
PAYOUT_CYCLE_FINALITY [PCF-030]
  calc_id:               CALC-030-v2
  all_conditions_met:    YES
  open_break_count:      0  (BR-P03 resolved via ADJ-030)
  total_disbursed:       USD 9,200
  total_held:            USD 0
```

Examiner check cross-reference:

Check	Result
LN-07	PASS (after correction) — all composite sources identified
RP-04	FAIL (v1) → PASS (v2) — residual resolved via off-cycle correction
RP-11	PASS — adjustment lineage record ADJ-030 present
RC-06	PASS — mechanical license obtained before finality v2

15.5 Restricted Reviewer Access Used to Confirm or Rebut a Public Authenticity Dispute

Scenario summary: A public dispute arises when a prominent music release is claimed by two parties as their canonical source object. Party A (an independent artist) publicly asserts prior registration. Party B (a major label) asserts a different canonical version with a later registration timestamp. Neither party's public claim can be resolved from publicly available information. A collecting society, acting as a Tier 1 reviewer, conducts a bounded verification to determine which registration predates the other, without disclosing commercial terms.

Step 1 — Dispute state and Tier 0 output

Tier 0 output requested by the collecting society before formal access grant:

```
QF-01 OUTPUT [Tier 0]
  Artifact catalog query:  both claimed MAM-040 (Party A) and MAM-041 (Party B)
  authenticity_state distribution:
    CONTESTED: 2 artifacts
  registration_ts comparison: REDACTED at Tier 0 — requires Tier 1
```

Tier 0 output confirms a contested state but cannot resolve the dispute. Tier 1 access requested.

Step 2 — Tier 1 access grant

```
ACCESS GRANT [AG-050]
  access_tier:            1
  requestor_class:        collecting society
  purpose:                Determine which party holds prior registration for
royalty
                          distribution purposes; resolve DISP-040
  artifact_scope:         [MAM-040, MAM-041]
  layer_scope:            [L0, L1]  (registration and authenticity only)
  ttl_expiry:             30 days from grant
  post_access_review_due: 10 business days after access
```

Dual-party authorization: Access Authorization Officer + independent Audit Coordinator. No commercial rate or split terms included in scope.

Step 3 — Manifest comparison

Field	MAM-040 (Party A)	MAM-041 (Party B)
`artifact_hash`	sha256:7a3f2b9c...	sha256:7a3f2b9c... ← **identical**
`registration_ts`	2022-11-14T08:22:00Z	2023-02-03T11:45:00Z
`origin_assertion_lvl`	1 (direct evidence)	2 (corroborated)
`registrant_class`	creator	label
`prev_manifest_hash`	null (first registration)	sha256:3d8e1c4a...

Key finding: Both manifests share an identical `artifact_hash`. This means both parties registered the same artifact. Party A's registration timestamp predates Party B's by approximately 81 days. Party A's registration has `prev_manifest_hash: null` (first in chain); Party B's registration references a prior hash that traces back to Party A's manifest in the chain traversal.

Step 4 — Bounded verification output (no commercial terms disclosed)

```
DISPUTE_FINDING_RECORD [DFR-040]
  dispute_id:             DISP-040
  supported_state:        MAM-040 is the prior and canonical registration;
                          MAM-041 is a subsequent registration of the same
artifact
  evidence_basis:         [MAM-040 registration_ts, MAM-041 registration_ts,
                           identical artifact_hash, chain traversal confirming
                           MAM-041 prev_manifest_hash traces to MAM-040]
  residual_uncertainty:   None as to registration priority; commercial rights
```

```
                          determination is outside the scope of this review
  ep_delta_required:      YES — MAM-041 superseded_by MAM-040; MAM-040 confirmed
                          as official source object
```

Commercial terms (split percentages, royalty rates, label advance positions) were not accessed or disclosed. Tier 1 scope was honored.

Step 5 — Post-access review

```
POST-ACCESS REVIEW [PAR-050]

  access_log_id:          AG-050
  scope_compliance:       YES — only L0 and L1 records accessed
  out_of_scope_access:    NONE
  reviewer_attestation:   SIGNED
  finding:                APPROPRIATE
```

Party B's registration (MAM-041) superseded in the EP. Royalty calculations redirected to MAM-040 as canonical anchor. DISP-040 closed.

Examiner check cross-reference:

Check	Result
AC-03	RESOLVED — duplicate official source object eliminated via EP Delta
BA-01	PASS — Tier 1 access logged in Layer 7
BA-02	PASS — post-access review completed within 10 days
BA-08	PASS — scope honored; commercial terms not accessed

15.6 Unresolved Royalty Break Requiring Hold-Only Containment and Later Corrective EP Delta

Scenario summary: A quarterly royalty calculation for a back-catalog streaming release reveals a significant volume discrepancy: one streaming platform reports 2.1 million plays, while a second aggregator report (covering the same platform) reports 1.6 million plays for the same period. The discrepancy represents USD 9,800 in disputed revenue. The reconciliation officer cannot resolve the discrepancy within the standard calculation cycle. The break transitions to monitored exception status; six weeks later, the platform issues a corrected usage report.

Step 1 — Break detection

During quarterly reconciliation run:

```
BREAK RECORD [BR-P01-060]

  break_type:             Usage volume discrepancy — same platform, different
aggregators
  layer:                  L5
```

```
  severity_band:          High
  affected_artifact_id:   MAM-060 (back-catalog album master)
  event_period:           2024-Q1
  platform:               StreamPlatform-X
  reported_volume_A:      2,100,000 (direct platform report)
  reported_volume_B:      1,600,000 (aggregator report)
  volume_delta:           500,000 plays
  revenue_impact:         USD 9,800 (at applicable streaming rate)
  hold_applied:           YES → HOLD-060 (USD 9,800)
  max_response_timeline:  10 business days
  investigation_owner:    Reconciliation Officer
```

Calculation proceeds on the lower (conservative) volume for undisputed events; USD 9,800 held.

Step 2 — Investigation

Reconciliation Officer investigates within 10-business-day window:

- Platform queried for reconciliation data.
- Platform acknowledges discrepancy; states corrected report pending internal audit.
- No resolution within standard timeline.

Break transitions to monitored exception:

```
MONITORED_EXCEPTION_RECORD [ME-060]
  source_break_id:          BR-P01-060
  exception_class:          ROYALTY
  exception_reason:         Platform internal audit pending; corrected report
                            expected within 6 weeks
  affected_artifact_ids:    [MAM-060]
  affected_revenue_estimate:USD 9,800
  hold_record_ref:          HOLD-060
  review_cadence:           monthly
  assigned_monitor:         Reconciliation Officer
  escalation_trigger:       No corrected report received within 8 weeks;
                            or platform disputes discrepancy
  last_review_timestamp:    2024-04-22T10:00:00Z
  next_review_due:          2024-05-22
  status:                   ACTIVE
```

Step 3 — Corrected report received (week 6)

Platform issues corrected usage report: confirmed volume = 2,100,000 plays. Aggregator report error was caused by a formatting error in the aggregator's data pipeline (350,000 plays double-counted; 850,000 plays missed — net: 500,000 discrepancy confirmed as aggregator error).

Step 4 — Off-cycle corrective calculation

```
CORRECTION_EP_DELTA [EPD-060]
  prior_calc_id:            CALC-060-v1  (used 1,600,000 plays)
  correction_trigger:       Usage volume revision (platform corrected report)
  corrected_volume:         2,100,000 plays
  corrected_revenue:        USD 9,800 additional
ROYALTY_CALCULATION_ARTIFACT [CALC-060-v2]
  calc_period:              2024-Q1
  usage_event_count:        2,100,000  (corrected)
  total_gross_revenue:      USD 42,000 + USD 9,800 = USD 51,800
  net_royalty_pool:         USD 25,900  (after 50% platform share)
  split_allocation:
    - primary rights-holder: 60%  → USD 15,540
    - distributor admin fee: 20%  → USD 5,180
    - label overhead:        20%  → USD 5,180
ADJUSTMENT_LINEAGE_RECORD [ADJ-060]
  original_calc_id:         CALC-060-v1
  corrective_calc_id:       CALC-060-v2
  adjustment_amount:        +USD 4,680  (rights-holder net corrective payment)
  adjustment_basis:         Platform corrected usage report; aggregator error
confirmed
```

Step 5 — Hold release and finality

HOLD-060 released upon dual-party authorization:

```
HOLD RELEASE RECORD [HOLD-060-R]
  hold_id:              HOLD-060
  release_authorization:[Royalty Calc Officer + Access Auth Officer]
  release_date:         2024-06-03
  release_basis:        Platform corrected report received; CALC-060-v2
confirmed;
                        ADJ-060 issued
```

Corrective payment instruction issued: USD 4,680 additional payment to primary rights-holder. Settlement confirmed.

Monitored exception ME-060 closed:

```
ME-060 status: RESOLVED

resolution_path: Evidence obtained post-registration (corrected usage report)

PAYOUT_CYCLE_FINALITY [PCF-060]

  calc_id:              CALC-060-v2

  all_conditions_met:   YES

  open_break_count:     0

  total_disbursed:      USD 25,900

  total_held:           USD 0
```

Examiner check cross-reference:

Check	Result
RP-03	PASS (v2) — usage event quality tiers documented for both versions
RP-09	N/A — discrepancy was volume, not provisional tier event
RP-11	PASS — ADJ-060 adjustment lineage record present
GV-07	PASS — no override issued; hold maintained until resolution
GV-08	N/A — no override

Appendix A — Authenticity, Consent, Rights, and Royalty State Taxonomy Tables (Full)

This appendix provides complete, examiner-ready state taxonomy tables for all five operational state domains defined in Section 3. Tables are designed for use as quick-reference inserts in evidence pack reviews, examination briefings, and dispute classification workflows. Each table includes: state value, operational meaning, minimum evidence to sustain the state, royalty calculation eligibility, and hold-only containment requirement.

A.1 Authenticity State — Full Taxonomy

State Value	Operational Meaning	Minimum Evidence to Sustain	Royalty Calc Eligible?	Hold Triggered?
`VERIFIED`	Content hash matches registered canonical manifest; provenance chain intact and replayable	Manifest registration; chain-of-custody log; SI-01 and SI-06 passed within recertification window; no open EP Delta pending state change	YES — no qualifier	NO
`CORROBORATED`	Multiple independent provenance records consistent with source claim; no hash match available or hash match supplemented by corroborating evidence	Two or more independent provenance records; manifest entry documenting corroboration basis; no contradicting evidence	YES — no qualifier	NO
`ASSERTED`	Single-party claim; no independent corroboration; no contradicting evidence	Single origin assertion record with asserting party and timestamp; manifest entry noting absence of corroboration	YES — with `ASSERTED` qualifier; flagged for recertification	NO
`CONTESTED`	Two or more parties dispute source claim; evidence packs exchanged but not resolved	Active dispute record (D-AUTH); evidence packs from both parties in EP; hold-only containment record	NO — blocked from calculation	YES — all revenue from contested artifact
`UNRESOLVABLE`	Insufficient evidence to establish or refute source claim after investigation	Investigation record documenting evidence sought and not found; monitored exception record	NO — blocked from calculation	YES — all revenue from artifact

State transition triggers:

From	To	Trigger
ASSERTED	CORROBORATED	Second independent provenance record obtained
ASSERTED	CONTESTED	Competing claim filed
CORROBORATED	VERIFIED	Content hash match established against registered manifest
CONTESTED	VERIFIED or CORROBORATED	Dispute resolved; DFR issued; corrective EP Delta
CONTESTED	UNRESOLVABLE	Investigation exhausted; no determinative evidence obtained
VERIFIED	CONTESTED	Hash mismatch detected (BR-A01)
Any	UNRESOLVABLE	All resolution paths exhausted

A.2 Consent State — Full Taxonomy

State Value	Operational Meaning	Minimum Evidence to Sustain	Royalty Calc Eligible?	Hold Triggered?
IN_SCOPE	Use is within all verified scope dimensions of an active, non-revoked consent record	Consent instrument; authority confirmation; all six scope dimensions populated or documented; no lifecycle EP Delta changing state; use event within all dimension boundaries	YES — no qualifier	NO
PARTIALLY_IN_SCOPE	Use is within some scope dimensions but not all	Consent instrument present; at least one scope dimension confirmed as IN_SCOPE; at least one dimension OUT_OF_SCOPE or ASSERTED	Eligible only for in-scope portion; out-of-scope portion held	YES — revenue attributable to out-of-scope dimensions
ASSERTED	Consent claimed but one or more dimensions are underdefined or unverifiable	Consent instrument present; at least one dimension carries ASSERTED sub-state	YES — with ASSERTED qualifier; flagged for recertification	NO — unless dimension is material to use type
EXPIRED	Consent instrument has passed its duration boundary without renewal	Expiry EP Delta; expiry timestamp; no renewal EP Delta with effective date covering usage period	NO — post-expiry events blocked from calculation	YES — post-expiry revenue
REVOKED	Consent actively withdrawn prior to or during use period	Revocation EP Delta; effective date; revocation basis	NO — post-revocation events blocked	YES — post-revocation revenue
SUPERSEDED	Prior instrument replaced by a new instrument	Supersession EP Delta linking old and new instruments; new instrument registered	Determined by new instrument scope	Per new instrument
SUSPENDED	Temporarily inactive	Suspension EP Delta;	NO — suspended	YES —

State Value	Operational Meaning	Minimum Evidence to Sustain	Royalty Calc Eligible?	Hold Triggered?
	pending dispute or investigation	expected resolution timeline	period events blocked	suspended period revenue
DISPUTED	Scope interpretation contested	Active dispute record (D-CONS); evidence packs exchanged	NO — contested events blocked	YES — revenue from disputed events
ABSENT	No consent instrument located for use in question	Investigation record confirming search conducted; no instrument found	NO	YES — all revenue from absent-consent events

Scope dimension sub-states (applied per dimension where overall state is ASSERTED or PARTIALLY_IN_SCOPE):

Sub-State	Meaning	Calculation Treatment
CONFIRMED	Dimension explicitly addressed in instrument and verified	Contributes to IN_SCOPE determination
ASSERTED	Dimension absent from instrument; assumption documented	Contributes to ASSERTED overall state; flagged for recertification
OUT_OF_SCOPE	Dimension explicitly prohibits the use or is outside defined boundary	Triggers PARTIALLY_IN_SCOPE or ABSENT determination
AMBIGUOUS	Dimension present but language insufficient to determine boundary	Treated as ASSERTED; dispute risk flagged

A.3 Authority and Signatory State — Full Taxonomy

State Value	Operational Meaning	Minimum Evidence to Sustain	Consequence if Absent
CONFIRMED	Signatory held the requisite rights and delegated scope at date of execution; co-authorization requirements met	Authority instrument; role confirmation at date of execution; co-holder records if applicable	Consent instrument may be void beyond confirmed scope
ASSERTED	Authority claimed but instrument not fully verified	Single authority assertion; instrument reference without verification	Consent state downgraded to ASSERTED
EXPIRED_DELEGATION	Signatory acted under a delegation that had lapsed	Delegation record with expiry date; action date after expiry	Consent instrument void for period after delegation expiry
SCOPE_EXCEEDED	Signatory granted more than their delegation permitted	Delegation scope vs. instrument scope comparison; excess identified	Excess scope void; in-scope portion may remain valid
CO_AUTH_ABSENT	Joint rights-holder co-signature required but not obtained	Co-holder identification; consent instrument without second signature	Consent instrument operationally void until co-signature obtained
SUCCESSOR_GAP	Rights passed to successor but gap period exists between	Predecessor exit event; successor confirmation	Uses during gap period assigned ABSENT consent

State Value	Operational Meaning	Minimum Evidence to Sustain	Consequence if Absent
	predecessor and successor confirmation	date; gap period identified	state

A.4 Rights-Chain State — Full Taxonomy

State Value	Operational Meaning	Royalty Calc Eligible?	Hold Triggered?
`ACTIVE`	License current, within scope, not suspended	YES	NO
`EXPIRED`	Duration elapsed; no renewal	NO	YES
`SUSPENDED`	Temporarily inactive	NO	YES
`TERMINATED`	Ended by notice, breach, or trigger	NO	YES
`SUBLICENSED`	Further licensed to downstream party within scope	Per sublicense state	Per sublicense
`OUT_OF_SCOPE`	License purports to grant rights beyond licensor's verified scope	NO for excess scope	YES for excess scope revenue
`CONTESTED`	License terms or validity disputed	NO — blocked	YES
`REVERTED`	Rights returned to prior holder	Per reversion instrument	Review required
`ASSERTED`	License claimed but instrument not fully registered	YES — with qualifier	NO — unless material dimension is unconfirmed

Restriction propagation state (per restriction type):

Restriction Type	Active	Expired	Waived
Territory restriction	Enforced — revenue from restricted territory held	No longer applicable if restriction has expired term	Documented waiver EP Delta required
Channel restriction	Enforced — out-of-channel revenue held	No longer applicable if restriction expired	Documented waiver EP Delta required
Derivative restriction	Enforced — unauthorized derivatives flagged	No longer applicable if restriction expired	Not waivable without primary rights instrument amendment
Sublicensing restriction	Enforced — sublicenses void	No longer applicable if restriction expired	Documented waiver EP Delta required

A.5 Derivation and Version State — Full Taxonomy

Object Class	Version State	Royalty Anchor Role	Authorization Requirement
Official source object	`CURRENT`	Primary calculation anchor	Confirmed at registration
Official source	`SUPERSEDED`	Historical reference only	Not applicable to new uses

Object Class	Version State	Royalty Anchor Role	Authorization Requirement
object			
Official derivative	`CURRENT`	May carry independent royalty obligations	Class A or B transformation authorization
Official derivative	`SUPERSEDED`	Historical reference only	Not applicable to new uses
Internal draft	`DRAFT`	No royalty basis	Internal authorization only
Distribution object	`CURRENT`	Flows through parent anchor	Distribution authorization
Distribution object	`SUPERSEDED`	Historical reference only	Not applicable
Synthetic clone	`CURRENT`	Governed by synthesis license	Explicit synthesis authorization required
Unauthorized version	`UNAUTHORIZED`	Excluded from all calculations	No valid authorization
Contaminated object	`CONTAMINATED`	Excluded pending investigation	Contamination must be resolved or quarantined

Transformation authorization state — full taxonomy:

Auth State	Meaning	Calculation Treatment
`CONFIRMED`	Authorization instrument registered and verified; scope matches transformation type	Output eligible for calculation without qualifier
`ASSERTED`	Authorization claimed; instrument reference present but not verified	Output eligible with `ASSERTED` qualifier; recertification required
`ABSENT`	No authorization record for transformation	Output excluded from calculation; contamination check triggered for Class A
`CONTESTED`	Authorization disputed after transformation	Output excluded pending dispute resolution
`RETROACTIVELY_AUTHORIZED`	Authorization obtained after transformation; instrument effective date confirmed as predating use events	Eligible from instrument effective date; pre-effective-date events remain `ABSENT`

A.6 Usage Event State — Full Taxonomy

Evidence Quality Tier	Criteria	Calculation Treatment	Hold Applied?
Tier 1 — Fully evidenced	All requirements met; scope check `IN_SCOPE`; volume metric confirmed from primary source	Included without qualifier	NO
Tier 2 — Provisionally evidenced	All requirements met except one or two carry `ASSERTED` sub-state; scope check `IN_SCOPE`	Included with `PROVISIONAL` qualifier; reconciliation deadline 90	NO — but flagged

Evidence Quality Tier	Criteria	Calculation Treatment	Hold Applied?
	or ASSERTED	days	
Tier 3 — Partially evidenced	Two or more requirements carry ASSERTED sub-state or one absent; scope check ASSERTED	Held pending supplementary evidence; included only under documented exception	YES — provisional hold
Tier 4 — Insufficient	Two or more requirements absent; or scope check OUT_OF_SCOPE; or consent EXPIRED/ABSENT	Excluded from calculation	YES — full hold
UNMATCHED	Artifact not identified	Excluded; break record created	YES
UNCLASSIFIED	Royalty event type not determinable	Excluded pending classification	YES

A.7 Royalty Calculation State — Full Taxonomy

State Value	Operational Meaning	Payout Eligible?	Correction Required?
CALCULATED	Calculation artifact exists; payment instructions not yet issued	Pending	NO — unless break found
PROVISIONAL	Calculation includes Tier 2 provisional events; full finality not achieved	Partial — non-provisional amounts eligible	YES — within 90 days for provisional events
INSTRUCTED	Payment instructions issued and linked to calculation	Pending confirmation	NO — unless variance
CONFIRMED	Settlement confirmations received; payout chain complete	YES	NO — unless retroactive revision
DISPUTED	One or more aspects of calculation contested	NO — held	YES — post-dispute
CORRECTED	Off-cycle correction issued; adjustment lineage record created	YES — corrective amounts	Not applicable after correction
FINALIZED	Payout Cycle Finality Record issued; all conditions met	YES — cycle closed	Only via off-cycle correction
OPEN_BREAK	One or more breaks in Section 9.6 affecting calculation unresolved	Partial — undisputed amounts eligible	YES — break resolution

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A.8 Settlement and Payout State — Full Taxonomy

State Value	Operational Meaning	Revenue Released?	Action Required
CALCULATED	Net entitlement determined; instruction not yet issued	NO	Issue payment instruction

State Value	Operational Meaning	Revenue Released?	Action Required
INSTRUCTED	Payment instruction issued; confirmation pending	NO	Await settlement confirmation
CONFIRMED	Payment received by payee; chain complete	YES	Close payout chain
VARIANCE_OPEN	Confirmed amount differs from instructed amount	Partial	Investigate variance; corrective instruction
DISPUTED	Payee contests amount, recipient, or calculation	NO	Hold; dispute resolution
CORRECTED	Corrective payment issued following dispute or calculation error	YES — corrective amount	Close adjustment lineage record
UNMATCHED	Confirmation received but not traceable to instruction or calculation	NO	Hold; investigate
HELD	Revenue accrued but not disbursed per hold-only containment	NO	Resolve trigger condition
FORFEITED_TO_DISPUTE	Revenue formally assigned to dispute resolution outcome	Conditional	Per dispute resolution

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A.9 Dispute and Exception State — Full Taxonomy

State Value	Operational Meaning	Hold Status	Next Action
FILED	Dispute record created; investigation not yet initiated	Applied	Assign investigation owner; open evidence pack exchange
UNDER_INVESTIGATION	Evidence review in progress	Applied	Continue investigation; produce lineage replay or consent replay as applicable
ESCALATED	Investigation exceeded standard timeline; senior governance review required	Applied	Senior review; consider Tier 2 access; set new target resolution date
RESOLVED	Dispute Finding Record issued; EP Deltas applied	Released (for resolved amounts)	Close dispute record; corrective calculation if required
MONITORED_EXCEPTION	Cannot be resolved within standard timeline; formally registered as ongoing uncertainty	Applied	Periodic review per cadence; pursue resolution path
PERMANENTLY_RETAINED	Evidence cannot be obtained; no agreement reached; exception retained as permanent record	Applied (subject to unclaimed property rules)	Annual review; legal or regulatory disposition of held amounts
WITHDRAWN	Filing party withdraws	Released	Confirm no residual

State Value	Operational Meaning	Hold Status	Next Action
	dispute before resolution		obligation; close record

A.10 State Interaction Matrix

The following matrix summarizes which state combinations trigger automatic hold-only containment. A cell marked **H** means hold is automatically applied when both states are present for the same artifact and usage event. A cell marked **Q** means the event is still calculation-eligible but carries a qualifier.

	Auth `VERIFIED`	Auth `CORROBORATED`	Auth `ASSERTED`	Auth `CONTESTED`	Auth `UNRESOLVABLE`
Consent `IN_SCOPE`	—	—	Q (auth)	H	H
Consent `ASSERTED`	Q (consent)	Q (both)	Q (both)	H	H
Consent `EXPIRED`	H	H	H	H	H
Consent `REVOKED`	H	H	H	H	H
Consent `ABSENT`	H	H	H	H	H
Consent `DISPUTED`	H	H	H	H	H

Reading the matrix: An artifact with `Auth: VERIFIED` and `Consent: IN_SCOPE` (top-left) has no automatic hold and is fully calculation-eligible. An artifact with `Auth: ASSERTED` and `Consent: ASSERTED` (row 2, col 3) carries a qualifier but is not automatically held — it proceeds with `PROVISIONAL` designation and a recertification obligation. Any `CONTESTED` or `UNRESOLVABLE` authenticity state triggers hold regardless of consent state. Any `EXPIRED`, `REVOKED`, `ABSENT`, or `DISPUTED` consent state triggers hold regardless of authenticity state.

A.11 State Domain Summary — One-Page Reference

State Domain	Blocking States (no calc)	Qualifying States (calc with flag)	Clean States (no restriction)
Authenticity	`CONTESTED`, `UNRESOLVABLE`	`ASSERTED`	`VERIFIED`, `CORROBORATED`
Consent	`EXPIRED`, `REVOKED`, `ABSENT`, `DISPUTED`, `SUSPENDED`	`ASSERTED`, `PARTIALLY_IN_SCOPE`	`IN_SCOPE`
Authority	`EXPIRED_DELEGATION`, `CO_AUTH_ABSENT`, `SCOPE_EXCEEDED`	`ASSERTED`	`CONFIRMED`
Rights-chain	`EXPIRED`, `TERMINATED`, `OUT_OF_SCOPE`, `CONTESTED`	`ASSERTED`, `SUBLICENSED` (review)	`ACTIVE`
Usage event	Tier 4, `UNMATCHED`,	Tier 2 (`PROVISIONAL`),	Tier 1

State Domain	Blocking States (no calc)	Qualifying States (calc with flag)	Clean States (no restriction)
	UNCLASSIFIED	Tier 3 (exception)	
Royalty calc	DISPUTED	PROVISIONAL, OPEN_BREAK	FINALIZED, CONFIRMED
Payout	DISPUTED, HELD, UNMATCHED	VARIANCE_OPEN	CONFIRMED, CORRECTED
Dispute	FILED, UNDER_INVESTIGATION, ESCALATED, MONITORED_EXCEPTION	N/A	RESOLVED, WITHDRAWN

Appendix B — Evidence Set Mapping Templates for Source, Consent, Lineage, Usage, and Payout States

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Purpose: This appendix provides paste-ready evidence set mapping templates for each primary state domain. Each template defines the minimum evidence records that must be present and verifiable for the stated domain to support institutional review, royalty calculation, or dispute reconstruction. Templates are designed to be used as checklists during evidence pack assembly (Section 9.8), reconciliation runs (Section 9.5), and examiner evidence production (Section 14).

How to use: For each artifact under review, select the applicable template(s) by state domain. Complete the mapping by recording the record ID, content-addressed hash, current state value, and any gaps. A gap in a mandatory field is a break requiring classification per Appendix C.

B.1 Source Object and Authenticity Evidence Set Template

Applicable to: All media artifacts designated as official source objects or claimed canonical versions. **Trigger:** Registration; quarterly recertification; dispute initiation; offboarding.

B.1.1 Mandatory Evidence Records

#	Record Type	Record ID	Content Hash	State Value	Gap Flag
1	Canonical source object manifest (Layer 0)				
2	Origin assertion record (Level 1–5 per Section 4.2)				
3	Creation environment log or synthesis provenance record				
4	Registration timestamp (tamper-evidenced)				
5	Chain-of-custody record — creation to current custodian				
6	SI-01 boundary test result (hash match)			PASS / FAIL	
7	SI-06 boundary test result (manifest chain continuity)			PASS / FAIL	
8	Authenticity state EP Delta chain (all state changes)				
9	Official-release designation record				
10	Supersession chain records (if superseded or superseding)				

B.1.2 Conditional Evidence Records

#	Condition	Record Type	Record ID	Gap Flag
C1	Artifact is a synthetic or AI-generated output	Synthesis provenance record with generation parameter hash		
C2	Artifact is a derivative	Parent manifest ID; transformation event log reference		

#	Condition	Record Type	Record ID	Gap Flag
C3	Authenticity state is `CONTESTED`	Active dispute record (D-AUTH); evidence packs from both parties		
C4	Artifact is a distribution object	Parent source or derivative manifest linkage		
C5	Artifact predates the evidence infrastructure	Level-5 origin assertion; archival reconstruction method documentation		
C6	Artifact involves a human performance	Performer reference record; session date and environment log		

B.1.3 Authenticity Evidence Gap Summary

Gap Category	Gap Count	Severity Band	Action Required
Mandatory records absent			Assign break per Appendix C
SI boundary tests failed			Assign BR-A01 or BR-A06 per result
Chain-of-custody gaps			Open CoC investigation
Conditional records absent where triggered			Assign break per applicable trigger
State value unsupported by replay evidence			Downgrade state per Section 4.5

B.2 Consent and Authority Evidence Set Template

Applicable to: All usage events, derivation events, and distribution events requiring authorized-use confirmation. **Trigger:** Usage event intake; royalty calculation cycle; consent lifecycle event; dispute initiation.

B.2.1 Mandatory Evidence Records

#	Record Type	Record ID	Content Hash	State Value	Gap Flag
1	Consent instrument (original, content-addressed)				
2	Authority confirmation record (signatory role and basis)				
3	Scope dimension record — all six dimensions populated				
4	Consent state registration EP entry				
5	Consent-state diff chain (all lifecycle EP Deltas)				
6	Consent state replay output for target usage event timestamp				
7	Use-event linkage record (consent anchor → usage event)				
8	Revocation record (if applicable)				

#	Record Type	Record ID	Content Hash	State Value	Gap Flag
9	Renewal record (if applicable)				
10	Expiry EP Delta (if instrument has elapsed)				

B.2.2 Scope Dimension Completion Checklist

Scope Dimension	Documented?	State	Instrument Reference	Gap Flag
Territory	YES / NO / PARTIAL	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`		
Medium / channel	YES / NO / PARTIAL	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`		
Duration (start + end)	YES / NO / PARTIAL	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`		
Purpose	YES / NO / PARTIAL	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`		
Derivative authorization	YES / NO / PARTIAL	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`		
Synthetic-use authorization	YES / NO / PARTIAL	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`		

B.2.3 Authority Verification Checklist

Authority Check	Result	Record Reference	Gap Flag
Signatory role identified	YES / NO		
Authority instrument retrieved and registered	YES / NO		
Authority confirmed as current at date of execution	YES / NO		
Delegation scope confirmed (if acting under delegation)	YES / NO / N/A		
Delegation non-expired at date of execution	YES / NO / N/A		
Co-authorization requirements confirmed	YES / NO / N/A		
Successor authority confirmed (if rights passed)	YES / NO / N/A		

B.2.4 Consent Evidence Gap Summary

Gap Category	Gap Count	Severity Band	Action Required
Consent instrument absent		Critical	BR-C01; hold-only containment
Authority confirmation absent		Moderate	BR-C05; assign `ASSERTED` authority state
Scope dimension underdefined		Moderate	BR-C04; assign `ASSERTED` sub-state per dimension
Lifecycle EP Delta missing		High	BR-C03; reconstruct diff chain
Consent expired without		High	BR-C02; hold post-expiry revenue

Gap Category	Gap Count	Severity Band	Action Required
renewal			
Revocation not reflected in calculation		Critical	BR-C01; corrective hold and calculation
Synthetic-use dimension absent		High	BR-C04 + CA-08; hold synthetic revenue

B.3 Derivation and Lineage Evidence Set Template

Applicable to: All derivative, composite, and transformed media artifacts. **Trigger:** Derivative registration; lineage dispute initiation; royalty calculation for derivative; offboarding.

B.3.1 Mandatory Evidence Records

#	Record Type	Record ID	Content Hash	Authorization State	Gap Flag
1	Source object manifest (Layer 0, for each contributing source)				
2	Transformation event log entry (one per discrete transformation)				
3	Transformation authorization instrument or consent reference				
4	Output artifact manifest (derivative registration)				
5	Parent manifest linkage (`parent_manifest_id` populated)				
6	Operator class record (`human` / `AI system` / `hybrid`)				
7	Materiality class determination (A / B / C per Section 6.4)				
8	Lineage replay report (Section 6.7 format)				
9	Version class assignment record				
10	Contamination check result			CLEAN / CONTAMINATED	

B.3.2 Per-Transformation-Type Evidence Requirements

Transformation Type	Additional Required Records
Remix	Sample clearance per contributing source; stem separation authorization if applicable
Sample	Sampled segment timestamp range; master and composition clearance documents
Human dub	New performer consent instrument; dubbing authorization
Synthetic dub	Synthesis provenance record; source voice authorization if voice is replicated

Transformation Type	Additional Required Records
Stem separation	Stem use authorization per contributor; output stem manifest per separated track
Synthetic clone	Synthesis provenance record; training data authorization reference; explicit synthesis authorization
Composite	Source manifest linkage per element; authorization record per contributing source
AI-assisted modification	Synthesis provenance record; degree-of-modification assessment; derivative authorization if substantial
Format / encoding adaptation	Parent manifest linkage; notation that content is unchanged; encoding parameter record

B.3.3 Lineage Chain Integrity Checklist

Integrity Check	Result	Gap Flag
All transformation events have `source_manifest_id`	YES / NO	
All transformation events have `output_manifest_id`	YES / NO	
Transformation event hash chain is unbroken	YES / NO	
All Class A transformations have `authorization_state: CONFIRMED` or `ASSERTED`	YES / NO	
No `authorization_state: ABSENT` for Class A transformations	YES / NO	
Operator class recorded for all events	YES / NO	
Contamination check completed	YES / NO	
Version class assigned to all registered objects	YES / NO	
Supersession chain complete (no orphaned prior versions)	YES / NO	
Composite objects have all contributing sources linked	YES / NO	

B.3.4 Lineage Evidence Gap Summary

Gap Category	Severity	Break Code	Action
Missing transformation event	Critical	BR-L01	Hold revenue; open lineage investigation
ABSENT authorization — Class A	Critical	BR-L02	Hold; contamination check
Unlinked parent manifest	High	BR-L03	Open provenance investigation
Version integrity violation	High	BR-L04	Resolve duplicate official designation
Contamination confirmed	Critical	BR-L05	Full hold-only containment; escalate
Operator class null	Moderate	—	Flag; request classification

Gap Category	Severity	Break Code	Action
Composite source not fully linked	High	BR-L03	Hold; request source manifest linkage

B.4 Rights-Chain Evidence Set Template

Applicable to: All monetization events and licensing transactions. **Trigger:** Monetization event intake; license registration; rights-chain lifecycle event; scope check failure; dispute initiation.

B.4.1 Mandatory Evidence Records

#	Record Type	Record ID	Content Hash	State Value	Gap Flag
1	Primary rights instrument (originating entitlement)				
2	Rights-chain EP entry for source object				
3	License tier record (governing the specific use type)				
4	Restriction registry entry for source object				
5	Monetization event rights-state linkage record				
6	Scope check result record (per Section 7.6)				
7	Sublicense scope ceiling check (if sublicense applies)				
8	Rights-chain EP Delta chain (all lifecycle events)				
9	Territory restriction propagation record				
10	Out-of-scope flag record (if applicable)				

B.4.2 Rights-Chain Lifecycle Event Checklist

Event Type	Recorded?	EP Delta ID	Effective Date	Gap Flag
Initial rights instrument registration	YES / NO			
License grant(s)	YES / NO per license			
Sublicense grant(s)	YES / NO per sublicense			
Assignment or transfer	YES / NO			
Reversion	YES / NO / N/A			
Succession	YES / NO / N/A			
Termination	YES / NO / N/A			
Restriction registry update	YES / NO			

B.4.3 Scope Check Evidence per Monetization Event

Scope Dimension	Check Result	Restriction Registry Queried?	Revenue Treatment
Territory	IN_SCOPE / OUT_OF_SCOPE / ASSERTED	YES / NO	Eligible / Held / Qualified

Scope Dimension	Check Result	Restriction Registry Queried?	Revenue Treatment
Channel / medium	IN_SCOPE / OUT_OF_SCOPE / ASSERTED	YES / NO	Eligible / Held / Qualified
Duration	IN_SCOPE / OUT_OF_SCOPE	YES / NO	Eligible / Held
Purpose	IN_SCOPE / OUT_OF_SCOPE / ASSERTED	YES / NO	Eligible / Held / Qualified
Derivative restriction	IN_SCOPE / OUT_OF_SCOPE / N/A	YES / NO	Eligible / Held
AI training data restriction	IN_SCOPE / OUT_OF_SCOPE / N/A	YES / NO	Eligible / Held
Sublicensing restriction	IN_SCOPE / OUT_OF_SCOPE / N/A	YES / NO	Eligible / Held

B.4.4 Rights-Chain Evidence Gap Summary

Gap Category	Severity	Break Code	Action
No rights-state linkage for monetization event	High	BR-R04	Hold event from calculation
License `EXPIRED` for active monetization	Critical	BR-R03	Hold; halt distribution pending re-licensing
Sublicense scope exceeds licensor scope	High	BR-R01	Hold sublicensed revenue; notify parties
Restriction registry not queried	Moderate	BR-R02	Re-run scope check; hold if out-of-scope found
AI training data use without authorization	High	BR-R04 + RC-06	Hold training revenue; escalate
Rights-chain EP Delta chain gap	High	BR-A02 analog	Preserve FSS; investigate
Reversion or succession not recorded within timeline	Moderate	Governance check	Review gap-period actions

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B.5 Usage Event Evidence Set Template

Applicable to: All usage events submitted for royalty calculation inclusion. **Trigger:** Usage event intake; calculation cycle preparation; provisional event review; dispute initiation.

B.5.1 Mandatory Evidence Records per Usage Event

#	Record Type	Record ID / Field	Value	Quality Tier	Gap Flag
1	Artifact identifier (manifest ID or registered identifier)				
2	Use type (royalty event type per Section 8.1)				
3	Usage event timestamp				
4	Territory of use				
5	Channel / platform identifier				

#	Record Type	Record ID / Field	Value	Quality Tier	Gap Flag
6	Volume or duration metric				
7	Reporting source identity				
8	Rights-state linkage record reference				
9	Consent state at event time (replay result)				
10	Evidence quality tier assignment (1–4)		Tier:		

B.5.2 Evidence Quality Tier Assignment Worksheet

Requirement	Met?	Sub-State if Not Met	Tier Impact
Artifact identified to manifest	YES / NO	`UNMATCHED`	Tier 4 if NO
Use type classified	YES / NO	`UNCLASSIFIED`	Tier 4 if NO
Timestamp confirmed	YES / NO	`ASSERTED`	Tier 2 if ASSERTED
Territory confirmed	YES / NO	`ASSERTED`	Tier 2 if ASSERTED
Volume metric from primary source	YES / NO	`ASSERTED`	Tier 2 if ASSERTED; Tier 3 if absent
Rights scope check = `IN_SCOPE`	YES / OUT_OF_SCOPE / ASSERTED	See Appendix A.4	Tier 4 if OUT_OF_SCOPE
Consent state = `IN_SCOPE`	YES / EXPIRED / ABSENT	See Appendix A.2	Tier 4 if EXPIRED or ABSENT
Reporting source identified	YES / NO	`ASSERTED`	Tier 2 if ASSERTED

Tier determination rule:

- Any Tier 4 condition → Event is **Tier 4** regardless of other fields.
- Two or more `ASSERTED` sub-states with no absent fields → **Tier 3**.
- One or two `ASSERTED` sub-states, all fields present → **Tier 2**.
- All fields confirmed `IN_SCOPE` or confirmed → **Tier 1**.

B.5.3 Batch-Level Usage Evidence Summary

Metric	Value
Total events in batch	
Tier 1 events	
Tier 2 events (provisional)	
Tier 3 events (held)	
Tier 4 events (excluded)	
UNMATCHED events	
UNCLASSIFIED events	
Total revenue — Tier 1 eligible	
Total revenue — Tier 2 provisional	
Total revenue — held or excluded	
Breaks created (count, by break code)	

B.6 Royalty Calculation Evidence Set Template

Applicable to: Each royalty calculation cycle. **Trigger:** Calculation run initiation; payout cycle review; dispute against calculation; off-cycle correction.

B.6.1 Mandatory Evidence Records

#	Record Type	Record ID	Content Hash	Status	Gap Flag
1	Calculation artifact (Section 8.3 schema)				
2	Usage event evidence — all Tier 1 and Tier 2 events				
3	Participation-chain deduction records				
4	Split allocation record (Section 8.4 schema)				
5	Rate basis instruments for each royalty event type				
6	Rights-chain EP entries confirmed at calculation time				
7	Consent state records confirmed at calculation time				
8	Recoupment state records for unrecouped contributors				
9	Open break inventory at calculation run				
10	Provisional event list (Tier 2 events with 90-day flag)				
11	Calculation artifact hash (replay integrity)				

B.6.2 Split Allocation Completeness Checklist

Contributor Role	Contributor Reference	Share %	Allocated Amount	Instrument Reference	Recoupment State	Gap Flag
Composition author					N/A	
Sound recording performer						
Sound recording producer						
Synthesis licensor (if applicable)					N/A	
Label / publisher overhead					N/A	
Additional contributor (specify)						
Total allocated		**100%**				
Residual						Assign if > 0

B.6.3 Calculation Replay Verification

Verification Step	Result	Notes
Calculation artifact hash matches registered hash	PASS / FAIL	
Replay of calculation from referenced inputs produces identical outputs	PASS / FAIL	
All rate basis instruments are registered in rights-chain EP	YES / NO	
All Tier 2 provisional events have 90-day deadline recorded	YES / NO	
All Tier 3 and Tier 4 events are excluded from net pool	YES / NO	
Participation deductions sum correctly against gross revenue	YES / NO	
Split allocation sums to net royalty pool (residual = 0)	YES / NO	
Recoupment deductions are applied only to unrecouped contributors	YES / NO	

B.7 Payout Chain Evidence Set Template

Applicable to: Each payout instruction and settlement confirmation cycle. **Trigger:** Payment instruction issuance; settlement confirmation receipt; variance flag; payout dispute; finality record creation.

B.7.1 Mandatory Evidence Records

#	Record Type	Record ID	Content Hash	Status	Gap Flag
1	Split allocation record (linked from calculation)				
2	Payment instruction (one per payee)				
3	Settlement confirmation (one per instruction)				
4	Payout linkage record (`chain_complete: YES`)				
5	Payout Cycle Finality Record				
6	Hold records (for any held amounts)				
7	Variance investigation records (if variance flag raised)				
8	Corrective payment instruction (if off-cycle correction)				
9	Adjustment lineage record (if corrective calculation)				
10	Corrective Payout Cycle Finality Record (if correction)				

B.7.2 Payout Chain Completeness Checklist per Payee

Payee Reference	Instructed Amount	Instruction ID	Confirmation ID	Confirmed Amount	Variance	Chain Complete	Gap Flag
						YES / NO	
						YES / NO	
						YES / NO	
						YES / NO	
Totals							

B.7.3 Finality Condition Checklist

Finality Condition	Met?	Notes
Calculation artifact complete and hash-verified	YES / NO	
Split allocation complete (zero residual)	YES / NO	
All payment instructions issued	YES / NO	
All settlement confirmations received	YES / NO	
All payout linkage records show `chain_complete: YES`	YES / NO	
All variance flags resolved	YES / NO	
All open breaks documented in break register	YES / NO	
All active holds current with expected resolution dates	YES / NO	
Payout Cycle Finality Record created and dual-authorized	YES / NO	

B.8 Cross-Domain Evidence Set Summary Template

Applicable to: Full evidence pack assembly for an artifact or artifact set across all state domains.
Trigger: Institutional examination; dispute reconstruction (Tier 2); offboarding; legal-hold production.

B.8.1 Per-Artifact Cross-Domain Status

Artifact Manifest ID	Authenticity State	Consent State	Lineage Completeness	Rights-Chain State	Calc State	Payout State	Open Breaks
			COMPLETE / PARTIAL / UNRESOLVABLE				Count

B.8.2 Evidence Pack Completeness Summary

Domain	Mandatory Records Present	Conditional Records Present	Open Gaps	Severity Band of Worst Gap
B.1 — Authenticity	/ total	/ total		
B.2 — Consent and authority	/ total	/ total		
B.3 — Lineage	/ total	/ total		
B.4 — Rights-chain	/ total	/ total		
B.5 — Usage events	/ total	/ total		
B.6 — Calculation	/ total	/ total		
B.7 — Payout chain	/ total	/ total		

B.8.3 Evidence Pack Readiness Determination

Readiness Level	Criteria
Examination-ready	All mandatory records present across all domains; no Critical-severity gaps; all High-severity gaps documented with active investigations
Conditionally ready	All mandatory records present; one or more High-severity gaps with

Readiness Level	Criteria
	documented investigation and expected resolution; no Critical gaps
Not ready — remediation required	One or more Critical-severity gaps; or two or more High-severity gaps without active investigation; or any `chain_complete: NO` in payout layer without investigation

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Appendix C — Reconciliation Break Taxonomy for Authenticity / Consent / Lineage / Royalty Workflows

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C.0 Purpose and Scope

This appendix defines a structured taxonomy of reconciliation breaks that may arise across authenticity, consent, lineage, and royalty workflows in voice, image, film, music, and synthetic-media environments. It is designed for use by institutional reviewers, rights-holders, auditors, examiners, and operational teams conducting reconciliation, escalation, and corrective-action workflows.

A **reconciliation break** is defined as any detected discrepancy, gap, conflict, or unresolvable mismatch between an asserted state and its corresponding evidence record, between two evidence records that should be consistent, or between a calculated output and its authorizing inputs. Breaks

are not presumptive findings of fraud, infringement, or liability. They are operational signals requiring structured investigation, classification, and disposition.

This taxonomy is grounded in the evidence-pack, EP Delta, chain-of-custody, and tiered-access disciplines established in the baseline frameworks. It is implementation-agnostic and portable across media workflow types.

C.1 Break Classification Framework

C.1.1 Master Break Dimensions

Every detected break is classified along four dimensions before disposition:

Dimension	Description	Values
Domain	Which workflow pillar the break belongs to	Authenticity / Consent / Lineage / Rights-Chain / Royalty-Settlement
Severity Band	Operational urgency and escalation tier	Critical / High / Medium / Low / Informational
Resolution Class	How the break can be closed	Auto-Resolvable / Requires-Investigation / Hold-Required / Unresolvable-Open
Evidence Status	Whether supporting evidence exists	Evidenced / Partially-Evidenced / Unevidenced / Conflicting

C.1.2 Severity Band Definitions

Band	Label	Operational Meaning
S-1	Critical	Break directly impairs authenticity, consent, or royalty state integrity; hold-only containment required; escalation mandatory within defined SLO
S-2	High	Break materially affects a downstream decision, calculation, or rights-state; investigation required before further processing
S-3	Medium	Break is material but does not block immediate operations; investigation required within standard cadence
S-4	Low	Break is a minor discrepancy or annotation gap; addressable at next scheduled reconciliation cycle
S-5	Informational	Break is a warning or pre-break signal; logged for monitoring; no immediate action required

C.1.3 Resolution Class Definitions

Class	Label	Trigger
RC-A	Auto-Resolvable	Break resolves by retrieving a missing record from an authoritative source without human intervention; result is logged as EP Delta
RC-B	Requires-Investigation	Break cannot be resolved without human review, additional evidence collection, or stakeholder consultation
RC-C	Hold-Required	Break affects a royalty payment, distribution approval, or rights-state decision currently in flight; hold-only containment is applied pending resolution
RC-D	Unresolvable-Open	Break cannot be resolved with available evidence; it is preserved as a monitored open exception with defined review cadence

C.2 Domain-Level Break Taxonomy

C.2.1 Domain 1 — Authenticity Breaks

Authenticity breaks arise when the asserted source, origin, or official-version state of a media artifact cannot be confirmed, is contradicted, or is missing from the evidence record.

C.2.1.1 Break Catalog — Authenticity

Break ID	Break Name	Description	Severity	Resolution Class
AUTH-001	Missing Origin Assertion	No origin assertion is present in the evidence pack for a media object that requires one	S-2	RC-B
AUTH-002	Unverifiable Origin Claim	Origin assertion is present but cannot be linked to a verifiable source object or canonical anchor	S-2	RC-B
AUTH-003	Conflicting Origin Claims	Two or more origin assertions exist for the same artifact with different source hierarchies	S-1	RC-C
AUTH-004	Content-Address Mismatch	Hash of a distributed or stored media object does not match the hash recorded in the canonical manifest	S-1	RC-C
AUTH-005	Manifest Gap	A content-addressed manifest references an artifact that cannot be retrieved or has no corresponding evidence record	S-2	RC-B
AUTH-006	Official-Version Conflict	An artifact is simultaneously asserted as an official release in one evidence record and as a draft or derivative in another	S-1	RC-C
AUTH-007	Supersession Chain Break	A supersession record references a prior version that has no evidence record or whose hash does not match the supersession entry	S-2	RC-B
AUTH-008	Timestamp Integrity Failure	A creation or release timestamp in the evidence pack is internally inconsistent (e.g., release precedes creation, or timestamp is outside plausible range)	S-2	RC-B
AUTH-009	Signature Verification Failure	A cryptographic signature on an authenticity assertion fails verification against the recorded public key or key reference	S-1	RC-C
AUTH-010	Source-Hierarchy Loop	A provenance lineage record creates a circular reference (artifact A is derived from B, B is derived from A)	S-2	RC-B
AUTH-011	Canonical Anchor Absent	No canonical source object or official-release anchor exists for a media artifact that is being distributed commercially	S-2	RC-B
AUTH-012	Stale Authenticity	The most recent authenticity assertion for	S-3	RC-B

Break ID	Break Name	Description	Severity	Resolution Class
	Evidence	an artifact has exceeded its defined TTL without recertification		
AUTH-013	Unrecognized Originating Party	The asserted originating party for an artifact has no corresponding authority record in the evidence set	S-3	RC-B
AUTH-014	Synthetic-Origin Flag Missing	An artifact that meets operational thresholds for AI-generated or AI-modified content has no synthetic-origin annotation in its evidence record	S-3	RC-B
AUTH-015	Pre-Break Signal: Authenticity Drift	A series of S-4 authenticity discrepancies in a short window suggests potential accumulating evidence-gap risk	S-5	RC-A

C.2.1.2 Authenticity Break Escalation Matrix

Break ID	Auto-Hold Trigger	Examiner Notification	EP Delta Required on Resolution
AUTH-001	No	Yes (S-2 threshold)	Yes
AUTH-002	No	Yes	Yes
AUTH-003	Yes	Yes — immediate	Yes + override rationale
AUTH-004	Yes	Yes — immediate	Yes + integrity report
AUTH-005	No	Yes	Yes
AUTH-006	Yes	Yes — immediate	Yes + version-state correction
AUTH-007	No	Yes	Yes
AUTH-008	No	Yes	Yes
AUTH-009	Yes	Yes — immediate	Yes + re-attestation
AUTH-010	No	Yes	Yes + corrected lineage
AUTH-011	No	Yes	Yes
AUTH-012	No	Monitoring alert	Yes on recertification
AUTH-013	No	Yes	Yes
AUTH-014	No	Yes	Yes
AUTH-015	No	No	No — logged only

C.2.2 Domain 2 — Consent and Authorized-Use Breaks

Consent breaks arise when a media artifact is in use, distribution, or monetization without a verifiable, in-scope, and unexpired consent record that covers the actual scope of use.

C.2.2.1 Break Catalog — Consent and Authorized Use

Break ID	Break Name	Description	Severity	Resolution Class
CON-001	Missing Consent Record	No consent evidence record exists for a use that requires documented consent (e.g., voice clone, likeness use, synthetic performance)	S-1	RC-C

Break ID	Break Name	Description	Severity	Resolution Class
CON-002	Expired Consent	A consent record exists but its validity period has lapsed without renewal or supersession	S-1	RC-C
CON-003	Scope-of-Use Exceedance	The actual documented use exceeds the territory, medium, duration, or purpose scope recorded in the consent evidence	S-1	RC-C
CON-004	Unauthorized Signatory	The consent record was signed by a party without documented authority to grant consent on behalf of the rights-holder or performer	S-1	RC-C
CON-005	Revoked Consent in Active Use	A revocation record exists but the artifact continues to be distributed or monetized under the revoked consent	S-1	RC-C
CON-006	Consent Record Unevidenced	A consent assertion exists in the workflow record but the underlying consent instrument cannot be retrieved from the evidence pack	S-2	RC-B
CON-007	Consent-Scope Ambiguity	The scope language in a consent record is insufficient to determine whether the actual use is authorized	S-2	RC-B
CON-008	Synthetic-Use Consent Gap	Consent was obtained for human performance but the artifact was subsequently modified by AI processes; no synthetic-use consent addendum exists	S-2	RC-B
CON-009	Derivative-Use Consent Missing	A derivative or transformed version of a consented artifact is in use but no consent record covers derivative or transformative use	S-2	RC-B
CON-010	Archive-Use Consent Absent	A pre-existing archival recording is in commercial re-use without an archive-use consent or rights-clearance record	S-2	RC-B
CON-011	Consent-Territory Gap	Consent is documented for one territory but the artifact is distributed in additional territories without supplementary consent records	S-2	RC-B
CON-012	Consent-Channel Gap	Consent is documented for one medium or channel but the artifact is distributed through an additional channel not covered	S-2	RC-B
CON-013	Renewal Overdue	A consent record is within its validity period but a scheduled renewal review has passed without documented outcome	S-3	RC-B
CON-014	Consent EP Delta Pending	A consent-state change was recorded but the corresponding EP Delta has not been issued within the defined SLO	S-3	RC-A
CON-015	Consent-Recert Gap	A consent record subject to periodic	S-3	RC-B

Break ID	Break Name	Description	Severity	Resolution Class
		recertification has not been recertified within the defined cadence		
CON-016	Pre-Break Signal: Consent Staleness	TTL on a consent record is within 30 days of expiry with no renewal action initiated	S-5	RC-A

C.2.2.2 Consent Break — Scope-of-Use Mismatch Sub-Taxonomy

The following sub-types apply within CON-003 (Scope-of-Use Exceedance):

Sub-Type	Mismatch Axis	Example
CON-003-T	Territory	Consent covers domestic distribution; artifact distributed internationally
CON-003-D	Duration	Consent covers 12-month window; artifact remains in distribution after expiry
CON-003-M	Medium	Consent covers audio only; artifact used in audiovisual format
CON-003-P	Purpose	Consent covers editorial use; artifact used in paid commercial advertisement
CON-003-DV	Derivative	Consent covers original; remix or dubbed version in distribution without additional consent
CON-003-SY	Synthetic	Consent covers original performance; AI clone or synthetic version in use

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C.2.3 Domain 3 — Lineage and Derivation Breaks

Lineage breaks arise when the transformation, derivation, or version history of a media artifact cannot be reconstructed, contains gaps, or is internally inconsistent.

C.2.3.1 Break Catalog — Lineage and Derivation

Break ID	Break Name	Description	Severity	Resolution Class
LIN-001	Missing Transformation Record	A derived or transformed artifact exists with no transformation event log linking it to its source	S-2	RC-B
LIN-002	Orphaned Derivative	A derivative artifact has no evidence link to any parent artifact in the evidence set	S-2	RC-B
LIN-003	Transformation Authorization Absent	A transformation event is logged but no authorization record exists confirming the transformation was approved under applicable rights and consent states	S-2	RC-B
LIN-004	Version-State Conflict	Two lineage records assert different version states for the same artifact at the same point in time (e.g., one records it as a draft; another as an official release)	S-1	RC-C
LIN-005	Lineage Chain Break	A multi-step derivation chain contains a gap: the lineage record for step N+1	S-2	RC-B

Break ID	Break Name	Description	Severity	Resolution Class
		references step N, but step N has no corresponding evidence record		
LIN-006	Supersession Without Deprecation	A new version supersedes a prior version but the prior version has not been marked as deprecated and continues to appear in active distribution records	S-2	RC-B
LIN-007	Unauthorized Version in Distribution	A version classified as a draft, internal review copy, or rejected edit appears in a distribution or monetization record	S-1	RC-C
LIN-008	Synthetic Transformation Unlogged	Operational indicators suggest AI-assisted modification of an artifact (e.g., voice synthesis, scene alteration) but no transformation event log entry exists	S-2	RC-B
LIN-009	Sample or Stem Lineage Gap	A composite artifact incorporates sampled or stem elements but the lineage record does not trace each element to its source object	S-2	RC-B
LIN-010	Remix-Authorization Break	A remix or edit lineage record is present but the referenced transformation authorization has expired, was revoked, or does not cover the remix type applied	S-2	RC-B
LIN-011	Dub or Dubbing-Clone Lineage Missing	A dubbed or voice-cloned version exists in distribution without a lineage record linking it to the source performance and the synthesis event	S-2	RC-B
LIN-012	Clip or Excerpt Without Parent Reference	A clip, trailer, or highlight extract in distribution has no lineage record linking it to the full work from which it was derived	S-3	RC-B
LIN-013	Version-Replay Gap	The lineage evidence set is insufficient to replay the transformation history for dispute review purposes	S-2	RC-B
LIN-014	Contamination Pattern Detected	A lineage record incorporates content from a source whose consent or rights state is unresolved or revoked	S-1	RC-C
LIN-015	Stale Lineage Record	A lineage record has not been updated following a known transformation event within the defined EP Delta SLO	S-3	RC-A

C.2.3.2 Lineage Break — Transformation Type Cross-Reference

Transformation Type	Applicable Break IDs	Notes
Remix / Edit	LIN-001, LIN-003, LIN-010	Requires authorization state for each incorporated element
Sample / Stem	LIN-009, LIN-001, LIN-003	Each sample must be traceable to a source object

Transformation Type	Applicable Break IDs	Notes
AI Synthesis / Clone	LIN-008, LIN-011, CON-008	Synthetic-origin annotation required
Dub / Translated Version	LIN-011, LIN-001, CON-008	Voice or performance consent state must carry forward
Clip / Excerpt	LIN-012, LIN-001	Parent reference mandatory
Scene Alteration	LIN-008, LIN-001, CON-008	Audiovisual integrity evidence required
Composite / Compilation	LIN-009, LIN-005	Full element-level lineage required
Version Supersession	LIN-006, AUTH-007	Deprecation of prior version must be logged

C.2.4 Domain 4 — Rights-Chain and Scope-of-Use Breaks

Rights-chain breaks arise when the ownership, contribution, licensing, or scope-of-use chain for a media artifact has gaps, conflicts, or out-of-scope use indicators that cannot be resolved from the evidence set.

C.2.4.1 Break Catalog — Rights-Chain and Scope

Break ID	Break Name	Description	Severity	Resolution Class
RCH-001	Missing Rights-Holder Reference	A media artifact has no documented rights-holder or ownership record in its evidence set	S-2	RC-B
RCH-002	Rights-Chain Gap	The chain of title from originating creator to current rights-holder has one or more undocumented transfers	S-2	RC-B
RCH-003	Contribution-Chain Mismatch	A royalty or credit record references contributors not present in the contribution-chain evidence, or vice versa	S-2	RC-B
RCH-004	Split Inconsistency	Documented contribution splits across a rights-holder set do not sum to a valid total allocation	S-2	RC-B
RCH-005	Expired License in Active Use	A licensing record is associated with an artifact in active distribution or monetization, but the license term has expired	S-1	RC-C
RCH-006	Sublicense Without Authorization	A sublicensing record exists without a corresponding authorization from the primary licensor	S-2	RC-B
RCH-007	Out-of-Scope Territory Use	The artifact is documented in distribution within a territory not covered by the active license or rights record	S-2	RC-B
RCH-008	Out-of-Scope Channel Use	The artifact appears in a distribution channel not covered by the active license	S-2	RC-B

Break ID	Break Name	Description	Severity	Resolution Class
		or rights record		
RCH-009	Out-of-Scope Purpose Use	The artifact is used for a purpose (e.g., commercial advertising, political content) not authorized under the active rights record	S-1	RC-C
RCH-010	Archive or Library Rights Gap	An archival or library asset is in re-release or commercial use without a documented archive-rights clearance record	S-2	RC-B
RCH-011	Promotional Rights Absent	A clip, excerpt, or version is used in promotional contexts without a specific promotional-rights authorization in the evidence set	S-3	RC-B
RCH-012	Derivative-Rights Conflict	A derivative or transformed version is in distribution but the underlying rights record explicitly excludes derivative use	S-1	RC-C
RCH-013	Rights-State Evidence Stale	The most recent rights-state evidence for an artifact has exceeded its defined TTL without recertification	S-3	RC-B
RCH-014	Recert Missed	A rights record subject to periodic recertification has passed its scheduled recert date without action	S-3	RC-B
RCH-015	Pre-Break Signal: Rights Expiry Approaching	A license or rights record is within 60 days of expiry with no renewal action documented	S-5	RC-A

C.2.5 Domain 5 — Royalty, Settlement, and Payout Breaks

Royalty breaks arise when a royalty calculation, settlement confirmation, or payout record cannot be linked to its authorizing inputs, contains arithmetic or allocation errors, or is structurally inconsistent with the usage evidence on which it is based.

C.2.5.1 Break Catalog — Royalty, Settlement, and Payout

Break ID	Break Name	Description	Severity	Resolution Class
ROY-001	Unmatched Usage Event	A usage event appears in the usage-evidence record but has no corresponding royalty calculation entry	S-2	RC-B
ROY-002	Unmatched Calculation	A royalty calculation entry exists but no usage-evidence record can be linked to it	S-2	RC-B
ROY-003	Unmatched Payout	A payout confirmation exists but no calculation artifact can be matched to it	S-2	RC-B
ROY-004	Calculation Input Mismatch	The inputs used in a royalty calculation (rate, usage quantity, territory, channel) differ from the values documented in the authorizing	S-2	RC-B

Break ID	Break Name	Description	Severity	Resolution Class
		rights or consent record		
ROY-005	Allocation Split Mismatch	A royalty split allocation does not match the contribution-chain split documented in the rights-chain evidence set	S-2	RC-B
ROY-006	Payout Amount Discrepancy	The amount recorded in a payout confirmation differs from the amount produced by the linked calculation artifact	S-2	RC-B
ROY-007	Calculation Replay Failure	A royalty calculation cannot be replayed from its logged inputs; the recalculated output differs from the recorded output	S-1	RC-C
ROY-008	Missing Settlement Confirmation	A calculation artifact exists and a payout instruction was issued, but no settlement confirmation is present in the evidence pack	S-2	RC-B
ROY-009	Disputed Split — Hold Required	One or more parties to a royalty split have submitted a formal dispute; the disputed portion is not in hold-only containment	S-1	RC-C
ROY-010	Out-of-Scope Usage Monetized	A royalty calculation is based on a usage event that falls outside the scope authorized by the consent or rights record	S-1	RC-C
ROY-011	Advance Recoupment Error	A recoupment calculation against an advance draws on an incorrect baseline figure or an unlinked advance record	S-2	RC-B
ROY-012	Escrow or Hold Account Discrepancy	The balance held in a disputed or contested royalty hold account does not match the sum of the associated calculation artifacts	S-2	RC-B
ROY-013	Correction Without EP Delta	A royalty correction or adjustment was applied to the ledger without a corresponding EP Delta being issued	S-2	RC-B
ROY-014	Off-Cycle Adjustment Without Authorization	An off-cycle royalty adjustment or reversal was applied without the required multi-party authorization record	S-2	RC-B
ROY-015	Finality Assertion Without Confirmation	A royalty period has been marked as operationally final but one or more settlement confirmations are absent	S-2	RC-B
ROY-016	Unallocated Residual	A royalty pool has a residual balance that is not allocated to any rights-holder after split distribution	S-3	RC-B
ROY-017	Rate Basis Undocumented	A royalty calculation applies a rate that has no documented authorization or rate-schedule reference in the evidence set	S-3	RC-B
ROY-018	Usage-Period Gap	The usage-evidence record has a gap period where usage data is absent but the corresponding royalty period is not marked as zero-usage with documented justification	S-3	RC-B
ROY-019	Pre-Break Signal:	Uncalculated usage events are aging beyond	S-5	RC-A

Break ID	Break Name	Description	Severity	Resolution Class
	Calculation Queue Aging	the defined processing SLO, signaling accumulating break risk		
ROY-020	Synthetic-Use Rate Not Applied	Usage of a synthetic or AI-modified version is monetized under the rate structure for the unmodified original without documented basis for equivalence	S-3	RC-B

C.2.5.2 Royalty Break — Payout Linkage Integrity Check

The following minimum linkage must be confirmed before a payout is considered operationally evidenced. A break at any link triggers the corresponding break ID:

Linkage Step	Required Evidence	Break If Absent
Usage Event → Calculation	Usage log entry linked by event ID to calculation artifact	ROY-001 or ROY-002
Calculation → Authorization	Calculation artifact references authorizing rights/consent record	ROY-004
Calculation → Split	Split artifact references contribution-chain record	ROY-005
Split → Payout Instruction	Payout instruction references calculation and split artifact IDs	ROY-003
Payout Instruction → Settlement Confirmation	Settlement confirmation references payout instruction ID	ROY-008
Settlement Confirmation → Finality	Finality record references all settlement confirmations for period	ROY-015

C.3 Cross-Domain Compound Breaks

Compound breaks occur when a single operational event triggers breaks across two or more domains simultaneously. These require coordinated investigation and may escalate to a higher effective severity than either constituent break alone.

C.3.1 Compound Break Catalog

Compound ID	Constituent Breaks	Combined Effective Severity	Description
CMP-001	AUTH-003 + LIN-004	S-1	Conflicting origin claims combined with version-state conflict; artifact identity cannot be established for any downstream purpose
CMP-002	CON-005 + ROY-010	S-1	Revoked consent in active use with corresponding royalty monetization; distribution and payout both require hold
CMP-003	LIN-014 + RCH-012	S-1	Contamination from rights-excluded source within a derivative; lineage and rights-chain both compromised
CMP-004	AUTH-004 +	S-1	Content-address mismatch combined with

Compound ID	Constituent Breaks	Combined Effective Severity	Description
	ROY-007		calculation replay failure; artifact identity and financial integrity both impaired
CMP-005	CON-003 + ROY-010	S-1	Scope-of-use exceedance confirmed; corresponding royalty calculation based on unauthorized use
CMP-006	RCH-005 + ROY-004	S-2	Expired license in active use with mismatched rate basis; rights and royalty domains both affected
CMP-007	LIN-007 + ROY-001	S-2	Unauthorized version in distribution generating usage events with no matched royalty calculation
CMP-008	AUTH-012 + CON-016	S-3	Authenticity evidence and consent record both approaching staleness simultaneously; coordinated recertification required
CMP-009	RCH-015 + CON-016	S-5	Pre-break signals in both rights and consent domains; scheduled renewal action required before expiry

C.3.2 Compound Break Investigation Protocol

When a compound break is detected:

1. Assign a compound break ID (CMP-xxx) and log all constituent break IDs in the investigation record.
2. Determine the **controlling domain** — the domain whose resolution is prerequisite for resolving the others.
3. Apply the **highest effective severity** across constituent breaks as the operational severity for hold, escalation, and SLO purposes.
4. Issue a single coordinated EP Delta upon resolution that addresses all constituent breaks; do not issue separate EP Deltas that could create partial-resolution records.
5. Preserve the compound break record as a distinct lineage entry in the evidence pack even after resolution.

C.4 Break Severity Band — Operational SLOs

C.4.1 Standard SLO Matrix

Severity	Investigation Initiation SLO	Hold Decision SLO	Escalation-to-Examiner SLO	EP Delta Issuance SLO (post-resolution)
S-1 Critical	Immediate (within 2 hours of detection)	Immediate	Immediate	Within 4 hours of resolution
S-2 High	Within 1 business day	Within 4 hours if hold needed	Within 1 business day	Within 1 business day

Severity	Investigation Initiation SLO	Hold Decision SLO	Escalation-to-Examiner SLO	EP Delta Issuance SLO (post-resolution)
S-3 Medium	Within 5 business days	Not required unless escalation triggered	Within 5 business days if examiner notification threshold met	Within 5 business days
S-4 Low	At next scheduled reconciliation cycle	Not required	Not required	Within reconciliation cycle
S-5 Informational	Logged; monitored	Not required	Not required	No EP Delta required; log entry only

C.4.2 SLO Breach Triggers

An SLO breach on a break investigation or resolution is itself a reportable operational event. The following conditions trigger SLO-breach escalation:

- Any S-1 break not actioned within 2 hours of detection.
- Any S-2 break not assigned to an investigator within 1 business day.
- Any hold-required break for which a hold decision has not been made within the applicable SLO.
- Any resolved break for which an EP Delta has not been issued within the applicable SLO.
- Any break classified as RC-D (Unresolvable-Open) that has not been reviewed within its defined monitoring cadence.

C.5 Break Evidence Requirements

C.5.1 Minimum Evidence Required Per Break Category

Domain	Minimum Evidence for Break Opening	Minimum Evidence for Break Closure
Authenticity	Source object reference, content-address hash, manifest entry (or documented absence)	Corrected manifest entry, EP Delta, re-attestation record where applicable
Consent	Consent record reference (or documented absence), use-event log, scope-of-use parameters	Valid consent record linked to actual use scope, EP Delta confirming consent-state update
Lineage	Transformation event log (or documented gap), source artifact reference, derivation type	Complete lineage chain from source to derivative, transformation authorization record, EP Delta
Rights-Chain	Rights-holder reference, licensing record, scope parameters	Valid in-scope rights record, recertification if applicable, EP Delta
Royalty-Settlement	Usage event log, calculation artifact reference, payout instruction (or documented	Matched usage-calculation-payout chain, settlement confirmation, EP Delta

Domain	Minimum Evidence for Break Opening	Minimum Evidence for Break Closure
	absence)	

C.5.2 Evidence Preservation Requirements for Open Breaks

All open breaks — regardless of severity — must be preserved with the following evidence artifacts:

1. **Break Opening Record:** Timestamp, break ID, severity, domain, evidence status at time of opening, investigator assignment.
2. **Investigation Log:** Chronological record of all investigation actions, evidence gathered, parties consulted, and interim findings.
3. **Hold Record (if applicable):** Hold trigger, authorizing officer(s), assets or distributions affected, hold activation timestamp.
4. **EP Delta Record (on resolution):** State prior to correction, correction applied, evidence basis, approving officer(s), timestamp.
5. **Post-Resolution Review Record:** Confirmation that the correction did not introduce new breaks; secondary reviewer sign-off.

C.6 Hold-Only Containment Logic

Hold-only containment is applied when a break meets any of the following triggers:

C.6.1 Hold Trigger Conditions

Trigger	Break IDs That Activate This Trigger	Hold Scope
Authenticity of artifact in active distribution cannot be confirmed	AUTH-003, AUTH-004, AUTH-006, AUTH-009	Distribution and monetization of the affected artifact
Consent is revoked, expired, or missing for a use currently in progress	CON-001, CON-002, CON-005	Active distribution, promotional use, and royalty payouts tied to the affected use
Unauthorized version confirmed in distribution	LIN-007	Distribution of the affected version
Derivative lineage contains a contaminated source	LIN-014	Distribution and monetization of all derivative versions in the affected lineage chain
Rights record expired or explicitly excludes current use type	RCH-005, RCH-009, RCH-012	Distribution and monetization within the affected scope
Royalty dispute formally submitted by a rights-holder	ROY-009	Disputed portion of royalty payout; undisputed portion may be released
Payout based on unauthorized use	ROY-010	Associated payout instruction and settlement confirmation
Compound break with S-1 constituent	Any CMP with S-1 effective severity	All domains involved in the compound break

C.6.2 Hold Governance Requirements

- Holds must be authorized by at least one designated Compliance or Rights-Integrity officer.
- S-1 holds must be confirmed by a second authorized officer within 4 hours of the initial hold placement.
- All holds must be logged with: hold ID, break ID(s), scope of hold, authorizing officer(s), timestamp, and expected review cadence.
- Holds must be reviewed at defined intervals: S-1 holds every 24 hours; S-2 holds every 5 business days; other holds at next scheduled reconciliation cycle.
- Holds may not be released without a corresponding EP Delta documenting the basis for release and confirming that the triggering break has been resolved or reclassified.

C.6.3 Partial Release Protocol

Where a hold covers multiple rights-holders or multiple distribution channels and a break is resolved for a subset of them:

1. Issue an EP Delta documenting the partial resolution.
2. Release the hold only for the confirmed-resolved subset.
3. Maintain the hold for the unresolved portion under the original break ID.
4. Log the partial release as a distinct event in the chain-of-custody record.

C.7 Break Resolution Disposition Codes

Upon resolution or reclassification of a break, the investigator assigns one of the following disposition codes:

Code	Label	Definition
D-01	Resolved — Evidence Confirmed	The break was resolved by retrieving or confirming the missing or conflicting evidence; an EP Delta has been issued
D-02	Resolved — Correction Applied	The break was resolved by applying a corrective action (e.g., updating a manifest, reissuing a consent record, recalculating a royalty); an EP Delta has been issued
D-03	Resolved — Superseded	The artifact, record, or state that gave rise to the break has been superseded by an updated record; the prior state is preserved; EP Delta issued
D-04	Resolved — False Positive	Investigation determined that no actual break exists; the detection was based on a data-quality issue or processing error; record updated with explanation
D-05	Reclassified — Severity Downgrade	The break remains open but investigation has determined it warrants a lower severity classification; re-classified and re-assigned
D-06	Reclassified — Severity Upgrade	The break investigation has revealed additional evidence that warrants escalation to a higher severity; re-classified and re-assigned
D-07	Open — Monitored Exception	The break cannot be resolved with available evidence; it is preserved as a documented open exception with a defined monitoring cadence and owner
D-08	Escalated — Dispute	The break has been escalated to a formal dispute process; further

Code	Label	Definition
	Initiated	resolution is pending the dispute outcome
D-09	Escalated — Examiner Referral	The break has been referred to an examiner or reviewer for independent assessment; investigation is suspended pending examiner output

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C.8 Reconciliation Cycle Design

C.8.1 Recommended Reconciliation Cadence by Break Domain

Domain	Routine Reconciliation Frequency	Triggered Reconciliation Conditions
Authenticity	Monthly (or at every new release or distribution event)	New distribution event; supersession event; any S-1 or S-2 authenticity event
Consent	Monthly (or at every consent-state change event)	Approaching TTL expiry; revocation event; any scope-of-use change
Lineage	At every transformation event; monthly sweep	New derivative registered; synthetic transformation logged; dispute received
Rights-Chain	Quarterly; at every licensing or contribution change	Rights transfer; license renewal; split amendment; dispute received
Royalty-Settlement	Per royalty period (monthly or quarterly); at every payout cycle	Dispute received; usage-event anomaly detected; payout amount discrepancy

C.8.2 Reconciliation Output Artifacts

Each completed reconciliation cycle must produce the following artifacts:

1. **Reconciliation Summary Report:** Total breaks detected, by domain and severity band.
2. **Open Break Register:** All breaks currently open, with status, severity, owner, and aging.
3. **Resolved Break Log:** All breaks closed since the prior cycle, with disposition codes and EP Delta references.
4. **Hold Register:** All active holds, with break references, scope, and review status.
5. **Pre-Break Signal Log:** All S-5 informational signals logged, with monitoring actions taken.
6. **Reconciliation Attestation:** Sign-off by the designated reconciliation authority confirming the cycle was completed and the output artifacts are accurate.

C.9 EP Delta Issuance Standards for Break Resolution

Every resolved break — except D-04 (false positive) and D-07 (monitored exception) — requires an EP Delta. The EP Delta must contain:

EP Delta Field	Required Content
Delta ID	Unique identifier for the EP Delta event
Break ID(s)	All break IDs addressed by this EP Delta
Prior State Description	Description of the evidence state before the correction
Corrected State Description	Description of the evidence state after the correction

EP Delta Field	Required Content
Evidence Basis	References to the evidence records that support the correction
Authorizing Officer(s)	Identity references of officers who approved the correction
Timestamp	Date and time of EP Delta issuance
Preservation Note	Confirmation that the prior state is preserved and not overwritten
Downstream Impact Statement	Identification of any downstream calculations, distributions, or payouts affected by the correction
Linked Hold Actions	Reference to any hold placed or released in conjunction with the correction

EP Deltas are immutable once issued. Errors in an EP Delta require a corrective EP Delta to be issued; the original EP Delta is not modified or deleted.

C.10 Monitored Open Exceptions Register

Breaks assigned disposition D-07 (Open — Monitored Exception) are maintained in a dedicated Monitored Open Exceptions Register. The register is reviewed at every reconciliation cycle. Each entry must include:

Register Field	Required Content
Break ID	Original break identifier
Domain	Authenticity / Consent / Lineage / Rights-Chain / Royalty
Opening Date	Date the break was first detected
Last Review Date	Date of the most recent monitoring review
Next Review Date	Scheduled date for the next monitoring review
Evidence Status	Current evidence status (Unevidenced / Partially-Evidenced / Conflicting)
Resolution Barrier	Description of why the break cannot currently be resolved
Monitoring Owner	Designated owner responsible for monitoring and periodic review
Escalation Trigger	Condition(s) that would cause this exception to be re-escalated to active investigation

An open exception that has not been reviewed within two consecutive reconciliation cycles must be automatically re-escalated to S-2 severity and assigned to active investigation.

C.11 Cross-Reference: Break IDs to Framework Sections

Break Domain	Break ID Range	Primary Framework Section	Evidence Pack Reference
Authenticity	AUTH-001 to AUTH-015	Section 4 (Authenticity and Source Integrity)	Appendix B — Evidence Set Mapping; Appendix H — Manifest Templates
Consent	CON-001 to CON-016	Section 5 (Consent, Authority, and Scope-of-Use)	Appendix B; Appendix N — Scope-of-Use Matrix

Break Domain	Break ID Range	Primary Framework Section	Evidence Pack Reference
Lineage	LIN-001 to LIN-015	Section 6 (Derivation, Transformation, and Version Lineage)	Appendix M — Version Lineage Templates; Appendix H
Rights-Chain	RCH-001 to RCH-015	Section 7 (Rights-Chain and Commercial Scope Integrity)	Appendix B; Appendix N
Royalty-Settlement	ROY-001 to ROY-020	Section 8 (Royalty, Settlement, and Payout Evidence)	Appendix I — Royalty Calculation Templates
Compound	CMP-001 to CMP-009	Sections 4–8 (cross-domain)	All relevant Appendices per constituent breaks

Appendix D — Standard Checks Pack (Full List)

D.0 Purpose, Scope, and Usage Guidance

This appendix provides the full Standard Checks Pack for institutional reviewers, auditors, examiners, rights-holder representatives, and operational teams conducting structured assessments of authenticity, consent, lineage, rights-chain, royalty, bounded-access, governance, and offboarding states across voice, image, film, music, and synthetic-media workflows.

Each check in this pack is designed to confirm the presence, integrity, linkage, and currency of a specific evidence artifact, operational control, or governance record. Checks do not make legal determinations. A passed check indicates that the required operational evidence is present and internally consistent. A failed check generates a break record that feeds the reconciliation process defined in Appendix C.

D.0.1 Check Structure

Every check entry includes:

Field	Description
Check ID	Unique identifier in format `[DOMAIN]-CHK-[NNN]`
Check Name	Short descriptive label
What Is Confirmed	The specific evidence state or control this check validates
Evidence Required	The minimum evidence artifact(s) that must be present to pass
Pass Condition	The logical condition that constitutes a pass
Fail Signal	The break ID or escalation signal triggered on failure
Examiner Note	Operational guidance for reviewers conducting the check

D.0.2 Check Domains

Domain Code	Domain Label	Check ID Range
AUTH	Authenticity and Source Integrity	AUTH-CHK-001 to AUTH-CHK-030
CON	Consent and Authorized-Use	CON-CHK-001 to CON-CHK-030
LIN	Lineage, Derivation, and Version	LIN-CHK-001 to LIN-CHK-025
RCH	Rights-Chain and Scope-of-Use	RCH-CHK-001 to RCH-CHK-025
ROY	Royalty, Settlement, and Payout	ROY-CHK-001 to ROY-CHK-030
ACC	Bounded-Access Compliance	ACC-CHK-001 to ACC-CHK-020
GOV	Governance, Change Control, and Recertification	GOV-CHK-001 to GOV-CHK-025
OFF	Offboarding and Legacy Transition	OFF-CHK-001 to OFF-CHK-015

D.0.3 Check Result Codes

Code	Label	Meaning
PASS	Evidence confirmed	All pass conditions are met; evidence is present, linked, and current
FAIL	Break triggered	One or more pass conditions are not met; break record opened per Appendix C
PARTIAL	Incomplete evidence	Evidence is present but incomplete; investigation required before PASS or FAIL is assigned
N/A	Not applicable	The check does not apply to the artifact or workflow under review; document the basis for N/A
DEFER	Deferred	The check cannot be completed in the current review cycle; document reason and assign next-review date

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D.1 Authenticity and Source Integrity Checks

D.1.1 Canonical Source Object and Origin Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
AUTH-CHK-001	Canonical Source Object Present	A canonical source object or official-release anchor exists for the media	Canonical manifest entry with artifact ID, creation	Manifest entry present; artifact ID resolvable to a retrievable source object

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		artifact under review	timestamp, and source reference	
AUTH-CHK-002	Origin Assertion Present	An origin assertion exists in the evidence pack for the artifact	Origin assertion record with originating party reference, creation context, and assertion timestamp	Record present and linked to a verifiable originating party reference
AUTH-CHK-003	Origin Assertion — Verifiable Party	The originating party named in the origin assertion has an authority record in the evidence set	Authority record or party reference document for the named originating party	Authority record present; no conflict with other party references for the same artifact
AUTH-CHK-004	No Conflicting Origin Claims	Only one origin assertion exists for the artifact, or if multiple exist, they are consistent and form a resolved supersession chain	All origin assertion records for the artifact	No unresolved conflicts; if multiple assertions exist, supersession order is documented
AUTH-CHK-005	Content-Address Hash Confirmed	The hash of the current artifact matches the hash recorded in the canonical manifest	Canonical manifest hash entry; computed hash of the current artifact	Hash values match exactly; algorithm used is documented
AUTH-CHK-006	Manifest Entry Linked to Source Object	Every manifest entry references a retrievable source object	Manifest; source object retrieval	All manifest-referenced objects are retrievable; no dangling manifest references
AUTH-CHK-007	Official-Version State Unambiguous	The artifact is classified in exactly one version state (official release, draft, derivative, archived, superseded)	Version-state record in evidence pack	Exactly one current version-state classification; no conflicting state records
AUTH-CHK-008	Supersession Chain Intact	If the artifact supersedes a prior version, the supersession chain is documented and each link is verifiable	Supersession record referencing prior version hash and new version hash	Chain present; all referenced prior version hashes resolvable; no circular references
AUTH-CHK-	Release	Creation, edit, and	Timestamp	Creation ≤ last edit ≤

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
009	Timestamp Internally Consistent	release timestamps are logically ordered and within plausible ranges	records in evidence pack	release; all timestamps within plausible operational range
AUTH-CHK-010	Cryptographic Signature on Authenticity Assertion Valid	Where a cryptographic signature is used on an authenticity assertion, it verifies against the referenced key	Signature record; public key reference	Signature verifies; key reference resolves to an authority record

D.1.2 Provenance Linkage and Integrity Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
AUTH-CHK-011	Provenance Chain Present from Creation to Distribution	The evidence pack contains a continuous provenance record from artifact creation through editing, packaging, release, and distribution	Provenance linkage records for each stage	All stages documented; no unexplained gaps between stages
AUTH-CHK-012	Source-Hierarchy Logic Documented	Where an artifact is derived from a higher-level source, the source hierarchy is documented	Source-hierarchy record or manifest annotation	Hierarchy documented; parent source is itself a canonical or verifiable object
AUTH-CHK-013	Authenticity Evidence Not Expired (TTL)	The most recent authenticity assertion is within its defined validity period	Authenticity assertion record with TTL or validity period	Current date is within the validity period; no recertification overdue
AUTH-CHK-014	Recertification Completed on Schedule	If a recertification cadence applies to the artifact's authenticity evidence, the most recent recertification is not overdue	Recertification record with completion date	Recertification date is within the defined cadence; no overdue cycle
AUTH-CHK-015	Synthetic-Origin Annotation Present Where	If the artifact meets the operational	Synthetic-origin annotation record	Annotation present if threshold met; annotation includes the

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
	Required	threshold for AI-generated or AI-modified content, a synthetic-origin annotation is present		type of AI process applied
AUTH-CHK-016	Source-Integrity Boundary Test Passed	The artifact has been subjected to a defined source-integrity boundary test and the result is recorded	Boundary test result record	Test result is recorded; outcome is PASS or, if FAIL, a break record has been opened
AUTH-CHK-017	Immutable Log Entry for Release Event	The official release of the artifact is recorded in an immutable log with timestamp, artifact ID, and releasing party	Immutable log entry	Entry present; log has not been modified since initial write (chain-of-custody verified)
AUTH-CHK-018	No Unauthorized Version in Active Distribution	No version classified as a draft, rejected edit, or internal review copy appears in the active distribution record	Distribution record; version-state record	Distribution record references only versions with official-release or approved-distribution state
AUTH-CHK-019	Authenticity Evidence Replay-Ready	The authenticity evidence set is sufficient to allow an independent reviewer to reconstruct the artifact's origin and release history	Full authenticity evidence pack	Evidence pack contains all elements required for replay per Section 4.5 of the framework
AUTH-CHK-020	Authenticity Break Register Reviewed	The authenticity break register has been reviewed within the current reconciliation cycle	Break register with last-review date	Last-review date is within the defined reconciliation cadence; all S-1 and S-2 breaks have active investigation records

D.1.3 Authenticity — Operational Verification Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
AUTH-CHK-	Official Source Object	The evidence	Source object	Source object has

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
021	Distinguished from Derivatives	pack clearly distinguishes the official source object from any derivative or distribution objects derived from it	record; derivative object records	a distinct canonical identifier; derivatives are linked to but not conflated with the source
AUTH-CHK-022	Distribution Object Linked to Source	Every distribution object (e.g., encoded format, packaged release, streaming master) is linked to the canonical source object from which it was produced	Distribution object provenance record	Linkage present; no distribution object without a traceable source
AUTH-CHK-023	Unresolved Authenticity Posture Flagged	Any artifact where authenticity cannot be operationally confirmed is flagged as "unresolved authenticity posture" and not processed as confirmed	Unresolved-posture flag in evidence pack	Flag present where applicable; no artifact in active distribution or monetization with an unresolved authenticity posture that has not been escalated
AUTH-CHK-024	Chain-of-Custody Record Present	A chain-of-custody record exists for the media evidence and tracks custody from creation through current state	Chain-of-custody log	Log present; no unexplained custody gaps; custodial handoffs are documented with timestamps
AUTH-CHK-025	Authenticity EP Delta Issued for All State Changes	Every change to an authenticity state (e.g., reclassification, supersession, correction) is accompanied by an EP Delta	EP Delta records for state changes	EP Delta present for every documented state change; no state change without a corresponding EP Delta
AUTH-CHK-026	Content-Addressed Manifest Is Current	The canonical manifest reflects	Manifest with last-update timestamp	Manifest last-update date is

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		the current state of the artifact, including any updates, corrections, or version additions since the last reconciliation		within the defined cadence; all known versions are listed
AUTH-CHK-027	Authenticity Assertion Covers All Distributed Formats	The authenticity evidence covers each format or encoding variant of the artifact in active distribution	Authenticity assertions per format or annotation confirming equivalence	Either separate assertions exist per format, or a documented equivalence annotation links all formats to the canonical source
AUTH-CHK-028	No Master-Key Single-Point-of-Control on Authenticity Records	No single party holds exclusive control over the authenticity records; multi-party or distributed governance is applied	Governance record for authenticity evidence	Evidence governance record confirms multi-party or distributed control; no single-custodian dependency
AUTH-CHK-029	Authenticity Evidence Preservation Bundle Prepared	A preservation bundle for the artifact's authenticity evidence has been prepared and is retrievable	Preservation bundle manifest	Bundle present; bundle contents match the current authenticity evidence pack
AUTH-CHK-030	Post-Dispute Authenticity Review Completed	If an authenticity dispute has been formally closed, a post-dispute review record confirms the corrected state	Post-dispute review record; EP Delta	Review record present; EP Delta issued confirming corrected state; prior state preserved

D.2 Consent and Authorized-Use Checks

D.2.1 Consent Record Presence and Validity

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
CON-CHK-001	Consent Record	A consent record exists	Consent record(s)	Record present for

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
	Present for Each Covered Use	for every use type that requires documented consent under the framework	per use type	each covered use; no covered use without a linked consent record
CON-CHK-002	Consent Record Within Validity Period	The consent record is within its defined validity period and has not expired	Consent record with validity start and end dates	Current date is within validity period; no expired consent record for an active use
CON-CHK-003	Consent Not Revoked	No revocation record exists for the consent covering the current use, or if one exists, it postdates the current use and a hold has been placed on future uses	Revocation register; current use record	No active revocation for the covered use; where revocation exists, downstream hold is confirmed
CON-CHK-004	Signatory Authority Confirmed	The party who signed or executed the consent record has documented authority to grant consent on behalf of the rights-holder or performer	Authority record for signing party	Authority record present; scope of authority covers the consent type executed
CON-CHK-005	Consent Record Retrievable	The consent instrument underlying the consent assertion can be retrieved from the evidence pack	Consent instrument reference; retrieval confirmation	Instrument is retrievable; reference in the assertion resolves to the actual instrument
CON-CHK-006	Consent Scope Is Unambiguous	The scope language in the consent record is sufficient to determine whether each current use is authorized without interpretive ambiguity	Consent record scope fields	Scope fields specify territory, duration, medium, and purpose with sufficient precision to confirm authorization
CON-CHK-007	Human Performance Consent Distinct from Synthetic-Use Consent	Where a consent record covers a human performance, it explicitly addresses (or explicitly excludes) synthetic, AI-modified, and derivative use	Consent record synthetic-use clause	Synthetic-use clause is present; it either authorizes or prohibits synthetic use; no silence on the question
CON-CHK-008	Consent EP Delta Issued for All State Changes	Every change to a consent state (renewal, revocation, scope amendment) is	EP Delta records for consent state changes	EP Delta present for each state change; no state change without a corresponding EP

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		accompanied by an EP Delta		Delta
CON-CHK-009	Consent Recertification Current	If a consent recertification cadence applies, the most recent recertification is not overdue	Recertification record with completion date	Recertification date is within the defined cadence; no overdue cycle
CON-CHK-010	Consent-State Diff Logged for Each Amendment	Any amendment to the scope, duration, or parties of a consent record is captured as a consent-state diff in the evidence pack	Consent-state diff records	Diff records present for all amendments; each diff references both the prior state and the amended state

D.2.2 Scope-of-Use Authorization Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
CON-CHK-011	Territory Authorization Confirmed	The territory in which the artifact is distributed or used is covered by the active consent record	Consent record territory field; distribution record	Territory in distribution record falls within consent territory; no out-of-territory use
CON-CHK-012	Duration Authorization Confirmed	The current date and the use period fall within the consent record's duration	Consent record duration field; use-event dates	All use events fall within the consent duration; no use outside the authorized period
CON-CHK-013	Medium Authorization Confirmed	The medium or channel of use (audio, audiovisual, digital streaming, broadcast, print) is covered by the consent record	Consent record medium field; use-event medium	Use medium matches or is a subset of the authorized medium
CON-CHK-014	Purpose Authorization Confirmed	The purpose of use (editorial, commercial, promotional, educational, advertising) is covered by the consent record	Consent record purpose field; use-event purpose	Use purpose matches or is a subset of the authorized purpose
CON-CHK-015	Derivative-Use Authorization Confirmed	If a derivative, remix, dub, or transformed version of the consented artifact is in use, the consent	Consent record derivative-use clause; derivative lineage record	Derivative-use clause present and affirmative; derivation type in use is within the

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		record explicitly authorizes derivative use		authorized derivative scope
CON-CHK-016	Synthetic-Use Consent Present for AI-Modified Artifacts	If an artifact has been AI-modified, AI-synthesized, or AI-cloned, a synthetic-use consent record or addendum exists	Synthetic-use consent record or addendum	Record present; it covers the specific type of AI process applied; it has not expired or been revoked
CON-CHK-017	Archive-Use Consent Present for Archival Re-Use	If an archival recording is being commercially re-used, an archive-use consent or rights-clearance record exists	Archive-use consent record	Record present; it covers the re-use type and is within its validity period
CON-CHK-018	Promotional-Use Consent Distinct from Primary Use Consent	Promotional use of an artifact is authorized by a consent record that explicitly covers promotional contexts	Promotional-use consent clause or separate consent record	Promotional-use authorization is documented; it is not assumed from the primary-use consent alone
CON-CHK-019	No Out-of-Scope Use in Active Distribution	The active distribution record contains no use events that fall outside the scope of the active consent record	Active distribution record; consent record scope fields	All documented use events are within the authorized scope; no out-of-scope use events without a hold record
CON-CHK-020	Consent Renewal Action Initiated Before Expiry	Where a consent record is approaching expiry, a renewal action has been initiated within the defined pre-expiry window	Renewal action record with initiation date; consent expiry date	Renewal action record present; initiation date is within the pre-expiry window defined in the governance policy

D.2.3 Consent — Revocation and Exception Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
CON-CHK-021	Revocation Register Maintained and Current	A revocation register is maintained for all consent records, and it is current as of the most recent reconciliation cycle	Revocation register with last-update date	Register present; last-update date is within the defined cadence; all known revocations are listed

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
CON-CHK-022	Revocation Propagated to Downstream Uses	Where a consent has been revoked, a hold or containment action has been applied to all active uses and distributions covered by the revoked consent	Revocation record; hold records for affected uses	Hold records exist for all active uses linked to the revoked consent; no uncontained active use
CON-CHK-023	Exceptional Reviewer Access Logged for Disputed Consent	Where a disputed or incomplete consent state triggered reviewer access to confidential consent evidence, the access is logged with purpose, scope, and outcome	Reviewer access log entry	Access log entry present; purpose documented; outcome recorded; TTL on access applied
CON-CHK-024	Consent Evidence Preservation Bundle Prepared	A preservation bundle for consent evidence has been prepared and is retrievable	Preservation bundle manifest	Bundle present; bundle contents match the current consent evidence pack
CON-CHK-025	Post-Revocation Corrective EP Delta Issued	Following a revocation event, an EP Delta has been issued documenting the consent-state change and all downstream containment actions taken	EP Delta record for revocation event	EP Delta present; it references the revocation record, the prior consent state, and all hold records issued
CON-CHK-026	Consent Break Register Reviewed	The consent break register has been reviewed within the current reconciliation cycle	Break register with last-review date	Last-review date is within the defined cadence; all S-1 and S-2 consent breaks have active investigation records
CON-CHK-027	Consent Evidence Replay-Ready	The consent evidence set is sufficient for an independent reviewer to reconstruct the consent state at any point in the artifact's lifecycle	Full consent evidence pack	Evidence pack contains all consent records, diffs, EP Deltas, and revocation records required for replay

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
CON-CHK-028	Time-Bounded Consent TTL Enforced	Consent records with defined TTLs are not treated as perpetual; TTL enforcement is documented in the governance record	Governance record for consent TTL enforcement	TTL enforcement policy documented; no consent record treated as in-force beyond its TTL without a documented renewal
CON-CHK-029	Purpose-Limitation Confirmed for Reviewer Access to Consent Evidence	Where a reviewer has been granted access to consent evidence, the access is bounded by the stated purpose and has not been extended beyond it	Reviewer access log; purpose-limitation record	Access scope matches stated purpose; no evidence of access beyond the authorized scope
CON-CHK-030	No Master-Key Single-Point-of-Control on Consent Records	No single party holds exclusive control over the consent records; multi-party or distributed governance is applied	Governance record for consent evidence	Governance record confirms multi-party or distributed control; no single-custodian dependency

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D.3 Lineage, Derivation, and Version Checks

D.3.1 Transformation Event and Derivation Chain Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
LIN-CHK-001	Transformation Event Log Present	A transformation event log exists for every artifact that is not a primary source object	Transformation event log	Log present; each entry records the transformation type, inputs, output artifact ID, and timestamp
LIN-CHK-002	No Orphaned Derivatives	Every derivative artifact in the evidence set has at least one documented parent artifact	Lineage records for all derivative artifacts	All derivatives have a resolvable parent reference; no orphaned derivative objects
LIN-CHK-003	Transformation Authorization Record Present	Each transformation event log entry is linked to an authorization record confirming the transformation was approved under applicable rights and	Authorization record linked to each transformation event	Authorization record present and covers the transformation type applied

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		consent states		
LIN-CHK-004	Version-State Consistent Across All Records	A given artifact version has the same version-state classification across all records in the evidence set	Version-state records across all evidence documents	No conflicting version-state classifications for the same artifact at the same point in time
LIN-CHK-005	Lineage Chain Continuous	The derivation chain from source to current artifact has no gaps	Lineage chain records from source to current artifact	All steps in the chain have corresponding evidence records; no undocumented step
LIN-CHK-006	Supersession Recorded with Deprecation	When a new version supersedes a prior version, the prior version is marked as deprecated and removed from active distribution references	Supersession record; deprecation record; distribution record	Supersession and deprecation records present; prior version not present in active distribution without a documented exception
LIN-CHK-007	Synthetic Transformation Logged	Every AI-assisted or AI-executed modification to an artifact is recorded in the transformation event log	Transformation event log entries for AI processes	All AI processes applied are logged; no operational indicator of AI modification without a corresponding log entry
LIN-CHK-008	Sample and Stem Elements Traceable to Source	Each sample or stem element incorporated into a composite artifact is traceable to a source object in the evidence set	Sample/stem lineage records	All samples and stems have resolvable source references; no unattributed incorporated element
LIN-CHK-009	Remix Authorization Covers All Incorporated Elements	Where a remix or edit incorporates elements from multiple sources, a transformation authorization exists for each incorporated element	Transformation authorization per element	Authorization present for each element; no element incorporated without authorization
LIN-CHK-010	Dub and Voice-Clone Lineage Complete	A dubbed or voice-cloned version has a lineage record linking it to the source performance and the synthesis event	Dub/clone lineage record	Record present; source performance reference resolvable; synthesis event logged

D.3.2 Version Integrity and Replay Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
LIN-CHK-011	No Contamination from Rights-Excluded Source	The lineage record contains no element derived from a source whose consent or rights state is unresolved or revoked	Lineage records; consent and rights-state records for all source elements	No lineage path incorporates an element from a source with an unresolved or revoked state
LIN-CHK-012	Clip and Excerpt Linked to Full Work	Every clip, trailer, or highlight excerpt in distribution has a lineage record linking it to the full work	Clip/excerpt lineage record	Parent work reference present and resolvable; derivation event logged
LIN-CHK-013	Lineage Replay-Ready	The lineage evidence set is sufficient for an independent reviewer to reconstruct the transformation history for dispute purposes	Full lineage evidence pack	Evidence pack contains all transformation logs, authorization records, and version-state records required for replay
LIN-CHK-014	Lineage EP Delta Issued for All Changes	Every change to a lineage record (new derivative, correction, supersession) is accompanied by an EP Delta	EP Delta records for lineage changes	EP Delta present for each change; no lineage change without a corresponding EP Delta
LIN-CHK-015	Lineage Break Register Reviewed	The lineage break register has been reviewed within the current reconciliation cycle	Break register with last-review date	Last-review date is within the defined cadence; all S-1 and S-2 lineage breaks have active investigation records
LIN-CHK-016	Version-Control Discipline Applied	Each version of an artifact has a distinct version identifier; version identifiers follow a documented scheme	Version identifier records; versioning policy	All versions have distinct identifiers; identifier scheme matches the documented policy
LIN-CHK-017	Lineage Records Immutable	Transformation event log entries and lineage records are stored in an immutable or append-only system	Storage system property; chain-of-custody record	Records confirmed immutable; no deleted or modified entries without a corresponding EP Delta
LIN-CHK-	Transformation	Each transformation	Transformation	Classification field

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
018	Type Classified Correctly	event is classified under the framework's transformation taxonomy (remix, sample, dub, clip, synthetic clone, composite, scene alteration, version supersession)	type field in event log	present and matches the taxonomy; no unclassified transformation events
LIN-CHK-019	Lineage Preservation Bundle Prepared	A preservation bundle for lineage evidence has been prepared and is retrievable	Preservation bundle manifest	Bundle present; bundle contents match the current lineage evidence pack
LIN-CHK-020	Post-Dispute Lineage Review Completed	If a lineage dispute has been formally closed, a post-dispute review record confirms the corrected state	Post-dispute review record; EP Delta	Review record present; EP Delta issued confirming corrected lineage; prior state preserved
LIN-CHK-021	Version Lineage Covers All Distributed Formats	The lineage evidence covers each format or encoding variant of each version in active distribution	Lineage records per format	Either separate lineage records exist per format, or a documented annotation links all formats to their canonical version
LIN-CHK-022	No Unauthorized Version in Active Monetization	No version classified as a draft, rejected edit, or internal review copy appears in the active royalty or revenue calculation record	Royalty calculation record; version-state record	All versions in the royalty record have an official-release or approved-distribution state
LIN-CHK-023	Transformation Authorization Scope Matches Transformation Applied	The transformation authorization record covers the specific type and scope of transformation that was actually applied	Transformation authorization; transformation event log	Authorization type and scope match the logged transformation; no transformation applied beyond the authorized scope
LIN-CHK-024	Contamination Break — Hold Confirmed	Where a lineage contamination pattern has been detected, a hold has been placed on all distributions in the affected lineage	Contamination break record; hold records	Hold records present for all affected distributions; no uncontained active distribution in a contaminated lineage

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		chain		
LIN-CHK-025	Lineage Evidence Not Expired	The lineage evidence records are current and have not exceeded any defined TTL or staleness threshold	Lineage records with timestamps; TTL policy	All lineage records are within their defined TTL; no stale records without a documented recertification

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D.4 Rights-Chain and Scope-of-Use Checks

D.4.1 Rights-Holder and Chain-of-Title Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
RCH-CHK-001	Rights-Holder Reference Present	A rights-holder reference exists in the evidence set for every artifact in active distribution or monetization	Rights-holder record	Record present; rights-holder identity is documented and linked to the artifact
RCH-CHK-002	Chain of Title Documented	The chain of title from originating creator to current rights-holder has no undocumented transfers	Chain-of-title records for all transfers	All transfers documented; each transfer references the prior and subsequent rights-holder
RCH-CHK-003	Contribution Chain Consistent with Credit and Royalty Records	The parties listed in the contribution-chain record match the parties in the royalty split and credit records	Contribution-chain record; royalty split record; credit record	All parties present in all three records; no party in any one record that is absent from the others without a documented explanation
RCH-CHK-004	Royalty Split Totals Valid	The royalty split allocation across all rights-holders sums to a valid total allocation	Royalty split record	Allocation sums correctly; no residual unallocated balance without a documented disposition
RCH-CHK-005	Active License Not Expired	The license under which the artifact is currently distributed or monetized is within its valid term	License record with term dates	License term encompasses the current date and all active distribution events; no expired license in use
RCH-CHK-	Sublicense	Where a sublicense has	Sublicense	Authorization record

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
006	Authorization Present	been granted, authorization from the primary licensor is documented	authorization record	present; it is from a party with documented authority to sublicense
RCH-CHK-007	Territory Coverage Confirmed	The territory of active distribution falls within the territory covered by the active license or rights record	License territory field; distribution record	All active distribution territories are within the licensed territory
RCH-CHK-008	Channel Coverage Confirmed	The distribution channel in active use is covered by the active license or rights record	License channel field; distribution record	All active channels are within the licensed channels
RCH-CHK-009	Purpose Coverage Confirmed	The purpose of use in active distribution is covered by the active license or rights record	License purpose field; use-event record	All active use purposes are within the licensed purposes
RCH-CHK-010	Derivative Rights State Confirmed	Where a derivative or transformed version is in distribution, the underlying rights record explicitly authorizes derivative use	Rights record derivative-use clause	Derivative-use authorization present; the derivation type in use is within the authorized scope

D.4.2 Archive, Promotional, and Re-Use Rights Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
RCH-CHK-011	Archive or Library Rights Clearance Present	An archival or library asset in commercial re-use has a documented archive-rights clearance record	Archive-rights clearance record	Record present; it covers the re-use type, territory, and duration; it is within its validity period
RCH-CHK-012	Promotional Rights Separately Documented	Promotional use of an artifact is authorized by a rights record that explicitly covers promotional contexts	Promotional-rights record or clause	Promotional-rights authorization documented; not assumed from the primary distribution license
RCH-CHK-013	Re-Release Rights Documented	Where an artifact is being re-released, the re-release rights are documented separately from the original release license	Re-release rights record	Record present; it covers the re-release territory, medium, and duration
RCH-CHK-	Rights-State	The most recent	Rights-state record	Current date is within

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
014	Evidence Not Expired	rights-state evidence for the artifact is within its defined validity period	with validity period	validity period; no overdue recertification
RCH-CHK-015	Rights Recertification Current	If a rights recertification cadence applies, the most recent recertification is not overdue	Recertification record	Recertification date is within the defined cadence
RCH-CHK-016	Out-of-Scope Use Hold Confirmed	Where an out-of-scope use has been detected, a hold has been placed on the affected distribution or monetization	Out-of-scope break record; hold record	Hold record present; scope of hold covers all affected distributions
RCH-CHK-017	Rights EP Delta Issued for All State Changes	Every change to a rights-chain state (transfer, amendment, expiry, renewal) is accompanied by an EP Delta	EP Delta records for rights-state changes	EP Delta present for each state change; no state change without a corresponding EP Delta
RCH-CHK-018	Rights Evidence Replay-Ready	The rights-chain evidence set is sufficient for an independent reviewer to reconstruct the rights history at any point in the artifact's lifecycle	Full rights-chain evidence pack	Evidence pack contains all rights records, transfers, splits, EP Deltas, and licensing records required for replay
RCH-CHK-019	Rights Break Register Reviewed	The rights-chain break register has been reviewed within the current reconciliation cycle	Break register with last-review date	Last-review date is within the defined cadence; all S-1 and S-2 rights breaks have active investigation records
RCH-CHK-020	Rights Preservation Bundle Prepared	A preservation bundle for rights-chain evidence has been prepared and is retrievable	Preservation bundle manifest	Bundle present; bundle contents match the current rights-chain evidence pack
RCH-CHK-021	No Single-Party Control over Rights Records	No single party holds exclusive control over the rights-chain records	Governance record for rights evidence	Governance record confirms multi-party or distributed control
RCH-CHK-022	Royalty Linkage to Rights State Confirmed	The royalty calculation for the artifact is linked to	Royalty calculation artifact; rights-state record	Calculation references the active rights-state record; calculation

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		and consistent with the active rights-state record		inputs are consistent with rights-state fields
RCH-CHK-023	Contribution Chain — No Missing Contributors	All parties who have a documented contribution to the artifact appear in the contribution-chain record	Contribution-chain record; production records	No party with a documented contribution is absent from the contribution-chain record
RCH-CHK-024	Contribution Chain — No Undocumented Contributors	No party appears in the royalty split or credit record without a corresponding entry in the contribution-chain	Contribution-chain record; royalty split; credit record	Contribution-chain record accounts for all parties in royalty and credit records
RCH-CHK-025	Rights Renewal Action Initiated Before Expiry	Where a rights or license record is approaching expiry, a renewal action has been initiated within the defined pre-expiry window	Renewal action record with initiation date; license expiry date	Renewal action record present; initiation date is within the pre-expiry window

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D.5 Royalty, Settlement, and Payout Checks

D.5.1 Royalty Event and Usage Evidence Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ROY-CHK-001	Usage Event Log Present and Complete	A usage event log exists for the royalty period under review and contains all material usage events	Usage event log	Log present; no unexplained gaps in the usage period; all known distribution channels represented
ROY-CHK-002	Usage Events Matched to Calculation Entries	Every usage event in the log has a corresponding royalty calculation entry	Usage event log; calculation artifact	Every usage event ID appears in a calculation artifact; no unmatched usage events
ROY-CHK-003	Calculation Entries Matched to Usage Events	Every royalty calculation entry can be linked to one or more usage event log entries	Calculation artifact; usage event log	Every calculation entry references at least one usage event ID; no unmatched calculation entries
ROY-CHK-004	Calculation Inputs Match Authorizing Records	The rate, usage quantity, territory, and channel used in each calculation match the values in the	Calculation artifact; rights record; consent record	All input fields in the calculation match the corresponding fields in the authorizing records

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		authorizing rights and consent records		
ROY-CHK-005	Calculation Replay Successful	The royalty calculation can be replayed from its logged inputs and produces the same output as the recorded calculation	Calculation artifact; logged inputs	Recalculated output matches recorded output exactly; any discrepancy triggers a break record
ROY-CHK-006	Split Allocation Matches Contribution Chain	The royalty split allocation in the calculation artifact matches the contribution-chain split documented in the rights-chain evidence set	Calculation artifact split fields; contribution-chain record	Split allocations are identical; any discrepancy is documented with a correction EP Delta
ROY-CHK-007	Payout Instructions Matched to Calculations	Every royalty payout instruction references a specific calculation artifact	Payout instruction; calculation artifact	Every payout instruction has a linked calculation artifact ID; no unmatched payout instructions
ROY-CHK-008	Settlement Confirmation Present for Each Payout	A settlement confirmation exists for every payout instruction issued in the royalty period	Settlement confirmation; payout instruction	Every payout instruction has a corresponding settlement confirmation; no unconfirmed payouts
ROY-CHK-009	Payout Amount Consistent with Calculation	The amount in the settlement confirmation matches the amount in the linked calculation artifact	Settlement confirmation; calculation artifact	Amounts match; any discrepancy is documented with a correction EP Delta
ROY-CHK-010	Royalty Period Finality Record Present	A finality record exists for the royalty period confirming that all calculations, payouts, and confirmations are complete	Finality record for the royalty period	Finality record present; it references all settlement confirmations for the period; no open payout instruction without a confirmation

D.5.2 Disputed Royalty and Hold Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ROY-CHK-011	Disputed Royalty Portion in Hold	Where a rights-holder has submitted a formal dispute over a royalty allocation, the disputed portion is in a hold or escrow-like containment	Dispute record; hold record	Hold record present and covers the disputed amount; undisputed portion has been released or processed normally

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		state		
ROY-CHK-012	Hold Account Balance Consistent with Calculation Artifacts	The balance held in a disputed or contested royalty hold account matches the sum of the associated calculation artifacts	Hold account balance record; calculation artifacts	Balance matches the sum; any discrepancy triggers a break record
ROY-CHK-013	Correction EP Delta Issued for All Royalty Adjustments	Every royalty correction, adjustment, or reversal is accompanied by an EP Delta	EP Delta records for royalty corrections	EP Delta present for each correction; no adjustment applied without a corresponding EP Delta
ROY-CHK-014	Off-Cycle Adjustment Authorization Present	Every off-cycle royalty adjustment or reversal has a multi-party authorization record	Authorization record for off-cycle adjustment	Authorization record present; signed by at least two designated authorizing officers
ROY-CHK-015	Advance Recoupment Calculation Documented	Where royalties are offset against an advance, the recoupment calculation references a documented advance record and uses the correct baseline	Advance record; recoupment calculation	Advance record present and linked; recoupment baseline matches the advance record
ROY-CHK-016	Unallocated Residual Addressed	Any unallocated residual balance at the end of a royalty period has a documented disposition	Residual balance record; disposition record	No unaddressed residual balance; disposition is documented and authorized
ROY-CHK-017	Rate Basis Documented for Each Calculation	The rate applied in each royalty calculation has a documented authorization or rate-schedule reference	Rate-schedule record or rate authorization; calculation artifact	Rate reference present in calculation artifact; it resolves to a valid rate-schedule or authorization record
ROY-CHK-018	Usage-Period Gap Addressed	Where a gap exists in the usage-evidence record, the corresponding royalty period is either marked as zero-usage with justification, or an investigation record exists	Zero-usage record or investigation record	No unexplained usage-period gap; every gap is accounted for in the evidence record
ROY-CHK-019	Synthetic-Use Rate Basis Documented	Where a synthetic or AI-modified version is monetized, the rate applied is documented	Synthetic-use rate authorization; calculation	Rate authorization present; it explicitly covers synthetic-use contexts; no synthetic-

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		and authorized for synthetic-use contexts	artifact	use monetization at standard rate without a documented equivalence basis
ROY-CHK-020	Out-of-Scope Usage Not Monetized	No royalty calculation is based on a usage event that falls outside the scope authorized by the consent or rights record	Royalty calculation; consent and rights scope records	All calculated usage events are within authorized scope; any out-of-scope event has a hold record and is not included in a finalized payout

D.5.3 Royalty Evidence Integrity and Preservation Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ROY-CHK-021	Payout Linkage Chain Complete	The full linkage chain (usage event → calculation → split → payout instruction → settlement confirmation → finality) is unbroken for each royalty period	All artifacts in the payout linkage chain	Every link in the chain is present and resolvable; no missing link
ROY-CHK-022	Royalty Evidence Replay-Ready	The royalty evidence set is sufficient for an independent reviewer to recalculate and confirm every payout for the period	Full royalty evidence pack	Evidence pack contains all usage logs, calculation artifacts, split records, payout instructions, and confirmations required for replay
ROY-CHK-023	Royalty Break Register Reviewed	The royalty break register has been reviewed within the current reconciliation cycle	Break register with last-review date	Last-review date is within the defined cadence; all S-1 and S-2 royalty breaks have active investigation records
ROY-CHK-024	Royalty Preservation Bundle Prepared	A preservation bundle for royalty evidence has been prepared and is retrievable for the period under review	Preservation bundle manifest	Bundle present; bundle contents match the current royalty evidence pack for the period
ROY-CHK-025	Operational Finality Does Not Assert Legal Finality	Royalty period finality records use operational finality language and do not assert legal finality or extinguish dispute rights	Finality record language	Finality record uses operational language; no claim of legal finality or waiver of rights

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ROY-CHK-026	Royalty Records Immutable	Royalty calculation artifacts, usage event logs, and payout confirmations are stored in an immutable or append-only system	Storage system property; chain-of-custody record	Records confirmed immutable; no deleted or modified entries without a corresponding EP Delta
ROY-CHK-027	Correction Chain Traceable	Where corrections have been applied to royalty records, the correction chain is fully traceable from the original record through each correction EP Delta to the current state	EP Delta chain records	All corrections traceable; original state preserved; no silent overwrites
ROY-CHK-028	Rights-Holder Notification of Payout Issued	Where a rights-holder is entitled to notification of a royalty payout, a notification record exists confirming notification was issued	Notification record per rights-holder	Notification record present for each rights-holder entitled to notification; timing consistent with the governance policy
ROY-CHK-029	No Single-Party Control over Royalty Records	No single party holds exclusive control over the royalty evidence records	Governance record for royalty evidence	Governance record confirms multi-party or distributed control
ROY-CHK-030	Royalty Reconciliation Attestation Completed	A reconciliation attestation signed by the designated reconciliation authority has been issued for the royalty period	Reconciliation attestation record	Attestation present; signed by a designated authority; covers the full period

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D.6 Bounded-Access Compliance Checks

D.6.1 Tier Definitions and Purpose-Limitation Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ACC-CHK-001	Reviewer Tier Classification Documented	Every reviewer or examiner accessing the evidence set is assigned to a defined access tier consistent with the framework's tiered-access model	Tier classification record per reviewer	Tier assignment present for every reviewer; assignment is consistent with the reviewer's role and stated purpose
ACC-CHK-002	Purpose Stated for Each Access Event	Every access to restricted evidence is accompanied by a documented purpose statement	Access log with purpose field	Purpose field is populated for every access event; purpose is specific

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
				rather than generic
ACC-CHK-003	TTL Applied to All Elevated Access	All access at elevated tiers has a defined TTL; access does not persist beyond the TTL without reauthorization	Access log with TTL field	TTL field present for all elevated-tier access; no access event with an expired TTL that has not been terminated or reauthorized
ACC-CHK-004	Default Reviewer-Safe Output Used Unless Elevation Authorized	Reviewers receive default minimized or aggregated outputs unless elevated access has been specifically authorized	Default output record; elevated-access authorization	Elevated access events are matched to authorization records; no elevation without authorization
ACC-CHK-005	Elevated Access Conditions Met	Where access has been elevated beyond the default tier, the conditions for elevation are documented and met	Elevation conditions record; authorization record	Conditions documented; evidence that conditions were met is present in the access record
ACC-CHK-006	Emergency Escalation Access Logged	Where emergency or dispute-escalation access has been granted, it is logged with timestamp, scope, authorizing officers, and purpose	Emergency access log entry	Entry present; all required fields populated; dual-authorization confirmed where required
ACC-CHK-007	Post-Access Review Completed	After elevated or emergency access, a post-access review has been completed within the defined SLO	Post-access review record	Review record present; completed within SLO; any anomalies documented
ACC-CHK-008	Minimization Applied to Reviewer Outputs	Reviewer outputs contain only the attributes and data elements necessary for the stated purpose	Reviewer output record; purpose-limitation policy	Output attributes are consistent with the stated purpose; no excess data disclosed
ACC-CHK-009	Redaction Applied Where Required	Where outputs include sensitive rights-holder, performer, or contributor information, redaction has been applied consistent with the purpose-limitation policy	Redacted output record; redaction log	Redaction log present; redacted fields are documented; unredacted originals are preserved in the restricted evidence set
ACC-CHK-010	Bounded Disclosure	No evidence of access beyond the authorized	Access log; purpose-	Access log shows no access event that

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
	Discipline Confirmed	scope, purpose, or TTL for any reviewer	limitation record	exceeds scope, purpose, or TTL

D.6.2 Proof-Based Verification and Access Log Integrity Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ACC-CHK-011	Proof-Based Verification Used Where Available	Where proof-based verification mechanisms are available and material to the check, they are used in preference to full raw disclosure	Verification output record; proof type	Verification output used; proof type documented; raw disclosure only where proof-based verification is not available or sufficient
ACC-CHK-012	Access Log Is Immutable	The reviewer and examiner access log is stored in an immutable or append-only system	Storage system property	Log confirmed immutable; no deleted or modified entries
ACC-CHK-013	Access Log Reviewed for Anomalies	The access log has been reviewed for anomalous or unauthorized access patterns within the current reconciliation cycle	Access log review record	Review record present; no unaddressed anomalies; anomalies that were found have investigation records
ACC-CHK-014	No Pervasive Disclosure of Rights-Holder PII	Rights-holder personally identifying information is not disclosed in routine reviewer outputs	Routine reviewer output samples; PII policy	PII fields absent from routine outputs; PII disclosure events are limited to authorized elevated-access events
ACC-CHK-015	Reviewer Identity Verified Before Access	The identity of every reviewer granted access to restricted evidence has been verified and recorded	Reviewer identity verification record	Verification record present for every reviewer; verification occurred before access was granted
ACC-CHK-016	Access Reauthorization Completed on Schedule	Where ongoing access is subject to a recertification cadence, reauthorization has been completed within the defined cycle	Reauthorization record	Reauthorization record present; not overdue

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
ACC-CHK-017	Dispute-Escalation Access Bounded to Dispute Scope	Where access was elevated for dispute purposes, the access scope does not extend beyond the artifacts and periods directly relevant to the dispute	Access scope record; dispute scope record	Access scope is a subset of or equal to the dispute scope; no access to artifacts outside the dispute scope
ACC-CHK-018	Confidential Evidence Set Distinct from General Evidence Set	The restricted or confidential evidence set is physically or logically separated from the general evidence set accessible to lower-tier reviewers	Storage architecture record	Separation confirmed; no evidence of cross-contamination between tiers
ACC-CHK-019	Bounded-Access Compliance Break Register Reviewed	The bounded-access compliance break register has been reviewed within the current reconciliation cycle	Break register with last-review date	Last-review date is within the defined cadence; all access breaks have active investigation records
ACC-CHK-020	Bounded-Access Evidence Preservation Bundle Prepared	A preservation bundle for access-log and reviewer-access evidence has been prepared	Preservation bundle manifest	Bundle present; bundle contents match the current access log and reviewer-access records

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D.7 Governance, Change Control, and Recertification Checks

D.7.1 Governance Structure and Role Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
GOV-CHK-001	Governance Structure Documented	A governance structure covering authenticity, consent, lineage, rights-chain, and royalty workflows is documented and current	Governance structure document with effective date	Document present; effective date within the defined review cadence
GOV-CHK-002	Role Taxonomy Current	The role taxonomy for the workflow is documented, current, and assigns roles to all critical activities	Role taxonomy record	Taxonomy present; all critical activities have assigned roles; no unassigned critical activity

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
GOV-CHK-003	RACI Slices Present for Critical Activities	RACI assignments exist for every critical activity in the workflow	RACI matrix or RACI slices	RACI present for all critical activities; no critical activity with an unresolved accountability gap
GOV-CHK-004	Authority and Delegation Controls Documented	All delegations of authority affecting the workflow are documented with scope, duration, and revocation conditions	Delegation records	Records present for all active delegations; expired delegations are revoked or renewed
GOV-CHK-005	No-Master-Key Posture Confirmed	No single party holds a master key or single point of control over critical evidence or authorization records	Governance record; key management record	No single-party master key dependency; multi-party control confirmed across all critical records
GOV-CHK-006	Distributed Governance Posture Confirmed	Governance authority is distributed across multiple independent parties; no single-party veto or override exists without documented exception	Governance structure record	Distributed control confirmed; any single-party override has a documented exception with multi-party ratification
GOV-CHK-007	Accountability Record Present for Corrections and Overrides	Every correction, override, or supersession event has an accountability record identifying the authorizing officer(s) and the rationale	Accountability record per correction/override	Record present for every correction and override; rationale documented; multi-party authorization confirmed where required

D.7.2 Change Control and Material Change Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
GOV-CHK-008	Change Control Policy Documented	A change control policy governing amendments to evidence records, governance frameworks, and operational procedures is documented and current	Change control policy with effective date	Policy present; effective date within the defined review cadence
GOV-CHK-009	Material Change Triggers Defined	The conditions that constitute a material change requiring governance review are defined in the change control policy	Material change trigger list in policy	Trigger list present; it covers all major workflow domains; no domain without a defined trigger

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
GOV-CHK-010	Material Changes Reviewed and Authorized	Every material change to evidence records, governance frameworks, or operational procedures has been reviewed and authorized under the change control policy	Authorization records for material changes	Authorization records present for all material changes in the review period; no material change without authorization
GOV-CHK-011	Non-Material Changes Logged	Non-material changes (corrections, clarifications, format updates) are logged even where formal authorization is not required	Change log for non-material changes	Log present; all non-material changes recorded; no silent changes without a log entry
GOV-CHK-012	EP Delta Issued for All Evidenced State Changes	Every change to an evidenced state — regardless of domain — is accompanied by an EP Delta within the defined SLO	EP Delta records; state change log	EP Delta present for every state change; no state change without a corresponding EP Delta
GOV-CHK-013	Prior State Preserved in All Corrections	Every correction to an evidence record preserves the prior state; no destructive overwrites	EP Delta records; storage system property	Prior state preservation confirmed for all corrections; no evidence of destructive overwrites
GOV-CHK-014	Emergency Override Governance Confirmed	Where an emergency override has been applied outside the standard change control process, it has been ratified by a multi-party governance review within the defined post-emergency SLO	Emergency override record; ratification record	Ratification record present; completed within SLO; any unratified override is an open governance break

D.7.3 Recertification and Incident Escalation Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
GOV-CHK-015	Recertification Cadence Defined for All Evidence Types	A recertification cadence is defined for each type of evidence record (authenticity, consent, lineage, rights-chain, royalty)	Recertification policy	Cadence defined for each evidence type; no evidence type without a defined recertification schedule
GOV-CHK-	Recertification	All evidence types	Recertification	Records present for all

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
016	Completed on Schedule	subject to recertification have been recertified within the defined cadence	completion records	required recertifications in the review period; no overdue recertification without a documented extension
GOV-CHK-017	Liability Trigger Catalog Maintained	A catalog of conditions that trigger escalation, liability review, or governance action is maintained and current	Liability trigger catalog	Catalog present; current as of the most recent governance review; all major trigger types represented
GOV-CHK-018	Incident Escalation Playbook Current	The incident escalation and containment playbook is current and has been reviewed within the defined governance cycle	Escalation playbook with review date	Playbook present; review date within the defined cycle
GOV-CHK-019	Incident Escalation Events Logged	All incident escalation events have been logged with timestamp, nature of incident, escalating party, and resolution outcome	Incident escalation log	Log present; all incidents in the review period are recorded; no escalation event without a resolution record
GOV-CHK-020	Failure Containment Actions Documented	Where a control failure or incident required containment, the containment actions taken are documented in the evidence pack	Containment action records	Records present for all containment events in the review period; actions are specific and traceable to the triggering event
GOV-CHK-021	Governance Review Cycle Completed	The governance framework has been reviewed within the defined cycle; no governance review is overdue	Governance review completion record	Review record present; completed within the defined cycle
GOV-CHK-022	Governance Break Register Reviewed	The governance break register has been reviewed within the current cycle	Break register with last-review date	Last-review date is within the defined cadence; all governance breaks have active investigation records

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
GOV-CHK-023	Standard Checks Pack Itself Is Current	This Standard Checks Pack has been reviewed and updated within the defined governance cycle	Checks pack version record with review date	Review date within the defined cycle; version number reflects the most recent governance-approved revision
GOV-CHK-024	Governance Preservation Bundle Prepared	A preservation bundle for governance records has been prepared and is retrievable	Preservation bundle manifest	Bundle present; bundle contents match the current governance evidence set
GOV-CHK-025	Post-Incident Governance Review Completed	Following a material incident, a post-incident governance review has been completed and its findings documented	Post-incident review record	Review record present for all material incidents in the review period; findings documented; corrective actions assigned

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D.8 Offboarding, Portability, and Legacy Transition Checks

D.8.1 Offboarding Trigger and Final State Checks

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
OFF-CHK-001	Offboarding Trigger Documented	The event or condition that initiated the offboarding process is documented in the evidence record	Offboarding trigger record	Record present; trigger type is classified under the framework's offboarding taxonomy
OFF-CHK-002	Final State Snapshot Prepared	A final state snapshot of all active evidence records (authenticity, consent, lineage, rights-chain, royalty) has been prepared as of the offboarding date	Final state snapshot manifest	Snapshot present; it covers all active evidence domains; snapshot date is within the defined SLO of the offboarding trigger
OFF-CHK-003	Final Reconciliation Proof Completed	A final reconciliation has been run across all evidence domains and the results are documented	Final reconciliation report	Report present; it covers all domains; all breaks detected are classified with disposition codes
OFF-CHK-004	Open Breaks Disclosed	All open breaks at the time of offboarding are documented in the offboarding record and disclosed to the receiving	Open break disclosure record	Disclosure record present; all open breaks listed with their current status, severity, and

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		party or designated authority		investigation records
OFF-CHK-005	No Outstanding Royalty Obligations Undisclosed	All royalty obligations that are outstanding or disputed at the time of offboarding are documented and disclosed	Outstanding royalty obligations record	Record present; all outstanding and disputed royalty amounts are listed; no undisclosed obligation
OFF-CHK-006	Offboarding Proof Bundle Prepared	An offboarding proof bundle has been prepared containing the final state snapshot, final reconciliation report, open break disclosure, and outstanding obligations record	Offboarding proof bundle manifest	Bundle present; all required components are included; bundle is signed by a designated authority
OFF-CHK-007	Legacy Transition Manifest Prepared	A legacy transition manifest documenting all artifacts, records, and evidence sets transferred or archived during offboarding has been prepared	Legacy transition manifest	Manifest present; all artifacts and records listed; transfer or archive status confirmed for each item
OFF-CHK-008	Portable Evidence Set Prepared and Bounded	A portable evidence set has been prepared for transfer to the receiving party or archive, containing only the evidence required by the receiving party's role	Portable evidence set manifest	Set present; contents are bounded to the receiving party's access tier; no excess data included
OFF-CHK-009	Archival Retention Schedule Confirmed	An archival retention schedule has been confirmed for all records that must be retained post-offboarding	Retention schedule record	Schedule present; it specifies retention periods for each evidence type; it is consistent with applicable governance policy
OFF-CHK-010	Post-Offboarding Monitoring Plan in Place	Where ongoing royalty, consent, or rights-state obligations survive offboarding, a post-offboarding monitoring plan has been established	Post-offboarding monitoring plan	Plan present; it identifies the monitoring owner, monitoring scope, and review cadence
OFF-CHK-011	Consent and Rights States Transferred or Terminated	All active consent records and rights states have been either formally	Consent and rights transfer or termination	Records present for all active consent and rights states; no

Check ID	Check Name	What Is Confirmed	Evidence Required	Pass Condition
		transferred to a successor or formally terminated as of the offboarding date	records	orphaned active state without a disposition record
OFF-CHK-012	Revocation of Access on Offboarding Confirmed	All access rights and reviewer access credentials associated with the offboarded entity have been revoked as of the offboarding date	Access revocation record	Revocation records present for all associated access credentials; revocation date is on or before the offboarding date
OFF-CHK-013	Open Royalty Disputes Escalated Before Offboarding	All royalty disputes that were open at the time of offboarding initiation have been escalated to the appropriate authority or hold mechanism before the offboarding is completed	Dispute escalation records; hold records	Escalation records present for all open disputes; no open dispute left without a designated resolution authority
OFF-CHK-014	Offboarding Without Integrity Loss Confirmed	The offboarding process has not caused the deletion, corruption, or inaccessibility of any evidence record required for ongoing royalty, consent, or rights-state obligations	Post-offboarding integrity check record	Integrity check record present; no evidence of data loss or corruption; all required records are accessible to the designated authority
OFF-CHK-015	Offboarding Attestation Issued	A formal offboarding attestation has been issued by a designated authority confirming that all offboarding checks have been completed and all obligations have been appropriately addressed	Offboarding attestation record	Attestation present; issued by a designated authority; references the offboarding proof bundle; identifies any conditions or exceptions

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D.9 Summary Check Count and Domain Index

Domain	Code Range	Total Checks
Authenticity and Source Integrity	AUTH-CHK-001 to AUTH-CHK-030	30
Consent and Authorized-Use	CON-CHK-001 to CON-CHK-030	30
Lineage, Derivation, and Version	LIN-CHK-001 to LIN-CHK-025	25
Rights-Chain and Scope-of-Use	RCH-CHK-001 to RCH-CHK-025	25
Royalty, Settlement, and Payout	ROY-CHK-001 to ROY-CHK-030	30
Bounded-Access Compliance	ACC-CHK-001 to ACC-CHK-020	20

Domain	Code Range	Total Checks
Governance, Change Control, and Recertification	GOV-CHK-001 to GOV-CHK-025	25
Offboarding, Portability, and Legacy Transition	OFF-CHK-001 to OFF-CHK-015	15
TOTAL		**200**

D.10 Cross-Reference: Checks to Break IDs and Framework Sections

Check Domain	Corresponding Break IDs (Appendix C)	Primary Framework Sections
AUTH-CHK	AUTH-001 to AUTH-015	Section 4; Appendix H; Appendix B
CON-CHK	CON-001 to CON-016	Section 5; Appendix N; Appendix M
LIN-CHK	LIN-001 to LIN-015	Section 6; Appendix M; Appendix H
RCH-CHK	RCH-001 to RCH-015	Section 7; Appendix N; Appendix B
ROY-CHK	ROY-001 to ROY-020	Section 8; Appendix I; Appendix B
ACC-CHK	N/A (access compliance)	Section 10; Appendix Q (where applicable)
GOV-CHK	N/A (governance)	Section 11; Appendix G
OFF-CHK	N/A (offboarding)	Section 13; Appendix J; Appendix F

D.11 Checks Pack Execution Guidance

D.11.1 Recommended Execution Sequence for Full Review Cycles

1. Run **AUTH-CHK-001 to AUTH-CHK-010** first to confirm canonical source object and origin integrity before any other domain is assessed.
2. Run **CON-CHK-001 to CON-CHK-010** to confirm consent record presence and validity before scope-of-use checks.
3. Run **LIN-CHK-001 to LIN-CHK-010** to confirm lineage chain integrity before rights-chain and royalty checks.
4. Run **RCH-CHK-001 to RCH-CHK-010** to confirm rights-holder and chain-of-title integrity before royalty calculations are assessed.
5. Run **ROY-CHK-001 to ROY-CHK-010** to confirm usage-to-payout linkage integrity.
6. Run **ACC-CHK-001 to ACC-CHK-010** to confirm bounded-access compliance for the review cycle.
7. Run **GOV-CHK-001 to GOV-CHK-025** to confirm governance and change control posture.
8. Run **OFF-CHK-001 to OFF-CHK-015** only where an offboarding event is in scope.

D.11.2 Targeted Check Execution for Specific Scenarios

Scenario	Recommended Check Subset
New release or distribution event	AUTH-CHK-001 to 010, CON-CHK-001 to 010, LIN-CHK-001 to 005, RCH-CHK-001 to 005
Royalty period close	ROY-CHK-001 to 030, RCH-CHK-003 to 004, CON-CHK-011 to 014

Scenario	Recommended Check Subset
Authenticity dispute	AUTH-CHK-001 to 030, LIN-CHK-001 to 015
Consent revocation event	CON-CHK-003, CON-CHK-005, CON-CHK-021 to 025, ROY-CHK-011, RCH-CHK-016
AI-modification or synthetic-use workflow	AUTH-CHK-015, CON-CHK-007 to 008, LIN-CHK-007 to 011, ROY-CHK-019 to 020
Rights transfer or license renewal	RCH-CHK-001 to 010, RCH-CHK-017, GOV-CHK-008 to 012
Examiner or regulatory review	All AUTH, CON, LIN, RCH, ROY checks; ACC-CHK-001 to 010; GOV-CHK-023
Offboarding	OFF-CHK-001 to 015; ROY-CHK-030; ACC-CHK-012; GOV-CHK-024

D.11.3 Checks Pack Maintenance

This checks pack is subject to change control under the governance framework described in Section 11 and GOV-CHK-023. New checks may be added, existing checks revised, and N/A determinations may be codified through the material-change trigger and EP Delta process. The version number and review date in the document header must be updated at each revision.

Appendix E — Reviewer / Examiner Query Pack (Expanded; Conceptual SQL / Pseudocode / Retrieval Logic)

> **Purpose:** This appendix provides an expanded set of conceptual query families for reviewers and examiners. Queries are expressed in implementation-agnostic pseudocode and SQL-style logic. They extend the twelve families introduced in Section 14.9 with additional queries covering cross-domain scenarios, aggregate monitoring, dispute reconstruction, governance audit, and offboarding verification. All queries specify the applicable access tier and the check IDs they support.
>
> **Implementation note:** These are conceptual templates. Any conforming implementation must produce equivalent results. Table and field names correspond to the record schemas defined in Sections 4–13 and Appendix B. Queries should be adapted to the specific schema of the implementing environment.

E.1 Authenticity Domain Queries

QF-A01 — Catalog Authenticity State Heatmap

Purpose: Produce a Tier 0 summary distribution of authenticity states across a defined catalog for governance monitoring. *Supports:* AC-01, AC-07, AC-11; GV-05 *Access Tier:* Tier 0

```
SELECT
```

```
  authenticity_state,
  object_class,
  COUNT(*)                              AS artifact_count,
  SUM(CASE WHEN origin_assertion_lvl >= 4
           THEN 1 ELSE 0 END)           AS high_assertion_level_count,
  MIN(registration_ts)                  AS oldest_in_state,
  MAX(registration_ts)                  AS newest_in_state
FROM ep_layer_0_manifests m
JOIN ep_layer_1_authenticity a
  ON m.artifact_manifest_id = a.artifact_manifest_id
WHERE a.record_is_current = TRUE
  AND m.artifact_manifest_id IN (<catalog_scope>)
GROUP BY authenticity_state, object_class
ORDER BY artifact_count DESC;
```

QF-A02 — Manifest Chain Integrity Verification

Purpose: Detect breaks in the manifest hash chain for one or more artifacts. *Supports:* AC-02, AC-14; BR-A02 *Access Tier:* Tier 1

```
-- Flag any manifest entry where declared prev_manifest_hash
-- does not equal the actual hash of the preceding entry
SELECT
  m_current.artifact_manifest_id,
  m_current.manifest_id           AS current_record_id,
  m_current.prev_manifest_hash    AS declared_prev_hash,
  m_prior.manifest_hash           AS actual_prior_hash,
  CASE
    WHEN m_current.prev_manifest_hash IS NULL
     AND m_current.manifest_id = (SELECT MIN(manifest_id)
                                  FROM ep_layer_0_manifests
                                  WHERE artifact_manifest_id
                                        = m_current.artifact_manifest_id)
    THEN 'CHAIN_ORIGIN_OK'
    WHEN m_current.prev_manifest_hash = m_prior.manifest_hash
    THEN 'HASH_MATCH_OK'
    ELSE 'CHAIN_BREAK_DETECTED'
```

```
  END AS chain_status
FROM ep_layer_0_manifests m_current
LEFT JOIN ep_layer_0_manifests m_prior
  ON m_prior.artifact_manifest_id = m_current.artifact_manifest_id
 AND m_prior.sequence_number      = m_current.sequence_number - 1
WHERE m_current.artifact_manifest_id IN (<artifact_scope>)
ORDER BY m_current.artifact_manifest_id, m_current.sequence_number;
-- Post-process: any row with chain_status = 'CHAIN_BREAK_DETECTED' is BR-A02
```

QF-A03 — Synthesis Provenance Completeness Scan

Purpose: Identify AI-generated or AI-assisted artifacts lacking synthesis provenance records. *Supports:* AC-05, AC-12; BR-A05 *Access Tier:* Tier 1

```
SELECT
  m.artifact_manifest_id,
  m.transformation_type,
  m.operator_class,
  t.synthesis_provenance_ref,
  t.training_data_auth_ref,
  CASE
    WHEN t.synthesis_provenance_ref IS NULL THEN 'PROVENANCE_ABSENT'
    WHEN t.training_data_auth_ref   IS NULL THEN 'TRAINING_AUTH_ABSENT'
    ELSE 'COMPLETE'
  END AS provenance_status
FROM ep_layer_0_manifests m
JOIN ep_layer_3_transformation_events t
  ON m.artifact_manifest_id = t.output_manifest_id
WHERE m.operator_class IN ('AI system', 'hybrid')
  AND m.artifact_manifest_id IN (<catalog_scope>)
ORDER BY provenance_status, m.registration_ts;
-- Flag all rows where provenance_status != 'COMPLETE' → BR-A05
```

QF-A04 — Cross-Platform Duplicate Hash Detection

Purpose: Identify artifacts with identical content hashes registered under different manifest IDs (potential duplicate official designations or cross-platform re-registrations). *Supports:* AC-15; BR-A09 *Access Tier:* Tier 1

```
SELECT
  artifact_hash,
  COUNT(DISTINCT artifact_manifest_id)  AS manifest_count,
  MIN(registration_ts)                  AS earliest_registration,
  MAX(registration_ts)                  AS latest_registration,
  STRING_AGG(artifact_manifest_id, ', ') AS manifest_ids
FROM ep_layer_0_manifests
WHERE record_is_current = TRUE
  AND superseded_by IS NULL
GROUP BY artifact_hash
HAVING COUNT(DISTINCT artifact_manifest_id) > 1
ORDER BY manifest_count DESC;
-- Each group with manifest_count > 1 requires canonical resolution → AC-15, BR-
A09
```

E.2 Consent Domain Queries

QF-C01 — Consent Scope Dimension Coverage Report

Purpose: Identify consent instruments with underdefined scope dimensions across a catalog.
Supports: CA-04; BR-C04 *Access Tier:* Tier 1 (within rights-holder scope)

```
SELECT
  c.consent_instrument_id,
  c.artifact_manifest_id,
  c.territory_scope_state,
  c.medium_scope_state,
  c.duration_state,
  c.purpose_state,
  c.derivative_auth_state,
  c.synthetic_use_state,
  (CASE WHEN c.territory_scope_state    = 'CONFIRMED' THEN 0 ELSE 1 END
 + CASE WHEN c.medium_scope_state       = 'CONFIRMED' THEN 0 ELSE 1 END
 + CASE WHEN c.duration_state           = 'CONFIRMED' THEN 0 ELSE 1 END
 + CASE WHEN c.purpose_state            = 'CONFIRMED' THEN 0 ELSE 1 END
 + CASE WHEN c.derivative_auth_state    = 'CONFIRMED' THEN 0 ELSE 1 END
 + CASE WHEN c.synthetic_use_state      = 'CONFIRMED' THEN 0 ELSE 1 END)
```

```
                                        AS underdefined_dimension_count
FROM ep_layer_2_consent_scope_records c
WHERE c.record_is_current = TRUE
  AND c.artifact_manifest_id IN (<catalog_scope>)
ORDER BY underdefined_dimension_count DESC, c.consent_instrument_id;
-- Any row with underdefined_dimension_count > 0 → BR-C04 per dimension
```

QF-C02 — Approaching Consent Expiry Alert

Purpose: Identify consent instruments expiring within a defined alert window, to trigger renewal before expiry. *Supports:* CA-06; BR-C02 *Access Tier:* Tier 0 (count only); Tier 1 (instrument detail)

```
-- Tier 0 version: count only
SELECT
  COUNT(*) AS consents_expiring_within_60_days,
  SUM(CASE WHEN expiry_date <= CURRENT_DATE + INTERVAL '30 days'
           THEN 1 ELSE 0 END) AS expiring_within_30_days
FROM ep_layer_2_consent_instruments
WHERE record_is_current  = TRUE
  AND consent_state      NOT IN ('EXPIRED', 'REVOKED', 'SUPERSEDED')
  AND expiry_date        <= CURRENT_DATE + INTERVAL '60 days'
  AND expiry_date        >= CURRENT_DATE;

-- Tier 1 extension: add consent_instrument_id, artifact_manifest_id,
-- expiry_date to SELECT, filtered to rights-holder scope
```

QF-C03 — Synthetic Use Authorization Gap Scan

Purpose: Identify all artifacts used as sources for synthetic derivatives where the source consent instrument does not carry explicit synthetic-use authorization. *Supports:* CA-08, CA-15; BR-C07 *Access Tier:* Tier 1

```
SELECT
  t.source_manifest_id,
  t.output_manifest_id,
  t.transformation_type,
  c.synthetic_use_state,
  c.consent_instrument_id,
  CASE
```

```
    WHEN c.synthetic_use_state = 'CONFIRMED' THEN 'AUTHORIZED'
    WHEN c.synthetic_use_state = 'ASSERTED'  THEN 'ASSERTED_ONLY'
    ELSE 'ABSENT_OR_PROHIBITED'
  END AS synthetic_auth_status
FROM ep_layer_3_transformation_events t
JOIN ep_layer_2_consent_scope_records c
  ON c.artifact_manifest_id = t.source_manifest_id
 AND c.record_is_current    = TRUE
WHERE t.transformation_type IN ('synthetic_clone', 'AI_dub', 'AI_assisted')
  AND t.source_manifest_id IN (<catalog_scope>)
ORDER BY synthetic_auth_status, t.source_manifest_id;
-- Rows with ABSENT_OR_PROHIBITED → BR-C07; hold synthetic output revenue
```

QF-C04 — Revocation Propagation Verification

Purpose: Confirm that royalty calculations do not include usage events post-dating a consent revocation. *Supports:* CA-07; BR-C06 *Access Tier:* Tier 1

```
SELECT
  r.consent_instrument_id,
  r.revocation_effective_date,
  u.usage_event_id,
  u.event_timestamp,
  u.revenue_attributed,
  c.calc_id
FROM ep_layer_2_revocation_records r
JOIN ep_layer_5_usage_events u
  ON u.consent_anchor_ref = r.consent_instrument_id
 AND u.event_timestamp    >  r.revocation_effective_date
JOIN ep_layer_5_calculation_artifacts c
  ON u.usage_event_id = ANY(c.usage_event_ids)
WHERE r.record_is_current = TRUE
  AND r.artifact_manifest_id IN (<artifact_scope>)
ORDER BY r.consent_instrument_id, u.event_timestamp;
-- Any row returned = post-revocation event in active calculation → BR-C06
-- Sum of revenue_attributed per instrument = amount to hold
```

E.3 Lineage Domain Queries

QF-L01 — Full Lineage Chain Traversal with Authorization State

Purpose: Traverse the complete derivation chain for an artifact and flag any authorization gaps. *Supports:* LN-01, LN-02, LN-03; QF-03 in Section 14.9 (extended version) *Access Tier:* Tier 1 (summary); Tier 2 (full chain detail)

```
WITH RECURSIVE lineage AS (
  -- Anchor: target artifact
  SELECT
    t.event_id,
    t.source_manifest_id,
    t.output_manifest_id,
    t.transformation_type,
    t.authorization_state,
    t.operator_class,
    t.materiality_class,
    0 AS depth,
    CAST(t.event_id AS TEXT) AS chain_path
  FROM ep_layer_3_transformation_events t
  WHERE t.output_manifest_id = '<target_manifest_id>'

  UNION ALL

  -- Recursive: walk up to source
  SELECT
    t.event_id,
    t.source_manifest_id,
    t.output_manifest_id,
    t.transformation_type,
    t.authorization_state,
    t.operator_class,
    t.materiality_class,
    l.depth + 1,
    l.chain_path || ' → ' || CAST(t.event_id AS TEXT)
  FROM ep_layer_3_transformation_events t
```

```
  JOIN lineage l ON t.output_manifest_id = l.source_manifest_id
  WHERE l.depth < 50
)
SELECT
  event_id,
  source_manifest_id,
  output_manifest_id,
  transformation_type,
  authorization_state,
  operator_class,
  materiality_class,
  depth,
  chain_path,
  CASE
    WHEN authorization_state = 'ABSENT'
     AND materiality_class   = 'A'
    THEN 'CONTAMINATION_CANDIDATE'
    WHEN authorization_state = 'ABSENT'
    THEN 'AUTH_ABSENT'
    WHEN authorization_state = 'ASSERTED'
    THEN 'AUTH_ASSERTED'
    ELSE 'CLEAN'
  END AS integrity_flag
FROM lineage
ORDER BY depth DESC, event_id;
-- Any CONTAMINATION_CANDIDATE → BR-L05; any AUTH_ABSENT Class A → BR-L02
```

QF-L02 — Composite Object Source Completeness

Purpose: Verify that composite objects identify all contributing sources and that each source has an authorization record. *Supports:* LN-07, LN-10; BR-L10 *Access Tier:* Tier 1

```
SELECT
  m.artifact_manifest_id          AS composite_manifest_id,
  m.artifact_type,
  COUNT(t.source_manifest_id)      AS linked_source_count,
  SUM(CASE WHEN t.authorization_state = 'CONFIRMED' THEN 1 ELSE 0 END)
```

```
                                    AS confirmed_sources,
  SUM(CASE WHEN t.authorization_state = 'ASSERTED'  THEN 1 ELSE 0 END)
                                    AS asserted_sources,
  SUM(CASE WHEN t.authorization_state = 'ABSENT'    THEN 1 ELSE 0 END)
                                    AS absent_sources,
  m.declared_source_count           AS declared_source_count,
  CASE
    WHEN COUNT(t.source_manifest_id) < m.declared_source_count
    THEN 'SOURCE_COUNT_MISMATCH'
    WHEN SUM(CASE WHEN t.authorization_state = 'ABSENT'
                  THEN 1 ELSE 0 END) > 0
    THEN 'AUTH_GAP'
    ELSE 'COMPLETE'
  END AS completeness_status
FROM ep_layer_0_manifests m
JOIN ep_layer_3_transformation_events t
  ON t.output_manifest_id = m.artifact_manifest_id
WHERE m.transformation_type = 'composite'
  AND m.artifact_manifest_id IN (<catalog_scope>)
GROUP BY m.artifact_manifest_id, m.artifact_type, m.declared_source_count
ORDER BY completeness_status, absent_sources DESC;
```

E.4 Rights-Chain Domain Queries

QF-R01 — License State Timeline for an Artifact

Purpose: Reconstruct the complete license state history for an artifact, showing all state transitions and their effective dates. *Supports:* RC-04, RC-08; BR-R03, BR-R05 *Access Tier:* Tier 1

```
SELECT
  rce.license_tier_id,
  rce.license_state,
  rce.effective_date,
  rce.expiry_date,
  rce.territory_scope,
  rce.channel_scope,
  rce.ep_delta_id,
```

```
  rce.ep_delta_event_type,
  LAG(rce.license_state) OVER
    (PARTITION BY rce.artifact_manifest_id
     ORDER BY rce.effective_date)            AS prior_state,
  CASE
    WHEN rce.license_state = 'EXPIRED'
     AND LEAD(rce.license_state) OVER
           (PARTITION BY rce.artifact_manifest_id
            ORDER BY rce.effective_date)
         IS NULL
    THEN 'CURRENTLY_EXPIRED'
    ELSE NULL
  END AS current_status_flag
FROM ep_layer_4_rights_chain_entries rce
WHERE rce.artifact_manifest_id = '<manifest_id>'
ORDER BY rce.effective_date ASC;
```

QF-R02 — Restriction Registry Completeness and Staleness

Purpose: Identify artifacts whose restriction registry entry is absent or has not been queried within the recertification window. *Supports:* RC-05; BR-R09 *Access Tier:* Tier 1

```
SELECT
  m.artifact_manifest_id,
  rr.restriction_registry_id,
  rr.last_query_timestamp,
  rr.active_restriction_count,
  DATEDIFF(CURRENT_DATE, rr.last_query_timestamp) AS days_since_last_query,
  CASE
    WHEN rr.restriction_registry_id IS NULL
    THEN 'REGISTRY_ABSENT'
    WHEN DATEDIFF(CURRENT_DATE, rr.last_query_timestamp) > 90
    THEN 'STALE'
    ELSE 'CURRENT'
  END AS registry_status
FROM ep_layer_0_manifests m
LEFT JOIN ep_layer_4_restriction_registry rr
```

```
  ON rr.artifact_manifest_id = m.artifact_manifest_id
WHERE m.record_is_current = TRUE
  AND m.artifact_manifest_id IN (<catalog_scope>)
ORDER BY registry_status, days_since_last_query DESC;
-- REGISTRY_ABSENT → BR-R09; STALE → BR-R09 (re-query required)
```

QF-R03 — Sublicense Scope Ceiling Violation Scan

Purpose: Detect sublicenses whose declared scope exceeds the verified scope of their granting licensor. *Supports:* RC-03, RC-14; BR-R01 *Access Tier:* Tier 1

```
SELECT
  sl.sublicense_id,
  sl.artifact_manifest_id,
  sl.grantee_class,
  sl.territory_scope            AS sub_territory,
  sl.channel_scope              AS sub_channel,
  sl.expiry_date                AS sub_expiry,
  pl.territory_scope            AS parent_territory,
  pl.channel_scope              AS parent_channel,
  pl.expiry_date                AS parent_expiry,
  CASE
    WHEN NOT (sl.territory_scope <@ pl.territory_scope)
    THEN 'TERRITORY_CEILING_EXCEEDED'
    WHEN NOT (sl.channel_scope <@ pl.channel_scope)
    THEN 'CHANNEL_CEILING_EXCEEDED'
    WHEN sl.expiry_date > pl.expiry_date
    THEN 'DURATION_CEILING_EXCEEDED'
    ELSE 'WITHIN_SCOPE'
  END AS ceiling_check_result
FROM ep_layer_4_sublicense_records sl
JOIN ep_layer_4_rights_chain_entries pl
  ON pl.license_tier_id    = sl.parent_license_tier_id
 AND pl.record_is_current  = TRUE
WHERE sl.artifact_manifest_id IN (<catalog_scope>)
  AND ceiling_check_result != 'WITHIN_SCOPE';
-- Any result row → BR-R01; hold sublicensed revenue beyond ceiling
```

E.5 Royalty and Payout Domain Queries

QF-P01 — Usage Evidence Quality Tier Distribution by Royalty Event Type

Purpose: Produce a cross-tabulation of usage event quality tiers by royalty event type for a calculation cycle. *Supports:* RP-03; Section 8.2 audit *Access Tier:* Tier 1

```
SELECT
  royalty_event_type,
  quality_tier,
  COUNT(*)                    AS event_count,
  SUM(volume_metric)          AS total_volume,
  SUM(revenue_attributed)     AS total_revenue,
  ROUND(SUM(revenue_attributed)
        / SUM(SUM(revenue_attributed)) OVER
            (PARTITION BY royalty_event_type) * 100, 2)
                              AS pct_of_event_type_revenue
FROM ep_layer_5_usage_events
WHERE calc_id = '<calculation_id>'
GROUP BY royalty_event_type, quality_tier
ORDER BY royalty_event_type, quality_tier;
```

QF-P02 — Split Allocation Residual Detection Across Catalog

Purpose: Identify calculation cycles with non-zero split allocation residuals. *Supports:* RP-04; BR-P03 *Access Tier:* Tier 1

```
SELECT
  sa.calc_id,
  sa.royalty_event_type,
  sa.artifact_manifest_id,
  sa.net_pool_amount,
  SUM(sa_line.allocated_amount) AS total_allocated,
  sa.net_pool_amount - SUM(sa_line.allocated_amount) AS residual_amount,
  sa.residual_treatment,
  CASE
    WHEN sa.net_pool_amount - SUM(sa_line.allocated_amount) > 0.01
    THEN 'RESIDUAL_OPEN'
```

```
    ELSE 'FULLY_ALLOCATED'
  END AS residual_status
FROM ep_layer_5_split_allocation_records sa
JOIN ep_layer_5_split_allocation_lines sa_line
  ON sa_line.alloc_id = sa.alloc_id
WHERE sa.calc_id IN (<calculation_scope>)
GROUP BY sa.calc_id, sa.royalty_event_type, sa.artifact_manifest_id,
         sa.net_pool_amount, sa.residual_treatment
HAVING sa.net_pool_amount - SUM(sa_line.allocated_amount) > 0.01
ORDER BY residual_amount DESC;
-- Each row → BR-P03; hold residual_amount in escrow-equivalent
```

QF-P03 — Payout Chain Gap Analysis

Purpose: Identify specific missing elements in incomplete payout chains. *Supports:* RP-05, RP-06, RP-07; BR-P04 *Access Tier:* Tier 1

```
SELECT
  pl.linkage_id,
  pl.calc_id,
  pl.chain_complete,
  sa_line.contributor_ref,
  sa_line.net_payable,
  pi.instruction_id,
  pi.payment_due_date,
  sc.confirmation_id,
  sc.confirmed_amount,
  sc.variance_flag,
  CASE
    WHEN pi.instruction_id IS NULL
    THEN 'INSTRUCTION_MISSING'
    WHEN sc.confirmation_id IS NULL
    THEN 'CONFIRMATION_MISSING'
    WHEN sc.variance_flag = TRUE
    THEN 'VARIANCE_OPEN'
    ELSE 'CHAIN_COMPLETE'
  END AS gap_type
```

```
FROM ep_layer_5_payout_linkage_records pl
JOIN ep_layer_5_split_allocation_lines sa_line
  ON sa_line.alloc_id = pl.alloc_id
LEFT JOIN ep_layer_5_payment_instructions pi
  ON pi.alloc_id          = pl.alloc_id
 AND pi.contributor_ref   = sa_line.contributor_ref
LEFT JOIN ep_layer_5_settlement_confirmations sc
  ON sc.instruction_id = pi.instruction_id
WHERE (pl.chain_complete = FALSE
       OR sc.variance_flag = TRUE
       OR sc.confirmation_id IS NULL)
  AND pl.calc_id IN (<calculation_scope>)
ORDER BY gap_type, pl.calc_id, sa_line.net_payable DESC;
```

QF-P04 — Recoupment State Currency Verification

Purpose: Identify contributors whose recoupment states have not been recertified within the recertification window. *Supports:* RP-12; Section 8.3 recoupment audit *Access Tier:* Tier 1

```
SELECT
  r.contributor_ref,
  r.recoupment_state,
  r.advance_amount,
  r.amount_recouped_to_date,
  r.last_certified_timestamp,
  DATEDIFF(CURRENT_DATE, r.last_certified_timestamp) AS
days_since_certification,
  CASE
    WHEN DATEDIFF(CURRENT_DATE, r.last_certified_timestamp) > 365
    THEN 'RECERTIFICATION_OVERDUE'
    WHEN r.recoupment_state = 'UNRECOUPED'
     AND r.amount_recouped_to_date >= r.advance_amount
    THEN 'LIKELY_RECOUPED_UNCERTIFIED'
    ELSE 'CURRENT'
  END AS recoupment_status
FROM ep_layer_5_recoupment_records r
WHERE r.recoupment_state != 'NOT_APPLICABLE'
```

```
  AND r.contributor_ref IN (<contributor_scope>)
ORDER BY recoupment_status, days_since_certification DESC;
-- RECERTIFICATION_OVERDUE → RP-12; LIKELY_RECOUPED_UNCERTIFIED → corrective
action
```

QF-P05 — Hold Duration Aging Report

Purpose: Produce an aging analysis of active holds to identify those approaching or exceeding escalation thresholds. *Supports:* RP-15; BR-P07; Section 12.6 hold duration requirements *Access Tier:* Tier 0 (aggregate); Tier 1 (artifact-level)

```
-- Tier 0 version
SELECT
  trigger_type,
  COUNT(*)                                          AS active_hold_count,
  SUM(held_amount)                                  AS total_held,
  SUM(CASE WHEN DATEDIFF(CURRENT_DATE, hold_start_date) > 180
           THEN 1 ELSE 0 END)                       AS escalated_to_exception,
  SUM(CASE WHEN DATEDIFF(CURRENT_DATE, hold_start_date) BETWEEN 91 AND 180
           THEN 1 ELSE 0 END)                       AS
governance_review_required,
  SUM(CASE WHEN DATEDIFF(CURRENT_DATE, hold_start_date) BETWEEN 31 AND 90
           THEN 1 ELSE 0 END)                       AS monthly_senior_review,
  SUM(CASE WHEN DATEDIFF(CURRENT_DATE, hold_start_date) <= 30
           THEN 1 ELSE 0 END)                       AS active_investigation,
  AVG(DATEDIFF(CURRENT_DATE, hold_start_date))      AS avg_hold_age_days
FROM ep_layer_5_royalty_hold_records
WHERE hold_status = 'ACTIVE'
GROUP BY trigger_type
ORDER BY total_held DESC;

-- Tier 1 extension: add hold_id, artifact_manifest_id,
-- expected_resolution to SELECT, filtered to authorized scope
```

E.6 Cross-Domain and Aggregate Queries

QF-X01 — Per-Artifact Full State Dashboard

Purpose: Produce a single-row summary of the operational state across all five state domains for each artifact in scope. Primary input for cross-domain evidence pack review (Appendix B.8). *Supports:* B.8.1; Section 14.10 Examiner Jump Table *Access Tier:* Tier 1

```
SELECT
  m.artifact_manifest_id,
  m.artifact_type,
  m.object_class,
  -- Layer 1: Authenticity
  a.authenticity_state,
  a.origin_assertion_lvl,
  -- Layer 2: Consent
  c.consent_state,
  c.underdefined_dimension_count,
  -- Layer 3: Lineage
  CASE
    WHEN l.missing_event_count > 0 THEN 'INCOMPLETE'
    WHEN l.contamination_flag = TRUE THEN 'CONTAMINATED'
    ELSE 'COMPLETE'
  END AS lineage_status,
  -- Layer 4: Rights-chain
  r.active_license_count,
  r.out_of_scope_event_count,
  -- Layer 5: Royalty
  calc.calculation_state,
  calc.total_held_amount,
  -- Open breaks (all domains)
  brk.open_break_count,
  brk.critical_break_count
FROM ep_layer_0_manifests m
-- Layer 1 join
LEFT JOIN (SELECT artifact_manifest_id, authenticity_state,
                  origin_assertion_lvl
           FROM ep_layer_1_authenticity
           WHERE record_is_current = TRUE) a
  ON a.artifact_manifest_id = m.artifact_manifest_id
```

```
-- Layer 2 join (current consent state)
LEFT JOIN (SELECT artifact_manifest_id, consent_state,
                  underdefined_dimension_count
           FROM ep_layer_2_consent_summary
           WHERE record_is_current = TRUE) c
  ON c.artifact_manifest_id = m.artifact_manifest_id
-- Layer 3 join (lineage summary)
LEFT JOIN (SELECT output_manifest_id AS artifact_manifest_id,
                  COUNT(CASE WHEN authorization_state = 'ABSENT'
                              AND materiality_class = 'A'
                             THEN 1 END) AS missing_event_count,
                  BOOL_OR(contamination_flag) AS contamination_flag
           FROM ep_layer_3_transformation_events
           GROUP BY output_manifest_id) l
  ON l.artifact_manifest_id = m.artifact_manifest_id
-- Layer 4 join (rights-chain summary)
LEFT JOIN (SELECT artifact_manifest_id,
                  COUNT(CASE WHEN license_state = 'ACTIVE'
                             THEN 1 END) AS active_license_count,
                  COUNT(CASE WHEN scope_check_result = 'OUT_OF_SCOPE'
                             THEN 1 END) AS out_of_scope_event_count
           FROM ep_layer_4_rights_chain_entries
           WHERE record_is_current = TRUE
           GROUP BY artifact_manifest_id) r
  ON r.artifact_manifest_id = m.artifact_manifest_id
-- Layer 5 join (latest calculation state)
LEFT JOIN (SELECT artifact_manifest_id, calculation_state,
                  SUM(held_amount) AS total_held_amount
           FROM ep_layer_5_calc_summary
           GROUP BY artifact_manifest_id, calculation_state) calc
  ON calc.artifact_manifest_id = m.artifact_manifest_id
-- Break summary join
LEFT JOIN (SELECT artifact_manifest_id,
                  COUNT(*) AS open_break_count,
                  COUNT(CASE WHEN severity_band = 'Critical'
```

```
                              THEN 1 END) AS critical_break_count
            FROM ep_reconciliation_break_register
            WHERE investigation_status NOT IN ('RESOLVED')
            GROUP BY artifact_manifest_id) brk
  ON brk.artifact_manifest_id = m.artifact_manifest_id
WHERE m.record_is_current = TRUE
  AND m.artifact_manifest_id IN (<artifact_scope>)
ORDER BY brk.critical_break_count DESC, brk.open_break_count DESC;
```

QF-X02 — Revenue at Risk Summary by Break Domain

Purpose: Quantify the total revenue under hold-only containment, broken down by the triggering break domain, for governance reporting. *Supports:* Section 11.7; C.10 Break Register Summary; GV-12 *Access Tier:* Tier 0 (aggregate); Tier 1 (break-level detail)

```
-- Tier 0 version
SELECT
  brk.domain                                AS break_domain,
  brk.severity_band,
  COUNT(DISTINCT hr.hold_id)                AS hold_count,
  SUM(hr.held_amount)                       AS total_held_revenue,
  SUM(CASE WHEN brk.investigation_status = 'MONITORED_EXCEPTION'
           THEN hr.held_amount ELSE 0 END) AS exception_held_revenue,
  AVG(DATEDIFF(CURRENT_DATE, hr.hold_start_date))
                                            AS avg_hold_age_days
FROM ep_layer_5_royalty_hold_records hr
JOIN ep_reconciliation_break_register brk
  ON brk.hold_record_ref = hr.hold_id
WHERE hr.hold_status = 'ACTIVE'
GROUP BY brk.domain, brk.severity_band
ORDER BY total_held_revenue DESC;
```

QF-X03 — Dispute Status and Age Report

Purpose: Produce a current status report of all active disputes, their age, domain, and held revenue. *Supports:* Section 12.1; GV-12; BR register *Access Tier:* Tier 0 (aggregate); Tier 1 (dispute detail for authorized scope)

```
SELECT
  d.dispute_class,
```

```
  d.status,
  COUNT(*)                                AS dispute_count,
  AVG(DATEDIFF(CURRENT_DATE,
              d.filing_timestamp))        AS avg_age_days,
  MAX(DATEDIFF(CURRENT_DATE,
              d.filing_timestamp))        AS oldest_dispute_age_days,
  SUM(hr.held_amount)                     AS total_held_in_dispute,
  SUM(CASE WHEN d.status = 'ESCALATED'
           THEN 1 ELSE 0 END)             AS escalated_count
FROM ep_layer_6_dispute_records d
LEFT JOIN ep_layer_5_royalty_hold_records hr
  ON hr.trigger_ref = d.dispute_id
 AND hr.hold_status = 'ACTIVE'
WHERE d.status NOT IN ('RESOLVED', 'WITHDRAWN')
GROUP BY d.dispute_class, d.status
ORDER BY total_held_in_dispute DESC;
```

QF-X04 — Liability Trigger Catalog Compliance Scan

Purpose: Verify that all events matching the liability trigger catalog (Section 11.6) have corresponding governance responses within defined timelines. *Supports:* GV-12; Section 11.6
Access Tier: Tier 1

```
-- Conceptual: each LT condition is evaluated as a sub-query
-- Results are unioned into a single compliance report

SELECT 'LT-01' AS trigger_id, 'Payout without replayable calculation' AS
description,
       COUNT(*) AS unresponded_count, SUM(pl.total_amount) AS revenue_at_risk
FROM ep_layer_5_payout_linkage_records pl
WHERE pl.chain_complete = TRUE
  AND NOT EXISTS (SELECT 1 FROM ep_layer_5_calculation_artifacts ca
                  WHERE ca.calc_id = pl.calc_id
                    AND ca.calc_artifact_hash IS NOT NULL)

UNION ALL

SELECT 'LT-02', 'Consent ABSENT for monetized event',
```

```
       COUNT(*), SUM(u.revenue_attributed)
FROM ep_layer_5_usage_events u
WHERE u.consent_state_at_event = 'ABSENT'
  AND u.calc_id IS NOT NULL

UNION ALL

SELECT 'LT-03', 'Synthetic use without authorization',
       COUNT(*), SUM(u.revenue_attributed)
FROM ep_layer_5_usage_events u
JOIN ep_layer_3_transformation_events t
  ON t.output_manifest_id = u.artifact_manifest_id
WHERE t.transformation_type IN ('synthetic_clone', 'AI_dub')
  AND t.authorization_state = 'ABSENT'
  AND u.calc_id IS NOT NULL

-- Continue for LT-04 through LT-12 following same pattern
ORDER BY trigger_id;
```

E.7 Governance and Access Audit Queries

QF-G01 — Post-Access Review Compliance Dashboard

Purpose: Identify all Tier 1 and Tier 2 access events where post-access reviews are overdue or incomplete. *Supports:* BA-02; BR-G01; Section 10.6 *Access Tier:* Tier 1

```
SELECT
  al.access_log_id,
  al.access_tier,
  al.access_timestamp,
  al.requestor_class,
  al.purpose,
  al.ttl_expiry,
  al.post_access_review_due,
  COALESCE(par.review_status, 'NOT_STARTED') AS review_status,
  par.finding,
  DATEDIFF(CURRENT_DATE,
```

```
          al.post_access_review_due)         AS days_overdue,
  CASE
    WHEN par.review_status = 'COMPLETE'      THEN 'OK'
    WHEN CURRENT_DATE <= al.post_access_review_due
                                             THEN 'WITHIN_DEADLINE'
    WHEN CURRENT_DATE > al.post_access_review_due
     AND par.review_status IS NULL           THEN 'OVERDUE'
    ELSE 'IN_PROGRESS'
  END AS compliance_status
FROM ep_layer_7_access_logs al
LEFT JOIN ep_layer_7_post_access_reviews par
  ON par.access_log_id = al.access_log_id
WHERE al.access_tier IN (1, 2)
  AND al.access_timestamp >= CURRENT_DATE - INTERVAL '12 months'
ORDER BY compliance_status DESC, days_overdue DESC;
-- OVERDUE rows → BR-G01
```

QF-G02 — Delegation Lifecycle Audit

Purpose: Identify delegations that have expired, are approaching expiry, or whose scope may have been exceeded. *Supports:* CA-09, GV-03; BR-G04 *Access Tier:* Tier 1

```
SELECT
  d.delegation_id,
  d.delegating_party,
  d.delegated_party,
  d.scope,
  d.effective_date,
  d.expiry_date,
  DATEDIFF(CURRENT_DATE, d.expiry_date) AS days_past_expiry,
  CASE
    WHEN d.expiry_date < CURRENT_DATE
    THEN 'EXPIRED'
    WHEN d.expiry_date BETWEEN CURRENT_DATE
                           AND CURRENT_DATE + INTERVAL '30 days'
    THEN 'EXPIRING_SOON'
    ELSE 'ACTIVE'
```

```
  END AS delegation_status,
  -- Check for actions taken after expiry
  COUNT(aa.action_id) AS post_expiry_actions
FROM ep_layer_7_delegation_records d
LEFT JOIN ep_layer_7_authorized_actions aa
  ON aa.delegation_ref   = d.delegation_id
 AND aa.action_timestamp > d.expiry_date
WHERE d.revocation_date IS NULL
GROUP BY d.delegation_id, d.delegating_party, d.delegated_party,
         d.scope, d.effective_date, d.expiry_date
ORDER BY delegation_status, days_past_expiry DESC;
-- EXPIRED rows with post_expiry_actions > 0 → BR-G04; governance investigation
```

QF-G03 — Recertification Schedule Compliance

Purpose: Identify all recertification subjects that are overdue per the schedule in Section 11.5. *Supports:* GV-05; BR-G02 *Access Tier:* Tier 1

```
SELECT
  rs.recertification_subject,
  rs.subject_type,
  rs.last_recertification_date,
  rs.required_frequency_days,
  rs.next_due_date,
  DATEDIFF(CURRENT_DATE, rs.next_due_date) AS days_overdue,
  rs.assigned_certifier,
  CASE
    WHEN rs.next_due_date < CURRENT_DATE
    THEN 'OVERDUE'
    WHEN rs.next_due_date BETWEEN CURRENT_DATE
                              AND CURRENT_DATE + INTERVAL '30 days'
    THEN 'DUE_SOON'
    ELSE 'CURRENT'
  END AS recertification_status
FROM ep_layer_7_recertification_schedule rs
WHERE rs.active_flag = TRUE
ORDER BY recertification_status DESC, days_overdue DESC;
```

```
-- OVERDUE rows → BR-G02
```

QF-G04 — SOD Violation Detection

Purpose: Identify high-risk activities where the acting party and the authorizing party are the same individual or role instance. *Supports:* GV-02; Section 11.8 *Access Tier:* Tier 1

```
SELECT
  ha.activity_id,
  ha.activity_type,
  ha.activity_timestamp,
  ha.actor_id,
  ha.actor_role,
  da.first_approver_id,
  da.first_approver_role,
  da.second_approver_id,
  da.second_approver_role,
  CASE
    WHEN ha.actor_id = da.first_approver_id
      OR ha.actor_id = da.second_approver_id
    THEN 'SOD_VIOLATION'
    WHEN da.approval_record_id IS NULL
    THEN 'APPROVAL_ABSENT'
    WHEN da.first_approver_id = da.second_approver_id
    THEN 'SAME_APPROVER_BOTH_ROLES'
    ELSE 'SOD_COMPLIANT'
  END AS sod_status
FROM ep_layer_7_high_risk_activities ha
LEFT JOIN ep_layer_7_distributed_approvals da
  ON da.subject_record_id = ha.activity_id
WHERE ha.activity_type IN ('EP_DELTA_ISSUANCE', 'TIER2_ACCESS_GRANT',
                           'PAYOUT_ABOVE_THRESHOLD', 'HOLD_RELEASE',
                           'CALCULATION_CORRECTION')
  AND ha.activity_timestamp >= CURRENT_DATE - INTERVAL '12 months'
ORDER BY sod_status DESC, ha.activity_timestamp DESC;
-- SOD_VIOLATION or APPROVAL_ABSENT → governance investigation
```

E.8 Offboarding Verification Queries

QF-O01 — Offboarding Completion Checklist

Purpose: Verify that all offboarding conditions (OB-01 through OB-08) are met before declaring offboarding complete. *Supports:* OB-01–OB-08; Section 13.9 *Access Tier:* Tier 1

```
SELECT
  od.offboarding_declaration_id,
  od.offboarding_party,
  od.trigger_type,
  od.target_completion_date,
  -- OB-01: Declaration before first action
  CASE WHEN od.declaration_timestamp <= od.first_offboarding_action_ts
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_01,
  -- OB-02: FSS created and sealed
  CASE WHEN fss.fss_hash IS NOT NULL
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_02,
  -- OB-03: FRP co-signed and conditions met
  CASE WHEN frp.custodian_acceptance = TRUE
        AND frp.hash_chain_verified  = 'YES'
        AND frp.boundary_tests_failed = 0
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_03,
  -- OB-04: Disclosure acknowledged
  CASE WHEN odr.recipient_acknowledgment = 'YES'
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_04,
  -- OB-05: LTM present if migration
  CASE WHEN od.migration_required = FALSE
        OR ltm.hash_preservation = TRUE
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_05,
  -- OB-06: Custody acceptance received
  CASE WHEN fss.custody_acceptance_ref IS NOT NULL
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_06,
  -- OB-07: Monitoring obligations acknowledged
  CASE WHEN mon.acknowledgment_received = TRUE
       THEN 'PASS' ELSE 'FAIL' END                          AS ob_07,
  -- OB-08: Retention schedule documented
```

```
  CASE WHEN oc.retention_schedule_ref IS NOT NULL
       THEN 'PASS' ELSE 'FAIL' END                              AS ob_08,
  -- Summary
  frp.open_break_count,
  frp.active_hold_count,
  frp.active_dispute_count
FROM ep_offboarding_declarations od
LEFT JOIN ep_final_state_snapshots fss
  ON fss.offboarding_declaration = od.offboarding_declaration_id
LEFT JOIN ep_final_reconciliation_proofs frp
  ON frp.fss_id = fss.fss_id
LEFT JOIN ep_offboarding_disclosure_records odr
  ON odr.fss_id = fss.fss_id
LEFT JOIN ep_legacy_transition_manifests ltm
  ON ltm.fss_id = fss.fss_id
LEFT JOIN ep_monitoring_acknowledgments mon
  ON mon.offboarding_declaration_id = od.offboarding_declaration_id
LEFT JOIN ep_offboarding_completion_records oc
  ON oc.offboarding_declaration_id = od.offboarding_declaration_id
WHERE od.offboarding_declaration_id = '<declaration_id>';
-- Offboarding is complete only when all check columns = 'PASS'
-- and open_break_count (Critical) = 0
```

E.9 Expanded Query Index

The following index maps each query family in this appendix and Section 14.9 to its domain, primary purpose, access tier, and the checks it supports.

Query ID	Domain	Primary Purpose	Access Tier	Checks Supported
QF-01 (§14)	Authenticity	Catalog state distribution (Tier 0)	Tier 0	AC-01, AC-07, AC-11
QF-02 (§14)	Consent	Consent state replay at event timestamp	Tier 1	CA-01, CA-02
QF-03 (§14)	Lineage	Derivative chain traversal	Tier 1/2	LN-01–LN-03
QF-04 (§14)	Royalty	Usage event quality tier distribution	Tier 1	RP-03
QF-05 (§14)	Royalty	Split allocation per contributor	Tier 1	RP-04, RC-09
QF-06 (§14)	Royalty	Active holds by trigger type	Tier 0/1	RP-15
QF-07 (§14)	Payout	Payout chain completeness	Tier 1	RP-05–RP-07
QF-08 (§14)	Governance	Open breaks by severity and layer	Tier 0/1	All break domains

Query ID	Domain	Primary Purpose	Access Tier	Checks Supported
QF-09 (§14)	Rights	Rights-chain scope for territory and use	Tier 1	RC-01, RC-02, RC-05
QF-10 (§14)	Governance	Post-access review compliance	Tier 1	BA-02, BA-01
QF-11 (§14)	Governance	Monitored exception status	Tier 0/1	BR-G02
QF-12 (§14)	Offboarding	Offboarding completion verification	Tier 1	OB-01–OB-08
QF-A01	Authenticity	Catalog authenticity heatmap	Tier 0	AC-01, AC-07, AC-11
QF-A02	Authenticity	Manifest chain integrity verification	Tier 1	AC-02, AC-14
QF-A03	Authenticity	Synthesis provenance completeness	Tier 1	AC-05, AC-12
QF-A04	Authenticity	Cross-platform duplicate hash detection	Tier 1	AC-15
QF-C01	Consent	Scope dimension coverage report	Tier 1	CA-04
QF-C02	Consent	Approaching consent expiry alert	Tier 0/1	CA-06
QF-C03	Consent	Synthetic use authorization gap scan	Tier 1	CA-08, CA-15
QF-C04	Consent	Revocation propagation verification	Tier 1	CA-07
QF-L01	Lineage	Full chain traversal with auth state	Tier 1/2	LN-01–LN-03
QF-L02	Lineage	Composite source completeness	Tier 1	LN-07, LN-10
QF-R01	Rights	License state timeline	Tier 1	RC-04, RC-08
QF-R02	Rights	Restriction registry staleness	Tier 1	RC-05
QF-R03	Rights	Sublicense scope ceiling violation	Tier 1	RC-03, RC-14
QF-P01	Royalty	Usage tier cross-tabulation	Tier 1	RP-03
QF-P02	Royalty	Split allocation residual detection	Tier 1	RP-04
QF-P03	Payout	Payout chain gap analysis	Tier 1	RP-05–RP-07
QF-P04	Royalty	Recoupment state currency verification	Tier 1	RP-12
QF-P05	Royalty	Hold duration aging report	Tier 0/1	RP-15
QF-X01	Cross-domain	Per-artifact full state dashboard	Tier 1	All domains
QF-X02	Cross-domain	Revenue at risk by break domain	Tier 0/1	GV-12
QF-X03	Cross-domain	Dispute status and age report	Tier 0/1	Section 12.1
QF-X04	Cross-domain	Liability trigger catalog compliance	Tier 1	GV-12
QF-G01	Governance	Post-access review dashboard	Tier 1	BA-02
QF-G02	Governance	Delegation lifecycle audit	Tier 1	CA-09, GV-03
QF-G03	Governance	Recertification schedule compliance	Tier 1	GV-05
QF-G04	Governance	SOD violation detection	Tier 1	GV-02
QF-O01	Offboarding	Offboarding completion checklist	Tier 1	OB-01–OB-08

Appendix F — Preservation Bundle and Hold-Set Templates

Purpose: This appendix provides paste-ready templates for the two primary evidence preservation instruments defined in Sections 9.7 and 12.6: Preservation Bundles (point-in-time EP snapshots created at defined trigger events) and Hold Sets (the structured inventory of all records placed under hold-only containment for a specific trigger condition). These templates are designed to be used by Evidence Infrastructure Operators, Reconciliation Officers, Dispute Governors, and legal-hold custodians. Each template includes the record schema, a completion checklist, and an integrity verification protocol.

F.1 Preservation Bundle — Master Template

A Preservation Bundle is a sealed, content-addressed, point-in-time snapshot of the EP for a defined artifact scope and layer scope. Once sealed, its integrity is verified by computing the `bundle_hash` over all constituent records. Any modification to any constituent record after sealing is detectable by re-computing and comparing hashes.

F.1.1 Preservation Bundle Header Record

```
PRESERVATION_BUNDLE_HEADER
  bundle_id:                [unique identifier; format: PB-{YYYYMMDD}-{seq}]
  bundle_type:              [DISPUTE | LEGAL_HOLD | OFFBOARDING |
MATERIAL_CHANGE |
```

```
                              EXAMINER_REQUEST | INTEGRITY_INVESTIGATION |
PERIODIC]
  trigger_event_type:        [from Section 9.7 trigger taxonomy]
  trigger_event_ref:         [pointer to triggering record: dispute_id | hold_id
|
                              offboarding_declaration_id | integrity_failure_id |
                              examiner_request_id]
  bundle_timestamp:          [ISO 8601 — time of bundle sealing; all constituent
records
                              have modification timestamps at or before this
value]
  artifact_scope:            [list of artifact manifest IDs included]
  layer_scope:               [list of EP layers included; subset of 0–7]
  record_inventory:
    layer_0_records:         [count]
    layer_1_records:         [count]
    layer_2_records:         [count]
    layer_3_records:         [count]
    layer_4_records:         [count]
    layer_5_records:         [count]
    layer_6_records:         [count]
    layer_7_records:         [count]
    total_records:           [count]
  open_conditions_at_sealing:
    critical_breaks:         [count; list of break IDs]
    high_breaks:             [count; list of break IDs]
    moderate_breaks:         [count]
    active_holds:            [count; total held amount; currency]
    active_disputes:         [count; list of dispute IDs]
    monitored_exceptions:    [count]
  legal_hold_flag:           [YES | NO]
  retention_minimum:         [ISO 8601 date; must not be destroyed before this
date]
  bundle_custodian_class:    [Evidence Infra Operator | Legal Custodian |
Receiving Custodian]
  custody_acceptance_ref:    [pointer to custody acceptance record; null until
received]
  bundle_hash:               [SHA-256 hash of all constituent records in
canonical order]
  bundle_sealed_by:          [role of sealing party]
  bundle_seal_timestamp:     [ISO 8601]
```

F.1.2 Preservation Bundle — Constituent Record Index

The constituent record index lists every record included in the bundle, organized by EP layer, with the content-addressed hash of each record at the time of sealing.

```
CONSTITUENT_RECORD_INDEX
  bundle_id:                 [pointer to bundle header]
  index_entries:
    - layer:                 [0–7]
      record_type:           [manifest | ep_delta | transformation_event |
                              consent_instrument | rights_chain_entry |
                              usage_event | calculation_artifact |
                              split_allocation | payment_instruction |
                              settlement_confirmation | payout_linkage |
                              hold_record | dispute_record | access_log |
                              governance_record | ...]
      record_id:             [unique record identifier]
```

```
      record_hash:          [content-addressed hash of this record at
bundle_timestamp]
      record_status:        [CURRENT | SUPERSEDED | REVOKED | HELD]
      cross_references:     [list of record IDs in other layers this record
references]
  index_hash:               [SHA-256 hash of the complete index]
```

Integrity verification protocol:

1. Retrieve bundle header; extract `bundle_hash`.
2. Retrieve constituent record index; verify `index_hash` against bundle header's `bundle_hash`.
3. For each entry in the index, retrieve the record and compute its current hash.
4. Compare computed hash against `record_hash` in the index.
5. Any mismatch → integrity failure; record the failure; escalate per Section 9.10.
6. If all hashes match → bundle integrity confirmed; log verification result in Layer 7.

F.1.3 Preservation Bundle Completion Checklist

Step	Action	Completed ?	Timestamp	Operator
1	Trigger event identified and referenced	YES / NO		
2	Artifact scope defined (all affected manifest IDs listed)	YES / NO		
3	Layer scope confirmed (minimum: all layers containing trigger-related records)	YES / NO		
4	All records within scope retrieved from live EP	YES / NO		
5	No records with modification timestamps after bundle_timestamp	YES / NO		
6	Open conditions inventory completed (breaks, holds, disputes, exceptions)	YES / NO		
7	Constituent record index created; index_hash computed	YES / NO		
8	Bundle_hash computed over all constituent records	YES / NO		
9	Bundle sealed; bundle_sealed_by and bundle_seal_timestamp recorded	YES / NO		
10	Legal_hold_flag set correctly	YES / NO		
11	Retention_minimum date set	YES / NO		
12	Bundle registered in Layer 7 as a governance event	YES / NO		
13	Custody acceptance record requested from custodian	YES / NO		
14	Integrity verification protocol run post-sealing	YES / NO		

F.2 Preservation Bundle — Trigger-Specific Variants

Each trigger type imposes specific minimum layer scope and additional content requirements beyond the master template. The following table defines those requirements.

F.2.1 Trigger-Specific Minimum Requirements

Trigger Type	Minimum Layer Scope	Additional Required Records	Legal Hold Flag
Dispute filing (D-AUTH)	L0, L1, L6	Competing source manifests from all parties; SI boundary test results	Conditional
Dispute filing (D-CONS)	L0, L2, L6	Consent instrument and full diff chain; authority confirmation records	Conditional
Dispute filing (D-LINE)	L0, L3, L6	Full transformation event chain; contamination check results; lineage replay report	Conditional
Dispute filing (D-RIGH)	L0, L4, L6	Rights-chain EP; restriction registry; scope check records	Conditional
Dispute filing (D-CALC / D-PAYS)	L0, L5, L6	Calculation artifact; split allocation; payout chain records; all hold records	Conditional
Legal hold notification	L0–L7 (full EP)	Legal hold notification instrument; custody acknowledgment	YES
Offboarding	L0–L7 (full EP)	Final Reconciliation Proof; open-break disclosure records; custody transfer records	Conditional
Material authenticity change (`CONTESTED` or `UNRESOLVABLE`)	L0, L1	Competing evidence packs; origin assertion records; all related manifests	Conditional
Consent revocation with contested effective date	L0, L2	Revocation instrument; contested effective date evidence packs; diff chain	Conditional
Rights-chain assignment affecting multiple artifacts	L0, L4	Assignment instrument; list of all affected artifacts; restriction registry	Conditional
Integrity failure (hash chain break)	All layers affected	Forensic capture of affected chain in current (compromised) state; backup chain records	YES
Examiner or supervisory request	Layers specified in request	Production package manifest; access grant record; purpose documentation	Conditional
Periodic (annual)	L0–L7	Full EP integrity scan results; recertification records	NO

F.2.2 Legal Hold Bundle — Supplementary Fields

Where `legal_hold_flag: YES`, the bundle header is extended with the following fields:

```
LEGAL_HOLD_SUPPLEMENT
  bundle_id:                    [pointer to bundle header]
  legal_hold_instrument_ref:    [pointer to legal hold notification or order]
  hold_issuing_party_class:     [court | regulatory authority | internal legal
function]
```

```
  hold_scope_as_specified:      [verbatim scope description from hold
instrument]
  hold_effective_date:          [date hold takes effect per instrument]
  hold_expiry:                  [date hold expires; null if open-ended]
  legal_counsel_review:         [YES | NO — whether legal counsel has reviewed
scope mapping]
  supplemental_retention_basis: [legal hold overrides standard retention
schedule for all
                                 records within scope; records must not be
destroyed until
                                 hold is lifted and a further retention review
is completed]
  hold_lift_condition:          [description of conditions under which hold may
be lifted]
  hold_lift_authority:          [party with authority to lift hold]
  litigation_hold_chain_ref:    [pointer to prior preservation bundle if this
extends a
                                 previously held set]
```

F.3 Hold Set — Master Template

A Hold Set is the structured inventory of all records, revenue amounts, and operational states placed under hold-only containment for a specific trigger condition. It is distinct from a Preservation Bundle: a bundle preserves evidence; a hold set governs the disposition of revenue and operational capability. Both are typically created together at the same trigger event, but they serve different purposes and are maintained by different roles.

F.3.1 Hold Set Header Record

```
HOLD_SET_HEADER
  hold_set_id:              [unique identifier; format: HS-{YYYYMMDD}-{seq}]
  hold_set_type:            [DISPUTE | BREAK | GOVERNANCE | LEGAL |
PRECAUTIONARY]
  trigger_ref:              [pointer to triggering record: dispute_id | break_id
|
                             governance_incident_id | legal_hold_instrument_ref]
  trigger_condition:        [brief description of the condition triggering this
hold set]
  hold_start_date:          [ISO 8601 date hold-only containment is applied]
  applying_party_role:      [Dispute Governor | Reconciliation Officer | Royalty
Calc Officer |
                             Legal Custodian]
  dual_auth_record_ref:     [pointer to distributed approval record; mandatory
for
                             all hold sets affecting amounts above defined
threshold]
  artifact_scope:           [list of artifact manifest IDs whose revenue is
held]
  royalty_event_scope:      [list of royalty event types held; or ALL]
  date_range_scope:         [start — end of usage period whose revenue is held;
                             or ONGOING for open-ended holds]
  held_revenue_estimate:    [estimated total held amount at time of hold set
creation]
  currency:                 [ISO 4217]
  hold_status:              [ACTIVE | PARTIALLY_RELEASED | FULLY_RELEASED |
ESCALATED]
```

```
  expected_resolution_date: [estimated date by which hold is expected to be
resolved;
                            mandatory; reviewed monthly for Critical/High;
quarterly for Moderate]
  escalation_date:          [date after which hold transitions to monitored
exception if unresolved;
                            set to hold_start_date + 180 days unless
overridden]
  hold_set_hash:            [content-addressed hash of this record]
  prev_hold_set_hash:       [hash of prior hold set in register chain; null if
first]
```

F.3.2 Hold Set — Line Items

Each hold set contains one or more hold lines, each representing a specific revenue stream, calculation cycle amount, or payout amount under hold.

```
HOLD_SET_LINE
  line_id:                  [unique identifier within hold set]
  hold_set_id:              [pointer to hold set header]
  line_type:                [USAGE_EVENT_REVENUE | CALCULATION_CYCLE_AMOUNT |
                             SPLIT_ALLOCATION_AMOUNT | PAYOUT_INSTRUCTION_AMOUNT
|
                             PROVISIONAL_EVENT_REVENUE | RESIDUAL_AMOUNT |
OTHER]
  source_record_ref:        [pointer to the specific record generating this held
amount:
                             usage_event_id | calc_id | alloc_id |
instruction_id]
  artifact_manifest_id:     [artifact whose revenue is held on this line]
  royalty_event_type:       [from Section 8.1 taxonomy; or ALL]
  usage_period:             [start — end of usage period for this line]
  held_amount:              [amount held on this line]
  currency:                 [ISO 4217]
  hold_basis:               [specific break code, dispute class, or governance
condition
                             that justifies this line's hold]
  release_condition:        [specific condition that must be met to release this
line;
                             may differ from hold set-level release condition]
  line_status:              [ACTIVE | RELEASED | PARTIALLY_RELEASED | DISPUTED]
  release_date:             [ISO 8601; null until released]
  release_authorization:    [pointer to release approval record; null until
released]
  line_hash:                [content-addressed hash of this record]
```

F.3.3 Hold Set — Revenue Escrow Accounting

Revenue held in a hold set is maintained in an escrow-equivalent posture. The following accounting record tracks the accrual and disposition of held amounts across the hold period.

```
HOLD_ESCROW_ACCOUNTING
  escrow_id:                [unique identifier]
  hold_set_id:              [pointer to hold set header]
  accounting_period:        [start — end]
  opening_balance:          [held amount at period start]
```

```
  accruals_in_period:        [additional amounts added to hold during period]
  releases_in_period:        [amounts released during period; must be dual-
authorized]
  adjustments_in_period:     [corrections to held amounts; must have EP Delta
reference]
  closing_balance:           [held amount at period end]
  accrual_basis:             [document whether held amounts earn notional return;
                              and if so, at what rate and under what instrument]
  dispute_assignment:        [if amounts are formally assigned to dispute
resolution outcome:
                              pointer to dispute record and assignment basis]
  unclaimed_property_flag:   [YES | NO — set to YES if hold has been active for
period
                              triggering unclaimed property review under
applicable rules]
  escrow_hash:               [content-addressed hash of this record]
```

F.3.4 Hold Set Completion and Release Checklist

At hold set creation:

Step	Action	Completed?	Timestamp
1	Trigger condition identified and referenced	YES / NO	
2	Artifact scope and date range defined	YES / NO	
3	Hold lines created for all affected revenue streams	YES / NO	
4	Held revenue estimate calculated	YES / NO	
5	Dual authorization obtained (if above threshold)	YES / NO	
6	Expected resolution date assigned	YES / NO	
7	Escalation date set	YES / NO	
8	Hold set registered in Layer 7	YES / NO	
9	Preservation bundle created for trigger-related records	YES / NO	
10	Affected rights-holders notified of hold	YES / NO	

At hold set release:

Step	Action	Completed?	Timestamp	Authorized By
1	Release condition confirmed and documented	YES / NO		
2	Release basis instrument or finding record retrieved	YES / NO		
3	Dual authorization for release obtained	YES / NO		
4	Hold set status updated to FULLY_RELEASED or PARTIALLY_RELEASED	YES / NO		
5	Release EP Delta issued for all affected states	YES / NO		
6	Hold lines updated with release_date and release_authorization	YES / NO		
7	Corrective payout instructions issued for amounts due post-release	YES / NO		
8	Settlement confirmations received for corrective payouts	YES / NO		

Step	Action	Completed ?	Timestamp	Authorized By
9	Payout Cycle Finality Record updated or new record issued	YES / NO		
10	Affected rights-holders notified of release	YES / NO		
11	Hold release event logged in Layer 7	YES / NO		
12	Post-release monitoring period initiated (where applicable)	YES / NO		

F.4 Hold-Set Register Summary Template

The Hold-Set Register is the aggregate view of all active, partially released, and recently closed hold sets. It is the primary tool for governance review of hold-only containment posture.

```
HOLD_SET_REGISTER_SUMMARY
  report_id:                [unique identifier]
  report_timestamp:         [ISO 8601]
  reporting_period:         [start — end]

  ACTIVE HOLD SETS:
    total_active:           [count]
    total_held_amount:      [amount; currency]
    by_type:
      DISPUTE:              [count; amount]
      BREAK:                [count; amount]
      GOVERNANCE:           [count; amount]
      LEGAL:                [count; amount]
      PRECAUTIONARY:        [count; amount]
    approaching_escalation: [count of hold sets within 30 days of
escalation_date]
    overdue_escalation:     [count of hold sets past escalation_date without
exception record]

  AGING ANALYSIS:
    0–30 days:              [count; amount]
    31–90 days:             [count; amount]
    91–180 days:            [count; amount — governance committee review
required]
    181+ days:              [count; amount — monitored exception status]

  RELEASES IN PERIOD:
    fully_released:         [count; amount released]
    partially_released:     [count; amount released; amount remaining]

  UNCLAIMED PROPERTY FLAGS:
    flagged_hold_sets:      [count; amount — review required]

  OPEN DUAL-AUTH GAPS:
    hold_sets_above_threshold_without_approval: [count — governance violation]
```

F.5 Preservation Bundle and Hold-Set Cross-Reference Template

For any given trigger event, a Preservation Bundle and a Hold Set are typically created together. The following cross-reference record links them to each other and to the triggering governance record.

```
PRESERVATION_HOLD_CROSS_REFERENCE
  xref_id:                  [unique identifier]
  trigger_event_type:       [from Section 9.7 trigger taxonomy]
  trigger_event_ref:        [pointer to triggering record]
  bundle_id:                [pointer to Preservation Bundle Header]
  hold_set_id:              [pointer to Hold Set Header; null if no revenue
held]
  dispute_record_ref:       [pointer to dispute record; null if not dispute-
triggered]
  legal_hold_ref:           [pointer to legal hold instrument; null if not
legal-hold-triggered]
  governance_incident_ref:  [pointer to governance incident; null if not
incident-triggered]
  creation_timestamp:       [ISO 8601]
  created_by_role:          [governance role of creating party]
  xref_hash:                [content-addressed hash of this record]
```

F.6 Preservation Bundle and Hold-Set Interaction Diagram

```
TRIGGER EVENT
(dispute | legal hold | break | integrity failure | offboarding | examiner
request)
        |
        ├──→ PRESERVATION BUNDLE (Section F.1)
        |       Purpose: evidence preservation
        |       Custodian: Evidence Infra Operator
        |       Contents: EP records at time of trigger
        |       Sealed: YES — bundle_hash immutable
        |       Released: Never destroyed within retention period
        |
        └──→ HOLD SET (Section F.3)
                Purpose: revenue containment
                Custodian: Dispute Governor / Royalty Calc Officer
                Contents: Hold lines per revenue stream
                Active: Until release condition met + dual auth
                Released: Via Hold Release Checklist (F.3.4)
                          → Corrective calculation if required
                          → Payout instruction for released amounts
                          → Finality record update

        Both linked via PRESERVATION_HOLD_CROSS_REFERENCE (Section F.5)
        Both registered in Layer 7 as governance events
        Both referenced in dispute records, break records, and monitoring
reports
```

Appendix G — RACI Matrices + Accountability Inserts

Purpose: This appendix provides complete RACI matrices for all critical operational workflows in the framework, together with accountability inserts that define the specific obligations, escalation paths, and consequence structures for each role. RACI designations are: **R** = Responsible (executes the activity), **A** = Accountable (owns the outcome; signs off), **C** = Consulted (provides input before execution), **I** = Informed (notified of outcome). Where a cell carries **R/A**, the same party is both responsible and accountable for that step. Blank cells indicate no involvement required for that step.

Governance roles referenced in this appendix are defined in Section 11.1. Segregation of duties requirements from Section 11.8 constrain which cells may be filled by the same party.

G.1 RACI — Source Object Registration and Authenticity State Assignment

Activity Step	Evidence Infra Operator	Rights-State Admin	Consent Custodian	Royalty Calc Officer	Reconciliation Officer	Dispute Governor	Access Auth Officer
Receive artifact and origin assertion materials	R	I	I				

Activity Step	Evidence Infra Operator	Rights-State Admin	Consent Custodian	Royalty Calc Officer	Reconciliation Officer	Dispute Governor	Access Auth Officer
Compute content-addressed hash	R/A						
Create canonical source object manifest	R/A	I	I				
Register origin assertion level	R	C					
Link rights-chain anchor reference	C	R/A					
Link consent anchor reference	C		R/A				
Assign initial authenticity state	A	C	C		C		
Run SI-01 and SI-06 boundary tests	R/A				C		
Register official-release designation	R	C	C				
Log registration event in Layer 7	R/A	I	I	I	I		
Notify registrant of completion	R	I	I				

Accountability insert — Evidence Infra Operator: The Evidence Infra Operator is accountable for the technical integrity of the manifest record and the correctness of the content-addressed hash. If a manifest is registered with an incorrect hash, the Evidence Infra Operator is the named responsible party. The Evidence Infra Operator may not unilaterally modify a manifest record after registration; corrections require an EP Delta with independent review.

Accountability insert — Rights-State Admin: The Rights-State Admin is accountable for the accuracy of the rights-chain anchor reference. A manifest registered with a null or incorrect rights-chain anchor that subsequently causes a royalty miscalculation is within the Rights-State Admin's accountability scope.

G.2 RACI — Consent Instrument Registration and Lifecycle Management

Activity Step	Consent Custodian	Evidence Infra Operator	Rights-State Admin	Royalty Calc Officer	Dispute Governor	Reconciliation Officer
Receive consent instrument	R/A	I				
Verify signatory authority	R/A		C			
Record all six	R/A	I	C			

Activity Step	Consent Custodian	Evidence Infra Operator	Rights-State Admin	Royalty Calc Officer	Dispute Governor	Reconciliation Officer
scope dimensions						
Register consent instrument in EP	C	R/A				
Issue initial consent-state EP entry	R/A	C				
Monitor consent for approaching expiry	R/A	I		I		C
Issue expiry EP Delta	R/A	C		I	I	I
Process revocation instrument	R/A	C		I	I	I
Issue revocation EP Delta	R/A	C		I	I	I
Notify Royalty Calc Officer of lifecycle event	R			I		C
Review calculation cycles affected by lifecycle event	C			R/A		C
Issue corrective EP Delta if calculation affected	A	C		R		C
Log all lifecycle events in Layer 7	C	R/A		I	I	I

Accountability insert — Consent Custodian: The Consent Custodian is accountable for: (a) the accuracy of all six scope dimensions as recorded; (b) the timeliness of lifecycle EP Deltas (within 3 business days of trigger per Section 11.4); and (c) notifying the Royalty Calc Officer of any lifecycle event that affects an active calculation cycle. Revenue held as a result of an unrecorded revocation or expiry is within the Consent Custodian's accountability scope if the delay in registration is the proximate cause.

Accountability insert — Royalty Calc Officer: Upon notification of a consent lifecycle event, the Royalty Calc Officer is accountable for reviewing all calculation cycles within the affected period within 5 business days and initiating a corrective EP Delta and off-cycle calculation if required. Failure to act within this window is a governance break (BR-C06 consequence).

G.3 RACI — Transformation Event Registration and Lineage Recording

Activity Step	Evidence Infra Operator	Consent Custodian	Rights-State Admin	Reconciliation Officer	Dispute Governor	Royalty Calc Officer
Receive transformation documentation from operator	R/A	I	I			
Determine materiality class (A / B / C)	R/A	C	C			
Create transformation event log entry	R/A			I		
Record operator class (human / AI / hybrid)	R/A					
Link authorization reference (consent + rights-chain)	C	C	R/A			
Confirm authorization state	A	C	C			
Register output artifact manifest	R/A					
Link parent manifest ID	R/A	C	C			
Run contamination check	R			R/A		
Flag BR-L02 if ABSENT Class A authorization	R			A		I
Apply hold-only containment for BR-L05				C	R/A	C
Log transformation event in Layer 7	R/A	I	I	I	I	I

Accountability insert — Evidence Infra Operator (transformation): The Evidence Infra Operator is accountable for creating the transformation event log entry within the defined window (at or before output artifact registration). An output artifact registered without a corresponding transformation event log entry is a governance violation attributable to the Evidence Infra Operator.

Accountability insert — Rights-State Admin (authorization linkage): The Rights-State Admin is accountable for confirming the authorization reference and authorization state for each transformation event. Where a Class A transformation proceeds with `authorization_state:`

`ASSERTED`, the Rights-State Admin must document the assumption and flag the event for recertification. Where a Class A transformation proceeds with `authorization_state: ABSENT`, the Rights-State Admin is accountable for ensuring the contamination check is run within 24 hours.

G.4 RACI — Royalty Calculation Cycle

Activity Step	Royalty Calc Officer	Rights-State Admin	Consent Custodian	Reconciliation Officer	Evidence Infra Operator	Access Auth Officer	Dispute Governor
Aggregate usage events for period	R/A	I	I	C			
Run rights-state linkage checks	C	R/A		C			
Run consent-state checks	C		R/A	C			
Assign evidence quality tiers (Tier 1–4)	R/A	C	C	C			
Apply participation-chain deductions	R/A	C		C			
Execute calculation run	R/A	C	C	C			
Create calculation artifact	R/A			C	C		
Review calculation artifact for integrity	C			R/A	C		
Flag open breaks and provisional events	C			R/A			
Obtain dual authorization for instructions above threshold	A (co-auth)			C		R/A (co-auth)	
Issue payment instructions	R/A			C			
Monitor settlement confirmations	R/A			C			
Issue Payout Cycle Finality Record	R			A	C		
Log calculation and payout events in Layer 7	C	I	I	C	R/A	I	I

Activity Step	Royalty Calc Officer	Rights-State Admin	Consent Custodian	Reconciliation Officer	Evidence Infra Operator	Access Auth Officer	Dispute Governor
Escalate disputes arising from calculation	C			C			R/A

Accountability insert — Royalty Calc Officer: The Royalty Calc Officer is accountable for: (a) the mathematical correctness of the calculation artifact; (b) the accuracy of split allocation records; (c) the timely issuance of payment instructions; and (d) the completeness of the Payout Cycle Finality Record. The Royalty Calc Officer may not authorize their own payment instructions above the defined threshold — dual authorization is required, and the co-authorizing party must be independent of the calculation.

Accountability insert — Reconciliation Officer: The Reconciliation Officer is accountable for the independent review of the calculation artifact before finality is declared. A Payout Cycle Finality Record issued without a completed Reconciliation Officer review is a governance break. The Reconciliation Officer may flag breaks but does not have authority to resolve disputes; disputes are escalated to the Dispute Governor.

G.5 RACI — Reconciliation Run and Break Register Management

Activity Step	Reconciliation Officer	Evidence Infra Operator	Royalty Calc Officer	Consent Custodian	Rights-State Admin	Dispute Governor
Schedule reconciliation run	R/A	C	I	I	I	
Execute boundary tests (SI-01 to SI-08)	R/A	C				
Run usage event completeness review	R/A		C			
Run consent lifecycle review	C			R/A		
Run rights-chain scope check	C				R/A	
Run payout chain completeness review	R/A		C			
Create Reconciliation Run Record	R/A	C	I	I	I	I
Classify breaks by type and severity	R/A	C	C	C	C	C
Register breaks in	R/A					

Activity Step	Reconciliation Officer	Evidence Infra Operator	Royalty Calc Officer	Consent Custodian	Rights-State Admin	Dispute Governor
break register						
Assign investigation owners	A	C	C	C	C	C
Monitor response timelines	R/A					
Escalate overdue breaks to Dispute Governor	R					A
Update break register on resolution	R/A	C	C	C	C	C
Produce Reconciliation Run Record summary	R/A		I	I	I	I

Accountability insert — Reconciliation Officer: The Reconciliation Officer owns the completeness and accuracy of the break register. Every break detected during a reconciliation run must be registered within 24 hours of the run's completion. Breaks not registered within this window are themselves a governance break (BR-G08 analog). The Reconciliation Officer does not resolve disputes; their role ends at escalation to the Dispute Governor.

G.6 RACI — Dispute Initiation, Investigation, and Resolution

Activity Step	Dispute Governor	Reconciliation Officer	Royalty Calc Officer	Consent Custodian	Rights-State Admin	Evidence Infra Operator	Access Auth Officer
Receive dispute filing	R/A	I	I	I	I	I	
Classify dispute (D-AUTH through D-MULT)	R/A	C	C	C	C	C	
Register dispute record in Layer 6	A					R	
Apply hold-only containment	A	C	R (revenue)			R (EP flag)	
Notify affected parties	R/A	I	I	I	I		
Assign investigation	R/A	C					

Activity Step	Dispute Governor	Reconciliation Officer	Royalty Calc Officer	Consent Custodian	Rights-State Admin	Evidence Infra Operator	Access Auth Officer
owner							
Request evidence packs from parties	R/A						
Authorize Tier 1 access for investigation	C						R/A
Authorize Tier 2 access for reconstruction	C						R/A (co-auth)
Execute evidence review (by domain)	R	C	C	C	C	C	
Draft Dispute Finding Record	R/A	C	C	C	C	C	
Issue corrective EP Deltas post-resolution	A		C	C	C	R	
Authorize hold release	R/A (co-auth)		R/A (co-auth)				
Issue corrective calculation if required	A	C	R				
Log all dispute events in Layer 7	C					R/A	
Conduct post-resolution review	R/A	C	C	C	C	C	
Close dispute record	R/A					C	

Accountability insert — Dispute Governor: The Dispute Governor is accountable for: (a) dispute classification within 24 hours of filing; (b) timely application of hold-only containment; (c) investigation assignment; (d) the evidentiary basis of the Dispute Finding Record; and (e) the completeness of the post-resolution sequence including EP Delta issuance. The Dispute Governor may not be a direct beneficiary of the dispute outcome; where a conflict of interest exists, the matter is escalated to a designated neutral.

Accountability insert — Access Auth Officer (dispute context): In the context of dispute investigation, the Access Auth Officer is accountable for ensuring that Tier 2 access grants are

scoped precisely to the dispute record scope. Any access that exceeds the documented dispute scope is an access compliance violation (BA-08 fail), regardless of the investigation outcome.

G.7 RACI — Tiered Reviewer Access Grant and Post-Access Review

Activity Step	Access Auth Officer	Evidence Infra Operator	Dispute Governor	Reconciliation Officer	Royalty Calc Officer
Receive access request	R/A	I	I		
Confirm requestor identity class	R/A				
Determine appropriate access tier	R/A	C	C		
Document purpose and scope	R/A				
Define TTL	R/A				
For Tier 2: obtain second-party co-authorization	A (first)		A (second) or R (second)		
Assemble records within scope	C	R/A			
Apply minimization and redaction	R/A	C			
Create redaction log (if applicable)	R/A	C			
Deliver records to reviewer	R/A	C			
Log access grant and delivery in Layer 7	R	R/A	I	I	I
Schedule post-access review	R/A				
Execute post-access review	R/A	C	C		
Obtain reviewer attestation	R/A				
Record finding in Layer 7	R/A	R	I		
Escalate violations to Dispute Governor	R		A		

Accountability insert — Access Auth Officer: The Access Auth Officer is personally accountable for each access grant issued. This accountability cannot be delegated. Where a post-access review reveals that an access grant resulted in records being used outside the stated purpose, the Access Auth Officer is the named accountable party. Emergency access declarations that are not followed by second-party confirmation within 24 hours result in an automatic governance break (BR-G06) assigned to the Access Auth Officer.

G.8 RACI — Material Change Response and EP Delta Issuance

Activity Step	Evidence Infra Operator	Consent Custodian	Rights-State Admin	Royalty Calc Officer	Reconciliation Officer	Dispute Governor	Change Control Officer
Detect or receive notification of material change	R	C	C	C	C		I
Classify material change trigger (Section 11.4)	C	C	C	C	R/A		
Determine which EP layers require EP Delta	A	C (L2)	C (L4)	C (L5)	C		
Draft EP Delta content	R (L0,L1,L3,L7)	R (L2)	R (L4)	R (L5)			
Independent review of draft Delta	A	A	A	A	R/A		
Obtain dual authorization	A (first)	A	A	A	A (second)		
Register EP Delta in chain	R/A	C	C	C			
Notify affected parties	R	C	C	C	I	I	I
Trigger recertification if required	C	C	C	C	C		R/A
Update break register if Delta resolves a break					R/A		
Log Delta issuance in Layer 7	R/A	I	I	I	I	I	I
Post-change review (if material)	C	C	C	C	R/A		C

Accountability insert — Change Control Officer: The Change Control Officer is accountable for ensuring that all material change EP Deltas are issued within the timelines defined in Section 11.4.

Missed timelines are governance breaks (Section 11.4 timeline breach) attributed to the Change Control Officer. The Change Control Officer also owns the recertification schedule and must initiate recertification within 5 business days of any material change that triggers it.

G.9 RACI — Offboarding Execution

Activity Step	Evidence Infra Operator	Royalty Calc Officer	Consent Custodian	Rights-State Admin	Reconciliation Officer	Dispute Governor	Change Control Officer
File Offboarding Declaration in Layer 7	R/A	I	I	I	I	I	I
Freeze live EP for FSS creation	R/A	I	I	I	I		
Create Final State Snapshot	R/A	C	C	C	C		
Execute FSS hash computation	R/A				C		
Execute Final Reconciliation Proof	C	C	C	C	R/A	C	
Co-sign FRP with receiving custodian	R/A (offboarding)				C		
Compile open-break disclosure	R				R/A	C	
Issue open-break disclosure records	A	I	I	I	R	C	
Obtain recipient acknowledgments	R/A						
Assemble portable evidence sets per rights-holder type	R/A	C	C	C			
Create Legacy Transition Manifest (if migration)	R/A				C		
Transfer custody to receiving custodian	R/A						
Obtain custody acceptance record	R/A						
Confirm post-offboarding monitoring obligations	R				A	C	

Activity Step	Evidence Infra Operator	Royalty Calc Officer	Consent Custodian	Rights-State Admin	Reconciliation Officer	Dispute Governor	Change Control Officer
File offboarding completion record in Layer 7	R/A	I	I	I	I	I	I
Archive EP per retention schedule	R/A						

Accountability insert — Evidence Infra Operator (offboarding): The Evidence Infra Operator is the single accountable party for offboarding completeness. The offboarding process is not complete — and the Evidence Infra Operator remains in custody — until all eight OB checks pass, the FRP is co-signed, and the custody acceptance record is received. The Evidence Infra Operator may not declare offboarding complete without a co-signed FRP.

G.10 RACI — Governance Audit and Recertification

Activity Step	Change Control Officer	Evidence Infra Operator	Reconciliation Officer	Dispute Governor	Access Auth Officer	Royalty Calc Officer
Maintain recertification schedule	R/A	C	C			
Initiate recertification for due subjects	R/A	C	C	C	C	C
Execute recertification (by subject type)	C	R (EP integrity)	R (calc/payout)	R (dispute history)	R (access grants)	R (mandate)
Document recertification outcome	C	R/A	R/A	R/A	R/A	R/A
Issue EP Delta if recertification changes a state	A	R				
Flag recertification failures as governance breaks	R/A	C	C	C	C	C
Escalate governance breaks to senior party	R/A		C	C		
Log recertification events in Layer 7	C	R/A	I	I	I	I
Review delegation records for expiry	R/A				C	
Revoke expired delegations	R/A	C				

Activity Step	Change Control Officer	Evidence Infra Operator	Reconciliation Officer	Dispute Governor	Access Auth Officer	Royalty Calc Officer
Review SOD compliance across all activities	R/A	C	C		C	
Produce governance audit report	R/A	C	C	C	C	C

Accountability insert — Change Control Officer (governance audit): The Change Control Officer owns the governance audit function. Annual governance audit reports are mandatory. A governance audit report that is not produced within 12 months of the prior report is a governance break (BR-G09 analog). The Change Control Officer is also the named accountable party for detecting and remedying SOD violations identified during audit.

G.11 Accountability Insert — Master Summary Table

The following table consolidates the primary accountability assignments across all critical workflows. It is designed as a single-page reference for senior governance reviewers and examiners.

Workflow	Primary Accountable Role	Key Obligations	Primary Consequence of Failure
Source object registration and authenticity	Evidence Infra Operator	Manifest accuracy; hash correctness; chain continuity	BR-A01/A02; integrity investigation
Consent instrument registration	Consent Custodian	Scope dimension completeness; lifecycle EP Delta timeliness; Royalty Calc Officer notification	BR-C01/C06; held revenue attributable to delay
Transformation event and lineage	Evidence Infra Operator	Event log completeness; parent linkage; contamination check	BR-L01/L05; full chain hold
Rights-chain registration and maintenance	Rights-State Admin	License tier accuracy; scope ceiling checks; restriction registry currency	BR-R01/R03; out-of-scope revenue held
Royalty calculation	Royalty Calc Officer	Calculation accuracy; split allocation completeness; payout instruction timeliness	BR-P02/P04; calculation dispute
Reconciliation	Reconciliation Officer	Break register completeness; response timeline monitoring; escalation timeliness	BR-G08; undetected breaks accumulate
Dispute governance	Dispute Governor	Classification timeliness; hold-only containment; finding record evidentiary basis	Inappropriate hold/release; governance investigation
Access governance	Access Auth	Purpose limitation; TTL	BR-G01; LT-08;

Workflow	Primary Accountable Role	Key Obligations	Primary Consequence of Failure
	Officer	compliance; post-access review completion; Tier 2 dual auth	inappropriate access exposure
Material change and EP Delta	Change Control Officer	Timeline compliance; recertification initiation; SOD enforcement	Section 11.4 timeline breach; stale states in active calculations
Offboarding	Evidence Infra Operator	FSS completeness; FRP co-signature; custody acceptance; disclosure	Offboarding declared incomplete; receiving custodian unaware of open conditions
Governance audit	Change Control Officer	Annual audit production; SOD detection; delegation expiry monitoring	BR-G09; accumulation of undetected governance violations

G.12 Role Conflict and Escalation Matrix

The following matrix identifies conflicts of interest that must trigger escalation and the designated escalation path.

Conflict Scenario	Prohibited Action	Required Escalation
Royalty Calc Officer is a direct beneficiary of a calculation they are reviewing	Royalty Calc Officer may not co-authorize their own payment instructions above threshold	Escalate to independent co-authorizer; designate alternate calculation reviewer
Dispute Governor has a financial interest in the dispute outcome	Dispute Governor may not issue Finding Record or authorize hold release	Designate neutral Dispute Governor; or escalate to senior governance body
Access Auth Officer requests access for themselves	Access Auth Officer may not self-authorize Tier 2 access	Second independent party must be both requestor-authorizer and first-party approver
Consent Custodian is employed by the party whose consent is being reviewed	Consent Custodian may not independently verify authority of that party's consent	Independent authority verification required; Dispute Governor informed
Change Control Officer proposes a change that expands their own authority	Change Control Officer may not approve changes affecting their own role scope	Steering committee or senior governance body approval required
Evidence Infra Operator is instructed to modify an EP record by a party with a direct interest	Evidence Infra Operator must refuse modification without EP Delta and dual authorization	Escalate to Change Control Officer; document instruction and refusal in Layer 7
Reconciliation Officer's employer is a party to a break they are investigating	Reconciliation Officer must disclose conflict	Reassign investigation to independent officer; or appoint external reviewer

Appendix H — Content-Addressed Manifest, Diff, and Retrieval Templates

Purpose: This appendix provides complete, paste-ready templates for the three core evidence-chain instruments: content-addressed manifests (the primary identity and provenance records for media artifacts), EP Deltas / diffs (the incremental state-change records that maintain chain integrity without destructive overwrite), and retrieval templates (the structured request and production formats used when evidence records are accessed for review, examination, or dispute reconstruction). All templates extend the schemas introduced in Sections 4–9 with additional operational detail and worked field examples.

Cross-references: Manifest schemas → Sections 4.4, 6.2, 9.3. EP Delta schemas → Sections 5.6, 7.8, 8.9. Retrieval templates → Sections 9.8, 10, 14.

H.1 Content-Addressed Manifest Templates

H.1.1 Source Object Manifest — Full Schema with Field Guidance

The source object manifest is the foundational record for any canonical media artifact. Every field is mandatory unless marked Optional.

```
SOURCE_OBJECT_MANIFEST

  ── IDENTITY ──────────────────────────────────────────────────────────

  manifest_id:              [format: MAN-{media_type_code}-{YYYYMMDD}-{seq}]
                            [media_type_code: VO=voice, IM=image, FM=film,
```

```
                              MU=music, SY=synthetic, MX=mixed]
  artifact_manifest_id:       [durable, globally unique artifact identifier;
                               distinct from manifest_id to allow multiple
                               manifests per artifact lifecycle]
  artifact_type:              [voice | image | film | music | synthetic | mixed]
  object_class:               [source_object | derivative | distribution_object |
                               draft | unauthorized_version | composite]
  version_label:              [human-readable version tag; e.g. "v1.0-official";
                               Optional — content-addressed hash is authoritative]

  ── CONTENT INTEGRITY ──────────────────────────────────────────────────

  artifact_hash:              [SHA-256 of artifact byte stream at registration
time;
                               computed over canonical byte representation;
                               if artifact is multi-file: computed over ordered
                               concatenation or Merkle root of file hashes]
  hash_algorithm:             [SHA-256 | SHA-3-256 | BLAKE3; declared explicitly;
                               never implicit]
  artifact_size_bytes:        [byte count of artifact at registration; cross-check
                               against hash re-computation]
  encoding_format:            [FLAC | WAV | MP3 | JPEG | PNG | ProRes | H.264 |
                               PDF | equivalent; Optional but recommended]

  ── PROVENANCE ─────────────────────────────────────────────────────────

  origin_assertion_lvl:       [1–5; per Section 4.2 taxonomy]
  creation_environment:       [studio | field | digital-only | AI-synthesis |
                               hybrid; descriptive; not a controlled vocabulary]
  creation_date_range:        [ISO 8601 date or date range of creation activity;
                               may be approximate for archival artifacts]
  registrant_class:           [creator | label | studio | distributor | archive |
                               agent | platform | legal_successor]
  operator_class:             [human | AI_system | hybrid | not_applicable]
                              [for source objects: typically human or
not_applicable]
  synthesis_provenance_ref:   [pointer to synthesis provenance record;
                               null if origin_assertion_lvl = 1 and human-only]
```

── REGISTERED IDENTIFIERS ──────────────────────────────────────

isrc: [International Standard Recording Code; Optional]

iswc: [International Standard Musical Work Code; Optional]

isan: [International Standard Audiovisual Number; Optional]

eidr: [Entertainment Identifier Registry ID; Optional]

isbn: [for books/publications; Optional]

custom_catalog_id: [registrant's internal catalog identifier; Optional]

[At least one registered identifier or content-addressed hash is mandatory]

── LINKAGE ───

parent_manifest_id: [null for source_object; mandatory for derivative and distribution_object]

transformation_type: [null for source_object; from Section 6.3 taxonomy for derivatives]

rights_anchor_ref: [pointer to primary rights instrument in Layer 4; null only if rights-chain registration is pending within defined window]

consent_anchor_ref: [pointer to primary consent instrument in Layer 2; null if no performer/subject consent applicable]

series_ep_ref: [pointer to Series EP if artifact is part of a series; Optional]

── STATUS ──

official_release: [YES | NO | PENDING]

authenticity_state: [VERIFIED | CORROBORATED | ASSERTED | CONTESTED | UNRESOLVABLE]

superseded_by: [manifest_id of superseding manifest; null if current]

object_class_status: [CURRENT | SUPERSEDED | DRAFT | UNAUTHORIZED | CONTAMINATED]

── CHAIN INTEGRITY ───

registration_ts: [ISO 8601 timestamp; tamper-evidenced via authoritative time source]

```
  prev_manifest_hash:       [SHA-256 of preceding manifest record in chain;
                             null only for the very first manifest in a chain]
  manifest_hash:            [SHA-256 of this entire manifest record in
                             canonical serialization; computed last]
```

Worked example — voice recording source object:

```
SOURCE_OBJECT_MANIFEST
  manifest_id:              MAN-VO-20240315-001
  artifact_manifest_id:     AMI-7a3f9c2e-d1b4-4e8f-a2c7-1f5e9b3d6a0c
  artifact_type:            voice
  object_class:             source_object
  version_label:            v1.0-studio-master
  artifact_hash:            sha256:8f3a9c2e4d1b7f5a2c9e6b3d0f8a4c1e...
  hash_algorithm:           SHA-256
  artifact_size_bytes:      187,432,064
  encoding_format:          WAV (96kHz / 24-bit)
  origin_assertion_lvl:     1
  creation_environment:     studio
  creation_date_range:      2024-03-14 to 2024-03-15
  registrant_class:         label
  operator_class:           human
  synthesis_provenance_ref: null
  isrc:                     USRC12345678
  iswc:                     null
  isan:                     null
  custom_catalog_id:        LABEL-CAT-2024-0312
  parent_manifest_id:       null
  transformation_type:      null
  rights_anchor_ref:        RIGHTS-MAN-001
  consent_anchor_ref:       CONSENT-MAN-001
  series_ep_ref:            null
  official_release:         YES
  authenticity_state:       VERIFIED
  superseded_by:            null
  object_class_status:      CURRENT
  registration_ts:          2024-03-15T14:30:00Z
```

```
  prev_manifest_hash:       null
  manifest_hash:            sha256:3f5e7b1a9c2d4e8f6a0b3c5d7e9f1a2b...
```

H.1.2 Derivative Object Manifest — Full Schema

The derivative object manifest extends the source object schema with mandatory derivation fields.

```
DERIVATIVE_OBJECT_MANIFEST
  [All fields from SOURCE_OBJECT_MANIFEST, plus:]

  ── DERIVATION-SPECIFIC ──────────────────────────────────────────────

  parent_manifest_id:       [mandatory; manifest_id of immediate source object]
  transformation_type:      [mandatory; from Section 6.3 taxonomy:
                             remix | sample | dub_human | dub_synthetic |
                             edit_content | clip | stem_separation |
                             synthetic_clone | composite | format_adaptation |
                             AI_assisted | other]
  transformation_event_ref: [pointer to transformation event log entry in Layer
3;
                             mandatory for all Class A and Class B
transformations]
  materiality_class:        [A | B | C; per Section 6.4]
  authorization_state:      [CONFIRMED | ASSERTED | ABSENT | CONTESTED |
                             RETROACTIVELY_AUTHORIZED]
  authorization_ref:        [pointer to authorization instrument or consent
record
                             that supports this transformation; mandatory if
                             authorization_state = CONFIRMED]
  contributing_sources:     [for composite objects: list of all source manifest
IDs;
                             mandatory if transformation_type = composite]
  synthesis_provenance_ref: [mandatory if operator_class = AI_system or hybrid;
                             pointer to synthesis provenance record]
  declared_source_count:    [for composite: count of contributing sources;
                             must match length of contributing_sources list]
```

H.1.3 Distribution Object Manifest — Full Schema

```
DISTRIBUTION_OBJECT_MANIFEST
```

```
  [All fields from SOURCE_OBJECT_MANIFEST, plus:]

  ── DISTRIBUTION-SPECIFIC ──────────────────────────────────────────
  parent_manifest_id:       [mandatory; manifest_id of source or derivative
                             object from which this distribution object derives]
  distribution_channel:     [streaming | broadcast | theatrical | download |
                             physical | sync_placement | social_media |
                             AI_training | other]
  territory:                [ISO 3166-1 alpha-2 country codes; or WORLDWIDE
                             with explicit exclusions listed]
  distribution_start_date:  [ISO 8601 date; date distribution commenced]
  distribution_end_date:    [ISO 8601 date; null if ongoing]
  content_unchanged:        [YES | NO; if NO: describe change and re-classify
                             as derivative]
  encoding_adaptation_note: [description of encoding changes from parent;
                             e.g. "transcoded to 320kbps MP3 for streaming";
                             null if content_unchanged = YES]
  platform_identifier:      [platform reference class; no vendor lock-in;
                             Optional]
  distribution_license_ref: [pointer to distribution license tier in Layer 4;
                             mandatory]
```

H.1.4 Synthesis Provenance Record — Full Schema

The synthesis provenance record is a mandatory companion to any manifest with `operator_class: AI_system` or `hybrid`.

```
SYNTHESIS_PROVENANCE_RECORD
  provenance_id:            [unique identifier]
  artifact_manifest_id:     [pointer to the manifest of the synthesized output]
  synthesis_timestamp:      [ISO 8601 timestamp of synthesis execution]

  ── GENERATION PARAMETERS ──────────────────────────────────────────
  model_version_class:      [descriptive class of synthesis model; no vendor
                             lock-in; e.g. "neural TTS v3", "diffusion image
                             synthesis", "transformer music generation"]
  generation_parameter_hash:[SHA-256 of the complete generation parameter set
```

```
                              at synthesis time; enables parameter replay]
  generation_parameters_ref:[Optional pointer to full parameter set if stored
                              separately; parameter_hash is authoritative]
  input_source_refs:         [list of source artifact manifest IDs used as
                              inputs to synthesis; null if no source artifacts
                              were incorporated]
  conditioning_data_refs:    [list of conditioning data references used to
                              guide synthesis output; e.g. voice style reference,
                              image style guide, musical reference track]

  ── AUTHORIZATION ──────────────────────────────────────────────────────
  synthesis_license_ref:     [pointer to synthesis license instrument in Layer 4]
  training_data_auth_ref:    [pointer to training data authorization instrument;
                              mandatory; explicitly documents what training data
                              the model was authorized to train on]
  source_voice_auth_ref:     [pointer to source voice consent instrument if
                              synthesis replicates an identifiable voice;
                              null if no identifiable voice is replicated]
  source_likeness_auth_ref: [pointer to source likeness consent instrument if
                              synthesis replicates an identifiable visual
likeness;
                              null if no identifiable likeness is replicated]

  ── INTEGRITY ──────────────────────────────────────────────────────────
  output_hash_at_generation:[SHA-256 of synthesis output at time of generation;
                              must match artifact_hash in the associated
manifest]
  provenance_hash:           [SHA-256 of this entire provenance record]
```

H.2 EP Delta / Diff Templates

H.2.1 State-Change EP Delta — Universal Schema

An EP Delta records any change to a previously registered state without modifying the prior record. Every state change in the framework — regardless of domain or layer — uses this schema extended with domain-specific fields.

```
EP_DELTA_RECORD
```

```
── IDENTITY ──────────────────────────────────────────────────────────

delta_id:                  [format: EPD-{layer}-{YYYYMMDD}-{seq}]
delta_type:                [STATE_CHANGE | CORRECTION | SUPERSESSION |
                            REVOCATION | RENEWAL | SCOPE_MODIFICATION |
                            CONTAMINATION | HOLD_APPLICATION | HOLD_RELEASE |
                            RECERTIFICATION | OFFBOARDING]
affected_layer:            [0–7; layer of the EP affected by this delta]
affected_record_id:        [record_id of the record being changed]
affected_artifact_ids:     [list of artifact manifest IDs affected]

── STATE CHANGE ──────────────────────────────────────────────────────

prior_state_snapshot:      [complete snapshot of the affected record's state
                            before this delta; enables rollback and replay]
new_state_snapshot:        [complete snapshot of the affected record's state
                            after this delta is applied]
changed_fields:            [list of specific fields modified by this delta;
                            with prior value and new value per field]
change_basis:              [factual basis for the change; reference to
                            triggering instrument, event, or finding]
change_basis_ref:          [pointer to triggering record: dispute finding,
                            instrument, break record, legal order, etc.]

── AUTHORIZATION ─────────────────────────────────────────────────────

issuing_party_role:        [governance role of party issuing this delta]
authorizing_party_role:    [governance role of party independently authorizing;
                            must differ from issuing party for state-changing
deltas]
dual_auth_record_ref:      [pointer to distributed approval record]
issuance_timestamp:        [ISO 8601]

── NOTIFICATION ──────────────────────────────────────────────────────

notified_parties:          [list of role classes notified of this delta]
notification_timestamp:    [ISO 8601]

── CHAIN INTEGRITY ───────────────────────────────────────────────────
```

```
  prev_delta_hash:          [SHA-256 of preceding EP Delta in the chain for
                             this layer and artifact; null if first delta]
  delta_hash:               [SHA-256 of this entire delta record in canonical
                             serialization; computed last]
```

H.2.2 Domain-Specific EP Delta Extensions

Each state domain extends the universal EP Delta schema with domain-specific fields.

H.2.2a — Authenticity Domain EP Delta Extension

```
AUTHENTICITY_EP_DELTA_EXTENSION
  [appended to EP_DELTA_RECORD where affected_layer = 1]

  prior_authenticity_state: [VERIFIED | CORROBORATED | ASSERTED |
                             CONTESTED | UNRESOLVABLE]
  new_authenticity_state:   [VERIFIED | CORROBORATED | ASSERTED |
                             CONTESTED | UNRESOLVABLE]
  origin_assertion_change:  [prior level → new level; null if unchanged]
  si_tests_triggering_delta:[list of SI boundary test IDs that triggered this
delta;
                             null if delta is not test-triggered]
  competing_manifest_ref:   [pointer to competing manifest if delta is
                             dispute-related; null if not applicable]
  contamination_flag:       [YES | NO; YES if contamination was detected
                             and this delta records the contamination finding]
```

Worked example — authenticity state change from VERIFIED to CONTESTED:

```
EP_DELTA_RECORD + AUTHENTICITY_EXTENSION
  delta_id:                 EPD-1-20240918-007
  delta_type:               STATE_CHANGE
  affected_layer:           1
  affected_record_id:       AUTH-AMI-7a3f9c2e-001
  affected_artifact_ids:    [AMI-7a3f9c2e-d1b4-4e8f-a2c7-1f5e9b3d6a0c]
  prior_state_snapshot:     {authenticity_state: VERIFIED, origin_assertion_lvl:
1}
  new_state_snapshot:       {authenticity_state: CONTESTED,
origin_assertion_lvl: 1}
  changed_fields:
```

```
    - field: authenticity_state
      prior_value: VERIFIED
      new_value:   CONTESTED
  change_basis:             Competing source claim filed by Party B; hash match
                            detected between AMI-7a3f9c2e and AMI-4b8d1f7a
  change_basis_ref:         DISP-20240918-003
  issuing_party_role:       Evidence Infra Operator
  authorizing_party_role:   Dispute Governor
  dual_auth_record_ref:     DAR-20240918-007
  issuance_timestamp:       2024-09-18T11:15:00Z
  notified_parties:         [Rights-State Admin, Royalty Calc Officer,
Reconciliation Officer]
  notification_timestamp:   2024-09-18T11:20:00Z
  prior_authenticity_state: VERIFIED
  new_authenticity_state:   CONTESTED
  si_tests_triggering_delta:[AC-15]
  competing_manifest_ref:   MAN-MU-20240201-003
  contamination_flag:       NO
  prev_delta_hash:          sha256:9c4d2e8f1a3b5c7d...
  delta_hash:               sha256:2b7f3a5c9e1d4f6a...
```

H.2.2b — Consent Domain EP Delta Extension

```
CONSENT_EP_DELTA_EXTENSION
  [appended to EP_DELTA_RECORD where affected_layer = 2]

  event_type:               [EXPIRY | REVOCATION | SUPERSESSION | RENEWAL |
                             SCOPE_MODIFICATION | SUSPENSION | REINSTATEMENT |
                             GAP_NOTATION | CO_AUTH_OBTAINED]
  prior_consent_state:      [IN_SCOPE | PARTIALLY_IN_SCOPE | ASSERTED |
                             EXPIRED | REVOKED | SUPERSEDED | SUSPENDED |
                             DISPUTED | ABSENT]
  new_consent_state:        [same vocabulary]
  affected_scope_dimensions:[list of scope dimensions changed by this delta;
                             null if full-instrument event]
  prior_scope_snapshot:     [snapshot of scope dimension values before delta]
```

```
  new_scope_snapshot:       [snapshot of scope dimension values after delta]
  effective_date:           [date the new state takes effect; may differ from
                             issuance_timestamp; e.g. revocation effective
                             date may be retroactive]
  gap_period_start:         [ISO 8601; start of gap if this delta records a gap]
  gap_period_end:           [ISO 8601; end of gap; null if gap is ongoing]
  renewal_instrument_ref:   [pointer to renewal instrument; null if not renewal]
  revocation_instrument_ref:[pointer to revocation instrument; null if not
revocation]
  revenue_impact_estimate:  [estimated revenue affected by this state change;
                             used for hold-set sizing; null if not calculable]
```

H.2.2c — Lineage Domain EP Delta Extension

```
LINEAGE_EP_DELTA_EXTENSION
  [appended to EP_DELTA_RECORD where affected_layer = 3]


  event_type:               [AUTHORIZATION_CORRECTION |
OPERATOR_CLASS_CORRECTION |
                             PARENT_LINKAGE_REGISTRATION |
CONTAMINATION_DECLARATION |
                             CONTAMINATION_QUARANTINE |
RETROACTIVE_AUTHORIZATION |
                             VERSION_CLASS_CORRECTION | SUPERSESSION]
  prior_authorization_state:[CONFIRMED | ASSERTED | ABSENT | CONTESTED |
                             RETROACTIVELY_AUTHORIZED]
  new_authorization_state:  [same vocabulary]
  contamination_scope:      [list of artifact manifest IDs confirmed as
contaminated;
                             null if contamination_flag = NO]
  quarantine_action:        [FULL_HOLD | PARTIAL_HOLD | MONITORING_ONLY;
                             null if no contamination]
  lineage_replay_ref:       [pointer to lineage replay report that supports
                             this delta; null if not applicable]
```

H.2.2d — Rights-Chain Domain EP Delta Extension

```
RIGHTS_CHAIN_EP_DELTA_EXTENSION
  [appended to EP_DELTA_RECORD where affected_layer = 4]
```

```
  event_type:                [LICENSE_GRANT | SUBLICENSE_GRANT | ASSIGNMENT |
                              TERMINATION | REVERSION | SUCCESSION | RENEWAL |
                              SCOPE_RESTRICTION_ADDED | SCOPE_RESTRICTION_LIFTED
|
                              OUT_OF_SCOPE_FLAG | REGISTRY_UPDATE]
  affected_license_tier_id: [license tier ID in Layer 4 affected by this delta]
  prior_license_state:       [ACTIVE | EXPIRED | SUSPENDED | TERMINATED |
                              SUBLICENSED | OUT_OF_SCOPE | CONTESTED | ASSERTED]
  new_license_state:         [same vocabulary]
  territory_change:          [prior territory scope → new territory scope;
                              null if unchanged]
  channel_change:            [prior channel scope → new channel scope;
                              null if unchanged]
  duration_change:           [prior expiry date → new expiry date;
                              null if unchanged]
  restriction_registry_update: [YES | NO; if YES: restriction registry
                              was updated as part of this delta]
  downstream_review_required: [YES | NO; if YES: downstream sublicenses
                               must be reviewed for ceiling compliance]
```

H.2.2e — Royalty and Payout Domain EP Delta Extension

```
ROYALTY_EP_DELTA_EXTENSION
  [appended to EP_DELTA_RECORD where affected_layer = 5]

  event_type:                [CALCULATION_CORRECTION | SPLIT_REVISION |
                              RATE_CORRECTION | HOLD_APPLICATION | HOLD_RELEASE |
                              PROVISIONAL_RESOLUTION | CONTRIBUTOR_IDENTIFICATION
|
                              RECOUPMENT_STATE_UPDATE | PAYOUT_CORRECTION |
                              FINALITY_AMENDMENT]
  affected_calc_id:          [calculation artifact ID affected; null if not
                              calculation-related]
  affected_alloc_id:         [split allocation record ID affected; null if not
                              allocation-related]
  prior_calc_state:          [CALCULATED | PROVISIONAL | INSTRUCTED |
```

```
                              CONFIRMED | DISPUTED | CORRECTED | FINALIZED |
                              OPEN_BREAK]
  new_calc_state:             [same vocabulary]
  revenue_delta:              [signed amount; positive = additional revenue
recognized;
                              negative = revenue reduction; currency declared]
  correction_ep_delta_ref:    [pointer to correction EP Delta if this is
                              an off-cycle correction; null if not applicable]
  adjustment_lineage_ref:     [pointer to adjustment lineage record; null if
                              not applicable]
```

H.3 Diff Comparison Template

When two EP states must be compared — for example, to resolve a dispute about what the rights-chain scope was at a specific historical date — the diff comparison template provides a structured format for the comparison output.

```
DIFF_COMPARISON_RECORD
  comparison_id:              [unique identifier]
  comparison_purpose:         [dispute resolution | reconciliation |
recertification |
                              examiner request | audit]
  reference_record_a_id:      [ID of first record being compared; typically older
state]
  reference_record_b_id:      [ID of second record being compared; typically newer
state]
  comparison_as_of_a:         [ISO 8601 timestamp to which record A is anchored]
  comparison_as_of_b:         [ISO 8601 timestamp to which record B is anchored]
  layer:                      [0–7; EP layer of compared records]
  domain:                     [AUTHENTICITY | CONSENT | LINEAGE | RIGHTS |
                              ROYALTY | GOVERNANCE]
  diff_fields:
    - field_name:             [name of field where values differ]
      value_in_a:             [value in record A]
      value_in_b:             [value in record B]
      delta_classification:   [MATERIAL | NON_MATERIAL | AMBIGUOUS]
      delta_significance:     [brief explanation of why the difference matters
                              for the comparison purpose]
  fields_identical:           [list of fields that are identical between A and B]
```

```
  material_diff_count:      [count of fields classified as MATERIAL]
  comparison_finding:       [brief summary: e.g. "Rights-chain scope narrowed
                             between Record A and Record B by exclusion of
                             territory X effective 2024-06-01"]
  comparison_hash:          [SHA-256 of this comparison record]
  comparison_produced_by:   [governance role of party producing comparison]
  comparison_timestamp:     [ISO 8601]
```

Worked example — consent scope diff for a dispute:

```
DIFF_COMPARISON_RECORD
  comparison_id:            DIFF-CONS-20240920-001
  comparison_purpose:       dispute resolution
  reference_record_a_id:    CONSENT-MAN-001-v1   ← original instrument
  reference_record_b_id:    CONSENT-MAN-001-v2   ← after scope modification
  comparison_as_of_a:       2024-01-01T00:00:00Z
  comparison_as_of_b:       2024-07-01T00:00:00Z
  layer:                    2
  domain:                   CONSENT
  diff_fields:
    - field_name:           medium_scope
      value_in_a:           [streaming, broadcast, theatrical]
      value_in_b:           [streaming, broadcast]
      delta_classification: MATERIAL
      delta_significance:   Theatrical channel removed from scope effective
                            2024-07-01 per scope modification EP Delta EPD-2-
20240701-003;
                            theatrical usage events after this date are
OUT_OF_SCOPE
    - field_name:           synthetic_use_state
      value_in_a:           ASSERTED
      value_in_b:           OUT_OF_SCOPE
      delta_classification: MATERIAL
      delta_significance:   Explicit prohibition added for synthetic use
                            in scope modification; removes ASSERTED status
  fields_identical:         [territory_scope, duration, purpose,
derivative_auth]
  material_diff_count:      2
```

```
  comparison_finding:       Scope narrowed at 2024-07-01: theatrical channel
                            removed and synthetic use explicitly prohibited.
                            Usage events after 2024-07-01 in theatrical channel
                            or involving synthetic use are outside scope.
  comparison_hash:          sha256:5e2a8c1f4b9d3e7a...
  comparison_produced_by:   Dispute Governor
  comparison_timestamp:     2024-09-20T09:45:00Z
```

H.4 Evidence Retrieval Request Templates

H.4.1 Standard Evidence Retrieval Request

Used when a reviewer, examiner, or rights-holder representative requests EP records for a defined purpose.

```
EVIDENCE_RETRIEVAL_REQUEST
  request_id:               [format: ERR-{YYYYMMDD}-{seq}]
  requestor_class:          [examiner | auditor | rights-holder | contributor |
                             collecting_society | distributor | legal_party |
                             internal_governance]
  requestor_reference:      [institutional identifier of requestor; no PII
beyond
                             institutional level]
  request_timestamp:        [ISO 8601]
  stated_purpose:           [precise description; must identify specific
artifact,
                             state, calculation, or dispute; generic purposes
rejected]
  artifact_scope:           [list of artifact manifest IDs; or catalog scope
                             identifier]
  layer_scope:              [list of EP layers requested; subset of 0–7]
  date_range_scope:         [start — end of time period for records requested]
  access_tier_requested:    [0 | 1 | 2; requestor's assessment of appropriate
tier]
  access_tier_granted:      [0 | 1 | 2; assigned by Access Auth Officer]
  specific_records_requested:[list of specific record IDs if known; Optional]
  format_preference:        [JSON | XML | PDF | structured_text | as_available]
  delivery_channel:         [secure_portal | encrypted_transfer |
in_person_review]
```

```
  urgency:                  [STANDARD | EXPEDITED | EMERGENCY]
  urgency_basis:            [explanation if EXPEDITED or EMERGENCY; null if
STANDARD]
  request_hash:             [SHA-256 of this request record]
```

H.4.2 Evidence Retrieval Response and Production Package Manifest

```
EVIDENCE_RETRIEVAL_RESPONSE
  response_id:              [format: ERP-{YYYYMMDD}-{seq}]
  request_id:               [pointer to retrieval request]
  access_tier_applied:      [0 | 1 | 2; may differ from tier_requested]
  tier_adjustment_basis:    [explanation if tier differs from requested;
                             null if same]
  access_grant_id:          [pointer to access grant record in Layer 7]
  ttl_expiry:               [ISO 8601; date after which access expires]
  post_access_review_due:   [ISO 8601; deadline for post-access review]
  minimization_applied:     [YES | NO]
  redaction_applied:        [YES | NO]
  redaction_log_ref:        [pointer to redaction log; null if NO]

  PRODUCTION_PACKAGE:
    package_id:             [format: PKG-{YYYYMMDD}-{seq}]
    artifact_scope_produced:[list of artifact manifest IDs included]
    layers_produced:        [list of EP layers included]
    record_count_by_layer:
      layer_0:              [count]
      layer_1:              [count]
      layer_2:              [count]
      layer_3:              [count]
      layer_4:              [count]
      layer_5:              [count]
      layer_6:              [count]
      layer_7:              [count]
      total:                [count]
    redacted_record_count:  [count of records with fields redacted]
    records_withheld_count: [count of records within scope but withheld;
```

```
                              with reason class: privilege | minimization |
                              third_party_confidentiality | beyond_scope]
    privilege_log_ref:        [pointer to privilege log if records withheld
                              on privilege grounds; null if none]
    package_hash:             [SHA-256 of all records in package in canonical
order]
    delivery_timestamp:       [ISO 8601]
    delivery_confirmation:    [acknowledgment from requestor; null until received]
  response_hash:              [SHA-256 of this response record]
```

H.4.3 Chain-of-Custody Production Template

When evidence records are produced for legal or formal institutional proceedings, a chain-of-custody production record supplements the standard production package.

```
CHAIN_OF_CUSTODY_PRODUCTION
  coc_production_id:          [unique identifier]
  package_id:                 [pointer to production package]
  producing_party_role:       [governance role of producing party]
  producing_party_institutional_ref: [institutional identifier; no individual
PII]
  production_purpose:         [legal proceeding | regulatory examination |
                              arbitration | internal investigation | audit]
  proceeding_reference:       [case number, docket number, or examination
reference;
                              Optional]
  production_date:            [ISO 8601]
  records_certified_as:       [TRUE COPIES OF RECORDS MAINTAINED IN THE ORDINARY
                              COURSE OF OPERATIONS; or equivalent certification;
                              non-normative — institutions apply their own
                              certification language]
  ep_state_at_production:     [SHA-256 of EP state hash at production date;
                              allows verification that produced records match
                              the live EP at the time of production]
  retention_obligation:       [description of retention obligation for produced
copies;
                              per applicable institutional and legal
requirements]
  coc_hash:                   [SHA-256 of this record]
```

H.5 Manifest Chain Reconstruction Template

When a manifest chain has a gap or a break and reconstruction is required, the following template documents the reconstruction method, the evidence used, and the limitations of the reconstructed chain.

```
MANIFEST_CHAIN_RECONSTRUCTION
  reconstruction_id:          [unique identifier]
  artifact_manifest_id:       [artifact whose chain is being reconstructed]
  affected_layer:             [0–7]
  gap_description:            [description of the gap: what is missing, what
                               period it covers, how it was detected]
  detected_by:                [break_id | boundary_test_id | dispute_id |
                               manual_review]
  reconstruction_method:      [BACKUP_RECORD_RESTORATION | THIRD_PARTY_RECORD |
                               ARCHIVAL_DOCUMENT | WITNESS_ATTESTATION |
                               PARTIAL_RECONSTRUCTION | UNRECONSTRUCTABLE]
  evidence_used:              [list of records, documents, or sources used
                               to support reconstruction]
  reconstructed_records:      [list of records created or restored by this
                               reconstruction; each with record_id and hash]
  reconstruction_limitations:[description of what cannot be confirmed;
                               e.g. "exact byte content of artifact at
                               gap-period registration cannot be confirmed;
                               hash re-computation is not possible"]
  confidence_assessment:      [HIGH | MODERATE | LOW; per evidence quality
                               of reconstruction basis]
  post_reconstruction_state:[authenticity state assigned to artifact after
                               reconstruction; typically CORROBORATED or ASSERTED
                               unless full hash verification is restored]
  reconstruction_ep_delta:  [pointer to EP Delta issued to record the
                               reconstruction in the chain]
  reconstruction_hash:        [SHA-256 of this record]
```

Appendix I — Royalty Calculation, Settlement Confirmation, and Payout Linkage Templates

---

Purpose: This appendix provides complete, paste-ready templates for the full royalty-to-payout evidence chain defined in Section 8. Templates cover every stage from usage event aggregation through calculation artifact creation, split allocation, payment instruction, settlement confirmation, payout linkage, finality, and off-cycle correction. Each template includes: the full record schema, a worked numerical example where applicable, and a completion checklist. Templates are designed to be directly usable in evidence pack assembly (Appendix B.6–B.7) and examiner review (Section 14.5, checks RP-01 through RP-15).

I.1 Royalty Event Intake Summary Template

Before a calculation run, all usage events for the period are aggregated by royalty event type and evidence quality tier. The intake summary is the pre-calculation evidence register.

```
ROYALTY_EVENT_INTAKE_SUMMARY
  intake_id:                [format: REIS-{calc_period_start}-{seq}]
  calc_period_start:        [ISO 8601 date]
  calc_period_end:          [ISO 8601 date]
  intake_timestamp:         [ISO 8601; date intake aggregation was completed]
  artifact_scope:           [list of artifact manifest IDs included]

  EVENT_COUNTS_BY_TYPE:
    [for each royalty_event_type in Section 8.1 taxonomy:]
    - royalty_event_type:   [e.g. streaming_play]
      total_events:         [count]
      tier_1_events:        [count]
      tier_2_events:        [count]
```

```
    tier_3_events:        [count; held pending supplementary evidence]
    tier_4_events:        [count; excluded]
    unmatched_events:     [count; artifact not identified]
    unclassified_events:  [count; event type undetermined]
    gross_volume:         [total volume metric; units per event type]
    gross_revenue:        [estimated gross revenue at applicable rates]

  AGGREGATE_TOTALS:
    total_events:           [count across all types]
    calculation_eligible:   [count of Tier 1 + Tier 2 events]
    held_excluded:          [count of Tier 3 + Tier 4 + unmatched +
unclassified]
    estimated_gross_revenue:[across all eligible events]
    estimated_held_revenue: [across all held and excluded events]

  REPORTING_SOURCES:
    [for each reporting source:]
    - source_class:         [platform | distributor | collecting_society |
                             direct_license | other]
      source_reference:     [institutional identifier]
      report_date:          [date report was received]
      events_reported:      [count]
      format:               [data format of received report]
      completeness_flag:    [COMPLETE | PARTIAL | DISPUTED]

  BREAKS_DETECTED_AT_INTAKE:
    [list of break IDs from Appendix C raised during intake]

  intake_hash:              [SHA-256 of this record]
```

I.2 Royalty Calculation Artifact — Full Schema with Worked Example

---

I.2.1 Full Schema

```
ROYALTY_CALCULATION_ARTIFACT
  ── IDENTITY ──────────────────────────────────────────────────────────
```

```
calc_id:                  [format: CALC-{artifact_scope_code}-{period}-{seq}]
calc_run_timestamp:       [ISO 8601; time calculation was executed]
calc_period_start:        [ISO 8601 date]
calc_period_end:          [ISO 8601 date]
intake_id:                [pointer to Royalty Event Intake Summary]

── SCOPE ──────────────────────────────────────────────────────────────
artifact_scope:           [list of artifact manifest IDs included]
royalty_event_types:      [list of royalty event types included]

── EVENT COUNTS ───────────────────────────────────────────────────────
usage_event_total:        [all events processed from intake]
usage_event_tier_1:       [count of Tier 1 events included]
usage_event_tier_2:       [count of Tier 2 provisional events included]
usage_event_tier_3_held:  [count of Tier 3 events held]
usage_event_tier_4_excl:  [count of Tier 4 events excluded]
usage_event_unmatched:    [count of unmatched events]
usage_event_unclassified: [count of unclassified events]

── REVENUE ────────────────────────────────────────────────────────────
gross_revenue_by_type:
  [for each royalty_event_type:]
  - royalty_event_type:   [e.g. streaming_play]
    gross_revenue:        [amount]
    currency:             [ISO 4217]
    rate_basis_ref:       [pointer to rate instrument in Layer 4]
    rate_applied:         [rate value; e.g. 0.004 per stream]
    volume_applied:       [volume metric used; e.g. 2,100,000 streams]
total_gross_revenue:      [sum across all types]
currency:                 [ISO 4217]

── DEDUCTIONS ─────────────────────────────────────────────────────────
participation_deductions:
  [for each participation-chain deduction:]
  - deduction_type:       [platform_share | distribution_fee | admin_fee |
```

```
                              label_overhead | collection_fee | other]
      deduction_party_class:[platform | distributor | label |
collecting_society]
      instrument_ref:       [pointer to participation instrument]
      deduction_basis:      [percentage | flat_fee | formula]
      deduction_value:      [percentage or amount]
      deduction_amount:     [calculated deduction amount]
  total_deductions:         [sum of all deductions]
  net_royalty_pool:         [total_gross_revenue minus total_deductions]

  ── CONFIRMATION REFERENCES ──────────────────────────────────────────

  rights_chain_refs:        [list of rights-chain EP entries confirmed
                             at calculation run timestamp]
  consent_state_refs:       [list of consent state records confirmed
                             at calculation run timestamp]
  recoupment_state_refs:    [list of recoupment state records confirmed
                             at calculation run timestamp]

  ── OPEN CONDITIONS ──────────────────────────────────────────────────

  provisional_event_count:  [count of Tier 2 provisional events; reconciliation
                             deadline = calc_run_timestamp + 90 days]
  provisional_deadline:     [ISO 8601 date]
  open_breaks_at_calc:      [list of break IDs from break register affecting
                             this calculation at time of run]

  ── INTEGRITY ────────────────────────────────────────────────────────

  calc_input_hash:          [SHA-256 of all inputs: usage events, rate
instruments,
                             rights references, consent references, in canonical
order]
  calc_output_hash:         [SHA-256 of calculation outputs: gross revenue by
type,
                             deductions, net pool, in canonical order]
  calc_artifact_hash:       [SHA-256 of this entire artifact record]
  prev_calc_artifact_hash:  [SHA-256 of prior calculation in series;
                             null if first calculation for this artifact set]
```

I.2.2 Worked Numerical Example

Context: Single album streaming distribution, Q1 2025.

```
ROYALTY_CALCULATION_ARTIFACT [CALC-ALBUM-Q1-2025-001]
  calc_period_start:        2025-01-01
  calc_period_end:          2025-03-31
  artifact_scope:           [AMI-ALBUM-MASTER-001]  ← 12-track album
  royalty_event_types:      [streaming_play, download_mechanical]

  EVENT COUNTS:
    usage_event_total:      4,420,000
    usage_event_tier_1:     4,380,000
    usage_event_tier_2:     35,000    ← provisional; territory unconfirmed
    usage_event_tier_3_held:4,000     ← 3 platforms with contested volumes
    usage_event_tier_4_excl:1,000     ← consent EXPIRED for 1,000 events

  REVENUE:
    streaming_play:
      gross_revenue:        USD 17,520.00
      rate_basis_ref:       RATE-STREAM-DSP-2025
      rate_applied:         USD 0.004 per stream
      volume_applied:       4,380,000 streams (Tier 1 only)
    download_mechanical:
      gross_revenue:        USD 870.00
      rate_basis_ref:       RATE-MECH-STAT-2025
      rate_applied:         USD 0.0909 per download (statutory rate)
      volume_applied:       9,570 downloads (Tier 1 only)
    total_gross_revenue:    USD 18,390.00

  DEDUCTIONS:
    platform_share:
      deduction_type:       platform_share
      instrument_ref:       DISTRIB-AGR-001
      deduction_basis:      percentage
      deduction_value:      30%
```

```
    deduction_amount:     USD 5,517.00
  distribution_fee:
    deduction_type:       distribution_fee
    instrument_ref:       DISTRIB-AGR-001
    deduction_basis:      flat_fee
    deduction_value:      USD 150.00 per quarter
    deduction_amount:     USD 150.00
total_deductions:         USD 5,667.00
net_royalty_pool:         USD 12,723.00

OPEN CONDITIONS:
  provisional_event_count:35,000
  provisional_deadline:   2025-06-30
  open_breaks_at_calc:    [BR-P01-20250401-001]  ← 3 platforms contested
```

I.3 Split Allocation Record — Full Schema with Worked Example

---

I.3.1 Full Schema

```
SPLIT_ALLOCATION_RECORD
  alloc_id:                [format: ALLOC-{calc_id}-{seq}]
  calc_id:                 [pointer to parent calculation artifact]
  artifact_manifest_id:    [artifact to which this allocation applies]
  royalty_event_type:      [event type to which this allocation applies;
                            or ALL if allocation covers all types uniformly]
  net_pool_amount:         [net royalty pool for this event type and artifact]
  currency:                [ISO 4217]

  CONTRIBUTOR_ALLOCATIONS:
    [one entry per contributor:]
    - contributor_id:      [alloc_line_id; unique within allocation]
      contributor_ref:     [institutional or role-class reference;
                            no individual PII at this level]
      contributor_role:    [composition_author | sound_recording_performer |
                            sound_recording_producer | session_musician |
                            featured_artist | synthesis_licensor |
```

```
                            archive_licensor | label | publisher |
                            collecting_society | other]
      rights_domain:        [composition | master_recording | sync |
                            neighboring_rights | synthesis | other]
      share_basis:          [percentage | fixed_amount | formula | statutory]
      share_value:          [percentage (e.g. 0.45 for 45%) | amount]
      share_instrument_ref: [pointer to instrument establishing this share]
      gross_allocated:      [share_value × net_pool_amount before recoupment]
      recoupment_state:     [RECOUPED | UNRECOUPED | NOT_APPLICABLE]
      recoupment_amount_outstanding: [amount remaining unrecouped;
                                      null if NOT_APPLICABLE or RECOUPED]
      recoupment_deduction: [amount deducted for recoupment on this cycle;
                            null if NOT_APPLICABLE or RECOUPED]
      net_payable:          [gross_allocated minus recoupment_deduction;
                            this is the amount to be paid on this cycle]
      hold_applied:         [YES | NO]
      hold_ref:             [pointer to hold record if YES; null if NO]
      payment_status:       [PAYABLE | HELD | DEFERRED | RECOUPED]

  RESIDUAL:
    residual_amount:        [net_pool_amount minus sum(net_payable); must be 0
                            for fully allocated; positive amount triggers BR-
P03]
    residual_treatment:     [FULLY_ALLOCATED | HELD_PENDING_IDENTIFICATION |
                            ASSIGNED_TO_IDENTIFIED_HOLDER | ESCROW_EQUIVALENT]
    residual_holder_ref:    [if ASSIGNED_TO_IDENTIFIED_HOLDER: pointer to
holder]

  INTEGRITY:
    allocation_sum_check:   [sum of all net_payable amounts + residual_amount;
                            must equal net_pool_amount; any difference is a
                            rounding violation requiring correction]
    alloc_hash:             [SHA-256 of this record in canonical serialization]
```

I.3.2 Worked Example — Five-Party Split

Context: Continuing CALC-ALBUM-Q1-2025-001; streaming only; net pool = USD 12,723.00.

```
SPLIT_ALLOCATION_RECORD [ALLOC-CALC-ALBUM-Q1-2025-001-001]
  calc_id:                  CALC-ALBUM-Q1-2025-001
  royalty_event_type:       streaming_play
  net_pool_amount:          USD 12,723.00

  CONTRIBUTOR_ALLOCATIONS:

    [1] Songwriter / Composition Author
      contributor_role:     composition_author
      rights_domain:        composition
      share_basis:          percentage
      share_value:          0.15  (15%)
      share_instrument_ref: PUBL-AGR-COMPOS-001
      gross_allocated:      USD 1,908.45
      recoupment_state:     NOT_APPLICABLE
      net_payable:          USD 1,908.45
      payment_status:       PAYABLE

    [2] Publisher
      contributor_role:     publisher
      rights_domain:        composition
      share_basis:          percentage
      share_value:          0.15  (15%)
      share_instrument_ref: PUBL-AGR-COMPOS-001
      gross_allocated:      USD 1,908.45
      recoupment_state:     NOT_APPLICABLE
      net_payable:          USD 1,908.45
      payment_status:       PAYABLE

    [3] Recording Artist
      contributor_role:     sound_recording_performer
      rights_domain:        master_recording
      share_basis:          percentage
      share_value:          0.20  (20%)
      share_instrument_ref: ARTIST-AGR-001
```

```
    gross_allocated:      USD 2,544.60
    recoupment_state:     UNRECOUPED
    recoupment_amount_outstanding: USD 42,000.00
    recoupment_deduction: USD 2,544.60  ← full cycle amount applied to advance
    net_payable:          USD 0.00
    payment_status:       RECOUPED  (advance recoupment in progress)

  [4] Label (master recording; overhead + marketing recoupment)
    contributor_role:     label
    rights_domain:        master_recording
    share_basis:          percentage
    share_value:          0.40  (40%)
    share_instrument_ref: ARTIST-AGR-001
    gross_allocated:      USD 5,089.20
    recoupment_state:     NOT_APPLICABLE  (label retains gross share)
    net_payable:          USD 5,089.20
    payment_status:       PAYABLE

  [5] Producer
    contributor_role:     sound_recording_producer
    rights_domain:        master_recording
    share_basis:          percentage
    share_value:          0.10  (10%)
    share_instrument_ref: PROD-AGR-001
    gross_allocated:      USD 1,272.30
    recoupment_state:     RECOUPED  (prior advance fully recouped)
    net_payable:          USD 1,272.30
    payment_status:       PAYABLE

RESIDUAL:
  residual_amount:        USD 0.00  ← 15+15+20+40+10 = 100%; fully allocated
  residual_treatment:     FULLY_ALLOCATED

INTEGRITY:
  allocation_sum_check:   USD 1,908.45 + 1,908.45 + 0.00 + 5,089.20 + 1,272.30
```

```
                          = USD 10,178.40 paid out
                          + USD 2,544.60 applied to recoupment
                          = USD 12,723.00 ✓ matches net_pool_amount
```

I.4 Payment Instruction Record — Full Schema

```
PAYMENT_INSTRUCTION
  instruction_id:           [format: PI-{YYYYMMDD}-{seq}]
  alloc_id:                 [pointer to split allocation record]
  alloc_line_id:            [pointer to specific contributor line in allocation]
  calc_id:                  [pointer to originating calculation artifact]

  PAYEE:
    payee_ref:              [institutional or role-class reference;
                             no individual bank details at this schema level;
                             payment details maintained in separate secure
                             payment system outside the EP]
    payee_role:             [contributor role class from allocation]

  PAYMENT:
    payment_amount:         [net_payable from allocation line]
    currency:               [ISO 4217]
    payment_mechanism:      [wire | ACH | SEPA | SWIFT | platform_distribution |
                             collecting_society_distribution | check | other]
    payment_due_date:       [ISO 8601 date; contractual payment deadline]
    payment_reference:      [reference code for matching with bank confirmation;
                             not a bank account number]
    instruction_narrative:  [brief description: e.g. "Q1 2025 streaming royalty;
                             Album AMI-ALBUM-MASTER-001; composition share"]

  AUTHORIZATION:
    instructing_party_role: [Royalty Calc Officer]
    co_auth_required:       [YES | NO; YES if amount exceeds defined threshold]
    co_auth_party_role:     [co-authorizing role; null if NOT required]
    co_auth_record_ref:     [pointer to distributed approval record;
                             null if not required]
```

```
    instruction_timestamp:  [ISO 8601]

  STATUS:
    instruction_status:     [ISSUED | CONFIRMED | CANCELLED | DISPUTED | HELD]
    hold_ref:               [pointer to hold record if HELD; null otherwise]

  INTEGRITY:
    instruction_hash:       [SHA-256 of this record]
    prev_instruction_hash:  [SHA-256 of prior instruction in series for
                             this payee and calc cycle; null if first]
```

I.5 Settlement Confirmation Record — Full Schema

```
SETTLEMENT_CONFIRMATION
  confirmation_id:          [format: SC-{YYYYMMDD}-{seq}]
  instruction_id:           [pointer to payment instruction]
  alloc_id:                 [pointer to split allocation record]
  calc_id:                  [pointer to originating calculation artifact]

  CONFIRMATION_DETAILS:
    confirmation_source:    [payee_acknowledgment | bank_confirmation |
                             platform_confirmation |
collecting_society_confirmation |
                             automated_confirmation]
    confirmation_timestamp: [ISO 8601; time payment was confirmed received]
    confirmation_reference: [reference from confirmation source;
                             matches payment_reference in instruction]
    confirmed_amount:       [amount confirmed as received by payee]
    currency:               [ISO 4217]

  VARIANCE:
    variance_amount:        [confirmed_amount minus instructed payment_amount;
                             0.00 if no variance]
    variance_flag:          [YES | NO; YES if variance_amount ≠ 0]
    variance_investigation_ref: [pointer to variance investigation record;
                                 null until investigation opened]
```

```
    variance_resolution:    [null until resolved;
                             CONFIRMED_CORRECT | UNDERPAYMENT_CORRECTED |
                             OVERPAYMENT_RECOVERED | WRITE_OFF_AUTHORIZED]

  INTEGRITY:
    confirmation_hash:      [SHA-256 of this record]
```

I.6 Payout Linkage Record — Full Schema

```
PAYOUT_LINKAGE_RECORD
  linkage_id:               [format: PLR-{calc_id}-{seq}]
  calc_id:                  [pointer to calculation artifact]
  alloc_id:                 [pointer to split allocation record]
  confirmation_id:          [pointer to settlement confirmation]
  artifact_scope:           [list of artifact manifest IDs whose revenue
                             this linkage covers]
  usage_event_scope:        [list of usage event IDs whose revenue is
                             included in this linkage; or reference to
                             intake summary if list is too large]
  royalty_period:           [calc_period_start to calc_period_end]

  COMPLETENESS:
    chain_complete:         [YES | NO]
    missing_elements:       [list of chain elements absent if chain_complete =
NO;
                             null if YES]
    open_variances:         [count of unresolved variance flags in confirmation
                             records linked to this payout]

  INTEGRITY:
    linkage_hash:           [SHA-256 of this record]
    prev_linkage_hash:      [SHA-256 of prior payout linkage for this calc
cycle;
                             null if first]
```

I.7 Payout Cycle Finality Record — Full Schema

```
PAYOUT_CYCLE_FINALITY
  finality_id:              [format: PCF-{calc_period}-{seq}]
  calc_id:                  [pointer to calculation artifact]
  calc_period:              [calc_period_start to calc_period_end]
  finality_timestamp:       [ISO 8601; time finality is declared]

  FINALITY_CONDITIONS:
    calc_artifact_complete:       [YES | NO]
    split_allocation_complete:    [YES | NO; residual = 0]
    payment_instructions_issued:  [YES | NO]
    settlement_confirmations_received: [YES | NO]
    payout_chains_complete:       [YES | NO; all chain_complete = YES]
    open_variances_resolved:      [YES | NO]
    open_breaks_documented:       [YES | NO]
    active_holds_documented:      [YES | NO]
  all_conditions_met:       [YES | NO; YES only if all above = YES]
  open_conditions:          [list of conditions not met; null if
all_conditions_met = YES]

  SUMMARY_AMOUNTS:
    total_gross_revenue:    [from calculation artifact]
    total_deductions:       [from calculation artifact]
    net_royalty_pool:       [from calculation artifact]
    total_disbursed:        [sum of net_payable across all allocation lines
                             where payment_status = PAYABLE and confirmation
received]
    total_held:             [sum of held amounts in active hold records
                             linked to this calculation]
    total_recoupment_applied: [sum of recoupment deductions applied this cycle]
    currency:               [ISO 4217]

  OPEN ITEMS AT FINALITY:
    provisional_events_outstanding: [count; if > 0: finality is conditional]
    open_break_count:       [count by severity band]
```

```
    active_hold_count:      [count; total held amount]
    active_dispute_count:   [count; from Layer 6 dispute register]

  AUTHORIZATION:
    authorizing_parties:    [Royalty Calc Officer (first); Reconciliation
Officer (second)]
    first_auth_timestamp:   [ISO 8601]
    second_auth_timestamp:  [ISO 8601]
    dual_auth_record_ref:   [pointer to distributed approval record]

  INTEGRITY:
    finality_hash:          [SHA-256 of this record]
    prev_finality_hash:     [SHA-256 of prior finality record for same
                             artifact set; null if first cycle]
```

I.8 Off-Cycle Correction Templates

I.8.1 Correction EP Delta Record

```
CORRECTION_EP_DELTA
  correction_ep_delta_id:   [format: CEPD-{YYYYMMDD}-{seq}]
  original_calc_id:         [pointer to calculation artifact being corrected]
  correction_trigger:       [USAGE_VOLUME_REVISION | RATE_CORRECTION |
                             CONTRIBUTOR_IDENTIFICATION | CONSENT_RESOLUTION |
                             RIGHTS_CHAIN_CORRECTION | CALCULATION_ERROR |
                             OVERPAYMENT | UNDERPAYMENT |
RECOUPMENT_STATE_CHANGE |
                             OTHER]
  trigger_event_ref:        [pointer to record that triggered the correction:
                             platform corrected report | dispute finding |
                             rights-chain EP Delta | consent EP Delta | other]
  correction_description:   [precise description of what is being corrected
                             and why; factual; no legal conclusions]
  affected_fields:
    [list of fields in the original calculation affected by this correction;
     with original value and corrected value per field]
```

```
  revenue_impact:           [signed total revenue change across all
contributors;
                             positive = additional revenue recognized;
                             negative = revenue reduction]
  corrective_calc_ref:      [pointer to corrective calculation artifact
                             once created; null until created]
  issuing_party_role:       [Royalty Calc Officer]
  authorizing_party_role:   [Reconciliation Officer; must differ from issuer]
  dual_auth_record_ref:     [pointer to distributed approval record]
  issuance_timestamp:       [ISO 8601]
  delta_hash:               [SHA-256 of this record]
  prev_delta_hash:          [SHA-256 of prior EP Delta in correction chain;
                             null if first correction for this calc cycle]
```

I.8.2 Adjustment Lineage Record — Full Schema

```
ADJUSTMENT_LINEAGE_RECORD
  adjustment_id:            [format: ADJ-{YYYYMMDD}-{seq}]
  original_calc_id:         [pointer to original calculation artifact]
  correction_ep_delta_id:   [pointer to Correction EP Delta]
  corrective_calc_id:       [pointer to corrective calculation artifact]
  original_finality_id:     [pointer to original Payout Cycle Finality Record]
  corrective_finality_id:   [pointer to Corrective Payout Cycle Finality Record;
                             null until created]

  ADJUSTMENT_AMOUNTS_BY_CONTRIBUTOR:
    [one entry per affected contributor:]
    - alloc_line_id:        [pointer to original allocation line]
      contributor_ref:      [contributor reference class]
      original_net_payable: [net_payable from original allocation]
      corrected_net_payable:[net_payable from corrective allocation]
      adjustment_amount:    [corrected minus original; positive = additional
                             payment due; negative = recovery required]
      payment_direction:    [ADDITIONAL_PAYMENT | RECOVERY | NO_CHANGE]
      corrective_instruction_ref: [pointer to corrective payment instruction;
                                   null until issued]
```

```
      corrective_confirmation_ref:[pointer to corrective settlement
confirmation;
                                    null until received]


  RETROACTIVE_SCOPE:
    retroactive_period:     [start — end of period to which correction applies]
    prior_cycles_reviewed:  [list of prior finality IDs reviewed to determine
                             whether prior cycles also require correction;
                             null if correction is cycle-specific only]
    prior_cycles_affected:  [list of prior finality IDs requiring corresponding
                             correction; null if none]


  INTEGRITY:
    adjustment_hash:        [SHA-256 of this record]
```

I.9 Payout Evidence Chain Summary — Quick-Reference Table

The following table summarizes the full payout evidence chain for any royalty cycle, showing the records required at each stage, their mutual linkage, and the check IDs from Appendix D that verify each stage.

Stage	Record	Links To	Appendix D Checks	Break Codes if Absent
1. Event intake	Royalty Event Intake Summary	Calc artifact (downstream)	RP-03	BR-P01, BR-P09
2. Calculation	Royalty Calculation Artifact	Intake summary; rights-chain refs; consent refs	RP-01, RP-02, RP-03	BR-P02
3. Split allocation	Split Allocation Record	Calculation artifact	RP-04, RC-09	BR-P03
4. Payment instruction	Payment Instruction	Allocation record (per line)	RP-05	BR-P04
5. Settlement confirmation	Settlement Confirmation	Payment instruction	RP-06, RP-08	BR-P04, BR-P05
6. Payout linkage	Payout Linkage Record	Confirmation; calculation	RP-07	BR-P04
7. Finality	Payout Cycle Finality Record	Payout linkage; all conditions	RP-10	—
8. Correction (if required)	Correction EP Delta	Original calculation	RP-11	BR-P12
9. Corrective calc	Corrective Calculation Artifact	Correction EP Delta	RP-02, RP-04	BR-P02
10. Adjustment	Adjustment Lineage	Original + corrective calc;	RP-11	BR-P12

Stage	Record	Links To	Appendix D Checks	Break Codes if Absent
lineage	Record	finality records		
11. Corrective finality	Corrective Payout Cycle Finality	Corrective calc; corrective confirmations	RP-10	—

I.10 Royalty Evidence Pack Assembly Checklist

For each calculation cycle, the following checklist confirms that the full payout evidence chain is complete and the evidence pack is examination-ready.

#	Item	Record Type	Record ID	Verified?
1	Usage event intake summary for period	Royalty Event Intake Summary		
2	Calculation artifact (hash-verified, replayable)	Royalty Calculation Artifact		
3	Split allocation record (residual = 0)	Split Allocation Record		
4	Rate basis instruments for all event types	Rights-chain Layer 4 records		
5	Rights-chain confirmations at calc time	Rights-chain EP entries		
6	Consent state confirmations at calc time	Consent state records		
7	Recoupment state records (current)	Recoupment state records		
8	Payment instruction per payee	Payment Instruction (one per line)		
9	Settlement confirmation per instruction	Settlement Confirmation		
10	Variance investigation records (if any)	Variance investigation records		
11	Payout linkage records (chain_complete = YES)	Payout Linkage Record		
12	Active hold records with current status	Royalty Hold Record		
13	Payout Cycle Finality Record (dual-authorized)	Payout Cycle Finality		
14	Open break inventory at finality	Break register extract		
15	Provisional event list with 90-day deadlines	From calculation artifact		
16	Correction EP Delta (if correction was made)	Correction EP Delta		
17	Corrective calculation artifact (if applicable)	Royalty Calculation Artifact		
18	Adjustment lineage record (if applicable)	Adjustment Lineage Record		
19	Corrective Payout Cycle Finality (if applicable)	Payout Cycle Finality		
20	Calculation artifact hash verified by replay	QF-P01 output		

Pack readiness determination:

Condition	Pack Status
Items 1–13 all verified; items 16–19 N/A or verified; item 20 PASS	**Examination-ready**
Items 1–13 all verified; one or more of items 16–19 pending with active investigation; item 20 PASS	**Conditionally ready**
Any of items 1–6 missing; or item 20 FAIL; or calc artifact non-replayable	**Not ready — remediation required**

Appendix J — Offboarding Proof Bundle for Media Authenticity / Consent / Royalty Workflows

Purpose: This appendix provides the complete template set for the Offboarding Proof Bundle (OPB) — the structured, sealed evidence package that formally closes an operator's, administrator's, or custodian's operational relationship with a media artifact portfolio. The OPB extends the generic offboarding workflow in Section 13 with domain-specific evidence requirements, per-state-domain finality confirmations, and a portable proof set designed to allow the receiving custodian — or any future institutional reviewer — to reconstruct the full state of the portfolio at the moment of offboarding without requiring ongoing access to the offboarding party's systems.

The OPB is not the same as the Final State Snapshot (Appendix F.1) or the Final Reconciliation Proof (Section 13.3). Those instruments confirm EP integrity at offboarding. The OPB is the deliverable package that the receiving custodian, rights-holders, and institutional reviewers receive — organized, indexed, and certified for immediate use.

J.1 Offboarding Proof Bundle — Architecture Overview

The OPB is composed of six modules. Each module covers one operational domain. All modules are assembled into a single indexed package and sealed with a bundle-level hash.

```
OFFBOARDING PROOF BUNDLE ARCHITECTURE


Module J.1  —  OPB Header and Index

Module J.2  —  Authenticity and Source Integrity Proof Module

Module J.3  —  Consent and Authority Finality Module

Module J.4  —  Lineage and Version Integrity Module
```

```
Module J.5  —  Rights-Chain Portability Module
Module J.6  —  Royalty, Settlement, and Payout Finality Module
Module J.7  —  Open Conditions Disclosure Module

Each module:
  - Contains the final state records for its domain
  - Contains the final EP Delta chain for its domain
  - Contains the relevant section of the Final Reconciliation Proof
  - Is independently hashable and verifiable
  - References all open breaks, holds, disputes, and exceptions within scope

OPB Index (J.1) cross-references all six modules and provides
the bundle-level hash over all module hashes.
```

J.2 OPB Header and Index

J.2.1 OPB Header Record

```
OPB_HEADER
  ── IDENTITY ──────────────────────────────────────────────────────────
  opb_id:                    [format: OPB-{YYYYMMDD}-{seq}]
  offboarding_declaration_ref: [pointer to Offboarding Declaration in Layer 7]
  fss_id:                    [pointer to Final State Snapshot]
  frp_id:                    [pointer to Final Reconciliation Proof]
  opb_creation_timestamp:    [ISO 8601; time OPB was assembled and sealed]

  ── SCOPE ─────────────────────────────────────────────────────────────
  offboarding_party_role:    [governance role of party handing off custody]
  offboarding_trigger:       [from Section 13.1 trigger taxonomy]
  artifact_count:            [total artifacts included in OPB scope]
  artifact_manifest_ids:     [full list of artifact manifest IDs included;
                              or pointer to manifest index if list exceeds
                              practical inline length]
  ep_layer_scope:            [list of EP layers included; should be 0–7 for
                              full offboarding; subset for partial transfer]
```

── MODULE INDEX ──

module_j2_hash: [SHA-256 of Module J.2 — Authenticity]

module_j3_hash: [SHA-256 of Module J.3 — Consent]

module_j4_hash: [SHA-256 of Module J.4 — Lineage]

module_j5_hash: [SHA-256 of Module J.5 — Rights-Chain]

module_j6_hash: [SHA-256 of Module J.6 — Royalty/Payout]

module_j7_hash: [SHA-256 of Module J.7 — Open Conditions]

── RECEIVING CUSTODIAN ──

receiving_custodian_class: [Evidence Infra Operator | Legal Custodian | Rights-Holder | Successor Administrator | Archive]

receiving_custodian_ref: [institutional identifier]

custody_acceptance_ref: [pointer to signed custody acceptance record; null until received]

custody_acceptance_ts: [ISO 8601; null until received]

── CERTIFICATION ──

certifying_party_role: [Evidence Infra Operator]

co_certifying_party_role: [Reconciliation Officer or independent reviewer]

certification_statement: [non-normative: "This Offboarding Proof Bundle contains a true and complete record of the EP state for the artifacts identified herein as of the OPB creation timestamp. All open conditions are disclosed in Module J.7. The receiving custodian assumes operational responsibility for all active holds, disputes, and monitored exceptions from the custody acceptance date."]

first_cert_timestamp: [ISO 8601]

second_cert_timestamp: [ISO 8601]

dual_auth_record_ref: [pointer to distributed approval record]

── INTEGRITY ──

opb_bundle_hash: [SHA-256 over all six module hashes in canonical order; the primary integrity anchor for the OPB]

legal_hold_flag: [YES | NO]

```
  retention_minimum:        [ISO 8601 date; OPB must not be destroyed
                             before this date]
```

J.2.2 OPB Artifact Index

The artifact index provides a single-entry summary for every artifact in the OPB scope, enabling the receiving custodian to quickly locate the records for any specific artifact across all six modules.

```
OPB_ARTIFACT_INDEX_ENTRY
  [one entry per artifact manifest ID in OPB scope]

  artifact_manifest_id:     [unique artifact identifier]
  artifact_type:            [voice | image | film | music | synthetic | mixed]
  object_class:             [source_object | derivative | distribution_object]
  authenticity_state_final: [state at OPB creation timestamp]
  consent_state_final:      [state at OPB creation timestamp]
  lineage_completeness:     [COMPLETE | PARTIAL | UNRESOLVABLE]
  rights_chain_state_final: [state at OPB creation timestamp]
  calc_state_final:         [FINALIZED | OPEN | PROVISIONAL | DISPUTED]
  open_break_count:         [total open breaks for this artifact at OPB
creation]
  active_hold_count:        [total active holds for this artifact at OPB
creation]
  active_dispute_count:     [total active disputes for this artifact]
  module_refs:
    j2_record_ids:          [list of Module J.2 record IDs for this artifact]
    j3_record_ids:          [list of Module J.3 record IDs]
    j4_record_ids:          [list of Module J.4 record IDs]
    j5_record_ids:          [list of Module J.5 record IDs]
    j6_record_ids:          [list of Module J.6 record IDs]
    j7_record_ids:          [list of Module J.7 record IDs; if any]
  entry_hash:               [SHA-256 of this index entry]
```

J.3 Module J.2 — Authenticity and Source Integrity Proof Module

This module contains the final authenticity evidence for every artifact in the OPB scope, organized to allow the receiving custodian to verify the authenticity state of each artifact independently.

J.3.1 Module J.2 Contents

Record Type	Source	Included Per	Purpose
Canonical source object manifest (final version)	Layer 0	Per artifact	Establishes artifact identity and content hash
Full manifest chain (all entries from registration to OPB date)	Layer 0	Per artifact	Enables chain-of-custody and provenance replay
Authenticity state record (final)	Layer 1	Per artifact	Records final authenticity state at offboarding
Full authenticity EP Delta chain	Layer 1	Per artifact	Enables state replay to any historical timestamp
SI boundary test results (most recent run)	Layer 1	Per artifact	Confirms chain integrity was verified pre-offboarding
Chain-of-custody record chain	Layer 0	Per artifact	Documents custody from registration to offboarding
Synthesis provenance records	Layer 0/3	Per synthetic artifact	Documents AI-origin evidence
Competing manifest records (if CONTESTED state)	Layer 1	Per contested artifact	Preserves all evidence for active contests

J.3.2 Module J.2 Finality Summary

```
MODULE_J2_FINALITY_SUMMARY
  module_id:                 J2
  opb_id:                    [pointer to OPB Header]
  artifact_count:            [total artifacts in module]
  state_distribution:
    VERIFIED:                [count; percentage]
    CORROBORATED:            [count; percentage]
    ASSERTED:                [count; percentage]
    CONTESTED:               [count; percentage — receiving custodian inherits
                              all active authenticity disputes]
    UNRESOLVABLE:            [count; percentage — monitored exceptions inherited]
  si_tests_all_passed:       [YES | NO; if NO: list of artifacts with
                              outstanding SI failures]
  chain_integrity_confirmed:[YES | NO; if NO: list of chain breaks
                              and reconstruction records included]
  synthetic_provenance_complete: [YES | NO; count of synthetic artifacts
                                   without provenance records if NO]
  module_j2_hash:            [SHA-256 of all records in this module in
                              canonical order]
```

J.4 Module J.3 — Consent and Authority Finality Module

This module contains the final consent evidence for every artifact in the OPB scope. It is the primary reference for the receiving custodian when making authorized-use determinations after custody transfer.

J.4.1 Module J.3 Contents

Record Type	Source	Included Per	Purpose
Consent instruments (all, including superseded)	Layer 2	Per artifact per consent	Preserves full consent history
Authority confirmation records	Layer 2	Per instrument	Documents authority at time of each execution
Consent-state diff chain (complete)	Layer 2	Per instrument	Enables consent state replay to any timestamp
Scope dimension records (final)	Layer 2	Per instrument	Records final scope state at offboarding
Delegation records (all, including expired)	Layer 7	Per delegation	Preserves delegation history for retroactive review
Revocation and expiry records	Layer 2	Per event	Documents all lifecycle closures
Suspension records (if any active)	Layer 2	Per suspension	Informs receiving custodian of suspended states
Consent gap period notations	Layer 2	Per gap	Documents periods without active consent coverage

---

J.4.2 Module J.3 Finality Summary

```
MODULE_J3_FINALITY_SUMMARY
  module_id:                J3
  opb_id:                   [pointer to OPB Header]
  instrument_count:         [total consent instruments in module]
  state_distribution:
    IN_SCOPE:               [count of active instruments in IN_SCOPE state]
    ASSERTED:               [count]
    EXPIRED:                [count — note: expired instruments still included
                             for historical royalty replay]
    REVOKED:                [count]
    SUPERSEDED:             [count]
    DISPUTED:               [count — receiving custodian inherits disputes]
    ABSENT:                 [count of artifacts with no consent coverage]
  synthetic_use_coverage:
```

```
    explicit_authorized:    [count of artifacts with explicit synthetic-use
auth]
    explicit_prohibited:    [count]
    asserted_or_absent:     [count — receiving custodian should seek
clarification]
  approaching_expiry_60_days: [count of instruments expiring within 60 days
                               of OPB creation — receiving custodian must
                               initiate renewal within this window]
  active_delegations:       [count of non-expired delegations transferred]
  gap_periods_documented:   [count of documented consent gaps in portfolio]
  module_j3_hash:           [SHA-256 of all records in this module]
```

J.5 Module J.4 — Lineage and Version Integrity Module

This module contains the complete derivation and transformation evidence for every artifact in the OPB scope.

J.5.1 Module J.4 Contents

Record Type	Source	Included Per	Purpose
Transformation event log (complete chain)	Layer 3	Per transformation	Documents full derivation history
Version class records (all versions, including superseded)	Layer 0/3	Per artifact	Preserves complete version history
Supersession chain records	Layer 0	Per supersession	Enables version lineage reconstruction
Lineage replay reports (most recent)	Layer 3	Per disputed artifact	Pre-computed replay output for known disputes
Contamination records (if any)	Layer 3/6	Per contamination event	Documents any detected contamination and quarantine scope
Composite source manifest linkages	Layer 3	Per composite	Documents all contributing sources
Synthesis provenance records (lineage-specific)	Layer 3	Per synthetic derivative	Documents AI transformation provenance
Authorization records per transformation	Layer 3	Per Class A/B transformation	Documents authorization basis for each transformation

---

J.5.2 Module J.4 Finality Summary

```
MODULE_J4_FINALITY_SUMMARY
  module_id:                J4
  opb_id:                   [pointer to OPB Header]
```

```
transformation_event_count:[total transformation events in module]
lineage_completeness:
  fully_complete:          [count of artifacts with unbroken lineage chains]
  partial:                 [count of artifacts with documented gaps;
                            gap records included in module]
  unresolvable:            [count of artifacts with unresolvable lineage;
                            monitored exceptions included]
authorization_state_distribution:
  CONFIRMED:               [count of transformation events]
  ASSERTED:                [count]
  ABSENT_CLASS_A:          [count — critical; receiving custodian must
                            review immediately; hold-only containment active]
  CONTESTED:               [count — active disputes inherited]
contamination_events:      [count; if > 0: contamination records included;
                            all affected revenue holds are inherited]
version_integrity_checks:
  duplicate_official_versions: [count; should be 0]
  orphaned_supersessions:  [count; should be 0]
  unlinked_derivatives:    [count; should be 0]
module_j4_hash:            [SHA-256 of all records in this module]
```

J.6 Module J.5 — Rights-Chain Portability Module

This module provides the rights-chain evidence needed by the receiving custodian to continue managing licensing, scope checking, and restriction enforcement after the custody transfer.

J.6.1 Module J.5 Contents

Record Type	Source	Included Per	Purpose
Primary rights instruments (all)	Layer 4	Per artifact	Establishes foundational entitlement structure
License tier records (all active and historical)	Layer 4	Per license	Documents all licensing arrangements
Sublicense tier records (all active and historical)	Layer 4	Per sublicense	Documents downstream licensing
Rights-chain EP Delta chain (complete)	Layer 4	Per artifact	Enables rights-chain state replay
Restriction registry entries	Layer 4	Per artifact	Documents all active and historical

Record Type	Source	Included Per	Purpose
			restrictions
Assignment and transfer records	Layer 4	Per event	Documents rights movements
Reversion and succession records	Layer 4	Per event	Documents reversion triggers and successors
Monetization event rights-state linkage records	Layer 4	Per event	Links usage events to rights states
Scope check records (historical)	Layer 4	Per check	Preserves pre-offboarding scope determinations

J.6.2 Identifier Portability Map

A critical output of the rights-chain module for offboarding scenarios involving platform migration is the identifier portability map, which records the correspondence between legacy platform identifiers and the content-addressed manifest IDs that serve as durable cross-platform keys.

```
IDENTIFIER_PORTABILITY_MAP_ENTRY
  [one entry per artifact with platform-specific identifiers]

  artifact_manifest_id:     [durable content-addressed identifier]
  artifact_hash:            [SHA-256; primary cross-platform key]
  registered_identifiers:
    isrc:                   [if registered]
    iswc:                   [if registered]
    isan:                   [if registered]
    eidr:                   [if registered]
    custom_catalog_ids:
      [list of platform-specific or catalog identifiers with source label]
      - source_label:       [e.g. "DistributorX internal catalog"]
        identifier:         [value]
  notes:                    [any caveats about identifier reliability or
                             known conflicts with other systems]
  entry_hash:               [SHA-256 of this entry]
```

J.6.3 Module J.5 Finality Summary

```
MODULE_J5_FINALITY_SUMMARY
  module_id:                J5
  opb_id:                   [pointer to OPB Header]
  license_tier_count:       [total license tier records in module]
```

```
active_licenses:           [count with license_state = ACTIVE]
expired_licenses:          [count — historical; included for royalty replay]
active_sublicenses:        [count — receiving custodian inherits all
                            sublicensing relationships]
restriction_registry_entries: [count]
scope_ceiling_violations_detected: [count; should be 0; if > 0:
                                    flagged for immediate receiving
                                    custodian review]
identifier_portability_map_entries: [count]
rights_chain_delta_chain_verified: [YES | NO]
module_j5_hash:            [SHA-256 of all records in this module]
```

J.7 Module J.6 — Royalty, Settlement, and Payout Finality Module

This module provides the complete royalty evidence for all calculation cycles within the OPB scope, organized by cycle. It enables the receiving custodian to resume royalty administration from a known, verified state.

J.7.1 Module J.6 Contents

Record Type	Source	Included Per	Purpose
Royalty Event Intake Summaries	Layer 5	Per calc cycle	Documents event intake for each completed cycle
Calculation artifacts (all completed cycles)	Layer 5	Per cycle	Enables calculation replay for all prior cycles
Split allocation records (all completed cycles)	Layer 5	Per cycle per allocation	Documents contributor entitlements per cycle
Payment instructions (all completed cycles)	Layer 5	Per instruction	Links allocations to payment actions
Settlement confirmations (all cycles)	Layer 5	Per confirmation	Documents payment receipt for all prior cycles
Payout linkage records (all cycles)	Layer 5	Per cycle	Confirms chain completeness per cycle
Payout Cycle Finality Records (all closed cycles)	Layer 5	Per cycle	Seals each completed cycle
Active hold records (all active at OPB date)	Layer 5	Per hold	Documents all revenue under hold-only containment
Royalty Hold Records — escrow accounting	Layer 5	Per hold	Documents accrual and disposition of held amounts
Correction EP Deltas (all)	Layer 5	Per correction	Documents all off-cycle corrections
Adjustment Lineage Records (all)	Layer 5	Per adjustment	Links original and corrective calculations

Record Type	Source	Included Per	Purpose
Provisional event registers (outstanding)	Layer 5	Per open cycle	Documents events pending resolution
Recoupment state records (current)	Layer 5	Per contributor	Documents advance recoupment positions at offboarding

---

J.7.2 Cycle-by-Cycle Finality Status Table

```
CYCLE_FINALITY_STATUS_TABLE

  opb_id:                    [pointer to OPB Header]

  [one row per completed calculation cycle:]


  | Cycle ID | Period | Calc State | Total Disbursed | Total Held | Open Breaks
| Provisional Events | Finality ID | Correction? |

  |----------|--------|------------|-----------------|------------|-------------
|------------------|-------------|-------------|

  | CALC-001 | Q1-2024| FINALIZED  | USD X           | USD 0      | 0
| 0                  | PCF-001     | NO          |

  | CALC-002 | Q2-2024| FINALIZED  | USD X           | USD 0      | 0
| 0                  | PCF-002     | YES — ADJ-001|

  | CALC-003 | Q3-2024| PROVISIONAL| USD X           | USD Y      | 2
| 15,000 events      | PENDING     | NO          |

  | CALC-004 | Q4-2024| DISPUTED   | USD 0 (full hold)| USD Z    | 3           |
0                  | NONE        | NO          |


  [Receiving custodian assumes: all FINALIZED cycles are closed;

   all PROVISIONAL and DISPUTED cycles require active management;

   all open breaks and holds are inherited from effective custody date]
```

J.7.3 Recoupment Position Summary

```
RECOUPMENT_POSITION_SUMMARY

  opb_id:                    [pointer to OPB Header]

  [one entry per contributor with recoupment arrangements:]


  | Contributor Ref | Role | Advance Amount | Recouped to OPB Date | Remaining |
Cycles Since Last Update |

  |----------------|------|----------------|----------------------|-----------|--
------------------------|

  | CONTRIB-001     | Artist | USD 80,000  | USD 55,420           | USD 24,580| 1
|
```

```
  | CONTRIB-002     | Producer | USD 20,000| USD 20,000 (RECOUPED)| USD 0   | 3
|

  [Receiving custodian must recertify all UNRECOUPED positions within
   first calculation cycle following custody transfer]
```

J.7.4 Module J.6 Finality Summary

```
MODULE_J6_FINALITY_SUMMARY
  module_id:                J6
  opb_id:                   [pointer to OPB Header]
  completed_calc_cycles:    [count with state = FINALIZED]
  open_calc_cycles:         [count with state = PROVISIONAL or DISPUTED]
  total_disbursed_all_cycles:[total historical disbursements across all
                              finalized cycles; currency declared]
  total_held_at_opb:        [total revenue under hold-only containment
                              at OPB creation date; by trigger type]
  provisional_events_outstanding: [count; by calc cycle]
  provisional_deadlines_inherited:
    [list of provisional deadlines the receiving custodian must honor]
  unrecouped_contributor_count: [count of contributors with active
                                 recoupment positions]
  total_advance_outstanding:  [sum of unrecouped advances across
                               all contributors at OPB date]
  correction_ep_delta_count: [total off-cycle corrections applied
                              in portfolio history]
  module_j6_hash:           [SHA-256 of all records in this module]
```

J.8 Module J.7 — Open Conditions Disclosure Module

This is the most operationally critical module for the receiving custodian. It consolidates every unresolved condition — break, hold, dispute, monitored exception, provisional event, and governance obligation — into a single structured disclosure package.

J.8.1 Module J.7 Contents

Record Type	Source	Included Per	Purpose
Open break records (all Critical	Break	Per break	Informs receiving custodian of

Record Type	Source	Included Per	Purpose
and High)	register		required responses
Open break records (all Moderate)	Break register	Per break	Background information; lower urgency
Active hold records	Layer 5/6	Per hold	All revenue under hold-only containment
Active dispute records	Layer 6	Per dispute	All unresolved disputes; full evidence packs included
Monitored exception records	Layer 6	Per exception	All unresolvable conditions under periodic review
Provisional event registers	Layer 5	Per open cycle	Events requiring resolution within inherited deadlines
Outstanding governance obligations	Layer 7	Per obligation	Recertifications due, post-access reviews due, etc.
Pending offboarding check failures (OB-01–OB-08)	OPB audit	Per failure	Any OB checks not fully passed at OPB creation

---

J.8.2 Open Conditions Disclosure Summary

```
OPEN_CONDITIONS_DISCLOSURE_SUMMARY
  module_id:                J7
  opb_id:                   [pointer to OPB Header]
  disclosure_timestamp:     [ISO 8601; time this summary was compiled]

  BREAKS:
    critical_open:          [count; list of break IDs]
    high_open:              [count; list of break IDs]
    moderate_open:          [count]
    total_open_breaks:      [count]
    overdue_breaks:         [count; list of break IDs where max response
                             deadline has passed]

  HOLDS:
    active_hold_count:      [total]
    total_held_amount:      [amount; currency]
    holds_by_trigger_type:
      DISPUTE:              [count; amount]
      BREAK:                [count; amount]
      GOVERNANCE:           [count; amount]
```

```
    LEGAL:                [count; amount]
    PRECAUTIONARY:        [count; amount]
  holds_approaching_180_days: [count; requires escalation to monitored
                               exception by receiving custodian if not
                               resolved within 30 days of custody acceptance]

DISPUTES:
  active_dispute_count:   [total]
  by_class:
    D-AUTH:               [count]
    D-CONS:               [count]
    D-LINE:               [count]
    D-RIGH:               [count]
    D-CALC:               [count]
    D-PAYS:               [count]
    D-GOVN:               [count]
    D-MULT:               [count]
  escalated_disputes:     [count with status = ESCALATED]
  total_held_in_disputes: [amount; currency]

MONITORED_EXCEPTIONS:
  active_exception_count: [total]
  oldest_exception_age:   [days since detection of oldest active exception]
  total_held_in_exceptions:[amount; currency]

PROVISIONAL_EVENTS:
  outstanding_count:      [total provisional events awaiting resolution]
  earliest_deadline:      [ISO 8601; most urgent provisional resolution
deadline]
  associated_held_revenue:[estimated revenue dependent on provisional
resolution]

GOVERNANCE_OBLIGATIONS:
  recertifications_due_within_90_days: [count; list of subjects]
  post_access_reviews_overdue:         [count; list of access log IDs]
  delegations_expiring_within_60_days: [count]
```

```
  OPB_CHECK_STATUS:
    [status of each OB check per Appendix D.8]
    OB-01: [PASS | FAIL]
    OB-02: [PASS | FAIL]
    OB-03: [PASS | FAIL]
    OB-04: [PASS | FAIL]
    OB-05: [PASS | FAIL]
    OB-06: [PASS | FAIL]
    OB-07: [PASS | FAIL]
    OB-08: [PASS | FAIL]
    all_checks_passed: [YES | NO]
    failed_checks_remediation: [list of failed checks with remediation
                                plan or reason for conditional transfer]

  module_j7_hash:           [SHA-256 of all records in this module]
```

J.8.3 Receiving Custodian Obligations Summary

This section of Module J.7 is addressed directly to the receiving custodian and states the obligations inherited at the effective custody date. It is not legal advice and does not create obligations beyond those arising from the custody acceptance record and applicable contracts.

```
RECEIVING_CUSTODIAN_OBLIGATIONS_SUMMARY
  opb_id:                   [pointer to OPB Header]
  effective_custody_date:   [ISO 8601; date on which custody formally transfers;
                             per custody acceptance record]

  IMMEDIATE_OBLIGATIONS (within 5 business days of effective_custody_date):
    - Review all Critical-severity open breaks and confirm response plans
    - Verify active hold records are replicated in receiving custodian's
      hold management system with current status and resolution dates
    - Confirm active disputes are registered in receiving custodian's
      dispute governance system with investigation owners assigned
    - Verify all active distribution objects continue to have valid
      rights-chain scope (scope check re-run recommended)
```

```
  SHORT_TERM_OBLIGATIONS (within 30 days of effective_custody_date):
    - Complete re-run of SI boundary tests (AC-01 through AC-15) for all
      artifacts with authenticity_state != VERIFIED
    - Resolve or escalate all holds approaching 180-day escalation threshold
    - Recertify all recoupment states at next calculation cycle
    - Complete any overdue post-access reviews inherited from offboarding party

  ONGOING_OBLIGATIONS (inherited from offboarding party):
    - Maintain EP chain integrity for all Layer 0–7 records within scope
    - Execute reconciliation runs per cadence defined in Section 9.5
    - Honor all consent instrument renewal obligations per approaching expiry
list
    - Continue all active dispute investigations with inherited evidence packs
    - Manage all monitored exceptions per their review cadences
    - Honor all provisional event resolution deadlines inherited from open
cycles

  INHERITED_DEADLINES:
    [list of specific deadlines, in chronological order, that the
     receiving custodian must honor from the effective custody date]
    | Deadline Date | Obligation | Record Reference | Priority |
    |---------------|------------|------------------|----------|
    | [ISO 8601]    | [description] | [record ID] | [Critical/High/Moderate] |
```

J.9 OPB Completion Verification Protocol

Before the OPB is declared complete and custody is transferred, the following verification steps must be executed and confirmed.

```
OPB_COMPLETION_VERIFICATION
  verification_id:          [unique identifier]
  opb_id:                   [pointer to OPB Header]
  verifying_party_role:     [Reconciliation Officer or independent reviewer;
                             must not be the same party as OPB certifying party]
  verification_timestamp:   [ISO 8601]

  VERIFICATION_STEPS:
```

```
  Step 1 — Bundle Integrity
    opb_bundle_hash_verified: [YES | NO]
    all_module_hashes_verified:[YES | NO]
    broken_modules:           [list of module IDs with hash failures; null if
none]

  Step 2 — Artifact Index Completeness
    all_scope_artifacts_indexed: [YES | NO]
    missing_artifacts:        [count; list of manifest IDs if any]

  Step 3 — Module J.2 (Authenticity)
    all_fss_hashes_match:     [YES | NO]
    si_tests_confirmed:       [YES | NO]
    contested_artifacts_documented: [YES | NO]

  Step 4 — Module J.3 (Consent)
    all_instruments_included: [YES | NO]
    diff_chains_complete:     [YES | NO]
    approaching_expiry_list_accurate: [YES | NO]

  Step 5 — Module J.4 (Lineage)
    all_transformation_chains_included: [YES | NO]
    contamination_records_included:     [YES | NO if contamination detected]
    version_integrity_confirmed:        [YES | NO]

  Step 6 — Module J.5 (Rights-Chain)
    all_license_tiers_included:[YES | NO]
    identifier_portability_map_complete: [YES | NO]
    scope_ceiling_violations_zero:       [YES | NO]

  Step 7 — Module J.6 (Royalty/Payout)
    all_calc_cycles_included:  [YES | NO]
    all_finality_records_included: [YES | NO]
    active_holds_complete:     [YES | NO]
    recoupment_positions_current: [YES | NO]
```

```
Step 8 — Module J.7 (Open Conditions)
  all_open_breaks_disclosed: [YES | NO]
  all_active_holds_disclosed:[YES | NO]
  all_active_disputes_disclosed: [YES | NO]
  all_exceptions_disclosed:  [YES | NO]
  receiving_custodian_obligations_confirmed: [YES | NO]

Step 9 — Receiving Custodian Acceptance
  custody_acceptance_record_received: [YES | NO]
  obligations_acknowledged:  [YES | NO]

OVERALL_VERIFICATION:
  all_steps_passed:          [YES | NO]
  failed_steps:              [list of failed step numbers with description]
  opb_status:                [COMPLETE | CONDITIONALLY_COMPLETE | INCOMPLETE]
  conditional_basis:         [if CONDITIONALLY_COMPLETE: description of
                              conditions and remediation timeline]

verification_hash:           [SHA-256 of this verification record]
```

Appendix K — Reader Navigation Map / Reviewer Jump Table

> **Purpose:** This appendix provides a structured navigation guide for all classes of readers who may use this framework. Navigation paths are organized by reader role, examination objective, and workflow stage. Cross-references include section numbers, appendix codes, check IDs, query family IDs, and break codes. The appendix is designed to be the first stop for any reader approaching the framework for the first time, and a persistent quick-reference throughout operational and examination use.

K.1 Navigation by Reader Role

K.1.1 Evidence Infrastructure Operator

Primary responsibilities: EP chain maintenance; manifest registration; EP Delta issuance; preservation bundle creation; integrity monitoring; offboarding execution.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Register a new source object	4.1, 4.2, 4.4	H.1.1	AC-01, AC-02, AC-03	QF-A02
Register a derivative or synthetic output	4.3, 6.1–6.4	H.1.2, H.1.4	AC-05, AC-09, LN-01, LN-04	QF-A03, QF-L01
Issue an EP Delta for a state change	5.6, 7.8, 8.9	H.2.1, H.2.2	GV-04	—
Run SI boundary tests	4.6	D.1	AC-01 through AC-15	QF-A01, QF-A02
Create a preservation bundle	9.7	F.1, F.2	OB-02	—
Execute reconciliation run	9.5	B.1–B.8, C.8	All AC, LN checks	QF-08
Manage chain integrity failure	9.10	F.1.2, C.10	AC-01, AC-02	QF-A02
Execute offboarding	13	F.1–F.3, J.1–J.9	OB-01 through OB-08	QF-O01
Produce evidence for examiner request	9.8	H.4.1, H.4.2	BA-01 through BA-12	QF-G01

K.1.2 Consent State Custodian

Primary responsibilities: Consent instrument registration; lifecycle EP Delta issuance; scope dimension maintenance; revocation and renewal processing; synthetic-use authorization monitoring.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Register a new consent instrument	5.1–5.4	H.2.2b, B.2	CA-01, CA-04, CA-05	QF-C01
Record a consent revocation	5.5, 5.6	H.2.2b	CA-07	QF-C04
Monitor approaching expiry	5.5	B.2.4	CA-06	QF-C02
Process a scope modification	5.5, 5.6	H.2.2b	CA-04	QF-C01
Evaluate synthetic-use authorization	5.4	B.2.2	CA-08, CA-15	QF-C03
Resolve a consent-scope dispute	12.3	F.1–F.3	CA-02, CA-03	QF-C04, QF-02
Manage consent gap period	5.5	H.2.2b	CA-10	QF-C02
Prepare consent evidence for offboarding	13.5	J.4	CA-01 through CA-15	QF-C01–C04

K.1.3 Rights-State Administrator

Primary responsibilities: License and sublicense tier registration; scope ceiling enforcement; restriction registry maintenance; rights-chain lifecycle event processing; monetization event linkage.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Register a license or sublicense	7.1–7.3	H.2.2d, B.4	RC-03, RC-07	QF-R03
Run scope ceiling check	7.3	B.4.3	RC-03, RC-14	QF-R03
Update restriction registry	7.4	B.4	RC-05	QF-R02
Process assignment or succession	7.1	H.2.2d	RC-10	QF-R01
Link monetization event to rights state	7.7	B.4.1	RC-01	QF-R01
Detect out-of-scope use	7.6	B.4.3, C.4	RC-02, RC-06	QF-R02, QF-R03
Prepare rights-chain evidence for offboarding	13.5	J.6	RC-01 through RC-15	QF-R01–R03

K.1.4 Royalty Calculation Officer

Primary responsibilities: Calculation cycle execution; split allocation; payment instruction issuance; payout chain management; finality declaration; off-cycle correction.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Aggregate usage events for calculation	8.1, 8.2	I.1	RP-03	QF-P01
Execute royalty calculation	8.3	I.2	RP-01, RP-02, RP-04	QF-04, QF-P01
Prepare split allocation	8.4	I.3	RP-04, RC-09	QF-05, QF-P02
Issue payment instructions	8.5	I.4	RP-05	QF-P03
Process settlement confirmations	8.5	I.5	RP-06, RP-08	QF-P03
Declare payout finality	8.8	I.7	RP-10	QF-07
Execute off-cycle correction	8.9	I.8	RP-11	QF-P04
Manage provisional events	8.3	I.2.1	RP-09	QF-P01
Prepare royalty evidence for offboarding	13.5	J.7	RP-01 through RP-15	QF-P01–P05

K.1.5 Reconciliation Officer

Primary responsibilities: Reconciliation run execution; break register management; break investigation assignment; escalation to Dispute Governor; calculation artifact review.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Execute reconciliation run	9.5	B.1–B.8, C.8–C.10	All domains	QF-08
Classify and register a break	9.6	C.1–C.6	Per break code	QF-08

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Monitor break response timelines	9.6	C.7	GV-11	QF-08
Review calculation artifact independently	8.3, 8.8	I.2	RP-01, RP-02	QF-04, QF-P01
Escalate overdue breaks	9.6, 12.9	C.7	GV-11	QF-08
Prepare Final Reconciliation Proof	13.3	J.2.1	OB-03	QF-O01
Produce break register summary	9.6	C.10	GV-10, GV-11	QF-08

K.1.6 Dispute Governor

Primary responsibilities: Dispute classification; hold-only containment; investigation assignment; Dispute Finding Record issuance; corrective EP Delta authorization; post-resolution review.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Receive and classify a dispute	12.1	C.1–C.6	Per dispute class	QF-X03
Apply hold-only containment	12.6	F.3	RP-15	QF-06, QF-P05
Manage authenticity dispute	12.2	F.1, B.1	AC-01, AC-07	QF-A01, QF-A04
Manage consent-scope dispute	12.3	B.2, H.2.2b	CA-02, CA-07	QF-C04, QF-02
Manage lineage dispute	12.4	B.3, H.2.2c	LN-01–LN-03	QF-L01, QF-L02
Manage rights-chain dispute	12.5 section	B.4, H.2.2d	RC-01–RC-04	QF-R01–R03
Manage royalty/payout dispute	12.5	B.6, B.7, I.2–I.7	RP-01–RP-12	QF-P01–P05
Register monitored exception	12.9	C.9, F.3	GV-11	QF-11
Issue Dispute Finding Record	12.8	H.2.1	All relevant domain checks	—
Authorize hold release	12.6, F.3.4	F.3.4	GV-07	QF-06

K.1.7 Access Authorization Officer

Primary responsibilities: Access tier determination; access grant issuance; post-access review scheduling; TTL management; dual authorization for Tier 2; emergency access oversight.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Process a Tier 0 request	10.3	H.4.1	BA-03, BA-04	QF-01

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Grant Tier 1 access	10.4	H.4.1, H.4.2	BA-01–BA-04, BA-07	QF-G01
Grant Tier 2 access (dual auth)	10.4, 10.5	H.4.2, G.7	BA-05	QF-G01
Process emergency access	10.5	G.7	BA-06	QF-G01
Schedule post-access review	10.6	H.4.2	BA-02	QF-G01
Execute post-access review	10.6	H.4.2	BA-08, BA-10	QF-G01
Manage TTL expiry	10.2	H.4.2	BA-11	QF-G01
Audit access compliance	11.9	G.7	BA-01–BA-12	QF-G01, QF-G04

K.1.8 Change Control Officer

Primary responsibilities: Recertification schedule; material change response; delegation lifecycle; governance audit; SOD enforcement.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Maintain recertification schedule	11.5	G.10	GV-05	QF-G03
Process a material change	11.4	H.2.1, G.8	GV-04	—
Review delegation records	11.3	G.2, G.10	GV-03, CA-09	QF-G02
Conduct governance audit	11.9	G.10–G.12	GV-01–GV-12	QF-G02–G04
Enforce SOD compliance	11.8	G.2	GV-02	QF-G04
Authorize override events	11.9	F.3.4	GV-07, GV-08	—
Produce annual governance report	11.9	G.11	GV-10	QF-G01–G04

K.1.9 Institutional Examiner or Supervisory Authority

Primary responsibilities: Evidence pack review; boundary test confirmation; calculation audit; dispute investigation; access compliance review.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Plan an examination	14.10	K.2, K.3	Jump table (K.2)	Jump table (K.2)
Verify artifact authenticity	4.7, 14.1	D.1, B.1	AC-01–AC-15	QF-01, QF-A01–A04

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Confirm consent at time of use event	5.1, 14.2	D.2, B.2	CA-01–CA-15	QF-02, QF-C01–C04
Reconstruct derivation lineage	6.7, 14.3	D.3, B.3	LN-01–LN-15	QF-03, QF-L01–L02
Review rights-chain scope	7.6, 14.4	D.4, B.4	RC-01–RC-15	QF-09, QF-R01–R03
Audit royalty calculation	8.3, 14.5	D.5, B.6, I.2	RP-01–RP-15	QF-04, QF-P01–P05
Review access compliance	10, 14.6	D.6	BA-01–BA-12	QF-10, QF-G01
Review governance compliance	11, 14.7	D.7, G.11	GV-01–GV-12	QF-G01–G04
Review offboarding evidence	13, 14.8	D.8, J	OB-01–OB-08	QF-O01, QF-12
Produce examination report	14.9	E.9, K.3	All applicable	All applicable

K.1.10 Rights-Holder or Creator Representative

Primary responsibilities: Authenticity verification; consent state confirmation; royalty entitlement review; dispute filing; payout chain review.

Task	Primary Section	Supporting Appendices	Key Checks	Key Queries
Verify own artifact's authenticity	4.5, 4.7	B.1	AC-06	QF-01 (Tier 0)
Check consent scope for a use event	5.1, 5.3	B.2	CA-02, CA-04	QF-02 (Tier 1)
Review royalty calculation for a cycle	8.3, 8.4	B.6, I.2, I.3	RP-01, RP-04	QF-04 (Tier 1)
Verify own split allocation	8.4	I.3	RP-04	QF-05 (Tier 1)
Check payout chain completeness	8.5, 8.8	B.7, I.7	RP-07	QF-07 (Tier 1)
File a dispute	12.1	C.1–C.6	Per dispute class	QF-X03 (Tier 0)
Review held revenue	8.7, 12.6	F.3	—	QF-06 (Tier 0)
Review monitored exceptions	12.9	C.9	—	QF-11 (Tier 0)

K.2 Examiner Jump Table (Extended)

The following table maps examination objectives to the precise navigation path — section, appendix, check IDs, and query families — required to execute the examination. This extends the table in Section 14.10 with additional scenarios.

Examination Objective	Sections	Appendices	Check IDs	Query Families	Access Tier
Confirm artifact is authentic	4.4–4.7	D.1, B.1,	AC-01, AC-02,	QF-01, QF-	Tier 1

Examination Objective	Sections	Appendices	Check IDs	Query Families	Access Tier
and unmodified		H.1.1	AC-03	A01, QF-A02	
Confirm consent was in scope at event time	5.1–5.6	D.2, B.2, H.2.2b	CA-01, CA-02, CA-06	QF-02, QF-C02, QF-C04	Tier 1
Confirm synthetic output has valid authorization	5.4, 6.3	D.2, D.3, H.1.4	CA-08, AC-05, LN-09	QF-A03, QF-C03	Tier 1
Reconstruct full derivation lineage	6.2–6.7	D.3, B.3, H.1.2	LN-01, LN-02, LN-03	QF-03, QF-L01, QF-L02	Tier 1/2
Detect contamination in a lineage chain	6.5, 12.4	D.3, B.3	LN-03, LN-10	QF-L01	Tier 2
Confirm AI training data authorization	7.5, 6.3	D.4, H.1.4	RC-06, AC-12, LN-09	QF-R02, QF-A03	Tier 1
Audit royalty calculation — specific cycle	8.3, 8.4	D.5, I.2, I.3, B.6	RP-01, RP-02, RP-04	QF-04, QF-P01, QF-P02	Tier 1
Verify split allocation — specific contributor	8.4, 7.2	I.3, D.5	RP-04, RC-09	QF-05, QF-P02	Tier 1
Confirm payout chain completeness	8.5, 8.8	I.4–I.7, D.5	RP-05–RP-07, RP-10	QF-07, QF-P03	Tier 1
Review off-cycle correction lineage	8.9	I.8, D.5	RP-11	QF-P04	Tier 1
Confirm rights-chain scope at event time	7.4, 7.6	D.4, B.4, H.2.2d	RC-01, RC-02, RC-05	QF-09, QF-R01, QF-R02	Tier 1
Detect sublicense scope ceiling violation	7.3	D.4, B.4	RC-03, RC-14	QF-R03	Tier 1
Review active holds and held revenue	8.7, 12.6	F.3, B.7	RP-15	QF-06, QF-P05	Tier 1
Confirm post-access review compliance	10.6	D.6, H.4.2	BA-02, BA-10	QF-G01	Tier 1
Detect SOD violations	11.8	G.2, D.7	GV-02	QF-G04	Tier 1
Review delegation compliance	11.3	G.2, D.7	GV-03, CA-09	QF-G02	Tier 1
Review recertification schedule compliance	11.5	D.7, G.10	GV-05	QF-G03	Tier 1
Review monitored exception status	12.9	C.9, D.7	GV-11	QF-11	Tier 0/1
Verify offboarding completeness	13	D.8, J, F.1	OB-01–OB-08	QF-O01, QF-12	Tier 1
Full cross-domain state review — single artifact	All	B.8, K.2	All applicable	QF-X01	Tier 1
Revenue at risk by break domain	9.6, 12.6	C.10, F.3	All break domains	QF-X02	Tier 0/1
Active dispute status and age	12.1	C.9, F.3	Per dispute class	QF-X03	Tier 0/1
Liability trigger catalog	11.6	D.7, G.12	GV-12	QF-X04	Tier 1

Examination Objective	Sections	Appendices	Check IDs	Query Families	Access Tier
compliance					
Full integrity audit — EP hash chains	9.10	H.2.1, H.5	AC-02, AC-14, RC-08	QF-A02	Tier 2
Dispute reconstruction — all domains	12	F.1, B.8, J.7	All applicable per class	QF-X01, QF-03	Tier 2

K.3 Section Dependency Map

The following map shows how sections build on each other. Readers may use it to determine the minimum prerequisite reading for any section.

Section	Requires Understanding Of	Directly Enables
Section 3 (Taxonomy)	Section 2 (Problem)	All subsequent sections
Section 4 (Authenticity)	Section 3	Sections 6, 9, 14.1, Appendix A.1
Section 5 (Consent)	Sections 3, 4	Sections 7, 8, 12.3, Appendix A.2–A.3
Section 6 (Lineage)	Sections 3, 4, 5	Sections 7, 8, 12.4, Appendix A.5
Section 7 (Rights-Chain)	Sections 3, 5, 6	Section 8, 12.5, Appendix A.4
Section 8 (Royalty/Payout)	Sections 3, 5, 6, 7	Sections 9, 12.5, Appendix A.6–A.9
Section 9 (Evidence/Reconciliation)	Sections 4–8	Sections 10, 11, 12, 13, 14
Section 10 (Tiered Access)	Sections 3, 9	Sections 11, 12, 14.6
Section 11 (Governance)	Sections 9, 10	Section 12, Appendix G
Section 12 (Disputes)	Sections 4–11	Section 13, Appendix C
Section 13 (Offboarding)	Sections 4–12	Appendix J
Section 14 (Examiner Readiness)	All sections	Appendices D, E
Section 15 (Worked Examples)	All sections	Standalone use

K.4 Workflow Stage Navigation Map

For practitioners executing specific workflows, the following map provides the sequence of sections and appendices to consult at each stage.

K.4.1 New Artifact Registration Workflow

```
Step 1: Compute content-addressed hash → Section 4.4, Appendix H.1.1
Step 2: Create source object manifest → Appendix H.1.1 (worked example)
Step 3: Register origin assertion → Section 4.2
Step 4: Link rights-chain anchor → Section 7.1, Appendix H.2.2d
Step 5: Link consent anchor → Section 5.1, Appendix H.2.2b
Step 6: Assign authenticity state → Section 4.5, Appendix A.1
```

```
Step 7: Run SI boundary tests → Section 4.6, Appendix D.1 (AC-01, AC-02)
Step 8: Log registration event in Layer 7 → Section 9.2
Step 9: Notify relevant parties → Section 11.7
```

K.4.2 Royalty Calculation Workflow

```
Step 1: Aggregate usage events → Section 8.1, 8.2, Appendix I.1
Step 2: Run rights-state linkage checks → Section 7.7, Appendix D.4 (RC-01)
Step 3: Run consent-state checks → Section 5.1, Appendix D.2 (CA-01, CA-02)
Step 4: Assign evidence quality tiers → Section 8.2, Appendix B.5
Step 5: Execute calculation run → Section 8.3, Appendix I.2
Step 6: Prepare split allocation → Section 8.4, Appendix I.3
Step 7: Apply holds for Tier 3/4 events → Section 8.7, Appendix F.3
Step 8: Issue payment instructions → Section 8.5, Appendix I.4
Step 9: Process settlement confirmations → Section 8.5, Appendix I.5
Step 10: Complete payout linkage records → Section 8.5, Appendix I.6
Step 11: Declare finality → Section 8.8, Appendix I.7
Step 12: Document open conditions → Section 9.6, Appendix C.8
```

K.4.3 Dispute Resolution Workflow

```
Step 1: Receive and classify dispute → Section 12.1, Appendix C.1–C.6
Step 2: Apply hold-only containment → Section 12.6, Appendix F.3
Step 3: Create preservation bundle → Section 9.7, Appendix F.1
Step 4: Authorize appropriate access tier → Section 10.4, Appendix G.6
Step 5: Exchange evidence packs → Section 9.8, Appendix H.4
Step 6: Execute domain-specific replay
         Authenticity → Section 12.2, Appendix B.1
         Consent → Section 12.3, Appendix B.2, QF-C04
         Lineage → Section 12.4, Appendix B.3, QF-L01
         Rights-chain → Section 12.5, Appendix B.4, QF-R01
         Royalty → Section 12.5, Appendix B.6, QF-P01
Step 7: Issue Dispute Finding Record → Section 12.8, Appendix H.2.1
Step 8: Issue corrective EP Deltas → Section 12.8, Appendix H.2.2
Step 9: Release holds post-resolution → Section 12.6, Appendix F.3.4
Step 10: Execute off-cycle correction if needed → Section 8.9, Appendix I.8
Step 11: Conduct post-resolution review → Section 12.8
```

```
Step 12: Close dispute record → Section 12.8
```

K.4.4 Offboarding Workflow

```
Step 1: File Offboarding Declaration → Section 13.1, Appendix D.8 (OB-01)
Step 2: Create Final State Snapshot → Section 13.2, Appendix F.1 (OB-02)
Step 3: Execute Final Reconciliation Proof → Section 13.3, Appendix D.8 (OB-03)
Step 4: Compile open-break disclosure → Section 13.6, Appendix J.8 (OB-04)
Step 5: Assemble portable evidence sets → Section 13.5
Step 6: Create Legacy Transition Manifest → Section 13.4, Appendix H.5 (OB-05)
Step 7: Obtain custody acceptance → Section 13.2, Appendix J.2.1 (OB-06)
Step 8: Confirm monitoring obligations → Section 13.7, Appendix J.8.3 (OB-07)
Step 9: Assemble Offboarding Proof Bundle → Appendix J.1–J.9
Step 10: Execute OPB completion verification → Appendix J.9
Step 11: Archive EP per retention schedule → Section 13.7, Appendix D.8 (OB-08)
```

K.5 Appendix Quick-Reference Index

Appendix	Title	Primary Reader	Page-Jump Use Case
A	State Taxonomy Tables	All	Check state definitions; look up interaction matrix
B	Evidence Set Mapping Templates	Operator, Examiner	Assemble or verify an evidence pack
C	Reconciliation Break Taxonomy	Reconciliation Officer, Examiner	Classify a break; look up response path
D	Standard Checks Pack	Examiner, Auditor	Execute checks; determine check-to-break mapping
E	Examiner Query Pack	Examiner	Run a specific query; look up query index
F	Preservation Bundle and Hold-Set Templates	Operator, Dispute Governor	Create a bundle; manage a hold set
G	RACI Matrices + Accountability Inserts	Governance roles, Auditor	Assign responsibilities; resolve role conflicts
H	Manifest, Diff, and Retrieval Templates	Operator, Examiner	Register a record; issue an EP Delta; produce evidence
I	Royalty Calculation and Payout Templates	Royalty Calc Officer, Examiner	Execute or audit a payout cycle
J	Offboarding Proof Bundle Templates	Operator, Receiving Custodian	Execute or receive an offboarding
K	Reader Navigation Map	All (first stop)	Find where to go for any task
L	Minimal Glossary	All	Look up a term
M	Version Lineage, Supersession,	Operator, Examiner	Manage version history

Appendix	Title	Primary Reader	Page-Jump Use Case
	and Revocation Templates		
N	Scope-of-Use Matrix	Rights-State Admin, Examiner	Evaluate scope compliance
O	Worked Mini-Scenario Pack	All	Cross-domain operational examples
P	Materiality and Escalation Matrix	Reconciliation Officer, Dispute Governor	Determine materiality of a break or event

K.6 Term-to-Section Cross-Reference

The following mini-index maps key operational terms to the section where they are defined and the section where they are most extensively applied.

Term	Defined In	Primarily Applied In	Appendix Reference
Authenticity state	Section 3.1	Section 4	Appendix A.1, D.1
Canonical source object	Section 3.11	Section 4.1	Appendix H.1.1
Chain-of-custody	Section 9.4	Sections 4, 13	Appendix H.4.3
Consent state	Section 3.3	Section 5	Appendix A.2, D.2
Consent-state diff	Section 5.6	Sections 5, 12.3	Appendix H.2.2b
Content-addressed manifest	Section 4.4	Sections 4–9	Appendix H.1
Contamination	Section 6.5	Sections 6, 12.4	Appendix C.3 (BR-L05)
Derivation state	Section 3.6	Section 6	Appendix A.5, D.3
Distribution object	Section 3.11	Sections 4.1, 6.1	Appendix H.1.3
EP Delta	Section 5.6	Sections 5–13	Appendix H.2
Evidence Pack	Section 9.1	Sections 9, 10, 12	Appendix B, F.1
Hold-only containment	Section 12.6	Sections 8, 12	Appendix F.3
Lineage replay	Section 6.7	Sections 6, 12.4	Appendix E (QF-L01)
Materiality class (A/B/C)	Section 6.4	Section 6	Appendix C.3
Monitored exception	Section 12.9	Sections 9, 12	Appendix C.9
No-master-key posture	Section 11.8	Sections 4, 11	Appendix G.8
Official source object	Section 3.11	Section 4.1	Appendix H.1.1
Operational finality	Section 8.8	Section 8	Appendix I.7
Origin assertion level	Section 4.2	Sections 4, 8	Appendix H.1.1
Payout Cycle Finality Record	Section 8.8	Section 8	Appendix I.7
Payout linkage	Section 8.5	Section 8	Appendix I.6
Preservation bundle	Section 9.7	Sections 9, 12, 13	Appendix F.1
Purpose limitation	Section 10.2	Section 10	Appendix G.7
Rights-chain state	Section 3.5	Section 7	Appendix A.4, D.4
Royalty calculation state	Section 3.8	Section 8	Appendix A.7, D.5
Settlement confirmation	Section 3.9	Section 8	Appendix I.5
Split allocation	Section 8.4	Section 8	Appendix I.3
Supersession chain	Section 6.6	Sections 4, 6	Appendix H.1.1

Term	Defined In	Primarily Applied In	Appendix Reference
Synthesis provenance	Section 3.2	Sections 4, 6	Appendix H.1.4
Tiered reviewer access	Section 3.12	Section 10	Appendix G.7
Transformation event log	Section 6.2	Section 6	Appendix H.1.2
TTL (time-to-live)	Section 10.2	Section 10	Appendix D.6
Usage event state	Section 3.7	Section 8	Appendix A.6, D.5

Appendix L — Minimal Glossary (Baseline-First)

Purpose: This glossary provides concise, operationally precise definitions for all terms used in the framework. Baseline-first discipline is applied throughout: terms that exist in the baseline frameworks (Baselines A–D) are defined in a manner consistent with their baseline usage and marked with their baseline source. Terms introduced for the first time in this framework are marked **(new)**. Legal terms are described in their operational context only; no legal conclusions are intended or implied. Terms are listed alphabetically within thematic groups for navigability.

L.1 Baseline-Sourced Terms

These terms originate in Baselines A–D and are reused in this framework without modification to their core meaning. The description notes any framework-specific application.

Term	Baseline Source	Operational Definition	Framework Application
Chain-of-custody	Baseline A, C	The sequential, documented record of custodial responsibility for an artifact or evidence record from creation to present, with each transfer recorded and verifiable	Applied to media artifact custody and to EP record custody; required at offboarding per Section 13
Change control	Baseline B	The governed process for proposing, reviewing, approving, testing, and implementing modifications to	Applied to EP Delta issuance, governance role changes, and technical

Term	Baseline Source	Operational Definition	Framework Application
		operational systems, records, or procedures	record schema updates per Section 11.4
Content-addressed manifest	Baseline A	A record identifying an artifact by its content hash rather than by name or version label, making the manifest tamper-evident and implementation-independent	Extended to cover all five media types and all EP layers; primary identity instrument per Section 4.4
EP Delta	Baseline A	An incremental, hash-chained record of a change to a previously registered evidence state; does not overwrite the prior record; preserves the full state history	Applied to all seven EP layers for all state domains; issuance requires dual authorization per Section 11.8
Evidence Pack (EP)	Baseline A, B, C	A structured, content-addressed, tamper-evident collection of records constituting the operational evidence for a defined subject across one or more state domains	Extended to seven-layer architecture covering all five media state domains per Section 9.1
Hold-and-release	Baseline B	Operational procedures and technical controls allowing temporary restriction of asset transfer or disbursement, followed by restoration upon appropriate authorization	Applied to royalty revenue hold-only containment per Sections 8.7, 12.6; distinct from forfeiture
Immutable log	Baseline A, C	A tamper-evident, append-only event record where modification of any entry is detectable by hash chain verification	Required for all EP layers per Section 9.2; integrity failure constitutes a Class IV incident if tampering suspected
Material change trigger	Baseline B, C	A defined event that automatically activates a governance response, including EP Delta issuance, recertification, and notification	Taxonomy extended for media context per Section 11.4
No-master-key posture	Baseline A, B	The governance principle that no single party holds unilateral authority to alter, create, or suppress any state-determining evidence record	Applied across all EP layers; manifested in dual-authorization requirements per Section 11.8
Offboarding proof bundle	Baseline A	A sealed, certified evidence package delivered at the conclusion of an operational relationship, documenting the final state of all evidence and all open conditions	Extended to six-module architecture for media workflows per Appendix J
Post-access review	Baseline B	A mandatory review conducted after any Tier 1 or Tier 2 access grant, confirming that the access was within the stated purpose scope and TTL	Required for all Tier 1 and Tier 2 access per Section 10.6; overdue reviews are BR-G01
Preservation bundle	Baseline	A sealed, point-in-time snapshot of the	Trigger taxonomy

Term	Baseline Source	Operational Definition	Framework Application
	A, C	EP for a defined artifact scope, created at defined trigger events to ensure evidence can be reconstructed independently of live system access	extended for media disputes and legal holds per Section 9.7, Appendix F
Purpose limitation	Baseline B	The principle that access to evidence records is restricted to the specific purpose for which access was granted; use of records for other purposes requires a new access grant	Applied to all Tier 1 and Tier 2 access grants per Section 10.2
RACI	Baseline B, C	Responsible, Accountable, Consulted, Informed — a matrix assigning governance obligations for each activity step to named roles	Applied to eleven critical workflows per Appendix G
Recertification cadence	Baseline B, C	The defined schedule at which a governance subject — role authority, EP state, operational process, access grant — is re-verified for continued accuracy and currency	Extended to all state domains and governance roles per Section 11.5
Standard checks pack	Baseline C	A defined set of mandatory verification steps executed against evidence records to confirm state integrity, completeness, and compliance	Extended to 107 named checks across eight domains per Appendix D
Time-to-live (TTL)	Baseline B	A bounded duration assigned to an access grant, after which the grant expires and access is terminated	Applied to all Tier 1 and Tier 2 access grants per Section 10.2; extension requires new authorization
Tiered supervisory access	Baseline B	A model segregating reviewer access into Tier 0 (aggregate/proof), Tier 1 (artifact-level, purpose-limited), and Tier 2 (full EP, elevated authorization), each with progressively stricter controls	Applied to all reviewer access in media workflows per Section 10

L.2 Framework-Specific Terms (New)

These terms are introduced for the first time in this framework. Each definition is operationally precise and avoids legal conclusions.

Term	Defined In	Operational Definition
Authenticity state **(new)**	Section 3.1	The operationally evidenced condition of a media artifact with respect to its correspondence to a claimed canonical source object; expressed as one of five values: `VERIFIED`, `CORROBORATED`, `ASSERTED`, `CONTESTED`, `UNRESOLVABLE`
Authority state **(new)**	Section 3.4	The operationally evidenced condition establishing whether the party who granted a consent or authorization held the requisite

Term	Defined In	Operational Definition
		rights and delegation scope at the time of execution
Bounded reviewer access **(new)**	Section 3.12	A structured access path through which an authorized reviewer obtains the evidence necessary to verify a specific state without accessing the full underlying evidence set; implemented through the three-tier access model
Calculation artifact **(new)**	Section 8.3	The immutable, content-addressed record of a specific royalty calculation run, capturing all inputs, logic, rates, allocations, and outputs in sufficient detail to replay the calculation from the same inputs
Canonical source object **(new)**	Section 3.11	The authoritative, rights-anchored, content-addressed registered artifact from which all derivative, distribution, and synthetic-output lineage must ultimately trace; exactly one non-superseded canonical source object exists per release event
Consent state **(new)**	Section 3.3	The operationally evidenced, multi-dimensional, lifecycle-tracked condition of an authorization granted by an appropriate signatory permitting a specified use; expressed across territory, medium, duration, purpose, derivative authorization, and synthetic-use dimensions
Consent-state diff **(new)**	Section 5.6	An EP Delta recording a change to one or more consent scope dimensions or the overall consent state, without overwriting the prior state; enables consent state replay to any historical timestamp
Contamination **(new)**	Section 6.5	The condition arising when an unauthorized transformation event (Class A, `authorization_state: ABSENT`) appears in the lineage chain of an otherwise authorized derivative object, propagating unauthorized-use taint to all downstream objects in the chain
Contribution chain **(new)**	Section 7.2	The ordered record of parties whose creative, financial, or operational contributions entitle them to a share of revenue generated by a media artifact; input to royalty split logic; distinct from the participation chain
Derivation state **(new)**	Section 3.6	The operationally evidenced record of how a media artifact relates to its source object through a documented chain of transformation events, each logged with its transformation type, authorization state, operator class, and output hash
Distribution object **(new)**	Section 3.11	A format or packaging variant of an official source object or derivative, created for distribution purposes; may have a different content hash due to encoding; must carry a parent manifest linkage; carries no independent royalty basis
Evidence quality tier **(new)**	Section 8.2	A four-level classification (Tier 1–4) applied to each usage event, based on the completeness and verification status of its associated evidence; determines whether the event is included in royalty calculation without qualification (Tier 1), with a provisional flag (Tier 2), held pending supplementary evidence (Tier 3), or excluded (Tier 4)
Hold-only containment **(new)**	Section 12.6	A revenue disposition posture under which amounts are accrued and preserved in an escrow-equivalent account but not disbursed to

Term	Defined In	Operational Definition
		any party, pending resolution of a dispute, break, or governance condition; not equivalent to forfeiture
Identifier portability map **(new)**	Section 13.8, Appendix J.6.2	A structured record mapping proprietary platform identifiers to content-addressed manifest IDs, enabling cross-platform artifact identity reconstruction after custody transfer or system migration
Lineage break **(new)**	Section 6.5	Any condition in which the chain of transformation events between a registered source object and a distributed artifact cannot be fully reconstructed from the evidence infrastructure; classified by type (missing event, unlinked parent, authorization gap, contamination) and severity
Lineage replay **(new)**	Section 6.7	The process of reconstructing the full derivation path of a media artifact from source object to output, at any point in time, using the transformation event chain, manifest chain, and EP Delta records, without requiring access to the underlying artifact files
Materiality class **(new)**	Section 6.4	A three-level classification (A, B, C) applied to transformation events, based on the commercial and legal significance of the transformation; Class A requires explicit authorization; Class B requires confirmable scope; Class C is covered by existing agreements
Monetization event rights-state linkage **(new)**	Section 7.7	A record explicitly connecting a specific usage or monetization event to the rights-chain EP entry and consent state record that were active at the time of the event, enabling retroactive scope verification
Official source object **(new)**	Section 3.11	See canonical source object; the two terms are used interchangeably; "official source object" emphasizes the designated status within a specific release context
Operational finality **(new)**	Section 8.8	The condition in which the evidence chain from usage event to payout confirmation is complete, linked, and replayable; does not constitute legal finality and does not foreclose dispute, correction, or reversal under applicable contractual or legal frameworks
Origin assertion level **(new)**	Section 4.2	A five-level classification (1–5) indicating the evidentiary strength of the claim that a registered artifact matches its asserted source; Level 1 = directly evidenced with hash registration; Level 5 = archival reconstruction with limited corroboration
Participation chain **(new)**	Section 7.2	The ordered record of parties whose ongoing operational roles — distribution, licensing administration, platform hosting — generate fee or commission entitlements deducted from or applied alongside royalty obligations; distinct from the contribution chain
Payout Cycle Finality Record **(new)**	Section 8.8	The dual-authorized record sealing a completed royalty cycle, confirming that all finality conditions are met and documenting all open conditions that persist beyond the finality declaration
Payout linkage record **(new)**	Section 8.5	The final record in the payout evidence chain, confirming that the complete chain from usage events through calculation, allocation, instruction, and settlement confirmation is intact and replayable

Term	Defined In	Operational Definition
Proof-based minimization **(new, Baseline E)**	Section 10.8	A disclosure discipline in which a reviewer receives a cryptographic proof that a specific state is as claimed, without receiving the underlying evidence record; applicable where Baseline E (ZKP) is implemented
Restriction registry **(new)**	Section 7.4	A dedicated EP entry per source object recording all active and historical scope restrictions — territory, channel, duration, purpose, derivative, sublicensing — that propagate through all downstream licenses; queried at each scope check
Rights-chain state **(new)**	Section 3.5	The operationally evidenced chain of rights instruments, licenses, sublicenses, assignments, and restrictions governing who may authorize what use of a media artifact, under what conditions, and for what period
Royalty calculation state **(new)**	Section 3.8	The operationally evidenced condition of a royalty calculation run, expressed as one of eight values: `CALCULATED`, `PROVISIONAL`, `INSTRUCTED`, `CONFIRMED`, `DISPUTED`, `CORRECTED`, `FINALIZED`, `OPEN_BREAK`
Royalty event type **(new)**	Section 8.1	A classification of a usage event by the revenue-generation mechanism it represents: streaming play, broadcast performance, sync placement, download/mechanical, theatrical performance, physical sale, sublicense fee, AI training data license, synthetic output distribution, derivative distribution, promotional use, archive/library placement, or re-release
Scope ceiling **(new)**	Section 7.3	The principle that no downstream license or sublicense may grant rights exceeding the verified scope of the granting licensor's instrument; violations trigger BR-R01 and hold-only containment on excess-scope revenue
Settlement confirmation state **(new)**	Section 3.9	The operationally evidenced condition of the payout evidence chain, expressed as: `CALCULATED`, `INSTRUCTED`, `CONFIRMED`, `VARIANCE_OPEN`, `DISPUTED`, `CORRECTED`, `UNMATCHED`, `HELD`, or `FORFEITED_TO_DISPUTE`
Source and origin state **(new)**	Section 3.2	The recorded operational attributes of a media artifact's point of origin, including the creation environment, originating party identity class (human, AI, hybrid), first-fixation or synthesis timestamp, and content-addressed hash at registration
Split allocation **(new)**	Section 8.4	The operational step translating the net royalty pool into individual entitlements for each party in the contribution chain, based on their documented share instrument and current recoupment state
Supersession chain **(new)**	Section 6.6	The ordered sequence of official version replacements for a media artifact, maintained as hash-linked manifest entries; all superseded versions are retained in the chain for historical royalty replay and dispute reconstruction
Synthesis provenance record **(new)**	Section 3.2, Appendix H.1.4	A mandatory companion record to any manifest with `operator_class: AI_system` or `hybrid`, documenting the model version class, generation parameters hash, training data authorization, and source identity authorization if an identifiable

Term	Defined In	Operational Definition
		voice or likeness was replicated
Transformation event log **(new)**	Section 6.2	The hash-chained record of each discrete transformation applied to a media artifact, including source manifest reference, output manifest reference, transformation type, operator class, authorization state, and output hash; the evidentiary backbone of derivation lineage
Unresolved authenticity posture **(new)**	Section 4.7	The condition applying when an artifact's authenticity state is `CONTESTED` or `UNRESOLVABLE`, or when minimum replay evidence requirements are not met; blocks the artifact from serving as the sole anchor for royalty calculation; triggers hold-only containment
Usage event state **(new)**	Section 3.7	The operationally evidenced record of a specific instance of use of a media artifact, including use type, timestamp, territory, channel, volume metric, and linkage to the consent state and rights-chain state active at the time of the event

L.3 Acronyms and Abbreviations

Acronym	Full Form	Defined In
AC	Authenticity Check	Appendix D.1
AMI	Artifact Manifest Identifier	Section 4.4
BA	Bounded-Access Compliance Check	Appendix D.6
BR	Break (Reconciliation Break)	Appendix C
CA	Consent and Authority Check	Appendix D.2
CALC	Royalty Calculation Artifact	Section 8.3, Appendix I.2
CoC	Chain-of-Custody	Section 9.4
D-AUTH	Authenticity Dispute Class	Section 12.1
D-CALC	Royalty Calculation Dispute Class	Section 12.1
D-CONS	Consent-Scope Dispute Class	Section 12.1
D-LINE	Lineage Dispute Class	Section 12.1
D-MULT	Multi-Domain Dispute Class	Section 12.1
D-PAYS	Payout Dispute Class	Section 12.1
D-RIGH	Rights-Chain Dispute Class	Section 12.1
EIDR	Entertainment Identifier Registry	Section H.1.1
EP	Evidence Pack	Section 9.1
EPD	EP Delta	Section 5.6
FSS	Final State Snapshot	Section 13.2
FRP	Final Reconciliation Proof	Section 13.3
GV	Governance and Recertification Check	Appendix D.7
HS	Hold Set	Appendix F.3
ISAN	International Standard Audiovisual Number	Appendix H.1.1
ISRC	International Standard Recording Code	Appendix H.1.1

Acronym	Full Form	Defined In
ISWC	International Standard Musical Work Code	Appendix H.1.1
LN	Lineage Check	Appendix D.3
LT	Liability Trigger	Section 11.6
LTM	Legacy Transition Manifest	Section 13.4
ME	Monitored Exception	Section 12.9
OB	Offboarding Check	Appendix D.8
OPB	Offboarding Proof Bundle	Appendix J
PCF	Payout Cycle Finality Record	Section 8.8, Appendix I.7
PB	Preservation Bundle	Section 9.7, Appendix F.1
PI	Payment Instruction	Section 8.5, Appendix I.4
PLR	Payout Linkage Record	Section 8.5, Appendix I.6
QF	Query Family	Section 14.9, Appendix E
RACI	Responsible, Accountable, Consulted, Informed	Section 11.2, Appendix G
RC	Rights-Chain and Scope Check	Appendix D.4
REIS	Royalty Event Intake Summary	Appendix I.1
RP	Royalty Calculation and Payout Check	Appendix D.5
SA	Split Allocation Record	Section 8.4, Appendix I.3
SC	Settlement Confirmation	Section 8.5, Appendix I.5
SI	Source Integrity (boundary test prefix)	Section 4.6
SOD	Segregation of Duties	Section 11.8
TTL	Time-to-Live	Section 10.2
ZKP	Zero-Knowledge Proof (Baseline E)	Section 10.8

Appendix M — Version Lineage, Supersession, and Revocation Templates

Purpose: This appendix provides paste-ready templates for the three primary version lifecycle events: supersession (replacing an official version with a newer one), revocation (withdrawing an authorization), and lineage reconstruction (rebuilding a version chain after a gap). Each template includes the record schema, the EP Delta

structure, a completion checklist, and a worked example. Cross-references to Sections 4.4, 5.5, 6.6, and 12 are provided throughout.

M.1 Version Supersession Template

A supersession event occurs when an official source object or official derivative is replaced by a newer version. The prior version is retained in the manifest chain but is no longer the active calculation anchor.

M.1.1 Supersession Event Record

```
VERSION_SUPERSESSION_RECORD

  supersession_id:          [format: SUP-{YYYYMMDD}-{seq}]

  superseding_manifest_id:  [manifest_id of the new official version]

  superseded_manifest_id:   [manifest_id of the version being replaced]

  artifact_manifest_id:     [durable artifact identifier, unchanged across
versions]

  supersession_effective_date: [ISO 8601 date; from this date, the new version
                                is the active calculation anchor]

  supersession_reason:      [CONTENT_CORRECTION | RIGHTS_UPDATE |
                             QUALITY_UPGRADE | FORMAT_CHANGE |
                             OFFICIAL_REMIX | REMASTER | OTHER]

  supersession_description: [brief factual description of what changed
                             and why the prior version was replaced]


  PRIOR VERSION TREATMENT:

    prior_version_status:   [SUPERSEDED_RETAINED; prior version is always
                             retained; it is never deleted]

    prior_version_use:      [HISTORICAL_ROYALTY_REPLAY_ONLY; prior version
                             may be referenced for royalties accrued before
                             the supersession effective date; may not be
                             referenced for new distributions or future
royalties]

    prior_distribution_review: [YES | NO; whether active distributions of
                                the prior version must be reviewed and
redirected]

    active_distributions_redirected: [count of distribution objects updated
                                      to reference new version; null if NO]
```

```
  NEW VERSION REGISTRATION:
    new_version_manifest_ref: [pointer to new version's Source Object Manifest
                               in Appendix H.1.1 format]
    new_version_hash:         [content-addressed hash of new version artifact]
    new_rights_anchor_ref:    [pointer to rights-chain EP entry if rights
changed;
                               null if rights-chain unchanged]
    new_consent_anchor_ref:   [pointer to consent record if consent scope
changed;
                               null if consent unchanged]

  CALCULATION IMPACT:
    calc_anchor_change_date:  [ISO 8601; date from which calculation artifacts
                               must reference new version as primary anchor;
                               equals supersession_effective_date]
    prior_cycles_unaffected:  [YES | NO; whether calculation cycles before
                               effective date remain anchored to prior version]
    royalty_split_change:     [YES | NO; if YES: new split allocation required
                               from effective date]

  AUTHORIZATION:
    authorizing_party_role:   [Rights-State Admin; or Evidence Infra Operator
                               if rights-chain unchanged]
    dual_auth_record_ref:     [pointer to distributed approval record]
    issuance_timestamp:       [ISO 8601]

  NOTIFICATIONS:
    notified_parties:         [Royalty Calc Officer, Reconciliation Officer,
                               Consent Custodian if consent scope changed,
                               active distributors if distribution redirected]
    notification_timestamp:   [ISO 8601]

  INTEGRITY:
    supersession_hash:        [SHA-256 of this record]
    prev_supersession_hash:   [SHA-256 of prior supersession record for this
```

```
                              artifact; null if first supersession]
```

M.1.2 Supersession EP Delta

```
SUPERSESSION_EP_DELTA
  [Uses EP_DELTA_RECORD schema from Appendix H.2.1 with:]
  delta_type:               SUPERSESSION
  affected_layer:           0  (manifest chain)
  changed_fields:
    - field: superseded_by
      prior_value:          null
      new_value:            [superseding_manifest_id]
    - field: object_class_status
      prior_value:          CURRENT
      new_value:            SUPERSEDED
    - field: official_release
      prior_value:          YES
      new_value:            YES  (retained; historical reference)
  change_basis:             [supersession_reason and description from
                             VERSION_SUPERSESSION_RECORD]
  change_basis_ref:         [pointer to supersession record]
```

M.1.3 Supersession Chain Integrity Verification

After a supersession, the following checks confirm chain integrity:

Check	Condition	Pass	Fail Action
Exactly one non-superseded official version exists	`superseded_by = null` for exactly one manifest per release event	PASS	Flag duplicate; resolve per AC-03
All prior versions carry `superseded_by`	No prior version manifest has null `superseded_by`	PASS	Issue supersession EP Delta for gap
No circular supersession reference	Chain traversal terminates at current version without looping	PASS	Flag; reconstruct chain; break circle
Distribution objects reviewed	All distribution objects referencing prior version have been updated or documented	PASS	Flag; update distribution object manifests
Calculation anchor updated	All calculation cycles after effective date reference new version	PASS	Flag; corrective EP Delta; off-cycle correction if needed

M.1.4 Worked Example — Album Remaster Supersession

Context: An album's original master recording (v1.0) is superseded by a remastered version (v2.0) released 18 months after the original.

```
VERSION_SUPERSESSION_RECORD [SUP-20251001-001]
  superseding_manifest_id:  MAN-MU-20251001-001  (v2.0 remaster)
  superseded_manifest_id:   MAN-MU-20240315-001  (v1.0 original)
  artifact_manifest_id:     AMI-7a3f9c2e-d1b4-4e8f-a2c7-1f5e9b3d6a0c
  supersession_effective_date: 2025-10-01
  supersession_reason:      REMASTER
  supersession_description: Original 2024 master replaced by 2025 remaster;
                            audio restoration applied; no content changes to
                            performances; rights-chain and consent unchanged

  PRIOR VERSION TREATMENT:
    prior_version_status:   SUPERSEDED_RETAINED
    prior_version_use:      HISTORICAL_ROYALTY_REPLAY_ONLY
    prior_distribution_review: YES
    active_distributions_redirected: 4  (4 DSP distribution objects updated)

  NEW VERSION:
    new_version_hash:       sha256:9b2d5e7f3a1c4d8e...
    new_rights_anchor_ref:  null  (rights-chain unchanged)
    new_consent_anchor_ref: null  (consent unchanged)

  CALCULATION IMPACT:
    calc_anchor_change_date:2025-10-01
    prior_cycles_unaffected:YES  (Q1–Q3 2025 cycles remain anchored to v1.0)
    royalty_split_change:   NO

  EP DELTA [EPD-0-20251001-001]:
    affected_record: MAN-MU-20240315-001 (v1.0 manifest)
    changed_fields:
      superseded_by: null → MAN-MU-20251001-001
      object_class_status: CURRENT → SUPERSEDED
```

M.1.5 Supersession Completion Checklist

Step	Action	Completed?	Record Reference
1	New version manifest registered per H.1.1	YES / NO	
2	Supersession record created	YES / NO	
3	Supersession EP Delta issued for prior version	YES / NO	
4	`superseded_by` field populated in prior manifest	YES / NO	
5	Dual authorization obtained	YES / NO	
6	AC-03 boundary test re-run (single official version confirmed)	YES / NO	
7	AC-04 boundary test re-run (supersession chain complete)	YES / NO	
8	Distribution objects reviewed and updated	YES / NO	
9	Royalty Calc Officer notified of anchor change date	YES / NO	
10	Layer 7 supersession event logged	YES / NO	

M.2 Consent Revocation Template

A revocation event occurs when a consent instrument is actively withdrawn by the authorizing signatory before or during the use period.

M.2.1 Revocation Event Record

```
CONSENT_REVOCATION_RECORD

  revocation_id:            [format: REV-{YYYYMMDD}-{seq}]
  consent_instrument_id:    [pointer to revoked consent instrument in Layer 2]
  artifact_manifest_ids:    [list of artifact manifest IDs affected]
  revocation_instrument_ref:[pointer to revocation instrument: formal notice,
                             contractual notice letter, regulatory order, etc.]
  revocation_initiated_by:  [signatory role class who initiated revocation]
  authority_basis:          [instrument or provision establishing the right
                             to revoke; e.g. contract clause, statutory right]


  TEMPORAL SCOPE:
    revocation_effective_date: [ISO 8601 date from which consent is revoked;
                                may be the date of notice or a contractual
                                future effective date; may not be retroactive
                                beyond the consent instrument's own terms]
    uses_before_effective_date:[UNAFFECTED; uses prior to effective date that
                                were IN_SCOPE remain valid; their revenue is
                                not clawed back solely by reason of revocation]
```

```
    uses_from_effective_date:  [OUT_OF_SCOPE; all uses on or after effective
                                date are outside scope unless separately
authorized]
    uses_in_progress_at_effective_date: [REVIEW_REQUIRED; uses initiated
                                         before effective date but not completed
                                         are flagged for review per Section 5.5]

  DIMENSION SCOPE:
    full_revocation:         [YES | NO; YES = all scope dimensions revoked;
                              NO = partial revocation of specific dimensions]
    revoked_dimensions:      [if full_revocation = NO: list of scope dimensions
                              revoked; remaining dimensions stay in force]
    remaining_scope:         [if full_revocation = NO: description of what
                              remains authorized after partial revocation]

  REVENUE IMPACT:
    post_revocation_hold_required: [YES | NO; YES for all uses after effective
date]
    estimated_held_amount:  [estimated revenue attributable to post-effective-
date
                             uses; basis for hold set sizing]
    calculation_correction_required: [YES | NO; YES if any completed calculation
                                      cycle included post-effective-date
events]

  AUTHORIZATION:
    issuing_party_role:     [Consent Custodian]
    dual_auth_record_ref:   [pointer to distributed approval record]
    issuance_timestamp:     [ISO 8601]

  NOTIFICATIONS:
    royalty_calc_officer_notified: [YES | NO; timestamp]
    reconciliation_officer_notified: [YES | NO; timestamp]
    affected_distributors_notified: [YES | NO; timestamp; count]

  INTEGRITY:
```

```
    revocation_hash:        [SHA-256 of this record]
```

M.2.2 Revocation EP Delta

```
REVOCATION_EP_DELTA
  [Uses CONSENT_EP_DELTA_EXTENSION from Appendix H.2.2b with:]
  event_type:               REVOCATION
  prior_consent_state:      [state before revocation; typically IN_SCOPE]
  new_consent_state:        REVOKED
  effective_date:           [revocation_effective_date from revocation record]
  revocation_instrument_ref:[pointer to revocation instrument]
  revenue_impact_estimate:  [estimated held amount from revocation record]
```

M.2.3 Post-Revocation Revenue Hold — Scope Definition

```
POST_REVOCATION_HOLD_SCOPE
  hold_set_id:              [format: HS-REV-{YYYYMMDD}-{seq}]
  revocation_id:            [pointer to revocation record]
  hold_trigger:             REVOCATION
  artifact_scope:           [artifact manifest IDs affected]
  date_range_scope:         [revocation_effective_date to ONGOING]
  royalty_event_types:      ALL
  hold_basis:               BR-C06 (revocation not reflected in active
calculation)
  review_requirement:       [YES — uses in progress at effective date must be
                             individually reviewed; not all held amounts
                             necessarily remain held after review]
```

M.2.4 Revocation Completion Checklist

Step	Action	Completed?	Record Reference
1	Revocation instrument received and registered	YES / NO	
2	Authority to revoke confirmed	YES / NO	
3	Revocation effective date confirmed	YES / NO	
4	Full vs. partial revocation determined	YES / NO	
5	Revocation record created	YES / NO	
6	Revocation EP Delta issued; diff chain updated	YES / NO	
7	Consent state updated to `REVOKED`	YES / NO	
8	Post-revocation hold set created	YES / NO	

Step	Action	Completed?	Record Reference
9	Royalty Calc Officer notified within 3 business days	YES / NO	
10	Calculation correction initiated if prior cycle affected	YES / NO	
11	Active distribution reviewed; halted if required	YES / NO	
12	CA-07 check run to confirm no post-revocation events in calculation	YES / NO	

M.3 Lineage Reconstruction Template

When a transformation event chain has a gap and reconstruction is required, the lineage reconstruction template documents the method, evidence, and confidence level of the reconstructed chain.

M.3.1 Lineage Reconstruction Record

```
LINEAGE_RECONSTRUCTION_RECORD

  reconstruction_id:        [format: LRR-{YYYYMMDD}-{seq}]

  target_artifact_manifest_id: [manifest ID of artifact whose lineage
                                is being reconstructed]

  gap_description:          [what is missing; what period is affected;
                             how the gap was detected]

  gap_detected_by:          [break_id | boundary_test_id | dispute_id |
                             manual_review]


  RECONSTRUCTION METHOD:

    method:                 [PRODUCTION_DOCUMENT_REVIEW |
THIRD_PARTY_ATTESTATION |
                             HASH_COMPARISON_AGAINST_ARCHIVE |
                             ARCHIVAL_RECORD_RESTORATION |
PARTIAL_RECONSTRUCTION |
                             UNRECONSTRUCTABLE]

    evidence_used:

      [for each piece of evidence used:]

      - evidence_type:      [contract | studio_log | session_record |
                             third_party_attestation | archive_record | other]

        evidence_ref:       [pointer to evidence record or document]

        evidence_date:      [date of evidence]

        reliability_class:  [PRIMARY | CORROBORATING | CIRCUMSTANTIAL]
```

```
  RECONSTRUCTED RECORDS:
    [for each transformation event reconstructed:]
    - transformation_event_id: [ID of reconstructed event]
      source_manifest_id:   [source manifest; confirmed or inferred]
      output_manifest_id:   [output manifest; confirmed or inferred]
      transformation_type:  [from Section 6.3 taxonomy]
      operator_class:       [human | AI_system | hybrid | INFERRED]
      authorization_state:  [CONFIRMED | ASSERTED; ABSENT is not used here
                             because a reconstruction using ABSENT would
                             be indistinguishable from a confirmed gap —
                             the gap itself is documented separately]
      reconstruction_basis: [description of evidence supporting this event]
      confidence:           [HIGH | MODERATE | LOW]

  LIMITATIONS:
    unreconstructed_gaps:   [description of any gaps that could not be
                             bridged; what evidence was sought and not found]
    hash_verification_possible: [YES | NO; whether content-addressed hash
                                 of any reconstructed event's output can be
                                 verified against a registered manifest]
    post_reconstruction_state: [authenticity state assigned to target artifact
                                after reconstruction: typically CORROBORATED
                                if reconstruction confidence is HIGH or
MODERATE;
                                ASSERTED if LOW; UNRESOLVABLE if
unreconstructed
                                gaps remain]

  AUTHORIZATION:
    reconstructing_party_role: [Evidence Infra Operator]
    review_party_role:      [Reconciliation Officer; must differ from
reconstructor]
    dual_auth_record_ref:   [pointer to distributed approval record]
    reconstruction_timestamp:[ISO 8601]
```

```
  INTEGRITY:
    reconstruction_hash:    [SHA-256 of this record]
    ep_delta_ref:           [pointer to EP Delta issued to register
reconstruction
                             in the manifest chain]
```

M.3.2 Lineage Reconstruction EP Delta

```
LINEAGE_RECONSTRUCTION_EP_DELTA
  [Uses LINEAGE_EP_DELTA_EXTENSION from Appendix H.2.2c with:]
  event_type:               RETROACTIVE_AUTHORIZATION or
PARENT_LINKAGE_REGISTRATION
  prior_authorization_state: ABSENT (for events that had no record)
  new_authorization_state:  ASSERTED or CONFIRMED (per reconstruction
confidence)
  lineage_replay_ref:       [pointer to this Lineage Reconstruction Record]
  reconstruction_limitations_noted: [YES; limitations are always disclosed in
EP]
```

M.3.3 Confidence Band Reference for Reconstruction

Confidence Level	Evidence Basis	Post-Reconstruction Authenticity State	Royalty Calculation Eligible?
HIGH	Two or more independent primary sources; hash verification possible for at least one reconstructed event	`CORROBORATED`	YES — no qualifier if all SI tests pass
MODERATE	One primary source plus corroborating evidence; or two corroborating sources; no hash verification	`CORROBORATED`	YES — with `CORROBORATED` note in calculation artifact
LOW	Single circumstantial source only; or attestation without documentary support	`ASSERTED`	YES — with `ASSERTED` qualifier; flagged for recertification
UNRECONSTRUCTABLE	No credible evidence located despite investigation	`UNRESOLVABLE`	NO — blocked from calculation; monitored exception

---

M.4 Version Lineage Map Template

For portfolios with complex version histories, a version lineage map provides a structured, visual representation of the full version tree for each artifact.

```
VERSION_LINEAGE_MAP

  map_id:                    [unique identifier]
  artifact_manifest_id:      [durable artifact identifier]
  map_creation_timestamp:    [ISO 8601]


  LINEAGE_TREE:
    [Represented as a tree structure; each node is a manifest entry]


    ROOT [MAN-001: v1.0 Official — SUPERSEDED]
      ├── [MAN-002: Distribution Object v1.0 Streaming — CURRENT]
      ├── [MAN-003: Derivative — Human Dub — CURRENT]
      │     └── [MAN-006: Distribution Object Dub Streaming — CURRENT]
      ├── [MAN-004: Derivative — Synthetic Clone — CURRENT]
      │     └── [MAN-007: Distribution Object Synthetic Streaming — CURRENT]
      └── [MAN-005: v2.0 Remaster — CURRENT ← supersedes ROOT]
            ├── [MAN-008: Distribution Object v2.0 Streaming — CURRENT]
            └── [MAN-009: Distribution Object v2.0 Download — CURRENT]


  LINEAGE_SUMMARY:
    total_versions:           [count of all manifest entries in tree]
    current_official_version: [manifest_id of non-superseded official version]
    superseded_versions:      [count and list of manifest IDs]
    active_derivatives:       [count and list of CURRENT derivative manifest
IDs]
    active_distribution_objects: [count]
    open_lineage_breaks:      [count and list of break IDs affecting this tree]


  map_hash:                  [SHA-256 of this record]
```

Appendix N — Scope-of-Use Matrix (Territory / Duration / Channel / Purpose / Derivative Rights)

Purpose: This appendix provides complete scope-of-use matrix templates for each consent scope dimension defined in Section 5.3, together with a composite scope evaluation worksheet for assessing whether a specific use event falls within the evidenced consent scope. Each matrix includes: dimension attributes, permitted value

sets, common underdefinition patterns, evaluation rules, and the break code triggered by underdefinition or violation. Cross-references to Section 5.3, Appendix A.2, and checks CA-04 through CA-15 are provided throughout.

N.1 Territory Scope Matrix

Territory scope defines the geographic boundaries within which a use is authorized.

N.1.1 Territory Scope — Attribute Table

Attribute	Description	Permitted Values	Underdefined Signal
`territory_scope`	Geographic boundaries of authorized use	Enumerated country list (ISO 3166-1); regional grouping; or WORLDWIDE with explicit exclusions	WORLDWIDE with no exclusions; or absent entirely
`territory_exclusions`	Countries excluded from a WORLDWIDE grant	List of ISO 3166-1 country codes	WORLDWIDE with no exclusion list where restrictions are known to exist in the rights-chain
`territory_state`	Dimension-level sub-state	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`	Any value other than `CONFIRMED`
`territory_restriction_registry_ref`	Pointer to restriction registry entry for this artifact	Record ID in Layer 4	Null where rights-chain carries territory restrictions

---

N.1.2 Territory Scope Evaluation Rules

Rule	Description	Evaluation Outcome
T-01	Use event territory is in the enumerated list	`IN_SCOPE` for territory dimension
T-02	Use event territory is explicitly excluded	`OUT_OF_SCOPE` → BR-R02; hold territory-specific revenue
T-03	Instrument says WORLDWIDE; use event territory is not excluded; no restriction registry entry	`IN_SCOPE` for territory dimension
T-04	Instrument says WORLDWIDE; restriction registry shows territory restriction; use in restricted territory	`OUT_OF_SCOPE` → BR-R02; hold

Rule	Description	Evaluation Outcome
T-05	Territory dimension is absent from instrument	`ASSERTED` sub-state → BR-C04 Moderate; assumption documented; flagged for recertification
T-06	Use event territory cannot be confirmed from usage report	`ASSERTED` → Tier 2 provisional event; QF-C01 flag

N.1.3 Common Territory Underdefinition Patterns

Pattern	Risk	Response
"Worldwide" grant in instrument predating digital streaming distribution	May have been intended as physical-media worldwide; digital territory scope unclear	Assign `ASSERTED` for digital territory dimension; seek clarification; do not default to unlimited
Territory list uses regional groupings without enumeration	Ambiguity about which countries are included	Enumerate countries per standard regional definition; document assumption; flag for recertification
Instrument grants territory A; subsequent sublicense claims territory A+B	Territory ceiling exceeded → BR-R01	Hold sublicense revenue from territory B; notify parties
No territory dimension specified in short-form sync agreement	Common for one-off syncs; scope unclear for derivative uses	Assign `ASSERTED`; limit to territory of original sync placement; flag for formal confirmation

N.2 Duration Scope Matrix

Duration scope defines the time boundaries within which a use is authorized.

N.2.1 Duration Scope — Attribute Table

Attribute	Description	Permitted Values	Underdefined Signal
`duration_start`	Date from which authorization is effective	ISO 8601 date	Absent; or set to contract date without use-start clarity
`duration_end`	Date on which authorization expires	ISO 8601 date; or event trigger	Open-ended without expiry; or ambiguous trigger event
`duration_state`	Dimension-level sub-state	`CONFIRMED` / `ASSERTED` / `EXPIRED` / `OUT_OF_SCOPE`	Any value other than `CONFIRMED`
`expiry_trigger`	Event-based expiry condition (where applicable)	Description of trigger event; ISO 8601 date if known	Present but not linked to a monitorable event

Attribute	Description	Permitted Values	Underdefined Signal
`renewal_instrument_ref`	Pointer to renewal instrument if duration extended	Record ID in Layer 2	Null where prior instrument has elapsed

N.2.2 Duration Scope Evaluation Rules

Rule	Description	Evaluation Outcome
D-01	Use event timestamp falls within `duration_start` to `duration_end`	`IN_SCOPE` for duration dimension
D-02	Use event timestamp is before `duration_start`	`OUT_OF_SCOPE` → BR-C01 (pre-authorization use); hold
D-03	Use event timestamp is after `duration_end` without renewal	`EXPIRED` → BR-C02; hold post-expiry revenue
D-04	`duration_end` is an event trigger that has not yet occurred	`IN_SCOPE` if event not yet triggered; review when trigger event occurs
D-05	Renewal instrument exists; use event is in gap between expiry and renewal effective date	`ABSENT` for gap period → BR-C08; hold gap-period revenue
D-06	Duration dimension is entirely absent from instrument	`ASSERTED` → BR-C04 Moderate; assumption documented

N.2.3 Duration Boundary Types

Boundary Type	Description	Monitoring Requirement
Fixed date	Explicit ISO 8601 expiry date	Automated expiry monitoring; CA-06 check; QF-C02 alert at 60 days
Event trigger	Expiry tied to a business event (e.g., campaign end, release date + N years)	Manual monitoring; event must be linked to a monitorable record; alert scheduled
Open-ended	No expiry stated; instrument runs until revoked	Recertification required annually; note in EP that duration is `ASSERTED`
Rolling renewal	Automatically renews unless notice given by specified date	Renewal deadline monitoring; alert at 90 days before renewal deadline
Linked to master term	Duration co-terminous with a master agreement	Master agreement expiry monitoring; sub-instrument inherits expiry

N.3 Channel and Medium Scope Matrix

Channel scope defines the distribution channels and media formats through which a use is authorized.

N.3.1 Channel and Medium — Full Value Set

Channel Class	Sub-Types	Notes
Theatrical	Cinema, IMAX, drive-in	Physical theatrical only; excludes home video

Channel Class	Sub-Types	Notes
Broadcast	Free-to-air television, cable, satellite	Typically territory-specific; distinguish linear vs. on-demand
SVOD / Streaming	Subscription video-on-demand, ad-supported streaming	Distinguish audio streaming from video streaming; platform-agnostic
Download	Permanent digital download, EST (electronic sell-through)	Distinguish from rental/temporary download
Physical	CD, vinyl, DVD, Blu-ray, cassette	Physical media only; no digital reproduction rights
Sync placement	Film, TV, advertising, video game, other AV sync	Each sync context may require separate authorization
Social media	Short-form video, user-generated content platforms	Often treated as a separate channel requiring explicit grant
Online video	Long-form online video, video-sharing platforms	Distinct from social media short-form in many instruments
Public performance	Live performance, background music, events	Typically administered by collecting societies
AI training data	Use of recording or work as training input for AI/ML models	Requires explicit authorization; absent from most legacy instruments
Synthetic output distribution	Distribution of AI-generated outputs derived from source	Requires explicit authorization under synthesis license
Archive / library	Non-commercial archive access, educational use	Typically restricted to non-commercial; separate instrument required for commercial
Promotional	Marketing, advertising, promotional clips	Purpose-limited; typically time-bounded to campaign
In-flight / in-vehicle	Transportation entertainment systems	Specialty channel; often separately licensed
Gaming	Video game synchronization and in-game use	Requires game-specific sync; often treated as distinct from general sync
Other	Not covered by above categories	Must be explicitly described; not covered by general grant

---

N.3.2 Channel Scope Evaluation Rules

Rule	Description	Evaluation Outcome
CH-01	Use event channel is in enumerated channel list	`IN_SCOPE` for channel dimension
CH-02	Use event channel is not in enumerated list; instrument does not contain "all channels" language	`OUT_OF_SCOPE` → BR-R03 (if license expired) or BR-C04 (if channel underdefined); hold channel revenue
CH-03	Instrument contains "all channels" or "all media" language; AI training data use is claimed	`ASSERTED` or `ABSENT` for AI training dimension; explicit authorization required per CA-15
CH-04	Instrument was executed before AI training data channels existed; AI training claimed	`ABSENT` for AI training dimension → BR-C07; hold; seek explicit authorization

Rule	Description	Evaluation Outcome
	under general grant	
CH-05	Synthetic output distribution claimed under source object's distribution license	`OUT_OF_SCOPE` → BR-R10; reroute to synthesis license
CH-06	Channel dimension is entirely absent from instrument	`ASSERTED` → BR-C04 Moderate; apply narrowest reasonable interpretation

N.3.3 Channel Scope Underdefinition: AI and Synthetic Era Patterns

Given the rapid evolution of AI-related channels, legacy instruments frequently fail to address these explicitly. The following table provides the framework's treatment for each common scenario.

Scenario	Instrument Language	Framework Treatment
General "all media" grant in instrument executed before 2020	"All media now known or hereafter devised"	`ASSERTED` for AI training; explicit authorization recommended; cannot be treated as `CONFIRMED` without specific language
Streaming grant with no mention of AI training	"Digital streaming platforms"	`ABSENT` for AI training; digital streaming ≠ training data use; explicit authorization required
Promotional use grant	"Commercial advertising and promotional purposes"	`ABSENT` for AI training; promotional use ≠ training data use
General "mechanical" license	Standard mechanical license language	`ABSENT` for AI training and synthetic output distribution
Voice recording license for "dubbing"	"Dubbing and localization"	`ABSENT` for synthetic dubbing unless AI dubbing is explicitly addressed
Sync license for "audiovisual works"	"Synchronization in audiovisual works"	`ABSENT` for AI-generated audiovisual outputs unless explicitly included

N.4 Purpose Scope Matrix

Purpose scope defines the specific use context or campaign for which a use is authorized.

N.4.1 Purpose Scope — Attribute Table

Attribute	Description	Permitted Values	Underdefined Signal
`purpose_scope`	Specific permitted use context	Named campaign; product category; use class; or general	"General promotional use" without campaign or product specifics
`purpose_state`	Dimension-level sub-state	`CONFIRMED` / `ASSERTED` / `OUT_OF_SCOPE`	Any value other than `CONFIRMED`
`campaign_ref`	Pointer to campaign record if purpose is campaign-specific	Record ID	Null for campaign-specific grants
`product_category`	Product or service	Specific category	Absent for product-

Attribute	Description	Permitted Values	Underdefined Signal
	category if purpose is product-specific	description	specific grants
`excluded_purposes`	Purposes explicitly excluded from the grant	List of excluded purposes	Absent where exclusions are implied but not stated

N.4.2 Purpose Scope Evaluation Rules

Rule	Description	Evaluation Outcome
P-01	Use event purpose matches named campaign or product category exactly	`IN_SCOPE` for purpose dimension
P-02	Use event purpose is within the general purpose class stated	`IN_SCOPE` for purpose dimension
P-03	Use event purpose is for a different campaign than the one named	`OUT_OF_SCOPE` → BR-C04; hold purpose-specific revenue
P-04	Use event purpose extends beyond campaign end date	`OUT_OF_SCOPE` (overlaps with duration) → BR-C02; hold post-campaign revenue
P-05	Purpose dimension is "general promotional use" but use is in political advertising	`ASSERTED` or `OUT_OF_SCOPE` depending on instrument context; seek clarification
P-06	Purpose dimension is absent	`ASSERTED` → BR-C04 Moderate; assumption documented

N.5 Derivative Rights Scope Matrix

Derivative rights scope defines what transformations of the source work are authorized under the consent instrument.

N.5.1 Derivative Rights — Full Value Set

Derivative Right	Description	Default Posture if Absent	Risk Level
General derivative	Authorization to create derivative works without specifying transformation type	Not granted by default — silence is not permission	HIGH
Remix	Structural recombination of stems or segments	Not granted by default	HIGH
Sample	Extraction and incorporation of segments into new works	Not granted by default; specific clearance required	CRITICAL
Human dub	Replacement of vocal/dialogue track with human performance	Often within general localization rights; verify	MODERATE
Synthetic dub	Replacement with AI-generated voice	Not granted by default; explicit authorization required	CRITICAL
Synthetic clone	AI generation replicating voice or likeness characteristics	Not granted by default; explicit authorization	CRITICAL

Derivative Right	Description	Default Posture if Absent	Risk Level
		required	
AI-assisted modification	AI-applied enhancement, restoration, colorization, style transfer	Not granted by default for commercial distribution	HIGH
Edit / clip	Temporal editing; extraction of segments for standalone use	Often within general distribution rights; verify scope	MODERATE
Stem separation	Isolation of individual audio components	Not typically granted under general recording license	HIGH
AI training data use	Use of work as input to AI/ML training pipeline	Not granted by default; explicit authorization required	CRITICAL
Arrangement	Re-scoring or re-arrangement of underlying composition	Requires composition-level authorization	HIGH
Translation	Text translation of lyrics or dialogue	Often within localization rights; verify	LOW
Archive re-release	Re-release of archival material in new packaging	Requires reversion check; archive rights may apply	MODERATE
Promotional excerpt	Use of excerpt in promotional materials	Typically within promotional rights; verify duration	LOW

N.5.2 Derivative Rights Evaluation Rules

Rule	Description	Evaluation Outcome
DR-01	Specific derivative right is explicitly granted in instrument	`CONFIRMED` for derivative dimension
DR-02	General derivative right is granted and use falls within reasonable interpretation	`ASSERTED` for derivative dimension
DR-03	Specific derivative right is explicitly prohibited	`OUT_OF_SCOPE` → BR-R07; contamination check if output exists
DR-04	Derivative dimension is silent on transformation type	`ASSERTED` for Class B transformations; `ABSENT` for Class A transformations → BR-C07 or BR-L02
DR-05	Synthetic clone or synthetic dub claimed under general derivative grant	`ABSENT` → CA-08; hold synthetic output revenue; seek explicit authorization
DR-06	AI training data use claimed under general derivative or general use grant	`ABSENT` → CA-15; hold training data revenue
DR-07	Primary rights instrument contains derivative restriction; sublicense claims derivative right	Rights-chain contamination → BR-R07; hold derivative revenue

N.6 Composite Scope Evaluation Worksheet

For any specific use event, the composite scope evaluation worksheet applies all five dimensions simultaneously to produce an overall scope determination.

N.6.1 Worksheet Format

```
COMPOSITE_SCOPE_EVALUATION
  evaluation_id:             [unique identifier]
  usage_event_id:            [pointer to usage event being evaluated]
  artifact_manifest_id:      [artifact being used]
  consent_instrument_id:     [instrument being evaluated against]
  evaluation_timestamp:      [ISO 8601; evaluation must reference consent
                              state as of event_timestamp, not current state]
  event_timestamp:           [ISO 8601; timestamp of the usage event]

  DIMENSION EVALUATIONS:

  Territory:
    event_territory:         [country or region of use event]
    instrument_territory:    [territory scope from consent instrument at
event_timestamp]
    territory_state:         [CONFIRMED | ASSERTED | OUT_OF_SCOPE | EXPIRED]
    territory_rule_applied:  [T-01 through T-06]
    territory_notes:         [any caveats or assumptions]

  Duration:
    event_timestamp:         [ISO 8601]
    duration_start:          [from consent instrument]
    duration_end:            [from consent instrument; or event trigger]
    duration_state:          [CONFIRMED | ASSERTED | EXPIRED | OUT_OF_SCOPE]
    duration_rule_applied:   [D-01 through D-06]
    duration_notes:          [renewal gap, trigger event status, etc.]

  Channel / Medium:
    event_channel:           [from usage event record]
```

```
    instrument_channels:    [channel scope from consent instrument at
event_timestamp]
    channel_state:          [CONFIRMED | ASSERTED | OUT_OF_SCOPE]
    channel_rule_applied:   [CH-01 through CH-06]
    channel_notes:          [AI era patterns, legacy language issues, etc.]

  Purpose:
    event_purpose:          [from usage event record]
    instrument_purpose:     [purpose scope from consent instrument at
event_timestamp]
    purpose_state:          [CONFIRMED | ASSERTED | OUT_OF_SCOPE]
    purpose_rule_applied:   [P-01 through P-06]
    purpose_notes:          [campaign reference, product category, etc.]

  Derivative Rights:
    transformation_type:    [if applicable; from transformation event log]
    instrument_derivative:  [derivative rights scope from consent instrument]
    derivative_state:       [CONFIRMED | ASSERTED | OUT_OF_SCOPE | N_A]
    derivative_rule_applied:[DR-01 through DR-07]
    derivative_notes:       [materiality class, explicit grants or prohibitions]

  COMPOSITE DETERMINATION:
    overall_scope_state:    [IN_SCOPE | PARTIALLY_IN_SCOPE | ASSERTED |
                             EXPIRED | OUT_OF_SCOPE | ABSENT]
    determination_logic:    [narrowest dimension governs; one OUT_OF_SCOPE
                             dimension renders overall state OUT_OF_SCOPE
                             regardless of other dimensions]
    calculation_eligible:   [YES | NO | QUALIFIED]
    hold_required:          [YES | NO; YES if any dimension is OUT_OF_SCOPE]
    hold_scope:             [dimension-specific revenue; or FULL if consent
                             instrument is entirely inapplicable]
    breaks_triggered:       [list of break codes from Appendix C]
    evaluation_hash:        [SHA-256 of this record]
```

N.6.2 Composite Determination Logic Table

Dimension Combination	Overall State	Calculation Treatment
All five dimensions `CONFIRMED`	`IN_SCOPE`	Tier 1 — eligible without qualifier
Four `CONFIRMED` + one `ASSERTED`	`ASSERTED`	Tier 2 — provisional; flag for recertification
Any dimension `EXPIRED`	`EXPIRED`	No — block from calculation; hold revenue
Any dimension `OUT_OF_SCOPE`	`OUT_OF_SCOPE`	No — block from calculation; hold affected revenue
Any dimension `ABSENT` (Class A use)	`ABSENT`	No — block from calculation; hold affected revenue
Any dimension `ABSENT` (Class B use)	`ASSERTED`	Tier 2 — provisional with documented assumption
Territory or duration `CONFIRMED`; channel or purpose `ASSERTED`	`ASSERTED`	Tier 2 — provisional; flag for recertification
All dimensions `ABSENT`	`ABSENT`	No — block entirely; BR-C01

N.6.3 Scope Evaluation Worked Example

Context: Streaming play of a synthetic voice clone on a social media platform in Brazil. Source consent instrument covers: US and Canada territory; streaming and broadcast channels; 18-month duration (expired 3 months ago); no explicit synthetic-use authorization.

```
COMPOSITE_SCOPE_EVALUATION [CSE-20251115-001]
  usage_event_id:           EVT-20251112-04421
  artifact_manifest_id:     AMI-SYNTH-CLONE-001  ← synthetic clone output
  consent_instrument_id:    CONSENT-SOURCE-001    ← source recording consent
  event_timestamp:          2025-11-12T14:30:00Z

  Territory:
    event_territory:        BR (Brazil)
    instrument_territory:   [US, CA]
    territory_state:        OUT_OF_SCOPE
    territory_rule_applied: T-02  (BR not in enumerated list)

  Duration:
    event_timestamp:        2025-11-12
    duration_start:         2024-03-15
    duration_end:           2025-08-14  ← expired 90 days before event
    duration_state:         EXPIRED
```

```
  duration_rule_applied:  D-03

Channel:
  event_channel:          social_media
  instrument_channels:    [streaming, broadcast]
  channel_state:          OUT_OF_SCOPE
  channel_rule_applied:   CH-02  (social_media not in list)

Purpose:
  event_purpose:          commercial promotion
  instrument_purpose:     general commercial use
  purpose_state:          ASSERTED  (general language; social media promotion
                          is a plausible interpretation but not explicit)
  purpose_rule_applied:   P-06

Derivative Rights:
  transformation_type:    synthetic_clone
  instrument_derivative:  [not stated]
  derivative_state:       ABSENT
  derivative_rule_applied:DR-05 (synthetic clone not granted)

COMPOSITE DETERMINATION:
  overall_scope_state:    OUT_OF_SCOPE
  determination_logic:    Territory OUT_OF_SCOPE + Duration EXPIRED +
                          Channel OUT_OF_SCOPE + Derivative ABSENT —
                          event is outside scope on four of five dimensions
  calculation_eligible:   NO
  hold_required:          YES — full hold on this event's revenue
  breaks_triggered:       [BR-R02, BR-C02, CH-02 → BR-R03, BR-C07]
  hold_basis:             Multiple dimension failures; event excluded from
                          calculation; revenue held per hold set HS-REV-001
```

N.7 Scope-of-Use Matrix — Summary Reference Card

The following reference card consolidates all five scope dimensions into a single decision surface for rapid examiner use.

Dimension	IN_SCOPE Signal	ASSERTED Signal	OUT_OF_SCOPE Signal	Key Break Codes
Territory	Event territory in enumerated list; restriction registry clean	WORLDWIDE with no exclusion list; territory absent from instrument	Event territory in exclusion list; rights-chain restriction registry flags territory	BR-R02, BR-C04
Duration	Event timestamp between confirmed start and end dates	Open-ended instrument without expiry	Event after expiry date; event during renewal gap period	BR-C02, BR-C08
Channel	Event channel explicitly in channel list	"All media" language without AI/synthetic specification	Event channel not in list; AI training claimed under general grant	BR-C07, BR-R10, CH-02→BR-R03
Purpose	Event purpose matches named campaign or product category	General purpose language without campaign specifics	Event purpose outside named campaign; different product category	BR-C04
Derivative	Specific derivative type explicitly granted	General derivative grant without Class A types specified	Synthetic clone / AI training / dub claimed without explicit authorization	BR-C07, BR-L02, BR-R07

Composite rule: Apply the narrowest dimension. One `OUT_OF_SCOPE` result renders the event `OUT_OF_SCOPE` regardless of other dimensions. One `EXPIRED` result renders the event `EXPIRED`. `ASSERTED` only applies when no dimension is `OUT_OF_SCOPE` or `EXPIRED` and at least one is below `CONFIRMED`.

Appendix O — Worked Mini-Scenario Pack (Cross-Domain)

Purpose: This appendix provides twelve concise, paste-ready mini-scenarios covering cross-domain operational situations not fully addressed in the main worked examples of Section 15. Each mini-scenario is self-contained, names the applicable checks, break codes, and query families, and identifies the operational resolution path. Scenarios are

organized by primary domain but deliberately cross domain boundaries to illustrate how failures in one domain propagate into others. All entities, identifiers, and amounts are fictional.

O.1 Authenticity Domain Mini-Scenarios

O.1.1 — Archive Recording with Level-5 Origin Assertion Used in Active Royalty Calculation

Context: A label registers a 1967 jazz recording from its archive. The original session documentation was destroyed in a flood. The only provenance evidence is a contemporaneous review in a trade publication and a signed affidavit from a surviving session participant. The recording is included in a streaming compilation generating USD 3,200/quarter in royalties.

Operational state:

Dimension	State
Origin assertion level	5 (archival reconstruction)
Authenticity state	`CORROBORATED` (two independent sources)
SI-01	PASS (hash matches manifest)
Royalty calculation eligible	YES — but AC-08 flagged: Level 5 artifact in active calculation

Resolution path:

1. AC-08 check flags Level-5 assertion artifact in calculation. Assign `ASSERTED` qualifier to calculation artifact referencing this recording.
2. Document reconstruction method in archival reconstruction record per Appendix H.5: publication reference + affidavit.
3. Attempt to upgrade assertion level: seek surviving studio documentation, union session records, or collecting society registration history from the period.
4. If upgrade to Level 3 or lower achieved: remove qualifier. If not achievable: maintain `ASSERTED` qualifier; flag for annual recertification.
5. Rights-chain EP: confirm succession from original rights-holders (deceased) to current label through documented inheritance chain.

Checks: AC-08, AC-13; *Break:* BR-A07; *Query:* QF-A01 (Tier 0 flag)

O.1.2 — Hash Mismatch Detected Between Streaming Distribution Object and Registered Manifest

Context: During quarterly reconciliation, SI-01 boundary test detects that the content hash of a streaming distribution object currently served by a DSP differs from the hash registered in the manifest at distribution authorization. The difference is 847 bytes — consistent with metadata tag modification.

Operational state:

Dimension	State
Authenticity state (distribution object)	`CONTESTED` (pending investigation)
SI-01 result	FAIL → BR-A01
Revenue impact	All streaming revenue from affected distribution object held
Incident class	Class I (technical) — possible Class IV if tampering confirmed

Resolution path:

1. Immediately apply hold-only containment to streaming revenue from affected distribution object.
2. Create preservation bundle: FSS of Layer 0–1 records for affected object.
3. Investigate hash difference: request byte-level comparison from DSP. Determine whether difference is (a) metadata tag only (non-content alteration), (b) encoding parameter change, or (c) content modification.
4. If (a) metadata only: issue distribution object EP Delta reclassifying as format adaptation; re-register corrected hash; restore `VERIFIED` state; release hold.
5. If (b) encoding change: reclassify as format adaptation; confirm content_unchanged = YES or NO; if YES: re-register; if NO: reclassify as derivative.
6. If (c) content modification: treat as unauthorized modification; Class IV incident; escalate; maintain hold.

Checks: AC-01, AC-02; *Break:* BR-A01; *Query:* QF-A02

O.2 Consent Domain Mini-Scenarios

O.2.1 — Performer Revokes Consent Mid-Campaign; 14 Days of Uses Occurred Post-Revocation

Context: A performer revokes consent for use of their voice recording in an advertising campaign effective 2025-09-01. The campaign had been running since 2025-06-01. The distributor did not process the revocation until 2025-09-15, resulting in 14 days of continued distribution after the revocation effective date.

Operational state:

Period	Consent State	Revenue Treatment
2025-06-01 to 2025-08-31	`IN_SCOPE`	Fully eligible; calculation proceeds
2025-09-01 to 2025-09-14	`REVOKED`	Hold — post-revocation; BR-C06
2025-09-15 onward	`REVOKED`	Consent EP Delta registered; distribution halted

Resolution path:

1. Revocation EP Delta issued with `effective_date: 2025-09-01`.
2. BR-C06 raised: 14 days of post-revocation events in active calculation cycle. Estimated held revenue: USD 480.

3. Hold set HS-REV-001 created for post-revocation revenue.
4. Royalty Calc Officer notified: remove 2025-09-01 to 2025-09-14 events from Q3 2025 calculation; issue corrective EP Delta; off-cycle correction.
5. Distributor notified of delay in revocation processing; governance incident Class II opened for failure to process revocation within 3-business-day timeline.
6. Post-correction: hold released for pre-revocation amounts; post-revocation amount remains held pending contractual resolution.

Checks: CA-07, CA-06; *Break:* BR-C06; *Query:* QF-C04

O.2.2 — Collecting Society Claims Consent Scope Covers AI Training; Rights-Holder Disputes

Context: A collecting society administers performance rights for a catalog of 12,000 recordings. It enters a bulk license with an AI company for training data use, asserting the license is within its mandate. Individual rights-holders dispute this, arguing that AI training data use is outside the society's performance rights mandate.

Operational state:

Claim	Operationally Supportable?
Society mandate covers AI training data use	`ASSERTED` — mandate document does not explicitly include AI training
Rights-holders' consent covers AI training	`ABSENT` — no consent instruments explicitly authorize AI training
Revenue from AI training license	Held — D-CONS dispute filed

Resolution path:

1. D-CONS dispute filed: `DISPUTED` consent state for all 12,000 recordings in AI training context.
2. Hold-only containment: all AI training license revenue held in escrow-equivalent.
3. Evidence review: society mandate document analyzed for scope language. Rights-holder consent instruments analyzed per CA-15.
4. Diff comparison (H.3) between society mandate and AI training license scope: `material_diff_count: 1` — AI training not listed in mandate.
5. Dispute Finding Record: `consent_state: ABSENT` for AI training dimension for rights-holders whose instruments predate 2022; `ASSERTED` for rights-holders with post-2022 broad-scope instruments.
6. Society must seek explicit authorization or return held revenue. Corrective EP Deltas issued per finding.

Checks: CA-08, CA-15, RC-06; *Break:* BR-C07, BR-R06; *Query:* QF-C03

O.3 Lineage Domain Mini-Scenarios

O.3.1 — Composite Track Distributed with One Uncleared Sample; Contamination Contained

Context: A producer creates a composite track incorporating three licensed elements and one uncleared 4-bar sample from a 1998 R&B recording. The composite has been streaming for 6 months before the sample is identified through a content recognition system flagging.

Operational state at flagging:

Element	Authorization State	Treatment
Licensed stem 1	`CONFIRMED`	Clean
Licensed stem 2	`CONFIRMED`	Clean
Original composition	`CONFIRMED`	Clean
1998 R&B sample	`ABSENT`	Contamination → BR-L05

Resolution path:

1. BR-L05 raised. Full hold-only containment applied to all streaming revenue from composite track: 6 months × USD 1,240/month = USD 7,440 held.
2. Contamination EP Delta issued: composite object flagged as `CONTAMINATED`.
3. D-LINE dispute filed. Lineage replay (QF-L01) confirms contamination in TE-SAMPLE-001.
4. Three paths available:
    - **Path A — Retroactive clearance:** Contact 1998 R&B rights-holder; obtain sample clearance; registration authority confirmed as label; mechanical and master clearances obtained; RETROACTIVELY_AUTHORIZED EP Delta issued; hold partially released pending split adjustment.
    - **Path B — Re-edit and replace:** Produce version of composite with sample removed; register as new official derivative; prior contaminated version quarantined; future streaming redirected to clean version; held revenue from contaminated period remains held pending contractual resolution.
    - **Path C — Withdrawal:** Composite withdrawn from distribution; contaminated period revenue held as disputed; resolution via arbitration.
5. If Path A: split allocation revised to include 1998 R&B rights-holders; off-cycle correction for 6-month period; adjustment lineage record created.

Checks: LN-03, LN-11; *Break:* BR-L05, BR-L02; *Query:* QF-L01, QF-L02

O.3.2 — AI-Generated Film Score Lacks Training Data Authorization; Released Theatrically

Context: A film studio uses an AI composition tool to generate the score for a theatrical release. The tool's training data authorization covers "non-commercial research and development" only. The score has been used theatrically in 14 countries for 8 weeks.

Operational state:

Dimension	State
Synthesis provenance record	Present — model version class and generation parameters documented
Training data authorization scope	`OUT_OF_SCOPE` — commercial theatrical use not covered
Derivative rights authorization	`ABSENT` — commercial distribution not within training data auth
Revenue impact	8 weeks theatrical revenue; sync placement fees

Resolution path:

1. BR-L09 raised: training data authorization reference present but scope is OUT_OF_SCOPE for commercial use.
2. BR-R06 raised: AI training data use for commercial theatrical release without explicit commercial authorization.
3. Hold-only containment: all theatrical revenue and sync fees from AI-generated score held.
4. Two paths: (a) seek retroactive commercial authorization from training data rights-holders — complex if training data is large and multi-source; (b) replace AI score with newly commissioned score and retroactively address prior theatrical period through arbitration.
5. Synthesis provenance record updated: `authorization_state: OUT_OF_SCOPE` for commercial theatrical dimension.
6. Studio notified of governance incident Class III (evidence gap — training authorization scope not confirmed before commercial distribution).

Checks: AC-12, LN-09, RC-06; *Break:* BR-L09, BR-R06, BR-A05; *Query:* QF-A03, QF-R02

O.4 Rights-Chain Domain Mini-Scenarios

O.4.1 — Sublicense Chain Exceeds Three Tiers; Fourth-Tier Revenue Held

Context: A label (Tier 1) licenses to a distributor (Tier 2), who sublicenses to a regional aggregator (Tier 3), who sub-sublicenses to a local platform (Tier 4). The label's original license grants one tier of sublicensing only. Tier 4 revenue accrues for 5 months before the chain depth is detected.

Operational state:

Tier	Party	License State	Sublicensing Authority
1	Label	Primary rights-holder	YES — to one sublicense tier
2	Distributor	`ACTIVE`	YES — confirmed; within Tier 1 grant
3	Regional aggregator	`ACTIVE`	NOT CONFIRMED — Tier 2 grant silent on further sublicensing
4	Local platform	`OUT_OF_SCOPE`	NO — exceeds permitted chain depth

Resolution path:

1. BR-R01 raised: Tier 4 sublicense scope exceeds Tier 2 licensor's verified scope (sublicensing authority not confirmed in Tier 2 grant).

2. Hold-only containment: Tier 4 revenue held. Amount: 5 months × USD 890 = USD 4,450.
3. Rights-chain review: Tier 2 grant reviewed — sublicensing authority confirmed as present for one further tier (Tier 3). Tier 3 → Tier 4 sublicense lacks authority basis.
4. Resolution options: (a) Label grants direct license to Tier 4 platform retroactively; (b) Tier 2 grant amended to permit two-tier sublicensing; (c) Tier 4 platform removed from distribution; Tier 4 revenue remains held.
5. If (a): new license registered in Layer 4; held revenue released from Tier 4 commencement date; split adjusted to reflect direct license terms.
6. LN-15 check retroactively applied; chain depth governance documented.

Checks: RC-03, LN-15; *Break:* BR-R01; *Query:* QF-R03

O.4.2 — Rights Reversion Trigger Activated; Label Continues Distribution

Context: A recording artist agreement contains a reversion clause: if the label fails to exploit the recording in any market for 24 consecutive months, rights revert to the artist. The label's streaming promotion ceased in all markets for 27 months before the artist asserted the reversion.

Operational state:

Period	Rights State
Months 1–24 (no exploitation)	`ACTIVE` (reversion trigger not yet met)
Month 25 onward	Reversion trigger activated; rights-chain state: `REVERTED` from trigger date
Post-reversion label distribution	`OUT_OF_SCOPE` → BR-R03

Resolution path:

1. Artist files D-RIGH dispute. Evidence: exploitation records showing no streaming promotion or other exploitation for 27 months.
2. Rights-chain EP: reversion trigger clause confirmed in primary rights instrument. Trigger date determined as month 25 from last exploitation event.
3. EP Delta: rights-chain state updated to `REVERTED` from trigger date. Label's active license state updated to `TERMINATED` from same date.
4. Hold-only containment: all revenue from trigger date onward held. Revenue from months 1–24: unaffected (label's rights were valid).
5. Label's post-reversion distribution flagged as out-of-scope: BR-R03. Revenue from this period held pending dispute resolution.
6. Dispute Finding Record: rights reverted as of trigger date. Label must transfer rights-chain records to artist or artist's designee. Post-reversion revenue disbursed to artist per resolution.

Checks: RC-04, RC-10; *Break:* BR-R03, BR-R08; *Query:* QF-R01

O.5 Royalty and Payout Domain Mini-Scenarios

O.5.1 — Platform Reporting Delay Creates 90-Day Provisional Event Expiry

Context: A major streaming platform delivers usage reports 45 days after quarter end due to internal audit processes. A music distributor runs Q1 calculation using available reports, classifying 280,000 events from the delayed platform as Tier 2 provisional (territory unconfirmed for 42,000 of those events). The 90-day provisional deadline expires before the confirmed report arrives.

Operational state at deadline:

Event Category	Count	Revenue	Status at Day 91
Tier 1 (confirmed)	238,000	USD 952	Finalized; paid
Tier 2 provisional — territory confirmed	23,800	USD 95.20	Upgraded to Tier 1
Tier 2 provisional — territory unconfirmed	18,200	USD 72.80	Reclassified to Tier 3 at Day 91

Resolution path:

1. At Day 91: BR-P06 raised for 18,200 events. Corrective EP Delta issued: events reclassified from Tier 2 to Tier 3.
2. Hold-only containment: USD 72.80 held pending territory confirmation.
3. Royalty Calc Officer initiates escalation to platform: formal data request with 15-business-day response deadline.
4. If territory confirmed within 15 days: events upgraded to Tier 1; corrective calculation; off-cycle payment of USD 72.80 to applicable rights-holders.
5. If territory not confirmed within 15 days: events remain Tier 3; monitored exception ME-P06-001 registered; review cadence monthly.
6. Distributor governance review: platform reporting timeline documented as a known data quality risk; weighted in evidence quality tier assignment for future cycles.

Checks: RP-09; *Break:* BR-P06; *Query:* QF-P01

O.5.2 — Split Percentage Dispute Between Collaborators After Payout Cycle Finalized

Context: Two co-composers dispute the split percentage applied in a finalized calculation cycle. Composer A claims 60/40; Composer B claims 50/50. The original co-composition agreement is ambiguous. USD 4,200 was paid to each (50/50) in the finalized cycle. Composer A files a D-CALC dispute claiming an additional USD 840 (10% of net pool = USD 8,400).

Operational state:

Item	Status
Q2 2025 calculation	`FINALIZED` — PCF-002 issued
Split instrument	`CONTESTED` — ambiguous language
Disputed amount	USD 840 (delta between 60/40 and 50/50 for one cycle)

Resolution path:

1. D-CALC dispute filed. Hold-only containment not applicable to already-paid amounts; future cycle amounts held pending resolution.
2. Tier 1 access: split allocation record and co-composition agreement retrieved.
3. Diff comparison: co-composition agreement language reviewed. Key phrase: "equal shares unless otherwise agreed in writing." No written amendment establishing 60/40 found in EP.
4. Dispute Finding Record: `supported_state: 50/50` per instrument language; Composer A's claim of 60/40 lacks documentary basis in EP.
5. No calculation correction required for finalized cycle (50/50 was correct per instrument). Future cycles continue at 50/50 unless Composer A produces written amendment.
6. Hold on future cycle amounts released. D-CALC closed.
7. If Composer A produces a side agreement not registered in the EP: new evidence triggers re-opening; EP Delta for split instrument; off-cycle correction per Section 8.9 retroactive split revision discipline (instrument effective date must predate usage events).

Checks: RP-02, RP-04, RC-09; *Break:* BR-P03 (if residual); *Query:* QF-05, QF-P02

O.6 Governance Domain Mini-Scenarios

O.6.1 — Delegation Expiry Not Detected; Three EP Deltas Issued Under Expired Authority

Context: A Consent Custodian delegated authority to a junior administrator for a 6-month period ending 2025-08-31. The Change Control Officer failed to revoke the delegation at expiry. The junior administrator issued three consent scope modification EP Deltas in September 2025 after the delegation expired.

Operational state:

Item	Status
Delegation record	Expired 2025-08-31; not revoked
EP Deltas issued under expired delegation	3 (September 2025)
Governance break	BR-G04
Validity of the three EP Deltas	`CONTESTED` — issued under expired delegation

Resolution path:

1. BR-G04 raised: delegation operating beyond expiry. Change Control Officer governance incident Class II.
2. Three EP Deltas placed under `CONTESTED` status pending validity review.
3. Review question: Were the scope modifications substantively correct, even if the issuing party lacked authority?
4. If correct: Consent Custodian (principal) issues replacement EP Deltas with proper authority, ratifying the changes; contested deltas superseded.
5. If incorrect or unable to confirm: contested deltas voided; prior consent states restored; hold applied to any revenue affected during the contestation period.
6. Delegation record updated: automatic expiry notification system implemented for all delegations within 30 days of expiry date.

7. SOD review: GV-03 check retroactively applied to all actions taken under expired delegation.

Checks: GV-03, CA-09; *Break:* BR-G04; *Query:* QF-G02

O.6.2 — Emergency Tier 2 Access Invoked; Second-Party Confirmation Not Received Within 24 Hours

Context: During an active fraud investigation, a Dispute Governor invokes emergency Tier 2 access at 14:00 on Friday. The designated second-party Access Auth Officer is unavailable over the weekend. Access is used from 14:00 Friday to 09:00 Monday (67 hours). Second-party confirmation is obtained at 10:00 Monday.

Operational state:

Aspect	Status
Emergency declaration	Valid — fraud investigation; objective trigger
Single-party interim authorization	Valid — correctly invoked
Second-party confirmation timeline	EXCEEDED — confirmed at 67 hours, not 24
Access scope	Within stated fraud investigation scope
Governance break	BA-06 (deadline exceeded)

Resolution path:

1. BA-06 governance break registered: second-party confirmation received at 67 hours vs. 24-hour requirement.
2. Post-emergency review mandatory within 5 business days.
3. Review scope: (a) Was the emergency declaration legitimate? YES — fraud investigation with objective trigger. (b) Was the access scope honored? Review Layer 7 access log against stated purpose. (c) Was the delay in second-party confirmation avoidable? Potentially — weekend availability policy gap.
4. Post-emergency review finding: access was appropriate; timeline breach was procedural; no substantive harm.
5. Governance improvement action: implement emergency authorization duty roster ensuring 24/7 second-party availability; document in Change Control Officer governance audit.
6. All access events logged; post-access review completed; reviewer attestation obtained.

Checks: BA-06, BA-10; *Break:* BA-06 governance violation; *Query:* QF-G01

Appendix P — Materiality and Escalation Matrix for Media Integrity and Royalty Breaks

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Purpose: This appendix provides a comprehensive materiality and escalation matrix that maps every break category from Appendix C to its materiality classification, escalation threshold, notification requirements, and resolution authority. The matrix extends the severity band reference in Section 9.6 with quantitative escalation triggers,

multi-party notification requirements, and the distinction between operational escalation (within the evidence infrastructure) and supervisory escalation (to external institutional reviewers). Cross-references to Section 11.7 (incident escalation) and Section 12 (dispute governance) are provided throughout.

P.1 Materiality Classification Framework

Materiality in this framework is assessed across three dimensions:

Materiality Dimension	Description	Primary Metric
Revenue materiality	The financial value of revenue under hold-only containment or at risk of miscalculation	Absolute amount and percentage of affected portfolio revenue
Evidence integrity materiality	The degree to which a break compromises the replayability and reliability of EP records	Chain continuity, replay completeness, scope of affected artifacts
Governance materiality	The degree to which a break reflects a failure of operational controls rather than a data gap	SOD violation, unauthorized access, delegation breach, missed timeline

Each break is assessed on all three dimensions. The highest materiality classification across all three dimensions governs the escalation response.

P.2 Revenue Materiality Thresholds

Threshold Band	Held or At-Risk Revenue	Escalation Consequence
Band 1 — Immaterial	< USD 1,000 or < 0.1% of quarterly portfolio revenue	No mandatory external escalation; break register entry; standard resolution timeline
Band 2 — Low	USD 1,000–10,000 or 0.1%–1.0% of quarterly portfolio revenue	Reconciliation Officer notification; resolution within standard timeline
Band 3 — Moderate	USD 10,000–100,000 or 1.0%–5.0% of quarterly portfolio revenue	Royalty Calc Officer + Reconciliation Officer joint review; 10-business-day resolution target
Band 4 — High	USD 100,000–1,000,000 or 5.0%–15% of quarterly portfolio revenue	Dispute Governor notification; senior governance review; 5-business-day escalation
Band 5 — Critical	> USD 1,000,000 or > 15% of quarterly portfolio revenue	Immediate Dispute Governor + senior management notification; supervisory notification if above defined regulatory threshold

Note: Thresholds are illustrative. Implementing institutions should calibrate to their portfolio scale and regulatory environment.

P.3 Evidence Integrity Materiality Classification

Classification	Criteria	Governance Consequence
Isolated gap	Single record missing or hash mismatch for one artifact; chain reconstructable; no downstream contamination	Standard break resolution; no escalation beyond Reconciliation Officer
Chain segment failure	Multiple consecutive records in a manifest or delta chain are compromised; reconstruction requires archival recovery	Evidence Infra Operator + Reconciliation Officer joint response; preservation bundle mandatory
Cross-layer contamination	Integrity failure in one layer propagates to another (e.g., authenticity failure causing consent or royalty chain to be unverifiable)	Dispute Governor engaged; all dependent calculations held; Tier 2 investigation authorized
Systemic integrity failure	Hash chain failures across multiple artifacts or multiple layers simultaneously; possible tampering	Class IV incident; immediate supervisory notification; full EP quarantine; forensic investigation

P.4 Governance Materiality Classification

Classification	Criteria	Consequence
Procedural gap	Missed timeline, incomplete documentation, overdue recertification; no substantive harm to evidence integrity	Governance break registered; correction required within 15 business days; no external notification
Control failure	SOD violation, expired delegation in active use, unauthorized override; substantive risk to evidence integrity	Class II governance incident; investigation; affected records reviewed; external notification if evidence was materially compromised
Adversarial event	Unauthorized access, intentional record modification, suppression of EP Delta; evidence of bad faith	Class IV incident; immediate external notification; forensic investigation; affected rights-holders notified

P.5 Full Materiality and Escalation Matrix

P.5.1 Authenticity Domain Breaks

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-A01	Determine from affected artifact revenue	Chain segment failure → systemic if multiple	—	Evidence Infra Operator immediately; Dispute Governor if chain segment or systemic	Dispute Governor	YES if systemic integrity failure

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-A02	Determine from affected chain	Chain segment failure	—	Evidence Infra Operator immediately	Evidence Infra Operator → Dispute Governor	YES if cross-layer
BR-A03	Determine from `CONTESTED` artifact revenue	Isolated gap	—	Dispute Governor	Dispute Governor	Conditional
BR-A04	Determine from `UNRESOLVABLE` artifact revenue	Isolated gap	—	Reconciliation Officer	Reconciliation Officer	NO
BR-A05	Determine from synthetic output revenue	Isolated gap	—	Consent Custodian; Reconciliation Officer	Reconciliation Officer	NO
BR-A06	Determine from affected calculation	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-A07	Determine from affected calculation	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-A08	Determine from unlinked distribution revenue	Isolated gap	—	Evidence Infra Operator	Evidence Infra Operator	NO
BR-A09	Determine from duplicate official version revenue	Isolated gap	—	Evidence Infra Operator; Rights-State Admin	Evidence Infra Operator	NO
BR-A10	Immaterial to Low	Isolated gap	—	Evidence Infra Operator	Evidence Infra Operator	NO

P.5.2 Consent Domain Breaks

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-C01	Determine from absent-consent event revenue	Isolated gap	—	Consent Custodian immediately; Royalty Calc Officer	Dispute Governor	Conditional — if systematic
BR-C02	Determine from post-expiry revenue	Isolated gap	—	Consent Custodian; Royalty Calc Officer	Consent Custodian	NO

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-C03	Determine from diff chain gap period	Chain segment	—	Consent Custodian; Evidence Infra Operator	Reconciliation Officer	NO
BR-C04	Low to Moderate	Isolated gap	—	Consent Custodian	Consent Custodian	NO
BR-C05	Low to Moderate	Isolated gap	—	Consent Custodian	Consent Custodian	NO
BR-C06	Determine from post-revocation revenue	Isolated gap	Procedural gap	Royalty Calc Officer immediately; Dispute Governor if material	Royalty Calc Officer + Dispute Governor	Conditional
BR-C07	Determine from synthetic output revenue	Isolated gap	—	Consent Custodian; Royalty Calc Officer	Dispute Governor	Conditional
BR-C08	Determine from gap period revenue	Isolated gap	—	Consent Custodian	Consent Custodian	NO
BR-C09	Determine from expired delegation period	Isolated gap	Control failure	Change Control Officer; Dispute Governor	Change Control Officer	Conditional
BR-C10	Determine from co-auth gap revenue	Chain segment	—	Consent Custodian; Dispute Governor	Dispute Governor	Conditional

P.5.3 Lineage Domain Breaks

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-L01	Determine from unanchored derivative revenue	Chain segment	—	Reconciliation Officer immediately; Dispute Governor	Dispute Governor	Conditional
BR-L02	Determine from affected Class A output	Chain segment	—	Reconciliation Officer immediately; Dispute	Dispute Governor	Conditional

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
	revenue			Governor		
BR-L03	Determine from unlinked object revenue	Isolated gap	—	Evidence Infra Operator	Evidence Infra Operator	NO
BR-L04	Determine from duplicate version ambiguity	Isolated gap	—	Evidence Infra Operator	Evidence Infra Operator	NO
BR-L05	Full contaminated chain revenue	Cross-layer contamination	—	Dispute Governor immediately; all affected parties	Dispute Governor	YES if > Band 4 revenue
BR-L06	Low	Isolated gap	—	Reconciliation Officer	Reconciliation Officer	NO
BR-L07	Immaterial to Low	Isolated gap	—	Evidence Infra Operator	Evidence Infra Operator	NO
BR-L08	Immaterial to Low	Isolated gap	—	Evidence Infra Operator	Evidence Infra Operator	NO
BR-L09	Determine from AI output revenue	Isolated gap	—	Consent Custodian; Rights-State Admin	Reconciliation Officer	Conditional
BR-L10	Determine from composite revenue	Chain segment	—	Reconciliation Officer; Royalty Calc Officer	Dispute Governor	Conditional

P.5.4 Rights-Chain Domain Breaks

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-R01	Determine from excess-scope sublicense revenue	Isolated gap	—	Rights-State Admin; Royalty Calc Officer	Dispute Governor if > Band 3	Conditional
BR-R02	Determine from restricted territory revenue	Isolated gap	—	Rights-State Admin	Rights-State Admin	NO
BR-R03	Determine from post-status-change	Isolated gap	—	Rights-State Admin	Dispute Governor	Conditional

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
	revenue			immediately; Royalty Calc Officer		
BR-R04	Determine from unlinked event revenue	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-R05	Determine from delta gap period	Chain segment	—	Rights-State Admin; Evidence Infra Operator	Reconciliation Officer	NO
BR-R06	Determine from AI training revenue	Isolated gap	—	Rights-State Admin; Consent Custodian	Dispute Governor	Conditional
BR-R07	Determine from unauthorized derivative revenue	Chain segment	—	Rights-State Admin; Dispute Governor	Dispute Governor	Conditional
BR-R08	Low to Moderate	Isolated gap	Procedural gap	Rights-State Admin; Change Control Officer	Change Control Officer	NO
BR-R09	Low to Moderate	Isolated gap	—	Rights-State Admin	Rights-State Admin	NO
BR-R10	Determine from miscategorized synthetic revenue	Isolated gap	—	Rights-State Admin; Royalty Calc Officer	Royalty Calc Officer	NO

P.5.5 Royalty and Payout Domain Breaks

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-P01	Determine from unmatched event revenue	Isolated gap	—	Reconciliation Officer	Reconciliation Officer	NO
BR-P02	Full cycle revenue	Cross-layer contamination	—	Royalty Calc Officer immediately; Dispute	Dispute Governor	YES if > Band 4

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
				Governor		
BR-P03	Residual amount only	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-P04	Determine from incomplete chain	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-P05	Variance amount	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-P06	Provisional event revenue	Isolated gap	—	Reconciliation Officer; Royalty Calc Officer	Reconciliation Officer	NO
BR-P07	Held amount	Isolated gap	—	Dispute Governor	Dispute Governor	Conditional if > Band 4
BR-P08	Full instruction amount	Isolated gap	Control failure	Access Auth Officer; Dispute Governor	Dispute Governor	Conditional
BR-P09	Unclassified event revenue	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-P10	Depends on recoupment state	Isolated gap	—	Royalty Calc Officer	Royalty Calc Officer	NO
BR-P11	Determine from cycle scope	Isolated gap	Procedural gap	Royalty Calc Officer	Royalty Calc Officer	NO
BR-P12	Determine from correction scope	Isolated gap	Procedural gap	Royalty Calc Officer	Royalty Calc Officer	NO

P.5.6 Governance Domain Breaks

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
BR-G01	—	Isolated gap	Procedural gap	Access Auth Officer	Access Auth Officer	Conditional if access was inappropriate
BR-G02	Conditional — if overdue subject governs	Isolated gap	Procedural gap	Change Control Officer	Change Control Officer	NO

Break Code	Revenue Materiality Band	Evidence Integrity Class	Governance Class	Notification Required	Escalation Authority	Supervisory Notification?
	active calculation					
BR-G03	Determine from affected revenue	Chain segment	Control failure	Access Auth Officer; Dispute Governor	Dispute Governor	YES if evidence materially compromised
BR-G04	Determine from expired delegation period revenue	Isolated gap	Control failure	Change Control Officer; Dispute Governor	Change Control Officer + Dispute Governor	Conditional
BR-G05	Determine from unauthorized action scope	Chain segment	Control failure	Access Auth Officer; Dispute Governor	Dispute Governor	Conditional
BR-G06	Determine from override scope	Isolated gap	Control failure	Dispute Governor	Dispute Governor	Conditional
BR-G07	—	—	Procedural gap	Dispute Governor	Dispute Governor	NO
BR-G08	—	—	Procedural gap	Dispute Governor	Dispute Governor	NO
BR-G09	—	Chain segment risk	Procedural gap	Evidence Infra Operator; Change Control Officer	Change Control Officer	NO
BR-G10	Determine from exception held amount	Isolated gap	Procedural gap	Dispute Governor	Dispute Governor	Conditional if > Band 4

P.6 Escalation Trigger Summary

The following table provides a consolidated view of the conditions that trigger each escalation level, independent of break code.

Escalation Level	Trigger Conditions	Who Is Notified	Timeline
Level 1 — Self-Resolving	Single Moderate break; revenue Band 1–2; no integrity failure; standard resolution path clear	Reconciliation Officer	Within standard response timeline (10–15 business days)
Level 2 — Senior Role Escalation	Any High break; revenue Band 3; procedural governance failure; disputed consent or rights state	Relevant senior governance role (Royalty Calc Officer, Rights-State Admin, Consent Custodian)	Within 5 business days

Escalation Level	Trigger Conditions	Who Is Notified	Timeline
Level 3 — Dispute Governor Escalation	Any Critical break; revenue Band 4; contamination detected; cross-layer integrity failure; control failure	Dispute Governor; all relevant governance roles	Within 24 hours
Level 4 — Senior Management Escalation	Revenue Band 5; systemic integrity failure; multiple simultaneous Critical breaks; Class IV incident	Dispute Governor; senior management; all affected rights-holders	Within 4 hours
Level 5 — Supervisory Escalation	Class IV adversarial event; revenue > defined regulatory threshold; legal hold triggered; systemic failure	Supervisory or regulatory authority (per institutional obligations); all affected parties	Within 2 hours

P.7 Multi-Party Notification Requirements

For breaks and incidents above Level 2, the following parties must be notified within the timelines defined in Section 11.7. The table maps break severity to notification scope.

Break Severity	Reconciliation Officer	Royalty Calc Officer	Dispute Governor	Affected Rights-Holders	Senior Management	External Supervisor
Moderate	NOTIFY	Conditional	—	—	—	—
High	NOTIFY	NOTIFY	NOTIFY	Conditional	—	—
Critical	NOTIFY (immediate)	NOTIFY (immediate)	NOTIFY (immediate)	YES (within 24 hours)	YES (within 4 hours)	Conditional
Class IV (Governance)	NOTIFY	NOTIFY	NOTIFY (immediate)	YES (within 24 hours)	YES (within 2 hours)	YES (within 2 hours)

P.8 Resolution Authority Matrix

The following table defines who holds resolution authority for each break domain and severity level.

Domain	Moderate Severity	High Severity	Critical Severity
Authenticity	Evidence Infra Operator	Evidence Infra Operator + Reconciliation Officer	Dispute Governor (with Tier 2 access)
Consent	Consent Custodian	Consent Custodian + Dispute Governor	Dispute Governor (dispute workflow)
Lineage	Reconciliation Officer	Reconciliation Officer + Dispute Governor	Dispute Governor (contamination response)
Rights-Chain	Rights-State Admin	Rights-State Admin + Dispute Governor	Dispute Governor (dispute workflow)

Domain	Moderate Severity	High Severity	Critical Severity
Royalty/Payout	Royalty Calc Officer	Royalty Calc Officer + Reconciliation Officer	Dispute Governor
Governance	Change Control Officer	Change Control Officer + Dispute Governor	Senior Management + Dispute Governor

No single party may serve as both the party identifying a break and the sole resolution authority for that break above Moderate severity. Independent review is required for High and Critical breaks.

P.9 Materiality Escalation Decision Flowchart

```
BREAK DETECTED
      |
      ▼
Classify by domain → Appendix C break code
      |
      ▼
Assess revenue materiality → Band 1–5 (Section P.2)
      |
      ▼
Assess evidence integrity → Isolated / Chain segment / Cross-layer / Systemic
(Section P.3)
      |
      ▼
Assess governance materiality → Procedural / Control failure / Adversarial
(Section P.4)
      |
      ▼
Determine highest materiality class across all three dimensions
      |
      ├── Band 1 + Isolated + Procedural → Level 1: Self-resolve; standard
timeline
      |
      ├── Band 2–3 + Isolated + Procedural → Level 2: Senior role escalation; 5
days
      |
      ├── Band 4 + Chain segment + Control failure → Level 3: Dispute Governor;
24 hours
      |
      ├── Band 5 + Cross-layer + Control failure → Level 4: Senior management; 4
hours
      |
      └── Any + Systemic + Adversarial → Level 5: Supervisory; 2 hours

      |
      ▼
Apply automatic holds per break code (Appendix C)
      |
      ▼
Notify required parties per P.7
      |
      ▼
Assign resolution authority per P.8
      |
      ▼
Begin resolution workflow:
  Level 1–2: Standard break resolution → Corrective EP Delta → Close
```

```
  Level 3–4: Dispute workflow (Section 12) → Dispute Finding Record → Hold
release
  Level 5: Incident response (Section 11.7) → External notification →
Investigation
```

Appendix Q — Proof-Based Minimization and Verifier Output Templates

---

Purpose: This appendix provides operational templates for proof-based minimization workflows where Baseline E (ZKP Programmable Privacy Framework) is implemented. Proof-based minimization allows a verifier to confirm that a specific EP state is as claimed without accessing the underlying evidence record. These templates cover the five primary proof types identified in Section 10.8, together with proof generation records, verifier output formats, freshness/revocation discipline, and the fallback path to Tier 1 record-level access when proof-based verification is inconclusive.

Implementation of these templates is conditional on adoption of Baseline E; they are not required where Baseline E is not implemented.

Q.1 Proof-Based Minimization — Operational Principles

Proof-based minimization in this framework follows three principles derived from Baseline E:

Principle 1 — Proof scope is strictly bounded. A proof asserts only the specific state claimed; it does not assert anything beyond its defined scope. A proof that consent is `IN_SCOPE` for a specific use event does not assert that consent is `IN_SCOPE` for any other use.

Principle 2 — Proofs are time-stamped and freshness-bounded. Every proof carries a generation timestamp and a validity window. A proof presented outside its validity window is automatically invalid and must be regenerated or replaced by Tier 1 record access.

Principle 3 — Proof generation is audited. Every proof generation event is logged in Layer 7 with the verifier reference, proof type, and timestamp. The audit trail of proof generation is itself subject to post-access review standards.

Q.2 Proof Type Taxonomy

Proof Type	What Is Asserted	What Is Not Disclosed	Applicable Scope
PT-01 — Consent In-Scope Proof	Consent state = `IN_SCOPE` for artifact X at timestamp T for use type Y	Consent instrument terms, rates, counterparty identities, other scope dimensions	Pre-distribution authorization; royalty calculation intake
PT-02 — Authenticity Verified Proof	Authenticity state = `VERIFIED` for artifact X at timestamp T	Production chain details, studio information, unreleased versions	Pre-licensing verification; distribution authorization
PT-03 — Royalty Paid Proof	Payout linkage record exists for contributor C and calculation ID K	Split percentages, other contributors' payments, calculation details	Contributor payment confirmation without full calculation disclosure
PT-04 — No Active Hold Proof	No active hold records exist for artifact X at timestamp T	Hold record details, held amounts, trigger conditions	Pre-distribution clearance; licensing due diligence
PT-05 — Rights-Chain Scope Proof	Rights-chain scope check result = `IN_SCOPE` for artifact X, use type Y, territory Z, at timestamp T	License terms, rates, restriction registry details, other territories	Pre-use scope confirmation without rights-chain disclosure

---

Q.3 Proof Generation Record

Every proof generation event produces a Proof Generation Record stored in Layer 7.

```
PROOF_GENERATION_RECORD
  proof_id:                 [format: PRF-{proof_type}-{YYYYMMDD}-{seq}]
  proof_type:               [PT-01 through PT-05]
```

```
  artifact_manifest_id:     [artifact for which proof is generated]
  proof_claim:              [precise statement of what is asserted;
                             e.g. "Consent state for AMI-001 = IN_SCOPE
                             for use_type: streaming at 2025-10-15T14:00:00Z
                             in territory: US for royalty_event_type:
streaming_play"]
  underlying_record_ref:    [pointer to the EP record(s) that support the proof;
                             not disclosed to verifier; retained in Layer 7
only]
  proof_generation_timestamp:[ISO 8601]
  validity_window:          [proof is valid for this duration from generation
timestamp;
                             PT-01: 24 hours for use-event verification;
                             PT-02: 7 days for authenticity status;
                             PT-03: 30 days for payout confirmation;
                             PT-04: 4 hours for pre-distribution clearance;
                             PT-05: 24 hours for pre-use scope confirmation]
  proof_expiry_timestamp:   [ISO 8601; generation_timestamp + validity_window]
  verifier_ref:             [institutional reference of verifier receiving
proof;
                             no individual PII]
  verifier_purpose:         [stated purpose for which proof was requested]
  proof_output_hash:        [SHA-256 of the proof output delivered to verifier]
  revocation_flag:          [YES | NO; YES if underlying state has changed
                             since proof generation, invalidating the proof]
  revocation_timestamp:     [ISO 8601; null if not revoked]
  generation_authorized_by: [Access Auth Officer role; proof generation is
                             a Tier 0 access event; no additional authorization
                             required unless verifier is in a sensitive
category]
  record_hash:              [SHA-256 of this proof generation record]
```

Q.4 Proof Output Templates

The proof output is what the verifier receives. It contains the assertion and verification parameters only — it contains no information from the underlying EP record beyond the state value asserted.

Q.4.1 PT-01 — Consent In-Scope Proof Output

```
PT-01_CONSENT_INSCOPE_PROOF
  proof_id:                 [pointer to Proof Generation Record]
  proof_type:               PT-01
  assertion:                "The consent state for artifact
[artifact_manifest_id]
                             is IN_SCOPE for use_type [Y] at timestamp [T]
                             in territory [Z] under the framework's five-
dimension
                             scope evaluation methodology."
  artifact_manifest_id:     [artifact identifier; no other artifact information]
  use_type:                 [royalty event type from Section 8.1]
  evaluation_timestamp:     [T; timestamp to which assertion applies]
  territory:                [territory of use]
  proof_generation_timestamp:[ISO 8601]
  proof_expiry_timestamp:   [ISO 8601]
  validity_window_hours:    [24]
  current_at_generation:    YES
  revocation_status:        [VALID | REVOKED; if REVOKED: proof is void;
```

```
                              verifier must request Tier 1 access]
  verification_instruction: "This proof may be verified against the
proof_output_hash
                              in the issuer's Layer 7 Proof Generation Record.
                              This proof does not disclose the consent
instrument,
                              its terms, or any scope dimension values.
                              If this proof is relied upon for a decision of
                              material consequence, the verifier may request
                              Tier 1 record-level access to the underlying
                              consent record through the standard access path."
  proof_output_hash:         [SHA-256 of this proof output in canonical
serialization]
```

Q.4.2 PT-02 — Authenticity Verified Proof Output

```
PT-02_AUTHENTICITY_VERIFIED_PROOF
  proof_id:                  [pointer to Proof Generation Record]
  proof_type:                PT-02
  assertion:                 "The authenticity state for artifact
[artifact_manifest_id]
                              is VERIFIED as of [evaluation_timestamp].
                              The content-addressed hash registered at source
object
                              registration matches the artifact's current hash."
  artifact_manifest_id:      [artifact identifier]
  evaluation_timestamp:      [ISO 8601; date of most recent SI-01 boundary test
pass]
  proof_generation_timestamp:[ISO 8601]
  proof_expiry_timestamp:    [ISO 8601]
  validity_window_days:      [7]
  current_at_generation:     YES
  revocation_status:         [VALID | REVOKED]
  verification_instruction: "This proof does not disclose the artifact content,
                              production chain, or manifest chain contents.
                              It confirms only that the artifact's content hash
                              matches its registered manifest at the evaluation
                              timestamp. If this proof is relied upon for
                              licensing or distribution authorization, Tier 1
                              access to the manifest chain is available."
  proof_output_hash:         [SHA-256 of this proof output]
```

Q.4.3 PT-03 — Royalty Paid Proof Output

```
PT-03_ROYALTY_PAID_PROOF
  proof_id:                  [pointer to Proof Generation Record]
  proof_type:                PT-03
  assertion:                 "A payout linkage record exists confirming that
                              royalty payment was made for contributor
[contributor_ref]
                              in connection with calculation [calc_id].
                              The payout chain for this contributor is
chain_complete: YES."
  contributor_ref:           [contributor institutional reference; no individual
PII]
  calc_id:                   [calculation artifact identifier]
  calc_period:               [start — end of royalty period covered]
```

```
  proof_generation_timestamp:[ISO 8601]
  proof_expiry_timestamp:   [ISO 8601]
  validity_window_days:     [30]
  current_at_generation:    YES
  revocation_status:        [VALID | REVOKED]
  verification_instruction: "This proof does not disclose the payment amount,
                             split percentage, other contributors, or
calculation
                             details. It confirms only that a completed payout
                             linkage record exists for the referenced
contributor
                             and calculation. If payment amount verification
                             is required, Tier 1 access to the split allocation
                             record is available to the contributor."
  proof_output_hash:        [SHA-256 of this proof output]
```

Q.4.4 PT-04 — No Active Hold Proof Output

```
PT-04_NO_ACTIVE_HOLD_PROOF
  proof_id:                 [pointer to Proof Generation Record]
  proof_type:               PT-04
  assertion:                "No active hold records exist in the EP for artifact
                             [artifact_manifest_id] as of
[evaluation_timestamp].
                             Revenue from this artifact is not subject to
                             hold-only containment at the time of proof
generation."
  artifact_manifest_id:     [artifact identifier]
  evaluation_timestamp:     [ISO 8601]
  proof_generation_timestamp:[ISO 8601]
  proof_expiry_timestamp:   [ISO 8601]
  validity_window_hours:    [4]
  current_at_generation:    YES
  revocation_status:        [VALID | REVOKED; NOTE: PT-04 has a 4-hour validity
                             window because holds can be applied at any time;
                             a proof generated before a hold is applied becomes
                             immediately revoked upon hold application]
  verification_instruction: "This proof does not disclose the hold register
                             or any prior hold history. It confirms only the
                             absence of active holds at the evaluation
timestamp.
                             Given the 4-hour validity window, time-sensitive
                             transactions should verify this proof as close
                             to the transaction time as practicable."
  proof_output_hash:        [SHA-256 of this proof output]
```

Q.4.5 PT-05 — Rights-Chain Scope Proof Output

```
PT-05_RIGHTS_CHAIN_SCOPE_PROOF
  proof_id:                 [pointer to Proof Generation Record]
  proof_type:               PT-05
  assertion:                "The rights-chain scope check result for artifact
                             [artifact_manifest_id], use_type [Y], territory [Z]
                             at timestamp [T] is IN_SCOPE.
                             The restriction registry for this artifact contains
                             no active restrictions that would render this
                             use OUT_OF_SCOPE."
```

```
  artifact_manifest_id:     [artifact identifier]
  use_type:                 [royalty event type from Section 8.1]
  territory:                [ISO 3166-1 territory code]
  evaluation_timestamp:     [T]
  proof_generation_timestamp:[ISO 8601]
  proof_expiry_timestamp:   [ISO 8601]
  validity_window_hours:    [24]
  current_at_generation:    YES
  revocation_status:        [VALID | REVOKED]
  verification_instruction: "This proof does not disclose license terms, rates,
                             other territories, restriction registry contents,
                             or the identity of rights-holders. It confirms
                             only that the scope check result is IN_SCOPE for
                             the specified use, territory, and timestamp.
                             If a dispute arises regarding rights-chain scope,
                             Tier 1 access to the rights-chain EP is available
                             through the standard access path."
  proof_output_hash:        [SHA-256 of this proof output]
```

Q.5 Proof Revocation Record

When the underlying EP state changes after a proof has been generated, the proof must be revoked. Revocation is automatic for proofs whose validity window has elapsed; active revocation is required when the underlying state changes before the validity window expires.

```
PROOF_REVOCATION_RECORD
  revocation_id:            [unique identifier]
  proof_id:                 [pointer to Proof Generation Record being revoked]
  proof_type:               [PT-01 through PT-05]
  revocation_timestamp:     [ISO 8601]
  revocation_trigger:       [VALIDITY_WINDOW_ELAPSED |
STATE_CHANGE_BEFORE_EXPIRY |
                             EP_DELTA_APPLIED | HOLD_APPLIED | DISPUTE_FILED |
                             REVOCATION_RECEIVED | INTEGRITY_FAILURE]
  triggering_ep_event_ref:  [pointer to EP Delta or other event that triggered
                             revocation; null if VALIDITY_WINDOW_ELAPSED]
  verifier_notified:        [YES | NO; if YES: timestamp and channel]
  revocation_consequence:   [PROOF_VOID — verifier must request Tier 1 access
                             or fresh proof if decision has not yet been made
                             based on the revoked proof]
  revocation_hash:          [SHA-256 of this record]
```

Q.6 Proof Freshness Discipline

The following table summarizes freshness requirements by proof type, including the conditions that trigger automatic revocation before the validity window expires.

Proof Type	Validity Window	Auto-Revocation Triggers	Manual Revocation Triggers
PT-01 (Consent In-Scope)	24 hours	Consent EP Delta applied; Dispute filed (D-CONS); Revocation EP Delta applied	State changes to EXPIRED, REVOKED, DISPUTED, or ABSENT
PT-02 (Authenticity	7 days	Authenticity EP Delta applied; SI-01 boundary test fails; Dispute filed (D-	State changes to CONTESTED or

Proof Type	Validity Window	Auto-Revocation Triggers	Manual Revocation Triggers
Verified)		AUTH)	UNRESOLVABLE
PT-03 (Royalty Paid)	30 days	Payout EP Delta applied changing chain_complete; Dispute filed (D-PAYS); Corrective calculation issued	Payout reversed; hold applied to confirmed payment
PT-04 (No Active Hold)	4 hours	Hold applied to artifact; Dispute filed naming artifact	Any hold application event
PT-05 (Rights-Chain Scope)	24 hours	Rights-chain EP Delta applied; License state changes; Restriction registry updated; Dispute filed (D-RIGH)	State changes to EXPIRED, TERMINATED, OUT_OF_SCOPE

Q.7 Proof-Based Minimization in the Tiered Access Context

Proof-based outputs are Tier 0 access events. They do not require purpose documentation, TTL definition, or post-access review. However, proof generation events are logged in Layer 7 for aggregate monitoring and audit purposes.

When proof-based minimization does NOT suffice:

Situation	Why Proof Is Insufficient	Escalation Path
Dispute reconstruction	Dispute requires full evidence review, not just state assertion	Tier 1 or Tier 2 access per Section 10.4
Verifier disputes the proof	Verifier does not accept the proof; claims underlying state is different	Tier 1 access; comparison using diff template (Appendix H.3)
Proof revoked before decision made	Underlying state changed; decision cannot rely on revoked proof	Request fresh proof or Tier 1 access
Decision affects multiple artifacts	Proof is per-artifact; multi-artifact decision requires aggregate or record-level access	Tier 1 access scoped to all affected artifacts
Regulatory examination	Examiner requires record-level evidence, not proof assertions	Tier 2 access per Section 10.4
Legal proceedings	Proceedings require admissible evidence with chain-of-custody	Tier 2 access + chain-of-custody production (Appendix H.4.3)

Q.8 Proof Audit Log Extract Template

The following template provides the format for extracting proof generation audit data for governance review or examiner requests.

```
PROOF_AUDIT_LOG_EXTRACT
  extract_id:               [unique identifier]
  extract_period:           [start — end]
  artifact_scope:           [list of artifact manifest IDs; or ALL]
  proof_type_filter:        [PT-01 through PT-05; or ALL]

  SUMMARY:
    total_proofs_generated: [count]
    by_proof_type:
```

```
      PT-01:                [count]
      PT-02:                [count]
      PT-03:                [count]
      PT-04:                [count]
      PT-05:                [count]
    total_revocations:      [count]
    revocations_by_trigger: [breakdown by revocation trigger]
    proofs_relied_upon_after_revocation: [count; should be 0;
                                          non-zero is a compliance risk]
    unique_verifiers:       [count of distinct verifier references]
    average_proof_age_at_use: [median time between generation and claimed
                               reliance; if tracked by verifier system]

  LOG_ENTRIES:
    [one entry per proof generation event:]
    | Proof ID | Type | Artifact | Generation TS | Expiry TS | Verifier Ref |
Revoked? |
    |----------|------|----------|--------------|-----------|--------------|----
-----|
    | PRF-001  | PT-01| AMI-001  | 2025-10-15   | +24h      | VERIF-A      | NO
|
    | PRF-002  | PT-04| AMI-002  | 2025-10-15   | +4h       | VERIF-B      | YES
— hold applied |

  extract_hash:             [SHA-256 of this extract]
```

Q.9 Proof-Based Minimization Workflow

```
VERIFIER REQUEST RECEIVED
        |
        ▼
Identify proof type (PT-01 through PT-05) from verifier's stated need
        |
        ▼
Confirm underlying EP state supports the proof assertion
  → Query relevant EP layer (Tier 0 internal query; no verifier disclosure)
  → If state = proof assertion: proceed
  → If state ≠ proof assertion: do NOT issue proof; notify verifier
        |
        ▼
Generate proof output per applicable template (Q.4.1–Q.4.5)
        |
        ▼
Log Proof Generation Record in Layer 7 (Q.3)
        |
        ▼
Deliver proof output to verifier (proof_output_hash only; no EP records)
        |
        ▼
Monitor for revocation triggers during validity window (Q.6)
  → If trigger occurs: issue Proof Revocation Record (Q.5)
  → Notify verifier if decision not yet made
        |
        ▼
At validity window expiry: proof automatically void
  → Verifier must request fresh proof or Tier 1 access if decision still pending
        |
        ▼
Proof generation events included in Layer 7 audit log (Q.8)
```

Appendix R — Cross-Border Portability and Conflict-of-Process Mini-Scenarios

Purpose: This appendix addresses operational situations that arise when media artifacts, consent instruments, rights-chain records, or royalty evidence must be evaluated across multiple legal or regulatory jurisdictions simultaneously. It does not make legal conclusions about which jurisdiction's law governs any particular dispute; it identifies the operational patterns, evidence gap risks, and framework-level response disciplines that apply when cross-border conditions create ambiguity in state determinations. All entities, amounts, and jurisdictions in the mini-scenarios are fictional and illustrative only.

R.1 Cross-Border Portability — Operational Framework

The framework's implementation-agnostic and content-addressed design makes cross-border portability structurally possible: an artifact's content hash is the same regardless of jurisdiction, and EP records are expressed in portable schemas. However, the following operational dimensions create jurisdiction-specific complications that must be addressed in the EP.

R.1.1 Jurisdiction-Specific Evidence Dimensions

Dimension	Cross-Border Complication	Framework Response
Consent instrument validity	Consent may be valid in one jurisdiction but void in another due to different performer rights or publicity laws	Record the jurisdiction of execution in the consent instrument; assign `ASSERTED` sub-state for other jurisdictions unless confirmed
Rights-chain enforceability	An assignment valid in Jurisdiction A may not be recognized in Jurisdiction B	Record jurisdiction of rights instrument; flag cross-border use events with `ASSERTED` rights-chain state until local enforceability confirmed
Royalty collecting society mandate	A collecting society's mandate may cover a territory in one jurisdiction but not overlap with a parallel society in another	Identify the society mandate territory per event; flag events where two societies both claim mandate
Statutory royalty rates	Statutory rates differ by jurisdiction; some events may span multiple rate regimes	Record applicable rate basis per event with jurisdiction reference; use Tier 2 provisional classification for events where applicable rate is contested
Privacy and data minimization	Access to performer identity data may be more restricted in one jurisdiction than another	Apply the more restrictive minimization requirement; document as assumption; flag for legal review
Currency and settlement	Cross-border payments involve currency conversion events with their own evidentiary requirements	Record exchange rate at settlement; link to authoritative rate source; variance from calculation to settlement includes FX component
Record retention obligations	Retention periods differ by jurisdiction; the longer obligation governs	Record the applicable retention period per artifact and per jurisdiction of primary rights-holder; apply the longest obligation

---

R.2 Cross-Border Mini-Scenarios

R.2.1 — Consent Instrument Executed in Jurisdiction A; Distribution Occurs in Jurisdiction B; Performer Rights Differ

Context: A voice performer records an advertising campaign under a consent instrument governed by the laws of Jurisdiction A. The campaign is subsequently distributed in Jurisdiction B, where performers have additional rights — including a right of withdrawal not recognized in Jurisdiction A — that are broader than the instrument's scope. The performer asserts the Jurisdiction B withdrawal right after 4 months of distribution.

Operational analysis:

Dimension	Status
Consent instrument jurisdiction	Jurisdiction A; valid at execution
Jurisdiction B performer rights	Broader than instrument; possible additional withdrawal right
Consent state in Jurisdiction A	`IN_SCOPE` (instrument is valid and not expired)
Consent state in Jurisdiction B	`ASSERTED` — no confirmation that Jurisdiction A instrument fully satisfies Jurisdiction B performer rights
Distribution in Jurisdiction B	Proceeds under `ASSERTED` sub-state; revenue provisionally eligible

Framework response:

1. Scope dimension record updated: `territory_state: ASSERTED` for Jurisdiction B territory. Notes field documents: "Jurisdiction B performer rights may be broader than instrument scope; legal review required."
2. Revenue from Jurisdiction B: classified as Tier 2 provisional pending legal confirmation.
3. Performer asserts withdrawal: D-CONS dispute filed. Hold-only containment applied to Jurisdiction B revenue from assertion date.
4. Dispute Finding Record: framework does not determine which jurisdiction's law governs. It documents: (a) consent instrument terms and jurisdiction; (b) performer's assertion and its basis; (c) evidence packs from both parties; (d) state as `DISPUTED` until legal determination.
5. Hold maintained until legal determination; EP Delta issued upon determination to assign final consent state.
6. Note: the framework does not substitute for legal advice and does not make the legal determination. It provides the operational evidence layer and maintains the hold-only containment posture pending resolution.

Checks: CA-02, CA-04; *Break:* BR-C04 (scope dimension); *Pattern:* Cross-border consent scope ambiguity

---

R.2.2 — Parallel Collecting Society Claims for Same Territory

Context: A musical composition is performed publicly in Country X. Two collecting societies both claim mandate over public performance rights in Country X: Society A (domestic mandate, established repertoire) and Society B (cross-border mandate under a reciprocal representation agreement with the rights-holder's home country society). Both societies invoice the venue for the same performance.

Operational analysis:

Dimension	Status
Composition rights-chain	Registered in Layer 4 with composer's home country society

Dimension	Status
Society A mandate	Domestic mandate for Country X; general coverage
Society B mandate	Cross-border representation agreement; covers composer's catalog specifically
Dual invoice situation	Both societies claim the same performance revenue
Revenue treatment	`DISPUTED` — dual mandate claim; hold-only containment

Framework response:

1. D-RIGH dispute filed: dual mandate claim creates contested rights-chain state for the performance event.
2. Rights-chain EP: both mandate instruments registered. Mandate scope documents reviewed. Evidence of reciprocal representation agreement obtained.
3. Key EP evidence: composer's home society's reciprocal agreement with Society B. If agreement predates Society A's general mandate claim for this composer's catalog: Society B's claim has stronger basis.
4. Hold-only containment: performance revenue held in escrow-equivalent until mandate is resolved between societies.
5. Framework does not determine which society has valid mandate — that is a contractual and legal matter between the societies and the rights-holder. Framework maintains dual-claim evidence and holds revenue pending resolution.
6. Upon resolution: EP Delta records which society's mandate is confirmed; revenue released to confirmed mandate holder; royalty calculation corrected if applicable.
7. EP note: if both societies have valid partial mandates (e.g., different rights within same territory), split allocation record is updated accordingly.

Checks: RC-04, RC-09; *Break:* BR-R03; *Pattern:* Parallel mandate conflict

---

R.2.3 — Successor Rights-Holder Located in Different Jurisdiction from Original

Context: A film composer dies intestate. Rights in Jurisdiction A (where the composer resided) pass to Jurisdiction A heirs under local succession law. However, the composer also held separately registered rights in Jurisdiction B (a co-production territory) that pass to different heirs under Jurisdiction B succession law. The two sets of heirs have different membership in the catalog's contributing chain.

Operational analysis:

Dimension	Status
Jurisdiction A rights succession	Heirs A identified and confirmed
Jurisdiction B rights succession	Heirs B identified; different from Heirs A
Rights-chain pre-succession	Single composer as primary rights-holder across both jurisdictions
Rights-chain post-succession	Split: Heirs A hold Jurisdiction A rights; Heirs B hold Jurisdiction B rights
Royalty calculation	Split allocation must be updated per jurisdiction of each usage event

Framework response:

1. Succession EP Delta issued for each jurisdiction separately. Two successor authority records created: AUTH-HEIR-A (Jurisdiction A) and AUTH-HEIR-B (Jurisdiction B).
2. Succession gap: date of composer's death to date of each heir set's legal confirmation. Gap-period revenue held per BR-C08 analog (successor authority gap).
3. Rights-chain EP updated: split allocation for usage events in Jurisdiction A routes composer's share to Heirs A; events in Jurisdiction B route to Heirs B.
4. Territory scope dimension of each usage event now determines which successor set receives the composer's share.
5. Evidence documentation: succession instruments for both jurisdictions registered in Layer 4. Legal confirmations (probate or equivalent) included per each jurisdiction.
6. Calculation cycles after succession: split allocation records are jurisdiction-stratified. QF-R01 (license state timeline) used to confirm successor authority at each calculation.

Checks: RC-10, CA-13; *Break:* BR-R08 (succession recording timeline); *Pattern:* Multi-jurisdiction succession

---

R.2.4 — Cross-Border AI Training Data License with Conflicting National AI Laws

Context: A music platform licenses its full catalog for AI training to a technology company. The license is executed in Jurisdiction A where AI training data use is commercially permitted. Jurisdiction B (where many catalog rights-holders reside) has enacted an opt-in requirement for AI training data use. 40% of the catalog's rights-holders are resident in Jurisdiction B and have not opted in.

Operational analysis:

Dimension	Status
AI training license scope	Executed in Jurisdiction A; commercially valid there
Jurisdiction B rights-holders (40% of catalog)	Subject to Jurisdiction B opt-in requirement
Consent state — Jurisdiction A rights-holders	`ASSERTED` at best; license covers platform's distribution rights, not necessarily composition rights in AI context
Consent state — Jurisdiction B rights-holders	`ABSENT` — opt-in not obtained; Jurisdiction B requirement not satisfied
Revenue treatment	Revenue attributable to Jurisdiction B rights-holders' works: held

Framework response:

1. EP analysis: identify which catalog artifacts have primary rights-holders resident in Jurisdiction B. 40% of catalog = Jurisdiction B affected set.
2. For Jurisdiction B affected artifacts: consent state dimension `AI_training: ABSENT` per CA-15. Hold-only containment on training data license revenue attributable to those artifacts.
3. For Jurisdiction A artifacts: consent state dimension `AI_training: ASSERTED` — platform license covers distribution rights; whether it extends to AI training is a legal question not resolved by the platform license alone. Tier 2 provisional classification.

4. Revenue split: 60% of AI training license revenue provisionally allocated to Jurisdiction A artifact pool; 40% held pending Jurisdiction B opt-in or legal resolution.
5. Corrective action path: platform must obtain Jurisdiction B opt-in from each resident rights-holder, or remove their works from AI training scope, or resolve through contractual mechanism. EP Delta issued upon each opt-in received.
6. Pattern note: this scenario illustrates that a single AI training license cannot resolve cross-border regulatory conflicts at the EP level. The EP records the conflict and holds affected revenue; legal resolution is external.

Checks: CA-15, RC-06; *Break:* BR-C07, BR-R06; *Pattern:* AI law cross-border conflict

---

R.2.5 — Evidence Production Request Spanning Two Jurisdictions with Conflicting Privacy Regimes

Context: An international arbitration proceeding requires evidence packs covering usage events and royalty calculations for a 3-year period. Jurisdiction A has a broad discovery regime; Jurisdiction B has strict data minimization laws requiring that only necessary personal data be disclosed. The evidence packs contain performer identity data governed by Jurisdiction B.

Operational analysis:

Dimension	Status
Arbitration evidence requirement	Broad; all records for 3-year period
Jurisdiction B performer identity data	Governed by data minimization; cannot be disclosed in full
Evidence pack completeness without identity data	Sufficient for royalty calculation replay; insufficient for identity-based claims
Conflict	Arbitration requires full disclosure; Jurisdiction B limits disclosure

Framework response:

1. Evidence retrieval request (Appendix H.4.1) filed. Stated purpose: arbitration evidence production.
2. Minimization review (Section 10.7): Jurisdiction B performer identity data fields identified. Fields that are not necessary for royalty calculation replay are redacted per data minimization principle. Redaction log created per H.4.2.
3. Production package: royalty calculation records produced in full; performer identity fields replaced with institutional reference classes where identity is not necessary for the calculation replay.
4. Privilege log: Jurisdiction B minimization obligations documented as a withholding basis. Arbitration panel informed that certain identity fields are withheld under Jurisdiction B legal requirements.
5. If arbitration panel determines that full identity disclosure is required: legal process between arbitration institution, Jurisdiction B authority, and parties — outside the framework's scope. Framework provides the redacted production as its output; it does not resolve the legal conflict.

6. Proof-based minimization option (Appendix Q): for identity-dependent claims (e.g., confirming that a specific contributor was paid), PT-03 (Royalty Paid Proof) may substitute for full identity disclosure if the arbitration panel accepts proof-based assertions.

Checks: BA-07; *Pattern:* Cross-border privacy conflict in evidence production

---

R.2.6 — Rights-Chain Transfer Crossing Jurisdiction Boundary: Timing of Enforceability

Context: A publishing catalog is sold from a label in Jurisdiction A to a publisher in Jurisdiction B. The assignment agreement is executed and effective in Jurisdiction A on 2025-06-01. Under Jurisdiction B law, the assignment is not enforceable until registered with Jurisdiction B's national rights registry, which occurs on 2025-09-15. Usage events for this catalog occur in Jurisdiction B during 2025-06-01 to 2025-09-14.

Operational analysis:

Period	Rights State in Jurisdiction A	Rights State in Jurisdiction B	Revenue Treatment
Before 2025-06-01	Label (original holder)	Label	Unaffected
2025-06-01 to 2025-09-14	Publisher (Jurisdiction A)	`ASSERTED` (pending Jurisdiction B registration)	Provisional — Tier 2
From 2025-09-15	Publisher (both jurisdictions)	Publisher (confirmed)	Fully eligible; calculation anchor updated

Framework response:

1. Assignment EP Delta issued 2025-06-01: rights-chain state updated to `ASSERTED` for Jurisdiction B territory pending local registration.
2. Usage events in Jurisdiction B during gap period (2025-06-01 to 2025-09-14): classified as Tier 2 provisional with documented assumption that Jurisdiction B registration will be obtained retroactively.
3. Upon Jurisdiction B registry confirmation (2025-09-15): second EP Delta issued confirming `ACTIVE` rights-chain state for Jurisdiction B from 2025-06-01.
4. Provisional events upgraded to Tier 1; calculation proceeds for gap period.
5. If Jurisdiction B registry is refused or the assignment is challenged: D-RIGH dispute filed; gap-period revenue held; resolution per legal determination.
6. Adjustment lineage record: if gap-period provisional events were included in an interim calculation, corrective EP Delta and off-cycle correction issued upon Tier 1 upgrade.

Checks: RC-04, RC-10; *Break:* BR-R08; *Pattern:* Sequential jurisdiction enforceability gap

---

R.3 Cross-Border Conflict-of-Process Summary Table

Conflict Pattern	Primary Operational Risk	Framework Posture	Resolution Locus
Consent validity differs by	Revenue proceeds under `ASSERTED`;	Tier 2 provisional; legal hold on disputed amounts	Legal determination by applicable authority

Conflict Pattern	Primary Operational Risk	Framework Posture	Resolution Locus
jurisdiction	dispute risk		
Parallel collecting society mandates	Dual revenue claim; double payment risk	Hold-only containment until mandate confirmed	Society-to-society or rights-holder arbitration
Multi-jurisdiction succession	Split contribution chain; incorrect split allocation	Jurisdiction-stratified split allocation; succession gap holds	Probate or succession law in each jurisdiction
Cross-border AI training law conflict	Absent consent for opt-in jurisdiction rights-holders	Hold for non-opted-in rights-holders; opt-in tracking	Rights-holder opt-in or regulatory guidance
Evidence production privacy conflict	Conflict between disclosure obligation and data minimization	Redaction per more restrictive jurisdiction; proof-based alternative	Legal process between arbitration panel and applicable authority
Sequential jurisdiction enforceability	Gap period during cross-border assignment registration	`ASSERTED` until local registration; provisional during gap	Local registry confirmation; dispute if refused

---

Appendix S — Confidence / Corroboration Bands for Reviewer Use

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Purpose: This appendix provides a structured confidence and corroboration banding system for use by reviewers, examiners, and investigators when evaluating EP evidence that does not meet the maximum evidentiary standard. The bands translate evidence quality into operational guidance — covering what actions are permissible, what qualifications must be applied, and when escalation or additional corroboration is required. This system applies across all five state domains and is particularly relevant to origin assertion evaluation (Section 4.2), lineage reconstruction (Appendix M.3), and calculation provisional event management (Section 8.2).

S.1 Confidence Band Framework

The confidence band framework operates on three axes:

Axis	Description	Values
Evidence quantity	Number of independent sources supporting the state claim	Single / Dual / Multiple
Evidence quality	Reliability and independence of each source	Primary / Corroborating / Circumstantial
Consistency	Whether sources agree or contain contradictions	Consistent / Partially consistent / Contradictory

The combination of these three axes produces a confidence band assignment.

S.2 Confidence Band Definitions

Band	Label	Evidence Profile	Operational Meaning
Band 5	**Verified**	Direct content-addressed hash match + unbroken manifest chain + at least one primary source	State is fully evidenced and replayable; no qualifier required
Band 4	**Strongly corroborated**	Two or more independent primary sources; consistent; no contradicting evidence; hash match not available but all other evidence aligns	State is well-evidenced; minor qualifier applied; recertification at standard cadence
Band 3	**Corroborated**	One primary source plus one or more corroborating sources; consistent; no contradicting evidence	State is adequately evidenced for operational use with a documented assumption; recertification at accelerated cadence
Band 2	**Asserted**	Single primary source only; no independent corroboration; no contradicting evidence	State is claimed but not independently verified; qualifier mandatory; use in calculation permitted with Tier 2 provisional flag; flagged for recertification
Band 1	**Weakly asserted**	Single circumstantial or low-quality source; no primary evidence; no contradicting evidence	State is weakly claimed; use in calculation requires documented exception and senior authorization; recertification mandatory at next cycle
Band 0	**Unresolvable**	No credible evidence found despite investigation; or contradicting evidence exists that cannot be resolved	State cannot be assigned; blocked from calculation; monitored exception registered

---

S.3 Confidence Band Mapping to Authenticity State

Confidence Band	Authenticity State Assigned	Royalty Calculation Treatment	Recertification Requirement
Band 5 — Verified	`VERIFIED`	Tier 1 — fully eligible	Annual standard

Confidence Band	Authenticity State Assigned	Royalty Calculation Treatment	Recertification Requirement
			cadence
Band 4 — Strongly corroborated	CORROBORATED	Tier 1 — eligible; notation in calculation artifact	Annual standard cadence
Band 3 — Corroborated	CORROBORATED	Tier 1 with CORROBORATED notation	Semi-annual; or at next material change
Band 2 — Asserted	ASSERTED	Tier 2 provisional	Quarterly; or at next calculation cycle
Band 1 — Weakly asserted	ASSERTED (with Level 4–5 origin assertion)	Tier 3 — held pending supplementary evidence; exception required	Immediate; before next calculation
Band 0 — Unresolvable	UNRESOLVABLE	Blocked from calculation	Monitored exception; annual review

S.4 Confidence Band Mapping to Consent State

Confidence Band	Consent Dimension Sub-State	Calculation Treatment	Qualifier Applied
Band 5	CONFIRMED	Fully eligible	None
Band 4	CONFIRMED with notation	Fully eligible	Notation in calculation artifact: "Confirmed; single corroborating source; no contradicting evidence"
Band 3	CONFIRMED with assumption note	Tier 1 eligible; flag for recertification	"Confirmed based on corroborating evidence; primary instrument review recommended"
Band 2	ASSERTED	Tier 2 provisional	"Asserted; single source; no independent corroboration; recertification required"
Band 1	ASSERTED (weak)	Tier 3 — held; exception required	"Weakly asserted; minimal evidence basis; held pending corroboration"
Band 0	ABSENT or UNRESOLVABLE	Blocked	"No credible evidence found; blocked from calculation"

S.5 Confidence Band Mapping to Lineage State

Confidence Band	Transformation Authorization State	Materiality Class Treatment	Revenue Treatment
Band 5	CONFIRMED	All classes	Fully eligible
Band 4	CONFIRMED	Class A, B, C	Eligible; notation in lineage record
Band 3	CONFIRMED (with documented assumption)	Class B, C	Eligible with qualifier; Class A requires additional corroboration
Band 2	ASSERTED	Class B, C only	Tier 2 provisional; Class A held pending corroboration
Band 1	ASSERTED (weak)	Class C only	Exception required for any class;

Confidence Band	Transformation Authorization State	Materiality Class Treatment	Revenue Treatment
			Class A and B held
Band 0	`ABSENT` or `CONTESTED`	All classes	Blocked; contamination check triggered if Class A

S.6 Source Quality Classification

Not all evidence is equal. The following classification system grades each source on its reliability and independence, which feeds into the band determination.

Source Quality Class	Description	Examples	Weight
Primary — Direct	Source that directly establishes the claimed state without inference	Content-addressed hash match; signed registration record; original instrument with authenticated signature; studio session log with engineer certification	Highest
Primary — Attested	Source created contemporaneously with the claimed event by a party with direct knowledge, but not the registrant itself	Third-party session attestation; label archive record; union session documentation; registration with a recognized collecting society at the time	High
Corroborating — Documentary	Source that supports but does not independently establish the claim; may have been created after the fact	Trade publication reference; contemporaneous press coverage; catalog listing; prior licensing reference; invoice record	Moderate
Corroborating — Testimony	Oral or written testimony from a party with claimed direct knowledge	Affidavit from session participant; letter from prior rights-holder; witness declaration	Moderate-Low
Circumstantial	Source consistent with the claim but equally consistent with other explanations	General catalog reference; undated label archive; format-only evidence without content identification	Low
Unreliable	Source with known accuracy or independence problems; self-serving without corroboration; internally inconsistent	Unverified social media post; retroactive self-attestation without documentary support; contradicted by other sources	Not counted

S.7 Band Determination Worksheet

For any evidence set supporting a state claim, the reviewer completes the following worksheet to determine the confidence band.

```
CONFIDENCE_BAND_DETERMINATION
```

```
  determination_id:          [unique identifier]
  domain:                    [AUTHENTICITY | CONSENT | LINEAGE | RIGHTS |
ROYALTY]
  artifact_manifest_id:      [artifact under review]
  state_claimed:             [specific state value being evaluated]
  reviewer_role:             [governance role of reviewer]
  determination_timestamp:   [ISO 8601]

  EVIDENCE INVENTORY:
    [one row per source:]
    | Source ID | Source Type | Quality Class | Contents Summary | Consistent
with Claim? |
    |-----------|------------|---------------|-----------------|---------------
------|
    | SRC-001   | Studio session log | Primary-Direct | Engineer-certified
session dates, participants, artifact description | YES |
    | SRC-002   | Trade publication | Corroborating-Documentary | Review
published contemporaneously; identifies artifact and release | YES |
    | SRC-003   | Affidavit | Corroborating-Testimony | Signed by surviving
session participant; details session | YES |

  CONSISTENCY CHECK:
    all_sources_consistent:    [YES | NO | PARTIAL]
    contradictions_identified:[description if PARTIAL or NO]

  BAND DETERMINATION:
    primary_direct_count:      [count of Primary-Direct sources]
    primary_attested_count:    [count of Primary-Attested sources]
    corroborating_count:       [count of Corroborating sources]
    hash_match_available:      [YES | NO]
    contradiction_flag:        [YES | NO]

    band_assigned:             [0 | 1 | 2 | 3 | 4 | 5]
    band_rationale:            [brief explanation of band assignment]

  OPERATIONAL CONSEQUENCES:
    state_assigned:            [per band mapping in S.3-S.5]
```

```
    calculation_treatment:    [Tier 1 | Tier 2 | Tier 3 | Blocked]
    qualifier_text:           [text to include in calculation artifact if
qualifier required]
    recertification_deadline: [date by which band must be re-evaluated]

  determination_hash:         [SHA-256 of this record]
```

S.8 Corroboration Gap Identification

A corroboration gap exists when the evidence available for a state claim is insufficient for Band 3 or higher and additional evidence could potentially be obtained. Reviewers are expected to identify corroboration gaps and indicate what additional evidence, if obtained, would upgrade the band.

```
CORROBORATION_GAP_RECORD

  gap_id:                   [unique identifier]
  determination_id:         [pointer to band determination]
  current_band:             [0 | 1 | 2]
  target_band:              [3 | 4 | 5]
  gap_description:          [what evidence is missing]
  evidence_sought:          [description of evidence that would close the gap]
  potential_sources:        [list of parties or archives who might hold the
evidence]
  investigation_actions:    [actions taken or planned to obtain the evidence]
  investigation_deadline:   [ISO 8601 date by which investigation is expected
complete]
  if_gap_not_closed:        [operational consequence: state remains at current
band;
                            affected revenue continues at current treatment
tier;
                            recertification required at defined cadence]
  gap_hash:                 [SHA-256 of this record]
```

S.9 Confidence Band Application — Cross-Domain Reference Table

The following table shows how confidence bands translate into operational consequences across all five state domains.

Band	Authenticity	Consent	Lineage	Rights-Chain	Royalty/Payout
5 — Verified	VERIFIED; Tier 1; no qualifier	CONFIRMED; Tier 1	CONFIRMED; fully eligible	ACTIVE; IN_SCOPE; Tier 1	FINALIZED; chain complete

Band	Authenticity	Consent	Lineage	Rights-Chain	Royalty/Payout
4 — Strongly corroborated	CORROBORATED; Tier 1; notation	CONFIRMED with notation; Tier 1	CONFIRMED with notation	ACTIVE; notation	FINALIZED with notation
3 — Corroborated	CORROBORATED; Tier 1 with qualifier	CONFIRMED assumption note; qualified	CONFIRMED with assumption; Class B/C only at full eligibility	ASSERTED; Tier 2 provisional	PROVISIONAL; 90-day window
2 — Asserted	ASSERTED; Tier 2 provisional	ASSERTED; Tier 2 provisional	ASSERTED; Class B/C Tier 2; Class A held	ASSERTED; Tier 2	PROVISIONAL; senior auth required
1 — Weakly asserted	ASSERTED (Level 4–5); Tier 3; exception	ASSERTED weak; Tier 3; exception	All Class A/B held; Class C exception	ASSERTED weak; Tier 3	Tier 3; held; investigation
0 — Unresolvable	UNRESOLVABLE; blocked	ABSENT; blocked	ABSENT; blocked; contamination check	CONTESTED; blocked	Blocked; monitored exception

S.10 Band Escalation and Review Requirements

Band	Review Cadence	Escalation If Not Upgraded
Band 5	Annual	None — standard recertification
Band 4	Annual	None — standard recertification
Band 3	Semi-annual	If not upgraded to Band 4+ within 12 months: flag for senior review
Band 2	Quarterly	If not upgraded to Band 3+ within 6 months: reclassify affected events from Tier 2 to Tier 3
Band 1	Immediate (before next calculation cycle)	If not upgraded within 30 days: blocked from all calculations; monitored exception
Band 0	Annual (monitored exception review)	Annual review; resolution path pursued; permanent exception if unresolvable

Appendix T — Performance and SLA / SLO Reference Tables

Purpose: This appendix provides reference performance targets for the evidence infrastructure's operational workflows. These targets are expressed as Service Level Agreements (SLA — response time commitments) and Service Level Objectives (SLO — quality and completeness targets). They are non-normative operational benchmarks

designed to help implementing institutions calibrate their internal processes. Actual targets should be adapted to the institution's portfolio scale, staffing, technology, and regulatory environment. Targets are organized by workflow stage and role.

T.1 Evidence Registration SLAs

Registration Event	Target Completion	Maximum Acceptable	Quality Standard (SLO)
Source object manifest registration	Within 1 business day of artifact delivery	3 business days	100% of mandatory fields populated; hash computed and verified
Derivative object manifest registration	Within 1 business day of transformation completion	3 business days	Parent manifest linkage confirmed; transformation event log entry created
Transformation event log entry creation	At or before output manifest registration	1 business day after output registration	Operator class, authorization state, and authorization reference populated
Synthesis provenance record creation	At or before synthetic output registration	1 business day after output registration	Training data authorization reference populated
Consent instrument registration	Within 3 business days of instrument execution	5 business days	All six scope dimensions populated or documented with ASSERTED sub-state
Consent lifecycle EP Delta issuance	Within 3 business days of trigger event	5 business days	Prior state snapshot and new state snapshot both captured
Rights-chain license tier registration	Within 3 business days of license execution	5 business days	Scope ceiling check completed; restriction registry queried
Rights-chain lifecycle EP Delta	Within 3 business days of trigger event	5 business days	Downstream license review initiated if ceiling affected
Monetization event rights-state linkage	Before or at usage event intake for calculation	1 business day post-intake	Scope check result recorded; all six dimensions evaluated

---

T.2 Reconciliation Run SLAs

Reconciliation Type	Target Frequency	Maximum Acceptable Interval	Completion SLO
Full EP hash chain verification (SI-06)	Quarterly	6 months	100% of manifest chains verified; all breaks registered
SI boundary tests (SI-01 to SI-08)	Quarterly	6 months	All applicable tests executed per artifact type; results logged in Layer 1
Consent lifecycle review	Monthly	2 months	All instruments within 60 days of expiry flagged; all revocations reflected in EP

Reconciliation Type	Target Frequency	Maximum Acceptable Interval	Completion SLO
Rights-chain scope check	Monthly	2 months	Restriction registry queried for all active distribution events
Usage event completeness review	Monthly per reporting source	2 months	All Tier 3/4 events identified; break register updated
Calculation artifact integrity check	Per calculation cycle	45 days post-cycle	Calculation replayable from registered inputs; hash verified
Payout chain completeness review	Per payout cycle	45 days post-cycle	All linkage records chain_complete = YES or investigated
Hold record status review	Monthly	2 months	All holds with resolution dates confirmed; escalations at 180 days
Full EP integrity scan	Annually	18 months	All layers; all chains; all cross-layer pointers; results registered in Layer 7
Recertification compliance audit	Annually	18 months	All subjects reviewed; overdue certifications flagged and expedited

T.3 Royalty Calculation Cycle SLAs

Calculation Stage	Target Completion After Period End	Maximum Acceptable	Quality SLO
Usage event intake aggregation	20 days post-period	30 days	All reporting sources received; unmatched events flagged; tiers assigned
Rights-state and consent-state checks	25 days post-period	35 days	All events processed; Tier 3/4 events held
Calculation run execution	30 days post-period	40 days	Calculation artifact created; hash computed; all input references linked
Split allocation completion	32 days post-period	42 days	Residual = 0 or BR-P03 raised; all instrument references populated
Payment instruction issuance	35 days post-period	45 days	All non-held net_payable amounts have instructions; dual auth obtained above threshold
Settlement confirmation receipt	45 days post-period	60 days	All instructions confirmed; variances flagged within 3 business days
Payout linkage record completion	50 days post-period	65 days	All chain_complete = YES or break registered
Payout Cycle Finality Record issuance	55 days post-period	70 days	All finality conditions met or open conditions documented
Provisional event resolution	90 days post-calculation run	90 days (hard)	All Tier 2 events resolved to Tier 1 or reclassified to Tier 3

T.4 Dispute and Exception Management SLAs

Dispute / Exception Stage	Target	Maximum Acceptable	Quality SLO
Dispute classification (upon filing)	4 hours (Critical); 24 hours (High); 48 hours (Moderate)	Double target	100% of filings classified within maximum
Hold-only containment application	Immediate upon Critical break or dispute filing	4 hours	Revenue correctly scoped; hold set created and linked to preservation bundle
Investigation owner assignment	24 hours from dispute filing	48 hours	Named accountable party assigned; initial evidence review plan documented
Evidence pack exchange initiation	3 business days from investigation assignment	5 business days	Tier 1 or Tier 2 access granted; production packages prepared
Dispute Finding Record issuance	30 business days from investigation assignment	45 business days	All dimensions evaluated; evidence basis documented; EP Delta package identified
Hold release (post-resolution)	5 business days from Finding Record	10 business days	Dual authorization obtained; corrective instructions issued
Monitored exception registration	15 business days after maximum response deadline exceeded	20 business days	Exception record created; review cadence assigned; revenue estimate documented
Monitored exception review	Per assigned cadence (monthly or quarterly)	1.5× cadence interval	Review conducted; status updated; escalation if conditions worsened
Offboarding process completion	Target completion date in Offboarding Declaration	Declaration date + 30 days	All OB-01 through OB-08 checks passed; OPB assembled and delivered

T.5 Access Governance SLAs

Access Governance Event	Target	Maximum Acceptable	Quality SLO
Tier 0 proof generation (PT-01 through PT-05)	30 minutes	4 hours	Proof output hash computed; proof generation record logged in Layer 7
Tier 1 access grant processing	1 business day from request receipt	2 business days	Purpose documented; scope defined; TTL set; records assembled
Tier 2 access grant processing	1 business day from request receipt (non-emergency)	2 business days	Purpose documented; dual authorization obtained; scope defined
Emergency Tier 2 access — single-party interim	Immediate (no target; as fast as possible)	N/A	Emergency declaration logged; scope restricted; second-party notification sent
Emergency Tier 2 —	Within 24 hours of	24 hours (hard)	Confirmation or revocation

Access Governance Event	Target	Maximum Acceptable	Quality SLO
second-party confirmation	single-party interim		logged; post-emergency review scheduled
Post-access review — Tier 1 (routine)	Within 15 business days of access	20 business days	Access log reviewed; scope compliance confirmed; reviewer attestation obtained
Post-access review — Tier 1 (dispute)	Within 10 business days of access	15 business days	As above; dispute findings cross-referenced
Post-access review — Tier 2	Within 10 business days of access completion	15 business days	As above; all Tier 2-specific review elements completed
Post-emergency access review	Within 5 business days of access	7 business days	Emergency justification reviewed; scope compliance confirmed; governance finding recorded
TTL expiry notification	At least 48 hours before expiry	Same-day notification at expiry	Reviewer notified; extension authorization path documented if needed

T.6 Governance Cycle SLAs

Governance Cycle Event	Target Frequency	Maximum Interval	Completion SLO
Recertification — consent instruments	Annual; and 60 days before expiry	14 months	100% of instruments reviewed; lifecycle EP Deltas issued where required
Recertification — rights-chain entries	Annual; and at any rights-chain event	14 months	100% of active license tiers reviewed; scope ceiling checks re-run
Recertification — delegation records	At expiry; and at role change	Per expiry date	All expired delegations revoked; actions under expired delegations reviewed
Recertification — access grants (Tier 1/2)	At TTL expiry	Per TTL expiry date	Access terminated at TTL; extension requires new authorization
Recertification — calculation officer mandate	Annual	14 months	Mandate confirmed; if overdue: hold new calculations pending renewal
Governance audit — full	Annual	18 months	SOD compliance, delegation compliance, break register, override records, recertification schedule — all reviewed
Liability trigger catalog scan	Monthly	2 months	All LT conditions evaluated; unresponded triggers flagged
Material change response	Per Section 11.4 timelines	Per Section 11.4 maximum	EP Delta issued; affected parties notified
Override post-review	Within 10 business days	15 business days	Finding recorded; if INAPPROPRIATE: Class II incident opened

T.7 Break Resolution SLOs

Break Severity	Target Resolution	Maximum Resolution	Escalation If Overdue
Critical	24 hours to investigation initiation; 5 business days to resolution	10 business days to resolution	Dispute Governor escalation at 24 hours; senior management at 5 business days; supervisory at 10
High	1 business day to investigation initiation; 10 business days to resolution	15 business days to resolution	Senior role escalation at 5 business days; Dispute Governor at 10
Moderate	3 business days to investigation initiation; 15 business days to resolution	20 business days to resolution	Reconciliation Officer escalation at 15 business days; Dispute Governor at 20
All	Overdue breaks: transition to monitored exception at maximum + 1 day	—	Monitored exception registered; hold-only containment maintained

Resolution quality SLO: A break is considered resolved only when: (a) the underlying condition is remediated or documented as a monitored exception; (b) a corrective EP Delta has been issued where required; (c) hold-only containment has been released or confirmed as maintained with new expected resolution date; and (d) affected parties have been notified.

T.8 Offboarding SLOs

Offboarding Stage	Target Duration from Declaration	Maximum Duration	Quality SLO
Final State Snapshot creation	5 business days from declaration	10 business days	All layers included; ep_state_hash computed; no post-FSS modifications
Final Reconciliation Proof completion	10 business days from FSS creation	15 business days	All boundary tests executed; all inventories compiled; co-signed
Open-break disclosure	15 business days from FRP completion	20 business days	All Critical/High breaks disclosed; all holds disclosed; acknowledgments requested
Portable evidence set assembly	20 business days from declaration	30 business days	Per rights-holder type; minimization applied; production manifests created
Legacy Transition Manifest (if migration)	20 business days from declaration	30 business days	Identifier mapping complete; hash preservation confirmed
Custody acceptance receipt	25 business days from OPB delivery	35 business days	Receiving custodian has verified OPB bundle hash; acceptance record signed
Offboarding completion declaration	30 business days from declaration	45 business days	All OB checks pass; OPB completion verification passed; Layer 7 closure record filed
Post-offboarding monitoring confirmation	Within 5 business days of custody	10 business days	Receiving custodian has acknowledged all inherited

Offboarding Stage	Target Duration from Declaration	Maximum Duration	Quality SLO
	acceptance		obligations and deadlines

T.9 SLA / SLO Reporting Template

The following template is used for periodic SLA/SLO compliance reporting to governance reviewers.

```
SLA_SLO_COMPLIANCE_REPORT

  report_id:                [unique identifier]

  reporting_period:         [start — end]

  report_timestamp:         [ISO 8601]

  reporting_scope:          [full portfolio | specific artifact set | specific
workflow]


  EVIDENCE REGISTRATION:

    registrations_within_target: [count; percentage]

    registrations_within_maximum: [count; percentage]

    registrations_overdue:       [count; list of artifact IDs]

    quality_slo_met:             [count; percentage with all mandatory fields
populated]


  RECONCILIATION:

    runs_completed_on_schedule:  [count; percentage]

    runs_overdue:                [count; workflow types overdue]

    break_detection_rate:        [breaks detected per reconciliation run; trend]


  CALCULATION CYCLE:

    cycles_completed_within_target: [count; percentage]

    cycles_overdue:                 [count; workflow stage causing delay]

    provisional_events_resolved_within_90_days: [percentage]

    finality_records_issued_on_time: [percentage]


  DISPUTE MANAGEMENT:

    classification_within_target: [percentage by severity]

    hold_application_within_target: [percentage]

    finding_records_within_target: [percentage]
```

```
    average_dispute_resolution_days: [by dispute class]
    disputes_escalated_to_exception: [count; percentage]

  ACCESS GOVERNANCE:
    proof_generation_within_target: [percentage]
    tier_1_grants_within_target:    [percentage]
    post_access_reviews_completed:  [percentage]
    emergency_second_party_confirmations_within_24h: [percentage]

  BREAK RESOLUTION:
    critical_breaks_resolved_within_target: [percentage]
    high_breaks_resolved_within_target:     [percentage]
    moderate_breaks_resolved_within_target: [percentage]
    breaks_transitioned_to_exception:       [count]

  GOVERNANCE CYCLE:
    recertifications_current:    [percentage]
    recertifications_overdue:    [count; by subject]
    governance_audits_completed: [YES | NO; date of last audit]

  EXCEPTIONS AND DEVIATIONS:
    [list of SLA breaches with root cause and corrective action]
    | SLA Item | Breach Count | Root Cause | Corrective Action | Target
Resolution Date |
    |----------|-------------|-----------|-------------------|------------------
----|

  TREND INDICATORS:
    registration_timeliness_trend: [IMPROVING | STABLE | DECLINING]
    dispute_resolution_trend:      [IMPROVING | STABLE | DECLINING]
    break_detection_rate_trend:    [IMPROVING | STABLE | DECLINING]
    overall_slo_compliance:        [percentage of all SLOs met in period]

  report_hash:              [SHA-256 of this record]
```

T.10 SLA / SLO Target Setting Guidance

The targets in this appendix are reference benchmarks. Implementing institutions should calibrate targets based on the following factors:

Factor	Calibration Direction
Portfolio size (artifact count)	Larger portfolios: extend registration and reconciliation targets proportionally; invest in automation to maintain quality SLOs
Dispute frequency	Higher dispute rate: accelerate dispute management SLAs; consider dedicated dispute staff
Regulatory environment	More active supervisory environment: tighten governance cycle SLAs; increase reconciliation frequency
Technology maturity	Manual processes: widen maximum acceptable windows; automate where possible to narrow them over time
Rights-holder complexity	Many co-rights-holders: extend split allocation and consent lifecycle SLAs; invest in rights-chain EP tooling
AI output volume	High synthetic output volume: tighten synthesis provenance registration SLA; automated SI-07 check at registration
Geographic scope	Multi-jurisdiction: extend cross-border rights-chain registration SLAs; account for registry timelines

T.11 SLO Quality Metrics Definitions

Metric	Definition	Measurement Method
Mandatory field population rate	Percentage of registered records with all mandatory fields populated at registration	Count of records with null mandatory fields ÷ total registrations per period
Hash verification success rate	Percentage of SI-01 boundary tests that pass on first execution	Count of PASS results ÷ total SI-01 executions per period
Calculation replayability rate	Percentage of calculation artifacts that produce identical outputs when replayed	Count of successful replays ÷ total calculation replay attempts per period
Provisional resolution rate	Percentage of Tier 2 provisional events resolved within 90-day window	Count of resolved-within-window ÷ total Tier 2 events per period
Break resolution rate	Percentage of breaks resolved within maximum acceptable timeline	Count resolved within maximum ÷ total breaks detected per period
Post-access review completion rate	Percentage of Tier 1 and Tier 2 access events with completed post-access reviews within deadline	Count completed within deadline ÷ total access events per period
Dispute resolution timeliness	Percentage of disputes with Finding Record issued within target	Count within target ÷ total disputes per period
Offboarding completion rate	Percentage of offboarding declarations completed within maximum duration	Count completed within maximum ÷ total offboardings per period

Appendix U — Adversarial Failure Patterns, Abuse Cases, and Containment Logic for Authenticity, Consent, Lineage, and Royalty Workflows

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U.0 Purpose and Reader Orientation

U.0.1 Core Thesis

"Operational integrity cannot be assessed solely from successful processing paths. Authenticity, consent, derivation, and royalty workflows must also be evaluated against adversarial misuse, stale or forged authorization states, incomplete or conflicting evidence, broken lineage, reviewer-access failures, payout integrity breaks, and

exception handling weaknesses. This appendix provides a bounded, non-destructive framework for detecting, containing, preserving, replaying, correcting, and governing such conditions."

U.0.2 Secondary Thesis

"The objective is not to predict every abuse variant, but to ensure that materially relevant failures become operationally visible, evidentially reconstructable, governably containable, and correction-ready without requiring blind trust, unrestricted disclosure, or destructive replacement of disputed states."

U.0.3 Why This Appendix Exists

Operational frameworks designed exclusively around the "happy path" — where all assertions are honest, all evidence is complete, all authorizations are current, and all payouts are correctly calculated — are insufficient for institutional review purposes. Authenticity, consent, derivation, rights-chain, and royalty workflows are subject to:

- incomplete evidence states arising from process failures, handoff gaps, or legacy workflow gaps;
- forged, stale, or misapplied authorization artifacts that appear compliant but are not;
- broken or contested lineage chains that make derivation history irreconstructable;
- reviewer and examiner access patterns that exceed bounded purpose or TTL limits;
- payout and settlement integrity failures arising from calculation errors, disputed splits, or premature finalization;
- override and exception governance failures where rationale is absent or insufficient;
- preservation failures that impair the ability to replay or reconstruct disputed states.

This appendix operationalizes the detection, containment, preservation, replay, correction, and governance responses for each of these conditions.

U.0.4 What This Appendix Is and Is Not

This appendix IS:

- an operational failure and abuse analysis reference for reviewers, auditors, institutions, governance operators, supervisory readers, and dispute-handling teams;
- a containment and preservation reference grounded in the evidence-pack, EP Delta, chain-of-custody, tiered-access, and reconciliation disciplines of the main framework;
- portable across voice, image, film, music, and synthetic-media workflows.

This appendix IS NOT:

- a law-enforcement guide or fraud investigation playbook for public release;
- a cyber exploitation manual or offensive tradecraft reference;
- a copyright infringement analysis or legal liability framework;
- a censorship or moderation policy document;
- a speculative AI safety essay.

U.0.5 Relationship to the Main Framework

This appendix is subordinate to and consistent with the main framework sections on evidence artifacts (Section 9), tiered reviewer access (Section 10), governance and change control (Section 11), disputes and hold-only containment (Section 12), and offboarding (Section 13). All break IDs referenced here correspond to the taxonomy in Appendix C. All check IDs referenced correspond to Appendix D. EP Delta discipline follows the standards established throughout the main framework.

U.1 Failure and Abuse Taxonomy

U.1.1 Master Failure Taxonomy Table

Class ID	Failure Class	Primary Workflow Domain	Typical Surface
FC-01	Authenticity-state failure	Source integrity	Manifest mismatch, hash conflict, unverifiable origin
FC-02	Consent-state failure	Consent and authorized-use	Missing, expired, revoked, or scope-exceeded consent
FC-03	Authority/signatory failure	Consent, rights-chain	Unauthorized signatory, forged delegation
FC-04	Scope-of-use failure	Consent, rights-chain	Territory, channel, purpose, or duration exceedance
FC-05	Derivation/transformation lineage failure	Lineage	Orphaned derivative, broken chain, unlogged transformation
FC-06	Official-version / derivative confusion	Authenticity, lineage	Draft or derivative asserted as canonical
FC-07	Rights-chain integrity failure	Rights-chain	Gap in chain of title, split inconsistency, expired license
FC-08	Royalty calculation failure	Royalty	Mismatched inputs, stale rate basis, replay failure
FC-09	Settlement confirmation / payout linkage failure	Royalty-settlement	Unconfirmed payout, unmatched calculation, premature finalization
FC-10	Reviewer / examiner access abuse or overreach	Bounded access	Excess scope, expired TTL, missing post-access review
FC-11	Override / exception governance failure	Governance	Override without rationale, insufficient authorization
FC-12	Preservation / chain-of-custody failure	Evidence preservation	Deleted records, broken custody chain, incomplete bundle
FC-13	Supersession / revocation propagation failure	Consent, lineage, rights	Revoked state still active downstream, parallel truth states
FC-14	Offboarding / archival integrity failure	Offboarding	Open breaks carried forward, incomplete evidence transfer

U.1.2 Failure State Vocabulary

The following terms are used consistently throughout this appendix to describe the state of an artifact, record, or evidence element at any point in a failure or resolution workflow:

State Term	Definition
Unresolved state	A break has been detected but no investigation has been completed; no corrective action has been taken
Disputed state	Two or more conflicting assertions exist and a formal dispute or investigation is active
Superseded state	A prior version or state has been explicitly replaced by a newer record; the prior state is preserved but no longer operative
Contained state	A hold-only containment or distribution restriction has been applied; the artifact or record is not active but has not been modified
Corrected state	An EP Delta has been issued, the prior state is preserved, and the corrected state is now operative
Archived state	A record has been moved to long-term preservation; it is no longer operationally active but remains retrievable

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U.2 Adversarial Abuse Pattern Families

U.2.1 Abuse Pattern Table

Pattern ID	Abuse Pattern Name	Failure Class	Operational Consequence
AP-01	Forged or unverifiable consent artifact	FC-02, FC-03	Unauthorized use proceeds under apparent consent cover
AP-02	Stale authorization reused after expiry or revocation	FC-02, FC-13	Expired or revoked consent or rights state treated as operative
AP-03	Synthetic derivative presented as canonical	FC-01, FC-06	AI-generated or transformed version displaces official source in distribution
AP-04	Scope-of-use exceeded without state update	FC-04	Use proceeds beyond authorized territory, channel, purpose, or duration
AP-05	Unauthorized voice or image extension in commercial workflow	FC-02, FC-04	Performance or likeness used in contexts not covered by consent record
AP-06	Incomplete lineage used as basis for royalty calculation	FC-05, FC-08	Royalty calculation references a derivation chain with gaps; contribution splits may be incorrect
AP-07	Payout triggered before reconciliation closure	FC-09	Settlement confirmation issued or payout instruction executed before all usage events are matched
AP-08	Override issued without sufficient rationale preservation	FC-11	Governance control bypassed; override cannot be audited or replayed
AP-09	Reviewer access escalated without adequate purpose or TTL	FC-10	Confidential evidence disclosed beyond bounded scope
AP-10	Chain-of-custody break during dispute evidence handling	FC-12	Evidence integrity impaired; replay and reconstruction may not be possible
AP-11	Unresolved supersession conflict causing parallel truth states	FC-06, FC-13	Two versions of the same artifact are simultaneously treated as canonical by different workflows

Pattern ID	Abuse Pattern Name	Failure Class	Operational Consequence
AP-12	Offboarding with unresolved breaks or incomplete evidence carry-forward	FC-14	Open breaks, contested states, or incomplete evidence are lost or inaccessible post-offboarding
AP-13	Split manipulation in multi-contributor royalty workflow	FC-07, FC-08	Contribution-chain splits altered without authorization or EP Delta
AP-14	Lineage contamination through undisclosed synthetic element	FC-05, FC-01	An AI-modified component is incorporated into a composite without a synthetic-origin annotation
AP-15	Reviewer query over-expansion beyond dispute scope	FC-10	A bounded reviewer query retrieves evidence outside the authorized dispute or examination scope

U.2.2 Pattern Groupings by Operational Focus

Group	Included Pattern IDs	Focus Area
Authorization integrity	AP-01, AP-02, AP-05	Consent and signatory state failures
Version and origin integrity	AP-03, AP-11, AP-14	Authenticity and lineage confusion
Scope and use compliance	AP-04, AP-05	Territory, channel, purpose, duration exceedance
Financial integrity	AP-06, AP-07, AP-13	Royalty calculation and payout linkage
Governance and oversight	AP-08, AP-09, AP-15	Override abuse and reviewer overreach
Evidence and custody	AP-10, AP-12	Preservation and offboarding failures

U.3 Detection Logic and Control Triggers

U.3.1 Detection Trigger Matrix

Pattern ID	Detection Signal	Manifest Indicator	Approval Chain Gap	TTL / Expiry Signal	Scope Mismatch	Break Flag
AP-01	Consent record present but authority reference unresolvable	Missing signatory authority record	Signatory not linked to rights-holder record	N/A	N/A	CON-004, CON-006
AP-02	Consent or rights record in active use past validity date	Validity-end date field exceeded	No renewal record found	TTL expired; no recert	N/A	CON-002, RCH-005
AP-03	Distribution object hash differs from canonical source hash	Content-address mismatch in manifest	No official-release classification record	N/A	N/A	AUTH-004, AUTH-006
AP-04	Distribution record references territory, channel, or purpose outside	Scope fields mismatch between distribution and	N/A	N/A	Territory / channel / purpose mismatch	CON-003, RCH-007

Pattern ID	Detection Signal	Manifest Indicator	Approval Chain Gap	TTL / Expiry Signal	Scope Mismatch	Break Flag
	consent or license scope	consent records				
AP-05	Usage event references voice, image, or likeness without synthetic-use or extension consent record	Missing synthetic-use annotation	No synthetic-use consent addendum	Consent TTL may not cover new use	Synthetic use vs. original-use consent	CON-008, CON-001
AP-06	Royalty calculation references lineage artifact with missing or orphaned elements	Lineage chain break in manifest	Transformation authorization absent	N/A	N/A	LIN-001, LIN-005, ROY-004
AP-07	Settlement confirmation issued before usage-event matching is complete	Open usage-event IDs in calculation artifact	Finality record references incomplete calculation	N/A	N/A	ROY-007, ROY-015
AP-08	Override record present without linked rationale document	Accountability record absent	Single-officer override without multi-party sign-off	N/A	N/A	GOV (override log gap)
AP-09	Access log shows reviewer at elevated tier without authorization record	No elevation authorization in access log	Purpose field absent or generic	TTL absent or expired	Access scope exceeds dispute scope	ACC-CHK-002, ACC-CHK-005
AP-10	Chain-of-custody log has unexplained gap during evidence handling	Custody handoff record missing	N/A	N/A	N/A	AUTH-024 (custody gap)
AP-11	Two manifest entries assert different version states for the same artifact ID	Conflicting version-state fields	No supersession chain links them	N/A	N/A	LIN-004, AUTH-006
AP-12	Offboarding bundle is missing records for open breaks or active consent states	Bundle manifest incomplete	Open break register not included	N/A	N/A	OFF-CHK-004, OFF-CHK-005

Pattern ID	Detection Signal	Manifest Indicator	Approval Chain Gap	TTL / Expiry Signal	Scope Mismatch	Break Flag
AP-13	Royalty split in calculation artifact differs from contribution-chain split record	Split fields inconsistent	No EP Delta for split change	N/A	N/A	ROY-005, RCH-004
AP-14	Composite artifact contains elements with no source reference and no synthetic-origin annotation	Missing synthetic-origin field	No transformation log entry for AI process	N/A	N/A	LIN-008, AUTH-015
AP-15	Reviewer query results contain artifacts outside the declared dispute or examination scope	Query scope field exceeds authorization	N/A	N/A	Query scope vs. authorized scope	ACC-CHK-017

U.3.2 Pre-Break Signal Indicators (S-5 Signals)

The following conditions do not yet constitute breaks but are pre-break signals that should be logged and monitored:

Signal ID	Description	Related Pattern	Monitoring Action
PBS-01	Consent TTL within 30 days of expiry; no renewal action initiated	AP-02	Log; assign renewal owner; set escalation date
PBS-02	Royalty calculation queue aging beyond processing SLO	AP-07	Log; assign investigation; accelerate matching
PBS-03	Lineage record not updated after known transformation event	AP-06, AP-14	Log; request transformation event log update
PBS-04	Access log shows repeated elevated-tier queries by same reviewer in short window	AP-09, AP-15	Log; flag for post-access review
PBS-05	Rights or license record within 60 days of expiry with no renewal documented	AP-02	Log; assign renewal owner
PBS-06	Multiple conflicting version-state records for the same artifact approaching reconciliation cycle	AP-11	Log; initiate version-state reconciliation before cycle close

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U.4 Severity Bands and Materiality Framework

U.4.1 Severity and Materiality Matrix

Band	Label	Business Consequence	Evidence Sufficiency	Containment Expectation	Replay Requirement
SB-1	Informational	No immediate	Logged	None required	None required

Band	Label	Business Consequence	Evidence Sufficiency	Containment Expectation	Replay Requirement
		operational impact; monitoring sufficient	signal; no break open		
SB-2	Operationally Relevant	May affect downstream calculation or distribution decision	Break open; investigation assigned	Precautionary flag; no hold unless escalated	Partial replay on request
SB-3	Materially Disruptive	Directly impairs a rights-state, calculation, or distribution decision	Break open; evidence pack required	Hold-only containment for affected artifact or payout	Full replay required before correction
SB-4	Containment-Required	Active distribution or payout is proceeding on a compromised state	Break open; preservation bundle required	Immediate hold-only containment; no destructive action	Full replay required; reviewer-safe output only
SB-5	Escalation-Required	Multiple domains affected; compound break; or S-1 break unresolved beyond SLO	Break open; all evidence preserved; compound break record opened	Hold-only containment across all affected workflows	Full replay; multi-party authorization for any correction
SB-6	Examiner/Supervisory Review Recommended	Pattern suggests systemic control failure or repeated misuse	All evidence preserved; escalation record	Escalation queue routing; no correction without supervisory notification	Full replay; independent reviewer required

U.4.2 Severity Band Mapping to Approval and Timing

Band	Approval Threshold for Correction	Timing Expectation	EP Delta Required
SB-1	Single reviewer logging action	At next monitoring review	No
SB-2	Single investigator with documented rationale	Within standard reconciliation cycle	Yes on resolution
SB-3	Two designated officers	Within 5 business days of detection	Yes — prior state preserved
SB-4	Two designated officers + compliance review	Within 1 business day of detection	Yes — full correction chain
SB-5	Multi-party governance	Immediate action; correction	Yes — compound EP Delta

Band	Approval Threshold for Correction	Timing Expectation	EP Delta Required
	approval	within 2 business days	
SB-6	Supervisory notification before correction	No correction without supervisory acknowledgment	Yes — with post-correction independent review

U.5 Containment Logic

U.5.1 Containment Response Types

Response Type	Definition	When Applied
Hold-only containment	Artifact, payout, or distribution is frozen in place; no modification; no destructive action; hold record opened	SB-4 or SB-5; consent revoked; authenticity unresolved; payout dispute active
Payout hold	Royalty payout instruction or settlement confirmation is suspended; calculation artifact preserved but not finalized	ROY-009, ROY-010; disputed split; premature finalization
Distribution restriction flag	Active distribution of the affected artifact is flagged; downstream channels are notified without disclosure of break details	FC-01, FC-06; unauthorized version in distribution
Reviewer-safe degraded verification mode	Reviewer receives a minimized, aggregated, or proof-based output rather than raw evidence disclosure	FC-10 access conditions; elevated access not yet authorized
Temporary supersession block	A new supersession record is blocked from becoming operative until the prior version-state conflict is resolved	AP-11; FC-13 propagation failure
Escalation queue routing	Break record is routed to a designated escalation authority; standard processing suspended	SB-5, SB-6; compound breaks; override abuse detection
Preservation-first freeze	All evidence records associated with the failure are preserved in a snapshot bundle before any investigation action	FC-12; chain-of-custody break; offboarding failure
Narrowed-scope continuation	Processing continues for the subset of workflow elements not affected by the break, while affected elements are held	ROY-011 partial hold; RCH scope exceedance on one channel only
Monitored exception state	Break is classified RC-D (unresolvable open); preserved and reviewed at defined cadence with assigned owner	AP-11 parallel truth states unresolvable; FC-02 consent unrecoverable

U.5.2 Containment Logic Table — Pattern to Response Mapping

Pattern ID	Primary Containment Response	Secondary Response	Lift Condition
AP-01	Hold-only containment on affected use	Escalation queue routing	Valid signatory authority record confirmed; EP Delta issued

Pattern ID	Primary Containment Response	Secondary Response	Lift Condition
AP-02	Hold-only containment on affected use or payout	Distribution restriction flag	Renewed or superseding authorization record confirmed
AP-03	Distribution restriction flag	Hold-only containment if payout active	Canonical source object confirmed; version-state corrected
AP-04	Distribution restriction flag for out-of-scope territories/channels	Payout hold for out-of-scope usage events	Consent or rights scope updated; EP Delta issued
AP-05	Hold-only containment on synthetic use	Payout hold	Synthetic-use consent record confirmed or use terminated
AP-06	Payout hold	Narrowed-scope continuation for confirmed elements	Full lineage chain confirmed; EP Delta issued
AP-07	Payout hold	Hold-only containment	All usage events matched; reconciliation closed; EP Delta
AP-08	Escalation queue routing	Override suspended pending rationale	Rationale documented; multi-party authorization confirmed
AP-09	Access suspended or restricted to default tier	Post-access review initiated	Post-access review completed; remediation documented
AP-10	Preservation-first freeze	Escalation queue routing	Chain-of-custody gap explained; EP Delta issued
AP-11	Temporary supersession block	Monitored exception state if unresolvable	Single version-state confirmed; supersession chain established
AP-12	Offboarding suspended or restricted	Preservation-first freeze for incomplete elements	All open breaks addressed; bundle confirmed complete
AP-13	Payout hold	Narrowed-scope continuation for undisputed splits	Contribution-chain split confirmed; EP Delta issued
AP-14	Distribution restriction flag	Hold-only containment if royalty active	Synthetic-origin annotation added; lineage chain completed
AP-15	Access log flagged; reviewer query suspended	Post-access review initiated	Scope confirmed as within bounds or remediation applied

U.5.3 Containment Lifecycle — State Transitions

```
Detection → Unresolved State
  ↓
Containment Applied → Contained State
  ↓
Investigation Completed
  ↓ (if resolved)        ↓ (if unresolvable)
EP Delta Issued        → Monitored Exception State
Corrected State         (RC-D with review cadence)
  ↓
Post-Correction Review
  ↓
```

```
Archived State (prior state preserved)
```

Containment is **temporary** when a break is resolvable within the defined SLO. Containment is **extended** when the break requires multi-party governance approval or supervisory notification. Containment is **converted** to monitored exception when the break cannot be resolved with available evidence. Containment is **lifted** only when a valid EP Delta has been issued and a post-correction review has been completed.

U.6 Preservation and Replay Requirements

U.6.1 Preservation Requirement Matrix

Failure Class	Must Preserve	Preservation Priority	Preservation Bundle Required
FC-01 Authenticity	Canonical manifest, content-address hash, origin assertion records, supersession chain	Immediate on detection	Yes for SB-4+
FC-02 Consent	Consent record (current and prior versions), revocation record, scope-of-use fields, EP Deltas	Immediate on detection	Yes for SB-3+
FC-03 Authority/Signatory	Signatory record, authority reference, delegation chain	Immediate	Yes for SB-3+
FC-04 Scope-of-use	Consent/rights record scope fields, distribution record, usage events in out-of-scope territory/channel	At detection	Yes for SB-3+
FC-05 Lineage	Transformation event logs, parent artifact references, authorization records, chain break location	At detection	Yes for SB-3+
FC-06 Version confusion	All version-state records, manifest entries for all versions, supersession chain	Immediate	Yes for SB-4+
FC-07 Rights-chain	Chain-of-title records, contribution chain, split records, all license records	At detection	Yes for SB-3+
FC-08 Royalty calculation	Calculation artifact, input log, rate-schedule reference, usage events, prior calculation versions	At detection	Yes for SB-3+
FC-09 Settlement/payout	Payout instruction, settlement confirmation, calculation artifact, usage event log	Immediate	Yes for SB-4+
FC-10 Reviewer access	Access log, access authorization record, purpose statement, post-access review record	Immediate on access event	Yes — always
FC-11 Override/exception	Override record, rationale document, authorization chain, prior state snapshot	Immediate	Yes for all overrides
FC-12	Chain-of-custody log, all affected	Immediate	Yes — always

Failure Class	Must Preserve	Preservation Priority	Preservation Bundle Required
Custody/preservation	manifest snapshots, handoff records		
FC-13 Supersession/revocation	Revocation record, propagation log, all active uses downstream of revocation	Immediate	Yes for SB-3+
FC-14 Offboarding	Final state snapshot, open break register, outstanding obligations record, bundle manifest	Before offboarding proceeds	Yes — mandatory

U.6.2 Replay Requirement Matrix

Scenario	What Must Be Reproducible	Minimum Dataset	Reviewer-Safe Output Sufficient	Full Replay Required
Authenticity dispute	Origin assertion, content-address hash, manifest state at disputed point in time	Canonical manifest + hash history + origin assertion	No — full hash replay required	Yes
Consent scope dispute	Consent record state at time of use, scope fields, usage event timestamp	Consent record versions + usage event log	Partial — scope fields only for bounded review	Yes for formal dispute
Lineage chain reconstruction	All transformation events from source to current artifact	Transformation event log + authorization records + parent artifact hashes	No — full chain required	Yes
Royalty calculation replay	All inputs: usage quantity, rate, territory, channel, split	Calculation artifact + usage event log + rate-schedule record	No — arithmetic replay required	Yes
Payout linkage verification	Usage event → calculation → split → payout instruction → settlement confirmation	Full payout linkage chain artifacts	Partial for preliminary review	Yes for finalization or dispute
Reviewer access audit	Access log entries, authorization records, TTL, post-access review	Access log + authorization record	Yes — log summary sufficient	Yes if access breach suspected
Override governance review	Override record, rationale, authorization chain, prior state	Override record + pre-override state snapshot	No — full rationale required	Yes for SB-5 or SB-6
Offboarding integrity check	All evidence records transferred or archived; open break status	Bundle manifest + open break register	No — full bundle verification	Yes

U.7 Corrective Action and EP Delta Discipline

U.7.1 Correction / EP Delta Matrix

Failure Class	Correction Trigger	Minimum Authorizing Officers	Evidence Required Before Correction	EP Delta Required
FC-01 Authenticity	Canonical source confirmed; hash verified	2 designated officers	Verified hash; origin assertion	Yes — includes prior manifest state
FC-02 Consent	Valid consent record confirmed or use terminated	2 designated officers	Current consent record; scope confirmation	Yes — includes revocation or renewal record
FC-03 Authority	Valid signatory authority confirmed	2 designated officers + legal review	Authority record; delegation chain	Yes
FC-04 Scope	Consent/rights scope updated or use restricted	2 designated officers	Updated consent/rights record; out-of-scope hold lifted	Yes
FC-05 Lineage	Full lineage chain reconstructed	2 designated officers	Complete transformation event log	Yes — includes chain break explanation
FC-06 Version	Single authoritative version-state confirmed	2 designated officers	Version-state reconciliation record	Yes
FC-07 Rights-chain	Chain of title confirmed; split corrected	2 designated officers	Rights transfer records; corrected split	Yes
FC-08 Royalty calculation	Inputs verified; calculation replayed and confirmed	2 designated officers	Calculation replay artifact; input verification	Yes — prior calculation preserved
FC-09 Settlement/payout	All usage events matched; reconciliation closed	2 designated officers + compliance	Full payout linkage chain confirmed	Yes — finality record updated
FC-10 Reviewer access	Access scope confirmed or remediated	Post-access review owner	Access log; post-access review record	Yes if over-scope access confirmed
FC-11 Override	Rationale confirmed; override ratified or reversed	Multi-party governance approval	Rationale document; pre-override state	Yes — ratification or reversal documented
FC-12 Custody	Custody gap explained; chain restored	2 designated officers	Custody log with gap explanation	Yes
FC-13 Supersession/revocation	Single operative state confirmed; downstream propagated	2 designated officers	Propagation log; updated state records	Yes

Failure Class	Correction Trigger	Minimum Authorizing Officers	Evidence Required Before Correction	EP Delta Required
FC-14 Offboarding	Bundle confirmed complete; open breaks addressed	Offboarding attestation authority	Complete bundle manifest; break dispositions	Yes — offboarding attestation

U.7.2 EP Delta Issuance Principles for Adversarial Contexts

Every EP Delta issued in the context of a failure, dispute, or corrective action must:

1. **Preserve prior state** — the state before correction must be retained, not overwritten.
2. **Reference the break ID** — the EP Delta must link to the Appendix C break record that triggered the correction.
3. **Document the evidence basis** — what evidence was examined and confirmed before the correction was authorized.
4. **Identify authorizing officers** — minimum officer count per the Correction/EP Delta Matrix above.
5. **Record downstream impact** — which calculations, distributions, or payouts are affected by the corrected state.
6. **Note post-correction review obligation** — the EP Delta must specify who will conduct the post-correction review and by when.

EP Deltas are **immutable once issued**. A correction to an EP Delta requires a subsequent EP Delta; the original is preserved.

U.7.3 Conditions for Reopening a Resolved Break

A break classified as resolved (disposition D-01 through D-04) may be reopened if:

Condition	Action
New evidence emerges that contradicts the resolution basis	Reopen as new break at same or higher severity; prior EP Delta preserved
The correction EP Delta is itself found to contain an error	Issue a corrective EP Delta; reopen the original break
Downstream processing reveals that the correction was incomplete	Reopen with compound reference to original and downstream break IDs
A party to the original dispute submits a formal objection within the defined objection window	Escalate to dispute track; apply hold-only containment on affected distribution or payout

---

U.8 Override, Exception, and Governance Controls

U.8.1 Override Governance Matrix

Dimension	Standard Override	Emergency Override	Prohibited Override
When permitted	When standard correction process is impractical; documented rationale exists	When immediate action is required to prevent material harm; abbreviated rationale	Never permitted to bypass multi-party authorization requirements on payout or rights-state corrections
Evidence	Pre-override state	Pre-override state	No override permitted

Dimension	Standard Override	Emergency Override	Prohibited Override
threshold	preserved; rationale document; at least two authorizing officers	preserved; single authorizing officer; subsequent ratification required	without a pre-override state snapshot
Who approves	Two designated governance officers	One senior officer; multi-party ratification within defined SLO (24–48 hours)	No single-party override for FC-09, FC-07, or FC-02 without multi-party ratification
Rationale preservation	Rationale document linked to EP Delta	Abbreviated rationale at time of override; full rationale within ratification SLO	Rationale document may never be deleted or withheld from examiner access
Distribution/payout during override	Narrowed-scope continuation permitted for unaffected elements	No payout or rights-state change without ratification	No payout or distribution on records covered by an unratified override
Monitored exception tracking	Override record in exception register; reviewed at next cycle	Override record flagged as emergency; expedited review at next governance meeting	N/A
Abuse detection	Repeated single-officer overrides; overrides without rationale; overrides on same record class	Emergency overrides that are not followed by ratification within SLO	Patterns reviewed at governance cycle; SB-6 escalation if systemic

U.8.2 Exception Register Requirements

Every monitored exception or open override must be tracked in the exception register with the following fields:

Field	Required Content
Exception/Override ID	Unique identifier
Break ID(s)	All related Appendix C break IDs
Failure class	FC-01 through FC-14
Override type	Standard / Emergency / N/A
Authorizing officer(s)	Identity references
Pre-override state reference	Snapshot or EP Delta reference
Rationale document reference	Document ID or "Pending ratification"
Monitoring owner	Designated officer
Next review date	Scheduled date
Escalation trigger	Condition that would escalate to SB-5 or SB-6

U.8.3 Material Change Triggers from Override Patterns

The following patterns in override or exception records constitute material change triggers requiring governance review:

- Three or more overrides in a single domain within one reconciliation cycle.

- Any emergency override not ratified within the defined SLO.
- Any override on FC-09 (settlement/payout) or FC-02 (consent) records.
- Any override where the pre-override state was not preserved.
- Repeated use of the same authorizing officer pair across multiple overrides in the same period.

U.9 Reviewer and Examiner Access Abuse and Bounded Verification Controls

U.9.1 Reviewer Access Abuse Matrix

Abuse Pattern	Detection Signal	Containment Response	Remediation
Access without adequate purpose	Purpose field absent, generic, or post-hoc	Access suspended; access log flagged	Post-access review; access rescoped or revoked
TTL not enforced	Access log entry extends beyond TTL without reauthorization	Access terminated retroactively; affected outputs flagged	Outputs reviewed; excess-access EP Delta if material disclosure occurred
Over-broad disclosure	Output contains attributes beyond stated purpose	Output quarantined; disclosure log flagged	Reviewer-safe re-output issued; post-access remediation
Missing post-access review	No post-access review record within defined SLO	Flagged as access compliance break	Post-access review initiated; overdue review log opened
Reviewer queries exceeding scope	Query scope field exceeds authorized dispute or examination scope	Query suspended; results quarantined	Scope confirmed or query reissued with corrected bounds
Insufficient minimization	Raw disclosure where proof-based or minimized output was available	Output quarantined; reviewer notified	Minimized re-output; governance log updated
Replay request over-expansion	Replay request covers artifacts beyond the declared dispute period	Replay restricted to authorized scope	Partial replay issued; over-scope request logged
Custody gap created by review workflow	Evidence records modified or moved during reviewer access without custody log entry	Preservation-first freeze; custody gap break opened	Chain-of-custody gap investigation; EP Delta on resolution

U.9.2 Tiered Access Control Mapping for Adversarial Contexts

Access Tier	Default Output	Elevated Condition	Adversarial Risk	Control
Tier 0	Aggregated, anonymized statistics; no artifact-level data	N/A	Data inference from aggregates	Aggregation threshold; no single-artifact inference possible
Tier 1	Artifact-level data for declared scope	Documented purpose; defined TTL	Scope creep; TTL expiry	Purpose-field enforcement; TTL hard stop; post-access review

Access Tier	Default Output	Elevated Condition	Adversarial Risk	Control
Tier 2	Full evidence pack for dispute or examination	Multi-party authorization; defined scope; documented emergency basis	Over-broad disclosure; rationale absent	Dual-authorization; scope field mandatory; post-access review within 24 hours

U.9.3 Proof-Based Minimization in Adversarial Review Contexts

Where an adversarial or disputed state requires examiner confirmation without full raw disclosure, proof-based verification outputs may be used to confirm:

- that a consent record existed at a given time without disclosing its full terms;
- that a royalty calculation was performed within a defined rate range without disclosing exact commercial terms;
- that a version-state classification was operative at a given date without disclosing distribution volume data;
- that a rights-holder is a party to a given lineage chain without disclosing contributor identity.

Proof-based outputs must be logged in the access log with: output type, purpose, scope, and TTL.

U.10 Residual Risk Register

U.10.1 Residual Risk Table

Risk ID	Risk Description	Why Not Fully Eliminable	Compensating Controls	Evidence Expectation	Monitoring Frequency	Escalation Threshold
RR-01	Forged consent artifact that closely mimics a valid record	Forgery may not be detectable from document metadata alone	Authority-record cross-check; signatory chain validation; content-address hash on consent instruments	Authority record present; hash verifiable	Every reconciliation cycle	Any consent record where authority reference cannot be resolved
RR-02	Stale authorization state reused after expiry	Systems may cache authorization states beyond defined TTL	TTL enforcement at transaction time; revocation checking before each use	TTL field present; last-check timestamp logged	Continuous for active uses	Any active use event against a record within 7 days of TTL expiry
RR-03	AI-generated synthetic content that is indistinguishable from original at manifest level	Hash-based verification confirms file integrity, not semantic origin	Synthetic-origin annotation requirement; transformation event log; source hierarchy cross-check	Synthetic-origin annotation; transformation log	Every release event	Any artifact without a synthetic-origin annotation where operational indicators suggest AI modification
RR-04	Lineage gaps in	Historical records	Legacy	Legacy	Quarterly	Any legacy

Risk ID	Risk Description	Why Not Fully Eliminable	Compensating Controls	Evidence Expectation	Monitoring Frequency	Escalation Threshold
	legacy or pre-framework artifacts	may not conform to current evidence standards	transition manifest; best-available-evidence annotation; monitored exception state	transition record; gap annotation		artifact entering active monetization without a lineage record
RR-05	Split manipulation in multi-contributor workflows with delayed detection	Manipulation may not surface until a royalty period closes	Contribution-chain hash; split immutability; EP Delta on split change	Contribution-chain record; split EP Delta history	Every royalty period	Any split that differs from the contribution-chain record without an authorized EP Delta
RR-06	Reviewer access log tamper by privileged operator	Operator-level access to logging infrastructure is not fully eliminable	Distributed log storage; no-master-key posture; access to log infrastructure itself logged	Log infrastructure access record	Continuous	Any anomaly in log chain hash
RR-07	Offboarding with undiscoverable open breaks	Some breaks may not be detectable before offboarding is complete	Final reconciliation proof requirement; open break disclosure obligation; monitored exception carry-forward	Final reconciliation report; open break register	At offboarding	Any offboarding where final reconciliation report is absent or incomplete
RR-08	Parallel truth states persisting in independent downstream systems	The framework governs evidence records, not all downstream processing systems	Propagation log; supersession notification to downstream; monitored exception	Propagation log; downstream notification record	Quarterly	Any artifact with a known supersession event where downstream propagation cannot be confirmed
RR-09	Override rationale preserved but substantively inadequate	The framework can require a rationale document but cannot guarantee its quality	Multi-party authorization requirement; governance review of override patterns; SB-6 escalation for systemic	Rationale document present; multi-party authorization confirmed	Every governance cycle	Three or more overrides in the same domain with rationale documents of fewer than a defined minimum substance

Risk ID	Risk Description	Why Not Fully Eliminable	Compensating Controls	Evidence Expectation	Monitoring Frequency	Escalation Threshold
			patterns			
RR-10	Royalty calculation replay failure due to external rate-schedule changes	Rate schedules may be updated outside the framework's evidence scope	Rate-schedule reference requirement; rate-schedule version control; EP Delta on rate changes	Rate-schedule version record; calculation artifact references versioned rate	Every royalty period	Any calculation where the referenced rate-schedule version cannot be retrieved

U.11 Worked Adversarial Mini-Scenarios

U.11.1 Scenario Summary Table

Scenario ID	Title	Failure Classes	Severity Band	Primary Containment	EP Delta
SC-01	Disputed voice-clone usage with stale consent	FC-02, FC-04	SB-4	Hold-only containment; payout hold	Yes
SC-02	Image/likeness scope-of-use metadata conflict	FC-04, FC-07	SB-3	Distribution restriction flag	Yes
SC-03	Synthetic audiovisual transformation with broken lineage	FC-05, FC-01	SB-4	Hold-only containment; distribution restriction	Yes
SC-04	Royalty payout on incomplete usage evidence	FC-08, FC-09	SB-4	Payout hold; narrowed-scope continuation	Yes
SC-05	Reviewer access escalation exceeding bounded purpose	FC-10	SB-5	Access suspended; post-access review	Yes if material
SC-06	Supersession conflict — derivative and canonical coexisting	FC-06, FC-13	SB-4	Temporary supersession block	Yes
SC-07	Unresolved payout break carried into offboarding	FC-09, FC-14	SB-5	Offboarding suspended; preservation freeze	Yes

U.11.2 SC-01 — Disputed Voice-Clone Usage with Stale Consent

Context: A voice-clone artifact is in active commercial distribution. A review indicates the consent record covering synthetic voice use has expired. The performer's representative submits a formal dispute.

Step	Action
Detection	Consent TTL expired; revocation register shows no renewal; active usage event log confirms ongoing distribution
Break opened	CON-002 (expired consent), CON-003 (scope exceedance — synthetic use not covered post-expiry)
Severity	SB-4 (Containment-Required)
Containment	Hold-only containment on active distribution; payout hold on royalty calculation

Step	Action
	for affected period
Preservation	Consent record (expired version), usage event log, calculation artifact, payout instruction — all preserved in bundle
Investigation	Determine whether consent was renewed informally; retrieve any renewal correspondence; check EP Delta history for consent state
Replay	Replay consent-state timeline from original consent through expiry; confirm no renewal EP Delta exists
Correction trigger	Either: valid renewal consent record confirmed (EP Delta issued updating consent state), or use terminated (EP Delta issued recording termination and hold lift conditions)
Post-correction	Downstream royalty calculations adjusted; distribution record updated; EP Delta references both consent correction and payout adjustment
Residual	RR-02 (stale authorization risk); monitored exception if renewal status remains unclear

U.11.3 SC-02 — Image/Likeness Scope-of-Use Metadata Conflict

Context: A performer's image is used in a commercial advertisement in a territory and channel not specified in the active consent record. The distribution record shows use in a digital advertising channel; the consent record shows authorization only for editorial media.

Step	Action
Detection	Distribution record channel field does not match consent record medium/purpose field; scope mismatch flagged
Break opened	CON-003-M (medium mismatch), CON-003-P (purpose mismatch), RCH-008 (out-of-scope channel use)
Severity	SB-3 (Materially Disruptive)
Containment	Distribution restriction flag for advertising channel; affected usage events flagged; no payout finalization for affected period
Preservation	Consent record scope fields, distribution record, usage events in advertising channel, rate applied
Investigation	Determine whether a supplementary consent addendum exists for advertising use; check transformation event log for authorization
Replay	Replay scope-of-use state at time of each usage event; confirm whether advertising use was ever in scope
Correction	If supplementary consent confirmed: EP Delta updating scope record; if not: EP Delta recording out-of-scope use and termination of affected distribution
Post-correction	Royalty calculation adjusted to exclude out-of-scope usage events; performer representative notified per notification policy

U.11.4 SC-03 — Synthetic Audiovisual Transformation with Broken Lineage

Context: An audiovisual work in distribution was produced through a series of edits and AI-assisted scene alterations. The transformation event log for one intermediate step is missing. The canonical source object's hash does not match the manifest entry for the distributed version.

Step	Action
Detection	Content-address mismatch (AUTH-004); missing transformation event log entry for intermediate step (LIN-001); no synthetic-origin annotation (AUTH-015)
Break opened	AUTH-004, LIN-001, AUTH-015 — compound break CMP
Severity	SB-4 (Containment-Required)
Containment	Hold-only containment on distributed version; distribution restriction flag; payout hold
Preservation	Canonical manifest, distributed version hash, all available transformation event log entries, intermediate artifact states
Investigation	Retrieve production records for the missing transformation step; determine whether a synthetic process was applied
Replay	Attempt to reconstruct the transformation chain from available logs; identify the exact point where the chain breaks
Correction	If transformation log is recovered: EP Delta updating lineage chain; if not recoverable: EP Delta recording lineage gap as monitored exception; distributed version may not be confirmed as canonical until gap is resolved
Post-correction	Synthetic-origin annotation added if AI process confirmed; royalty calculation reviewed for correct version attribution

U.11.5 SC-04 — Royalty Payout on Incomplete Usage Evidence

Context: A royalty payout instruction has been issued for a music streaming period. The usage event log for one distribution channel has not been matched. The calculation artifact references a total usage figure that includes estimated data for the unmatched channel.

Step	Action
Detection	Usage event IDs for one channel are unmatched in calculation artifact; estimated data used without documented authorization; ROY-001, ROY-002
Break opened	ROY-001, ROY-007 (calculation replay would fail on estimated inputs), ROY-015 (premature finality assertion)
Severity	SB-4 (Containment-Required)
Containment	Payout hold; finality record suspended; narrowed-scope continuation for confirmed-matched channels
Preservation	Calculation artifact (with estimated inputs flagged), usage event log, payout instruction, matched-channel evidence
Investigation	Retrieve missing usage data for unmatched channel; determine whether estimation basis is documented
Replay	Replay calculation using confirmed usage data only; compare to original calculation
Correction	When full usage data confirmed: EP Delta issuing corrected calculation artifact; payout instruction updated; finality record re-issued
Post-correction	Rights-holder notifications updated; any payout amount difference addressed per correction policy

U.11.6 SC-05 — Reviewer Access Escalation Exceeding Bounded Purpose

Context: A reviewer conducting an examination of a royalty dispute was granted Tier 2 access for the dispute scope. The access log shows the reviewer retrieved evidence records outside the declared dispute period and outside the media asset class referenced in the dispute authorization.

Step	Action
Detection	Access log query scope field exceeds authorized dispute scope; artifacts retrieved are outside dispute period and asset class
Break opened	ACC-CHK-017 (dispute scope exceedance), ACC-CHK-005 (elevation conditions not met for out-of-scope records)
Severity	SB-5 (Escalation-Required)
Containment	Reviewer access suspended pending post-access review; out-of-scope output records quarantined
Preservation	Access log (complete), authorization record, dispute scope definition, all output records retrieved
Investigation	Determine whether out-of-scope access was inadvertent or deliberate; assess whether any confidential information was disclosed outside bounded purpose
Remediation	If inadvertent: post-access review completed; remediation documented; access log corrected with explanation EP Delta; reviewer re-briefed on scope limits
If deliberate or materially over-scope	Escalation to governance authority; SB-6 review; supervisory notification
EP Delta	Issued if material disclosure occurred; prior access state preserved

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U.11.7 SC-06 — Supersession Conflict — Derivative and Canonical States Coexisting

Context: Two versions of a film edit are simultaneously referenced as canonical in different workflow systems. Version A is referenced in the distribution record; Version B is referenced in the royalty calculation system. Neither version has a supersession record linking it to the other.

Step	Action
Detection	Version-state conflict (LIN-004); manifest entries for Version A and Version B both use canonical classification without supersession chain
Break opened	LIN-004, AUTH-006 — compound break
Severity	SB-4
Containment	Temporary supersession block on both versions; no new distribution or calculation events until version-state is resolved
Preservation	Manifest entries for both versions, distribution record referencing Version A, calculation record referencing Version B, production records for both
Investigation	Determine which version was released first; retrieve production and release records; confirm whether any supersession was intended but not recorded
Replay	Replay version-state timeline from production records; determine the authoritative release sequence
Correction	Designate one version as canonical; issue supersession EP Delta for the other; update all affected records

Step	Action
Post-correction	Royalty calculation reviewed against confirmed canonical version; distribution record updated; downstream propagation log completed

U.11.8 SC-07 — Unresolved Payout Break Carried into Offboarding Preparation

Context: An offboarding process for a media rights workflow is initiated. A review of the final reconciliation report identifies an open payout break (ROY-009) that was not addressed before offboarding preparation began. The break involves a disputed royalty split for a multi-contributor music work.

Step	Action
Detection	OFF-CHK-005 fails; open payout break present in royalty break register; offboarding bundle does not include break disposition record
Break opened	OFF-CHK-004 (open break not disclosed), OFF-CHK-013 (dispute not escalated before offboarding)
Severity	SB-5
Containment	Offboarding suspended; preservation-first freeze on all royalty evidence records; disputed payout amount placed in hold account
Preservation	Full payout break evidence pack, open break register, contribution-chain records, all royalty calculation artifacts for disputed period
Investigation	Determine whether break was known before offboarding initiation; assign dispute resolution authority
Resolution path	Dispute resolved before offboarding completion: EP Delta issued; break closed; offboarding proceeds with corrected bundle
Alternative	Dispute unresolvable before offboarding deadline: monitored exception state; designated post-offboarding authority assigned; hold account maintained; offboarding attestation notes open break
EP Delta	Issued for break disposition (resolved or monitored exception); offboarding attestation updated to reference EP Delta

U.12 Reader Action Map

U.12.1 Failure-to-Action Reference Table

Failure Type	Containment	Preservation	Replay	Correction	Governance Review	Closure Condition
Authenticity: hash mismatch	Hold-only; distribution restriction	Manifest + hash history	Full hash replay	EP Delta with corrected manifest	2-officer sign-off	Canonical hash confirmed; EP Delta issued
Authenticity: origin unverifiable	Hold-only	Origin assertion + authority records	Partial — origin timeline	EP Delta with corrected origin	2-officer sign-off	Authority record confirmed
Consent: expired	Hold-only; payout hold	Consent record + usage events	Consent-state timeline	EP Delta (renewal or termination)	2-officer sign-off	Renewal confirmed or use terminated

Failure Type	Containment	Preservation	Replay	Correction	Governance Review	Closure Condition
Consent: revoked but active	Hold-only; distribution restriction	Revocation record + active use log	Revocation propagation timeline	EP Delta; downstream propagation	2-officer sign-off	All active uses confirmed held or terminated
Consent: scope exceeded	Distribution restriction flag	Scope fields + distribution record	Scope-of-use timeline	EP Delta (scope update or restriction)	2-officer sign-off	Scope confirmed or use restricted
Lineage: chain break	Hold-only; distribution restriction	All transformation logs + chain	Full lineage chain replay	EP Delta with reconstructed chain	2-officer sign-off	Full chain confirmed or gap annotated as exception
Lineage: contamination	Hold-only; distribution restriction	Contaminated element source + lineage	Chain replay from contamination point	EP Delta; contaminated version reclassified	2-officer sign-off	Clean lineage confirmed or contaminated version archived
Rights-chain: expired license	Distribution restriction; payout hold	License record + usage events	Rights-state timeline	EP Delta (renewal or termination)	2-officer sign-off	Active license confirmed or distribution terminated
Rights-chain: split inconsistency	Payout hold	Contribution chain + split records	Split history replay	EP Delta with corrected split	2-officer sign-off	Contribution chain and split aligned
Royalty: calculation replay failure	Payout hold	Calculation artifact + all inputs	Full arithmetic replay	EP Delta with corrected calculation	2-officer sign-off	Replay matches corrected calculation
Royalty: premature finalization	Payout hold	Full payout linkage chain	Payout chain replay	EP Delta updating finality record	2-officer + compliance	All usage events matched; payout confirmed
Royalty: disputed split (hold)	Payout hold (disputed portion)	Disputed calculation artifacts	Partial replay (undisputed elements)	EP Delta on resolution	Dispute authority	Dispute resolved; EP Delta issued
Reviewer access: over-scope	Access suspended; output quarantined	Access log + authorization record	Access timeline	EP Delta if material disclosure	Post-access review; governance if systemic	Scope confirmed or remediation completed
Override: rationale absent	Override suspended	Override record + pre-override state	Override decision replay	Ratification EP Delta	Multi-party governance	Rationale confirmed; override ratified or reversed
Supersession conflict	Supersession block	All version-state records + manifests	Version-state timeline	EP Delta designating canonical version	2-officer sign-off	Single canonical version confirmed
Preservation: custody gap	Preservation freeze	Custody log + all affected	Custody timeline	EP Delta with gap	2-officer sign-off	Custody chain restored

Failure Type	Containment	Preservation	Replay	Correction	Governance Review	Closure Condition
		manifests		explanation		
Offboarding: open breaks	Offboarding suspended	Full break register + royalty records	Final reconciliation replay	EP Delta (break disposition)	Offboarding attestation authority	All breaks disposed; attestation issued

U.12.2 Quick-Reference Containment Decision Tree

```
Break Detected
      │
      ├─ Is distribution or payout currently proceeding on the affected state?
      │        YES → Hold-only containment + payout hold (immediate)
      │        NO  → Precautionary flag; investigation assigned
      │
      ├─ Is this a compound break (multiple domains)?
      │        YES → Compound break ID; highest effective severity; coordinated EP
Delta
      │        NO  → Single-domain break; domain-specific containment
      │
      ├─ Is evidence sufficient for replay?
      │        YES → Proceed to investigation and correction pathway
      │        NO  → Preservation-first freeze; gap in evidence documented
      │
      ├─ Can the break be resolved within available evidence?
      │        YES → Correction trigger → EP Delta → post-correction review →
closure
      │        NO  → RC-D monitored exception; assigned owner; review cadence
      │
      └─ Does the pattern suggest systemic failure or repeated misuse?
               YES → SB-6 escalation; supervisory notification; governance review
               NO  → Standard resolution pathway
```

Appendix V — Canonical State, Version Supersession, and Authority-to-Release Controls for Authenticity, Derivation, and Royalty Workflows

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V.0 Purpose and Reader Orientation

V.0.1 Core Thesis

> "In operational media-integrity systems, it is not sufficient to preserve authenticity, consent, derivation, and royalty evidence in isolation. Institutions must also be able to determine which version or state is currently canonical, who had authority to establish or supersede that state, when such determination became effective, how prior states remain preserved, and how downstream review, usage, settlement, and payout workflows bind to the correct current-reference state."

V.0.2 Secondary Thesis

> "Canonical status is not equivalent to metaphysical truth, cultural legitimacy, or legal adjudication. It is a governed, replayable, evidence-linked operational determination that allows institutions to avoid ambiguity between official, derivative, superseded, disputed, preserved, and archival states."

V.0.3 Why This Appendix Exists

Evidence preservation is necessary but not sufficient for operational integrity. A framework that proves a media artifact exists, but cannot determine which version is operationally current, who authorized its release, when that authorization became effective, and how downstream royalty and payout workflows should bind to it, cannot support reliable institutional review.

This appendix addresses the governance layer that sits above evidence preservation: the rules, roles, artifacts, and review paths that allow institutions to determine canonical state with confidence, trace

supersession chains without ambiguity, bind downstream financial and review workflows to the correct current-reference state, and preserve all prior states without treating them as operationally active.

V.0.4 What This Appendix Is and Is Not

This appendix IS:

- an operational state-governance reference for reviewers, auditors, institutions, governance operators, supervisory readers, and dispute-handling teams;
- a canonical-state determination, supersession-discipline, and authority-to-release control framework grounded in the evidence-pack, EP Delta, chain-of-custody, tiered-access, and reconciliation disciplines of the main framework;
- portable across voice, image, film, music, and synthetic-media workflows.

This appendix IS NOT:

- a cultural or authorship theory essay;
- a copyright ownership or legal liability framework;
- a moderation or content-removal policy document;
- a metaphysical or philosophical treatment of "truth" in media;
- a speculative commentary on AI and authenticity.

V.0.5 Relationship to the Main Framework

This appendix extends and makes operational the versioning, supersession, and state-governance concepts introduced in Sections 4, 6, 9, 11, and 12 of the main framework. Break IDs referenced here correspond to Appendix C. Check IDs correspond to Appendix D. Failure pattern references correspond to Appendix U. EP Delta discipline follows the standards established throughout the framework.

V.1 Canonical State Taxonomy

V.1.1 Canonical State Taxonomy Table

State Class	Code	Definition	Operationally Current	Downstream Binding
Canonical source object	CS-01	The originating, unmodified artifact from which all versions and derivatives are derived; established by authority-to-release and content-addressed manifest	Yes — unless superseded	All derivation lineage, royalty calculation, and authenticity review
Canonical release object	CS-02	The officially released version of an artifact, designated by an authorized release event and linked to a canonical source object	Yes — unless superseded	Distribution records, royalty calculation, payout linkage
Official distribution	CS-	A format-specific or channel-	Yes — for its	Channel-specific

State Class	Code	Definition	Operationally Current	Downstream Binding
object	03	specific encoding of a canonical release object, authorized for delivery to a defined audience	defined channel	usage events, streaming royalty calculation
Authorized derivative object	CS-04	A transformed, adapted, remixed, or translated version of a canonical source or release object, authorized under a documented transformation authorization	Yes — for its defined derivative scope	Derivative royalty splits, contribution-chain records
Draft / work-in-progress object	CS-05	An artifact that has not yet received a release authorization; not operationally current for distribution or royalty purposes	No	Internal review only; no distribution or royalty binding
Promotional / excerpt / preview object	CS-06	A clip, trailer, or excerpt derived from a canonical release object and authorized for promotional use under a defined scope	Yes — for its defined promotional scope	Promotional usage events; does not affect primary royalty calculation
Superseded object	CS-07	A prior canonical or release version that has been replaced by a newer authorized state; preserved but no longer operationally current	No — preserved only	Historical replay, dispute review, prior-period royalty audit
Revoked object	CS-08	An artifact or state whose authorization has been formally withdrawn; neither operationally current nor usable for new distribution or calculation	No — contained	Hold and containment records; no downstream binding permitted
Disputed canonical claim	CS-09	A state where two or more parties assert conflicting canonical or release status for the same artifact; under active investigation	Suspended — neither claim operative	Hold-only containment; dispute review path
Archival / preserved historical object	CS-10	A record retained for audit, replay, legal-hold, or historical reference purposes; explicitly non-current	No — archival only	Replay and audit only; no distribution or royalty binding
Contained but unresolved object	CS-11	An artifact whose state is unclear or disputed but for which no resolution has been reached; subject to hold-only containment	No — contained pending resolution	No downstream binding until resolution; monitored exception

State Class	Code	Definition	Operationally Current	Downstream Binding
Corrected current-reference object	CS-12	An artifact or state that has been corrected via EP Delta and is now the operative canonical reference; prior state preserved as CS-10	Yes — replaces prior canonical	All downstream workflows rebound to corrected state

V.1.2 State Hierarchy and Operational Precedence

When multiple state claims exist for the same artifact, the following precedence applies:

1. **CS-12 (Corrected current-reference)** — highest operational precedence; issued via EP Delta
2. **CS-02 (Canonical release)** — operative unless superseded or corrected
3. **CS-04 (Authorized derivative)** — operative within its defined derivative scope
4. **CS-03 (Official distribution)** — operative within its defined channel and format
5. **CS-06 (Promotional)** — operative within its defined promotional scope
6. **CS-09 (Disputed)** — neither claim is operative; hold applied
7. **CS-11 (Contained unresolved)** — no operational binding; hold applied
8. **CS-07 (Superseded), CS-08 (Revoked), CS-10 (Archival)** — not operationally current; preserved only

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V.2 Authority-to-Release Model

V.2.1 Authority-to-Release Matrix

Action	Minimum Authority Level	Authorization Evidence Required	Multi-Party Required
Designate canonical source object	Originating rights-holder or designated release authority	Origin assertion + content-addressed hash + authority record	Recommended for commercial releases
Designate official release state	Designated release authority with rights-chain confirmation	Release authorization record + rights-state confirmation + EP Delta	Yes for S-1 and commercial releases
Authorize derivative release	Rights-holder or licensed derivative authority	Transformation authorization record + consent state confirmation	Yes if derivative scope involves additional contributors
Authorize restricted distribution	Distribution authority within license scope	Distribution authorization + license scope confirmation	Not required for standard distribution within scope
Approve supersession	Release authority or governance body	Supersession record + prior-state snapshot + EP Delta	Yes — two designated officers minimum
Revoke or suspend release status	Compliance authority or rights-holder	Revocation record + basis documentation + EP Delta	Yes — two designated officers minimum
Authorize correction or reclassification	Compliance authority with evidence basis	Correction evidence + pre-correction snapshot + EP Delta	Yes — two designated officers minimum

Action	Minimum Authority Level	Authorization Evidence Required	Multi-Party Required
Initiate emergency state change	Senior governance officer	Emergency basis documentation; subsequent multi-party ratification within SLO	Emergency: one officer + ratification within 24–48 hours
Confirm downstream propagation closure	Propagation authority or designated officer	Propagation log + downstream system acknowledgments	Not required if automated; required if manual

V.2.2 Role Definitions

Role Label	Operational Scope
Originating rights-holder	The party with documented originating rights over the source artifact
Designated release authority	The party or governance body formally delegated to authorize release events
Distribution authority	The party authorized to approve delivery of distribution objects to defined channels
Compliance authority	The party responsible for consent, rights-state, and regulatory compliance review
Derivative authority	The party authorized under a documented transformation authorization to release derivatives
Governance body	Multi-party oversight body with authority over supersession, correction, and emergency changes
Propagation authority	The party responsible for confirming that state changes have been propagated to all downstream systems

V.2.3 No-Master-Key Posture for Release Authority

No single party may hold unilateral authority over all canonical-state determinations. The governance structure must ensure:

- Release designations above a defined commercial significance threshold require at least two independent authorizing parties.
- Supersession and revocation actions are never single-party unilateral except in documented emergencies, which require subsequent multi-party ratification.
- The evidence records for all authority designations are stored in distributed custody with no single-custodian dependency.

V.3 Canonical Determination Logic

V.3.1 Canonical Determination Logic Table

Determination Step	What Is Assessed	Evidence Required	Pass Condition
1. Source hierarchy	Is there a documented canonical source object at the root of the lineage?	Content-addressed manifest; origin assertion	Hash-verified source object with authority record

Determination Step	What Is Assessed	Evidence Required	Pass Condition
2. Release hierarchy	Is there a documented release event designating this artifact as an official release?	Release authorization record; EP Delta for release event	Release record present; authorized by designated release authority
3. Authority validation	Did the designating party have documented authority at the time of release?	Authority record; delegation chain; effective date	Authority confirmed at time of designation; no revocation before release
4. Approvals chain	Was the required minimum authorization level met?	Approvals chain record; multi-party sign-off where required	All required officers present; no missing sign-off
5. Policy/profile binding	Was the release consistent with the applicable governance policy or rights profile?	Policy version record; profile binding annotation	Release scope within policy; no out-of-scope designation
6. Effective timestamp	Is the effective date of the canonical determination documented and logically consistent?	Effective timestamp in release record	Timestamp present; logically consistent with preceding events
7. Validity/freshness check	Is the canonical state still within its defined validity period and not revoked?	TTL or validity period; revocation register	State is within validity period; no active revocation
8. Evidence sufficiency	Is the evidence set sufficient to support replay of the canonical determination?	Full canonical evidence pack	All required artifacts present; replay confirmed possible
9. Replayability confirmation	Can the canonical determination be independently reconstructed from the evidence?	Evidence pack + determination log	Independent reconstruction produces the same canonical designation

V.3.2 Operationally Current vs. Preserved But Non-Current

Criterion	Operationally Current	Preserved But Non-Current
Downstream binding	Binds royalty calculation, distribution, payout, and review	Does not bind any active workflow; historical reference only
Modification or override	Requires EP Delta and multi-party authorization	No modification needed; immutable archival record
Visibility to reviewers	Available at default or elevated tier as appropriate	Available for historical replay; not displayed as current state
Appears in finality records	Yes	No
Can trigger hold-only containment	Yes — if authenticity or consent is challenged	No — already non-current; contained or archived

V.3.3 Confidence and Corroboration Bands for Canonical Determination

Band	Label	Condition	Operational Consequence
CB-1	Fully Corroborated	All 9 determination steps pass; evidence pack complete	Canonical designation is operationally confirmed; downstream workflows may bind
CB-2	Substantially Corroborated	Steps 1–7 pass; minor evidence gap in step 8 or 9	Canonical designation is operative with a monitored annotation; gap must be resolved within reconciliation cycle
CB-3	Partially Corroborated	Steps 1–5 pass; authority or timestamp gaps at steps 6–9	Canonical status is provisional; downstream binding permitted only for low-risk workflows pending full confirmation
CB-4	Inadequately Corroborated	Three or more determination steps fail or are unevidenced	Canonical status cannot be confirmed; hold-only containment; CS-11 (Contained unresolved) state applied

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V.4 Version Supersession Discipline

V.4.1 Supersession Chain Matrix

Supersession Type	Trigger	Scope	Prior-State Handling	EP Delta Required
Forward supersession	A new authorized release replaces an earlier canonical release	Full replacement of prior canonical release	Prior state → CS-07 (Superseded); preserved	Yes — references prior hash and new hash
Rollback supersession	A prior canonical state is re-instated after a forward supersession is found to be defective	Full replacement of defective release	Defective state → CS-07 (Superseded); preserved; rollback reason documented	Yes — references defective state and rollback basis
Partial supersession	A new release replaces one component or scope of a prior release while leaving others operative	Component-level or scope-level replacement	Replaced component → CS-07; non-replaced components remain CS-02 or CS-04	Yes — identifies replaced and retained components
Emergency supersession	An urgent state replacement required to address an active harm or compliance condition	Scope defined by emergency basis	Prior state → CS-07 (Superseded); emergency basis documented	Yes — abbreviated at time of event; full EP Delta within ratification SLO
Derivative supersession	An authorized derivative is replaced by a new derivative without	Derivative-scope only	Prior derivative → CS-07; source canonical state unchanged	Yes — derivative-specific EP Delta

Supersession Type	Trigger	Scope	Prior-State Handling	EP Delta Required
	affecting the canonical source			
Revocation (not supersession)	Authorization is withdrawn without a replacement	Full withdrawal	Prior state → CS-08 (Revoked); no new state becomes operative	Yes — revocation record + EP Delta

V.4.2 Supersession vs. Related State Changes

Action	Is Supersession?	New Operative State?	Prior State
New authorized release replaces prior	Yes	CS-02 (new release)	CS-07 (Superseded)
Correction via EP Delta	No — correction annotates; may or may not change state	CS-12 (Corrected current-reference) if state changes	CS-10 (Archival) if prior state was canonical
Revocation of release authorization	No	None — authorization withdrawn	CS-08 (Revoked)
Dispute resolution designating one version	Effectively yes — but governed by dispute resolution path	CS-02 or CS-12 depending on whether it is a new release or correction	Losing claim → CS-07 or CS-10
Archival of a non-current record	No	None — archival is a preservation action	CS-10 (Archival)
Deletion	Never permitted under this framework	N/A — deletion is prohibited	Records must be retained

V.4.3 Coexistence Rules

In some workflows, multiple versions may be simultaneously operative for different scopes. This is not a supersession conflict; it is authorized coexistence:

Coexistence Scenario	Permitted?	Governance Requirement
Regional release (version A for territory X; version B for territory Y)	Yes — if both have separate release authorizations and distinct scope definitions	Separate release records with non-overlapping scope fields
Format-specific distribution objects (streaming master vs. broadcast master)	Yes — both are CS-03 objects derived from the same CS-02	Single CS-02 canonical release; format distinctions documented in distribution records
Authorized derivative coexisting with canonical source	Yes — CS-04 coexists with CS-02	Transformation authorization record; clear scope boundaries
Two versions both claiming CS-02 canonical status for the same scope	No — constitutes a supersession conflict	Hold-only containment; conflict resolution path (see V.7)

V.4.4 Supersession Conflict Posture

A supersession conflict exists when two state records both claim operationally current status for the same artifact scope without a documented supersession chain linking them. The standard response:

1. Detect via version-state reconciliation (LIN-004, AUTH-006 in Appendix C).
2. Apply temporary supersession block — neither state binds downstream workflows.
3. Preserve both state records as CS-11 (Contained unresolved) pending resolution.
4. Initiate investigation to determine which, if either, has valid release authority.
5. Upon resolution: issue EP Delta designating one state as CS-02 or CS-12; reclassify the other as CS-07 or CS-10.
6. Propagate resolution to all downstream systems; confirm propagation closure.

V.5 Derivative, Distribution, and Canonical-State Relationships

V.5.1 State Relationship Table

Object Type	Depends On	Scope Boundary	Royalty Binding	Reviewer Visibility
CS-01 Canonical source	Authority record; origin assertion	Entire lifecycle	Root of contribution-chain	Full — for audit and replay
CS-02 Canonical release	CS-01; release authorization	Full release scope	Primary royalty calculation basis	Full — for review
CS-03 Official distribution	CS-02; distribution authorization	Defined channel and format	Channel-level usage events	Tier 1 or 2 depending on purpose
CS-04 Authorized derivative	CS-01 or CS-02; transformation authorization	Defined derivative scope	Derivative royalty split	Tier 1 or 2 depending on purpose
CS-05 Draft / WIP	CS-01 (informal); no release authorization	Internal only	No royalty binding	Internal review only; not in distribution
CS-06 Promotional	CS-02; promotional authorization	Defined promotional scope	Promotional usage only; excluded from primary calculation unless documented	Tier 1 for promotional audit
CS-07 Superseded	CS-02 or CS-04 (prior version)	Non-current	Prior-period royalty audit only	Historical replay; not current
CS-08 Revoked	Prior CS-02 or CS-04	None — revoked	No new royalty binding; prior period subject to correction	Restricted; audit only
CS-09 Disputed	Two conflicting claims	Suspended	No payout while disputed	Dispute review path; bounded access
CS-10 Archival	Any prior state	Historical	Prior-period audit	Replay and

Object Type	Depends On	Scope Boundary	Royalty Binding	Reviewer Visibility
				audit only
CS-11 Contained unresolved	Unknown or contested	Suspended	No binding	Hold access; investigation path
CS-12 Corrected current-reference	Prior canonical state + EP Delta	Same as prior canonical state unless correction changes scope	Rebinds all downstream workflows to corrected state	Full — same as CS-02

V.5.2 Binding Rules for Derivative and Distribution Objects

Rule	Description
Lineage requirement	Every CS-04 and CS-03 object must have a documented lineage record linking it to its CS-02 or CS-01 parent. No derivative or distribution object may exist without a traceable parent reference.
Scope-of-use inheritance	CS-04 and CS-03 objects inherit scope-of-use constraints from their parent consent and rights records unless a supplementary authorization explicitly extends scope.
State propagation	When a CS-02 canonical release is superseded or revoked, all dependent CS-03 and CS-04 objects must be reviewed for continued validity. Propagation is not automatic; it requires a propagation log entry.
Royalty independence	CS-04 (authorized derivative) objects may have independent royalty calculations, but those calculations must reference both the derivative's own contribution chain and the parent CS-02's rights record for underlying elements.
No promotion without authorization	A CS-04 or CS-05 object may not be reclassified to CS-02 (canonical release) without a full release authorization event including multi-party sign-off.

V.6 Downstream Binding to Canonical State

V.6.1 Downstream Binding Matrix

Downstream Workflow	Binds To	Binding Trigger	Stale/Superseded State Consequence	Correction Rebind Required
Authenticity review	CS-02 or CS-12 (current canonical)	Review event timestamp	Review may produce incorrect result; investigation required	Yes — re-review against CS-12
Consent-state review	CS-02 + active consent record	Review event timestamp	Consent scope may have changed; stale review invalidated	Yes — re-review with current consent
Rights-chain review	CS-02 + active rights record	Review event timestamp	Rights record may be superseded or expired	Yes if rights state has changed
Royalty calculation	CS-02 or CS-04 (as applicable)	Calculation period start date	Calculation may reference incorrect version; correction	Yes — recalculate against current canonical

Downstream Workflow	Binds To	Binding Trigger	Stale/Superseded State Consequence	Correction Rebind Required
			and replay required	
Settlement confirmation	Calculation artifact linked to CS-02 or CS-04	Payout instruction issuance	Settlement based on wrong version; payout hold required	Yes — settlement must reference corrected calculation
Payout linkage	Settlement confirmation + calculation artifact	Payout execution	Payout may be incorrect; hold and correction required	Yes — payout instruction reissued
Dispute review	State at time of disputed event (historical)	Dispute initiation	Review must distinguish current canonical from historical operative state	Historical replay; correction rebind for post-dispute period
Hold-only containment	Current canonical claim	Containment trigger	Hold applies to current claim; prior states also preserved	N/A — hold is containment, not correction
Correction propagation	CS-12 (corrected current-reference)	EP Delta issuance	All prior bindings based on superseded state must be identified and rebound	Yes — propagation log required
Offboarding preparation	CS-02 or CS-12 at offboarding date	Offboarding initiation	Final canonical state must be confirmed before offboarding snapshot	Yes — final state snapshot required

V.6.2 Consequences of Binding to Wrong State

Binding Error Type	Detection	Immediate Response	Correction Path
Calculation bound to CS-07 (superseded)	Reconciliation mismatch; version-state check failure	Payout hold; calculation flagged	Recalculate against CS-02 or CS-12; EP Delta; rebind
Distribution bound to CS-08 (revoked)	Distribution record references revoked state	Distribution restriction flag; hold-only containment	Revocation propagation confirmed; distribution terminated; EP Delta
Review output based on CS-11 (contained)	Review output references unresolved state	Output quarantined; reviewer notified	Investigation completed; review reissued against resolved state
Settlement confirmation references CS-09 (disputed)	Disputed canonical claim unresolved	Payout hold	Dispute resolved; settlement reissued against confirmed canonical state
Royalty bound to CS-05 (draft)	Calculation references unreleased artifact	Calculation suspended; break opened	Correct canonical state identified; recalculation; EP Delta

V.7 Conflict and Parallel-State Resolution

V.7.1 Conflict Resolution Matrix

Conflict Type	Containment	Review Path	Evidence Threshold	Replay Required	Resolution Output
Dual "official" versions for same scope	Temporary supersession block; CS-11 on both	Multi-party authority review; release records compared	Both release authorizations + authority records	Yes — version-state timeline	One designated CS-02; other reclassified CS-07
Regional vs. global release conflict	Distribution restriction for conflicting territory	Scope-of-use review; release scope records compared	Release records with scope fields; distribution records	Partial — scope-of-use timeline	Scope boundaries clarified; both may remain operative in non-overlapping scopes
Derivative incorrectly promoted to canonical	Hold on derivative's canonical claim; CS-11 applied	Authority review; promotion authorization checked	Promotion event record; multi-party sign-off	Yes — authority chain	If promotion unauthorized: derivative returned to CS-04; if authorized: EP Delta confirming CS-12
Canonical state challenged after payout initiation	Payout hold on challenged period	Dispute review; historical canonical state verified	Historical release records; calculation artifacts for challenged period	Yes — full payout chain replay	Dispute resolved; payout confirmed or corrected; EP Delta
Outdated reviewer view vs. current governed state	Reviewer output quarantined	Post-access review; state timeline confirmed	Access log; state-change records; EP Delta chain	Partial — state-change timeline	Reviewer re-output based on current CS-02 or CS-12
Revoked state still referenced by downstream	Hold on affected downstream outputs	Revocation propagation audit; downstream binding review	Revocation record; propagation log	Yes — propagation timeline	Downstream rebinding confirmed; propagation log closed
Correction state conflicting with archival historical	No conflict — archival is non-current	No investigation required unless dispute raised	EP Delta confirming corrected state; archival record confirmed non-current	No — unless dispute raised	No action if states are properly classified; annotation confirming separation

V.7.2 Parallel-State Detection Logic

The following conditions signal an undeclared parallel-state conflict requiring investigation:

Signal	Indicator	Detection Source
Two manifest entries with same artifact ID but different hashes, both classified as current	Hash conflict in canonical manifest	Manifest reconciliation
Royalty calculation references different version IDs for the same period in different calculation artifacts	Version ID mismatch across calculation artifacts	Royalty reconciliation
Distribution record and royalty record reference different release versions for the same period	Cross-domain version ID mismatch	Cross-domain reconciliation
Reviewer output based on a state that differs from the current EP Delta chain	Output state does not match EP Delta chain	Post-access review
Two propagation logs show different "current canonical" confirmations for the same downstream system	Propagation log divergence	Propagation audit

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V.8 Evidence, Manifest, and Preservation Requirements for State Changes

V.8.1 State-Change Artifact Requirement Matrix

State Change Type	Content-Addressed Manifest	Before/After Snapshot	Approvals Chain	Authority Validation	Policy/Profile Binding
Canonical release designation	Yes — new canonical manifest entry	Yes — prior state snapshot	Yes — release authority sign-off	Yes	Yes
Forward supersession	Yes — updated manifest	Yes — prior canonical snapshot	Yes — two officers minimum	Yes	Yes
Rollback supersession	Yes — updated manifest	Yes — defective state + rollback basis	Yes — two officers minimum	Yes	Yes
Emergency supersession	Yes — updated manifest	Yes — pre-emergency snapshot	Abbreviated at event; ratification within SLO	Yes	Yes
Revocation	Yes — revocation noted in manifest	Yes — prior state snapshot	Yes — two officers minimum	Yes	Yes
Correction (EP Delta)	Yes — corrected manifest entry	Yes — pre-correction snapshot	Yes — two officers minimum	Yes	Yes
Dispute resolution	Yes — resolved state manifest entry	Yes — both disputed state snapshots	Yes — dispute authority sign-off	Yes	Yes
Archival	Yes — archival note	No — archival is	Single officer	Not	Not

State Change Type	Content-Addressed Manifest	Before/After Snapshot	Approvals Chain	Authority Validation	Policy/Profile Binding
transition	in manifest	non-destructive		required	required

State Change Type	Effective Timestamp	Supersedes/Revokes Reference	Downstream Impact Log	Propagation Status	Preservation Bundle
Canonical release designation	Yes	N/A (first designation)	Yes	Yes	Yes for SB-3+
Forward supersession	Yes	Yes — prior version reference	Yes	Yes	Yes
Rollback supersession	Yes	Yes — defective version reference	Yes	Yes	Yes
Emergency supersession	Yes	Yes	Yes	Yes	Yes
Revocation	Yes	Yes	Yes	Yes	Yes
Correction (EP Delta)	Yes	Yes — prior state reference	Yes	Yes	Yes
Dispute resolution	Yes	Yes — prior disputed claims	Yes	Yes	Yes
Archival transition	Yes	N/A	No — archival is non-current	N/A	Incorporated into archival bundle

V.8.2 Downstream Impact Log Requirements

Every state change that affects an operationally current canonical state must produce a downstream impact log containing:

Field	Required Content
State change ID	EP Delta ID or state change event ID
Affected downstream workflows	List of workflows that bind to the changed state
Rebinding action required	Yes / No for each downstream workflow
Rebinding completion status	Pending / Confirmed for each workflow
Propagation confirmation timestamp	Date and time each downstream system acknowledged the state change
Residual binding risk	Any downstream system that could not be confirmed as rebound

V.8.3 Chain-of-Custody Requirements for State Changes

For all state changes at severity SB-3 or above:

1. The chain-of-custody log must record the custody of all evidence artifacts used to authorize the state change, from collection through authorization and storage.
2. Any handoff of evidence between parties during the state-change process must be logged with timestamp, transferring party, and receiving party.

3. The chain-of-custody log is itself immutable and may not be modified after an entry is made; corrections require a new entry with explanation.

V.9 Correction, Reclassification, Revocation, and Replay

V.9.1 Correction, Revocation, and Reclassification Matrix

Action	Trigger	Changes Canonical State?	EP Delta Type	Re-Reconciliation Required	Post-Action Review
Correction	Evidence confirms an error in a current canonical state record	Yes if material error in state classification; No if error is in an annotation only	Corrective EP Delta; prior state → CS-10	Yes — all downstream workflows	Yes — independent officer review
Reclassification	A state is determined to have been incorrectly classified (e.g., CS-05 treated as CS-02)	Yes — state class changes	Reclassification EP Delta; prior classification → CS-10	Yes	Yes
Revocation	Authorization for a state is withdrawn	Yes — state becomes CS-08	Revocation EP Delta; prior state → CS-08	Yes — all downstream workflows	Yes
Supersession	A new authorized state replaces an existing one	Yes — prior state → CS-07	Supersession EP Delta; new state → CS-02 or CS-12	Yes for royalty and payout	Yes
Dispute resolution (correction basis)	A dispute is resolved and the resolution requires a state correction	Yes	Dispute-resolution EP Delta; losing claim → CS-07 or CS-10	Yes	Yes
Dispute resolution (confirmation basis)	A dispute is resolved and the existing canonical state is confirmed	No — existing state confirmed	Confirmation EP Delta (annotative only)	Yes for disputed period	Yes

V.9.2 When Correction Changes Canonical State vs. Annotates It

Condition	Changes Canonical State	Annotates Only
Incorrect artifact hash recorded in canonical manifest	Yes — manifest must be corrected; CS-12 issued	No
Incorrect version-state classification (CS-05 treated as CS-02)	Yes	No
Typographic error in a field not affecting state classification	No	Yes — annotation EP Delta
Incorrect effective timestamp that affects downstream binding	Yes — timestamp correction changes binding	No
Metadata annotation error with no effect on state or binding	No	Yes
Incorrect rights-holder reference in a release record	Yes — affects downstream royalty binding	No

V.9.3 Downstream Notification and Rebind Logic

Upon issuance of a corrective, reclassification, revocation, or supersession EP Delta:

1. All downstream workflows identified in the downstream impact log must be notified of the state change.
2. Workflows that have already processed the affected state (e.g., completed royalty calculations, issued payouts) must be assessed for rebinding requirements.
3. Rebinding is not automatic; it requires a designated propagation authority to confirm that each downstream system has acknowledged the new operative state.
4. Where rebinding is not feasible in real time (e.g., a royalty period has already closed), the downstream impact is documented as an open correction item to be addressed in the next reconciliation cycle.
5. Propagation completion is confirmed by a propagation log entry signed by the propagation authority.

V.9.4 Unresolved-Break Carry-Forward Rules

If a state change is issued but downstream rebinding cannot be fully confirmed before a reconciliation cycle closes:

Condition	Carry-Forward Treatment
Minor rebinding gap (one low-risk downstream system not yet confirmed)	Carry forward as S-4 open item; assigned to next cycle
Material rebinding gap (royalty calculation or payout not yet rebound)	Carry forward as S-2 open break; assigned investigator; payout hold maintained
Propagation failure (downstream system rejects or ignores state change)	S-1 break; hold on all outputs from affected system; escalation required
Structural incompatibility (downstream system cannot accept new state format)	Monitored exception (RC-D); designated owner; corrective action plan required

V.10 Governance, Override, and Exception Controls

V.10.1 Override and Exception Governance Matrix

Dimension	Standard Override	Emergency Override	Prohibited
When permitted	Governance evidence supports a departure from standard process; documented rationale	Immediate action required to prevent material operational harm	Overrides on finalized payout records without multi-party ratification
Approval threshold	Two designated governance officers	One senior officer; multi-party ratification within SLO	No single-party override for CS-02, CS-12, or CS-08 designations
Rationale preservation	Rationale document linked to EP Delta	Abbreviated rationale at time of override; full rationale within 24–48 hours	Rationale may never be deleted
Distribution/payout during override	Narrowed-scope continuation for unaffected elements	No payout or canonical-state change without ratification	No new payout on records subject to an unratified override
Override expiry	Defined review window (default: next reconciliation cycle)	Emergency override expires at ratification or 48 hours without ratification	N/A
Exception-state monitoring	Override record in exception register; reviewed at next governance cycle	Emergency override record flagged for expedited review	N/A
Material change trigger	Three or more overrides in same domain within one cycle	Any emergency override not ratified within SLO	N/A
Recert trigger	Any override on a record subject to a defined recertification cadence	Immediate recert of affected records after ratification	N/A
Abuse detection	Repeated single-officer overrides; override patterns without rationale	Emergency overrides not followed by ratification	Patterns reviewed at governance cycle; SB-6 escalation if systemic
Reviewer visibility	Override state visible to Tier 2 reviewers; override reason visible at Tier 1	Emergency override state visible at Tier 1; reason at Tier 2	N/A

V.10.2 Mini RACI for High-Impact Release and Supersession Events

Activity	Rights-Holder	Release Authority	Compliance Authority	Governance Body	Propagation Authority
Designate CS-02 canonical release	Accountable	Responsible	Consulted	Informed	Informed
Authorize forward	Consulted	Responsible	Responsible	Accountable	Informed

Activity	Rights-Holder	Release Authority	Compliance Authority	Governance Body	Propagation Authority
supersession					
Authorize rollback supersession	Consulted	Responsible	Responsible	Accountable	Informed
Authorize revocation (CS-08)	Accountable	Consulted	Responsible	Accountable	Informed
Issue corrective EP Delta (CS-12)	Informed	Consulted	Responsible	Accountable	Informed
Confirm downstream propagation	Informed	Informed	Consulted	Informed	Responsible
Authorize emergency state change	Informed	Responsible	Responsible	Accountable (post-hoc)	Informed
Approve override / exception	Informed	Consulted	Responsible	Accountable	Informed

---

V.11 Reviewer and Examiner Determination Paths

V.11.1 Reviewer/Examiner Determination Matrix

Determination Need	Evidence Required	Reviewer Tier	Reviewer-Safe Output Possible	Full Raw Disclosure Required
What is currently canonical?	Current manifest + EP Delta chain	Tier 1	Yes — canonical state summary	Only for formal dispute or examination
What was canonical at a prior time?	Historical manifest + supersession chain	Tier 1 or Tier 2	Yes — historical state summary at stated date	Only if dispute requires full artifact review
Who authorized release or supersession?	Release authorization record + authority chain	Tier 1	Yes — authority reference and role	Only if authority is disputed
Was the state valid at the moment of downstream use?	State record with effective timestamp + validity period	Tier 1	Yes — validity confirmation at stated timestamp	Only for formal examination
Did royalty calculation bind to correct version?	Calculation artifact + version ID + canonical manifest	Tier 1	Yes — version-binding confirmation	Only if calculation is disputed
Did payout link to correct canonical state?	Payout chain + settlement confirmation + version reference	Tier 2	Partial — linkage confirmation	Yes for payout dispute
Is a disputed	Dispute resolution EP	Tier 2	Partial — resolution	Yes for formal

Determination Need	Evidence Required	Reviewer Tier	Reviewer-Safe Output Possible	Full Raw Disclosure Required
canonical claim resolved?	Delta + both prior claims		status	examination

V.11.2 Conceptual Reviewer Query Families

Query Family 1 — Current Canonical State Confirmation

```
INPUT: Artifact ID, Review Date
RETRIEVE: All manifest entries for Artifact ID
FILTER: State class = CS-02 or CS-12 AND effective_date <= Review Date AND
(expiry_date > Review Date OR expiry_date IS NULL)
CHECK: No supersession record post-dates the effective date without a newer
canonical record
OUTPUT: Canonical state class, effective date, authority reference, EP Delta
reference if CS-12
```

Query Family 2 — Historical State at Point in Time

```
INPUT: Artifact ID, Point-in-Time Timestamp
RETRIEVE: All state records for Artifact ID with effective_date <= Point-in-Time
Timestamp
ORDER BY: effective_date DESC
TAKE: First record
CHECK: Was the first record in an operationally current class (CS-01 to CS-04 or
CS-12) at that timestamp?
OUTPUT: State class at point in time, effective date, authority reference
```

Query Family 3 — Royalty Version Binding Confirmation

```
INPUT: Calculation Artifact ID, Royalty Period
RETRIEVE: Calculation artifact; extract version_id referenced
RETRIEVE: Canonical manifest entry for version_id at Royalty Period start date
CHECK: Was version_id in state CS-02 or CS-04 at Royalty Period start date?
CHECK: Was version_id superseded during Royalty Period? If yes, which date?
OUTPUT: Binding confirmation (correct / incorrect); if incorrect, identify
supersession date and correct canonical version
```

Query Family 4 — Supersession Chain Completeness

```
INPUT: Artifact ID
RETRIEVE: All EP Deltas for Artifact ID with type = supersession or correction
ORDER BY: effective_date ASC
CHECK: Each EP Delta references the prior state hash; chain is unbroken from
initial release to current state
OUTPUT: Chain complete (yes/no); first break point if no; current operative
state
```

V.11.3 Reviewer-Safe Output Examples

Output Type	Contents	Excludes
Canonical state summary	State class, effective date, authority role (not identity), EP Delta reference	Raw contract terms, royalty rates, contributor identities
Historical state confirmation	State class at stated date, authority role, supersession chain summary	Commercial terms, full rights-chain detail

Output Type	Contents	Excludes
Version-binding confirmation	Version ID, state class at calculation date, binding status (correct/incorrect)	Calculation amounts, royalty rates, payout details
Supersession chain summary	Ordered list of state classes with effective dates; current operative state	Reasons for supersession, party identities
Propagation completion confirmation	Downstream systems confirmed rebound (yes/no); open rebinding items count	System identities, technical architecture detail

V.12 Offboarding and Legacy State Portability

V.12.1 Offboarding State Portability Matrix

Element	Required in Handoff	Format	Disclosure Condition
Final canonical-state snapshot	Yes — mandatory	Content-addressed manifest + state record	Always included
Supersession chain export	Yes — mandatory	Ordered EP Delta chain from initial release to final state	Always included
Unresolved conflict disclosure	Yes — mandatory if any CS-09 or CS-11 states exist	Open conflict register with status	Always disclosed to receiving authority
Preserved historical-state records	Yes — mandatory	Archival bundle per CS-10 and CS-07 records	Always included; non-current flag confirmed
Current-reference-state handoff	Yes — mandatory	CS-02 or CS-12 record at offboarding date	Always included
Downstream dependency map	Yes — recommended	Table of workflows bound to canonical states	Included if downstream rebinding required post-handoff
Portable evidence set	Yes — scoped	Bounded to receiving party's access tier	Excess data excluded per purpose-limitation policy
Offboarding proof bundle	Yes — mandatory	Preservation bundle per framework standards	Always included
Open break register	Yes — mandatory	All open breaks with disposition codes and owner assignments	Always disclosed
Outstanding royalty obligations	Yes — mandatory	Royalty obligation record with unresolved amounts	Always disclosed

V.12.2 Canonical-State Ambiguity Disclosure at Handoff

If any canonical-state ambiguity is unresolved at the time of offboarding:

Ambiguity Type	Disclosure Requirement	Receiving Party Obligation
CS-09 (disputed claim) unresolved	Full disclosure including both competing claims and investigation	Designate a resolution authority; maintain hold on affected workflows

Ambiguity Type	Disclosure Requirement	Receiving Party Obligation
	status	
CS-11 (contained unresolved)	Full disclosure including containment basis and open break reference	Continue hold; assign monitoring owner; resolution cadence inherited
Supersession chain with unverified link	Disclose gap location and evidence status	Attempt to reconstruct gap; if unresolvable, treat as monitored exception
Parallel-state conflict not yet resolved	Disclose both conflicting states and evidence record	Apply temporary supersession block; initiate conflict resolution upon receipt

V.12.3 Post-Offboarding Monitoring Obligations

Where canonical-state governance obligations survive the offboarding event:

- A designated post-offboarding authority must be documented before offboarding completion.
- Any CS-09 or CS-11 states carry forward to the receiving authority with their full investigation records.
- Royalty holds associated with unresolved canonical-state conflicts are maintained under the receiving authority's custody.
- The offboarding attestation must reference all unresolved states and their post-offboarding owners.

V.13 Worked Mini-Scenarios

V.13.1 Worked Scenario Summary Table

Scenario ID	Title	State Change Types	Primary Conflict	Resolution Output
VS-01	Voice release superseded with royalty rebinding	Forward supersession	CS-02 → CS-07; new CS-02	Royalty recalculation; downstream rebind
VS-02	Regional derivative conflicts with global canonical	Parallel-state; scope conflict	CS-02 scope overlap	Scope boundaries clarified; both states operative in non-overlapping scopes
VS-03	Synthetic transformation approved for limited scope	CS-04 scope limitation	CS-04 promotion attempt blocked	CS-04 confirmed; promotion unauthorized
VS-04	Payout calculation references superseded version lineage	Stale binding	CS-07 referenced in calculation	Recalculation against CS-02; EP Delta
VS-05	Archival object mistakenly treated as current canonical	CS-10 misclassification	CS-10 treated as CS-02	Reclassification EP Delta; distribution restricted
VS-06	Emergency	Emergency then	CS-11 → CS-	Full EP Delta chain;

Scenario ID	Title	State Change Types	Primary Conflict	Resolution Output
	reclassification followed by formal supersession closure	formal	12 → CS-02	propagation confirmed

V.13.2 VS-01 — Official Voice Release Superseded with Royalty Rebinding

Context: A voice recording is released as a canonical release (CS-02). A quality defect is identified. A corrected version is produced and released as a superseding canonical release. Royalty calculations for the prior period must be reviewed for rebinding.

Step	Action
Prior state	CS-02 (canonical release) — Version A; royalty calculation active
Defect identified	Internal review detects technical defect; release authority initiates supersession process
Evidence assembled	Prior CS-02 manifest; defect documentation; new version content-addressed hash
Authority confirmed	Two officers authorize supersession; release authority approves new version
Supersession EP Delta	Prior Version A → CS-07 (Superseded); Version B designated CS-02; EP Delta issued
Downstream impact log	Royalty calculation records, distribution records, payout instructions all identified
Payout hold	Active payout instruction held pending rebinding assessment
Royalty recalculation	Calculation replayed against CS-02 Version B for current period; prior-period calculation assessed for material impact
Rebinding	Distribution records updated to reference Version B; royalty calculation reissued; payout instruction updated
Propagation	Propagation authority confirms all downstream systems rebound; propagation log closed
Post-correction review	Independent officer confirms correction is complete; EP Delta references closed
Final state	CS-02 Version B operative; Version A in CS-07 (preserved); royalty calculation bound to Version B

V.13.3 VS-02 — Regional Derivative Conflicting with Global Canonical Release

Context: A global canonical release (CS-02) exists for a film. A regional authorized derivative (CS-04) with dubbed dialogue is released for a specific territory. The regional distributor begins referencing the CS-04 object as the canonical release, creating a parallel-state conflict.

Step	Action
Conflict detected	Distribution record for the regional territory references CS-04 as "canonical release" rather than as "authorized derivative"
Break opened	LIN-004 (version-state conflict), CS-09 (disputed canonical claim) for regional territory

Step	Action
Containment	Temporary supersession block on CS-04's canonical claim; neither claim operative for the disputed scope
Investigation	Review CS-04 release authorization; confirm scope boundaries
Finding	CS-04 was authorized as a derivative for the regional territory; no release authorization exists designating it as CS-02
Resolution	CS-04 confirmed as authorized derivative; scope-of-use boundaries confirmed non-overlapping with CS-02 global scope
EP Delta	Reclassification EP Delta confirming CS-04 state and scope boundaries; regional distribution records corrected
Royalty	Derivative royalty split for CS-04 confirmed; CS-02 primary royalty unaffected
Propagation	Regional distribution systems notified; propagation log closed
Final state	CS-02 (global) and CS-04 (regional territory) coexist in non-overlapping scopes; no conflict

V.13.4 VS-03 — Synthetic Transformation Approved for Limited Scope, Not Promoted to Canonical

Context: An authorized AI-assisted transformation of a film scene produces a CS-04 authorized derivative for a promotional campaign. The campaign operator attempts to substitute the transformed version as the canonical release in the primary distribution system.

Step	Action
Transformation event	AI-assisted scene alteration logged; transformation authorization confirms CS-04 scope: promotional use, 90-day window, digital channels only
Promotion attempt detected	Distribution system receives an update attempting to reclassify CS-04 as CS-02
Break opened	Unauthorized CS-02 promotion attempt; LIN-007 (unauthorized version in distribution); no promotion authorization record
Containment	Promotion blocked; temporary supersession block applied; CS-04 held in CS-11 (contained) pending review
Investigation	Confirm no promotion authorization exists; confirm CS-04 scope limits
Finding	Promotion was unauthorized; CS-04 scope is promotional only; CS-02 canonical state is unchanged
EP Delta	Reclassification EP Delta confirming CS-04 state; promotion attempt annotated as unauthorized event
Downstream	Primary distribution continues on CS-02; promotional campaign continues on CS-04 within authorized scope
Final state	CS-02 unchanged; CS-04 operative within promotional scope; unauthorized promotion event documented

V.13.5 VS-04 — Royalty Payout References Superseded Version Lineage

Context: A quarterly royalty payout is initiated for a music composite work. The calculation artifact references a remix lineage record that points to a superseded version (CS-07) of one stem element. The correct calculation should reference the successor stem.

Step	Action
Binding error detected	Royalty calculation artifact references stem version ID that is in CS-07 (Superseded) state
Break opened	ROY-004 (calculation input mismatch — references superseded version)
Payout hold	Payout instruction suspended pending recalculation
Investigation	Identify correct CS-02 version of the superseded stem; review whether royalty rate or split changes between versions
Finding	Stem was superseded 14 days before the royalty period start; correct CS-02 stem has a different contribution-chain split
Recalculation	Royalty calculation replayed using CS-02 stem version; split adjusted per updated contribution chain
EP Delta	Corrective EP Delta on calculation artifact; prior calculation → CS-10 (archival); corrected calculation → CS-12
Payout instruction updated	New payout instruction references CS-12 corrected calculation; split amounts updated
Rights-holder notification	Affected contributors notified of corrected split; revised payout amounts confirmed
Final state	CS-12 calculation operative; payout instruction reissued; prior calculation preserved in CS-10

V.13.6 VS-05 — Archival Object Mistakenly Treated as Current Canonical

Context: An archival version of an image campaign (CS-10) from a prior licensing period is retrieved and distributed as a current canonical release. The current canonical version (CS-02) was released six months later with updated scope terms.

Step	Action
Error detected	Distribution record references artifact ID corresponding to CS-10 archival version
Break opened	AUTH-CHK-007 (version state not unambiguous); CS-09 implied; distribution on non-current record
Containment	Distribution restriction flag on archival-version distribution; no payout finalization
Investigation	Confirm CS-10 archival record; locate and confirm CS-02 current canonical version
Finding	CS-10 version is non-current; CS-02 version released six months later is the current canonical
Reclassification EP Delta	Not needed for CS-10 (already correctly classified); distribution record corrected to reference CS-02
Downstream	Distribution systems updated to CS-02 reference; usage events for archival-version distribution flagged for royalty review
Royalty	Usage events during erroneous distribution period assessed; recalculation using CS-02 scope terms
Final state	CS-02 operative; CS-10 correctly preserved as archival; distribution records corrected

V.13.7 VS-06 — Emergency Reclassification Followed by Formal Supersession Closure

Context: An active canonical release is found to reference a consent record whose revocation has been confirmed. An emergency reclassification is initiated to prevent continued distribution under a revoked consent state. A formal supersession is completed after the emergency ratification period.

Step	Action
Revocation confirmed	Consent revocation record confirmed; active CS-02 canonical release references revoked consent
Emergency reclassification	Senior governance officer applies emergency state change; CS-02 → CS-11 (contained unresolved); abbreviated rationale documented
Containment	Distribution restriction flag; payout hold; all downstream workflows notified of CS-11 state
Emergency EP Delta	Abbreviated EP Delta at time of reclassification; flags pending ratification
Ratification	Within 24 hours: multi-party governance ratification confirms emergency basis; full rationale document appended
Formal supersession	New release prepared under a valid replacement consent record; full release authorization obtained
Supersession EP Delta	CS-11 prior state → CS-07 (Superseded); new version designated CS-02; full supersession EP Delta issued
Propagation	All downstream systems rebound to new CS-02; propagation log closed
Royalty	Prior-period royalty calculation reviewed; usage events during CS-11 containment period assessed
Final state	New CS-02 operative; prior revoked-consent version in CS-07; emergency episode fully documented with EP Delta chain

---

V.14 Reader Action Map

V.14.1 State Ambiguity to Closure Reference Table

State Ambiguity	Containment	Replay	Supersession/ Correction	Downstream Rebinding	Governance Review	Closure Condition
Two CS-02 claims for same scope	Temporary supersession block; CS-11 on both	Version-state timeline replay	One designated CS-02; other → CS-07	All downstream workflows rebound to confirmed CS-02	Two-officer sign-off; EP Delta	Single CS-02 confirmed; propagation log closed
CS-07 referenced in active calculation	Payout hold	Calculation replay against current canonical	Corrective EP Delta on calculation; CS-12 issued	Royalty and payout rebound to CS-12	Two-officer sign-off	Recalculation confirmed; payout instruction updated
CS-08 revoked state in active distribution	Distribution restriction; hold-only containment	Revocation propagation timeline	Revocation EP Delta; propagation confirmed	Distribution terminated; downstream systems confirmed	Two-officer sign-off	Propagation complete; no active distribution on CS-08

State Ambiguity	Containment	Replay	Supersession/ Correction	Downstream Rebinding	Governance Review	Closure Condition
CS-09 disputed canonical claim	Hold-only containment on both claims	Full authority chain replay for both claims	Dispute resolution EP Delta; one → CS-02 or CS-12; other → CS-07 or CS-10	Downstream rebound to resolved canonical	Dispute authority sign-off	Single operative state confirmed; propagation log closed
CS-10 archival treated as CS-02	Distribution restriction	State-timeline replay confirming CS-10 classification	Distribution record correction; no EP Delta needed unless state was incorrectly changed	Distribution records rebound to actual CS-02	Single officer for correction	CS-02 correctly identified; distribution records corrected
CS-11 contained unresolved	Hold maintained	Available evidence replay	When resolution is possible: EP Delta designating CS-12 or CS-07; if unresolvable: RC-D monitored exception	Downstream rebound deferred until resolution	Monitoring owner assigned	Break resolved and EP Delta issued, or monitored exception status confirmed
Emergency state change not yet ratified	Distribution hold maintained	Pre-emergency state preserved	Multi-party ratification of emergency; formal supersession when new release ready	Deferred until ratification	Governance body ratification within SLO	Ratification complete; full EP Delta chain issued
Propagation incomplete after state change	Downstream hold for unconfirmed systems	Propagation log review	No additional state change required	Unconfirmed systems followed up; propagation authority escalates	Propagation authority escalation	All systems confirmed; propagation log closed
Stale reviewer view vs. current state	Reviewer output quarantined	Access log and state-change timeline	No state change required; reviewer re-output	Reviewer re-output issued based on current CS-02 or CS-12	Post-access review	Re-output confirmed correct; access log closed
Offboarding with unresolved	Offboarding suspended	Final reconciliation replay	Resolve if possible; disclose if not	Downstream dependency map	Offboarding attestation authority	Conflict resolved or disclosed;

State Ambiguity	Containment	Replay	Supersession/ Correction	Downstream Rebinding	Governance Review	Closure Condition
canonical conflict				disclosed to receiving authority		offboarding attestation issued

V.14.2 Quick-Reference State Determination Decision Tree

```
Artifact Under Review
        │
        ├─ Is there a CS-12 (Corrected current-reference) with an EP Delta
chain?
        │       YES → CS-12 is operative; bind downstream workflows to CS-12
        │       NO  → Proceed
        │
        ├─ Is there a CS-02 (Canonical release) with no supersession or
revocation?
        │       YES → CS-02 is operative; confirm validity period; bind
downstream
        │       NO  → Proceed
        │
        ├─ Is there a CS-09 (Disputed claim) or CS-11 (Contained unresolved)?
        │       YES → Hold-only containment; no downstream binding;
investigation path
        │       NO  → Proceed
        │
        ├─ Is the most recent state record CS-07 (Superseded) or CS-08
(Revoked)?
        │       YES → Distribution restriction; locate successor canonical state
        │       NO  → Proceed
        │
        ├─ Is the only available state record CS-10 (Archival) or CS-05 (Draft)?
        │       YES → No current canonical state confirmed; escalate to
governance
        │       NO  → Proceed
        │
        └─ Is the state class CS-04 (Authorized derivative)?
                YES → CS-04 is operative within its defined scope; confirm scope
before binding
                NO  → State class cannot be determined; open break; investigate
```

Appendix W — Revenue Waterfall, Split Logic, and Dispute-Resilient Payout Controls for Authenticity, Consent, Lineage, and Rights-Linked Media Workflows

W.0 Purpose and Reader Orientation

Core Thesis: Revenue integrity in media and synthetic-media workflows cannot be established by payout execution alone. Institutions must be able to reconstruct how usage, authorization, derivation, rights-state, split logic, settlement confirmation, and payout instruction were linked at the time of calculation and whether later disputes, corrections, supersession, or revocation events require hold-only containment, adjustment, rebinding, or replay.

Secondary Thesis: The objective is not to automate entitlement by assertion, nor to replace contract, accounting, editorial, or legal review. The objective is to create an evidence-linked, replayable, and governable operational layer for revenue waterfalls, split calculation, settlement confirmation, payout control, and dispute-resilient correction.

W.0.1 Why This Appendix Exists

Section 8 of the main framework defines the royalty calculation artifact, split allocation, payment instruction, settlement confirmation, and payout linkage record structures. This appendix operationalizes the governance layer above those structures: it defines how revenue events enter the waterfall, how eligibility gates prevent premature processing, how disputes and breaks produce contained payout states, and how corrections preserve the historical evidence chain while establishing a corrected current-reference state.

W.0.2 Why Payout Integrity Requires Authenticity / Consent / Lineage / Rights-State Linkage

A payout that cannot be traced to a verified authenticity state, a confirmed authorization, a complete derivation chain, and a valid rights-chain scope is not an operationally sound payout — it is an asserted disbursement. Operational soundness requires demonstrable linkage at every stage from usage event to settlement confirmation. This appendix makes that linkage explicit and auditable.

W.0.3 What This Appendix Is and Is Not

This appendix is: An operational revenue-control, payout-integrity, and evidence-linkage appendix for examiner-ready workflows across voice, image, film, music, and synthetic media.

This appendix is not: A tax memo, royalty-law opinion, accounting standard, creator-economy essay, or platform monetization strategy. It does not make legal conclusions about entitlement, ownership, or contract enforceability.

W.1 Revenue Event Taxonomy

Revenue Event Taxonomy Table

Event Class	Code	Description	Eligibility Basis	Hold Trigger	Royalty Anchor
Primary release revenue	RE-PRIM	Revenue from initial distribution of canonical source or release object	CS-SRC or CS-REL current; consent IN_SCOPE; rights-chain ACTIVE	Any anchor state failure	CS-SRC or CS-REL
Derivative release revenue	RE-DERIV	Revenue from authorized derivative object distribution	CS-DERIV current; transformation CONFIRMED; derivation rights confirmed	Authorization ABSENT or CONTESTED	CS-DERIV + parent CS-SRC
Promotional / commercial use	RE-PROMO	Revenue from time- and purpose-bounded promotional use	Consent purpose scope CONFIRMED; duration active	Consent EXPIRED or purpose OUT_OF_SCOPE	CS-SRC or CS-REL (flows through parent)
Licensing revenue	RE-LIC	Fee-based revenue from granting a license tier	Rights-chain ACTIVE; license tier registered; scope confirmed	License EXPIRED or TERMINATED	Rights-chain license tier
Usage-based revenue	RE-USE	Per-event revenue: streaming play, broadcast, sync, download	Usage event Tier 1 or Tier 2; consent and rights-chain confirmed	Tier 3/4 events; scope OUT_OF_SCOPE	Canonical object at event time
Bundle / composite revenue	RE-BUNDLE	Revenue from a package containing multiple artifacts	All constituent artifacts eligible; split allocation covers all contributors	Any constituent artifact blocked or disputed	Per-constituent canonical objects
Archive / re-release revenue	RE-ARCH	Revenue from archival or re-released material	Archive license ACTIVE; reversion check passed; rights-chain confirmed	Reversion trigger met; archive license scope exceeded	Archive license tier
Synthetic-media commercialization	RE-SYNTH	Revenue from AI-generated or AI-modified	Synthesis license ACTIVE;	Training data auth ABSENT; source consent ABSENT	Synthesis license tier

Event Class	Code	Description	Eligibility Basis	Hold Trigger	Royalty Anchor
		output distribution	training data authorization confirmed; source consent confirmed if identifiable voice/likeness used		
Dispute-affected revenue	RE-DISP	Revenue whose calculation basis is contested	N/A — holds apply immediately upon dispute filing	Automatic hold upon D-class dispute filing	Disputed per dispute scope
Reversed or adjusted revenue	RE-ADJ	Revenue corrected by an off-cycle adjustment	Correction EP Delta issued; adjustment lineage record present	N/A — adjustment process governs	Corrective calculation artifact
Held / contained revenue	RE-HELD	Revenue accrued but not disbursed pending resolution	N/A — hold-only containment active	By definition	Per hold trigger reference
Offboarding carry-forward	RE-OFF	Revenue state carried to receiving custodian at offboarding	FSS confirmed; open conditions disclosed	Active holds and disputes transferred intact	Per canonical state at FSS timestamp

W.2 Split Logic and Contribution Model

Split logic is the operational process of determining how the net royalty pool is allocated among contribution-chain parties. It is evidence-bound, instrument-referenced, and time-scoped. It is not a legal determination of entitlement.

Split Logic and Contribution Matrix

Split Dimension	Description	Evidence Required	Failure Condition	Treatment on Failure
Contribution chain	Parties whose creative or financial contributions entitle them to a share of the net pool	Instrument references (session agreement, publishing agreement, producer agreement, synthesis license)	Missing instrument reference for any contributor	Residual held; BR-P03; investigation

Split Dimension	Description	Evidence Required	Failure Condition	Treatment on Failure
Participation chain	Parties whose operational roles create fee/commission entitlements deducted before split	Distribution agreement, admin agreement, platform agreement	Deduction applied without instrument reference	Deduction flagged; RP-13 check; correction required
Role-bound split reference	Each contributor's share is tied to their documented role (composition, recording, production, synthesis)	Role-specific instrument per contributor	Role and share not confirmed	ASSERTED qualifier applied; Tier 2 provisional
Conditional split logic	Split is conditioned on event type (e.g., streaming vs. sync vs. promotional)	Instrument specifying per-event-type split	No per-event-type specification	ASSERTED applied; most conservative interpretation used
Time-bounded split state	Split percentages change at defined dates (e.g., post-recoupment, post-term change)	Amendment or renewal instrument with effective date	Split state stale; recoupment state uncertified	Stale split flagged; recertification required; RP-12
Territory / channel / purpose-bounded split	Split differs by territory, channel, or purpose	Instrument specifying per-scope split	Single split applied across all scopes without basis	Scope-specific split required; correction if material
Derivative-specific split	Derivative work carries different split from source	Derivation rights instrument; derivative split schedule	Source split incorrectly applied to derivative	Reclassification; corrective EP Delta; off-cycle correction
Superseded split schedule	Prior split schedule replaced by amendment	Amendment EP Delta; new schedule registered	Prior schedule used after amendment effective date	Off-cycle correction; adjustment lineage record
Disputed split schedule	Co-parties contest split percentages or entitlement basis	Dispute record; competing instruments from both parties	Active D-CALC dispute	Hold-only containment on disputed portions; split neutral applied pending resolution
Unresolved split state	No instrument basis for one or more contributor	Investigation record; corroboration gap	Residual non-zero at split allocation	Residual held in escrow-equivalent; BR-P03

Split Dimension	Description	Evidence Required	Failure Condition	Treatment on Failure
	shares	record		

Split determination rule: The split schedule applied must be the version effective at the start of the usage period being calculated, not the most recent version. If an amendment's effective date falls mid-period, a pro-rata split may apply; the basis must be documented in the calculation artifact.

W.3 Eligibility Gates for Calculation and Payout

Eligibility gates are the minimum conditions that must be satisfied before a revenue event may enter calculation and before a payout may be issued. They are not sequential — all gates apply concurrently. Failure of any single gate produces a defined treatment response.

Eligibility Gate Matrix

Gate	Condition Required	Evidence Required	If Partially Met	If Failed	Processing Status
G-01 Authenticity sufficiency	Authenticity state VERIFIED or CORROBORATED	SI-01 pass; manifest chain intact	ASSERTED: Tier 2 provisional	CONTESTED or UNRESOLVABLE: blocked	Normal / Provisional / Blocked
G-02 Authorized-use sufficiency	Consent state IN_SCOPE or ASSERTED for all applicable dimensions	Consent instrument; scope dimension records; diff chain replay	One dimension ASSERTED: Tier 2 provisional	Any dimension OUT_OF_SCOPE, EXPIRED, REVOKED, or ABSENT: hold	Normal / Provisional / Hold
G-03 Version / lineage sufficiency	Derivation chain complete; no ABSENT Class A authorization; no contamination	Transformation event chain; contamination check passed	ASSERTED authorization for Class B: Tier 2 provisional	ABSENT Class A or contamination: blocked	Normal / Provisional / Blocked
G-04 Rights-chain / scope sufficiency	License state ACTIVE; scope check IN_SCOPE or ASSERTED; restriction registry queried	Rights-chain EP entry; scope check record; restriction registry	ASSERTED: Tier 2 provisional	OUT_OF_SCOPE or EXPIRED: hold on affected events	Normal / Provisional / Hold
G-05 Usage evidence sufficiency	Usage events Tier 1 or Tier 2; artifact identified; volume confirmed	Usage event records; reporting source identified	Tier 2 events: provisional with 90-day window	Tier 4 or UNMATCHED: excluded	Normal / Provisional / Excluded
G-06 Canonical-state binding	Calculation references current canonical object; no CS-SUP anchor	Canonical determination per V.3; SI-03 pass	ASSERTED canonical: Tier 2 provisional	CS-SUP or CS-DISP anchor: blocked	Normal / Provisional / Blocked
G-07	No unresolved	Payout linkage	High-severity	Critical break or	Normal /

Settlement path sufficiency	Critical breaks in payout chain; chain_complete path available	records; break register	open break: contained processing	chain_complete: NO without investigation: deferred	Contained / Deferred
G-08 Break / dispute status	No active D-class dispute covering this event; no Critical hold	Dispute register; hold register	Moderate break: flagged; Tier 2 provisional	Active dispute or Critical hold: blocked	Normal / Provisional / Blocked

Processing status outcomes:

Status	Definition	Payout Action
Normal	All gates pass or ASSERTED qualifiers only	Proceed to calculation and payout
Contained	One or more gates produce Tier 2 provisional; no Critical failures	Proceed with PROVISIONAL qualifier; 90-day resolution window
Deferred	A gate failure does not block calculation but blocks payout until resolved	Calculate; do not issue payout instruction until gate resolved
Hold	A gate failure requires hold-only containment on specific revenue	Calculate; hold affected revenue; issue instructions for unaffected revenue
Blocked	A gate failure prevents calculation for affected events	Exclude from calculation; register break; investigate
Escalation-required	Multiple gate failures or Critical break without active investigation	Hold all; escalate to Dispute Governor; no calculation until resolution

---

W.4 Revenue Waterfall Model

The revenue waterfall is the ordered sequence of operational steps through which a gross revenue event becomes a net payout to each contribution-chain party. It is replayable from the calculation artifact and all referenced input records.

Revenue Waterfall Table

Stage	Input	Process	Output	Gate	Failure Response
1. Source revenue capture	Usage event reports from distribution, platform, or licensing channels	Classify by RE-type; assign artifact manifest ID; assign reporting source	Royalty Event Intake Summary (Appendix I.1)	G-05 (usage evidence)	UNMATCHED or UNCLASSIFIED → excluded; break registered
2. Eligibility screening	Intake summary; rights-state and consent-state records	Run gates G-01 through G-08 per event	Tier 1–4 quality tiers assigned; hold flags applied	G-01 through G-08	Per gate matrix above
3. Allocation base determination	Eligible events (Tier 1 + Tier 2) by royalty	Apply applicable rate per event type;	Gross revenue by event type	Rate basis instrument must be registered	Rate ASSERTED if instrument absent; flagged

Stage	Input	Process	Output	Gate	Failure Response
	event type	confirm rate basis instrument			
4. Participation-chain deductions	Gross revenue; deduction instruments	Apply platform share, distribution fee, admin fee per instrument	Net royalty pool	Deduction instruments must reference registered agreements	Undocumented deduction flagged; RP-13
5. Split determination	Net royalty pool; contribution chain; split schedule	Apply split percentages per event type and territory/channel	Gross allocated per contributor	Split instruments must be registered; split must sum to 100%	Residual → BR-P03; held
6. Recoupment adjustment	Gross allocated; recoupment state per contributor	Deduct outstanding advance against gross allocated	Net payable per contributor	Recoupment state must be current at calculation run	Stale recoupment → RP-12; correction required
7. Hold / containment layer	Net payable; hold register; dispute register	Apply holds per active hold records; segment held vs. payable amounts	Net payable (free) + Net payable (held)	No held amounts may proceed to payout instruction	Override requires dual authorization
8. Settlement preparation	Net payable (free) per contributor	Create payment instructions; link to split allocation record	Payment instructions (Appendix I.4)	Dual authorization above threshold	BR-P08 if threshold breached without authorization
9. Settlement confirmation	Payment instructions; settlement mechanism	Execute payment; receive confirmation	Settlement confirmations (Appendix I.5)	Confirmation must match instruction amount	Variance flag → BR-P05; investigation
10. Payout completion evidence	Confirmations; payout linkage records	Link all chain elements; confirm chain_complete	Payout Cycle Finality Record (Appendix I.7)	chain_complete: YES required for finality	BR-P04; correction required
11. Residual / unmatched handling	Residual from step 5; unmatched events	Hold residual; register breaks; pursue identification	Hold records; break register entries	No residual may be absorbed without identification	Escrow-equivalent; BR-P03
12. Post-cycle correction	Correction triggers; off-cycle events	Off-cycle correction per Section 8.9	Adjustment lineage record; corrective cycle finality	Correction requires dual authorization; EP Delta required	Undocumented correction is BR-P12

Waterfall branching logic:

```
GROSS REVENUE
    ↓
[Gate Screening G-01–G-08]
    ├── BLOCKED events → excluded from waterfall; break registered
    ├── HELD events → proceed to calculation; withheld at step 7
    ├── PROVISIONAL events → proceed with qualifier; 90-day window
    └── NORMAL events → proceed through full waterfall
    ↓
[Allocation Base: Rates Applied]
    ↓
[Participation Deductions]
    ↓
[Split Determination → residual check]
    ├── RESIDUAL > 0 → held; investigation
    └── RESIDUAL = 0 → proceed
    ↓
[Recoupment Adjustment]
    ↓
[Hold / Containment Layer]
    ├── HELD portion → escrow-equivalent; separate hold record
    └── FREE portion → proceed to payout instruction
    ↓
[Payment Instruction → Settlement Confirmation → Payout Linkage]
    ├── chain_complete: YES → finality record
    └── chain_complete: NO → break registered; correction required
```

W.5 Usage Evidence and Calculation Artifacts

Usage Evidence and Calculation Artifact Matrix

Artifact	Required Fields	Minimum Quality	Failure Consequence
Usage event record	Artifact manifest ID; use type; timestamp; territory; channel; volume metric; reporting source	Tier 1 (all confirmed) or Tier 2 (one or two ASSERTED)	Tier 3/4: excluded or exception; UNMATCHED: break
Rights-state binding record	Monetization event rights-state linkage (Section 7.7); scope check result; restriction registry query timestamp	IN_SCOPE or ASSERTED; restriction registry queried within recertification window	OUT_OF_SCOPE: hold; absent linkage: BR-R04
Consent-state binding record	Consent state at event timestamp (replay output); all six scope dimensions evaluated	IN_SCOPE or ASSERTED	EXPIRED / REVOKED / ABSENT: hold or block per dimension
Derivation-lineage linkage	Transformation event chain confirming canonical source; contamination check result	No ABSENT Class A events; contamination check CLEAN	Contamination: full block; missing event: BR-L01
Applicable split schedule	Instrument references for each contributor; split percentages; effective date	All contributors identified; instruments registered; sum = 100%	Missing reference: ASSERTED; residual: BR-P03

Artifact	Required Fields	Minimum Quality	Failure Consequence
Effective timestamps	Event timestamp; calculation run timestamp; rate basis effective date; split schedule effective date	All timestamps determinable and consistent	Ambiguous timestamp: ASSERTED; inconsistency: flagged
Calculation input manifest	Content-addressed hash of all inputs: usage events, rate instruments, rights refs, consent refs	All inputs registered in EP; hash computed	Non-registered input: ASSERTED qualifier or exclusion
Calculation result artifact	Gross revenue by type; deductions; net pool; split allocation; provisional event list	All fields populated; residual = 0; hash verified	Residual: BR-P03; hash mismatch: RP-02 failure
Reviewer-safe output	Aggregate state summary; split distribution without individual PII; pool totals	Tier 0 without contributor identity; Tier 1 with contributor reference class	N/A — production issue only
Replay bundle	Calculation artifact + all referenced input records	Replay produces identical outputs from same inputs	Replay mismatch: RP-02 failure; integrity investigation

Minimum replay requirements:

A calculation is replayable if and only if:

1. The calculation artifact's `calc_input_hash` can be verified against the registered input records.
2. Executing the calculation logic against the referenced inputs produces outputs matching the `calc_output_hash`.
3. All referenced input records are retrievable from the EP.
4. No input record has been modified after the `calc_run_timestamp`.

If any condition fails: calculation replay is a failure; RP-02 check fails; correction EP Delta required before payout finality is declared.

W.6 Settlement Confirmation and Payout Linkage

Settlement Confirmation and Payout Linkage Matrix

Chain Element	Links To	Required Linkage	If Linkage Absent
Calculation artifact	Split allocation record	calc_id must be present in alloc_id	BR-P02 — no calculation basis for payout
Split allocation record	Payment instruction (per contributor line)	alloc_line_id must be present in instruction	BR-P04 — instruction not linked to allocation
Payment instruction	Settlement confirmation	instruction_id must match confirmation	BR-P04 — confirmation not linked to instruction
Settlement	Payout linkage record	confirmation_id must be	BR-P04 — payout chain

Chain Element	Links To	Required Linkage	If Linkage Absent
confirmation		present in linkage	incomplete
Payout linkage record	Payout Cycle Finality Record	linkage_id confirms chain_complete: YES	chain_complete: NO → BR-P04
Payout Cycle Finality Record	Prior finality record (hash chain)	prev_finality_hash links to prior cycle	Orphaned finality → governance check

Unmatched and stale-reference risks:

Risk Type	Description	Detection	Response
Unmatched calculation	Payout issued but no calculation artifact exists for the cycle	RP-01 check; QF-07	Hold; reconstruct or block
Unmatched settlement	Settlement confirmation received; no matching instruction	Settlement confirmation scan; QF-P03	Hold confirmed amount; investigation
Unmatched payout	Payment confirmed but not traceable to any calculation or instruction	Payout reconciliation; QF-P03	Hold; escrow-equivalent; BR-P04
Double-reference risk	Same usage event or split line referenced in two calculation cycles	Usage event deduplication check; QF-P01	Flag; hold duplicate cycle; investigation
Stale-reference payout	Payout instruction references superseded canonical or expired license	Canonical state check; RC-04 check	Hold; rebind to current canonical; corrective cycle
Superseded-state payout	Calculation artifact was anchored to CS-SUP object	Query V-03; RP-02	Hold affected cycle; corrective calculation
Contained-but-not-released	Revenue is held but release condition is met and hold was not lifted	Hold register review; BR-P07	Expedited hold release; dual authorization

W.7 Break Taxonomy for Revenue and Payout Workflows

Revenue Break Taxonomy Table

Break Code	Description	Domain	Severity	Auto-Hold?	Resolution Path
BR-P01	Usage event UNMATCHED — artifact not identified	L5	High	YES	Identification investigation; if unresolvable: excluded with documentation
BR-P02	Calculation artifact absent for completed payout cycle	L5	Critical	YES — full cycle	Reconstruct calculation; if impossible: full cycle hold pending investigation

Break Code	Description	Domain	Severity	Auto-Hold?	Resolution Path
BR-P03	Split allocation residual non-zero	L5	Moderate	YES — residual only	Identify missing contributor; if unidentifiable: escrow-equivalent
BR-P04	Payout chain chain_complete: NO	L5	High	YES — incomplete chain	Identify missing element; complete chain; corrective instruction if needed
BR-P05	Settlement confirmation variance flag unresolved	L5	Moderate	YES — variance amount	Investigate; corrective instruction for underpayment; recovery for overpayment
BR-P06	Tier 2 provisional events unresolved at 90-day deadline	L5	Moderate	YES — provisional revenue	Reclassify to Tier 3; corrective EP Delta; corrective cycle
BR-P07	Hold record without expected resolution date	L5/L6	Moderate	N/A — already held	Assign resolution date; escalate at 180 days
BR-P08	Payment instruction above threshold without dual authorization	L5	High	YES — instruction suspended	Obtain retroactive authorization or void; governance investigation
BR-P09	Revenue event type UNCLASSIFIED	L5	Moderate	YES — unclassified revenue	Classify; apply correct rate; reprocess
BR-P10	Recoupment state stale at calculation time	L5	Moderate	NO	Recertify recoupment state; recalculate net payable if changed
BR-P11	Finality record absent for closed cycle	L5	Moderate	NO	Issue finality record; confirm all conditions
BR-P12	Off-cycle correction without adjustment lineage record	L5	Moderate	NO	Create retroactive adjustment lineage record
BR-W01	Split schedule effective date conflicts with usage period	L5	High	YES — conflicting period	Identify correct schedule; correction EP Delta; off-cycle correction
BR-W02	Contributor identification changed after payout cycle finalized	L5	High	YES — future cycles	Off-cycle correction; retroactive split revision if instrument effective date permits
BR-W03	Duplicate payout risk detected (same event in two cycles)	L5	Critical	YES — duplicate cycle	Investigate; hold duplicate; corrective calculation

Break Code	Description	Domain	Severity	Auto-Hold?	Resolution Path
BR-W04	Stale canonical reference in payout chain	L5	High	YES — stale cycle	Rebind to current canonical; corrective cycle
BR-W05	Downstream correction not propagated to payout records	L5/L6	Moderate	NO	Identify affected payout records; issue propagation EP Deltas
BR-W06	Offboarding-bound unresolved revenue state	L5/Offboarding	High	YES — transferred holds	Disclose in OPB Module J.7; receiving custodian inherits governance

---

W.8 Hold-Only Containment and Dispute-Resilient Controls

Hold-Only Containment Matrix

Trigger	Scope of Hold	Hold Type	Temporary?	Extended Condition	Lift Condition	Prohibited Action
Active D-class dispute	Revenue within dispute scope	Full	YES	Dispute unresolved beyond 90 days → extended; beyond 180 days → monitored exception	Dispute Finding Record; dual authorization for release	Payout of disputed amounts before Finding Record
G-01 failure (authenticity)	All revenue from affected artifact	Full or partial per scope	YES	If CONTESTED or UNRESOLVABLE persists	VERIFIED or CORROBORATED state confirmed	Calculation on UNRESOLVABLE artifact
G-02 failure (consent)	Revenue from non-consented events	Event-specific	YES	If ABSENT state confirmed	Consent instrument registered and confirmed	Calculation on ABSENT consent events
G-03 failure (lineage contamination)	All revenue from contaminated chain	Full chain	Until resolution	Contamination investigation pending	Clean lineage confirmed; corrective EP Delta	Distribution of contaminated output
G-04 failure (rights-chain expired)	Post-expiry events	Event-specific	YES	Re-licensing in progress	Valid license registered; scope check passes	Revenue disbursement post-expiry
G-06 failure (CS-SUP anchor)	Affected calculation cycle	Cycle-specific	YES	Corrective calculation in progress	Corrective cycle complete; new finality record	Finalizing cycle with CS-SUP anchor
G-08 failure (Critical break)	Revenue dependent on break	Scope per break	YES	Investigation active	Break resolved; corrective EP Delta	Overriding hold without dual authorization
Provisional event expiry (BR-P06)	Provisional event revenue	Event-specific	YES	90-day window elapsed	Tier 1 upgrade via confirmed evidence or	Treating Tier 3 events as Tier 1 without resolution

Trigger	Scope of Hold	Hold Type	Temporary?	Extended Condition	Lift Condition	Prohibited Action
					reclassified to Tier 3 with corrective cycle	
Payout instruction variance flag	Variance amount only	Partial	YES	Variance investigation ongoing	Variance confirmed as error; corrective instruction	Absorbing variance without investigation
Split allocation residual (BR-P03)	Residual amount only	Partial	Until identification	Contributor unidentified	Contributor identified and instrument registered	Absorbing residual into another contributor's allocation

Segmented payout containment: Where a hold applies to a portion of a net royalty pool, the remaining portion may proceed to payout. The held amount is tracked in a separate hold record. The payout cycle finality record documents both the disbursed and held portions. Segmentation requires:

- Clear identification of which contributor lines or events are held
- Separate hold set entry per segment
- Post-resolution correction EP Delta when hold is released

Monitored exception state for revenue: When a hold cannot be resolved within 180 days, the revenue transitions to monitored exception. The exception record documents: held amount, trigger basis, all resolution paths pursued, review cadence (monthly minimum), and escalation threshold.

W.9 Adjustment, Reversal, Rebinding, and EP Delta Discipline

Adjustment / Reversal / Rebinding Matrix

Event	Trigger	Changes Prior Payout?	EP Delta Required	Retroactive Scope	Rationale Preservation	Downstream Impact
Off-cycle adjustment	Usage volume revision; rate correction; contributor identification	YES — corrective payout or recovery	ROYALTY CALCULATION_CORRECTION + adjustment lineage record	From correction effective date; prior periods only if instrument effective date permits	Correction basis in EP Delta; original cycle preserved	All contributors notified; corrective instructions issued
Retroactive split correction	New split instrument with retroactive effective date confirmed	YES — if instrument predates usage events	SPLIT_REVISION EP Delta + corrective cycle	Only to events that fall on or after instrument effective date	Instrument effective date documented; prior split preserved as CS-SUP equivalent	All contribution-chain parties notified
Superseded	Canonical state	YES —	CANONICAL_REB	From	Supersession	Royalty Calc

Event	Trigger	Changes Prior Payout?	EP Delta Required	Retroactive Scope	Rationale Preservation	Downstream Impact
payout rebinding	changes; prior calculation referenced CS-SUP	corrective cycle from supersession effective date	IND EP Delta + corrective calculation	supersession effective date; historical cycles unaffected	EP Delta referenced; prior anchor preserved	Officer; distributors
Reversal discipline	Erroneous payout confirmed	YES — recovery instruction or credit offset	PAYOUT_CORRECTION EP Delta	Full reversal or partial per confirmed error	Error identification and confirmation documented	Affected payee notified; recovery mechanism documented
Clawback-like adjustment posture	Overpayment confirmed; recovery required	YES — recovery	ROYALTY EP Delta + adjustment lineage record	Per confirmed overpayment amount	Overpayment basis documented; original calculation preserved	Payee notified with recovery plan; timeline agreed
Rebinding after dispute resolution	Dispute Finding Record changes calculation basis	YES — if calculation was based on disputed state	CORRECTIVE_CALC + corrective finality record	From dispute effective date per Finding Record	Finding Record referenced; disputed state preserved	All parties; corrective payout instructions
Re-reconciliation after correction	Multiple corrections applied; full cycle review required	Potentially YES	Full cycle re-run; new finality record	All events in re-reconciliation scope	All prior artifacts preserved; corrections linked via adjustment lineage chain	Comprehensive downstream notification

EP Delta discipline for payout corrections: Every correction to a finalized calculation cycle requires:

1. Correction EP Delta naming the original `calc_id` and the correction trigger.
2. Corrective calculation artifact with `prev_calc_artifact_hash` linking to the original.
3. Adjustment lineage record linking original and corrective cycles.
4. If recovery is required: recovery instruction record with payee notification documentation.
5. Corrective Payout Cycle Finality Record linking to original finality record.

Historical payout evidence is always preserved. Corrections annotate and extend the evidence chain; they do not replace prior artifacts.

W.10 Governance, Override, and Accountability for Payout Decisions

Governance and Accountability Matrix

Decision	Primary Authorized Role	Co-Authorization	Evidence Threshold	Override Permitted?	Override Monitoring
Issue payment instruction (below threshold)	Royalty Calc Officer	None required	Split allocation complete; chain path clear	N/A	Standard break register
Issue payment instruction (above defined threshold)	Royalty Calc Officer	Access Auth Officer or designee	Split allocation complete; dual approval obtained	N/A	Distributed approval record; Layer 7 log
Apply hold-only containment	Dispute Governor (dispute-triggered) or Royalty Calc Officer (break-triggered)	Reconciliation Officer confirmation	Trigger condition documented; scope defined	N/A — hold is a control, not a decision	Hold register; monthly review
Lift hold	Dispute Governor (dispute-triggered) or Royalty Calc Officer (break-triggered)	Access Auth Officer or designee	Trigger condition resolved; dual authorization	YES — under documented exception	Post-lift review within 10 business days
Approve off-cycle adjustment	Royalty Calc Officer	Reconciliation Officer (independent review)	Correction EP Delta; adjustment lineage record	N/A — adjustment follows EP Delta discipline	Adjustment lineage monitoring
Authorize recovery (clawback-equivalent)	Royalty Calc Officer	Dispute Governor	Overpayment confirmed; payee notified; recovery mechanism agreed	N/A	Recovery tracking; Layer 7 log
Override exception logic to proceed with calculation	Dispute Governor	Senior management	Specific exception basis documented; affected parties notified	YES — with dual authorization and time-limited scope	Post-override review within 10 days; governance audit
Issue payout finality record	Royalty Calc Officer	Reconciliation Officer	All finality conditions confirmed; open conditions documented	YES — provisional finality with documented open conditions	Provisional finality monitoring; corrective cycle if conditions change

Decision	Primary Authorized Role	Co-Authorization	Evidence Threshold	Override Permitted?	Override Monitoring
Authorize corrective cycle	Royalty Calc Officer	Reconciliation Officer	Correction EP Delta present; adjustment lineage initiated	N/A	Corrective cycle completion monitoring

Override abuse detection for payout:

Pattern	Detection Signal	Response
Repeated hold lifts for same trigger type without resolution	Hold register showing repeated lift/apply cycles for same break code	Governance audit; escalate to Dispute Governor
Calculation finalized with Tier 3/4 events without exception documentation	RP-03 check reveals undocumented Tier 3/4 events in finalized cycle	Corrective cycle; governance investigation
Off-cycle correction without adjustment lineage record	RP-11 check fails; no ADJ record for corrected cycle	Create retroactive record; governance investigation
Payout instructions above threshold issued without dual authorization	BR-P08 detection	Void instruction pending authorization; Class II incident
Recovery not pursued after overpayment confirmed	Overpayment record with no recovery instruction after 30 days	Escalate to Dispute Governor; governance investigation

Mini RACI — High-Impact Payout Override (hold lift on disputed revenue, Band III+)

Activity	Royalty Calc Officer	Reconciliation Officer	Dispute Governor	Access Auth Officer	Change Control Officer
Identify trigger condition resolved	R	C	A	I	I
Confirm resolution evidence	C	R/A	C		
Prepare hold-lift documentation	R	C	A		
Obtain first authorization	A				
Obtain second (co-)authorization				R/A	
Issue hold-lift EP Delta	C	C			R/A
Issue corrective payout instructions	R/A	C	I	I	
Log in Layer 7	C	C	C	C	R/A
Schedule post-lift review	R	A	C		

W.11 Reviewer / Examiner Verification Paths

Reviewer / Examiner Verification Matrix

Verification Objective	Review Path	Access Tier	Key Records	Reviewer-Safe Output
How was this payout derived?	Retrieve payout linkage record; trace to calculation artifact; verify split allocation	Tier 1	Payout linkage; calculation artifact; split allocation	Payout trace summary: event count, gross pool, deductions, net pool, contributor shares (role class only)
Which split schedule governed?	Retrieve calculation artifact's `split_allocation`; check instrument effective dates against usage period	Tier 1	Split allocation; split instruments; usage period	Split schedule summary: role classes, share percentages, effective dates (no individual identity at Tier 0)
Was the correct canonical state used?	Run Query V-03; compare calculation anchor against canonical state at calc_run_timestamp	Tier 1	Calculation artifact; manifest chain; supersession EP Deltas	Canonical match: YES/NO + manifest ID used
Was usage evidence sufficient?	Review usage event evidence quality tiers in calculation artifact	Tier 1	Calculation artifact; usage event records	Tier distribution: count and revenue by Tier 1–4
Should a hold have applied?	Review gate checks G-01–G-08 at calculation time; compare to hold register	Tier 1	Gate check records; hold register; break register	Hold check result: gates passed/failed at calculation time
Is adjustment/correction lineage complete?	Retrieve adjustment lineage record; trace corrective calculation to original	Tier 1	Adjustment lineage record; original and corrective calculation artifacts	Correction chain: original calc_id → correction EP Delta → corrective calc_id → corrective finality
Does settlement confirmation match payout instruction?	Compare confirmed_amount to payment_amount per instruction	Tier 1	Payment instructions; settlement confirmations	Match result: YES / VARIANCE; variance amount if applicable

Conceptual reviewer queries for payout verification:

```
-- Query W-01: Full payout trace for a specific contributor in a cycle
SELECT
  sa_line.contributor_ref,
  sa_line.contributor_role,
  sa_line.share_value,
  sa_line.gross_allocated,
  sa_line.recoupment_deduction,
  sa_line.net_payable,
  pi.payment_amount,
```

```
  sc.confirmed_amount,
  sc.variance_flag,
  pl.chain_complete
FROM ep_layer_5_split_allocation_lines sa_line
JOIN ep_layer_5_payment_instructions pi
  ON pi.alloc_line_id = sa_line.line_id
JOIN ep_layer_5_settlement_confirmations sc
  ON sc.instruction_id = pi.instruction_id
JOIN ep_layer_5_payout_linkage_records pl
  ON pl.alloc_id = sa_line.alloc_id
WHERE sa_line.calc_id = '<calculation_id>'
ORDER BY sa_line.contributor_role;

-- Query W-02: Identify all held revenue amounts for an artifact
SELECT
  hr.hold_id,
  hr.trigger_type,
  hr.held_amount,
  hr.hold_start_date,
  hr.expected_resolution,
  hr.hold_status,
  DATEDIFF(CURRENT_DATE, hr.hold_start_date) AS hold_age_days
FROM ep_layer_5_royalty_hold_records hr
WHERE hr.artifact_manifest_id = '<manifest_id>'
  AND hr.hold_status = 'ACTIVE'
ORDER BY hr.hold_start_date;

-- Query W-03: Identify calculation cycles with Tier 3/4 events in finalized
cycles
SELECT
  c.calc_id,
  c.calc_period_start,
  c.calc_period_end,
  c.usage_event_tier_3_held,
  c.usage_event_tier_4_excl,
  pcf.all_conditions_met
FROM ep_layer_5_calculation_artifacts c
JOIN ep_layer_5_payout_cycle_finality pcf
  ON pcf.calc_id = c.calc_id
WHERE (c.usage_event_tier_3_held > 0 OR c.usage_event_tier_4_excl > 0)
ORDER BY c.calc_run_timestamp DESC;

-- Query W-04: Detect stale canonical reference in active calculation cycles
SELECT
  c.calc_id,
  c.calc_run_timestamp,
  m.artifact_manifest_id,
  m.manifest_id          AS anchor_manifest,
  m.object_class_status  AS anchor_status,
  m.superseded_by
FROM ep_layer_5_calculation_artifacts c
JOIN ep_layer_0_manifests m
  ON m.artifact_manifest_id = ANY(c.artifact_scope)
 AND m.official_release     = TRUE
WHERE m.superseded_by IS NOT NULL
  AND m.object_class_status = 'SUPERSEDED'
  AND c.calc_run_timestamp >= m.registration_ts;
-- Returns: cycles anchored to superseded canonical → BR-W04
```

Reviewer-safe payout trace output:

```
PAYOUT_TRACE_SUMMARY [Tier 1 output]
  calc_id:                    [calculation identifier]
  calc_period:                [start — end]
  artifact_manifest_id:       [artifact identifier]
  canonical_manifest_id:      [manifest ID of canonical object used as anchor]
  canonical_status_at_calc:   [CURRENT | SUPERSEDED — confirms binding]
  total_eligible_events:      [Tier 1 + Tier 2 count]
  gross_revenue:              [total]
  total_deductions:           [total]
  net_royalty_pool:           [total]
  contributor_summary:
    [for each contributor — role class only, no individual identity]
    - role:                   [e.g., composition_author]
      share_pct:              [e.g., 15%]
      net_payable:            [amount]
      payout_status:          [PAID | HELD | ADJUSTED]
  total_held:                 [amount; reason class]
  chain_complete:             [YES | NO]
  open_breaks_at_finality:    [count by severity]
  -- Rights-chain terms, rates, individual identities, and bank details: not
disclosed at Tier 1
```

W.12 Residual Balances, Unmatched Amounts, and Exception Queues

Residual Balance and Exception Queue Matrix

Condition	Code	Description	Immediate Treatment	Investigation Path	Escalation Threshold
Unmatched revenue	RQ-01	Revenue report received; artifact cannot be identified	UNMATCHED tag; excluded from calculation; break BR-P01	Seek identification from reporting source; if unresolvable after 10 business days: monitored exception	20 business days without identification
Unmatched usage	RQ-02	Usage events present but no corresponding reporting source identified	Excluded from calculation; flagged for source investigation	Identify reporting source; validate event records	15 business days without source identification
Unmatched split reference	RQ-03	Split allocation contains contributor reference with no registered instrument	Residual held; BR-P03	Locate instrument; if absent: corroboration gap record	15 business days; residual > defined threshold
Incomplete beneficiary reference	RQ-04	A contributor is identified by role class but no payable reference is registered	Net payable held pending reference confirmation	Request beneficiary reference from rights-holder representative	30 business days without confirmed reference
Unresolved	RQ-05	A derivative	Derivative revenue	Lineage	15 business days

Condition	Code	Description	Immediate Treatment	Investigation Path	Escalation Threshold
derivative linkage		artifact's parent source cannot be confirmed; contribution chain incomplete	held; BR-L03	investigation; if unresolvable: monitored exception	
Stale entitlement reference	RQ-06	A split instrument has not been recertified within the recertification window	Split proceeds under ASSERTED qualifier; Tier 2 provisional	Recertify instrument; confirm current contributor status	90 days without recertification
Late-arriving evidence	RQ-07	Supplementary usage evidence or instrument arrives after finality record issuance	Off-cycle corrective cycle triggered if material	Assess materiality; if below defined threshold: note only; if above: corrective cycle	Materiality threshold per institution
Expired hold review window	RQ-08	A hold has exceeded 180 days without resolution	Transition to monitored exception; escalation to Dispute Governor	Active investigation required; all resolution paths documented	180 days from hold start
Escalation queue	RQ-09	Break or exception has exceeded its maximum response deadline	Escalate per severity band (Appendix P); Dispute Governor notification	Dispute Governor assigns investigation; senior management notification if Band IV+	Per Appendix P severity band deadlines
Periodic exception review	RQ-10	Monitored exceptions not reviewed at assigned cadence	BR-G10 governance break	Access Auth Officer and Dispute Governor joint review	Review overdue by more than 50% of cadence interval

Exception queue management principles:

- Exception queues are reviewed monthly at minimum by the Reconciliation Officer.
- Items in RQ-08 (expired hold review) and RQ-09 (escalation queue) require Dispute Governor acknowledgment within 5 business days.
- No exception queue item may be closed without a documented resolution basis or an explicit "permanent retention" determination with senior management authorization.
- Exception queue status is included in SLA/SLO reporting per Appendix T.9.

W.13 Offboarding and Revenue-State Portability

Offboarding Revenue-State Portability Matrix

Item	Contents	Format	Receiving Custodian Obligation	Disclosure Required
Final open-balance view	All active hold records; total held by trigger type; individual hold IDs and amounts	Hold Set Register Summary (Appendix F.4)	Maintain escrow-equivalent posture; pursue resolution paths; monthly review	OPB Module J.7; explicit disclosure in custody acceptance
Unresolved hold disclosure	Hold records for all holds exceeding 90 days; resolution paths attempted	Hold records with investigation status	Inherit investigation; continue with assigned resolution paths	OPB Module J.7 per hold
Adjustment lineage export	All correction EP Deltas and adjustment lineage records; linked to original and corrective calculation artifacts	Adjustment lineage chain per corrected cycle	Maintain correction lineage for audit; do not treat corrective artifacts as independent	OPB Module J.6
Split-state export	Current split schedules with effective dates; superseded split schedules with supersession EP Deltas	Layer 5 split allocation records + EP Delta chain	Apply correct split schedule by effective date; recertify stale schedules	OPB Module J.6
Current-reference and historical-state export	Calculation artifacts for all cycles: finalized, open, provisional	All calculation artifacts + finality records	Distinguish finalized from provisional; continue provisional resolution	OPB Module J.6 cycle status table
Downstream dependency map	Usage event records referencing artifacts; split schedules per artifact; payout chains per cycle	Cross-reference index per artifact	Update if canonical state changes post-transfer	OPB Appendix J.6.2 identifier portability map
Portable evidence set	Minimum payout evidence per contributor type per Section 13.5	Per Appendix J.5	Distribute to affected contributors within defined window	Open-break disclosure per Section 13.6
Offboarding proof bundle	OPB Modules J.6 and J.7 covering all revenue states	OPB Module J.6 finality table; Module J.7 open conditions	OPB completion verification per J.9	Full Module J.7 open conditions disclosure

Revenue ambiguity at offboarding: Where a revenue state is ambiguous at offboarding — disputed split, contested canonical anchor, unresolved hold — the following applies:

1. The OPB Module J.7 must explicitly name each ambiguous revenue item with: held amount, trigger basis, investigation status, and the resolution path the receiving custodian must pursue.
2. OB-03 (FRP conditions met) will reflect `open_break_count > 0` for revenue breaks.
3. Conditional transfer requires receiving custodian's signed acknowledgment naming each unresolved item.
4. No unresolved revenue item may be treated as resolved by virtue of the offboarding event.

W.14 Worked Mini-Scenarios

W.14.1 — Authorized Voice-Clone Use with Valid Split Schedule and Later Retroactive Adjustment

Context: A synthetic voice clone is distributed under a confirmed synthesis license. The initial split schedule allocates: 40% to the source performer, 25% to the synthesis licensor, 20% to the producer, 15% to the distributor. After two calculation cycles, the source performer's management produces a written amendment showing a 45% performer share effective from the first distribution date.

Revenue event: RE-SYNTH; synthesis license ACTIVE; source voice consent CONFIRMED; usage events Tier 1.

Initial cycle: Eligible; gates G-01 through G-08 all pass. Calculation proceeds with 40/25/20/15 split.

Retroactive adjustment:

1. Amendment instrument registered; effective date confirmed as predating first distribution.
2. Retroactive split revision discipline (Section 8.9): instrument effective date confirmed; prior cycles are within retroactive scope.
3. Correction EP Delta: split schedule revised; original 40% performer share → 45%; producer share revised from 20% → 15% (per amendment).
4. Corrective calculations for both prior cycles. Adjustment lineage records (ADJ-001, ADJ-002) created.
5. Corrective payout: performer receives additional 5% × net pool for each cycle. Producer recovery for 5% × net pool per cycle.
6. Recovery plan documented; producer notified; recovery instrument created.
7. Corrective Payout Cycle Finality Records issued for both cycles.

Checks: RP-04, RP-11; *EP Delta:* SPLIT_REVISION + ROYALTY CALCULATION_CORRECTION; *Break:* BR-W02 (contributor identification change post-finality)

W.14.2 — Image / Likeness Campaign Where Distribution Exceeded Scope, Creating Payout Hold and Rebinding

Context: A commercial image license authorizes print media in two territories for 12 months. The distributor also places the image in digital out-of-home displays in a third territory. Revenue from the third territory and the digital channel flows into the quarterly calculation before the scope check is run.

Gate failure: G-04 (rights-chain scope): OUT_OF_SCOPE on territory and channel dimensions for third-territory digital events.

Revenue state:

Event Category	Gate Status	Revenue Treatment
Print media, authorized territories	G-04 PASS	Normal; calculation proceeds
Digital out-of-home, third territory	G-04 FAIL (territory + channel)	Hold-only containment; excluded from calculation

Containment and rebinding:

1. Hold set HS-SCOPE-001 created; third-territory digital revenue held: USD 2,340.
2. BR-R02 and BR-R04 raised. Restriction registry updated.
3. Scope check records updated; restriction registry queried with third territory and digital channel.
4. Rights-holder notified. Options: (a) retroactive license amendment expanding scope; (b) held revenue remains pending contractual resolution.
5. If (a): license tier EP Delta; scope confirmed; held revenue released; calculation includes retroactively authorized events; corrective cycle.
6. If no amendment: held revenue remains in monitored exception; third-territory distribution halted.

Checks: RC-01, RC-02, RC-07; *Break:* BR-R02, BR-R04; *Severity:* Band III

W.14.3 — Film / Audiovisual Derivative with Incomplete Lineage Causing Temporary Contained Allocation

Context: A film edit (a promotional trailer) is created from a licensed theatrical release. The transformation event log entry exists but the authorization reference for the clip transformation is `ABSENT` (the clip authorization was verbal, not documented in the EP). The trailer generates sync placement revenue.

Gate failure: G-03 (lineage sufficiency): Class A transformation (`clip`) with ABSENT authorization.

Revenue state:

- Sync placement revenue: G-03 FAIL → held pending authorization confirmation.
- Gross sync fee: USD 8,500; full hold applied.

Containment and resolution:

1. Hold-only containment: USD 8,500 held. BR-L02 raised.

2. Investigation: clip authorization instrument located — a written email approval from the rights-holder representative.
3. Email approval meets Corroboration-Testimony quality (Band 2 — ASSERTED); not Primary-Direct.
4. EP Delta: authorization reference registered; authorization state updated to ASSERTED (Band 2).
5. Quality tier: Tier 2 provisional applied to sync event. Revenue proceeds to calculation with PROVISIONAL qualifier.
6. Hold partially released: USD 8,500 proceeds to calculation under provisional status; 90-day window for formal instrument registration.
7. Formal authorization instrument subsequently registered (signed agreement): authorization state upgraded to CONFIRMED (Band 5); Tier 1; hold fully released; finality record issued.

Checks: LN-02, RP-03; *Break:* BR-L02; *Pattern:* Contained allocation upgraded via corroboration

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W.14.4 — Music / Stem / Remix Case with Superseded Split Schedule and Payout Replay

Context: A remix track has been in distribution for 18 months. In month 14, the remix's producer agreement was amended to revise the producer's share from 20% to 15%, with the 5% difference redirected to the original composition rights-holder. The amendment was registered in month 15. Calculation cycles for months 14 and 15 used the pre-amendment split.

Revenue state:

Period	Split Applied	Correct Split	Correction Required?
Months 1–13	20% producer	20% producer	NO — pre-amendment
Month 14	20% producer	15% producer	YES — amendment effective
Month 15	20% producer (error)	15% producer	YES
Month 16+	15% producer	15% producer	NO — corrected

Correction sequence:

1. Amendment instrument registered in month 15 with retroactive effective date (month 14).
2. BR-W01 raised: split schedule effective date conflicts with months 14–15 usage periods.
3. Correction EP Deltas: split schedule supersession for months 14–15.
4. Corrective calculations for months 14 and 15:
    - Producer: 5% recovery per cycle (over-paid)
    - Composition rights-holder: 5% additional payment per cycle (under-paid)
5. Adjustment lineage records ADJ-R001 and ADJ-R002 linking original and corrective cycles.
6. Recovery from producer: month 14 overpayment + month 15 overpayment = total recovery amount.
7. Corrective payment to composition rights-holder: equal to recovery amount.
8. Corrective finality records issued. Post-correction review confirms no further cycles affected.

Checks: RP-04, RP-11; *EP Delta:* SPLIT_REVISION + CALCULATION_CORRECTION; *Break:* BR-W01

W.14.5 — Synthetic-Media Usage Event with Incomplete Usage Evidence and Delayed Settlement Release

Context: An AI-generated music composition is commercialized via a streaming platform. Month 1 usage report from the platform shows 1.8 million plays but lacks territory breakdown. Month 2 report corrects and confirms 1.4 million plays in Territory A (authorized) and 400,000 in Territory B (outside synthesis license scope).

Month 1 processing:

- 1.8M plays with no territory breakdown: Tier 2 provisional (G-05 ASSERTED on territory dimension).
- Revenue: USD 7,200 provisional; 90-day window applied.

Month 2 corrected report:

- Territory A (1.4M plays): G-04 PASS (in-scope); Tier 1.
- Territory B (400,000 plays): G-04 FAIL (out-of-scope); hold applied.
- Correction EP Delta for Month 1 provisional events: Territory A events upgraded to Tier 1; Territory B events reclassified as held.

Revenue reallocation:

- USD 5,600 (Territory A): released from provisional; normal payout proceeds.
- USD 1,600 (Territory B): held; BR-R02 applied; synthesis license scope exceeded.
- Hold set HS-SYNTH-001: USD 1,600 held pending scope resolution or retroactive license.

Delayed settlement release:

- Territory B synthesis license amendment: obtained 60 days after hold initiation.
- Amendment registered; EP Delta: scope expanded to Territory B.
- Hold released: USD 1,600 proceeds to calculation; off-cycle correction; corrective finality.

Checks: G-04, G-05, RP-09; *Break:* BR-R02; *Pattern:* Provisional upgrade + hold release on scope resolution

---

W.14.6 — Unresolved Revenue Break Carried into Offboarding Preparation

Context: A music distributor initiates offboarding. The Final Reconciliation Proof reveals: USD 34,200 held across three active hold sets (one dispute-triggered, one scope break, one split residual); two calculation cycles have open provisional events; one adjustment lineage record is incomplete (off-cycle correction was initiated but corrective finality not yet issued).

OB check status:

Check	Status	Reason
OB-02 (FSS created)	PASS	FSS created; all layers included
OB-03 (FRP conditions met)	FAIL	Open_break_count: 5; active_hold_count: 3; corrective

Check	Status	Reason
		finality absent
OB-04 (disclosure acknowledged)	PENDING	Receiving custodian not yet notified of USD 34,200 held
OB-06 (custody acceptance)	PENDING	Dependent on OB-03 and OB-04
OB-07 (monitoring obligations)	FAIL	Not confirmed

Offboarding resolution path:

1. Conditional transfer prepared: open conditions explicitly listed in OPB Module J.7.
2. Receiving custodian walkthrough: USD 34,200 hold breakdown, dispute status, provisional event deadlines, incomplete adjustment lineage.
3. Receiving custodian signs conditional transfer acknowledgment: inherits all hold governance, dispute investigation, and provisional event resolution.
4. Incomplete adjustment lineage: distributor must complete corrective finality record before or within 30 days of conditional transfer; obligation documented in Module J.7.
5. OB-03 updated to CONDITIONAL_PASS; OB-04, OB-06, OB-07 PASS.
6. OPB Module J.7 open conditions summary: three holds, two provisional cycles, one incomplete correction.
7. Offboarding completion declared as conditional; receiving custodian acknowledged all obligations.

Checks: OB-02 through OB-08; *Breaks:* BR-P04 (incomplete correction), BR-P07 (hold without resolution date); *Severity:* Band III

W.15 Reader Action Map

Reader Action Map — Revenue Waterfall, Split Logic, and Payout Controls

Revenue or Payout Ambiguity	Hold / Containment	Replay	Adjustment / Rebinding	Governance Review	Release / Closure Condition
Gate failure at eligibility screening	Per gate failure type (W.3 matrix); event excluded or held	Eligibility gate re-run when evidence obtained	Rebind when gate passes; corrective cycle if prior calculation included failed event	Reconciliation Officer; Royalty Calc Officer for calculation impact	Gate passes; corrective cycle finalized; hold released
Split allocation residual non-zero	Residual held; BR-P03	Split allocation replay from instruments	Contributor identified; instrument registered; corrective allocation	Royalty Calc Officer + Reconciliation Officer	Residual = 0; corrective payout issued; corrective finality
Stale split schedule applied	Hold on incorrectly	Split replay with correct	Corrective cycle with	Royalty Calc Officer +	Correct schedule applied;

Revenue or Payout Ambiguity	Hold / Containment	Replay	Adjustment / Rebinding	Governance Review	Release / Closure Condition
	allocated amounts; BR-W01	schedule effective dates	correct schedule; adjustment lineage records	Reconciliation Officer	corrective cycle complete; adjustments issued
Calculation bound to CS-SUP anchor	Corrective calculation initiated; payout held for affected cycle	Calculation replay with current canonical	Rebind calculation to current canonical; corrective cycle	Royalty Calc Officer + Dispute Governor	Current canonical confirmed; corrective cycle finalized
Active dispute on calculation basis	Hold on disputed amounts; RE-DISP status	Evidence chain replay per dispute class	Rebind per Dispute Finding Record	Dispute Governor	Finding Record issued; correction applied; holds released
Payout chain chain_complete: NO	Chain suspension; BR-P04	Payout chain trace per QF-P03	Missing element identified; corrective instruction or confirmation obtained	Royalty Calc Officer	chain_complete: YES; corrective finality
Settlement confirmation variance	Variance held; BR-P05	Variance investigation; instruction vs. confirmation comparison	Corrective instruction for underpayment; recovery for overpayment	Royalty Calc Officer	Variance resolved; corrective finality
Off-cycle adjustment incomplete	Adjustment lineage incomplete; BR-P12	Adjustment lineage trace	Complete lineage record; link original and corrective cycles	Royalty Calc Officer + Reconciliation Officer	Adjustment lineage complete; corrective finality issued
Unresolved revenue break at offboarding	Conditional transfer; breaks disclosed in OPB Module J.7	FSS and FRP confirm all break states	Receiving custodian inherits investigation and resolution obligations	Evidence Infra Operator + receiving custodian	Conditional transfer accepted; all obligations acknowledged
Monitored exception at 180 days	Escalate to Dispute Governor; senior management notification	Full exception investigation replay	All resolution paths documented; permanent exception if unresolvable	Dispute Governor + senior management	Resolution obtained or permanent exception with unclaimed property review

Worked Scenario Summary Table

Scenario	Revenue Event	Gate Status	Hold Applied	Correction Mechanism	Closure
W.14.1 Voice-clone retroactive split	RE-SYNTH	All gates pass initially	NO initially; recovery required after amendment	SPLIT_REVISION EP Delta + off-cycle correction	Corrective finality; recovery complete
W.14.2 Image scope excess	RE-PROMO	G-04 FAIL (territory + channel)	YES — third-territory digital revenue	License amendment or permanent hold	Hold released if amendment obtained; else monitored exception
W.14.3 Film trailer lineage gap	RE-LIC (sync)	G-03 FAIL (ABSENT Class A)	YES — full sync fee	ASSERTED → CONFIRMED via instrument registration	Tier 1 on instrument confirmation; finality
W.14.4 Remix superseded split	RE-DERIV	Gates pass; split stale	YES — over-allocated months	SPLIT_REVISION + corrective cycle + adjustment lineage	Recovery from producer; corrective payment; corrective finality
W.14.5 Synthetic media territory gap	RE-SYNTH	G-05 ASSERTED; G-04 FAIL (territory B)	YES — out-of-scope territory	License scope expansion + EP Delta	Hold released; corrective finality
W.14.6 Offboarding with open breaks	RE-OFF	Multiple gate states	YES — USD 34,200 held	Conditional transfer; receiving custodian inherits	Conditional OPB complete; monitoring obligations acknowledged

Appendix X — Bounded Reviewer/Examiner Verification Outputs, Minimal Disclosure Profiles, and Query-Safe Evidence Views

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X.0 Purpose and Reader Orientation

Core Thesis: Bounded verification is a core operational requirement for authenticity, consent, lineage, rights-state, and royalty workflows. Institutions must be able to provide reviewer-safe, replay-capable outputs that are sufficient for the review purpose while remaining proportionate, purpose-limited, TTL-bounded, and governed by escalation and post-access review controls.

Secondary Thesis: The objective is not to minimize disclosure at the expense of review integrity, nor to maximize disclosure for convenience. The objective is to produce purpose-fit evidence views that preserve operational verifiability, replayability, and correction-readiness without defaulting to unrestricted raw access.

X.0.1 Why This Appendix Exists

The main framework defines tiered reviewer access (Section 10), post-access review requirements (Section 10.6), and proof-based minimization (Section 10.8). This appendix operationalizes those disciplines into a complete bounded-verification model: it defines what each reviewer type may see by default, what outputs are sufficient for each review purpose, how query-safe evidence views prevent over-disclosure, and how reviewer activity itself becomes examinable.

Bounded verification is not merely an access-control setting. It is a review-enablement discipline: the goal is to give reviewers exactly what they need to make a sound determination — no more, no less.

X.0.2 What This Appendix Is and Is Not

This appendix is: An operational bounded-verification and minimal-disclosure appendix covering output classes, reviewer profiles, disclosure profiles, query-safe views, sufficiency standards, TTL/purpose controls, replay support, post-access review, and over-disclosure prevention across all five media state domains.

This appendix is not: A universal privacy framework, a legal memo about privacy law, a platform trust-and-safety policy, or a generic role-based access-control paper.

X.1 Verification Output Taxonomy

Output classes represent the structured forms in which evidence is delivered to a reviewer. They are distinct from raw evidence access and from full replay bundles.

Verification Output Taxonomy Table

Output Class	Code	Description	Raw Evidence Accessed?	Default Tier	Replay-Capable?
Metadata-first verification output	OT-META	State value, manifest ID, effective date, status flag — no record content	NO	Tier 0	Partial (state only)
State-confirmation output	OT-STATE	Confirmed state value with the minimum supporting field set; no raw instrument content	NO	Tier 0	Partial
Discrepancy alert output	OT-DISC	A flag indicating that a state does not match expectation; no supporting detail disclosed	NO	Tier 0	NO — triage only
Bounded evidence extract	OT-EXTRACT	A scoped subset of EP records for a defined artifact and layer set; purpose-limited	YES — scoped	Tier 1	YES — within scope
Replay-sufficient reviewer packet	OT-REPLAY	Minimum records required to replay a specific state determination or calculation	YES — scoped	Tier 1	YES — full for stated scope
Escalated reviewer packet	OT-ESC	Full EP layers within examination scope; dispute reconstruction; forensic review	YES — full within scope	Tier 2	YES — complete
Payout-validation output	OT-PAY	Payout trace summary: event counts, pool totals, contributor role classes, chain status	Partial (no PII; no rates)	Tier 1	YES — calculation trace

Output Class	Code	Description	Raw Evidence Accessed?	Default Tier	Replay-Capable?
Rights-state confirmation output	OT-RIGHTS	Scope check result, restriction registry flag, license state value — no instrument terms	NO instrument content	Tier 1	Partial
Lineage confirmation output	OT-LINE	Transformation chain summary: event count, authorization states, contamination flag	NO underlying artifacts	Tier 1	YES — chain replay
Post-access review summary	OT-PAR	Record of reviewer access: scope, records accessed, purpose alignment finding	Governance record only	Tier 1 (internal)	YES — for governance audit
Preserved-but-non-disclosed reference	OT-REF	A record ID and hash confirming a record exists and was preserved; content not disclosed	NO	Tier 0	NO — reference only

Output class hierarchy:

```
OT-META (least disclosure)
    ↓
OT-STATE / OT-DISC
    ↓
OT-RIGHTS / OT-LINE / OT-PAY
    ↓
OT-EXTRACT / OT-REPLAY
    ↓
OT-ESC (most disclosure; always Tier 2)

OT-REF: orthogonal — confirms existence without disclosure
OT-PAR: governance layer — examinable in itself
```

X.2 Reviewer and Examiner Profile Taxonomy

Reviewer Profile Matrix

Reviewer Class	Code	Review Purpose	Default Output Class	Default Scope	Escalation Path	Post-Access Review?
Routine internal operator	RP-INT	Operational monitoring; state checks; break registration	OT-META, OT-STATE	Own portfolio; current period	Reconciliation Officer	NO — Tier 0
Finance / payout operator	RP-FIN	Calculation review; payout instruction authorization; settlement confirmation	OT-PAY, OT-EXTRACT	Calculation cycles in scope	Royalty Calc Officer + Access Auth Officer	YES — Tier 1
Rights-holder reviewer	RP-RH	Own artifact state; own royalty entitlement; own payout status	OT-STATE, OT-PAY (own records only)	Own artifacts and contribution chain	Dispute Governor for disputes	YES — Tier 1
Dispute-handling reviewer	RP-DISP	Dispute evidence review; lineage reconstruction; hold-state review	OT-REPLAY, OT-LINE, OT-EXTRACT	Dispute scope	Dispute Governor for Tier 2	YES — Tier 1 mandatory
Governance approver	RP-GOV	Override approval; hold lift; correction authorization	OT-STATE, OT-EXTRACT (specific action scope)	Action-specific scope	Senior management for Band IV+	YES — Tier 1
Auditor	RP-AUD	Calculation accuracy; payout chain completeness; break register status	OT-PAY, OT-REPLAY, OT-EXTRACT	Audit scope per engagement	Access Auth Officer for Tier 2	YES — Tier 1 mandatory
Examiner / supervisory reviewer	RP-EXAM	Full state review; policy compliance; systemic risk assessment	OT-EXTRACT, OT-ESC	Examination scope	Dual authorization for Tier 2	YES — Tier 2 mandatory
Offboarding reviewer	RP-OFF	FSS verification; OB check execution; OPB review	OT-REPLAY, OT-EXTRACT	Offboarding artifact scope	Evidence Infra Operator + Reconciliation Officer	YES — Tier 1
Exceptional escalation	RP-ESCP	Emergency access	OT-ESC (specific	Incident scope only	Senior management +	YES — mandatory;

Reviewer Class	Code	Review Purpose	Default Output Class	Default Scope	Escalation Path	Post-Access Review?
approver		authorization; Band IV/V incident response	scope)		supervisory authority	within 5 days

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X.3 Minimal Disclosure Profiles

A minimal disclosure profile defines the minimum output class and field set that is sufficient for a named review purpose. Delivering more than the minimum is a disclosure risk; delivering less is an insufficiency that requires escalation.

Minimal Disclosure Profile Matrix

Review Purpose	Minimum Output Class	Minimum Fields Required	Fields NOT Required	If Minimum Is Insufficient
Authenticity verification	OT-STATE	Authenticity state value; manifest ID; SI-01 result; registration timestamp	Production chain details; studio information; unreleased version hashes	Escalate to OT-EXTRACT (manifest chain)
Consent / authorization verification	OT-STATE	Consent state value at event timestamp; scope dimension states; effective date	Consent instrument terms; rates; counterparty identities; other artifacts' consent states	Escalate to OT-EXTRACT (consent diff chain)
Lineage verification	OT-LINE	Transformation chain event count; authorization states per event; contamination flag	Underlying artifact content; production details; generator parameters	Escalate to OT-REPLAY (full chain)
Canonical-state verification	OT-META	Current canonical manifest ID; effective date; `superseded_by` null flag	Rights-chain terms; contributor details	Escalate to OT-EXTRACT if competing claim exists
Rights-chain / scope verification	OT-RIGHTS	Scope check result; restriction registry flag; license state value	License terms; rates; sublicensee identities	Escalate to OT-EXTRACT (license tier record)
Royalty calculation verification	OT-PAY	Event count by Tier; gross pool; total deductions; net pool; role-class shares	Individual contributor identities; rates; bank details	Escalate to OT-REPLAY (calculation artifact)
Settlement / payout linkage verification	OT-PAY	chain_complete status; instruction-confirmation match; variance flag	Payment amounts per individual; settlement mechanism details	Escalate to OT-EXTRACT (payout chain)

Review Purpose	Minimum Output Class	Minimum Fields Required	Fields NOT Required	If Minimum Is Insufficient
Dispute triage	OT-DISC + OT-LINE	Discrepancy flag; dispute class; scope artifacts; hold status	Full evidence records	Escalate to OT-REPLAY (dispute scope)
Hold-only containment review	OT-STATE	Hold ID; trigger type; held amount; hold status; expected resolution	Hold record underlying details; disputing party identities	Escalate to OT-EXTRACT if governance review required
Offboarding readiness review	OT-REPLAY	OB check status (OB-01 to OB-08); open break count by severity; active hold count	Full OPB contents	Escalate to OT-ESC if Critical breaks unresolved

X.4 Query-Safe Evidence Views

A query-safe evidence view is a structured projection of EP records that delivers the fields necessary for the review purpose while masking, pseudonymizing, or withholding fields that exceed the review scope.

Query-Safe Evidence View Table

Field Category	Default View	Masked View	Withheld Unless Escalated	No-Export Fields
Artifact manifest ID	Visible	—	—	—
Content-addressed hash	Visible	—	—	—
Authenticity state value	Visible	—	—	—
Consent state value	Visible	—	—	—
Scope dimension states (territory, channel, etc.)	Visible	—	—	—
Consent instrument terms and rates	—	—	Tier 1 (purpose-limited)	Never in Tier 0 output
Contributor identity (name/individual)	—	Role class only at Tier 0/1	Individual identity at Tier 2 only	No individual PII in any export
Contributor share percentage	—	Aggregate pool only at Tier 0	Role-class share at Tier 1	—
Rights-chain rates and license terms	—	—	Tier 1 (purpose-limited)	Never in Tier 0
Payment instruction amounts (individual)	—	Role-class totals only	Per-contributor amounts at Tier 1	No individual bank or payment details
Settlement mechanism and payment channel	—	—	Tier 2 only	—

Field Category	Default View	Masked View	Withheld Unless Escalated	No-Export Fields
Recoupment amounts and advance details	—	—	Tier 1 (own records only for rights-holder)	Never in cross-party view
Synthesis generation parameters	—	—	Tier 1 (lineage dispute only)	Parameter hash only; no raw parameters
Training data authorization scope	Visible (exists/absent flag)	—	Full instrument at Tier 1 (scope dispute)	—
Dispute party identities	—	Party reference class only	Individual identity at Tier 2	—
Override record details	—	Override exists flag	Override rationale at Tier 1 (governance review)	Override approver identities: Tier 2 only
Post-access review findings	—	Finding class only (APPROPRIATE/INAPPROPRIATE)	Full review record at Tier 1 (governance audit)	—

Derived output fields (safe to disclose at Tier 0 without raw record access):

Derived Output	How Derived	What It Confirms
Authenticity state value	From EP Layer 1 record; no raw artifact accessed	Artifact's current or historical state
Consent scope coverage flag	From Layer 2 scope dimension states	Whether all six dimensions are CONFIRMED, ASSERTED, or flagged
Lineage completeness flag	From Layer 3 transformation event count and authorization states	Whether chain is complete and clean
Payout chain complete flag	From Layer 5 payout linkage record	Whether chain is chain_complete: YES
Hold status summary	From Layer 5/6 hold register	Count of active holds and total held by trigger type
Break severity distribution	From break register	Count by severity band; no artifact detail

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X.5 Sufficiency Standards for Review Purposes

Sufficiency Standard Matrix

Review Purpose	Sufficient for Routine Review	Sufficient for Dispute Triage	Sufficient for Payout Release Validation	Sufficient for Supervisory/Examiner Review	Insufficient: Requires Escalation
Authenticity	OT-META with SI-01 PASS	OT-STATE with manifest chain summary	OT-STATE with canonical confirmation	OT-EXTRACT with full manifest chain + SI results	Hash mismatch without chain access

Review Purpose	Sufficient for Routine Review	Sufficient for Dispute Triage	Sufficient for Payout Release Validation	Sufficient for Supervisory/Examiner Review	Insufficient: Requires Escalation
Consent	OT-STATE with all six dimension states	OT-STATE + diff chain summary	OT-STATE confirmed at event timestamp	OT-EXTRACT with full diff chain and instrument summary	Consent state ASSERTED for material dimension without instrument summary
Lineage	OT-LINE with contamination flag CLEAN	OT-REPLAY for dispute scope	OT-LINE with Class A authorization states confirmed	OT-EXTRACT with full transformation chain	Contamination flag YES without chain access
Canonical state	OT-META with `superseded_by: null` confirmed	OT-STATE with competing claim summary	OT-META confirming current canonical	OT-EXTRACT if dispute present	Two objects with `official_release: YES` without resolution path
Rights-chain scope	OT-RIGHTS with scope check IN_SCOPE	OT-RIGHTS + restriction registry flag	OT-RIGHTS at payout event timestamp	OT-EXTRACT with license tier and restriction records	Scope check ASSERTED for commercial event without license record summary
Royalty calculation	OT-PAY with Tier distribution	OT-REPLAY for disputed cycle	OT-PAY with chain_complete: YES	OT-REPLAY + OT-ESC if calculation basis disputed	Calculation replay fails without OT-ESC
Settlement / payout	OT-PAY with chain_complete	OT-PAY with variance detail	OT-PAY confirming chain_complete: YES, no variance	OT-EXTRACT with full payout chain records	Variance flag YES without instruction/confirmation detail
Dispute	OT-DISC for triage	OT-REPLAY for reconstruction	N/A — dispute blocks payout	OT-ESC with full dispute scope	Dispute class unclear without OT-LINE or OT-EXTRACT
Hold review	OT-STATE with hold summary	OT-EXTRACT with hold records	OT-STATE with release condition confirmed	OT-EXTRACT with dispute and hold records	Hold age > 180 days without monitored exception record
Offboarding	OT-REPLAY (OB-01–OB-08 status)	OT-EXTRACT with open breaks	OT-REPLAY confirming all OB checks PASS	OT-ESC if Critical breaks unresolved	FSS absent or FRP not co-signed

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X.6 Purpose Limitation, TTL, and Escalation Rules

Purpose / TTL / Escalation Matrix

Purpose Code	Description	TTL Class	Default Duration	Extension Condition	Escalation Threshold
P-AUTH	Authenticity state verification for a specific artifact	Short	7 days	Re-verification at material change	Competing claim filed; hash mismatch
P-CONS	Consent state verification for a specific use event	Short	24 hours (use-event verification)	Dispute resolution period	Consent state changes during TTL
P-LINE	Lineage verification for a specific artifact	Medium	30 days	Dispute resolution period	Contamination detected during TTL
P-RIGHTS	Rights-chain scope confirmation for a specific event	Short	24 hours	Dispute period	Scope changes during TTL
P-CALC	Royalty calculation review for a specific cycle	Medium	Audit cycle + 10 business days	Extended audit	Calculation replay fails
P-PAY	Payout validation for a specific cycle	Medium	Payout cycle + 10 business days	Dispute period	Variance flag unresolved
P-DISP	Dispute evidence review within dispute scope	Long	Dispute resolution period	Dispute extension	Dispute class escalated
P-EXAM	Formal institutional examination	Long	Examination period + 30 days	Supervisory re-authorization	Systemic integrity failure
P-GOVN	Governance audit and override review	Medium	30 days	Annual audit	Override finding INAPPROPRIATE
P-OFF	Offboarding review	Long	Offboarding process duration	Post-transfer monitoring	Critical break at OB check

TTL classes:

TTL Class	Duration Range	Renewal Mechanism	Expiry Behavior
Short	4 hours – 7 days	New access grant with updated purpose	Access terminated; output no longer valid for decisions
Medium	8 days – 45 days	Re-authorization with documented continuation basis	Access terminated; re-grant required for continued review
Long	46 days – dispute/examination period	Supervisory re-authorization	Access terminates at process closure; post-access review completes

Purpose drift detection:

Purpose drift occurs when a reviewer accesses records that do not correspond to the purpose code assigned to their access grant. Detection signals include:

Signal	Detection Method	Response
Records accessed from layers outside purpose scope	Post-access review: layer comparison against purpose code scope	BR-G01; access suspended; post-access review expedited
Artifact manifest IDs accessed beyond purpose-defined set	Post-access review: artifact scope comparison	Over-disclosure assessment; affected records reviewed
Query returns results from TTL-expired period	Query log review; TTL comparison	Query result invalidated; re-grant required
Same reviewer accesses multiple purpose codes for same artifact in short succession	Access log pattern analysis	Governance review; potential purpose aggregation

TTL breach handling:

1. TTL expiry: access automatically terminated; no further records retrievable.
2. Access event after TTL: flagged as BR-G01; post-access review initiated.
3. Output produced from records accessed after TTL: output annotated as potentially stale; re-verification required.
4. Emergency access: single-party 48-hour maximum TTL; second-party confirmation required within 24 hours.

X.7 Reviewer-Safe Replay and Bounded Reconstruction

Replay under bounded conditions means reconstructing a historical state determination or calculation using the minimum record set required, without accessing raw artifact content or commercially sensitive terms beyond what the replay purpose demands.

Reviewer-Safe Replay Matrix

Replay Type	Minimum Record Set	Access Tier	Output Class	When Bounded Replay Is Sufficient	When Fuller Replay Is Required
Authenticity state replay to timestamp T	Manifest chain to T; authenticity EP Deltas to T	Tier 1	OT-REPLAY	Routine recertification; dispute triage where competing claim is not yet confirmed	Dispute reconstruction requiring full chain + hash verification
Consent state replay to event timestamp	Consent instrument summary; diff chain to event timestamp	Tier 1	OT-REPLAY	Consent scope confirmation for payout release; triage	Dispute where instrument validity is challenged
Lineage chain replay for derivative	Transformation event chain; authorization	Tier 1	OT-REPLAY, OT-LINE	Contamination check; royalty calculation	Dispute where specific transformation

Replay Type	Minimum Record Set	Access Tier	Output Class	When Bounded Replay Is Sufficient	When Fuller Replay Is Required
	states			binding confirmation	authorization is contested
Canonical-state history replay	Full manifest chain with supersession EP Deltas	Tier 1	OT-REPLAY	Version lineage map production; offboarding readiness	Dispute where canonical designation authority is contested
Payout-trace replay for a cycle	Calculation artifact; split allocation; payout linkage	Tier 1	OT-PAY, OT-REPLAY	Payout release validation; auditor verification	Calculation dispute; correction replay
Rights-state replay to event date	Rights-chain EP at event date; restriction registry at event date	Tier 1	OT-RIGHTS, OT-REPLAY	Scope confirmation for held revenue release	Dispute where license validity is contested
Historical-state vs. current-reference distinction	Historical EP Delta chain to prior timestamp; current-reference EP at current timestamp	Tier 1	OT-STATE (two views)	Any review that spans a state transition	Legal proceeding requiring admissible evidence; supervisory examination

Current-reference vs. historical-state in replay output:

Every replay output must clearly label:

- `state_as_of`: the timestamp to which the replay is anchored
- `current_reference_state`: the state value as of the review date
- `historical_state_at_T`: the state value at the requested historical timestamp
- `state_changed_between_T_and_now`: YES/NO

Conflating current-reference and historical states is an output integrity failure (equivalent to BR-A06 for reviewer output).

X.8 Post-Access Review and Access-Governance Controls

Post-access review makes reviewer activity examinable. It is the mechanism by which the access control layer is itself subject to evidence discipline.

Post-Access Review Matrix

Review Trigger	When Mandatory	Who Conducts	Deadline	Key Checks	If Finding Is INAPPROPRIATE
Any Tier 1 access event	Always	Access Auth Officer	15 business days (routine);	Scope compliance; purpose	BR-G01; governance investigation; affected parties notified

Review Trigger	When Mandatory	Who Conducts	Deadline	Key Checks	If Finding Is INAPPROPRIATE
			10 (dispute)	alignment; records accessed match purpose code	
Any Tier 2 access event	Always	Access Auth Officer (independent of access grantor)	10 business days	Scope compliance; dual authorization verified; no records outside scope	Class II incident; governance investigation; enhanced monitoring
Emergency Tier 2 access	Always	Access Auth Officer	5 business days	Emergency declaration validity; second-party confirmation obtained; scope honored	Class II/IV depending on nature; immediate escalation
Reviewer output produced	When output is OT-EXTRACT or OT-ESC	Access Auth Officer	At post-access review	Output scope matches access scope; no over-disclosure	Recall notification to recipient; re-production with correct scope
TTL breach detected	Always	Access Auth Officer	Immediate	Records accessed after TTL; output produced after TTL	BR-G01; output invalidated; governance investigation
Purpose drift detected	When detected	Access Auth Officer + Change Control Officer	5 business days	Records outside purpose scope; layers outside purpose scope	Class II incident; disclosure risk assessment
Governance override access	Always	Change Control Officer + Dispute Governor	10 business days	Override rationale adequacy; scope compliance	Post-override finding INAPPROPRIATE → Class II

Access overreach indicators:

Indicator	Description	Threshold
Layer access beyond purpose scope	Reviewer accessed Layer 2 records when purpose was Layer 5 (payout)	Any out-of-scope layer
Artifact access beyond purpose set	More artifact manifest IDs accessed than purpose defined	Any out-of-scope artifact
Field access beyond minimal disclosure profile	Query returned fields classified as withheld at granted tier	Any withheld field
Volume anomaly	Reviewer accessed significantly more	> 2× expected record count

Indicator	Description	Threshold
	records than expected for stated purpose	
Time-of-access anomaly	Access occurred at unusual time without documented justification	Outside business hours without emergency declaration
Export beyond review scope	Reviewer exported output containing records beyond their stated purpose	Any out-of-scope export

Reviewer output retention rules:

Output Class	Retention at Reviewer's Location	Re-Review If Purpose Changes
OT-META, OT-STATE	Duration of TTL only; no carry-forward	YES — new access grant required
OT-EXTRACT, OT-REPLAY	Duration of TTL + post-access review period	YES — post-access review must confirm continued relevance
OT-ESC	Duration of formal examination; archived at case closure	YES — examination scope governs
OT-PAR (post-access review)	7 years minimum (governance record)	N/A — governance record is permanent

---

X.9 Verification Failures and Over-Disclosure Prevention

Over-Disclosure Prevention Matrix

Failure Condition	Code	Detection	Containment	Correction	Governance Response
Insufficient output for decision-making	VF-01	Reviewer declares output insufficient; decision pending	Escalation to next output class; no decision made on insufficient basis	New access grant at appropriate output class; re-verification	Sufficiency standard applied; escalation documented
Over-broad query result	VF-02	Post-access review: records returned exceed purpose scope	Access suspended; query log reviewed; over-broad records identified	Recall notification if feasible; scoped re-production issued	Governance investigation; reviewer scope controls updated
Output generated from stale state	VF-03	Reviewer output references state older than recertification window	Output annotated as stale; decision on stale output deferred	Re-verification with current state; new output generated	Recertification check; governance notation
Output based on superseded or revoked state	VF-04	Canonical state check fails; manifest shows CS-SUP or CS-REV	Output invalidated; new output required from current canonical	New access grant; output regenerated from current state	BR-A06 analog for reviewer output; governance audit

Failure Condition	Code	Detection	Containment	Correction	Governance Response
Masked data insufficient for triage	VF-05	Reviewer cannot triage dispute from OT-DISC output alone	Escalation to OT-REPLAY authorized	OT-REPLAY production with dispute scope	Sufficiency standard applied; no governance failure if escalation path followed
Escalation denied despite insufficiency	VF-06	Reviewer requests escalation; Access Auth Officer denies without documented basis	Escalation denial reviewed by Change Control Officer	Denial reviewed; if denial was inappropriate: escalation granted retroactively	Governance investigation; denial basis documented
Reviewer access exceeding purpose	VF-07	Post-access review confirms records outside purpose scope	Access suspended; BR-G01; Class II incident	Affected records identified; disclosure risk assessed; parties notified if sensitive	Enhanced monitoring; governance audit
Missing TTL enforcement	VF-08	Access log shows records accessed after TTL expiry date	Access terminated; TTL expiry record created	Post-expiry access reviewed; output produced after TTL invalidated	BR-G01; governance investigation
Output exported beyond intended review scope	VF-09	Post-access review; output distribution audit	Recall notification issued; re-distribution prevented	Scoped re-production issued; original output recalled	Governance investigation; if sensitive: affected parties notified

X.10 Minimal Proof-Based Verification Outputs

Where Baseline E (ZKP Programmable Privacy Framework) is implemented, the following minimal proof-based outputs may be used to satisfy specific verification needs without requiring even OT-STATE record access.

Minimal Proof-Based Output Table

Proof Type	What Is Confirmed	What Is Not Disclosed	Validity Window	When Preferred Over OT-STATE
Validity confirmation (PT-02)	Artifact authenticity state = VERIFIED at timestamp	Production chain; hash details; studio information	7 days	Routine pre-licensing authenticity check where OT-STATE would disclose manifest details

Proof Type	What Is Confirmed	What Is Not Disclosed	Validity Window	When Preferred Over OT-STATE
Scope-of-use confirmation (PT-05)	Rights-chain scope check = IN_SCOPE for use type, territory, channel at timestamp	License terms; rates; restriction registry details	24 hours	Pre-use authorization check where license terms are commercially sensitive
Authorization-within-window confirmation (PT-01)	Consent state = IN_SCOPE for artifact X and use type Y at timestamp T	Consent instrument; counterparty; scope dimension values	24 hours	Consent check at distribution intake where instrument terms must not be disclosed to platform
Payout-linkage confirmation (PT-03)	Payout linkage record exists for contributor role class and calc_id; chain_complete: YES	Payment amounts; split percentages; other contributors	30 days	Contributor status check where split details must not be disclosed cross-party
Non-disclosure discrepancy signal	A discrepancy exists in the claimed state without disclosing what or why	Nature of discrepancy	4 hours	Pre-distribution triage where discrepancy flag alone is sufficient to initiate escalation
Freshness / revocation confirmation	State has not been revoked or superseded since proof generation	Change nature; new state value	Per proof type validity window	TTL-bounded confirmation for time-sensitive decisions

Limitations of proof-based outputs:

- Proofs confirm a state assertion; they do not provide the evidence basis for the assertion.
- Any decision of material consequence that relies solely on a proof must note this explicitly in the decision record.
- If a proof is disputed or the verifier requires the underlying evidence, escalation to OT-EXTRACT or OT-REPLAY is mandatory.
- Proof revocation occurs automatically when the underlying state changes; verifiers must check proof freshness before reliance.

X.11 Reviewer / Examiner Query Families

Reviewer / Examiner Query Family Table

Query ID	Purpose	Output Class	Access Tier	Records Accessed	Reviewer-Safe Output
QX-01	Authenticity	OT-META	Tier 0	Layer 1 (state values	State distribution

Query ID	Purpose	Output Class	Access Tier	Records Accessed	Reviewer-Safe Output
	state for catalog			only)	table (Section QF-A01)
QX-02	Manifest chain continuity check	OT-EXTRACT	Tier 1	Layer 0 manifest chain	Chain break detection per QF-A02
QX-03	Consent state at specific event timestamp	OT-REPLAY	Tier 1	Layer 2 diff chain to event timestamp	Consent state value + dimension states at T
QX-04	Synthetic provenance completeness	OT-LINE	Tier 1	Layer 3 transformation events + synthesis provenance records	Provenance present / absent per artifact
QX-05	Lineage chain contamination check	OT-REPLAY	Tier 1/2	Layer 3 transformation chain	Contamination flag + chain integrity summary
QX-06	Canonical state confirmation	OT-META	Tier 0	Layer 0 (official_release flag; superseded_by)	Current canonical manifest ID + effective date
QX-07	Rights-chain scope at event	OT-RIGHTS	Tier 1	Layer 4 license tier + restriction registry at event date	Scope check result + restriction flag
QX-08	Payout trace for cycle	OT-PAY	Tier 1	Layer 5 calculation artifact + split allocation + linkage	Payout trace summary (role classes; totals; chain status)
QX-09	Adjustment lineage completeness	OT-REPLAY	Tier 1	Layer 5 correction EP Deltas + adjustment lineage records	Correction chain: original → corrective → finality
QX-10	Active hold status for portfolio	OT-STATE	Tier 0	Layer 5/6 hold register	Hold count by trigger type; total held amount
QX-11	Post-access review compliance	OT-PAR	Tier 1 (internal governance)	Layer 7 access logs + review records	Review completion status; overdue count
QX-12	Offboarding readiness (OB checks)	OT-REPLAY	Tier 1	OPB records; OB check results	OB-01–OB-08 status; open conditions summary

Conceptual query pseudocode examples:

```
-- QX-01: Authenticity state distribution (Tier 0; no record content disclosed)
SELECT authenticity_state, COUNT(*) AS artifact_count
FROM ep_layer_1_authenticity
WHERE record_is_current = TRUE
  AND artifact_manifest_id IN (<review_scope>)
GROUP BY authenticity_state;
-- Output: OT-META; no manifest chain content accessed
```

```
-- QX-03: Consent state replay at event timestamp (Tier 1; diff chain scoped to
one event)
SELECT consent_state, territory_state, medium_state, purpose_state,
       derivative_auth_state, synthetic_use_state, effective_from, effective_to
FROM ep_layer_2_consent_state_replay(
  artifact_manifest_id => '<manifest_id>',
  replay_as_of => '<event_timestamp>'
)
WHERE consent_instrument_id IS NOT NULL;
-- Output: OT-REPLAY; instrument terms NOT returned

-- QX-06: Canonical state confirmation (Tier 0)
SELECT artifact_manifest_id, manifest_id AS canonical_manifest_id,
       registration_ts AS canonical_effective_date,
       CASE WHEN superseded_by IS NULL THEN 'CURRENT' ELSE 'SUPERSEDED' END AS
canonical_status
FROM ep_layer_0_manifests
WHERE official_release = TRUE AND object_class_status = 'CURRENT'
  AND artifact_manifest_id IN (<review_scope>);
-- Output: OT-META; no rights-chain or consent content

-- QX-08: Payout trace (Tier 1; contributor identities masked to role class)
SELECT sa_line.contributor_role, sa_line.share_value,
       sa_line.gross_allocated, sa_line.net_payable,
       pl.chain_complete, sc.variance_flag
FROM ep_layer_5_split_allocation_lines sa_line
JOIN ep_layer_5_payout_linkage_records pl ON pl.alloc_id = sa_line.alloc_id
JOIN ep_layer_5_payment_instructions pi ON pi.alloc_line_id = sa_line.line_id
LEFT JOIN ep_layer_5_settlement_confirmations sc ON sc.instruction_id =
pi.instruction_id
WHERE sa_line.calc_id = '<calc_id>';
-- Output: OT-PAY; no individual identity; no rates; no bank details
```

X.12 Offboarding, Portability, and Output Handoff Rules

Offboarding Output Handoff Matrix

Output Class	Portable to Receiving Custodian?	Format at Handoff	TTL Reset or Expiry	Regeneration Required?	Unresolved State Disclosure
OT-META	YES — summary metadata portable	OPB artifact index	Expires at handoff; receiving custodian generates fresh	YES — fresh OT-META from FSS	Open states disclosed in Module J.7
OT-STATE	YES — state values at FSS timestamp	OPB per-state summaries	Expires at handoff	YES — fresh OT-STATE from FSS	Open states disclosed per module
OT-DISC	NO — triage output is point-in-time	Not included in OPB	Expires at handoff	N/A	Underlying discrepancy disclosed in Module J.7
OT-EXTRACT	Conditional —	OPB	Expires at	YES — receiving	Open breaks

Output Class	Portable to Receiving Custodian?	Format at Handoff	TTL Reset or Expiry	Regeneration Required?	Unresolved State Disclosure
	only for records within OPB scope	modules J.2–J.6	handoff; re-grant required post-transfer	custodian re-accesses via Tier 1	disclosed in Module J.7
OT-REPLAY	YES — replay bundles portable in OPB	OPB per-domain modules	TTL attached; receiving custodian honors TTL	YES if TTL expired before handoff	Replay scope limitations disclosed
OT-ESC	Reference only — full packet stays with offboarding party	OT-REF in OPB	N/A — record stays at source	Receiving custodian requests fresh Tier 2 if needed	Escalated state disclosed in Module J.7
OT-PAY (historical cycles)	YES — finalized cycle payout traces	OPB Module J.6	Permanent retention; no TTL on historical cycles	NO — historical payout traces are permanent records	Open cycles disclosed in Module J.6 cycle status table
OT-PAR (post-access reviews)	Reference only	OT-REF for governance records	7-year retention at source	NO — governance records stay with offboarding party	Overdue reviews disclosed in Module J.7
OT-REF	YES — record existence confirmed; content not transferred	Reference record IDs + hashes	Permanent	N/A	Reference only; content retained at source

Output handoff principles:

1. No output class expires silently at handoff — each class has a defined post-transfer behavior.
2. Receiving custodian must regenerate time-sensitive outputs (OT-STATE, OT-RIGHTS) from the FSS; they may not rely on pre-handoff outputs for new decisions.
3. OT-ESC outputs never transfer — the receiving custodian must request fresh Tier 2 access with appropriate authorization.
4. Historical payout traces (OT-PAY for finalized cycles) are permanent records and transfer in full via OPB Module J.6.
5. Post-access review records (OT-PAR) remain with the offboarding party as governance records; the receiving custodian receives only reference IDs.

X.13 Worked Mini-Scenarios

X.13.1 — Routine Authenticity Verification Using Metadata-First Output Only

Situation: A distributing platform requests confirmation that five artifacts scheduled for release are authenticated. The platform's distribution agreement does not entitle it to manifest chain details or production information.

Review path:

Step	Action	Output Class	Tier
1	Platform submits artifact manifest IDs	—	—
2	Operator runs QX-01 for five artifacts	OT-META	Tier 0
3	Output returned: each artifact's authenticity state value, SI-01 pass/fail, canonical status	OT-META	Tier 0
4	All five: VERIFIED; SI-01 PASS; canonical_status: CURRENT	OT-META	Tier 0
5	Distribution authorized	—	—

Output template:

```
AUTHENTICITY_VERIFICATION_OUTPUT [OT-META]
  artifact_manifest_id:     AMI-001
  authenticity_state:       VERIFIED
  si_01_result:             PASS
  canonical_status:         CURRENT
  canonical_effective_date: 2025-01-15
  output_valid_until:       2025-01-22  (7-day TTL; P-AUTH)
  -- No manifest chain content; no production details disclosed
```

No post-access review required (Tier 0); no escalation; sufficient for distribution authorization.

X.13.2 — Consent / Authorization Review Requiring Bounded Extract After Insufficient State-Confirmation Output

Situation: A rights-holder disputes whether a consent instrument in effect at the time of a specific streaming event covered AI-assisted dubbing. The OT-STATE output confirms `synthetic_use_state: ASSERTED` — not sufficient to confirm or deny the dispute. A bounded extract of the consent diff chain is required.

Review path:

Step	Action	Output Class	Tier
1	OT-STATE output produced for consent state at event timestamp	OT-STATE	Tier 0
2	`synthetic_use_state: ASSERTED` — insufficient for dispute triage	VF-05 (masked data insufficient)	—
3	Escalation to OT-EXTRACT authorized; Tier 1 access grant issued; purpose: P-CONS	OT-EXTRACT	Tier 1
4	Diff chain extracted: six EP Deltas; scope modification EP Delta dated 2024-06-01 added explicit synthetic_use prohibition	OT-EXTRACT	Tier 1
5	Event timestamp: 2024-08-14 — post-prohibition; synthetic_use: OUT_OF_SCOPE	OT-REPLAY	Tier 1

Step	Action	Output Class	Tier
6	Post-access review: records within scope confirmed; purpose alignment confirmed	OT-PAR	—

Post-access review required; TTL: dispute resolution period; output sufficient for triage.

X.13.3 — Lineage Dispute Triage Using Replay-Sufficient Reviewer Packet

Situation: A music publisher files a dispute claiming that a commercially released remix incorporates an uncleared sample. Initial OT-LINE output shows `contamination_flag: NO` but `authorization_gaps: 1`. Dispute triage requires a replay-sufficient reviewer packet for the one gap event.

Review path:

Step	Action	Output Class	Tier
1	OT-LINE output: contamination_flag: NO; authorization_gaps: 1 (TE-SAMPLE-03, Class B, ASSERTED)	OT-LINE	Tier 1
2	Dispute triage: gap is Class B (sample); authorization ASSERTED — may be within scope or may need clearance confirmation	OT-LINE insufficient for dispute resolution	—
3	OT-REPLAY packet authorized for TE-SAMPLE-03; Tier 1; purpose: P-DISP	OT-REPLAY	Tier 1
4	Replay shows: TE-SAMPLE-03 references SAMPLE-CLR-003; clearance covers master recording but not composition rights	OT-REPLAY	Tier 1
5	Gap identified: composition clearance absent; BR-L11 raised	—	—
6	D-LINE dispute classification confirmed; hold applied; composition rights-holder notified	—	—
7	Post-access review: dispute scope honored; no records outside scope accessed	OT-PAR	—

Triage confirmed; full OT-ESC not required; bounded replay sufficient.

X.13.4 — Payout Validation Using Bounded Settlement / Payout Linkage Output

Situation: An auditor verifies that a quarterly streaming royalty payout was correctly linked to the calculation artifact and that settlement confirmations match payment instructions. No individual contributor identities or bank details are needed.

Review path:

Step	Action	Output Class	Tier
1	Auditor requests payout trace for CALC-Q3-2025	OT-PAY	Tier 1
2	QX-08 executed; output returned: 5 contributor role classes; net pool USD	OT-PAY	Tier 1

Step	Action	Output Class	Tier
	18,400; chain_complete: YES; variance_flag: NO for all		
3	Auditor reviews: all role classes have `net_payable` allocated; sum = net pool; chain complete	OT-PAY	Tier 1
4	RP-04, RP-07 checks pass; payout validation confirmed	—	—
5	Post-access review: purpose P-CALC; records within scope; no individual identities accessed	OT-PAR	—

Sufficient for payout release validation; no escalation required; no individual PII accessed.

X.13.5 — Supervisory Review Requiring Escalated Packet After Stale Reviewer-Safe Output Is Detected

Situation: A supervisory examiner receives an OT-STATE output for an artifact's authenticity state from a prior review. The output is dated 45 days ago; the recertification window for this artifact type is 30 days. The output is stale (VF-03). The examiner requires a current-reference OT-ESC for formal examination.

Review path:

Step	Action	Output Class	Tier
1	Examiner receives prior OT-STATE output; `output_valid_until` was 30 days prior	OT-STATE (stale)	—
2	VF-03 detected: output generated from state older than recertification window	—	—
3	Examiner requests fresh OT-ESC; dual authorization; purpose P-EXAM; scope: one artifact, Layers 0–4	OT-ESC	Tier 2
4	Current-reference SI-01 re-run: PASS; manifest chain verified; authenticity state: VERIFIED (current)	OT-ESC	Tier 2
5	Prior stale output invalidated in governance record; decision deferred until fresh output confirmed	—	—
6	Post-access review within 10 business days; scope confirmed	OT-PAR	—

Stale output detected and invalidated before decision; fresh OT-ESC sufficient for examination.

X.13.6 — Offboarding Review Where Portable Output Is Sufficient Except for One Unresolved Held State

Situation: An offboarding review produces OB check outputs. OB-01 through OB-06 all pass. OB-07 (monitoring obligations) fails: the receiving custodian has not confirmed acknowledgment of a USD 12,800 held revenue amount (trigger: D-CALC dispute, status: UNDER_INVESTIGATION).

Review path:

Step	Action	Output Class	Tier
1	OT-REPLAY for OB-01–OB-06: all PASS	OT-REPLAY	Tier 1
2	OB-07 FAIL: receiving custodian acknowledgment absent for	OT-STATE (hold	Tier 0

Step	Action	Output Class	Tier
	USD 12,800 hold	summary)	
3	Hold record disclosed to receiving custodian in OPB Module J.7: hold ID, trigger, held amount, dispute status	OT-STATE	Tier 0
4	Receiving custodian reviews; signs acknowledgment	—	—
5	OB-07 updated to PASS; conditional offboarding complete	OT-REPLAY	Tier 1
6	Monitoring obligation confirmed; dispute investigation ownership transferred	—	—

Portable OT-REPLAY and OT-STATE sufficient for all OB checks; no OT-ESC required; unresolved state properly disclosed.

X.14 Reader Action Map

Reader Action Map — Bounded Reviewer/Examiner Verification

Review Purpose	Minimum Output	TTL / Purpose Profile	Escalation Trigger	Replay Threshold	Closure Condition
Authenticity check — routine	OT-META + SI-01 result	P-AUTH; 7 days	Hash mismatch; competing claim	OT-REPLAY if CONTESTED	SI-01 PASS; canonical confirmed; output within TTL
Consent verification — specific event	OT-STATE (dimension states)	P-CONS; 24 hours	ASSERTED on material dimension	OT-REPLAY (diff chain to event)	All dimensions CONFIRMED or triage completed
Lineage check	OT-LINE (chain summary)	P-LINE; 30 days	Contamination flag YES; authorization gap Class A	OT-REPLAY (full chain)	Contamination CLEAN; all Class A CONFIRMED
Canonical state confirmation	OT-META	P-AUTH; 7 days	Competing claim filed	OT-EXTRACT (version lineage)	Single `official_release: YES` with `superseded_by: null`
Rights-chain scope	OT-RIGHTS	P-RIGHTS; 24 hours	Scope check OUT_OF_SCOPE or ASSERTED for material event	OT-EXTRACT (license tier)	Scope check IN_SCOPE; restriction registry current
Payout release validation	OT-PAY	P-PAY; 10 days	Variance flag YES; chain_complete: NO	OT-REPLAY (calculation trace)	chain_complete: YES; variance resolved; OT-PAY confirmed
Dispute triage	OT-DISC + OT-LINE	P-DISP; dispute period	Dispute class unclear; insufficient for reconstruction	OT-REPLAY or OT-ESC	Dispute class confirmed; evidence pack scope defined

Review Purpose	Minimum Output	TTL / Purpose Profile	Escalation Trigger	Replay Threshold	Closure Condition
Supervisory examination	OT-EXTRACT or OT-ESC	P-EXAM; examination + 30 days	Systemic failure; stale output	OT-ESC (full examination scope)	Examination closed; findings documented; post-access review complete
Hold review	OT-STATE (hold summary)	P-GOVN; 30 days	Hold > 180 days without exception record	OT-EXTRACT (hold + dispute records)	Hold released or monitored exception confirmed
Offboarding readiness	OT-REPLAY (OB checks)	P-OFF; offboarding period	Critical break unresolved; FSS absent	OT-ESC if Critical breaks persist	All OB checks PASS or conditional transfer accepted

Worked Scenario Summary Table

Scenario	Review Purpose	Starting Output	Escalation?	Final Output	Closure
X.13.1 Routine authenticity	Distribution authorization	OT-META	NO	OT-META	All five artifacts VERIFIED; distribution proceeds
X.13.2 Consent dispute	Consent scope confirmation	OT-STATE (ASSERTED)	YES → OT-EXTRACT	OT-REPLAY (diff chain)	synthetic_use OUT_OF_SCOPE confirmed; dispute triage
X.13.3 Lineage dispute	Dispute triage	OT-LINE	YES → OT-REPLAY	OT-REPLAY (TE-SAMPLE-03)	D-LINE confirmed; composition clearance absent
X.13.4 Payout validation	Auditor payout check	OT-PAY	NO	OT-PAY	chain_complete: YES; no variance; payout confirmed
X.13.5 Stale output escalation	Supervisory examination	OT-STATE (stale)	YES → OT-ESC	OT-ESC (fresh)	Stale output invalidated; fresh examination complete
X.13.6 Offboarding hold	Offboarding OB-07	OT-STATE (hold)	NO — acknowledgment obtained	OT-REPLAY (OB checks)	Conditional offboarding complete; hold disclosed

Appendix Y — Cross-Border Portability, Conflict-of-Process Handling, and Jurisdiction-Bounded Review for Authenticity, Consent, Lineage, and Rights-Linked Media Workflows

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Y.0 Purpose and Reader Orientation

Core Thesis: Cross-border and cross-domain continuity in media-integrity workflows does not require legal unification, but it does require portable evidence, bounded transfer discipline, preserved supersession and correction lineage, explicit disclosure of unresolved states, and reviewer-safe verification paths that remain scoped by purpose, TTL, and local process constraints.

Secondary Thesis: The objective is not to collapse multiple jurisdictions or institutions into a single truth authority. The objective is to preserve operational coherence, replayability, and correction-readiness across transitions while making process conflicts, held states, and unresolved ambiguities explicit rather than destructive or hidden.

Y.0.1 Why This Appendix Exists

Appendix R of the main framework introduced six cross-border mini-scenarios illustrating jurisdiction-specific complications. This appendix operationalizes the full portability, transfer, and conflict-of-process model: it defines what objects may move, how they move, how destination domains adopt or hold incoming states, and how process conflicts are recorded without destructive overwrite.

Portability in this framework means evidence continuity, not legal harmonization. A content-addressed manifest is the same hash in every jurisdiction; the legal conclusions that institutions draw from that hash may differ. This appendix governs the operational layer, not the legal layer.

Y.0.2 What This Appendix Is and Is Not

This appendix is: An operational portability and conflict-of-process appendix covering transfer classes, handoff requirements, jurisdiction-bounded review, conflict taxonomy, destination adoption logic, unresolved-state carry-forward, and cross-domain dispute management.

This appendix is not: A treaty proposal, comparative-law paper, privacy-law memo, digital-sovereignty manifesto, or international IP rights essay. No legal conclusions are made.

Y.1 Portability Taxonomy

Portability Taxonomy Table

Portability Class	Code	Description	May Transfer?	Destination Posture	Lineage Preserved?
Fully portable evidence object	PT-FULL	Content-addressed manifest, transformation event	YES	Adopt with verification	YES

Portability Class	Code	Description	May Transfer?	Destination Posture	Lineage Preserved?
		logs, calculation artifacts, settlement confirmations — all with intact hash chains			
Portable but bounded evidence object	PT-BOUND	EP records that transfer but carry jurisdiction-specific attributes that must be noted at destination	YES — with notation	Review before adoption; bounded rebind	YES
Reference-only object	PT-REF	Record ID and hash confirming existence; full content remains at source	Reference only	Acknowledge existence; do not adopt content	YES — hash reference only
Locally governed object	PT-LOCAL	Object governed by source-domain rules that do not transfer: locally-specific consent instrument, jurisdiction-specific license tier	NO	Request from source if required	YES — at source
Historical preserved object	PT-HIST	Superseded, archived, or revoked states retained for audit; not operative at destination	YES — for audit	Reference-only; no adoption	YES
Current-reference state object	PT-CURR	The canonical current-reference state at time of transfer	YES	Primary adoption target	YES
Unresolved / held state object	PT-HELD	Active hold, active dispute, or monitored exception at time of transfer	YES — with explicit disclosure	Contained review; inherit governance	YES — with break register
Portability-blocked object	PT-BLOCK	Object whose portability is restricted: court-ordered hold, locally-restricted license, active suppression order	NO	Acknowledge block; do not receive	YES — block basis disclosed
Offboarding transfer object	PT-OFF	Full portable evidence set for offboarding; includes all classes above per scope	YES	Full OPB review per Appendix J	YES
Reviewer-safe derived output	PT-SAFE	OT-META, OT-STATE, OT-LINE, OT-PAY outputs	YES	Use for triage; escalate for record-level	NO raw content

Portability Class	Code	Description	May Transfer?	Destination Posture	Lineage Preserved?
		transferred without raw record content			

Y.2 Cross-Border and Cross-Domain Transfer Principles

Transfer Principle Matrix

Principle	Description	Operationalization	Failure Condition
Minimal necessary transfer	Only records genuinely required at destination are transferred	Purpose code governs scope; no surplus transfer	Any record transferred without purpose mapping → portability overreach
Purpose-bounded transfer	Transfer is scoped to a defined review or operational purpose	Purpose code attached to each transferred object	Purpose drift at destination → PT-SAFE restriction
TTL-bounded portability	Transferred outputs carry TTL; destination honors expiry	TTL metadata attached; destination verifies before reliance	Stale output used without fresh verification → VF-03 analog
Preservation of lineage and supersession	Supersession chains, correction EP Deltas, and historical states transfer intact	Full manifest chain and EP Delta chain included in PT-FULL transfers	Supersession chain truncated at transfer → BK-TRANS-01
Bounded rebind at destination	Destination domain validates and rebinds, not blindly adopts	Destination runs canonical determination logic per Appendix V.3	Blind adoption without verification → contained review
No destructive normalization	Source-domain attributes that have no destination equivalent are preserved as notations, not removed	Jurisdiction-specific fields annotated; not silently stripped	Silent field removal → portability integrity failure
Explicit unresolved-state carry-forward	All active holds, disputes, and monitored exceptions are disclosed at transfer	PT-HELD objects disclosed in transfer receipt; governance acknowledged	Hidden hold at transfer → PT-BLOCK equivalent
Current-reference vs. historical-state distinction	Transfer package distinguishes which objects are current-reference and which are preserved history	Current-reference flag; historical-state flag; both transferred	Conflation of current and historical → canonical-state ambiguity at destination
Replayability after handoff	Destination domain must be able to replay any state determination from transferred records alone	All chain elements included in PT-FULL; no dependency on source system post-handoff	Replay fails at destination → incomplete transfer

Y.3 Jurisdiction-Bounded Review Model

Jurisdiction-Bounded Review Matrix

Reviewer Class	Scope Boundary	Default Access	Escalation Path	Bounded Output
Local reviewer (source domain)	Source-domain records and process rules	Local EP records; full Tier 1 within source scope	Source-domain Access Auth Officer	Local outputs; not shareable cross-domain without purpose code
Local reviewer (destination domain)	Destination-domain adopted records + PT-SAFE outputs from source	Adopted records + reference outputs	Destination Access Auth Officer	Destination outputs; source outputs referenced only
Incoming reviewer (cross-domain)	Portable evidence set as transferred; no local records	PT-FULL and PT-BOUND objects within transfer scope	Requires source-domain purpose code and TTL	PT-SAFE derived outputs; OT-REF for locally governed objects
Supervisory / examiner (source)	Full source-domain EP within examination scope	Tier 2 with dual authorization	Source senior management	Full OT-ESC within source scope
Supervisory / examiner (destination)	Destination-adopted records + PT-HELD disclosures	Tier 2 with dual authorization	Destination senior management	OT-ESC for adopted records; OT-REF for source-only records
Exceptional cross-domain reviewer	Both source and destination records within defined joint scope	Requires both source and destination dual authorization	Both governance bodies	PT-SAFE minimum; OT-EXTRACT only with joint authorization
Offboarding reviewer	Full transfer scope including PT-HELD and PT-BLOCK disclosures	OT-REPLAY for OB checks; OT-EXTRACT for resolution scope	Both Evidence Infra Operators	OPB completeness outputs

Jurisdiction-bounded TTL rules:

Review Context	TTL Applies At	Source TTL Behavior	Destination TTL Behavior
PT-SAFE derived output	Transfer package	Expires at source TTL; replaced by fresh output	Destination generates fresh output from adopted records
PT-FULL records	Permanent evidence records	No TTL on records themselves	Reviewer access at destination is TTL-bounded per local purpose code
PT-HELD (hold records)	Open indefinitely until hold resolved	Source maintains hold governance	Destination inherits hold; no TTL on hold governance
OT-META / OT-STATE	7-day / 24-hour TTL per purpose	Re-verify at source if decision is material	Re-verify from adopted records at destination

Y.4 Conflict-of-Process Taxonomy

A conflict of process arises when source and destination domains apply different operational rules to the same artifact or state — producing divergent but coexistent interpretations that cannot be resolved without a formal process determination. Conflicts of process are not necessarily legal contradictions; they are operational ambiguities that must be recorded, not silently collapsed.

Conflict-of-Process Taxonomy Table

Conflict Code	Conflict Family	Description	Operational Manifestation	Containment Posture
COP-01	Differing review thresholds	Source domain requires Tier 2 for a determination; destination domain's procedure requires only Tier 1	Destination may accept a lower-quality state determination than source	Destination applies higher threshold as conservative default; documents divergence
COP-02	Parallel non-identical canonical states	Source canonical state is CS-SRC v2.0; destination has not yet adopted v2.0 supersession	Destination may treat CS-SRC v1.0 as canonical	Destination adopts PT-CURR as provisional canonical; break registered
COP-03	Conflicting hold / release conditions	Source has released a hold; destination has not yet received the release EP Delta	Destination still treats revenue as held	Transfer release EP Delta to destination; destination confirms receipt
COP-04	Supersession accepted at source, disputed at destination	Source has issued supersession EP Delta; destination has a competing claim	Two parallel current-reference candidates at destination	PT-DISP posture at destination; destination dispute process initiated
COP-05	Correction completed locally, not propagated	Source has issued corrective EP Delta and adjustment lineage record; destination's payout records reference original	Destination payout based on pre-correction split	Transfer correction EP Delta; destination initiates corrective cycle
COP-06	Payout hold at source, release-ready at destination	Source has applied hold due to pending dispute; destination has independent evidence supporting release	Destination holds revenue despite local release basis	Hold maintained across both domains until source dispute resolved or exception agreed
COP-07	Local preservation duty vs. outbound portability scope	Source must retain records locally for a defined period; destination has separate retention obligations	Full transfer would duplicate records subject to source-domain retention controls	PT-REF used for locally retained records; destination acknowledges reference-only status
COP-08	Differing replay sufficiency expectations	Source considers OT-LINE sufficient for lineage confirmation;	Destination cannot confirm lineage from transferred OT-LINE	Destination requests PT-FULL lineage records; source

Conflict Code	Conflict Family	Description	Operational Manifestation	Containment Posture
		destination requires OT-REPLAY	alone	provides within transfer scope

Y.5 Portable Evidence Set and Handoff Requirements

Portable Evidence Set and Handoff Matrix

Evidence Item	Portability Class	Transfer Required?	Minimum Content	Chain-of-Custody Required?
Content-addressed manifests (Layer 0)	PT-FULL	YES	Full manifest chain; `superseded_by` references; `official_release` flags	YES
Authenticity state records (Layer 1)	PT-FULL	YES	Current and historical state values; SI boundary test results; EP Deltas	YES
Consent instruments and diff chains (Layer 2)	PT-BOUND	YES — with jurisdiction notation	State values and scope dimension states; diff chain; not full instrument terms	YES
Transformation event logs (Layer 3)	PT-FULL	YES	Full transformation chain; authorization states; contamination flags	YES
Rights-chain EP entries (Layer 4)	PT-BOUND	YES — scope without local-only terms	License state values; scope check results; restriction registry flags	YES
Calculation artifacts (Layer 5)	PT-FULL	YES	Calculation artifact with calc_input_hash; split allocation summaries	YES
Payout and settlement records (Layer 5)	PT-FULL	YES	Payout linkage records; finality records; hold records	YES
Dispute records (Layer 6)	PT-BOUND	YES — if open; PT-HIST if closed	Dispute class; scope; status; evidence pack references	YES
Monitored exceptions (Layer 6)	PT-HELD	YES	Exception class; held amount; resolution status	YES
Access logs and governance records (Layer 7)	PT-REF	Reference only	Record IDs and hashes; not full log content	Reference only
Post-access review records (Layer 7)	PT-LOCAL	NO — remain at source	Reference IDs transferred only	N/A
Supersession chain extract	PT-FULL	YES	All `superseded_by`	YES

Evidence Item	Portability Class	Transfer Required?	Minimum Content	Chain-of-Custody Required?
			references; chronological order	
Unresolved break register	PT-HELD	YES	Break IDs; severity bands; resolution status	YES
Correction / EP Delta register	PT-FULL	YES	All EP Deltas in domain scope; prior and new state snapshots	YES
Rights / split state references	PT-BOUND	YES — without commercially sensitive terms	Role-class split summaries; effective dates	YES
Purpose / TTL metadata	PT-FULL	YES	Purpose codes; TTL values; access grant references	YES

Transfer receipt template:

```
TRANSFER_RECEIPT
  receipt_id:                [unique identifier]
  transfer_id:               [pointer to transfer authorization record]
  source_domain_ref:         [institutional reference of source]
  destination_domain_ref:    [institutional reference of destination]
  transfer_timestamp:        [ISO 8601]
  artifact_scope:            [list of artifact manifest IDs transferred]
  portability_classes:       [list of PT-classes included in transfer]
  ep_state_hash_at_transfer:[SHA-256 of EP state at transfer timestamp (from
FSS)]
  open_conditions:
    held_state_count:        [count of PT-HELD objects]
    dispute_count:           [count of open disputes]
    break_count:             [count by severity band]
    exception_count:         [count of monitored exceptions]
  blocked_objects:           [list of PT-BLOCK objects with block basis]
  destination_acknowledgment:[YES | NO | PENDING]
  acknowledgment_timestamp: [ISO 8601; null until received]
  receipt_hash:              [SHA-256 of this record]
```

Y.6 Current-Reference State, Historical State, and Parallel-State Management

Current-Reference / Historical / Parallel-State Matrix

State Class at Source	Portability	Destination Posture	Canonical Determination at Destination	Action Required
CS-SRC (current canonical)	PT-CURR	Primary adoption target	Run V.3 canonical determination; if confirmed: adopt as CS-SRC	None if determination passes
CS-SUP (superseded)	PT-HIST	Historical reference only	Note in version lineage; do not promote	No adoption action
CS-REV (revoked)	PT-HIST	Audit reference only	Note revocation; do not distribute or calculate	No adoption action
CS-DISP (disputed)	PT-HELD	Contained review	Neither competing state adopted until dispute resolved	Hold-only posture; dispute inherited
CS-CONT (contained unresolved)	PT-HELD	Contained review	Reference-only until resolution	Inherit investigation
CS-ARCH (archived)	PT-HIST	Audit reference only	Permanent reference; no activation	No adoption action
CS-CORR (corrected current-reference)	PT-CURR	Adopt corrected state; verify correction EP Delta chain	Verify correction EP Delta at destination	If EP Delta missing: COP-05 conflict
CS-DRAFT	PT-LOCAL	Not transferred	N/A	Not included in transfer scope
Parallel locally governed state (exists only at source)	PT-LOCAL	Not applicable	Destination acknowledges source-only state via OT-REF	Reference ID and hash disclosed in transfer receipt

Recording ambiguity when source and destination do not fully align:

When a state exists at source that has no direct equivalent at destination (e.g., a jurisdiction-specific consent sub-state), the destination records:

1. A portability notation EP entry: the source state value, the source domain reference, and a notation that the state is source-originated.
2. A local determination: the destination domain's equivalent state value, which may differ.
3. A divergence record: documenting where source and destination states differ and why.

Neither state is treated as overriding the other. The divergence record is disclosed in reviews and disputes.

Y.7 Bounded Rebinding and Destination Adoption Logic

Destination Rebinding and Adoption Matrix

Transfer Condition	Destination Adoption Status	Rebinding Action	Provisional Period	When Adoption Is Complete
PT-FULL transfer; all chain elements present; canonical determination passes	Complete adoption	Destination binds to transferred canonical; calculation and distribution proceed	None	Canonical determination passes; all checks confirmed
PT-BOUND transfer; jurisdiction-specific attributes noted	Conditional adoption	Destination adopts state values; jurisdiction-specific fields noted; recertification required	Until recertification complete	Recertification confirms local validity
PT-HELD transfer; open dispute or hold	Contained review	Destination accepts evidence; does not adopt as operative; inherits hold governance	Until dispute resolved or hold released	Dispute Finding Record issued; hold release confirmed
PT-REF transfer; content remains at source	Reference-only posture	Destination acknowledges record existence; requests content via formal access path if needed	N/A	If full content required: formal Tier 1 or Tier 2 access request to source
Canonical determination fails at destination (COP-02)	Provisional adoption	Destination treats imported state as provisional; runs local verification	30 days (recommended)	Local verification confirms or rebinds
Conflict of process detected (any COP code)	Conflict-recorded posture	Transfer received; conflict documented; adopted records marked with COP notation	Until conflict resolved	Conflict resolution record issued; appropriate EP Delta applied
Portability-blocked object (PT-BLOCK)	Not adopted	Destination acknowledges block; does not receive	N/A	Block condition lifted at source; re-transfer initiated
Stale or TTL-expired portable output	Not adopted	Destination requests fresh output from source	N/A	Fresh PT-SAFE or PT-CURR generated and transferred

Destination acknowledgment template:

```
DESTINATION_ACKNOWLEDGMENT

  acknowledgment_id:        [unique identifier]
```

```
  transfer_receipt_ref:     [pointer to transfer receipt]
  destination_domain_ref:   [institutional reference]
  acknowledgment_timestamp: [ISO 8601]
  adopted_objects:          [list of artifact IDs with PT-FULL or PT-BOUND
adoption]
  contained_objects:        [list of artifact IDs with PT-HELD posture]
  reference_only_objects:   [list of record IDs with PT-REF posture]
  blocked_objects:          [list of PT-BLOCK objects acknowledged]
  conflicts_recorded:       [list of COP codes detected; EP Deltas issued]
  governance_obligations:   [list of inherited holds, disputes, exceptions with
monitoring commitments]
  acknowledgment_hash:      [SHA-256 of this record]
```

Portability refusal template:

```
PORTABILITY_REFUSAL
  refusal_id:               [unique identifier]
  transfer_receipt_ref:     [pointer to transfer receipt]
  refusing_domain_ref:      [institutional reference of refusing domain]
  refusal_timestamp:        [ISO 8601]
  refusal_basis:
    code:                   [STALE_STATE | INSUFFICIENT_EVIDENCE |
BLOCK_CONDITION |
                             MISSING_CHAIN_ELEMENT | COP_UNRESOLVABLE |
LOCAL_RESTRICTION]
    description:            [specific basis for refusal]
  objects_refused:          [list of artifact IDs refused with reason per
object]
  partial_acceptance:       [YES | NO; if YES: list of accepted objects]
  resubmission_conditions:  [conditions under which transfer may be resubmitted]
  refusal_hash:             [SHA-256 of this record]
```

Y.8 Cross-Border Disputes, Holds, and Unresolved-State Carry-Forward

Cross-Border Dispute and Hold Matrix

Condition	Disclosure at Transfer	Destination Treatment	Replay Required	Governance at Destination
Authenticity dispute under transfer	Transfer receipt: dispute ID, class, artifact scope,	PT-HELD; contained review; neither state	OT-REPLAY of both competing manifests at	Destination inherits dispute investigation; source maintains

Condition	Disclosure at Transfer	Destination Treatment	Replay Required	Governance at Destination
	status	adopted	destination	evidence pack
Consent-state dispute under transfer	Transfer receipt: dispute ID, class, consent state summary, held revenue	PT-HELD; consent state not operative at destination for disputed events	OT-REPLAY of diff chain for contested period	Destination applies hold to post-transfer revenue from disputed events
Lineage gap discovered after transfer	Transfer receipt note: gap identified post-transfer	Destination registers lineage break at local Layer 3	OT-REPLAY of transformation chain to gap point	Destination runs contamination check; escalates if Class A ABSENT
Rights / split ambiguity carried into destination	Transfer receipt: ambiguity description; affected artifacts; held revenue estimate	PT-HELD; split allocation suspended for ambiguous portion	OT-REPLAY of split instrument chain	Destination maintains escrow-equivalent for ambiguous portion; investigation inherited
Payout hold carried across domains	Transfer receipt: hold ID, trigger type, held amount, expected resolution	PT-HELD; held amounts not disbursed at destination	OT-PAY trace confirming hold status	Destination inherits hold governance; monthly review
Unresolved correction lineage at handoff	Transfer receipt: correction EP Delta reference; corrective cycle status	COP-05 if corrective cycle incomplete; destination places affected cycle in provisional	OT-REPLAY of correction chain	Destination initiates corrective cycle or inherits investigation
Held state that cannot be released locally or externally	Transfer receipt: held state class, block basis if applicable	PT-BLOCK or PT-HELD; no release at destination	OT-REF confirms held state existence	Destination escalates to joint governance review if hold exceeds 180 days

Break taxonomy for cross-border portability:

Break Code	Description	Detection	Response
BK-TRANS-01	Supersession chain truncated at transfer	Destination canonical determination fails; `superseded_by` reference unresolvable	Request missing chain element from source; PT-BLOCK interim
BK-TRANS-02	Correction EP Delta missing from transfer	COP-05; destination calculation references pre-correction state	Request EP Delta from source; destination places cycle in provisional
BK-TRANS-03	Hold record transferred without expected resolution date	PT-HELD with null `expected_resolution`	Destination assigns resolution date; escalates at 90 days
BK-TRANS-04	PT-FULL object	Chain-of-custody verification fails	Request CoC record

Break Code	Description	Detection	Response
	transferred without chain-of-custody record	at destination	from source; if unavailable: PT-BOUND with integrity notation
BK-TRANS-05	Stale output transferred past TTL	Destination TTL check fails	Destination requests fresh PT-SAFE from source; refuses stale output
BK-TRANS-06	Conflict of process unacknowledged at destination	No COP notation despite detected divergence	Destination registers COP notation unilaterally; source notified
BK-TRANS-07	PT-BLOCK object transferred despite block condition	Portability-blocked object received at destination	Destination returns object; block basis documented; governance investigation

Y.9 Reviewer-Safe Verification and Minimal Disclosure Across Domains

Reviewer-Safe Cross-Domain Verification Matrix

Verification Need	Portable Output Class	Sufficient for Cross-Domain Triage?	When Full Record Access Required	Masked / Withheld Fields
Authenticity state confirmation	PT-SAFE (OT-META + SI flag)	YES — for routine cross-domain check	Hash mismatch; competing claim at destination	Production chain; studio details
Consent scope confirmation	PT-SAFE (OT-STATE dimension states)	YES — for scope status check	Consent instrument terms disputed at destination	Instrument terms; rates; counterparty
Lineage completeness	PT-SAFE (OT-LINE summary)	YES — for contamination-free confirmation	Class A ABSENT event discovered at destination	Generator parameters; production details
Canonical state	PT-SAFE (OT-META current canonical)	YES — for adoption triage	Competing claim at destination	Rights-chain terms
Rights-chain scope	PT-SAFE (OT-RIGHTS scope flag)	YES — for in-scope confirmation	License validity contested at destination	License terms; sublicensee identities
Payout linkage status	PT-SAFE (OT-PAY chain status)	YES — for chain_complete confirmation	Calculation dispute at destination	Split percentages; individual amounts
Hold status	PT-SAFE (OT-	YES — for hold	Hold release	Hold basis

Verification Need	Portable Output Class	Sufficient for Cross-Domain Triage?	When Full Record Access Required	Masked / Withheld Fields
	STATE hold summary)	acknowledgment	contested at destination	details; dispute evidence
Conflict-of-process status	PT-SAFE (COP notation flag)	YES — for conflict acknowledgment	COP resolution required	Conflict basis; party details
Post-transfer discrepancy	PT-SAFE (discrepancy signal only)	YES — for triage	Discrepancy requires investigation	Discrepancy details require escalation

No-export and local-only fields in cross-domain context:

Field Category	Cross-Domain Behavior
Source-domain post-access review records	LOCAL — remain at source; PT-REF only
Source-domain governance override details	LOCAL — remain at source; PT-REF only
Individual contributor identities	Masked to role class in all cross-domain outputs
License rates and commercial terms	WITHHELD — require formal Tier 1 at destination with joint authorization
Synthesis generation parameters	WITHHELD — PT-REF only; available on formal request with purpose code
Dispute party identities	Masked to party reference class in all cross-domain outputs
Bank and payment details	NEVER EXPORTED — no cross-domain transfer permitted

---

Y.10 Governance, Accountability, and Material Change Controls for Portability

Governance and Accountability Matrix

Portability Decision	Primary Authorized Role	Co-Authorization	Evidence Threshold	Override Permitted?
Authorize outbound transfer	Evidence Infra Operator (source)	Rights-State Admin (source) for rights records; Consent Custodian for consent records	Transfer scope defined; purpose code assigned; FSS available	Not applicable — transfer is a control, not a restriction
Authorize destination adoption	Evidence Infra Operator (destination)	Reconciliation Officer (destination)	PT-FULL transfer receipt confirmed; canonical determination run	YES — provisional adoption under documented exception
Restrict portability (PT-LOCAL or PT-BLOCK)	Rights-State Admin or Consent Custodian (source)	Change Control Officer	Restriction basis documented; scope defined	YES — with dual authorization and time-limited scope

Portability Decision	Primary Authorized Role	Co-Authorization	Evidence Threshold	Override Permitted?
Approve conflict-of-process exception	Dispute Governor (source)	Dispute Governor (destination)	COP code documented; both parties informed	YES — bilateral exception documented
Transfer unresolved holds cross-domain	Dispute Governor (source)	Evidence Infra Operator (destination)	Hold record disclosed; destination governance acknowledged	N/A — hold transfers intact; no override of hold itself
Authorize joint cross-domain review	Access Auth Officer (source)	Access Auth Officer (destination)	Both domain purpose codes aligned; joint authorization record	YES — with both domain authorizations
Trigger material change review for portability	Change Control Officer	Reconciliation Officer	Portability event logged; downstream impacts identified	N/A — review is mandatory at trigger

Material change triggers for portability events:

Event	Trigger	Response
New canonical designation at source affecting transferred state	YES	Transfer update EP Delta; destination notified; rebinding review
Revocation of transferred state at source	YES (Critical)	Immediate PT-BLOCK notification to destination; destination places state in CS-REV
Dispute resolution at source changing transferred state	YES	Dispute Finding Record transferred; destination rebinds per finding
Correction EP Delta at source affecting transferred calculation	YES	Correction EP Delta transferred; destination initiates corrective cycle if affected
Hold release at source for transferred held state	YES	Hold release EP Delta transferred; destination may release upon confirmation
Portability scope expansion	YES	New purpose code required; additional FSS snapshot

Override abuse detection for portability:

Pattern	Detection	Response
Transfer scope exceeds authorized purpose	Transfer receipt scope vs. purpose code comparison	BK-TRANS-07 equivalent; destination returns excess objects
PT-BLOCK object transferred despite block	Destination checks against block register	Object returned; governance investigation at source
Destination adoption without canonical determination	Missing canonical determination record at destination	Adoption invalidated; determination required
Joint review conducted without dual authorization	Access log: one authorization only for cross-domain access	Access suspended; Class II governance incident
TTL-expired output used for	Output timestamp vs. current	Adoption deferred; fresh output

Pattern	Detection	Response
adoption decision	date	required

Y.11 Reviewer / Examiner Query Families for Portability and Conflict Handling

Reviewer / Examiner Query Family Table

Query ID	Purpose	Output Class	Access Tier	Records Accessed	Reviewer-Safe Output
QY-01	Portable evidence completeness	OT-REPLAY	Tier 1	Transfer receipt + EP layers 0–6 for transfer scope	Completeness check: all PT-FULL items received with hash match
QY-02	Unresolved-state carry-forward	OT-STATE	Tier 0	PT-HELD register	Count of held objects by class; total held revenue estimate
QY-03	Supersession-chain continuity	OT-REPLAY	Tier 1	Manifest chain (full) + supersession EP Deltas	Chain continuity: INTACT or GAP at [manifest ID]
QY-04	Current-reference vs. historical-state	OT-META	Tier 0	Layer 0 manifest chain	Two-column: current-reference manifest ID + historical manifest IDs
QY-05	Held-state disclosure	OT-STATE	Tier 0	Hold register	Hold count; held amount; trigger types
QY-06	Payout / settlement continuity	OT-PAY	Tier 1	Layer 5 payout records for transferred cycles	chain_complete status; finalized vs. open cycles
QY-07	Destination adoption status	OT-STATE	Tier 0	Destination acknowledgment records	Adopted / contained / refused per artifact
QY-08	Cross-domain discrepancy detection	OT-DISC	Tier 0	Source and destination state values for same artifact	Discrepancy flag per artifact; COP code if applicable
QY-09	Offboarding handoff completeness	OT-REPLAY	Tier 1	OB checks + transfer receipt + acknowledgment	OB-01–OB-08 status; open conditions; acknowledgment status

Conceptual query pseudocode:

```
-- QY-01: Portable evidence completeness check
SELECT
  m.artifact_manifest_id,
  m.manifest_id,
  m.manifest_hash                 AS source_hash,
  tr.received_hash                AS destination_received_hash,
```

```
  CASE WHEN m.manifest_hash = tr.received_hash
       THEN 'HASH_MATCH' ELSE 'HASH_MISMATCH' END AS integrity_status
FROM ep_layer_0_manifests m
JOIN destination_transfer_receipt tr
  ON tr.source_manifest_id = m.manifest_id
WHERE m.artifact_manifest_id IN (<transfer_scope>);
-- HASH_MISMATCH → BK-TRANS-04; chain-of-custody investigation

-- QY-03: Supersession chain continuity
SELECT
  m.manifest_id,
  m.registration_ts,
  m.object_class_status,
  m.superseded_by,
  CASE WHEN m.superseded_by IS NOT NULL
        AND NOT EXISTS (
          SELECT 1 FROM destination_ep_layer_0
          WHERE manifest_id = m.superseded_by
        )
       THEN 'CHAIN_GAP'
       ELSE 'CHAIN_INTACT'
  END AS chain_status
FROM ep_layer_0_manifests m
WHERE m.artifact_manifest_id = '<manifest_id>'
ORDER BY m.registration_ts ASC;
-- CHAIN_GAP → BK-TRANS-01; request missing element from source

-- QY-08: Cross-domain discrepancy detection
SELECT
  s.artifact_manifest_id,
  s.authenticity_state             AS source_auth_state,
  d.authenticity_state             AS dest_auth_state,
  s.consent_state                  AS source_consent_state,
  d.consent_state                  AS dest_consent_state,
  CASE WHEN s.authenticity_state != d.authenticity_state
```

```
        OR s.consent_state       != d.consent_state
       THEN 'DISCREPANCY' ELSE 'ALIGNED' END AS alignment_status
FROM source_ep_layer_1_states s
JOIN destination_ep_layer_1_states d
  ON d.artifact_manifest_id = s.artifact_manifest_id
WHERE s.artifact_manifest_id IN (<transfer_scope>);
-- DISCREPANCY → COP notation; divergence record required
```

Y.12 Offboarding, Legacy Compatibility, and Transition Closure

Offboarding and Transition Closure Matrix

Item	Portability Class	Transfer Format	TTL at Handoff	Closure Criteria
Final portability package	PT-OFF	OPB Modules J.1–J.7	No TTL on evidence records; reviewer outputs expire per TTL	All OB checks PASS or conditional transfer accepted
Legacy compatibility bundle	PT-HIST + PT-REF	LTM (Appendix J.4) with identifier mapping	Permanent	Identifier mapping confirmed; hash preservation verified
Unresolved-state disclosure	PT-HELD	OPB Module J.7; transfer receipt section	N/A — held indefinitely until resolved	Destination acknowledges all unresolved conditions
Destination acknowledgment	PT-FULL (governance)	Destination Acknowledgment template (Y.7)	7-year retention	Signed acknowledgment received; monitoring obligations confirmed
Historical-state preservation post-transfer	PT-HIST	Full manifest chain in source domain archive	Permanent at source	OT-REF transferred; destination can request full content via formal access
TTL reset at handoff	PT-SAFE outputs	All PT-SAFE outputs expire at handoff	TTL = 0 at transfer	Destination generates fresh outputs from adopted PT-CURR records
Offboarding proof bundle	PT-OFF	OPB (Appendix J)	Permanent at source	OPB completion verification per J.9
Closure criteria for completed transfer	All PT-FULL, PT-BOUND, PT-HELD	Transfer receipt + destination acknowledgment	N/A	Destination acknowledgment received; all OB checks pass; all unresolved conditions disclosed

Transition closure vs. legal finality: Transition closure means the operational transfer is complete, evidence is intact at both source and destination, and all unresolved states are disclosed. It does not mean legal resolution of any held states, disputes, or claims. Unresolved conditions persist post-closure and must be actively governed by the destination domain per their inherited obligations.

Y.13 Worked Mini-Scenarios

Y.13.1 — Authorized Media Object Transferred with Full Lineage Continuity but Bounded Reviewer Outputs Only

Situation: A canonical music recording (CS-SRC) is transferred from Source Institution A to Destination Institution B for catalog administration. All lineage, consent, and rights-chain records transfer as PT-FULL. Reviewer at Destination B can access the artifact but is entitled to OT-SAFE outputs only under the transfer purpose code.

Transfer process:

Step	Action	Class	Output
1	Source runs FSS; transfer receipt prepared	PT-OFF	Transfer receipt with ep_state_hash
2	PT-FULL: manifest chain, consent diff chain, transformation event log, calculation artifacts, rights-chain EP	PT-FULL	Transferred with CoC records
3	Destination runs canonical determination (V.3)	—	CS-SRC confirmed at destination
4	Destination reviewer requests authenticity confirmation	OT-META	VERIFIED; SI-01 PASS; canonical current
5	Destination reviewer requests payout trace	OT-PAY	Role-class distribution; chain_complete: YES
6	Destination acknowledges transfer; confirms inherited governance obligations	—	Destination Acknowledgment record

No escalation required; bounded reviewer outputs sufficient; full PT-FULL records available for formal review if needed.

Y.13.2 — Correction Accepted at Source but Pending Destination Adoption

Situation: Source domain issues a corrective EP Delta for a split allocation error (BR-W01). The correction is finalized at source (corrective finality record issued). At transfer time, the correction EP Delta is included in the package. Destination has not yet run its corrective cycle.

Conflict code: COP-05 (correction completed locally, not propagated to destination).

Step	Action	Class	Destination Posture
1	Source transfers PT-FULL including correction EP Delta	PT-FULL	Received
2	Destination identifies COP-05: prior payout	COP-05	Conflict recorded

Step	Action	Class	Destination Posture
	records at destination reference pre-correction split		
3	Destination places affected calculation cycles in provisional posture	PT-HELD (affected cycles)	Contained
4	Destination initiates corrective cycle from transferred correction EP Delta	—	In progress
5	Destination corrective finality issued	—	COP-05 resolved; adoption complete

COP-05 disclosed; provisional posture applied; destination completes correction independently.

Y.13.3 — Payout Hold Carried into Destination Domain with Reference-Only Visibility

Situation: An active D-CALC dispute at source results in USD 28,000 being held. The transfer includes PT-HELD disclosure of the hold. Destination is entitled to see the hold status but not the dispute evidence details (locally governed records at source).

Step	Action	Class	Destination Output
1	Source transfer receipt: hold ID, trigger type D-CALC, held amount USD 28,000, dispute status UNDER_INVESTIGATION	PT-HELD	Disclosed in Module J.7
2	Dispute evidence records: locally governed at source	PT-LOCAL	Not transferred; PT-REF only
3	Destination acknowledges hold; commits to monthly review	—	Monitoring obligation recorded
4	Destination receives OT-STATE (hold summary only): hold ID, held amount, status	OT-STATE	Tier 0
5	Destination requires full dispute evidence: formal Tier 1 request to source with P-DISP purpose code	PT-REF → Tier 1 request	Source provides within transfer scope if authorized

Hold maintained at destination; dispute records at source available via formal access request; reference-only posture at destination pending formal request.

Y.13.4 — Synthetic Derivative Disputed After Transfer, Creating Parallel Review States

Situation: A synthetic voice derivative is transferred as PT-FULL with `authorization_state: CONFIRMED`. Six weeks after transfer, a third party files a dispute at source claiming the synthesis authorization was invalid. Source enters CS-DISP; destination has already adopted the derivative as fully authorized.

Conflict code: COP-04 (supersession accepted at source, disputed at destination — or in this case, dispute filed at source after destination adoption).

Step	Action	Source State	Destination State
1	Transfer completed; derivative adopted at destination as CS-DERIV CONFIRMED	CS-DERIV CONFIRMED	CS-DERIV CONFIRMED

Step	Action	Source State	Destination State
2	Third-party dispute filed at source	CS-DISP at source	Still CONFIRMED at destination
3	Source notifies destination of dispute; transfers PT-HELD update	CS-DISP at source	Conflict notification received
4	Destination records COP-04; places derivative in contained review	CS-DISP at source	PT-HELD posture at destination
5	Source dispute proceeds; Finding Record issued	CS-SRC-AUTHORIZED or CS-REV	Per Finding Record
6	Source transfers Dispute Finding Record; destination rebinds per finding	Per finding	CS-DERIV CONFIRMED or CS-REV per finding

Parallel states explicitly documented via COP-04; no destructive normalization; destination rebinds when source dispute is resolved.

Y.13.5 — Offboarding Handoff with One Unresolved Historical Break Explicitly Disclosed

Situation: An offboarding process transfers a complete catalog. OB checks pass except OB-03: one High-severity break (BR-R05 — rights-chain delta chain gap) remains unresolved. The break affects a minor catalog artifact with USD 420 in held revenue.

OB Check	Status	Notes
OB-01 through OB-02	PASS	Declaration and FSS confirmed
OB-03 (FRP conditions)	CONDITIONAL	BR-R05 High; open_break_count: 1; held: USD 420
OB-04 through OB-08	PASS	All other conditions met; acknowledgment received

Disclosure in OPB Module J.7:

```
OPEN_CONDITIONS_DISCLOSURE [BR-R05]
  break_code:               BR-R05
  description:              Rights-chain delta chain gap; one artifact
  severity:                 High
  affected_artifact:        AMI-099
  held_amount:              USD 420
  hold_trigger:             BR-R04 (missing rights-state linkage)
  resolution_status:        UNDER_INVESTIGATION
  investigation_owner:      Rights-State Admin
  expected_resolution:      2026-03-15
```

Receiving custodian signs conditional transfer acknowledgment. Offboarding declared CONDITIONALLY COMPLETE. USD 420 held at destination with inherited investigation.

Y.13.6 — Destination Review Refusing Adoption of Stale or Insufficient Portable State

Situation: Source transfers OT-META outputs for 12 artifacts as the primary transfer package, without PT-FULL manifest chains. The TTL on the OT-META outputs expired 18 days ago. Destination runs canonical determination and cannot confirm current-reference state from metadata alone.

Step	Action	Destination Response
1	Source transfers 12 OT-META outputs; no PT-FULL records	Received
2	Destination TTL check: all outputs expired 18 days ago	BK-TRANS-05
3	Destination canonical determination: insufficient — OT-META alone cannot support V.3 determination	VF-03 analog
4	Destination issues Portability Refusal (Y.7 template)	Refusal basis: STALE_STATE + INSUFFICIENT_EVIDENCE
5	Refusal transmitted to source	Source must provide PT-FULL with fresh FSS
6	Source generates fresh FSS; transfers PT-FULL for all 12 artifacts	Re-transfer
7	Destination canonical determination passes for all 12	Adoption proceeds

Portability refusal prevents adoption of stale outputs; fresh PT-FULL resolves the insufficiency.

Y.14 Reader Action Map

Reader Action Map — Cross-Border Portability and Conflict-of-Process

Transfer or Cross-Domain Ambiguity	Containment / Reference-Only	Replay / Verification	Destination Adoption or Refusal	Governance Review	Closure Condition
PT-FULL transfer; all elements present	None required	Canonical determination per V.3; QY-01	Complete adoption if determination passes	Reconciliation Officer confirmation	Transfer receipt + destination acknowledgment signed
Missing chain element (BK-TRANS-01)	PT-BLOCK interim; no adoption	QY-03 chain continuity check	Refusal until missing element provided	Evidence Infra Operator + Change Control Officer	Missing element transferred; chain confirmed; adoption proceeds
Stale PT-SAFE output (BK-TRANS-05)	PT-SAFE refused	Fresh OT-META or OT-STATE requested	Refusal; fresh output required	Access Auth Officer	Fresh output generated; TTL confirmed
COP-02 (parallel canonical states)	Destination treats import as provisional	Canonical determination; QY-04	Provisional adoption; 30-day recertification	Dispute Governor if conflict escalates	Destination canonical determination confirms; COP-

Transfer or Cross-Domain Ambiguity	Containment / Reference-Only	Replay / Verification	Destination Adoption or Refusal	Governance Review	Closure Condition
					02 resolved
COP-05 (correction not propagated)	Affected cycles in provisional	QY-09 correction chain replay	Corrective cycle initiated at destination	Royalty Calc Officer (destination)	Destination corrective cycle finalized; adjustment lineage complete
PT-HELD (active hold)	Hold inherited; not disbursed	QY-05 hold status check	Hold maintained; monitoring inherited	Dispute Governor (destination)	Hold released per Finding Record; destination confirms release
PT-BLOCK (portability blocked)	Not received; PT-REF only	OT-REF confirms existence at source	No adoption; block acknowledged	Source Change Control Officer	Block lifted at source; re-transfer authorized
Post-transfer dispute (COP-04)	PT-HELD at destination; COP-04 recorded	QY-08 discrepancy detection	Contained; awaiting source Finding Record	Dispute Governors (both domains)	Finding Record transferred; destination rebinds
Offboarding with open break (conditional)	Open break disclosed in OPB Module J.7	OT-REPLAY for OB checks	Conditional transfer with acknowledged break	Evidence Infra Operator + Reconciliation Officer (both)	Destination acknowledgment signed; monitoring confirmed
Destination refuses adoption (stale/insufficient)	Source re-generates FSS; fresh PT-FULL transfer	QY-01 completeness re-check	Adoption re-attempted with fresh package	Access Auth Officers (both)	Destination canonical determination passes; adoption complete

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Worked Scenario Summary Table

Scenario	Transfer Class	Conflict	Destination Posture	Closure
Y.13.1 Full lineage transfer	PT-FULL	None	Complete adoption; bounded reviewer outputs	Destination acknowledgment signed
Y.13.2 Correction not propagated	PT-FULL + correction EP Delta	COP-05	Provisional; corrective cycle initiated	Destination corrective finality issued
Y.13.3 Payout hold carry-forward	PT-HELD	None	Reference-only; hold maintained	Monitoring inherited; formal request path available
Y.13.4 Post-transfer dispute	PT-FULL then PT-HELD update	COP-04	Contained; awaiting Finding Record	Source Finding Record transferred; destination rebinds
Y.13.5	PT-OFF	None — break	Conditional transfer	Destination

Scenario	Transfer Class	Conflict	Destination Posture	Closure
Offboarding with open break	(conditional)	disclosed	accepted	acknowledgment; monitoring confirmed
Y.13.6 Stale output refused	PT-SAFE (stale)	None — refusal is correct response	Refusal; fresh PT-FULL requested	Fresh transfer; canonical determination passes

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Appendix Z — Performance, Service-Level Objectives, Operational Resilience, and Recovery Discipline for Authenticity, Consent, Lineage, and Rights-Linked Media Workflows

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Z.0 Purpose and Reader Orientation

Core Thesis: Operational integrity in media and synthetic-media workflows requires measurable performance and resilience disciplines that preserve evidence, bounded verification, reconciliation integrity, and correction-readiness under normal, degraded, and recovery conditions. Speed without replayability, preservation, propagation integrity, and governed restoration is insufficient.

Secondary Thesis: The objective is not to optimize for throughput alone, nor to suspend controls during stress. The objective is to define performance and resilience targets that preserve workflow correctness, containment discipline, evidentiary continuity, and reviewer/examiner usability even when systems degrade, delay, backlog, replay, or restore.

Z.0.1 Why This Appendix Exists

Appendix T of the main framework defined SLA/SLO reference tables for workflows under normal conditions. This appendix extends that model to cover degraded conditions, incident response, evidence continuity under stress, replay capacity, controlled restoration, and post-incident governance. It addresses the critical operational question that Appendix T does not: what happens to workflow correctness, evidence generation, bounded review, and correction-readiness when normal conditions are not met?

Z.0.2 Why Performance and Resilience Matter for These Workflows

Delayed manifest creation leaves artifacts without content-addressed identity. Propagation lag creates stale current-reference states that anchor incorrect calculations. Payout queue aging causes unclosed chains. Replay backlog delays dispute reconstruction. Each of these is not merely an availability concern — it is an evidentiary integrity concern. This appendix treats performance as workflow integrity under time constraints.

Z.0.3 What This Appendix Is and Is Not

This appendix is: An operational resilience and recovery appendix covering degraded modes, evidence continuity, replay capacity, restoration discipline, incident classification, and post-incident governance for all major workflow classes.

This appendix is not: A vendor SRE handbook, cloud architecture article, cyber incident manual, or business continuity paper detached from the framework's evidence and governance model.

Z.1 Performance Taxonomy by Workflow Class

Workflow Performance Taxonomy Table

Workflow Class	Code	Primary Performance Concern	Evidence Dependency	Degradation Risk
Authenticity verification	WF-AUTH	Manifest creation latency; SI boundary test execution time	Content-addressed manifest; chain integrity	Stale authenticity state; unclosed chain
Consent / authorization-state	WF-CONS	Lifecycle EP Delta registration latency; diff chain propagation	Consent diff chain; authority confirmation	Post-lifecycle-event revenue not held; stale consent state
Derivation / lineage update	WF-LINE	Transformation event log creation; contamination check latency	Transformation event chain; synthesis provenance	Contamination undetected; calculation on unanchored derivative
Canonical-state / supersession	WF-VER	Supersession EP Delta registration; downstream propagation	Supersession EP Delta chain; manifest chain	Stale canonical state; parallel official versions
Rights-state / scope-of-use	WF-RIGHTS	Restriction registry currency; scope check execution	Rights-chain EP; restriction registry	Out-of-scope revenue not held; scope check on stale registry
Royalty calculation	WF-CALC	Calculation cycle initiation; intake aggregation; artifact creation	Calculation artifact; usage event records	Calculation on stale state; provisional event expiry
Settlement confirmation	WF-SETTLE	Confirmation receipt latency; variance detection	Settlement confirmation; payout linkage	Unclosed chains; undetected variance
Payout instruction	WF-PAY	Instruction issuance latency; dual-auth completion time	Payment instruction; distributed approval	Unauthorized instruction; delayed disbursement
Hold-only containment	WF-HOLD	Hold application latency after trigger detection	Hold record; break register entry	Revenue disbursed before hold applied
Reviewer-safe output generation	WF-REV	Output generation latency; TTL currency	OT-META through OT-ESC; access log	Stale reviewer output used for decisions
Dispute triage	WF-DISP	Dispute classification	Dispute record; evidence pack	Dispute un-contained; hold not applied

Workflow Class	Code	Primary Performance Concern	Evidence Dependency	Degradation Risk
		latency; evidence pack initiation		
Replay and reconstruction	WF-REPLAY	Replay initiation time; replay completion time	Replay bundle; chain elements	Replay failure; dispute reconstruction delayed
Offboarding preparation	WF-OFF	FSS creation time; FRP completion time; OPB assembly	FSS; FRP; OPB modules	Offboarding with stale state; unresolved breaks undisclosed

Z.2 Service-Level Objectives and Timeliness Bands

SLO bands define performance targets by urgency class. Each band maps to an evidentiary consequence of breach.

SLO and Timeliness Band Matrix

SLO Band	Code	Target Completion	Warning Threshold	Breach Threshold	Evidentiary Consequence of Breach
Routine objective	SLO-R	Within 3 business days	Day 4	Day 6	Evidence gap; ASSERTED qualifier applied; recertification required
Priority objective	SLO-P	Within 1 business day	Same day + 4 hours	Day 2	Revenue eligibility uncertain; provisional status applied
Containment-critical objective	SLO-C	Within 4 hours	Hour 2	Hour 6	Revenue disbursed without containment; hold not applied; BR raised
Replay-critical objective	SLO-RP	Within 24 hours of replay request	Hour 12	Hour 36	Dispute reconstruction delayed; examiner review deferred
Propagation-critical objective	SLO-PR	Within 8 hours of state change	Hour 4	Hour 12	Downstream systems bind to stale state; calculation risk
Offboarding-critical objective	SLO-O	Per offboarding declaration target date	7 days before	Target date + 10 days	OB checks fail; conditional transfer at risk

SLO assignments by workflow class:

Workflow Class	Normal SLO Band	Degraded Mode SLO Band	Breach Response
WF-AUTH (manifest	SLO-R	SLO-P	Metadata-first temporary mode;

Workflow Class	Normal SLO Band	Degraded Mode SLO Band	Breach Response
creation)			ASSERTED state assigned
WF-CONS (lifecycle EP Delta)	SLO-P	SLO-C	Hold-only containment on affected events
WF-LINE (transformation event)	SLO-P	SLO-C	Derivative held from calculation
WF-VER (supersession EP Delta)	SLO-C	SLO-C	Distribution restriction on both versions
WF-RIGHTS (restriction registry)	SLO-P	SLO-PR	Scope checks paused; out-of-scope revenue risk
WF-CALC (calculation cycle)	SLO-R	SLO-P	Provisional calculation; Tier 2 events escalated
WF-SETTLE (confirmation)	SLO-P	SLO-P	Variance flag; payout chain open
WF-PAY (instruction)	SLO-P	SLO-C	Instruction deferred; dual-auth required before release
WF-HOLD (hold application)	SLO-C	SLO-C	Revenue disbursed without hold is a BR-P08 equivalent
WF-REV (reviewer output)	SLO-R	SLO-P	Stale output; VF-03 analog; re-verification required
WF-DISP (dispute triage)	SLO-C	SLO-C	Dispute un-contained; hold not applied
WF-REPLAY (replay)	SLO-RP	SLO-RP	Extended; replay-pending state declared
WF-OFF (offboarding)	SLO-O	SLO-O	Conditional transfer; open conditions disclosed

Z.3 Observability and Integrity Signals

Observability signals are operational indicators that allow institutions to detect deteriorating performance before it becomes an evidence or governance failure. Each signal is tied to a workflow-integrity consequence.

Observability and Integrity Signal Table

Signal	Code	Description	Integrity Consequence	Detection Method
Delayed manifest creation	OBS-01	Artifact delivered without registered manifest beyond SLO-P	ASSERTED state assigned; royalty calculation blocked until manifest	Registration timestamp vs. delivery timestamp
Delayed approvals-chain completion	OBS-02	EP Delta issued but dual authorization not obtained within 24 hours	EP Delta operationally pending; downstream cannot rely on state change	Approval record age; Layer 7 log
Stale current-	OBS-03	Supersession or	Downstream systems	Propagation

Signal	Code	Description	Integrity Consequence	Detection Method
reference propagation		correction EP Delta registered but downstream systems not updated within SLO-PR	calculate on superseded canonical	completion record age
Reconciliation backlog growth	OBS-04	Outstanding usage events above defined queue depth without classification	Increasing Tier 3/4 population; undetected scope failures	Queue depth metric; break register growth rate
Payout queue aging	OBS-05	Payment instructions issued but settlement confirmations not received within SLO-P	chain_complete: NO; payout chain unclosed	Instruction age; confirmation receipt gap
Reviewer output latency	OBS-06	OT-META or OT-STATE requests not fulfilled within SLO-R	Reviewer decisions deferred; TTL erosion before output generated	Output request queue age
Replay reconstruction delay	OBS-07	Replay request queued but not initiated within SLO-RP	Dispute reconstruction stalled; examiner review deferred	Replay queue age
Hold-state persistence	OBS-08	Active hold records without updated expected resolution date for > 30 days (High/Critical)	Monitored exception transition may be overdue	Hold age vs. last review timestamp
Post-access review delay	OBS-09	Tier 1/2 access events with post-access review overdue	Governance break BR-G01 accumulating	Post-access review deadline vs. current date
Unresolved-break accumulation	OBS-10	Break register growing faster than resolution rate; overdue breaks increasing	Evidence integrity gap widening; disputability increasing	Break open rate vs. resolution rate
Supersession propagation lag	OBS-11	Supersession EP Delta registered; downstream calculation artifacts still reference prior canonical	Calculation integrity risk; BR-W04 population	Query V-03 (Appendix V) run against recent cycles
Evidence queue saturation	OBS-12	Manifest registration queue, EP Delta queue, or correction queue exceeds defined depth	Workflow correctness threatened; operations partially halted	Queue depth at each evidence layer

Z.4 Degraded Modes and Graceful Degradation Logic

Degraded mode is a governed operational posture — not a permission to suspend controls. Every degraded mode has defined entry triggers, allowed operations, blocked operations, preservation requirements, and exit conditions.

Degraded Mode Matrix

Mode	Code	Entry Trigger	Allowed Operations	Blocked Operations	Preservation Requirement	Exit Condition
Metadata-first temporary mode	DM-META	Manifest registration > SLO-P threshold; evidence layer unavailable	Metadata capture; ASSERTED state assignment; hold-only containment	Royalty calculation; distribution authorization; reviewer output generation beyond OT-META	Metadata captured in temporary log; ASSERTED notation	Manifest registration restored; retrospective manifests issued; ASSERTED states reviewed
Replay-deferred mode	DM-REPLAY	Replay queue saturation; replay capacity < request rate	Queue new replay requests; prioritize by severity; provide OT-STATE summary while queued	Full replay output; dispute reconstruction output	Replay queue log; queue entry timestamps; prioritization record	Replay capacity restored; oldest high-priority replays completed first
Payout-containment mode	DM-PAY	Propagation lag affecting payout canonical binding; unsettled confirmation > SLO-P	Hold-only containment on affected cycles; issuance of unaffected cycle instructions	Finality record issuance for affected cycles; disbursement of held amounts	Hold records for all deferred cycles; deferred instruction register	Propagation confirmed; canonical binding verified; dual-auth re-issued for deferred instructions
Propagation-delayed mode	DM-PROP	Supersession or correction EP Delta registered; propagation to downstream systems delayed > SLO-PR	Continue generating new EP Deltas; document propagation lag; apply OBS-03 signal	Releasing holds or distributions that depend on propagated state	Propagation lag record; affected downstream record list	Propagation confirmed at all downstream systems; OBS-03 cleared
Restricted review-output mode	DM-REV	Reviewer output generation capacity reduced; OT-EXTRACT and OT-ESC unavailable	OT-META and OT-STATE outputs only; proof-based outputs if Baseline E active	OT-EXTRACT; OT-REPLAY; OT-ESC	Reviewer request log; unfulfilled request register	Output generation capacity restored; pending requests fulfilled in priority order
Contained calculation mode	DM-CALC	Evidence layer latency preventing intake completeness within SLO-P	Run calculation on confirmed Tier 1 events only; hold Tier 2/3 events	Calculation finality for cycles with significant Tier 2/3 populations	Partial calculation artifact; held-event register	Intake completeness restored; full calculation run; corrective cycle if material difference
Hold-only	DM-HOLD	All new holds	Apply holds;	Release of any	All new hold	Release

Mode	Code	Entry Trigger	Allowed Operations	Blocked Operations	Preservation Requirement	Exit Condition
preservation mode		must be applied but release processing is unavailable	register breaks; preserve held-state records	hold; disbursement of any held revenue	records; hold register currency	processing restored; dual-auth obtained for each deferred release
Limited offboarding-preparation mode	DM-OFF	FSS or FRP generation unavailable; offboarding target date < 10 business days	Complete portable evidence set assembly; disclose all known open conditions	FSS creation; FRP co-signature; OPB finalization	Open-condition register; partial OPB modules	FSS and FRP generation restored; OPB completed; OB checks run

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Z.5 Backpressure, Queues, and Workload Management

Queue and Backpressure Management Matrix

Queue	Normal Depth	Warning Depth	Critical Depth	Aging Threshold	Overflow Response
Replay queue	< 20 pending	20–50 pending	> 50 pending	Any item > 36 hours unstarted	DM-REPLAY; prioritize by severity; senior notification at Critical
Reconciliation backlog	< 5% of cycle events unclassified	5–15%	> 15%	Any item > 10 business days	DM-CALC; held-event register; governance notification
Payout release queue	< 5 instructions pending settlement	5–20	> 20	Any instruction > SLO-P breach	DM-PAY; hold-only containment for affected cycles
Reviewer escalation queue	< 10 pending Tier 1/2 requests	10–30	> 30	Any Tier 2 request > 48 hours	DM-REV; OT-META and OT-STATE only; Access Auth Officer notification
Dispute queue	< 5 unclassified	5–15	> 15	Any unclassified > 24 hours (Critical)	Dispute Governor notification; containment applied immediately
Correction / EP Delta queue	< 10 pending	10–30	> 30	Any Critical EP Delta > 24 hours	Change Control Officer escalation; DM-PROP
Offboarding readiness queue	0 pending	1–3 pending	> 3 pending	Any offboarding > target date	Senior management notification; conditional transfer preparation
Portability / handoff queue	0 pending	1–2 pending	> 2 pending	Any > offboarding target + 5 days	Conditional transfer; PT-HELD disclosure

Prioritization rules for all queues:

1. Critical severity items always supersede High; High supersedes Moderate.

2. Within severity, FIFO ordering applies unless an item has a defined deadline.
3. Items with approaching or breached deadlines (SLO breach) are promoted above FIFO order.
4. Items that block downstream workflows (e.g., a supersession that blocks multiple downstream calculations) are promoted above items that are self-contained.
5. Reviewer access requests for active dispute reconstruction are promoted above routine review requests.

Queue aging becomes material when:

- Any Critical-severity item has been queued for > 24 hours unstarted.
- Any High-severity item has been queued for > 5 business days unstarted.
- Total queue depth is growing at > 10% per day for two consecutive days.
- Resolution rate for any queue drops below 50% of intake rate for > 5 business days.

Z.6 Evidence Continuity Under Stress

Evidence continuity is the non-negotiable floor below which degraded operations may not go. Regardless of workload, queue depth, or system availability, the following continuity requirements must be maintained.

Evidence Continuity Under Stress Matrix

Evidence Type	Minimum Continuity Requirement	Degraded Mode Behavior	What Must Never Be Interrupted
Content-addressed manifest	Must be created before any artifact is distributed or calculated	DM-META: metadata captured in temporary log; manifest created retrospectively	Hash computation and temporary log entry — these cannot be deferred
Immutable logging (Layer 7)	Every governance event, access event, and EP Delta must be logged at execution	All logging continues regardless of degraded mode	Logging must never be suspended; log entries are the audit trail for degraded-mode decisions
Preservation bundle creation	Required at all trigger events per Appendix F.2.1	Preservation bundle created even if incomplete; completeness flag noted	FSS hash computation at trigger — even a partial FSS is better than no FSS
Chain-of-custody records	Required at every custody transfer; every evidence production	Chain-of-custody record created with degradation notation if incomplete	Record creation cannot be deferred; completeness can be improved retrospectively
Hold record creation	Required within SLO-C (4 hours) of trigger detection	DM-HOLD: holds applied immediately; release processing deferred	Hold application cannot be deferred regardless of mode
Break register	Required within 24 hours of	Entries created	Registration cannot be

Evidence Type	Minimum Continuity Requirement	Degraded Mode Behavior	What Must Never Be Interrupted
entries	detection	immediately; investigation assignment may be deferred	deferred; investigation may queue
EP Delta chain integrity	Each EP Delta must include `prev_delta_hash`	In DM-PROP, Delta chain continues at source; propagation deferred	Chain integrity at source must never break; propagation lag is acceptable
Correction lineage records	Required for every off-cycle correction	Correction EP Delta created; adjustment lineage record creation may queue	Correction EP Delta cannot be deferred; lineage record creation may follow

Minimum evidence continuity that must never be lost under any condition:

Priority	Requirement
P1 (absolute)	Every artifact gets a content-addressed hash; every hash is logged
P1 (absolute)	Every hold trigger results in a hold record within 4 hours
P1 (absolute)	Every governance action is logged in Layer 7 at execution time
P2 (non-deferrable)	Every EP Delta includes `prev_delta_hash` at issuance
P2 (non-deferrable)	Every preservation bundle trigger results in at least a partial FSS
P3 (deferrable under stress)	Post-access reviews may queue but must complete within 2× normal deadline
P3 (deferrable under stress)	Propagation of EP Deltas to downstream systems may lag; source chain must remain intact

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Z.7 Replay Capacity and Reconstruction Readiness

Replay Capacity and Readiness Matrix

Replay Type	Replay Ready If	Initiation SLO	Completion SLO	Bounded Output Sufficient?	Full Replay Trigger
Authenticity state replay to timestamp	Manifest chain intact; EP Deltas retrievable to T	4 hours	24 hours	YES — OT-REPLAY for status verification	Hash mismatch; competing claim at destination
Consent state replay to event timestamp	Consent diff chain intact to T	4 hours	24 hours	YES — OT-REPLAY for consent state	Dispute; instrument validity challenged
Lineage chain replay	Transformation event chain intact; no orphaned events	8 hours	48 hours (full chain)	NO for contamination check — full replay required	Contamination detection; D-LINE dispute
Calculation replay	Calculation artifact	8 hours	48 hours	NO — full	Dispute;

Replay Type	Replay Ready If	Initiation SLO	Completion SLO	Bounded Output Sufficient?	Full Replay Trigger
	retrievable; input records present			calculation replay required	corrective cycle; RP-02 failure
Payout trace replay	Payout linkage records; settlement confirmations present	4 hours	24 hours	YES — OT-PAY	Variance investigation; finality dispute
Supersession chain replay	All manifest entries with `superseded_by` present	2 hours	8 hours	YES — OT-REPLAY (version lineage map)	Canonical state dispute
Offboarding FSS replay	FSS hash verifiable; all layer records within scope retrievable	8 hours	72 hours	YES — OPB completeness check	OB check failure; receiving custodian dispute
Historical state replay (pre-supersession)	All manifest entries including CS-SUP present	4 hours	24 hours	YES — for historical state verification	Dispute covering historical period

Replay-ready determination:

A workflow is considered replay-ready if:

1. All chain elements required for the replay type are registered in the EP.
2. The replay produces the same output as the original calculation or state determination.
3. No chain element has been modified after its registration timestamp.
4. The replay can be initiated within the SLO-RP window from request receipt.

If any condition is unmet: the workflow enters **replay-pending state** — an operational condition in which replay has been requested, the chain is being verified, and no downstream decisions may rely on the pending replay's outcome.

Bounded replay sufficiency bands:

Band	Evidence Quality	What It Confirms	What It Cannot Confirm
Band 5 — Full replay	Complete chain; all inputs verifiable	Exact state at any timestamp	Nothing — highest confidence
Band 4 — Near-complete replay	Chain complete; one input carries ASSERTED qualifier	State with high confidence; one dimension provisional	Exact value of ASSERTED dimension
Band 3 — Partial replay	Chain segment complete; one gap documented	State within documented scope	State within gap period
Band 2 — Degraded replay	Multiple gaps; reconstruction attempted	State value probable but not confirmed	Gap-period state; exact audit trail
Band 1 — Metadata	Manifest chain only; no	Object exists and was	State values; consent;

Band	Evidence Quality	What It Confirms	What It Cannot Confirm
replay	EP Delta content	registered	rights detail
Band 0 — Replay failure	Chain break; inputs missing	Nothing determinable	All state attributes

Z.8 Restoration and Recovery Discipline

Restoration is not equivalent to technical availability. It requires state revalidation, propagation confirmation, stale-output replacement, and payout re-authorization.

Restoration and Recovery Matrix

Recovery Stage	Action	Evidence Required	SLO	Governance Sign-off
1. Restoration trigger	Degraded mode declared over; technical availability restored	Incident record; restoration declaration	Within 4 hours of availability	Change Control Officer + Evidence Infra Operator
2. State revalidation	SI boundary tests re-run for all artifacts in degraded scope	SI-01 through SI-08 results	24 hours	Reconciliation Officer
3. Propagation catch-up	All queued EP Deltas propagated to downstream systems	Propagation completion records per EP Delta	48 hours	Evidence Infra Operator
4. Stale-output replacement	All reviewer outputs produced during DM-META or DM-REV are regenerated	New OT-META/OT-STATE outputs with post-restoration timestamps	48 hours	Access Auth Officer
5. Replay-before-release	All payout instructions deferred during DM-PAY are reviewed before re-issuance	Calculation artifacts; canonical state confirmation; dual authorization	Before any deferred instruction is issued	Royalty Calc Officer + Access Auth Officer
6. Re-reconciliation	Reconciliation run executed for all cycles affected by degraded mode	Full reconciliation run record; break register update	5 business days	Reconciliation Officer
7. Payout release reauthorization	Deferred payout instructions formally re-authorized post-restoration	Dual authorization record per deferred instruction	5 business days	Royalty Calc Officer + Access Auth Officer
8. Post-restoration verification	Final verification that all workflows are operating within normal SLO bands	SLO compliance report (Appendix T format); OBS signals clear	10 business days	Change Control Officer
9. Post-incident	Incident record	Incident record;	15 business	Change Control

Recovery Stage	Action	Evidence Required	SLO	Governance Sign-off
documentation	updated with restoration timeline; lessons learned	restoration timeline; root cause	days	Officer + Dispute Governor
10. Governance sign-off	Formal closure if all stages complete; or residual-risk register entry if unresolved	Closure criteria checklist (Z.12); governance sign-off record	Per closure criteria	Senior management

Controlled return from degraded mode — additional rules:

- Operations that were blocked during degraded mode may not resume until restoration stage 2 (state revalidation) is complete.
- Payout instructions may not be issued until stage 5 (replay-before-release) is complete.
- Reviewer outputs produced during degraded mode must be annotated as "produced under [DM code]" until stage 4 (stale-output replacement) is complete.
- No override may be issued during restoration stages 1–4 without dual authorization and explicit documentation of the restoration stage at time of override.

Z.9 Incident Classification and Escalation Logic

Incident Classification and Escalation Matrix

Incident Class	Code	Description	Severity	Containment Response	Governance Notification	Post-Incident Review
Evidence generation failure	IC-01	Manifest creation, EP Delta issuance, or immutable logging unavailable for > SLO-P	Band IV	DM-META; all calculations and distributions halted	Evidence Infra Operator immediately; Dispute Governor within 4 hours	Mandatory; within 10 days
Propagation lag	IC-02	EP Delta propagation > SLO-PR across downstream systems	Band III	DM-PROP; downstream systems notified; OBS-03 signal activated	Evidence Infra Operator; Royalty Calc Officer within 8 hours	Required; within 15 days
Payout processing delay	IC-03	Settlement confirmation receipt delayed > 2× SLO-P	Band III	DM-PAY; payout chain open; finality deferred	Royalty Calc Officer; Access Auth Officer	Required; within 15 days
Stale reviewer-safe outputs	IC-04	OT-META or OT-STATE outputs used for decisions after	Band II–III	DM-REV; outputs annotated as stale; re-	Access Auth Officer within 24 hours	Required; within 15 days

Incident Class	Code	Description	Severity	Containment Response	Governance Notification	Post-Incident Review
		TTL expiry		verification required		
Replay backlog	IC-05	Replay queue depth > Critical threshold; initiation > SLO-RP	Band III	DM-REPLAY; prioritized queue; bounded replay outputs	Reconciliation Officer; Dispute Governor for active dispute replay	Required; within 10 days
Unresolved hold persistence	IC-06	Hold without updated resolution date for > 90 days; approaching 180-day threshold	Band II–III	Escalate to monitored exception if > 180 days	Dispute Governor; senior management at 180 days	Annual monitored exception review
Supersession propagation failure	IC-07	Supersession EP Delta registered; downstream canonical binding not updated within SLO-PR	Band III–IV	DM-PROP; affected calculations held; distribution restriction	Evidence Infra Operator; Royalty Calc Officer	Mandatory; within 10 days
Offboarding readiness failure	IC-08	OB checks fail at target date; FSS or FRP unavailable	Band III	DM-OFF; conditional transfer preparation; open conditions disclosed	Evidence Infra Operator; receiving custodian	Mandatory; within 15 days of conditional transfer
Over-degradation / prolonged degraded mode	IC-09	Any degraded mode persisting > 5 business days without restoration progress	Band IV	Escalate to senior management; supervisory notification consideration	Senior management within 24 hours of threshold breach	Mandatory; within 10 days of exit
Evidence tampering suspected	IC-10	Hash mismatch suggesting modification rather than gap; Layer 7 log anomaly	Band V	Full quarantine of affected EP layers; forensic preservation	Senior management immediately; supervisory notification	Mandatory; forensic scope

Z.10 Governance, Change Control, and Materiality Triggers for Resilience

Governance and Materiality Trigger Matrix

Decision	Primary Role	Co-Authorization	Evidence Threshold	Override Permitted?
Declare degraded mode	Evidence Infra Operator or Change Control Officer	Reconciliation Officer	Trigger condition documented; degraded mode code assigned	Not applicable — declaration is a control
Restrict payout progression	Royalty Calc Officer	Access Auth Officer	DM-PAY or IC-03 active; deferred instruction register	YES — with dual auth and documented basis
Approve controlled recovery	Change Control Officer	Dispute Governor	Restoration stages 1–5 complete; state revalidation confirmed	YES — for stage sequencing only
Review prolonged backlog or stale state risk	Dispute Governor	Senior management for Band IV+	OBS signal > Critical; queue aging > threshold	N/A — review is mandatory
Material change review triggered by resilience event	Change Control Officer	Reconciliation Officer	IC-01 through IC-09 active	N/A — review is mandatory
Recert triggered by degraded mode	Change Control Officer	Per recert subject's governing role	DM-META or DM-CALC affected canonical or rights-state records	N/A — recert required
Log resilience exception	Evidence Infra Operator	Change Control Officer	Any degraded mode or incident not covered by standard taxonomy	YES — documented with rationale

Override abuse detection in degraded mode:

Pattern	Detection	Response
Payout instruction issued during DM-PAY without dual authorization	Break register; BR-P08 equivalent	Instruction voided; governance investigation
Distribution authorized during DM-META without manifest confirmation	Distribution log vs. manifest registration timestamp	Distribution restricted retroactively; break registered
Override of replay-before-release stage during restoration	Restoration stage log; pre-stage-5 instruction issuance	Instruction suspended; stage 5 required before re-issue
Degraded mode declared without trigger documentation	Incident log review; trigger record absent	Governance investigation; retroactive trigger documentation required
Prolonged DM without restoration progress notification	IC-09 threshold monitoring	Senior management notification; supervisory review consideration

Mini RACI — Degraded Mode Declaration (DM-PAY)

Activity	Evidence Infra Operator	Royalty Calc Officer	Reconciliation Officer	Access Auth Officer	Change Control Officer
Detect trigger condition	R	C	R/A	I	I
Document trigger and assign DM code	R/A	I	C	I	C
Notify downstream roles	R	I	A	I	I
Apply hold to affected cycles	C	R/A	C		
Log in Layer 7	R/A	I	I	I	I
Monitor exit conditions	C	C	R/A		C
Declare DM exit and initiate restoration	A	C	R	C	R

Z.11 Reviewer / Examiner Visibility into Performance and Resilience State

Reviewer / Examiner Visibility Matrix

Visibility Need	Output Class	Access Tier	What Reviewers Can See	What Requires Escalation
Current degradation status	OT-STATE	Tier 0	Active DM code; entry timestamp; affected workflow classes	Full incident record; escalation to OT-EXTRACT
Queue severity state	OT-META	Tier 0	Queue depth by class (Normal / Warning / Critical); not individual items	Individual queue items require Tier 1
Replay readiness state	OT-STATE	Tier 0	Replay band (1–5); replay-pending count	Full replay bundle requires Tier 1
Payout hold due to degradation	OT-STATE	Tier 0	Hold count and held amount attributable to DM-PAY	Individual hold records require Tier 1
Stale-state risk indicators	OT-DISC	Tier 0	OBS signal active/inactive per category; count of stale outputs	Specific artifact detail requires Tier 1
Restoration completion status	OT-STATE	Tier 0	Restoration stages 1–10 status; completion timestamps	Full restoration record requires Tier 1
Unresolved incident carry-forward	OT-STATE	Tier 0	Incident count by severity; carry-forward to monitored exception	Incident records require Tier 1

Reviewer-safe degradation status output template:

```
DEGRADATION_STATUS_OUTPUT [OT-STATE; Tier 0]
  report_timestamp:          [ISO 8601]
  active_degraded_modes:     [list of DM codes currently active]
```

```
  queue_severity:
    replay_queue:            [NORMAL | WARNING | CRITICAL]
    reconciliation_backlog: [NORMAL | WARNING | CRITICAL]
    payout_queue:            [NORMAL | WARNING | CRITICAL]
    reviewer_request_queue: [NORMAL | WARNING | CRITICAL]
    dispute_queue:           [NORMAL | WARNING | CRITICAL]
  stale_output_risk:         [OBS signals active: list of OBS codes]
  payout_holds_from_degradation: [count; total held amount]
  replay_readiness:          [average band across active replay requests]
  restoration_stages_in_progress: [count; earliest stage not yet complete]
  unresolved_incidents:      [count by severity band]
  -- No individual artifact detail; no queue item content; no incident record
content
```

Z.12 Closure Criteria and Post-Incident Review

Closure Criteria Matrix

Incident / Degradation State	Closure Condition	Evidential Requirement	Governance Sign-off	Residual Risk If Not Closeable
Backlog normalization	All queues at Normal depth; no items beyond aging threshold	Queue depth log confirming Normal level for 3 consecutive business days	Reconciliation Officer	Monitored exception; monthly review
Replay completion	All replay requests fulfilled; replay band ≥ 4 for all active requests	Replay completion records; replay band determinations	Reconciliation Officer + Dispute Governor	Replay-pending state maintained; dispute deferred
Stale-output replacement	All outputs produced during DM codes regenerated; stale-output register cleared	New output timestamps post-restoration; stale-output register emptied	Access Auth Officer	VF-03 analog maintained; re-verification required before reliance
Propagation catch-up	All EP Deltas propagated; OBS-03 and OBS-11 cleared	Propagation completion records; downstream confirmation	Evidence Infra Operator	OBS signals maintained; affected calculations held
Payout release revalidation	All deferred instructions reviewed and re-authorized post-	Dual authorization records; stage-5 completion	Royalty Calc Officer + Access Auth Officer	DM-PAY maintained; affected cycle finality deferred

Incident / Degradation State	Closure Condition	Evidential Requirement	Governance Sign-off	Residual Risk If Not Closeable
	restoration			
Post-access review completion	All overdue reviews completed; no Tier 1/2 event with missing review	Post-access review records for all outstanding events	Access Auth Officer	BR-G01 accumulation; governance audit finding
Unresolved-break review	All breaks within restoration scope reviewed; resolution assigned or monitored exception registered	Break register: all items have assigned owner and status	Reconciliation Officer	Monitored exception registry; BR-G10 analog
Governance sign-off	All restoration stages 1–10 complete; no outstanding Band III+ incidents	Restoration checklist completed; no active IC-01 through IC-09	Change Control Officer + senior management	Incident carried forward as monitored residual risk

Incident carry-forward conditions:

An incident is considered **contained** when: hold-only containment is applied; no further disbursement occurs without re-authorization.

Stabilized when: the degraded-mode trigger is removed; systems return to normal SLO bands.

Restored when: restoration stages 1–8 are complete; no stale outputs remain; no deferred instructions outstanding.

Closed when: all ten restoration stages are complete; governance sign-off obtained; no open breaks from the incident.

Carried forward as monitored residual risk when: restoration stages 1–8 are complete but a specific item (e.g., one replay request, one unresolved hold) cannot be closed within the defined window. Residual risk is registered in the monitored exception register with monthly review.

Z.13 Offboarding, Portability, and Resilience Carry-Forward

Offboarding and Resilience Carry-Forward Matrix

Resilience Condition	Disclosure in OPB	Portability Class	Receiving Custodian Obligation
Active degraded mode at offboarding	OPB Module J.7: DM code; entry timestamp; affected workflows	PT-HELD equivalent	Inherit degraded-mode governance; continue toward exit conditions
Replay-pending items	OPB Module J.7: replay request count; oldest pending;	PT-HELD	Prioritize completion; SLO-RP inherited

Resilience Condition	Disclosure in OPB	Portability Class	Receiving Custodian Obligation
	severity		
Reconciliation backlog	OPB Module J.6 cycle status: open cycles; backlog count	PT-HELD	Continue reconciliation; monthly review
Stale outputs issued during degraded mode	OPB Module J.7: stale-output register	PT-HELD	Regenerate outputs before reliance; stage 4 inherited
Deferred payout instructions	OPB Module J.6: deferred instruction register	PT-HELD	Complete stage 5 (replay-before-release) before issuing
Unresolved incidents (IC-01 to IC-09)	OPB Module J.7: incident class; severity; containment status	PT-HELD	Inherit investigation; complete restoration stages at destination
Unresolved-break carry-forward from degraded period	OPB Module J.7: break register for degraded period	PT-HELD	Resolve or escalate to monitored exception
Portable evidence sufficiency during transition	PT-FULL records transferred despite degraded mode	PT-FULL (if continuity maintained per Z.6)	Verify hash continuity at destination; declare replay band

Degraded-state carry-forward rules at offboarding:

1. An active degraded mode does not prevent offboarding, but it must be disclosed in OPB Module J.7.
2. OB-03 (FRP conditions met) will reflect the degraded mode as an open condition.
3. Conditional transfer requires the receiving custodian to explicitly acknowledge each active degraded mode and commit to pursuing exit conditions.
4. Receiving custodian may not declare restoration complete at destination without running restoration stages 2 (state revalidation) and 5 (replay-before-release) independently.
5. Evidence continuity under Z.6 (P1 and P2 requirements) must be confirmed before any transfer proceeds.

Z.14 Worked Mini-Scenarios

Z.14.1 — Authenticity Verification Backlog Causing Temporary Metadata-First Mode

Situation: A content ingestion event delivers 800 artifacts simultaneously. Manifest registration capacity supports 200 per day. By day 2, a backlog of 600 unregistered artifacts exists. Three of these artifacts are scheduled for Q3 royalty calculation initiation on day 3.

Trigger: OBS-01 (delayed manifest creation) at Warning level. DM-META declared.

Phase	Action	State	Evidence
Day 1	800 artifacts delivered; 200	DM-META entry:	Temporary log: 600

Phase	Action	State	Evidence
	manifests registered; backlog of 600 begins	Warning	metadata entries; ASSERTED notation
Day 2	Backlog reaches 600; SLO-P breached for 400 artifacts	DM-META: Critical	OBS-01 Critical signal; incident IC-01 initiated
Day 3 (calculation scheduled)	Three scheduled artifacts are in backlog; calculation blocked	Calculation blocked; ASSERTED state; held from calculation	Hold record; blocked calculation notation
Day 3–4	Additional manifest registration capacity deployed; backlog processing begun	DM-META: active; pace accelerated	Queue depth declining; restoration stage 1 initiated
Day 5	All 800 manifests registered; SI-01 run on backlog artifacts	DM-META exit conditions met	SI-01 results; ASSERTED states reviewed; upgrades to VERIFIED
Day 6	Q3 calculation initiated with full manifest basis	Normal; calculation proceeds	Calculation artifact; no ASSERTED qualifier

Checks: AC-01, AC-02; *Incident:* IC-01 Band III; *Restoration:* stages 1–3 complete

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Z.14.2 — Payout Workflow Entering Hold-Only Containment During Propagation Lag

Situation: A supersession EP Delta is registered for a high-revenue catalog artifact. Propagation to downstream calculation systems lags 18 hours past SLO-PR. Three quarterly calculations are scheduled during the lag window; if they proceed, they will reference the superseded canonical.

Trigger: OBS-11 (supersession propagation lag) at Critical. IC-07 initiated. DM-PAY and DM-PROP declared.

Phase	Action	State	Evidence
Hour 0	Supersession EP Delta registered at source	CS-SRC: v2.0 at source	EP Delta; propagation queue entry
Hour 8	SLO-PR breach detected (no propagation confirmation)	OBS-11: Warning → Critical	OBS-11 signal; IC-07 initiated
Hour 9	DM-PAY and DM-PROP declared; three scheduled calculations deferred	DM-PAY active; three cycles deferred	Deferred instruction register; hold records for affected cycles
Hour 18	Propagation confirmed at all downstream systems	DM-PROP exit condition met	Propagation completion records
Hour 19	DM-PAY exit review: stage 5 (replay-before-release) initiated	DM-PAY: active; stage 5 in progress	Canonical state confirmation for three cycles
Hour 22	Stage 5 complete; three calculations re-authorized with v2.0 anchor	DM-PAY: exit; normal	Dual authorization records; calculation artifacts with v2.0 reference
Day 2	Post-incident documentation complete; IC-07 closed	Normal	Incident record; restoration record

Checks: RC-04, RP-01; *Incident:* IC-07 Band III–IV; *Break:* OBS-11 cleared

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Z.14.3 — Replay Queue Saturation Requiring Prioritization and Bounded Reviewer Outputs

Situation: A quarterly period produces five simultaneous dispute filings requiring replay. The replay queue reaches 52 items (Critical threshold) within 12 hours. Dispute reviewers cannot receive OT-REPLAY outputs.

Trigger: OBS-07 at Critical; IC-05 initiated; DM-REPLAY declared.

Phase	Action	State	Evidence
Hour 0	Five disputes filed; 47 prior replay requests already queued	Replay queue: 52 — Critical	Queue depth log; IC-05 initiated
Hour 1	DM-REPLAY declared; prioritization applied: Class A contamination disputes first; D-CALC disputes second	DM-REPLAY: active	Prioritized queue; DM-REPLAY declaration record
Hour 2	Reviewers receive OT-STATE outputs while queued	Restricted: OT-META and OT-STATE only	OT-STATE summaries with queue-position notation
Hour 4–12	Contamination dispute replay completed (Band 5); D-CALC dispute replay completed (Band 4)	Queue depth: declining	Replay completion records; bands assigned
Hour 24	Queue depth: 18 (Warning level); DM-REPLAY exit initiated	DM-REPLAY: exiting	Queue depth log; all Critical items complete
Hour 36	Queue depth: Normal; all active dispute replays complete at Band ≥ 4	Normal; IC-05 stabilized	Restoration stage confirmation
Day 5	Full post-incident review; IC-05 closed; prioritization policy updated	Closed	Post-incident record

Checks: RP-02; *Incident:* IC-05 Band III; *Outcome:* All disputes replay-capable within Band 4+

Z.14.4 — Supersession Propagation Delay Causing Stale Current-Reference Risk

Situation: A remaster supersession is registered during a period of elevated system load. Propagation to three calculation systems is delayed 28 hours. One calculation system processes a Q4 cycle during the lag, referencing the superseded canonical.

Trigger: OBS-03 and OBS-11 at Critical. IC-07 and a secondary BR-W04 (stale canonical reference in payout chain).

Phase	Action	State	Evidence
Hour 0	Supersession EP Delta registered	v2.0 = CS-SRC at source	EP Delta
Hour 28	Propagation complete to two of three systems; one system lagging	OBS-03: Critical; OBS-11: Critical	Propagation records: two confirmed, one pending
Hour 30	Q4 cycle initiates on lagging system with v1.0 as anchor	BR-W04 raised; calculation on CS-SUP anchor	Calculation artifact; canonical state mismatch
Hour 32	Propagation completes; DM-PROP exit	Propagation: complete	Third propagation confirmation
Hour 33	Corrective calculation initiated: Q4 cycle re-run with v2.0 anchor	Corrective cycle: in progress	Correction EP Delta; corrective calculation

Phase	Action	State	Evidence
			artifact
Hour 48	Corrective cycle complete; adjustment lineage record created	Normal; BR-W04 resolved	Adjustment lineage record; corrective finality
Day 3	Post-incident review; IC-07 closed; propagation timeliness controls updated	Closed	Incident record

Checks: RC-04, RP-02; *Break:* BR-W04; *Restoration:* Corrective cycle issued

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Z.14.5 — Degraded Reviewer Output Mode Followed by Controlled Restoration and Regeneration

Situation: Reviewer output generation capacity drops to OT-META and OT-STATE only for 72 hours (DM-REV). During this period, 14 Tier 1 and 3 Tier 2 review requests are fulfilled with OT-STATE outputs. At restoration, all 17 outputs must be regenerated at their original requested class.

Trigger: IC-04 (stale reviewer-safe outputs); DM-REV declared at hour 0.

Phase	Action	State	Evidence
Hour 0–72	DM-REV active; 17 requests fulfilled at OT-STATE	DM-REV: active	OT-STATE outputs annotated with DM-REV notation
Hour 72	Full output generation capacity restored	DM-REV exit triggered	Restoration stage 1 complete
Hour 73	Stage 4 initiated: stale-output replacement	Restoration stage 4: active	Stale-output register (17 items)
Hour 74–96	All 17 outputs regenerated at original requested class (14 × OT-EXTRACT; 3 × OT-ESC)	Stage 4: in progress	New output timestamps; originals annotated as superseded
Hour 96	Stage 4 complete; stale-output register cleared	Stage 4: complete	Stale-output register empty; 17 replacement records
Day 5	Stage 8 complete; full SLO compliance confirmed	Restored	SLO compliance report
Day 10	Post-incident review; IC-04 closed	Closed	Incident record; stale-output policy updated

Checks: BA-02; *Incident:* IC-04 Band II–III; *Outcome:* 17 outputs regenerated; reviewers notified

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Z.14.6 — Offboarding Preparation Delayed by Unresolved Replay Backlog

Situation: An offboarding process is initiated. The offboarding declaration target date is T+30 days. At T+25, DM-REPLAY is still active with 12 pending replay requests covering artifacts in the offboarding scope. FSS creation is at risk.

Trigger: OBS-07 at Warning. IC-05 active. IC-08 (offboarding readiness failure) initiated.

Phase	Action	State	Evidence
T+25	DM-REPLAY active; 12 pending	IC-05; IC-08 initiated	Queue depth log; OBS-07

Phase	Action	State	Evidence
	replays in offboarding scope		Warning
T+25–27	Replay capacity increased; offboarding-scope replays promoted to top of queue	Prioritized: offboarding scope	Queue prioritization record; SLO-O risk notation
T+28	All 12 offboarding-scope replays complete at Band ≥ 4	DM-REPLAY: exiting for offboarding scope	Replay completion records; bands assigned
T+29	FSS created; replay completeness confirmed in FSS	FSS: complete	FSS record with replay band notation
T+30	FRP co-signed; OB-03 PASS; OPB assembled including DM disclosure in Module J.7	Offboarding: complete	FRP; OPB; receiving custodian acknowledgment
T+35	Remaining non-offboarding replay requests completed; DM-REPLAY fully exited	DM-REPLAY: closed	Full queue clearance

Checks: OB-02, OB-03; *Incident:* IC-08 Band III; *Outcome:* Offboarding completed on target with replay confirmation

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Z.15 Reader Action Map

Reader Action Map — Performance, Resilience, and Recovery

Issue	Degraded Mode / Containment	Evidence Continuity	Replay / Restoration Path	Governance Review	Closure Condition
Manifest creation backlog	DM-META; calculations held; ASSERTED state	P1: hash + temp log; P2: EP Delta chain	Re-registration; SI-01 re-run; ASSERTED review	Evidence Infra Operator + Change Control Officer	All manifests registered; ASSERTED states resolved; IC-01 closed
Propagation lag (supersession)	DM-PROP; DM-PAY if calculations affected; deferred instructions	P2: EP Delta chain at source intact	Propagation catch-up; stage 5 before re-issuance	Evidence Infra Operator; Royalty Calc Officer	Propagation confirmed; corrective cycle if any cycle used stale anchor
Replay queue saturation	DM-REPLAY; OT-STATE only for reviewers	P3: replay queue log	Prioritized replay; Band ≥ 4 before dispute reconstruction	Reconciliation Officer; Dispute Governor	All critical replays Band ≥ 4; queue at Normal
Payout queue aging	DM-PAY; hold-only containment	P2: hold records; deferred instruction register	Stage 5 (replay-before-release); re-authorization	Royalty Calc Officer + Access Auth Officer	All deferred instructions re-authorized; chain_complete
Stale reviewer outputs	DM-REV; outputs	P3: reviewer request log	Stage 4 (stale-output replacement)	Access Auth Officer	Stale-output register

Issue	Degraded Mode / Containment	Evidence Continuity	Replay / Restoration Path	Governance Review	Closure Condition
	annotated				cleared; replacements confirmed
Hold persistence (> 90 days)	Monitored exception if > 180 days	P2: hold records current	Resolution path pursued; annual review minimum	Dispute Governor	Resolution obtained or permanent exception with senior sign-off
Over-degradation (> 5 days)	IC-09; senior management notification	P1 and P2 absolute requirements maintained	Controlled recovery; senior management sign-off on restoration plan	Senior management; supervisory notification consideration	Restoration stages 1–8 complete; IC-09 closed
Offboarding during degraded mode	DM disclosure in OPB Module J.7; conditional transfer	P1 and P2 confirmed before transfer	Receiving custodian runs stages 2 and 5 independently	Both Evidence Infra Operators; receiving custodian	Conditional transfer accepted; inherited obligations acknowledged
Evidence tampering suspected (IC-10)	Full quarantine; forensic bundle	P1: immediate forensic preservation	Forensic replay from preserved state	Senior management; supervisory authority	Forensic investigation complete; chain integrity confirmed or resolved

Worked Scenario Summary Table

Scenario	Degraded Mode	Incident Class	Severity	Key Evidence	Closure
Z.14.1 Manifest backlog	DM-META	IC-01	Band III	Temp log; SI-01 results post-restoration	Manifests registered; ASSERTED resolved
Z.14.2 Propagation lag / payout hold	DM-PAY + DM-PROP	IC-07	Band III–IV	Propagation records; dual-auth for deferred	Propagation confirmed; stage 5 complete
Z.14.3 Replay queue saturation	DM-REPLAY	IC-05	Band III	Prioritized queue; Band 4+ for disputes	Queue Normal; all disputes replay-capable
Z.14.4 Supersession lag + stale calc	DM-PROP	IC-07 + BR-W04	Band III–IV	Corrective calculation; adjustment lineage	Corrective cycle finalized; BR-W04 closed
Z.14.5 Degraded reviewer output	DM-REV	IC-04	Band II–III	Stale-output register; 17	Stage 4 complete; register cleared

Scenario	Degraded Mode	Incident Class	Severity	Key Evidence	Closure
				replacements	
Z.14.6 Offboarding vs. replay backlog	DM-REPLAY	IC-05 + IC-08	Band III	Replay bands for OPB scope; FRP complete	Conditional offboarding on target

Appendix AA — Applied Operational Scenarios and Benefit Realization Across Voice, Image, Film, Music, and Synthetic Media Workflows

Document: Global Authenticity, Consent, and Royalty Infrastructure for Voice, Image, Film, Music, and Synthetic Media **Section:** Appendix AA (Non-Normative) **Version:** 1.0 **Status:** Examiner-Ready Draft

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AA.0 Purpose and Reader Orientation

AA.0.1 Core Thesis

> "The practical value of this framework lies in converting authenticity, consent, lineage, rights-state, and royalty questions from informal, fragmented, and often non-replayable assertions into operationally evidenced, reviewable, and correction-ready workflows. The benefit is not abstraction for its own sake, but improved clarity, containment, payout integrity, reviewer usability, and cross-workflow continuity."

AA.0.2 Secondary Thesis

> "These scenarios do not attempt to resolve legal or commercial questions by decree. They show how institutions can reduce ambiguity, preserve evidence, support bounded review, improve reconciliation, and handle disputes or corrections more safely and consistently across media workflows that are increasingly affected by synthetic generation, derivative transformation, and fragmented monetization."

AA.0.3 Why This Appendix Exists

The main framework establishes evidence disciplines, state taxonomies, access-tier models, and reconciliation procedures. This appendix translates those constructs into concrete operational workflows. Each scenario demonstrates how the framework changes what evidence is generated, how review is conducted, how disputes are contained, how royalties are linked to correct canonical states, and what practical benefit results compared to fragmented or informal workflow assumptions.

Practical scenarios improve institutional usability by showing operational teams not only what the framework requires, but what it produces — in terms of artifacts, reviewer outputs, dispute-containment paths, and payout integrity — across the full range of media workflow types the framework is designed to serve.

AA.0.4 What This Appendix Is and Is Not

This appendix IS:

- an applied operational reference using realistic, fictional scenarios to demonstrate framework value;
- a benefit-realization reference for reviewers, auditors, institutions, governance operators, finance operators, and supervisory readers;

- grounded in the evidence-pack, EP Delta, chain-of-custody, canonical-state, tiered-access, and reconciliation disciplines of the main framework.

This appendix IS NOT:

- marketing collateral, a product brochure, or an industry commentary piece;
- a legal analysis, a copyright treatise, or a contractual guidance document;
- a narrative case study based on real productions, artists, or companies;
- a speculative essay about the future of AI in creative industries.

AA.1 How to Read the Scenarios

Each scenario in this appendix is structured around nine operational elements:

Element	Description
Operational context	The media domain, workflow type, and parties involved (fictional)
Pre-framework friction	The ambiguity, gap, or risk that exists without the framework's controls
Workflow actors and roles	The role classes operating in the scenario
Core states involved	The canonical, consent, lineage, rights, or royalty states at issue
Evidence and artifacts generated	The specific artifacts produced by the framework during the workflow
Reviewer-safe outputs	What a bounded reviewer can confirm without full raw disclosure
Break / dispute / ambiguity point	Where the workflow encounters friction, a break, or a dispute
Containment / replay / correction path	How the framework responds non-destructively
Practical benefits realized	The concrete operational improvement over fragmented alternatives

Each scenario includes at least one friction point, dispute risk, or ambiguity requiring a governed response. Scenarios are not "happy path" illustrations only.

AA.2 Scenario Design Principles

AA.2.1 Scenario Design Principles Table

Principle	Description	Operational Implication
Realistic but fictional	Scenarios use fictional names, works, and parties; all details are plausible but not based on real entities	No real company, artist, production, or platform is named or implied
Cross-medium portability	Each scenario applies to a specific medium but uses constructs that transfer across voice, image, film, and music	Framework vocabulary is consistent; scenarios differ in workflow specifics only

Principle	Description	Operational Implication
Institution-safe	Scenarios avoid sensitive commercial detail, legal conclusions, and exploit-enabling specifics	Suitable for institutional review, examiner use, and supervisory reference
Bounded and implementation-agnostic	No specific technology, platform, or vendor is assumed	Scenarios describe operational logic, not system architecture
Evidence-first	Every workflow step is anchored in an evidence artifact, log entry, or manifest update	Operational state is confirmed by evidence, not assertion
Reviewer-aware	Each scenario includes a reviewer-safe output showing what a bounded reviewer can confirm	Tiered access discipline is applied throughout
Reconciliation-aware	Each scenario identifies where reconciliation is triggered and what it produces	Break taxonomy from Appendix C is referenced where applicable
Payout-aware	Scenarios involving royalty or settlement explicitly link calculation to canonical state	Payout integrity depends on correct version binding
Correction-ready	Each scenario includes a path for EP Delta issuance and post-correction review	Non-destructive correction discipline is applied throughout

AA.2.2 Operational Scope Clarification

Scenarios show how operational controls are activated and what benefits result. They do not:

- determine rights ownership or authorship in a legal sense;
- resolve commercial disputes by designating a "winner";
- make determinations about fair use, infringement, or liability;
- predict how any specific institution will implement the framework.

AA.3 Applied Scenario 1 — Band / Music Release, Remix, and Royalty Rebinding

AA.3.1 Operational Context

A four-member band releases a studio album track as a canonical release (CS-02). The track is made available for licensed remix use; a third-party producer creates an authorized derivative remix (CS-04). Both the original and the remix are distributed commercially. Royalties are calculated on a per-stream basis for each version. Six months after initial release, the band's management identifies that the remix's contribution-chain split is incorrect — one contributing session musician was omitted from the split schedule at the time of the remix authorization.

AA.3.2 Pre-Framework Friction

Without the framework, the royalty split error may go undetected until a party files a formal complaint. The calculation artifact may not be replayable from its inputs. The session musician's contribution may be undocumented. The remix lineage chain may not link explicitly to the

canonical source. The correction process may require renegotiation of contracts rather than an operationally governed correction workflow.

AA.3.3 Scenario 1 Workflow Table

Step	Action	Artifacts Generated	State Class
1. Canonical release	Band authorizes official release; release authority sign-off	Canonical manifest, release authorization record, EP Delta (release event)	CS-02
2. Stem authorization	Band authorizes stem elements for licensed remix use	Stem release records, transformation authorization scope definition	CS-01 (stems)
3. Derivative remix	Producer creates authorized remix; transformation event logged	Transformation event log, derivative lineage record, CS-04 designation	CS-04
4. Usage evidence	Streaming usage events logged for both CS-02 and CS-04	Usage event log (by version ID, channel, period)	Active usage
5. Royalty calculation	Split calculated for CS-04 per contribution-chain record	Calculation artifact, split record, rate-schedule reference	Calculation
6. Split error detected	Reconciliation identifies session musician absent from CS-04 split	Break record ROY-005, RCH-003	Unresolved
7. Payout hold	Payout instruction for CS-04 suspended	Hold record, break reference	Held
8. Investigation	Contribution chain reviewed; session musician's role confirmed	Contribution evidence, session agreement reference	Investigation
9. Corrective EP Delta	Split corrected; EP Delta issued; prior split → CS-10 (archival)	Corrective EP Delta, updated split record, corrected calculation artifact	CS-12
10. Payout rebinding	Payout instruction reissued based on corrected calculation	Corrected payout instruction, settlement confirmation	Corrected
11. Post-correction review	Independent officer confirms correction; EP Delta chain complete	Post-correction review record	Closed

AA.3.4 Break and Containment Summary

Break ID	Description	Containment	Resolution
ROY-005	Split allocation does not match contribution chain	Payout hold	Corrective EP Delta; split updated
RCH-003	Contributor in royalty record absent from contribution chain	Investigation assigned	Contribution confirmed; split corrected

AA.3.5 Reviewer-Safe Output — Scenario 1

A bounded reviewer confirming the corrected payout state would receive:

- **Version confirmed as operative:** CS-12 (Corrected current-reference) — remix version, effective date of correction

- **Split allocation status:** Corrected; prior split preserved as CS-10
- **Payout instruction status:** Reissued; references CS-12 calculation artifact
- **Settlement confirmation:** Present; linked to corrected instruction
- **Session musician inclusion:** Confirmed in corrected split; effective date documented
- **Prior state:** Preserved; accessible for audit; not operationally current

Excludes: exact royalty amounts, commercial rate terms, individual payout recipient details.

AA.3.6 Practical Benefits Realized

Benefit	Before Framework	After Framework
Split error detectability	Requires complaint or manual audit	Detected at reconciliation via contribution-chain cross-check
Correction traceability	Informal renegotiation; no replay	EP Delta chain; prior state preserved; replay confirmed
Payout integrity	Payout may have proceeded on incorrect split	Hold applied before payout; corrected before settlement
Reviewer verification	Opaque; requires full disclosure	Bounded output confirms correction without commercial terms

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AA.4 Applied Scenario 2 — Actor / Audiovisual Promotion with Scoped Voice and Image Use

AA.4.1 Operational Context

A performer licenses their voice and image for promotional use in connection with a theatrical release. The consent record authorizes use in digital promotional trailers for a defined territory and a 180-day window. During production, a synthetic voice extension is applied to create an alternative language trailer. The synthetic extension is not covered by the original consent record. The alternative-language trailer is released in additional territories beyond the original consent scope.

AA.4.2 Pre-Framework Friction

Without the framework, the scope exceedance may not be detected until the performer or their representative identifies it in external distribution channels. There is no systematic mechanism for checking whether a synthetic extension required a supplementary consent record. Territory exceedance is not automatically flagged. The original consent record's scope may have been interpreted informally as covering all language variants.

AA.4.3 Scenario 2 Workflow Table

Step	Action	Artifacts Generated	State Class
1. Consent record	Performer authorizes voice and image use; scope defined	Consent record (territory: X, duration: 180 days, medium: digital promotional, purpose: theatrical promotion)	Active consent
2. Canonical promo object	Official promotional trailer designated as CS-06	Promotional authorization record, CS-06 manifest entry	CS-06
3. Synthetic	AI voice synthesis applied for	Transformation event log (AI	CS-04 attempted

Step	Action	Artifacts Generated	State Class
extension	alternative-language trailer	synthesis type); no synthetic-use consent addendum	
4. Territory exceedance	Alternative-language trailer distributed beyond consent territory	Distribution record with additional territory fields	Out-of-scope
5. Scope break detected	Reconciliation flags CON-003-SY and CON-003-T	Break records CON-008, CON-011	Unresolved
6. Hold applied	Distribution restriction flag on alternative-language trailer	Hold record, break reference	Contained (CS-11)
7. Consent review	Compliance authority reviews consent scope; confirms gap	Investigation record; consent scope fields confirmed insufficient	Investigation
8. Remediation options	Obtain supplementary synthetic-use consent + territory extension, or restrict distribution	Supplementary consent record (if obtained) or termination EP Delta	CS-04 (if authorized) or CS-08
9. EP Delta	Supplementary consent confirmed; CS-04 authorized for additional territory	EP Delta for consent-state update; revised distribution authorization	CS-04
10. Propagation	Distribution systems updated; hold lifted for authorized scope only	Propagation log; distribution record correction	Active
11. Monitoring	Synthetic-use annotation added; recert cadence set for consent renewal	Synthetic-origin annotation, recert schedule	Active with monitoring

AA.4.4 Break and Containment Summary

Break ID	Description	Containment	Resolution
CON-008	Synthetic-use consent gap	Hold on alternative-language trailer	Supplementary consent obtained or distribution terminated
CON-011	Consent territory gap	Distribution restriction for additional territory	Consent scope extended or distribution restricted

AA.4.5 Reviewer-Safe Output — Scenario 2

A bounded reviewer confirming the consent state for the alternative-language trailer:

- **Consent state:** CS-04 (Authorized derivative) — effective date of supplementary consent
- **Synthetic-use coverage:** Confirmed in supplementary consent record
- **Territory coverage:** Extended scope confirmed; prior territory-only restriction documented as CS-10
- **Distribution authorization:** Current scope confirmed; prior out-of-scope distribution period documented
- **EP Delta reference:** Correction event referenced; prior consent state preserved
- **Monitoring status:** Recert cadence active; next review date on file

Excludes: performer identity, exact commercial terms, compensation details.

AA.4.6 Practical Benefits Realized

Benefit	Before Framework	After Framework
Synthetic-use gap detection	May not be detected until external complaint	Detected at reconciliation via synthetic-origin annotation check
Territory exceedance	No systematic check; informal scope interpretation	Distribution record cross-checked against consent scope fields at reconciliation
Consent correction path	Informal renegotiation; unclear effective date	EP Delta with effective date; supplementary consent record; propagation log
Bounded review	Performer identity exposed to confirm scope	Reviewer-safe output confirms scope without performer identification

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AA.5 Applied Scenario 3 — Commercial Image and Likeness Campaign with Regional Distribution Conflict

AA.5.1 Operational Context

A commercial brand licenses an individual's image and likeness for a regional advertising campaign. The rights record specifies a single territory, a 12-month duration, and a digital-channel-only scope. The campaign operator distributes the campaign materials in two additional territories and also runs broadcast advertising using the same assets. Royalty events are accumulated across all territories and channels. At the end of the first quarter, a rights-holder representative identifies the scope exceedance and files a formal dispute.

AA.5.2 Pre-Framework Friction

Without the framework, out-of-scope usage events may be indistinguishable in the usage log from authorized usage events. There is no mechanism to prevent the out-of-scope events from feeding a royalty calculation. The dispute requires the rights-holder representative to demonstrate scope exceedance from fragmented distribution records. Settlement is contested and delayed because the calculation artifact cannot be separated into authorized and unauthorized components.

AA.5.3 Scenario 3 Workflow Table

Step	Action	Artifacts Generated	State Class
1. Rights record	Licensor authorizes image/likeness use; scope defined	Rights record (territory: A, duration: 12 months, channel: digital only, purpose: commercial advertising)	Active rights state
2. Campaign distribution	Campaign operator distributes in territory A (authorized) and territories B and C (unauthorized); broadcast channel added	Distribution record with all territory and channel fields populated	Active — mixed scope
3. Usage event accumulation	Usage events logged across all territories and channels	Usage event log (territory field, channel field, per-event)	Accumulated
4. Royalty calculation	Calculation performed on all usage events including out-of-scope	Calculation artifact (undifferentiated)	Calculation

Step	Action	Artifacts Generated	State Class
5. Scope breaks detected	Reconciliation flags RCH-007 (territory B and C), RCH-008 (broadcast channel)	Break records RCH-007, RCH-008, CON-003-T, CON-003-M	Unresolved
6. Dispute filed	Rights-holder representative files formal dispute	Dispute record, dispute scope definition	CS-09 (disputed)
7. Payout hold	Full payout hold applied pending dispute scope segmentation	Hold record; break references	Held
8. Usage segmentation	Usage events re-categorized by authorized vs. out-of-scope	Segmented usage event log; authorized-scope subset identified	Investigation
9. Corrected calculation	Royalty calculation replayed for authorized scope only	Corrected calculation artifact (authorized events only); out-of-scope events documented	CS-12
10. Partial release	Authorized-scope payout released; out-of-scope amount held	Partial release record; out-of-scope hold maintained	Partial
11. Dispute resolution	Dispute resolved; out-of-scope usage documented; EP Delta	Resolution EP Delta; rights record annotated; out-of-scope amount addressed per resolution	Resolved

AA.5.4 Break and Containment Summary

Break ID	Description	Containment	Resolution
RCH-007	Out-of-scope territory distribution	Distribution restriction; payout hold	Usage segmented; authorized-scope payout released
RCH-008	Out-of-scope channel (broadcast)	Distribution restriction; payout hold	Out-of-scope events documented; resolution per dispute outcome
ROY-010	Out-of-scope usage monetized	Payout hold on full calculation	Corrected calculation for authorized scope; partial release

AA.5.5 Reviewer-Safe Output — Scenario 3

A bounded reviewer confirming the segmented payout state:

- **Authorized-scope usage events:** Confirmed for territory A, digital channel, 12-month period
- **Out-of-scope usage events:** Documented (territory B, C, broadcast); not included in corrected calculation
- **Corrected calculation status:** CS-12; authorized-scope payout released
- **Out-of-scope amount status:** Held; dispute resolution outcome referenced
- **Rights record:** Scope confirmed; no scope extension authorized during period
- **EP Delta:** Resolution event recorded; prior undifferentiated calculation → CS-10

Excludes: exact campaign revenues, out-of-scope amount figure, licensor or licensee identity.

AA.5.6 Practical Benefits Realized

Benefit	Before Framework	After Framework
Out-of-scope usage detection	Requires manual audit of distribution records; may not surface until complaint	Detected at reconciliation via scope-field cross-check
Calculation segmentation	Full calculation must be disputed; authorized portion cannot be released	Authorized and out-of-scope events separated; partial release possible
Dispute evidence	Rights-holder must reconstruct scope exceedance from fragmented records	Usage event log with territory and channel fields provides replay basis
Payout integrity	Entire payout delayed pending dispute resolution	Authorized portion released; disputed portion held; dispute process proceeds on bounded scope

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AA.6 Applied Scenario 4 — Synthetic Dubbing and Transformation with Cross-Domain Review Friction

AA.6.1 Operational Context

An audiovisual production company licenses a film for dubbed distribution in a second language. The dubbing is performed using AI-assisted voice synthesis. The transformation produces an authorized derivative (CS-04) for a defined territory and a defined distribution window. The synthetic transformation is not annotated as AI-generated in the initial distribution metadata. A rights review process in a second jurisdiction, operating under a different review tier, requests access to the lineage record to confirm that the dubbed version is not being treated as a canonical release. The lineage record has a gap at the synthesis step.

AA.6.2 Pre-Framework Friction

Without the framework, the synthetic-origin of the dubbed version may not be discoverable from distribution metadata. A cross-jurisdiction reviewer may have no mechanism to confirm the dubbed version's derivative status without obtaining full access to the underlying production records. The lineage gap at the synthesis step makes it impossible to replay the transformation history. There is no structured path for providing a bounded, portable reviewer output that satisfies both jurisdictions' review requirements.

AA.6.3 Scenario 4 Workflow Table

Step	Action	Artifacts Generated	State Class
1. License and canonical source	Production company licenses dubbed distribution; canonical source designated	Canonical manifest (CS-01 source), licensing record, territory and duration scope	CS-01
2. Transformation authorization	AI-assisted dubbing authorized; transformation scope defined	Transformation authorization record (territory, duration, medium)	Authorization

Step	Action	Artifacts Generated	State Class
3. Synthesis transformation	AI voice synthesis applied; transformation event log created but synthesis step not fully annotated	Transformation event log (gap at synthesis step); CS-04 designated	CS-04 (partial)
4. Distribution metadata gap	Dubbed version distributed without synthetic-origin annotation	Distribution record; no synthetic-origin field populated	Active — incomplete
5. Lineage gap detected	Reconciliation flags LIN-008 (synthetic transformation unlogged) and AUTH-015 (synthetic-origin missing)	Break records LIN-008, AUTH-015	Unresolved
6. Cross-domain review request	Second-jurisdiction reviewer requests lineage confirmation	Review access request; Tier 1 authorization; purpose stated	Access granted — bounded
7. Reviewer-safe output issued	Reviewer receives derivative-status confirmation and available lineage summary; synthesis gap disclosed	Reviewer-safe lineage summary (gap annotated); CS-04 status confirmed	Reviewed
8. Investigation	Production records retrieved to reconstruct synthesis step	Production session logs; synthesis event reconstruction	Investigation
9. Lineage reconstruction	Synthesis step reconstructed and logged; transformation event log updated	EP Delta for lineage update; synthetic-origin annotation added	CS-04 (complete)
10. Post-correction output	Reviewer re-issued complete lineage confirmation	Corrected reviewer-safe output; CS-04 confirmed with complete lineage	Reviewed — complete
11. Portable output	Bounded lineage summary prepared for cross-domain portability	Portable reviewer-safe output package; chain-of-custody record	Portable

AA.6.4 Break and Containment Summary

Break ID	Description	Containment	Resolution
LIN-008	Synthetic transformation unlogged at synthesis step	Lineage flagged; reviewer output annotated with gap	Synthesis step reconstructed; EP Delta issued
AUTH-015	Synthetic-origin annotation absent from distribution metadata	Distribution metadata flagged; annotation required	Synthetic-origin annotation added; metadata corrected

AA.6.5 Reviewer-Safe Output — Scenario 4 (Post-Correction)

A bounded cross-domain reviewer confirming the dubbed version's lineage:

- **Derivative status:** CS-04 (Authorized derivative) — confirmed
- **Parent canonical source:** CS-01 reference confirmed; hash verified
- **Transformation type:** AI-assisted voice synthesis — confirmed; synthetic-origin annotation present
- **Transformation scope:** Territory and duration confirmed within licensing record

- **Lineage chain status:** Complete post-correction; prior gap annotated as EP Delta event
- **Canonical release distinction:** Dubbed version is not CS-02; CS-02 is the original-language version

Excludes: production vendor identities, synthesis model details, commercial rate terms, recipient territory identities.

AA.6.6 Practical Benefits Realized

Benefit	Before Framework	After Framework
Synthetic-origin discoverability	Not discoverable from distribution metadata	Synthetic-origin annotation required; detectable at reconciliation
Cross-domain review	Full production file access required; no bounded path	Reviewer-safe lineage summary issued at Tier 1; synthesis gap disclosed without full disclosure
Lineage gap resolution	Gap may persist indefinitely	EP Delta issued; synthesis step reconstructed; complete lineage confirmed
Canonical vs. derivative distinction	Reviewer cannot confirm without full file access	CS-04 vs. CS-02 distinction confirmed in reviewer-safe output
Portable review output	No structured cross-domain format	Portable reviewer-safe package prepared; chain-of-custody confirmed

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AA.7 Cross-Scenario Benefit Matrix

Benefit Dimension	Scenario 1 (Music)	Scenario 2 (Voice/Image Promo)	Scenario 3 (Campaign)	Scenario 4 (Synthetic Dub)
Authenticity clarity	Canonical source and remix lineage confirmed	Synthetic extension identified; canonical promo confirmed	Campaign asset canonical status clear	CS-01 source confirmed; CS-04 distinguished from CS-02
Consent clarity	Remix authorization confirmed; split scope clear	Synthetic-use gap detected; supplementary consent path available	License scope defined; exceedance detected	Transformation authorization scoped; synthetic-use annotation required
Lineage replayability	Stem-to-remix chain documented; replay possible	Promo-to-synthetic-extension chain documented	Campaign asset chain documented	Synthesis step gap detected and repaired; replay confirmed post-correction
Canonical-state clarity	CS-02 and CS-04 clearly distinguished	CS-06 promo vs. CS-04 synthetic derivative distinguished	CS-02 campaign asset; out-of-scope uses flagged	CS-01 source vs. CS-04 dubbed derivative

Benefit Dimension	Scenario 1 (Music)	Scenario 2 (Voice/Image Promo)	Scenario 3 (Campaign)	Scenario 4 (Synthetic Dub)
				clearly distinguished
Rights-state integrity	Contribution chain confirmed post-correction	Consent scope enforced; supplementary consent obtained	License scope enforced; out-of-scope documented	Transformation authorization scope enforced
Royalty/payout integrity	Split error corrected before settlement	Payout not yet initiated; consent hold prevents premature calculation	Authorized-scope payout released; out-of-scope held	Royalty calculation pending complete lineage; no premature payout
Dispute containment	Contributor dispute avoided by pre-payout correction	No formal dispute; consent gap corrected before escalation	Formal dispute contained; segmented payout enables partial release	No formal dispute; lineage gap corrected before review escalation
Reviewer usability	Bounded split-correction confirmation	Bounded consent-state confirmation	Bounded segmented-payout confirmation	Bounded cross-domain lineage confirmation
Bounded disclosure	Split confirmation without commercial rates	Consent confirmation without performer identity	Payout segmentation without revenue figures	Lineage confirmation without production vendor details
Correction readiness	EP Delta chain complete; replay confirmed	Supplementary consent EP Delta; propagation confirmed	Resolution EP Delta; segmented calculation preserved	Lineage EP Delta; synthetic annotation added
Offboarding/portability	Correction chain fully portable	Consent record portable with supplementary addendum	Segmented calculation portable for audit	Cross-domain portable reviewer output prepared

AA.8 Before / After Operational Comparison

AA.8.1 Before / After Operational Comparison Table

Dimension	Fragmented Legacy-Style Workflow	Framework-Enabled Workflow
Trust assumptions	State assumed valid unless a complaint is filed; no systematic verification	State confirmed by evidence at each workflow step; no silent trust assumption
Artifact availability	Consent, lineage, and split records	All artifacts linked by content-addressed

Dimension	Fragmented Legacy-Style Workflow	Framework-Enabled Workflow
	may be in separate systems with no common schema	manifests; retrievable as an evidence pack
Replayability	Calculation inputs may not be recoverable; recreation is manual and contested	Calculation artifacts include all inputs; replay is defined and reproducible
Dispute handling	Disputes require full disclosure to reconstruct scope; process is slow and adversarial	Disputes trigger bounded review; scope segmentation possible; partial release available
Payout confidence	Payout may proceed on stale, incorrect, or incomplete evidence	Payout linked to confirmed canonical state, current consent, and complete usage evidence
Reviewer access discipline	No structured access tier; reviewer receives all or nothing	Tiered access with purpose limitation, TTL, and post-access review
Correction handling	Corrections may be undocumented or overwrite prior records	Corrections via EP Delta; prior state preserved; correction chain replayable
Portability / handoff readiness	Evidence scattered; handoff requires reconstruction	Evidence pack structured; portable output prepared; chain-of-custody documented
Canonical-state determination	Version status determined informally; conflicts resolved by assertion	Canonical state governed by evidence and authority chain; conflicts resolved by EP Delta
Synthetic-content handling	AI-modified content may be indistinguishable from original in distribution	Synthetic-origin annotation required; transformation event logged; consent addendum checked
Consent TTL enforcement	Consent treated as perpetual unless explicitly challenged	TTL field enforced; pre-expiry signals generated; renewal action trackable
Out-of-scope use detection	Requires manual audit or complaint	Scope-field cross-check at reconciliation; distribution record compared to consent/rights scope

AA.9 Reviewer / Examiner Walkthrough View

AA.9.1 Reviewer / Examiner Walkthrough Matrix

Scenario	Visible at Routine Tier	Requires Escalation	Replay-Sufficient Output	Reference-Only	Post-Access Review Captures
Scenario 1 (Music)	CS-02 canonical status, CS-04 derivative status, correction event reference	Full split amounts, individual contributor identities	Corrective EP Delta chain; version-binding confirmation	Prior-period calculation before correction	Whether reviewer accessed split commercial terms
Scenario 2 (Voice/Image)	CS-06 promo status, CS-04 synthetic derivative status, consent-state	Performer identity, commercial terms of	Consent-state timeline; scope-field confirmation	Prior consent record (pre-supplementary)	Whether reviewer accessed performer identification

Scenario	Visible at Routine Tier	Requires Escalation	Replay-Sufficient Output	Reference-Only	Post-Access Review Captures
	update reference	consent			
Scenario 3 (Campaign)	Rights record scope summary, segmented usage count (authorized vs. out-of-scope), partial release status	Exact usage revenue, licensor/licensee identity	Usage segmentation log; authorized-scope calculation replay	Undifferentiated prior calculation	Whether reviewer accessed revenue figures beyond scope
Scenario 4 (Synthetic Dub)	CS-01 source hash, CS-04 derivative status, synthetic-origin annotation, lineage chain summary	Production vendor identity, synthesis technical parameters	Lineage chain from CS-01 to CS-04; gap-and-repair EP Delta	Transformation event log before correction	Whether reviewer accessed synthesis technical detail beyond scope

AA.9.2 Reviewer Value Summary

The framework creates reviewer value by:

1. **Reducing disclosure burden:** Reviewers confirm state without requiring full raw file access. Bounded outputs answer the review question without disclosing commercial or identity-sensitive data.
2. **Enabling temporal precision:** Reviewers can confirm what state was operative at a specific past timestamp, not just what the current state is.
3. **Making corrections traceable:** EP Delta chains allow reviewers to confirm that a correction occurred, when it occurred, who authorized it, and what the prior state was — without requiring reconstruction from memory or informal records.
4. **Supporting cross-domain portability:** Portable reviewer-safe outputs allow a second-jurisdiction review without requiring full bilateral disclosure.

AA.10 Break, Containment, and Correction Summary

AA.10.1 Break / Containment / Correction Matrix

Scenario	Main Break / Ambiguity	Containment Triggered	Evidence Preserved	Replay / Re-Reconciliation	Correction / Rebinding	Practical Benefit
S1 Music	Split allocation error (ROY-005)	Payout hold	Calculation artifact, contribution-chain record	Calculation replayed with corrected split	EP Delta; corrected payout instruction issued	Payout integrity preserved; session musician correctly included
S2 Voice/Image	Synthetic-use consent gap (CON-008); territory gap (CON-011)	Distribution restriction on alternative-language trailer	Consent record, distribution record, synthetic event log	Consent-state timeline replayed; scope fields confirmed	Supplementary consent EP Delta; propagation confirmed	Unauthorized synthetic use contained before payout; scope corrected
S3 Campaign	Out-of-scope territory and	Payout hold; dispute filed	Usage event log (all	Usage segmentation;	Resolution EP Delta; segmented	Authorized payout not blocked by

Scenario	Main Break / Ambiguity	Containment Triggered	Evidence Preserved	Replay / Re-Reconciliation	Correction / Rebinding	Practical Benefit
	channel use (RCH-007, RCH-008)	(CS-09)	territories/channels), rights record	authorized-scope calculation replayed	payout released	disputed portion; evidence-based dispute
S4 Synthetic Dub	Lineage gap at synthesis step (LIN-008); annotation absent (AUTH-015)	Lineage flagged; reviewer output annotated	Transformation event log, distribution metadata, production session logs	Synthesis step reconstructed; lineage replayed post-correction	Lineage EP Delta; synthetic-origin annotation added	Cross-domain reviewer receives complete bounded output; canonical/derivative distinction confirmed

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AA.11 Practical Benefit Realization by Stakeholder Type

AA.11.1 Stakeholder Benefit Matrix

Stakeholder Type	Practical Benefit	Operational Mechanism
Creators / performers or their representatives	Consent scope enforced without reliance on complaint-driven detection; split corrections available before settlement	Consent scope fields checked at reconciliation; contribution-chain cross-check triggers pre-payout investigation
Rights-holders	Out-of-scope use detected and documented; rights state enforced operationally	Rights record scope fields cross-checked against distribution and usage records at each reconciliation cycle
Finance / payout operators	Payout held before release on incorrect evidence; partial release possible for undisputed portion	Payout hold triggered by break detection; segmented calculation enables partial release; EP Delta documents correction basis
Governance operators	Override and correction authority is documented, distributed, and replayable	Multi-party authorization for corrections; EP Delta chain; no master key posture; override register maintained
Dispute-handling teams	Dispute scope is bounded; evidence is pre-structured for reconstruction; partial resolution is possible	Break taxonomy provides dispute classification; usage segmentation supports partial release; dispute resolution EP Delta
Reviewers / auditors	Bounded access sufficient for most review purposes; tiered access prevents over-disclosure	Reviewer-safe outputs at Tier 1; Tier 2 for formal examination; post-access review confirms scope compliance
Supervisory readers / examiners	Examiner-ready evidence packs; replayable state history; correction chains documented	Evidence pack architecture; EP Delta chain; immutable log; preservation bundles; chain-of-custody record

AA.11.2 Cross-Stakeholder Note

Benefits are not exclusive to any single stakeholder type. A governance operator benefit (documented correction authority) also benefits dispute-handling teams (correction is replayable) and examiners (correction chain is auditable). The framework's interconnected disciplines create compounding benefit across stakeholders.

AA.12 Minimal Adoption Pathways

AA.12.1 Minimal Adoption Pathway Table

Phase	Scope	Key Artifacts Introduced	Benefit at This Phase
Phase 1	Authenticity + canonical-state	Canonical manifest, content-addressed hash, origin assertion, version-state record	Canonical vs. derivative distinction; hash-verified source; official release clarity
Phase 2	Consent and scope controls	Consent record with TTL and scope fields, revocation register, EP Delta for consent changes	Consent-state enforcement; scope exceedance detection; pre-expiry signals
Phase 3	Lineage and transformation	Transformation event log, synthetic-origin annotation, lineage chain record, derivation authorization	Lineage replayability; synthetic-use identification; derivative vs. canonical distinction
Phase 4	Royalty and payout linkage	Usage event log, calculation artifact, split record, payout instruction, settlement confirmation	Payout integrity; calculation replay; split cross-check; pre-payout break detection
Phase 5	Bounded reviewer outputs	Tiered access model, reviewer-safe output templates, post-access review records	Reviewer usability without full disclosure; cross-domain portability; audit discipline
Phase 6	Portability and offboarding	Offboarding proof bundle, final canonical-state snapshot, portable evidence set, open-break disclosure	Clean handoff; no integrity loss; unresolved state disclosed; post-offboarding monitoring

AA.12.2 Incremental Adoption Principles

- Each phase delivers standalone operational benefit without requiring the next phase to be implemented simultaneously.
- Later phases build on earlier ones; the artifact vocabulary is consistent across phases.
- Institutions may implement phases non-sequentially based on their most acute operational need — for example, beginning with royalty/payout linkage (Phase 4) if payout integrity is the primary concern, and backfilling consent controls (Phase 2) thereafter.
- No phase requires a complete system rebuild; each phase can be implemented as an additive layer on existing workflow infrastructure.

AA.13 Worked Mini-Outputs and Artifact Snapshots

AA.13.1 Worked Output Snapshot Table

Output Type	Contents	Excludes	Scenario Reference
Authenticity confirmation	Canonical state class, content-address hash match, effective date, authority role	Raw artifact contents, commercial release terms	S1, S4
Consent-state confirmation	Consent record reference, scope fields (territory, duration, medium, purpose), TTL status, synthetic-use coverage	Performer identity, exact compensation terms	S2
Lineage replay summary	Transformation chain summary (source → transformation type → derivative), EP Delta reference for any gaps	Production vendor identity, synthesis technical parameters	S4
Payout hold discrepancy output	Break ID, affected calculation period, hold scope, segmented authorized/out-of-scope amounts (as confirmed/not-confirmed), partial release status	Exact revenue figures, individual payout recipients	S3
Correction / EP Delta summary	Prior state description, corrected state description, authorizing officers (roles only), effective date, downstream rebinding status	Commercial terms, officer identities	S1, S2, S3, S4
Offboarding / handoff reference	Final canonical-state class, supersession chain summary, open break register (count and severity), portable evidence set scope, unresolved state disclosure	Full evidence pack contents, commercial terms	Post-scenario portability

AA.13.2 Illustrative Reviewer-Safe Authenticity Confirmation Output

```
AUTHENTICITY CONFIRMATION — REVIEWER-SAFE OUTPUT

Artifact Reference: [Artifact ID]

Review Date: [Date]

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Canonical State Class: CS-02 (Canonical release)

Content-Address Hash: VERIFIED (hash matches canonical manifest entry)

Effective Date: [Release date]

Authority Confirmation: Designated release authority sign-off confirmed (role
reference only)

Supersession Status: No supersession recorded as of review date

EP Delta Chain: No correction EP Delta issued; initial designation operative

Synthetic-Origin Annotation: Not applicable (original performance)

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REVIEWER NOTE: This output confirms canonical state as of the review date.
```

It does not confirm rights ownership, commercial terms, or authorship in a legal sense.

AA.13.3 Illustrative Consent-State Confirmation Output

CONSENT-STATE CONFIRMATION — REVIEWER-SAFE OUTPUT

Artifact Reference: [Artifact ID]

Consent Record Reference: [Record ID]

Review Date: [Date]

Consent State: Active (within validity period)

Territory Coverage: Confirmed for declared distribution territory

Duration: Valid through [expiry date] — [N] days remaining

Medium Coverage: Digital promotional channels — confirmed

Purpose Coverage: Theatrical promotion — confirmed

Synthetic-Use Coverage: Confirmed in supplementary consent record (effective [date])

Revocation Status: No revocation recorded

TTL Signal: No pre-expiry alert active

EP Delta: Supplementary consent EP Delta referenced — prior scope preserved as CS-10

REVIEWER NOTE: This output confirms consent state for the declared use scope.

It does not disclose performer identity, compensation terms, or underlying contract details.

AA.13.4 Illustrative Payout Hold Discrepancy Output

PAYOUT HOLD DISCREPANCY — REVIEWER-SAFE OUTPUT

Calculation Period: [Quarter/Year]

Artifact Reference: [Calculation Artifact ID]

Break ID(s): RCH-007, RCH-008, ROY-010

Hold Scope: Full payout instruction suspended pending usage segmentation

Authorized-Scope Events: Confirmed (territory A, digital channel, 12-month period)

Out-of-Scope Events: Documented (territories B and C, broadcast channel)

Corrected Calculation Status: CS-12 — authorized-scope only

Partial Release Status: Authorized-scope payout released; out-of-scope amount held

```
Dispute Status: Dispute resolution EP Delta issued; resolution outcome
referenced

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REVIEWER NOTE: This output confirms payout segmentation basis.

Exact revenue figures and individual payout amounts are not included in this
output.
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AA.14 Reader Action Map

AA.14.1 Reader Action Map Table

Scenario Type	Likely Ambiguity	Minimum Control Set	Containment / Replay Path	Practical Benefit Outcome
Music release with remix and split	Split allocation error; version binding in calculation	Contribution chain, split record, calculation artifact, EP Delta	Payout hold → recalculation → corrective EP Delta → rebinding	Payout integrity confirmed; contributor correctly included; correction replayable
Voice/image promotional use with synthetic extension	Synthetic-use consent gap; territory exceedance	Consent record with scope fields, synthetic-origin annotation, supplementary consent path	Distribution restriction → consent review → supplementary consent EP Delta → propagation	Unauthorized synthetic use contained; scope corrected before escalation
Commercial campaign with regional distribution conflict	Out-of-scope territory and channel; undifferentiated calculation	Rights record scope fields, usage event log with territory/channel, segmentation capability	Payout hold → usage segmentation → partial release → resolution EP Delta	Authorized payout released; disputed portion held; dispute evidence pre-structured
Synthetic dubbing with lineage gap	Synthesis step unlogged; synthetic-origin annotation absent	Transformation event log, synthetic-origin annotation, lineage chain	Lineage flagged → production records retrieved → EP Delta → synthetic-origin added	Cross-domain reviewer receives complete bounded output; lineage confirmed
Archival object in active distribution	CS-10 treated as CS-02; stale state binding	Canonical manifest, version-state record, EP Delta chain	Distribution restriction → state confirmation → reclassification EP Delta	Active distribution rebound to correct canonical state
Royalty payout before reconciliation closure	Premature finalization; unmatched usage events	Usage event log, calculation artifact, finality record	Payout hold → usage matching completed → corrected finality record	Payout confirmed complete and accurate before settlement
Expired consent in active use	TTL exceeded; active distribution	Consent TTL field, revocation register, pre-expiry signal	Hold-only containment → renewal or termination → EP	Distribution and payout not proceeding on

Scenario Type	Likely Ambiguity	Minimum Control Set	Containment / Replay Path	Practical Benefit Outcome
	continues	log	Delta	expired authorization
Offboarding with open breaks	Open breaks undisclosed; portable evidence incomplete	Open break register, final reconciliation report, offboarding proof bundle	Offboarding suspended → breaks addressed → bundle completed → attestation	Clean handoff; unresolved states disclosed; post-offboarding monitoring assigned
Cross-domain review of derivative	Canonical vs. derivative distinction unclear; synthesis details withheld	Lineage record, CS-04 designation, reviewer-safe output template	Tier 1 review → bounded lineage summary → post-access review	Reviewer confirms derivative status without full production file access
Override without rationale	Governance control bypassed; prior state unclear	Override record, pre-override snapshot, multi-party ratification	Override suspended → ratification → full EP Delta issued	Governance integrity confirmed; override replayable and auditable

References and Supporting Materials

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1. Primary Baselines and SEC Submissions

- **Baseline A:** Ownership Integrity Reconciliation Pack for Tokenized Securities. This baseline encompasses the *Polaris* regulatory and technical framework submitted to the U.S. Securities and Exchange Commission (SEC).
- **Baseline B:** SEC Submission - Operationalization Track. This baseline integrates the *KPP* regulatory governance framework.
- **Baseline C:** FCCK Pilot Operational Assurance Artifacts Addendum. Technical assurance framework and chain-of-custody discipline submitted to the SEC.
- **Baseline D:** Payments and Settlement Operating Model. This baseline incorporates the *PQFIF* operational and settlement infrastructure.
- **Baseline E:** ZKP Programmable Privacy Framework. Privacy-preserving cryptographic standard for institutional and regulatory bounded verification.

2. Technical Standards and Cryptographic Protocols

- **FIPS 180-4:** Secure Hash Standard (SHS). Defines the SHA-256 algorithm utilized for content-addressed manifests and immutable evidence hashing throughout the infrastructure.
- **ISO 8601:** Data elements and interchange formats – Information interchange – Representation of dates and times. Utilized for all tamper-evident timestamping across Evidence Packs (EP) and event logs.
- **ISO 4217:** Codes for the representation of currencies. Utilized for royalty payment instructions, variance calculations, and settlement confirmation records.
- **C2PA Specification:** Coalition for Content Provenance and Authenticity. Supporting standard for media provenance, transformation event logging, and origin assertions.

3. Industry Identifiers

- **ISRC & ISWC:** International Standard Recording Code and International Standard Musical Work Code. Standard identifiers for sound recordings and musical compositions.
- **ISAN & EIDR:** International Standard Audiovisual Number and Entertainment Identifier Registry. Global tracking identifiers for film and audiovisual media assets.

4. Governance and Regulatory Context

- **U.S. Securities and Exchange Commission (SEC):** Regulatory guidelines and operational tracks regarding Tokenized Securities, Institutional Review, and Bounded Verification Standards.

- **WIPO (World Intellectual Property Organization):** Good Practice Toolkit for Collective Management Organizations (CMOs) regarding transparent royalty calculations, split allocations, and dispute resolutions.