

Comment on Preparations for 24 Hour Trading

Governance Conditions for Continuous Automated and AI Enabled Market Operation

To Securities and Exchange Commission

Re File No. 4-913 Roundtable on Preparations for 24-Hour Trading

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Date September 16, 2026

Submitter Identity

Operation Citizen is public-interest civic accountability infrastructure that organizes, analyzes, and translates public records and publicly available institutional information into tools for public participation. In this comment, Operation Citizen provides research synthesis, audit framing, civic translation, and policy recommendations. The government and institutional sources cited below remain the underlying authorities.

Summary

Operation Citizen recommends that the Commission condition any material expansion of overnight equity trading on demonstrated readiness across trading, surveillance, market data, clearing, accounting, valuation, and recovery systems. Extended trading can improve access, responsiveness, hedging, and price discovery, but it also increases dependence on automated and AI-enabled functions during periods of reduced staffing and thinner liquidity.

The central issue is sequencing. Continuous market operation should not expand faster than the governance and accountability infrastructure required to control it. Market participants should establish and test authority boundaries, automated limits, accounting cutoffs, timestamp standards, failover procedures, human escalation, and reconstructable event evidence before those systems are placed under continuous operating demands.

Twenty-four-hour trading is not itself evidence that every participating system uses artificial intelligence. The relevant fact is that near-continuous operation will increase reliance on automated execution, surveillance, reconciliation, accounting, allocation, valuation, exception management, and recovery. Those functions can materially affect prices, customer positions, fund NAVs, regulatory reports, and the ability to correct an error.

Operation Citizen does not recommend a permanent prohibition on extended trading. It recommends a phased implementation in which availability expands only after participants produce evidence that the proposed operating state is bounded, supervised, stoppable, recoverable, and auditable.

Market Benefits and Operating Risks

Near-continuous trading can benefit investors who need to respond to international events, earnings announcements, economic developments, and movements in overseas markets. Institutions can hedge exposures across time zones, coordinate equity transactions with futures and currencies, rebalance portfolios over longer periods, and serve investors whose normal business hours do not align with the United States regular session.

The demand is real but remains uneven. The SEC staff memorandum dated September 10, 2026 reports that overnight trading represented approximately 0.9 percent of total NMS share volume during August 2026. Average daily overnight volume increased 359 percent from the prior year, but trading remained concentrated. The ten most active securities accounted for 43.4 percent of overnight share volume, compared with 10.3 percent during regular trading hours. Foreign accounts represented approximately 37 percent of overnight share volume.

The same study found that a meaningful portion of overnight activity occurred during the 8:00 p.m. to 9:00 p.m. period expected to serve as a maintenance window for securities information processors and trade reporting facilities. This overlap illustrates the need to treat market data, reporting, maintenance, and recovery as part of the continuous-market design rather than as separate technical matters.

Current overnight trading also differs structurally from extending the operating hours of a national securities exchange. Much of today's overnight activity is conducted through broker 24-hour products routed to alternative trading systems rather than through the primary listing exchanges. Extending national-exchange hours would bring primary-listing functions, securities information processor and trade-reporting coverage, quotation protection under the current Rule 611 framework or any successor regime, limit-up and limit-down controls, circuit breakers, official-price governance, and cross-market surveillance into the overnight period. The Commission should evaluate those interdependencies separately from the operation of an individual alternative trading system.

An available market is not necessarily a liquid or reliable market. Overnight participants may encounter wider spreads, concentrated activity, fragmented prices, fewer market makers, and reduced operational support. Expansion should therefore be measured against the quality and resilience of the full operating environment, not only the number of hours during which orders can be entered.

Increased Dependence on Automation and AI

A market that operates almost continuously must receive orders, determine prices, monitor conduct, process allocations, maintain books and records, calculate exposure, reconcile positions, manage collateral, and recover from failures throughout the operating cycle. Each function is already substantially automated. Longer operating hours will increase incentives to automate work that cannot be staffed at daytime levels around the clock.

The resulting control problem is not limited to systems that malfunction. An automated system may operate according to its specifications while relying on erroneous data, applying an unsuitable objective, exceeding an appropriate authority boundary, or interacting with other systems in ways that produce harmful collective behavior. By the time a human recognizes the result, trades, allocations, margin changes, or price effects may already have propagated across venues and intermediaries.

Governance should therefore address both error and authorized harmful behavior. A participant should be able to establish which system acted, what version was operating, which data and limits applied, what authority had been delegated, which warnings or exceptions were generated, who received them, and what action followed.

Descriptions such as algorithmic, machine learning, predictive, or agentic should not determine whether a control applies. The control should follow the authority and consequence of the system. A deterministic router capable of generating market-wide exposure may require stronger safeguards than a low-consequence analytical model.

Accounting and Valuation Boundaries

Continuous trading does not eliminate accounting periods. It makes their definition more important. In the existing market, the close of regular trading serves as a price-setting event, a reconciliation point, a trade-date boundary, and an anchor for fund valuation, corporate actions, and regulatory reporting. A near-continuous market must reproduce those functions through explicit rules and system states.

The end of day should become a defined accounting and valuation checkpoint rather than an inference drawn from the absence of trading. Market participants need an authoritative business-date rollover, official closing-price state, position and cash snapshot, accrual cutoff, corporate-action boundary, margin period, reconciliation period, NAV measurement time, and maintenance window.

A transaction executed at 2:00 a.m. must belong unambiguously to a trade date, settlement cycle, accounting period, tax lot, NAV cycle, and corporate-action state. Exchanges, brokers, clearing agencies, custodians, fund accountants, transfer agents, pricing services, and regulators must reach the same result. A continuous market cannot operate safely if each system assigns the same event to a different period.

Timestamp architecture must support that result. Records should distinguish when an order was received, accepted, routed, executed, published, reported, accepted for clearing, booked, corrected, or cancelled. Systems should use synchronized clocks, a canonical UTC representation, persistent event and session identifiers, sequence information when events share a timestamp, and immutable correction histories.

The Consolidated Audit Trail already provides a regulatory baseline. Industry Member business clocks generally must be synchronized to within 50 milliseconds of the National Institute of Standards and Technology time source, while CAT Participants generally operate under a 100-microsecond standard, subject to specified exceptions. Timestamp granularity is a separate requirement and must reflect the precision captured by the reporting system. Continuous operation should preserve CAT-consistent synchronization, monitoring, certification, deviation records, and event traceability throughout the extended session.

The SEC staff memorandum assigns executions to analytical sessions using the execution timestamp rather than later publication, reporting, or processing timestamps. It also uses an 8:00 p.m. to 8:00 p.m. modified trade date while explaining that the convention does not establish an operational trading phase. A live continuous market requires the next step: an authoritative operating convention that governs accounting, settlement, valuation, and recovery across institutions.

Those boundaries must also interlock with T+1 settlement and NSCC processing. NSCC's Universal Trade Capture service operates from Sunday at 8:00 p.m. through Friday at 8:00 p.m. Eastern Time and can accept next-trade-date activity after the 8:00 p.m. boundary. Its approximately midnight Good Night message is a processing event, not a substitute for trade-date designation. The Commission should require consistent mapping among venue trade date, CAT event date, the clearing business date communicated to NSCC, settlement date, corporate-action eligibility, fund books and records, and later corrections or cancellations. CNS, margin, and other batch cycles remain separate operational interlocks within the continuous week.

Mutual Fund NAV and Prospectus Implications

Registered mutual funds generally calculate NAV at least once each business day at a time established by the fund's board. Purchases and redemptions receive the next NAV calculated after the order is received. Most funds calculate NAV at or near the scheduled 4:00 p.m. close of regular trading, although the governing rules do not require that particular hour.

Extended trading does not require a mutual fund to calculate NAV continuously. A fund may continue to strike one NAV as of 4:00 p.m. Eastern Time. Market movements occurring afterward would ordinarily affect the next NAV rather than change the NAV already calculated. This approach remains reliable only if the market preserves an authoritative valuation state at the selected measurement time.

Fund accounting and custody systems must identify the applicable market quotation, official closing price, portfolio holdings, liabilities, cash, expenses, corporate actions, and outstanding shares as of that time. Rule 2a-4 also requires portfolio changes to be reflected no later than the first NAV calculation on the first business day following the trade date. The definition of an overnight trade's business date is therefore a substantive valuation control.

Twenty-four-hour trading does not automatically require a prospectus amendment. If a fund keeps the same NAV time, order cutoff, valuation methodology, and investment strategy, existing disclosure may remain adequate. Funds should nevertheless review language that refers simply to when the New York Stock Exchange closes or to days when it is open. In a 23-hour market, the prospectus should identify the scheduled close of regular trading or state the specific NAV calculation time.

Form N-1A requires a fund to state when NAV is calculated, explain that purchase and redemption orders receive the next calculated NAV, describe fair-value pricing, and disclose principal risks reasonably likely to affect NAV or returns. Updated disclosure may be appropriate if a fund changes its NAV time, order cutoff, pricing source, fair-value practices, or material use of overnight markets, or if overnight liquidity and operational risks become principal risks.

Lessons from Prior Market Failures

Financial market history shows that technical capability and product complexity can expand before institutions and regulators have adequate visibility, authority, and recovery mechanisms. Technology was not the sole cause of the following events, and in some cases rules already existed but were not implemented effectively. The recurring lesson is that safeguards adopted after an incident should be designed and tested before continuous operation increases the consequences of a failure.

1987 Market Crash

Portfolio-insurance strategies used automated and derivative-based trading to respond to declining prices. Individually rational selling instructions contributed to collective feedback loops as losses generated more selling. Structural differences among stock, options, and futures markets, including mismatched clearing arrangements and limited coordinated intervention mechanisms, amplified the disruption. Market-wide circuit breakers were strengthened afterward.

2008 Structured Finance Crisis

Securitization, collateralized debt obligations, credit derivatives, ratings, and quantitative risk models created exposures whose complexity and opacity exceeded many institutions' ability to value and control them. The Financial Crisis Inquiry Commission found that structured finance depended heavily on models and assumptions that failed when housing prices declined and liquidity disappeared. The episode demonstrates the danger of treating model output and product complexity as substitutes for exposure evidence and accountable judgment.

2010 Flash Crash

An automated selling program entered an already volatile market and interacted with fragmented venues and reduced liquidity. Disruption spread across related markets within minutes. The event exposed gaps in cross-market controls and regulatory visibility and led to stronger circuit breakers, limit-up and limit-down protections, and consolidated audit capabilities.

2012 Knight Capital Failure

A defective software deployment caused Knight Capital's automated router to generate millions of orders and more than four million executions in approximately 45 minutes. Knight accumulated billions of dollars in unintended positions and lost approximately \$460 million. The SEC found inadequate deployment testing, aggregate exposure controls, supervisory procedures, and incident response. Internal systems generated 97 warning messages before the market opened, but those messages were not designed or treated as actionable alerts.

2012 Facebook IPO Disruption

Problems with Nasdaq's IPO systems left more than 30,000 Facebook orders stuck for over two hours. Nasdaq officials allowed trading to begin without understanding the root cause of the problem. The failure illustrates that operational governance is as important as software performance. Someone must have clear authority and criteria to delay, pause, or cancel a launch when the system state is uncertain.

2013 Nasdaq Market Data Outage

Failure of the Nasdaq securities information processor halted trading in Nasdaq-listed securities for more than three hours. The outage demonstrated the systemic consequences of a shared market-data dependency. The SEC later adopted Regulation Systems Compliance and Integrity to strengthen the capacity, integrity, resilience, availability, security, corrective action, and incident reporting of critical market infrastructure.

2020 Tokyo Stock Exchange Shutdown

A hardware failure at the Tokyo Stock Exchange was compounded by the failure of an automatic switchover mechanism. All listed cash-equity trading was halted for the day. The postmortem identified technical failures as well as inadequate recovery procedures, unclear restart standards, and missing rules for handling orders.

during a system failure. Failover technology alone did not determine how to restore an authoritative market state.

Minimum Readiness Conditions

Before continuous operation expands, exchanges, broker-dealers, clearing agencies, market-data processors, custodians, fund service providers, and other critical participants should demonstrate compliance with a common readiness framework.

- 1 Operating envelope** Document permitted functions, capacity limits, dependencies, degraded states, data-quality thresholds, and the conditions that require restriction or suspension.
- 2 Authority and escalation** Identify who or what may reject orders, restrict a strategy, stop an automated system, initiate failover, correct an allocation, resume operations, or override an automated decision. Emergency authority must be available during overnight operation.
- 3 Automated exposure limits** Apply order-size, message-rate, position, credit, capital, collateral, price, volatility, concentration, and cumulative exposure limits across accounts and strategies rather than only at the individual-order level.
- 4 Model and software governance** Maintain accountable ownership, documented purpose, approved authority, version history, testing, deployment approval, performance monitoring, rollback capability, and retirement procedures for material automated systems.
- 5 Time and event evidence** Preserve CAT-consistent clock synchronization, monitoring, certification, and deviation evidence for receipt, routing, execution, publication, reporting, clearing, accounting, corrections, and cancellations, with persistent identifiers and immutable revision history.
- 6 Accounting and valuation checkpoints** Establish an official closing price, business-date rollover, NAV measurement state, corporate-action cutoff, and consistent mapping of trade date, clearing business date, settlement date, and transactions or corrections that cross those boundaries.
- 7 Failover and restart** Test recovery with other market participants and predetermine which orders remain valid, how market data are reconciled, how reopening prices are established, and who authorizes the restart.
- 8 Clearing and liquidity capacity** Demonstrate that broker, custodian, clearing, settlement, margin, and collateral systems can sustain the proposed operating period under stressed conditions and remain aligned with T+1, NSCC, CNS, and related batch-processing cycles.
- 9 Human accountability and remedy** Assign identifiable responsibility for approving authority, reviewing performance, responding to exceptions, correcting customer harm, and preserving the evidence required for later investigation or challenge.

Recommended Commission Action

The Commission should establish minimum readiness evidence for expanded overnight operation rather than rely only on representations that a participant is prepared. Relevant evidence includes independent assurance, stress tests, cross-market simulations, failover and restart exercises, system and model inventories, authority matrices, timestamp and reconciliation tests, incident-response exercises, and proof that clearing and settlement services can support the proposed operating state.

The readiness analysis should distinguish today's ATS-centered overnight market from an extension of national-exchange hours. An exchange extension requires coordinated treatment of securities information processor and trade-reporting coverage, quotation protection under the governing order-protection framework, market-wide volatility controls, official-price functions, and cross-market surveillance.

Implementation should be phased. Initial operation may be limited by security type, order type, position size, participant class, or session. Expansion should follow only after operational evidence shows that controls work under overnight conditions and that failures can be contained without creating uncertainty about prices, positions, accounting periods, or customer rights.

The Commission should also distinguish public transparency from protected assurance evidence. Investors should receive clear information about material operating risks and protections. Regulators and authorized independent reviewers should have access to more detailed system, model, security, and incident evidence that cannot safely be published.

This approach permits innovation while placing responsibility on the parties introducing additional operational risk. Participants seeking to operate continuously should demonstrate that they can do so without transferring inadequately governed risk to investors, funds, intermediaries, or the financial system.

Conclusion

Twenty-four-hour trading may improve access, responsiveness, hedging, and price discovery. It will also increase reliance on automated and AI-enabled execution, surveillance, reconciliation, accounting, allocation, valuation, and recovery systems.

The 1987 crash, the structured-finance failures of 2008, the 2010 Flash Crash, Knight Capital, the Nasdaq market-data outage, and the Tokyo Stock Exchange shutdown led to stronger safeguards after disruption exposed a control gap. The Commission can avoid repeating that sequence by requiring operating boundaries, accountable authority, automated limits, valuation checkpoints, timestamp standards, failover procedures, and event evidence before continuous operation expands.

A continuous market should be continuously accountable. Expansion should proceed only when participants can demonstrate that the market state is bounded, supervised, stoppable, recoverable, and reconstructable.

Respectfully submitted,

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AI Assistance Disclosure

This submission was prepared with the assistance of OpenAI's ChatGPT. ChatGPT was used to organize research, identify and compare public sources, develop and revise drafts, and assist with document formatting. Thom Barrett directed the work, supplied and approved the substantive Operation Citizen positions, and accepts responsibility for the final content. ChatGPT is an AI tool, not the submitting party, a legal adviser, or a source of governmental authority. Its use does not imply review, sponsorship, or endorsement by OpenAI.

Sources and Method

The sources below provide the underlying public evidence. Operation Citizen's contribution is synthesis, audit framing, evidence organization, civic translation, and the policy recommendations stated in this comment.

[SEC Roundtable on Preparations for 24-Hour Trading File No. 4-913](#)

[SEC Staff Memorandum on Overnight Trading September 10, 2026](#)

[CAT NMS Plan Clock Synchronization Requirements](#)

[CAT NMS Plan Timestamp Granularity Requirements](#)

[SEC T+1 Settlement Cycle Frequently Asked Questions](#)

[DTCC NSCC Universal Trade Capture 24x5 Processing FAQs](#)

[DTCC NSCC Extended Clearing Hours Announcement June 29, 2026](#)

[SEC Alternative Trading System Information](#)

[SEC Proposed Rescission of Regulation NMS Rule 611](#)

[SEC Fund Valuation Requirements and Guidance](#)

[17 CFR 270.2a-4 Definition of Current Net Asset Value](#)

[SEC Form N-1A](#)

[Federal Reserve History Stock Market Crash of 1987](#)

[Financial Crisis Inquiry Commission Report](#)

[CFTC Statement on the Joint Flash Crash Report](#)

[SEC Knight Capital Enforcement Findings](#)

[SEC Nasdaq Facebook IPO Findings](#)

[SEC Regulation Systems Compliance and Integrity](#)

[Tokyo Stock Exchange System Failure Report](#)