



September 29, 2023

Jeannette Jackson
Division of Trading and Markets
Office of Market Supervision
Securities and Exchange Commission
100 F. Street, N.E.
Washington, D.C. 20549

**RE: MIAX Emerald, LLC (“Emerald”)
Amendment 2023-15 to Form 1 Application**

Dear Ms. Jackson:

Enclosed for official filing pursuant to Rule 6a-2(a) is Amendment 2023-15 to the Form 1 Application of Emerald, which includes the following changes:

Exhibit C – Updated officers and directors of MIAX Sapphire, LLC

Please do not hesitate to contact me if you have any questions in connection with this matter.

Sincerely,

Barbara J. Comly

Barbara J. Comly
EVP, General Counsel & Corporate Secretary

Enclosure
cc: Marlene Olsen

7 Roszel Road, Suite 1A
Princeton, New Jersey 08540

miaxglobal.com

Form 1 Page 1 Execution Page	UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549 APPLICATION FOR, AND AMENDMENTS TO APPLICATION FOR, REGISTRATION AS A NATIONAL SECURITIES EXCHANGE OR EXEMPTION FROM REGISTRATION PURSUANT TO SECTION 5 OF THE EXCHANGE ACT	Date filed (MM/DD/YY): 09/29/23	OFFICIAL USE ONLY
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Warning: Failure to keep this form current and to file accurate supplementary information on a timely basis, or the failure to keep accurate books and records or otherwise comply with the provisions of law applying to the conduct of the applicant would violate the federal securities laws and may result in disciplinary, administrative or criminal action

INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACTS MAY CONSTITUTE CRIMINAL VIOLATIONS

APPLICATION AMENDMENT

1. State the name of the applicant: MIAX Emerald, LLC
2. Provide the applicant's primary street address (Do not use a P.O. Box): 7 Roszel Road, Suite 1A, Princeton, NJ 08540
3. Provide the applicant's mailing address (if different):
4. Provide the applicant's business telephone and facsimile number:
Telephone: 609-897-7300; Facsimile: 609-987-2210
5. Provide the name, title and telephone number of a contact employee:
Barbara J. Comly, EVP, General Counsel & Corporate Secretary
609-897-7315
6. Provide the name and address of counsel for the applicant:
Barbara J. Comly, EVP, General Counsel & Corporate Secretary
MIAX Emerald, LLC
7 Roszel Road, Suite 1A
Princeton, NJ 08540
7. Provide the date applicant's fiscal year ends: December 31
8. Indicate legal status of applicant: Corporation Sole Proprietorship Partnership
 Limited Liability Company Other (specify):



If other than a sole proprietor, indicate the date and place where applicant obtained its legal status (e.g. state where incorporated, place where partnership agreement was filed or where applicant entity was formed):

- (a) Date (MM/DD/YY): 01/30/18 (b) State/Country of formation: Delaware
- (c) Statute under which applicant was organized: Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.)

EXECUTION: The applicant consents that service of any civil action brought by, or notice of any proceeding before, the Securities and Exchange Commission in connection with the applicant's activities may be given by registered or certified mail or confirmed telegram to the applicant's contact employee at the main address, or mailing address if different, given in Items 2 and 3. The undersigned, being first duly sworn, deposes and says that he/she has executed this form on behalf of, and with the authority of, said applicant. The undersigned and applicant represent that the information and statements contained herein, including exhibits, schedules, or other documents attached hereto, and other information filed herewith, all of which are made a part hereof, are current, true, and complete.

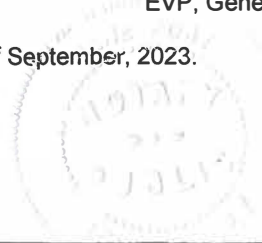
MIAX EMERALD, LLC

Date: September 29, 2023

By: *Barbara J. Comly*
Barbara J. Comly
EVP, General Counsel & Corporate Secretary

Subscribed and sworn before me this 29th day of September, 2023.

Jane Post
Jane Post
Notary Public of the State of New Jersey
My Commission Expires October 27, 2024



**This page must always be completed in full with original, manual signature and notarization.
Affix notary stamp or seal where applicable.**

EXHIBIT C

Exhibit Request:

For each subsidiary or affiliate of the applicant, and for any entity with whom the applicant has a contractual or other agreement relating to the operation of an electronic trading system to be used to effect transactions on the exchange (“System”), provide the following information:

1. Name and address of organization.
2. Form of organization (e.g., association, corporation, partnership, etc.).
3. Name of state and statute citation under which organized. Date of incorporation in present form.
4. Brief description of nature and extent of affiliation.
5. Brief description of business or functions. Description should include responsibilities with respect to operation of the System and/or execution, reporting, clearance, or settlement of transactions in connection with operation of the System.
6. A copy of the constitution.
7. A copy of the articles of incorporation or association including all amendments.
8. A copy of existing by-laws or corresponding rules or instruments.
9. The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions.
10. An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association.

Response:

A. MIAMI INTERNATIONAL HOLDINGS, INC.

1. *Name:* Miami International Holdings, Inc.
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware General Corporation Law (8 Del. C. § 1-101, et seq.), on November 14, 2007.
4. *Brief description of nature and extent of affiliation:* MIAX Emerald, LLC is a wholly-owned subsidiary of Miami International Holdings, Inc. (“MIH”).

5. *Brief description of business or functions:* Miami International Holdings, Inc. is a holding company which holds 100% of the equity of Miami International Securities Exchange, LLC, MIAX PEARL, LLC, MIAX Emerald, LLC, MIAX Sapphire, LLC, Miami International Technologies, LLC, MIAX Global, LLC, MIAX Futures, LLC, MIAX Products, LLC, The Bermuda Stock Exchange, Dorman Trading, LLC, M 7 Holdings, LLC, the sole member and owner of 100% of the equity and voting securities of LedgerX LLC, MIH East Holdings, Limited, and M 402 Holdings, LLC, the sole member and owner of 100% of the equity and voting securities of Minneapolis Grain Exchange, LLC. MIAX Futures, LLC is the owner of 51% of the outstanding membership interests in ConvexityShares, LLC. Miami International Holdings, Inc. is the entity through which the ultimate owners of the applicant indirectly hold their ownership interest in the applicant and its affiliates.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Amended and Restated Certificate of Incorporation dated October 16, 2015 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Amended and Restated By-Laws dated June 27, 2015 are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of Miami International Holdings, Inc.

The following persons are the officers of Miami International Holdings, Inc.:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer
Edward Deitzel	Executive Vice President and Chief Regulatory Officer
Shelly Brown	Executive Vice President – Strategic Planning and Business Development
Mark G. Bagan	Executive Vice President – US Futures Strategy
John Smollen	Executive Vice President – Head of Exchange Traded Products and Strategic Relations
Randy Foster	Senior Vice President – Business Systems Development
Harish Jayabalan	Executive Vice President – Chief Risk Officer and Chief Information Security Officer
Matthew Rotella	Senior Vice President – Chief Technology Officer
Joseph W. Ferraro III	Senior Vice President – Deputy General Counsel
Deborah Carroll	Senior Vice President – Associate General Counsel and Assistant Corporate Secretary

Name	Title
Kelli Annequin	Senior Vice President – Chief Marketing Officer
Joseph Bracco	Senior Vice President – Head of Sales
Rodney Hester	Senior Vice President – Systems Infrastructure
Steven F. Ivey	Senior Vice President – Futures Risk Management
Amy Neiley-Avayou	Senior Vice President – Trading Operations and Listings
Paul Anders (Andy) Nybo	Senior Vice President – Chief Communications Officer
Charles Blades	Vice President – Controller
Todd Borneman	Vice President – Data Services
Kateryna Brezitska	Vice President – Equities Planning and Development
Daniel J. Brill	Vice President – Options Strategic Planning & Business Development
Kelly Brown	Vice President – Derivative Products and Business Development
Jonathan Dowd	Vice President – Business Strategy
Mitchell Garfinkel	Vice President – Finance
Lindsay R. Hopkins	Vice President – Senior Counsel
Daniel Hsu	Vice President – Exchange Pricing & Business Analysis
Thomas Jarck	Vice President – Proprietary Product Development
Joseph P. Kamnik	Vice President – Senior Counsel
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Kaitlin Meyer	Vice President – Marketing and Sales
James O’Neil	Vice President and Director of Physical Security and Safety
Gerard (Chaz) Palmeri	Vice President – Systems Operations
Vinay Rao	Vice President – Trading Systems Development
Siddharth Sahoo	Vice President – Trading Systems Development
Christopher Solgan	Vice President – Senior Counsel
Peter D. Sparby	Vice President – Counsel
Tia Toms	Vice President – Administration
Gregory Ziegler	Vice President – Senior Counsel
Katherine Comly	Assistant Vice President, Associate Counsel and Director of ESG
Matt Leisen	Assistant Vice President – Counsel
Tatiana Kitaigorovski	Assistant Vice President – Associate Counsel
Michael Slade	Assistant Vice President – Associate Counsel

The officers of Miami International Holdings, Inc. serve until their successors are appointed in accordance with the By-Laws of Miami International Holdings, Inc. Officers of Miami International Holdings, Inc. serve at the direction of the Board of Directors.

Directors of Miami International Holdings, Inc.

The following persons are the directors of Miami International Holdings, Inc.:

Directors
Thomas P. Gallagher (Chairman)
Talal Jassim Al-Bahar
Abdulwahab Ahmad Al-Nakib
Michael P. Ameen
Albert M. Barro, Jr.
John Beckelman
Barry J. Belmont
Ricardo Blach
Christopher Brady
Khaled Magdy El-Marsafy
William W. Hopkins
Thomas J. Kelly, Jr.
Paul Kotos
Mark I. Massad
Jack G. Mondel
William J. O'Brien III
Robert D. Prunetti
Mark F. Raymond
Douglas M. Schafer Jr.
Paul V. Stahlin
J. Gray Teekell
Jassem Hassan Zainal

Directors of Miami International Holdings, Inc. serve one year terms.

Audit Committee of Miami International Holdings, Inc.

The following persons are members of the Audit Committee of Miami International Holdings, Inc.:

Audit Committee
Paul V. Stahlin (Chairman)
Michael P. Ameen
Khaled Magdy El-Marsafy
Robert D. Prunetti

Compensation Committee of Miami International Holdings, Inc.

The following persons are members of the Compensation Committee of Miami International Holdings, Inc.:

Compensation Committee
Talal Jassim Al-Bahar (Chairman)
Christopher D. Brady
Thomas J. Kelly
Mark F. Raymond
J. Gray Teekell

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

B. MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

- Name:* Miami International Securities Exchange, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
- Form of organization:* Limited Liability Company.
- Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on September 10, 2007.
- Brief description of nature and extent of affiliation:* Miami International Securities Exchange, LLC is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
- Brief description of business or functions:* Miami International Securities Exchange, LLC ("MIAX") is registered as a National Securities Exchange under Section 6 of the Securities Exchange Act of 1934, as amended. MIAX operates a fully electronic options trading platform.
- A copy of the constitution:* Not applicable.
- A copy of the articles of incorporation or association including all amendments:* The Amended and Restated Certificate of Formation dated November 12, 2020 is attached.
- A copy of existing by-laws or corresponding rules or instruments:* The Third Amended and Restated Limited Liability Company Agreement dated November 12, 2020, and Amended and Restated By-Laws dated November 12, 2020 are attached.

9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of Miami International Securities Exchange, LLC

The following persons are the officers of Miami International Securities Exchange, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer
Edward Deitzel	Executive Vice President, Chief Regulatory Officer and Chief Compliance Officer
Shelly Brown	Executive Vice President – Strategic Planning and Business Development
Harish Jayabalan	Executive Vice President – Chief Risk Officer and Chief Information Security Officer
John Smollen	Executive Vice President – Head of Exchange Traded Products and Strategic Relations
Randy Foster	Senior Vice President – Business Systems Development
Matthew Rotella	Senior Vice President – Chief Technology Officer
Joseph W. Ferraro III	Senior Vice President – Deputy General Counsel
Deborah Carroll	Senior Vice President – Associate General Counsel and Assistant Corporate Secretary
Kelli Annequin	Senior Vice President – Chief Marketing Officer
Joseph S. Bracco	Senior Vice President – Head of Sales
Rodney Hester	Senior Vice President – Systems Infrastructure
Amy Neiley-Avayou	Senior Vice President – Trading Operations and Listings
Paul Anders (Andy) Nybo	Senior Vice President – Chief Communications Officer
Charles Blades	Vice President – Controller
Peter Bon Viso	Vice President – Regulatory Counsel
Todd Borneman	Vice President – Data Services
Kateryna Brezitska	Vice President – Equities Planning and Development
Daniel J. Brill	Vice President – Options Strategic Planning & Business Development
Kelly Brown	Vice President – Derivative Products and Business Development
Jonathan S. Dowd	Vice President – Business Strategy
Laurence Gardner	Vice President – Regulatory Operations
Mitchell Garfinkel	Vice President – Finance

Name	Title
Daniel Hsu	Vice President – Exchange Pricing & Business Analysis
Thomas Jarck	Vice President – Proprietary Product Development
Joseph P. Kamnik	Vice President – Senior Counsel
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Kaitlin Meyer	Vice President – Marketing and Sales
Ronald Miller	Vice President – Compliance
Lawrence O’Leary	Vice President – Regulatory Oversight
James O’Neil	Vice President and Director of Physical Security and Safety
Gerard (Chaz) Palmeri	Vice President – Systems Operations
Vinay Rao	Vice President – Trading Systems Development
Siddharth Sahoo	Vice President – Trading Systems Development
Christopher Solgan	Vice President – Senior Counsel
Christopher Swisher	Vice President – Market Surveillance
Tia Toms	Vice President – Administration
Gregory Ziegler	Vice President – Senior Counsel
Katherine Comly	Assistant Vice President, Associate Counsel and Director of ESG
Tatiana Kitaigorovski	Assistant Vice President – Associate Counsel
Michael Slade	Assistant Vice President – Associate Counsel

The officers of Miami International Securities Exchange, LLC serve until their successors are appointed in accordance with the By-Laws of Miami International Securities Exchange, LLC. Officers of Miami International Securities Exchange, LLC will serve at the direction of the Board of Directors.

Directors of Miami International Securities Exchange, LLC

The following persons are the directors and Board observers of Miami International Securities Exchange, LLC:

Directors
Thomas P. Gallagher
Michael P. Ameen
Lindsay L. Burbage
Robert Castrignano
Marianne Deane
John DiBacco, Jr.
David Dooman
Kurt M. Eckert
Leslie Florio

Lawrence E. Jaffe
Paul Jiganti
John A. Kinahan
William V. Looney, Jr.
John E. McCormac
Robert D. Prunetti
Joseph Sellitto
Cynthia Schwarzkopf
J. Gray Teekell
Observers
Lawrence Tanzman

Committees of Miami International Securities Exchange, LLC

The standing committees of the Board and the persons appointed to sit on the standing committees are as follows:

Audit Committee
Robert D. Prunetti (Chair)
Michael P. Ameen
John E. McCormac

Compensation Committee
J. Gray Teekell (Chair)
Robert D. Prunetti
Cynthia Schwarzkopf

Regulatory Oversight Committee
Lindsay L. Burbage (Chair)
Leslie Florio
Lawrence E. Jaffe

Appeals Committee
Lawrence Jaffe (Chair)
Robert Castrignano
Kurt M. Eckert

Technology Committee
Leslie Florio (Chair)
Robert Castrignano
Marianne Deane
David Dooman
Kurt M. Eckert
John A. Kinahan
John E. McCormac
Cynthia Schwarzkopf
J. Gray Teekell

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

C. MIAX PEARL, LLC

1. *Name:* MIAX PEARL, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on February 11, 2016.
4. *Brief description of nature and extent of affiliation:* MIAX PEARL, LLC ("MIAX PEARL") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIAX PEARL is registered as a National Securities Exchange under Section 6 of the Securities Exchange Act of 1934, as amended. MIAX PEARL operates fully electronic options and equities trading platforms.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Restated Certificate of Formation dated November 12, 2020 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Second Amended and Restated Limited Liability Company Agreement dated November 12, 2020 and Amended and Restated By-Laws dated February 11, 2021 are attached.

9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of MIAX PEARL, LLC

The following persons are the officers of MIAX PEARL, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer
Edward Deitzel	Executive Vice President, Chief Regulatory Officer and Chief Compliance Officer
Shelly Brown	Executive Vice President – Strategic Planning and Business Development
Harish Jayabalan	Executive Vice President – Chief Risk Officer and Chief Information Security Officer
John Smollen	Executive Vice President – Head of Exchange Traded Products and Strategic Relations
Randy Foster	Senior Vice President – Business Systems Development
Matthew Rotella	Senior Vice President – Chief Technology Officer
Joseph W. Ferraro III	Senior Vice President – Deputy General Counsel
Deborah Carroll	Senior Vice President – Associate General Counsel and Assistant Corporate Secretary
Kelli Annequin	Senior Vice President – Chief Marketing Officer
Joseph S. Bracco	Senior Vice President – Head of Sales
Rodney Hester	Senior Vice President – Systems Infrastructure
Amy Neiley-Avayou	Senior Vice President – Trading Operations and Listings
Paul Anders (Andy) Nybo	Senior Vice President – Chief Communications Officer
Charles Blades	Vice President – Controller
Peter Bon Viso	Vice President – Regulatory Counsel
Todd Borneman	Vice President – Data Services
Kateryna Brezitska	Vice President – Equities Planning and Development
Daniel J. Brill	Vice President – Options Strategic Planning & Business Development
Kelly Brown	Vice President – Derivative Products and Business Development
Jonathan S. Dowd	Vice President – Business Strategy
Laurence Gardner	Vice President – Regulatory Operations
Mitchell Garfinkel	Vice President – Finance

Name	Title
Daniel Hsu	Vice President – Exchange Pricing & Business Analysis
Thomas Jarck	Vice President – Proprietary Product Development
Joseph P. Kamnik	Vice President – Senior Counsel
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Kaitlin Meyer	Vice President – Marketing and Sales
Ronald Miller	Vice President – Compliance
Lawrence O’Leary	Vice President – Regulatory Oversight
James O’Neil	Vice President and Director of Physical Security and Safety
Gerard (Chaz) Palmeri	Vice President – Systems Operations
Vinay Rao	Vice President – Trading Systems Development
Siddharth Sahoo	Vice President – Trading Systems Development
Christopher Solgan	Vice President – Senior Counsel
Christopher Swisher	Vice President – Market Surveillance
Tia Toms	Vice President – Administration
Gregory Ziegler	Vice President – Senior Counsel
Katherine Comly	Assistant Vice President, Associate Counsel and Director of ESG
Tatiana Kitaigorovski	Assistant Vice President – Associate Counsel
Michael Slade	Assistant Vice President – Associate Counsel

The officers of MIAX PEARL, LLC serve until their successors are appointed in accordance with the By-Laws of MIAX PEARL, LLC. Officers of MIAX PEARL, LLC will serve at the direction of the Board of Directors.

Directors of MIAX PEARL, LLC

The following persons are the directors of MIAX PEARL, LLC:

Directors
Thomas P. Gallagher
Talal Jassim Al-Bahar
Sean Barry
William T. Bergman
David Brown
Lindsay L. Burbage
Guy Dowman
Kurt M. Eckert
Leslie Florio
Michael Harrington
Lawrence E. Jaffe

Paul Kenyon
John E. McCormac
Miguel Moratiel
William J. O'Brien IV
Nathaniel Pomeroy
Robert D. Prunetti
Scott Richardson
Cynthia Schwarzkopf
Steven Sosnick
Erik Swanson
Christopher L. Whittington

Committees of MIAX PEARL, LLC

The standing committees of the Board and the persons appointed to sit on the standing committees are as follows:

Compensation Committee
Cynthia Schwarzkopf (Chair)
William T. Bergman
Robert D. Prunetti

Audit Committee
Robert D. Prunetti (Chair)
John E. McCormac
Cynthia Schwarzkopf

Regulatory Oversight Committee
Lindsay L. Burbage (Chair)
Leslie Florio
Lawrence E. Jaffe

Appeals Committee
Lawrence E. Jaffe (Chair)
Kurt M. Eckert
Guy Dowman

Technology Committee
Leslie Florio (Chair)
Sean Barry
David Brown
Kurt M. Eckert
John E. McCormac

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

D. MIAX SAPPHIRE, LLC

1. *Name:* MIAX Sapphire, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on April 6, 2023.
4. *Brief description of nature and extent of affiliation:* MIAX Sapphire, LLC ("MIAX Sapphire") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIAX Sapphire is not yet active. MIAX Sapphire intends to register as a National Securities Exchange under Section 6 of the Securities Exchange Act of 1934, as amended. MIAX Sapphire intends to operate a fully electronic options trading platform as well as a trading floor in Miami, Florida.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Formation dated April 6, 2023 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Limited Liability Company Agreement dated April 18, 2023 is attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of MIAX Sapphire, LLC

The following persons are the officers of MIAX Sapphire, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer

Name	Title
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer
Edward Deitzel	Executive Vice President, Chief Regulatory Officer and Chief Compliance Officer
Shelly Brown	Executive Vice President – Strategic Planning and Business Development
Harish Jayabalan	Executive Vice President – Chief Risk Officer & Chief Information Security Officer
John Smollen	Executive Vice President – Head of Exchange Traded Products and Strategic Relations
Randy Foster	Senior Vice President – Business Systems Development
Matthew Rotella	Senior Vice President – Chief Technology Officer
Joseph W. Ferraro III	Senior Vice President – Deputy General Counsel
Deborah Carroll	Senior Vice President – Associate General Counsel and Assistant Corporate Secretary
Kelli Annequin	Senior Vice President – Chief Marketing Officer
Joseph S. Bracco	Senior Vice President – Head of Sales
Rodney Hester	Senior Vice President – Systems Infrastructure
Amy Neiley-Avayou	Senior Vice President – Trading Operations and Listings
Paul Anders (Andy) Nybo	Senior Vice President – Chief Communications Officer
Charles Blades	Vice President – Controller
Peter Bon Viso	Vice President – Regulatory Counsel
Todd Borneman	Vice President – Data Services
Kateryna Brezitska	Vice President – Equities Planning and Development
Daniel J. Brill	Vice President – Options Strategic Planning & Business Development
Kelly Brown	Vice President – Derivative Products and Business Development
Jonathan S. Dowd	Vice President – Business Strategy
Laurence Gardner	Vice President – Regulatory Operations
Mitchell Garfinkel	Vice President – Finance
Daniel Hsu	Vice President – Exchange Pricing & Business Analysis
Thomas Jarck	Vice President – Proprietary Product Development
Joseph P. Kamnik	Vice President – Senior Counsel

Name	Title
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Kaitlin Meyer	Vice President – Marketing and Sales
Ronald Miller	Vice President – Compliance
Lawrence O’Leary	Vice President – Regulatory Oversight
James O’Neil	Vice President and Director of Physical Security and Safety
Gerard (Chaz) Palmeri	Vice President – Systems Operations
Vinay Rao	Vice President – Trading Systems Development
Siddharth Sahoo	Vice President – Trading Systems Development
Christopher Solgan	Vice President – Senior Counsel
Christopher Swisher	Vice President – Market Surveillance
Tia Toms	Vice President – Administration
Gregory Ziegler	Vice President – Senior Counsel
Katherine Comly	Assistant Vice President, Associate Counsel and Director of ESG
Tatiana Kitaigorovski	Assistant Vice President – Associate Counsel
Michael Slade	Assistant Vice President – Associate Counsel

Directors of MIAX Sapphire, LLC

The following persons are the directors of MIAX Sapphire, LLC:

Directors
Thomas P. Gallagher
Michael P. Ameen
Lindsay L. Burbage
Marianne Deane
Leslie Florio
Kenneth Lozier
John E. McCormac
Robert D. Prunetti

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

E. MIAMI INTERNATIONAL TECHNOLOGIES, LLC

1. *Name:* Miami International Technologies, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on May 12, 2010.
4. *Brief description of nature and extent of affiliation:* Miami International Technologies, LLC ("MIAX Technologies") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIAX Technologies engages in the sale and licensing of trading and information technology to unrelated third parties.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Amended and Restated Certificate of Formation dated June 29, 2011 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Second Amended and Restated Limited Liability Company Agreement dated June 25, 2021 is attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of Miami International Technologies, LLC

The following persons are the officers of Miami International Technologies, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Douglas M. Schafer Jr.	President and Chief Information Officer
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer
Harish Jayabalan	Executive Vice President – Chief Information Security Officer
Matthew Rotella	Senior Vice President – Chief Technology Officer
Randy Foster	Senior Vice President – Business Systems Development
Deborah Carroll	Senior Vice President – Associate General Counsel and Assistant Corporate Secretary
Rodney Hester	Senior Vice President – Systems Infrastructure
Charles Blades	Vice President – Controller
Mitchell Garfinkel	Vice President – Finance

Name	Title
James O'Neil	Vice President and Director of Physical Security and Safety
Tia Toms	Vice President – Administration

Directors of Miami International Technologies, LLC

The following persons are the directors of Miami International Technologies, LLC:

Directors
Thomas P. Gallagher

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

F. MIAX FUTURES, LLC

1. *Name:* MIAX Futures, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on November 30, 2007.
4. *Brief description of nature and extent of affiliation:* MIAX Futures, LLC ("MIAX Futures") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIAX Futures is the owner of 51% of the outstanding membership interests in ConvexityShares, LLC.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Restated Certificate of Formation dated March 10, 2021 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Second Amended and Restated Limited Liability Company Agreement dated March 10, 2021 is attached.

9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of MIAX Futures, LLC

The following persons are the officers of MIAX Futures, LLC:

Name	Title
Thomas P. Gallagher	Chairman
Joseph W. Ferraro III	President
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer
Deborah Carroll	Senior Vice President – Associate General Counsel and Assistant Corporate Secretary
Randy Foster	Senior Vice President – Business Systems Development
Matthew Rotella	Senior Vice President – Chief Technology Officer
Kelly Brown	Vice President – Derivative Products and Business Development
Thomas Jarck	Vice President – Proprietary Product Development

Directors of MIAX Futures, LLC

The following persons are the directors of MIAX Futures, LLC:

Directors
Thomas P. Gallagher (Chair)
Kurt M. Eckert

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

G. THE BERMUDA STOCK EXCHANGE

- Name:* The Bermuda Stock Exchange
Address: 110 Pitts Bay Road, 4th Floor, Pembroke, Bermuda HM 08
- Form of organization:* A body corporate incorporated pursuant to The Bermuda Stock Exchange Act 1992.
- Name of state, statute under which organized and date of incorporation:* Bermuda, The Bermuda Stock Exchange Company Act 1992, on March 10, 1993.

4. *Brief description of nature and extent of affiliation:* Miami International Holdings, Inc., which is the applicant's 100% owner, is the owner of 100% of the outstanding shares of The Bermuda Stock Exchange ("BSX").
5. *Brief description of business or functions:* Stock Exchange located in Pembroke, Bermuda.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Memorandum of Association dated March 10, 1993, is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Amended and Restated Bye-Laws dated July 21, 2003, are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of The Bermuda Stock Exchange

The following persons are the officers of The Bermuda Stock Exchange:

Name	Title
Gregory A. Wojciechowski	President & Chief Executive Officer
Gregory A. Wojciechowski	Secretary
Ailish Bryne	Chief Compliance Officer
Jacintha Pogson-Hughes	Chief Administration Officer

Council (Directors) of The Bermuda Stock Exchange

The following persons are the council of The Bermuda Stock Exchange:

Council
Thomas P. Gallagher (Chairman)
David Brown (Deputy Chairman)
Jeff Conyers
Kurt M. Eckert
Caroline Kennedy
Mark Massad
Michael Neff
Eric Sites
Murray Stahl
Gregory A. Wojciechowski

Committees of The Bermuda Stock Exchange

Business Development Committee
Eric Sites
Jeff Conyers
Michael Neff
Gregory A. Wojciechowski

Compensation Committee
Thomas P. Gallagher
David Brown
Jeff Conyers
Michael Neff

Executive Management Committee
Thomas P. Gallagher
David Brown
Jeff Conyers
Michael Neff

Listing Committee
Dudley Cottingham
Sharon Beesley
Miguel DaPonte
Marco Montarsolo
Gregory A. Wojciechowski

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

H. BSD NOMINEE LIMITED

1. *Name:* BSD Nominee Limited
Address: 110 Pitts Bay Road, 4th Floor, Pembroke, Bermuda HM 08
2. *Form of organization:* A body corporate incorporated pursuant to Bermuda, The Companies Act 1981.
3. *Name of state, statute under which organized and date of incorporation:* Organized in Bermuda under The Companies Act 1981 on October 24, 2001. Registered in Bermuda under Section 14 of The Companies Act 1981 on November 1, 2001.

4. *Brief description of nature and extent of affiliation:* Miami International Holdings, Inc., which is the applicant's 100% owner, is the owner of 100% of the outstanding shares of The Bermuda Stock Exchange ("BSX"). BSX is the owner of 100% of the outstanding shares of BSD Nominee Limited.
5. *Brief description of business or functions:* To be the legal owner of shares held for the benefit of account holders of the Bermuda Securities Depository of BSX and to provide nominee services in relation to such shares.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Memorandum of Association dated October 24, 2001, and related documents is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* Not applicable.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Council (Directors) of BSD Nominee Limited

The following persons are the council of BSD Nominee Limited:

Council
Gregory A. Wojciechowski
James McKirdy

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

I. M 402 HOLDINGS, LLC

1. *Name:* M 402 Holdings, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on June 27, 2020.
4. *Brief description of nature and extent of affiliation:* M 402 Holdings, LLC ("M 402") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner. Minneapolis Grain Exchange, LLC ("MGEX") is a wholly-owned subsidiary of M 402.
5. *Brief description of business or functions:* M 402 is a holding company for the equity and voting securities of MGEX.
6. *A copy of the constitution:* Not applicable.

7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Formation dated July 27, 2020 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Limited Liability Company Agreement dated July 27, 2020 and By-Laws dated July 27, 2020 are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of M 402 Holdings, LLC

The following persons are the officers of M 402 Holdings, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer

Directors of M 402 Holdings, LLC

The following persons are the directors of M 402 Holdings, LLC:

Directors
Thomas P. Gallagher

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

J. MINNEAPOLIS GRAIN EXCHANGE, LLC

1. *Name:* Minneapolis Grain Exchange, LLC
Address: 400 S 4th St, Minneapolis, MN 55415
2. *Form of organization:* Limited Liability Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on December 4, 2020.
4. *Brief description of nature and extent of affiliation:* Miami International Holdings, Inc. is the sole member and owner of M 402 Holdings, LLC, which in turn is the sole member and owner of 100% of the equity and voting securities of Minneapolis Grain Exchange, LLC ("MGEX").

5. *Brief description of business or functions:* MGEX is a designated contract market and derivatives clearing organization that operates under the regulatory oversight of the Commodity Futures Trading Commission pursuant to Section 5 of the Commodity Exchange Act 7 U.S.C. §7. MGEX is also registered as a national securities exchange under Section 6(g) of Securities Exchange Act.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Formation dated December 4, 2020 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Limited Liability Company Agreement dated December 4, 2020 and Amended and Restated Bylaws are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of Minneapolis Grain Exchange, LLC

The following persons are the officers of Minneapolis Grain Exchange, LLC:

Name	Title
Mark G. Bagan	President & Chief Executive Officer
Layne G. Carlson	Treasurer, Secretary, Chief Compliance Officer & Chief Regulatory Officer
James D. Facente, Jr.	Director & Chief Risk Officer – Clearing & IT

Directors of Minneapolis Grain Exchange, LLC

The following persons are the directors of Minneapolis Grain Exchange, LLC:

Directors
Thomas P. Gallagher, Chair
De’Ana H. Dow
Michael V. Dunn
Bradley Griffith
Christopher T. Matzdorf
Kerry L. Melius
Murray Stahl

Standing Committees of Minneapolis Grain Exchange, LLC

Executive Committee
Thomas P. Gallagher, Chairperson
Kerry L. Melius, First Vice Chairperson
Bradley Griffith
Murray Stahl
Mark G. Bagan*

Audit Committee
Thomas P. Gallagher, Chairperson
Mark G. Bagan
De'Ana H. Dow
Michael V. Dunn
Bradley Griffith

Nominations Committee
Bradley Griffith, Chairperson
De'Ana H. Dow
Michael V. Dunn
Thomas P. Gallagher
Christopher T. Matzdorf
Mark G. Bagan*

Regulatory Oversight Committee
De'Ana H. Dow, Chairperson
Michael V. Dunn
Bradley Griffith
Thomas P. Gallagher*
Mark G. Bagan*

Risk Management Committee
Bradley Griffith, Chairperson
De'Ana H. Dow
Thomas P. Gallagher*
Mark G. Bagan*

* Ex officio committee member

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

K. MIAX GLOBAL, LLC

1. *Name:* MIAX Global, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on June 30, 2015.
4. *Brief description of nature and extent of affiliation:* MIAX Global, LLC ("MIAX Global") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIAX Global focuses on the company's trading, technology and other projects primarily based outside the United States.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Amended and Restated Certificate of Formation dated June 25, 2021 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Amended and Restated Limited Liability Company Agreement dated June 25, 2021 is attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of MIAX Global, LLC

The following persons are the officers of MIAX Global, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President
Lance Emmons	Executive Vice President and Chief Financial Officer
Gregory A. Wojciechowski	President

Directors of MIAX Global, LLC

The following persons are the directors of MIAX Global, LLC:

Directors
Thomas P. Gallagher

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

L. MIAX PRODUCTS, LLC

1. *Name:* MIAX Products, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Illinois, Illinois Limited Liability Company Act, 805 ILCS 180, on January 25, 2019.
4. *Brief description of nature and extent of affiliation:* MIAX Products, LLC ("MIAX Products") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* Development of financial products.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Restated Articles of Organization dated October 5, 2021 are attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Amended and Restated Limited Liability Company Agreement dated October 5, 2021 is attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of MIAX Products, LLC

The following persons are the officers of MIAX Products, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Douglas M. Schafer Jr.	Chief Information Officer and Executive Vice President

Directors of MIAX Products, LLC

The following persons are the directors of MIAX Products, LLC:

Directors
Thomas P. Gallagher

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

M. DORMAN TRADING, LLC

1. *Name:* Dorman Trading, LLC
Address: 141 W. Jackson Boulevard, Suite 1900, Chicago, Illinois 60604
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Illinois, Illinois Limited Liability Company Act, 805 ILCS 180, on June 18, 2015.
4. *Brief description of nature and extent of affiliation:* Dorman Trading, LLC (“Dorman Trading”) is wholly-owned by Miami International Holdings, Inc., which is the applicant’s 100% owner.
5. *Brief description of business or functions:* Dorman Trading is a full-service futures commission merchant (FCM) providing execution and clearing services for introducing brokers, retail customers, institutional clients and professional traders on a number of futures exchanges.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Articles of Organization dated June 18, 2015 are attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Fourth Amended and Restated Operating Agreement and Bylaws dated October 19, 2022 are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of Dorman Trading, LLC.

The following persons are the officers of Dorman Trading, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Daniel P. Dorman	Senior Vice President, Chief Operating Officer and Assistant Secretary
David Dorman	Senior Vice President, Operations
Robert Sheeren	Chief Financial Officer
Michael Higgins	Chief Compliance Officer
Mark Robertson	Vice President, Clearing and Floor Operations

Name	Title
Brian Gaffud	Vice President, Director of Business Development
Michael Stanton	Vice President, Business Development
James Tometz	Vice President, Operations
Wesley Chiu	Assistant Chief Financial Officer
Barbara J. Comly	Secretary

Directors of Dorman Trading, LLC

The following persons are the directors of Dorman Trading, LLC:

Directors
Thomas P. Gallagher (Chairman)
Robert D. Prunetti
Brian Duggan

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

N. M 7 HOLDINGS, LLC

1. *Name:* M 7 Holdings, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on November 15, 2022.
4. *Brief description of nature and extent of affiliation:* M 7 Holdings, LLC ("M 7") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner. LedgerX LLC is a wholly-owned subsidiary of M 7.
5. *Brief description of business or functions:* M 7 is a holding company for certain investments.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Formation dated November 15, 2022 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Limited Liability Company Agreement and By-Laws dated December 9, 2022 are attached.

9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of M 7 Holdings, LLC

The following persons are the officers of M 7 Holdings, LLC:

Name	Title
Thomas P. Gallagher	Chairman and Chief Executive Officer
Barbara Comly	Executive Vice President, General Counsel and Corporate Secretary
Lance Emmons	Executive Vice President and Chief Financial Officer

Directors of M 7 Holdings, LLC

The following persons are the directors of M 7 Holdings, LLC:

Directors
Thomas P. Gallagher

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

O. LEDGERX LLC

1. *Name:* LedgerX LLC
Address: 7 Roszel Road, Suite 1A, Princeton, NJ 08540
2. *Form of organization:* Limited Liability Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on April 8, 2014.
4. *Brief description of nature and extent of affiliation:* Miami International Holdings, Inc. is the sole member and owner of M 7 Holdings, LLC, which in turn is the sole member and owner of 100% of the equity and voting securities of LedgerX LLC (“LedgerX”).
5. *Brief description of business or functions:* LedgerX is a swap execution facility, derivatives clearing organization and designated contract market regulated by the Commodity Futures Trading Commission.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Formation dated April 8, 2014, is attached.

8. *A copy of existing by-laws or corresponding rules or instruments: The Second Amended and Restated Limited Liability Company Agreement dated July 31, 2023, is attached.*
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of LedgerX LLC

The following persons are the officers of LedgerX LLC:

Name	Title
Zachary Dexter	Chief Executive Officer
Josh Markou	Chief Financial Officer
Brian Mulherin	General Counsel
Erin Renee Schwartz	Chief Compliance Officer and Chief Regulatory Officer
James Outen	Chief Risk Officer and Chief Economist
William Bradley	Chief Technology Officer
Ryan Scott Mendel	Chief Information Officer
Barbara J. Comly	Corporate Secretary

Directors of LedgerX LLC

The following persons are the directors of LedgerX LLC:

Directors
Thomas P. Gallagher (Chair)
Bryan Bishop
Lindsay L. Burbage
Zachary Dexter
Kurt M. Eckert
Jerome Kemp
Jill Sommers
Larry Thompson
Mark Wetjen

Standing Committees of LedgerX LLC

Regulatory Oversight Committee
Lindsay L. Burbage
Larry Thompson
Jerome Kemp
Jill Sommers

Risk Management Committee
Bryan Bishop
Zachary Dexter
Kurt M. Eckert
Thomas P. Gallagher
Jerome Kemp
Larry Thompson
Mark Wetjen

Participant Committee
Kurt M. Eckert
Zachary Dexter
Jerome Kemp
Larry Thompson

Nominating Committee
Lindsay L. Burbage
Kurt M. Eckert
Jill Sommers
Larry Thompson
Mark Wetjen

Disciplinary Panel
Bryan Bishop
Kurt M. Eckert
Jerome Kemp
Jill Sommers

Appeals Committee
Lindsay L. Burbage
Larry Thompson
Mark Wetjen

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

P. MIH EAST HOLDINGS, LIMITED

1. *Name:* MIH East Holdings, Limited
Address: 7 Roszel Road, Suite 1A, Princeton, New Jersey 08540
2. *Form of organization:* Private Limited Company.
3. *Name of state, statute under which organized and date of incorporation:* England and Wales, Companies Act 2006, on March 20, 2023.
4. *Brief description of nature and extent of affiliation:* MIH East Holdings, Limited ("MIH East") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIH East is a holding company for certain investments.
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Incorporation dated March 20, 2023, is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Articles of Association are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Officers of MIH East Holdings, Limited

The following persons are the officers of MIH East Holdings, Limited:

Name	Title
Thomas P. Gallagher	Executive Officer
Lance Emmons	Chief Financial Officer

Directors of MIH East Holdings, Limited

The following persons are the directors of MIH East Holdings, Limited:

Directors
Thomas P. Gallagher
Lance Emmons

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.

Q. CONVEXITYSHARES, LLC

1. *Name:* ConvexityShares, LLC
Address: 7 Roszel Road, Suite 1A, Princeton, NJ 08540
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Delaware, Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.), on December 3, 2020.
4. *Brief description of nature and extent of affiliation:* MIAX Futures, LLC, which is wholly-owned by Miami International Holdings, Inc., the applicant’s 100% owner, is the owner of 51% of the outstanding membership interests of ConvexityShares, LLC.
5. *Brief description of business or functions:* Sponsor of certain exchange-traded products. ConvexityShares, LLC is a registered Commodity Pool Operator (CPO) and Commodity Trading Advisor (CTA) with the National Futures Association (NFA).
6. *A copy of the constitution:* Not applicable.
7. *A copy of the articles of incorporation or association including all amendments:* The Certificate of Formation dated December 3, 2020 is attached.
8. *A copy of existing by-laws or corresponding rules or instruments:* The Limited Liability Company Operating Agreement dated February 5, 2021 and First Amendment to Limited Liability Company Operating Agreement dated March 10, 2021 are attached.
9. *The name and title of the present officers, governors, members of all standing committees, or persons performing similar functions:*

Managers of ConvexityShares, LLC

The following are the managers of ConvexityShares, LLC:

Managers
MIAX Futures, LLC
T3i US Holdings Inc.

Officers of ConvexityShares, LLC

The following persons are the officers of ConvexityShares, LLC:

Name	Title
Simon Ho	Interim Chief Executive Officer & President
Melinda Ho	Treasurer, Chief Financial Officer & Secretary
Joseph W. Ferraro III	Interim Chief Compliance Officer

Name	Title
Charles Blades	Controller

10. *An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association:* Not applicable.