



September 23, 2022

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 2022-12 to Form 1 Application**

Dear Ms. Jackson:

Enclosed for official filing pursuant to Rule 6a-2(a) is Amendment 2022-12 to the Form 1 Application of Emerald, which includes the following changes:

- Exhibit C – Updated officers of Miami International Holdings, Inc., Miami International Securities Exchange, LLC, MIAX PEARL, LLC, and Miami International Technologies, LLC
- Exhibit J – Updated officers
- Exhibit M – Updated member list

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

1450 Brickell Avenue
Suite 1100, 11th Floor Loft
Miami, Florida 33131

miaxoptions.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): 09/23/22	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):



22005622

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 23, 2022

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

Subscribed and sworn before me this ____ day of _____, 2022.

Based upon relief from Commission Staff and difficulties arising from COVID-19, MIAX Emerald, LLC is making this filing without a notarization.

Notary Public of the State of New Jersey

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, Miami International Technologies, LLC, MIAX Global, LLC, MIAX Futures, LLC, MIAX Products, LLC, The Bermuda Stock Exchange, 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
Joseph Bracco	Senior Vice President – Head of Sales

Name	Title
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
Jonathan Dowd	Vice President – Business Strategy
Mitchell Garfinkel	Vice President – Finance
Daniel Hsu	Vice President – Exchange Pricing & Business Analysis
Thomas Jarck	Vice President – Proprietary Product Development
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Matthew McFarland	Vice President – Derivative Products & Business Development
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
Nicholas Scalabrino	Vice President – Head of Strategic and Business Planning and Functional Strategies for MIAx Pearl Equities
Christopher Solgan	Vice President – Senior Counsel
Tia Toms	Vice President – Administration
Gregory Ziegler	Vice President – Senior Counsel
Katherine Comly	Assistant Vice President, Associate Counsel and Director of ESG
Dimitriy Kotov	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.:

Name
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.:

Name
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.:

Name
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

1. *Name:* Miami International Securities Exchange, 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 September 10, 2007.
4. *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.
5. *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.
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 November 12, 2020 is attached.
8. *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

Name	Title
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
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
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
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Matthew McFarland	Vice President – Derivative Products and Business Development
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

Name	Title
Dimitriy Kotov	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

Name	Title
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
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
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
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Matthew McFarland	Vice President – Derivative Products and Business Development
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
Nicholas Scalabrino	Vice President – Head of Strategic and Business Planning and Functional Strategies for MIAX Pearl Equities
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
Dimitriy Kotov	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:

Name
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 Jiganti
Paul Kenyon
John E. McCormac
Miguel Moratiel
William J. O'Brien IV
Robert D. Prunetti
John Rothstein
Cynthia Schwarzkopf
Joseph Sellitto
Steven Sosnick
Erik Swanson
Christopher L. Whittington
George Wolf

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 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. 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:

Name
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.

E. 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
Thomas Jarck	Vice President – Proprietary Product Development
Matthew McFarland	Vice President – Derivative Products and Business Development

Directors of MIAX Futures, LLC

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

Name
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. 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
James McKirdy	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
Caroline Kennedy
Mark Massad
Michael Neff
Eric Sites
Murray Stahl
John Wight
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
Susan Monkman
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.

G. 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:

Name
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.

H. 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 Bylaws dated December 4, 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 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:

Name
Thomas P. Gallagher, Chair
De'Ana H. Dow
Michael V. Dunn
Steve Fanady
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
Steve Fanady, Second 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
Steve Fanady, Chairperson
De'Ana H. Dow
Michael V. Dunn
Thomas P. Gallagher*
Mark G. Bagan*

Risk Management Committee
Bradley Griffith, Chairperson
De'Ana H. Dow
Steve Fanady
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.

I. 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:

Name
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. MIAX PRODUCTS, LLC

- Name:* MIAX Products, 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:* Illinois, Illinois Limited Liability Company Act, 805 ILCS 180, on January 25, 2019.
- 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.
- Brief description of business or functions:* Development of financial products.
- A copy of the constitution:* Not applicable.
- 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:

Name
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.

K. 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.

L. 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:

Name
MIAX Futures, LLC
T3i US Holdings Inc.

Officers of ConvexityShares, LLC

The following persons are the officers of ConvexityShares, LLC:

Name	Title
John Zhu	Chief Executive Officer & Chief Compliance Officer
Simon Ho	President
Melinda Ho	Treasurer, Chief Financial Officer & Secretary
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.

EXHIBIT J

Exhibit Request:

A list of the officers, governors, members of all standing committees, or persons performing similar functions, who presently hold or have held their offices or positions during the previous year, indicating the following for each:

1. Name.
2. Title.
3. Dates of commencement and termination of term of office or position.
4. Type of business in which each is primarily engaged (e.g., floor broker, specialist, odd lot dealer, etc.).

Response:

1. Officers of MIAX Emerald, LLC

The following persons are the officers of the Exchange:

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
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

Name	Title
Paul Anders (Andy) Nybo	Senior Vice President – Chief Communications Officer
Charles Blades	Vice President – Controller
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
Gamini Karunaratne	Vice President – Network Engineering & Data Center Operations
Matthew McFarland	Vice President – Derivative Products and Business Development
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
Dimitriy Kotov	Assistant Vice President – Associate Counsel
Michael Slade	Assistant Vice President – Associate Counsel

The officers of the Exchange serve until their successors are appointed in accordance with the By-Laws of the Exchange. Officers of the Exchange serve at the direction of the Board of Directors.

2. Directors of MIAX Emerald, LLC

The following persons are the directors of the Exchange:

Name	Classification	Term of Office	Type of Business
Thomas P. Gallagher	Industry	So long as CEO of the Company	Securities Exchange
David S. Fleming	Industry/Member Representative	Class I – 2023	Global Business Development – Options – Jump Trading, LLC
Kimberly M. Guadagno	Non-Industry/Independent	Class I – 2023	Law Firm Partner – Connell Foley LLP; President & CEO – The FoodBank of Monmouth & Ocean Counties, d/b/a Fulfill; Former NJ Lt. Governor and Secretary of State
Michael Juneman	Industry/Member Representative	Class I – 2023	Formerly with Two Sigma Securities, LLC
Robert D. Prunetti	Non-Industry	Class I – 2023	President – Phoenix Ventures, LLC
Lindsay L. Burbage	Non-Industry/Independent	Class II - 2024	Attorney
Paul Jiganti	Industry/Member Representative	Class II – 2024	Managing Director of Business Development and Market Structure Strategy – IMC Financial Markets
John E. McCormac	Non-Industry/Independent	Class II – 2024	Township Mayor – Woodbridge, New Jersey; Former New Jersey State Treasurer
Liam Smith	Industry	Class II – 2024	Head of Corporate Strategy – Optiver US
Marianne Deane	Non-Industry/Independent	Class III – 2025	Community Volunteer
Kurt M. Eckert	Industry	Class III – 2025	Partner and Head of Market Structure – Wolverine Trading, LLC

Name	Classification	Term of Office	Type of Business
Leslie Florio	Non-Industry/ Independent	Class III – 2025	Vice President – Maxwell Place Condominium Association
Richard Herr	Industry	Class III – 2025	Managing Director – Piper Sandler
Joseph M. Kyrillos, Jr.	Non-Industry/ Independent	Class III – 2025	Director – Newport Capital Group; Principal – SK Partners; Former NJ Senator, 13 th District

3. **Committees of MIAX Emerald, LLC**

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

AUDIT COMMITTEE	
Name	Classification
Robert D. Prunetti (Chair)	Non-Industry
Joseph M. Kyrillos Jr.	Non-Industry/Independent
John E. McCormac	Non-Industry/Independent

COMPENSATION COMMITTEE	
Name	Classification
Robert D. Prunetti (Chair)	Non-Industry
Marianne Deane	Non-Industry/Independent
Joseph M. Kyrillos Jr.	Non-Industry/Independent

REGULATORY OVERSIGHT COMMITTEE	
Name	Classification
Lindsay L. Burbage (Chair)	Non-Industry/Independent
Leslie Florio	Non-Industry/Independent
Kimberly M. Guadagno	Non-Industry/Independent

<i>APPEALS COMMITTEE</i>	
Name	Classification
Marianne Deane (Chair)	Non-Industry/Independent
Kurt M. Eckert	Industry
Paul Jiganti	Industry/Member Representative

<i>TECHNOLOGY COMMITTEE</i>	
Name	Classification
Leslie Florio (Chair)	Non-Industry/Independent
Marianne Deane	Non-Industry/Independent
David S. Fleming	Industry/Member Representative
John E. McCormac	Non-Industry/Independent

EXHIBIT M

Exhibit Request:

Provide an alphabetical list of all members, subscribers or other users, including the following information:

1. **Name;**
2. **Date of election to membership or acceptance as a member, subscriber or other user;**
3. **Principal business address and telephone number;**
4. **If member, subscriber or other user is an individual, the name of the entity with which such individual is associated and the relationship of such individual to the entity (e.g. partner, officer, director, employee, etc.);**
5. **Describe the type of activities primarily engaged in by the member, subscriber, or other user (e.g. floor broker, specialist, odd lot dealer, other market maker, proprietary trader, non-broker dealer, inactive or other functions). A person shall be “primarily engaged” in an activity or function for purposes of this item when that activity or function is the one in which that person is engaged for the majority of their time. When more than one type of person at an entity engages in any of the six types of activities or functions enumerated in this item, identify each type (e.g. proprietary trader, Registered Competitive Trader and Registered Competitive Market Maker) and state the number of participants, subscribers, or other users in each; and**
6. **The class of membership, participation or subscription or other access.**

Response:

Attached is a list of the members of the Exchange as of September 20, 2022, including the information set forth in items 1-6 above.

ABN AMRO CLEARING CHICAGO LLC

175 West Jackson Blvd., Ste. 2050
 Chicago IL 60604
 Tele #: (312) 604-8000

Approval Date: 3/1/2019
Membership Activities:
 Clearance
 International Tele #

SEC #: 8-34354
 CRD #: 14020

APEX CLEARING CORPORATION

One Dallas Center
 350 N. St. Paul, Suite 1300
 Dallas TX 75201
 Tele #: (214) 765-1100

Approval Date: 3/1/2019
Membership Activities:
 Clearance
 International Tele #

SEC #: 8-23522
 CRD #: 13071

BARCLAYS CAPITAL INC.

745 Seventh Avenue
 New York NY 10019
 Tele #: (212) 526-7000

Approval Date: 3/1/2019
Membership Activities:
 Order Entry & Clearance
 International Tele #

SEC #: 8-41342
 CRD #: 19714

BELVEDERE TRADING LLC

10 S. Riverside Plaza, Suite 2100
 Chicago IL 60606
 Tele #: (312) 893-3750

Approval Date: 9/15/2022
Membership Activities:
 Primary Lead, Lead & Registered Market Maker
 International Tele #

SEC #: 8-66612
 CRD #: 132605

BOFA SECURITIES, INC.

One Bryant Park
 New York NY 10036
 Tele #: (646) 743-2734

Approval Date: 3/1/2019
Membership Activities:
 Order Entry & Clearance
 International Tele #

SEC #: 8-69787
 CRD #: 283942

CITADEL SECURITIES LLC

131 South Dearborn Street - 32nd Floor
 Chicago IL 60603
 Tele #: (312) 395-2100

Approval Date: 3/1/2019
Membership Activities:
 Primary Lead, Lead, Registered Market Maker & Order Entry
 International Tele #

SEC #: 8-53574
 CRD #: 116797

CITIGROUP GLOBAL MARKETS INC.

Tower Building
 388 Greenwich Street
 New York NY 10013
 Tele #: (212) 816-6000

Approval Date: 5/1/2019
Membership Activities:
 Order Entry & Clearance
 International Tele #

SEC #: 8-8177
 CRD #: 7059

CREDIT SUISSE SECURITIES (USA) LLC

11 Madison Avenue - 24th Floor
 New York NY 10010
 Tele #: (212) 325-2000

Approval Date: 3/1/2019
Membership Activities:
 Order Entry & Clearance
 International Tele #

SEC #: 8-00422
 CRD #: 816

DASH FINANCIAL TECHNOLOGIES LLC

311 S. Wacker Drive, Ste. 1000
 Chicago IL 60606
 Tele #: (312) 986-2006

Approval Date: 3/1/2019
Membership Activities:
 Order Entry & Clearance
 International Tele #

SEC #: 8-52503
 CRD #: 104031

GLOBAL EXECUTION BROKERS, LP

401 City Avenue, Ste. 200

Bala Cynwyd PA 19004

Tele #: (610) 617-2600

Approval Date: 3/1/2019

SEC #: 8-65878

Membership Activities:

CRD #: 126407

Order Entry

International Tele #

GOLDMAN SACHS & CO. LLC

200 West Street

New York NY 10282

Tele #: (212) 902-1000

Approval Date: 3/1/2019

SEC #: 8-129

Membership Activities:

CRD #: 361

Order Entry & Clearance

International Tele #

GROUP ONE TRADING LP

425 S. Financial Place - Ste. 3400

Chicago IL 60605

Tele #: (312) 347-8864

Approval Date: 3/1/2019

SEC #: 8-47762

Membership Activities:

CRD #: 37484

Order Entry

International Tele #

GTS SECURITIES LLC

545 Madison Avenue, 15th Fl.

New York NY 10022

Tele #: (212) 715-2830

Approval Date: 3/22/2022

SEC #: 8-68126

Membership Activities:

CRD #: 149224

Lead & Registered Market Maker

International Tele #

HRT FINANCIAL LP

175 Greenwich Street - 76th Floor

3 World Trade Center

New York NY 10007

Tele #: (212) 293-1444

Approval Date: 3/1/2019

SEC #: 8-68430

Membership Activities:

CRD #: 152144

Market Maker & Order Entry

International Tele #

IMC-CHICAGO, LLC D/B/A IMC FINANCIAL MARKETS

233 South Wacker Drive, Ste. 4300

Chicago IL 60606

Tele #: (312) 244-3300

Approval Date: 3/1/2019

SEC #: 8-52600

Membership Activities:

CRD #: 104143

Primary Lead, Lead & Registered Market Maker

International Tele #

INSTINET, LLC

Worldwide Plaza

309 West 49th Street

New York NY 10019

Tele #: (212) 310-9500

Approval Date: 3/1/2019

SEC #: 8-23669

Membership Activities:

CRD #: 7897

Order Entry & Clearance

International Tele #

INTERACTIVE BROKERS LLC

One Pickwick Plaza - 2nd Floor

Greenwich CT 06830

Tele #: (203) 618-5710

Approval Date: 3/1/2019

SEC #: 8-47257

Membership Activities:

CRD #: 36418

Order Entry & Clearance

International Tele #

J.P. MORGAN SECURITIES LLC

383 Madison Avenue

New York NY 10179

Tele #: (212) 272-2000

Approval Date: 3/1/2019

SEC #: 8-35008

Membership Activities:

CRD #: 79

Order Entry & Clearance

International Tele #

JANE STREET CAPITAL, LLC

250 Vesey Street - 5th Floor
New York NY 10281
Tele #: (646) 759-6000

Approval Date: 3/8/2019

Membership Activities:

Order Entry
International Tele #

SEC #: 8-52275

CRD #: 103782

JANE STREET OPTIONS, LLC

250 Vesey Street - 5th Floor
New York NY 10281
Tele #: (646) 759-6000

Approval Date: 3/8/2019

Membership Activities:

Registered Market Maker & Order Entry
International Tele #

SEC #: 8-66813

CRD #: 134159

JEFFERIES LLC

520 Madison Avenue - 11th Floor
New York NY 10022
Tele #: (212) 284-2300

Approval Date: 3/1/2019

Membership Activities:

Order Entry & Clearance
International Tele #

SEC #: 8-15074

CRD #: 2347

JUMP TRADING, LLC

600 West Chicago Avenue, Ste. 600
Chicago IL 60654
Tele #: (312) 205-8900

Approval Date: 12/9/2019

Membership Activities:

Registered Market Maker
International Tele #

SEC #: 8-52989

CRD #: 106124

MATRIX EXECUTIONS, LLC

135 S. LaSalle Street, Ste. 3900
Chicago IL 60603
Tele #: (312) 334-8000

Approval Date: 3/1/2019

Membership Activities:

Order Entry
International Tele #

SEC #: 8-48255

CRD #: 38455

MERRILL LYNCH PROFESSIONAL CLEARING CORP.

One Bryant Park - 6th Floor
NY1-100-06-01
New York NY 10036
Tele #: (646) 743-1295

Approval Date: 3/1/2019

Membership Activities:

Clearance
International Tele #

SEC #: 8-33359

CRD #: 16139

MORGAN STANLEY & CO. LLC

1585 Broadway
New York NY 10036
Tele #: (212) 761-4000

Approval Date: 3/1/2019

Membership Activities:

All Market Maker & Electronic Exchange Options Memberships
International Tele #

SEC #: 8-15869

CRD #: 8209

OPTIVER US LLC

130 E. Randolph Street, Ste. 1300
Chicago IL 60601
Tele #: (312) 821-9500

Approval Date: 3/1/2019

Membership Activities:

Primary Lead, Lead & Registered Market Maker
International Tele #

SEC #: 8-66083

CRD #: 128030

PERSHING LLC

One Pershing Plaza - 10th Fl.
Jersey City NJ 07399
Tele #: (201) 413-2000

Approval Date: 3/1/2019

Membership Activities:

Order Entry & Clearance
International Tele #

SEC #: 8-17574

CRD #: 7560

RQD* CLEARING, LLC

425 South Financial Place - Suite 910B
Chicago IL 60605
Tele #: (312) 692-5000

Approval Date: 3/1/2019

SEC #: 8-66826

Membership Activities:

CRD #: 134284

Order Entry & Clearance

International Tele #

SIMPLEX TRADING, LLC

230 So. LaSalle St., Ste. 4-100
Chicago IL 60604
Tele #: (312) 360-2440

Approval Date: 3/1/2019

SEC #: 8-68556

Membership Activities:

CRD #: 153585

Order Entry

International Tele #

SUSQUEHANNA INVESTMENT GROUP

401 City Avenue, Ste. 220
Bala Cynwyd PA 19004
Tele #: (610) 617-2600

Approval Date: 3/1/2019

SEC #: 8-37520

Membership Activities:

CRD #: 33875

Lead & Registered Market Maker

International Tele #

SUSQUEHANNA SECURITIES, LLC

401 City Avenue, Ste. 220
Bala Cynwyd PA 19004
Tele #: (610) 617-2600

Approval Date: 3/1/2019

SEC #: 8-47034

Membership Activities:

CRD #: 35874

Primary Lead, Lead & Registered Market Maker

International Tele #

TWO SIGMA SECURITIES, LLC

100 Avenue of the Americas - 2nd Fl.
New York NY 10013
Tele #: (212) 625-5700

Approval Date: 3/1/2019

SEC #: 8-68090

Membership Activities:

CRD #: 148960

Primary Lead, Lead & Registered Market Maker

International Tele #

UBS SECURITIES LLC

1285 Avenue of the Americas
New York NY 10019
Tele #: (203) 719-3000

Approval Date: 3/1/2019

SEC #: 8-22651

Membership Activities:

CRD #: 7654

Order Entry & Clearance

International Tele #

WELLS FARGO SECURITIES, LLC

550 South Tryon Street - 6th Floor
D1086-060
Charlotte NC 28202
Tele #: (704) 410-1913

Approval Date: 3/6/2019

SEC #: 8-65876

Membership Activities:

CRD #: 126292

Order Entry & Clearance

International Tele #

WOLVERINE EXECUTION SERVICES, LLC

175 W. Jackson Blvd., Ste. 200
Chicago IL 60604
Tele #: (312) 884-4000

Approval Date: 3/1/2019

SEC #: 8-65336

Membership Activities:

CRD #: 120719

Order Entry & Clearance

International Tele #

WOLVERINE TRADING, LLC

175 W. Jackson Blvd., Ste. 200
Chicago IL 60604
Tele #: (312) 884-4000

Approval Date: 3/1/2019

SEC #: 8-47484

Membership Activities:

CRD #: 36848

Primary Lead, Lead & Registered Market Maker

International Tele #

Total BD Firms 36