



August 10, 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 PEARL, LLC (“Pearl”)  
Amendment 2023-13 to Form 1 Application**

Dear Ms. Jackson:

Enclosed for official filing pursuant to Rule 6a-2(a) is Amendment 2023-13 to the Form 1 Application of Pearl, which includes the following changes:

Exhibit C – Updated officers of Miami International Holdings, Inc., Miami International Securities Exchange, LLC, MIAX Emerald, LLC, and MIAX Futures, LLC; updated LLC Agreement for LedgerX LLC  
Exhibit J – Updated officers

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](http://miaxglobal.com)

|                                       |  |   |                         |
|---------------------------------------|--|---|-------------------------|
| Form 1<br>Page 1<br>Execution<br>Page | <b>UNITED STATES SECURITIES AND EXCHANGE COMMISSION</b><br><b>WASHINGTON, D.C. 20549</b><br><b>APPLICATION FOR, AND AMENDMENTS TO APPLICATION FOR,</b><br><b>REGISTRATION AS A NATIONAL SECURITIES EXCHANGE OR EXEMPTION</b><br><b>FROM REGISTRATION PURSUANT TO SECTION 5 OF THE EXCHANGE ACT</b> | Date filed<br>(MM/DD/YY):<br><br>08/10/23 | OFFICIAL<br>USE<br>ONLY |
|---------------------------------------|--|---|-------------------------|

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 PEARL, 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 PEARL, 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): 02/11/16      (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 PEARL, LLC

Date: August 3, 2023

By: *Thomas P. Gallagher*  
Thomas P. Gallagher  
Chairman and Chief Executive Officer

Subscribed and sworn before me this 3rd day of August, 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 PEARL, 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                                       |
| 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  |

| <b>Name</b>             | <b>Title</b>   |
|-------------------------|--|
| 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    |
| Tatiana Kitaigorovski   | Assistant Vice President – Associate Counsel                       |
| Matt Leisen             | Assistant Vice President – 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.:

| <b>Directors</b>               |
|--------------------------------|
| 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.:

| <b>Audit Committee</b>     |
|----------------------------|
| 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.:

| <b>Compensation Committee</b>    |
|----------------------------------|
| 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:

| <b>Name</b>             | <b>Title</b>   |
|-------------------------|--|
| 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  |
| 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   |

| <b>Name</b>           | <b>Title</b>  |
|-----------------------|---|
| 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                                 |
| 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:

| <b>Directors</b>    |
|---------------------|
| 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        |
| <b>Observers</b>       |
| 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:

|                            |
|----------------------------|
| <b>Audit Committee</b>     |
| Robert D. Prunetti (Chair) |
| Michael P. Ameen           |
| John E. McCormac           |

|                               |
|-------------------------------|
| <b>Compensation Committee</b> |
| J. Gray Teekell (Chair)       |
| Robert D. Prunetti            |
| Cynthia Schwarzkopf           |

|                                       |
|---------------------------------------|
| <b>Regulatory Oversight Committee</b> |
| Lindsay L. Burbage (Chair)            |
| Leslie Florio                         |
| Lawrence E. Jaffe                     |

|                          |
|--------------------------|
| <b>Appeals Committee</b> |
| Lawrence Jaffe (Chair)   |
| Robert Castrignano       |
| Kurt M. Eckert           |

| <b>Technology Committee</b> |
|-----------------------------|
| 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 EMERALD, LLC**

1. *Name:* MIAX Emerald, 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 January 30, 2018.
4. *Brief description of nature and extent of affiliation:* MIAX Emerald, LLC ("MIAX Emerald") is wholly-owned by Miami International Holdings, Inc., which is the applicant's 100% owner.
5. *Brief description of business or functions:* MIAX Emerald is registered as a National Securities Exchange under Section 6 of the Securities Exchange Act of 1934, as amended. MIAX Emerald 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 Second 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 MIAX Emerald, LLC**

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

| <b>Name</b>             | <b>Title</b>   |
|-------------------------|--|
| 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  |
| 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                                |

| Name                  | Title   |
|-----------------------|---|
| 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 Emerald, LLC serve until their successors are appointed in accordance with the By-Laws of MIAX Emerald, LLC. Officers of MIAX Emerald, LLC will serve at the direction of the Board of Directors.

**Directors of MIAX Emerald, LLC**

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

| Directors              |
|------------------------|
| Thomas P. Gallagher    |
| Lindsay L. Burbage     |
| Marianne Deane         |
| Kurt M. Eckert         |
| David S. Fleming       |
| Leslie Florio          |
| Kimberly M. Guadagno   |
| Richard Herr           |
| Paul Jiganti           |
| Michael Juneman        |
| Joseph M. Kyrillos Jr. |
| John E. McCormac       |

|                    |
|--------------------|
| Robert D. Prunetti |
| Liam Smith         |

**Committees of MIAX Emerald, LLC**

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

|                            |
|----------------------------|
| <b>Audit Committee</b>     |
| Robert D. Prunetti (Chair) |
| Joseph M. Kyrillos Jr.     |
| John E. McCormac           |

|                               |
|-------------------------------|
| <b>Compensation Committee</b> |
| Robert D. Prunetti (Chair)    |
| Marianne Deane                |
| Joseph M. Kyrillos Jr.        |

|                                       |
|---------------------------------------|
| <b>Regulatory Oversight Committee</b> |
| Lindsay L. Burbage (Chair)            |
| Leslie Florio                         |
| Kimberly M. Guadagno                  |

|                          |
|--------------------------|
| <b>Appeals Committee</b> |
| Marianne Deane (Chair)   |
| Kurt M. Eckert           |
| Paul Jiganti             |

|                             |
|-----------------------------|
| <b>Technology Committee</b> |
| Leslie Florio (Chair)       |
| Marianne Deane              |
| David S. Fleming            |
| 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:

| <b>Name</b>            | <b>Title</b>   |
|------------------------|--|
| 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 & Chief Information Security Officer |
| Randy Foster           | Senior Vice President – Business Systems Development                               |
| Matthew Rotella        | Senior Vice President – Chief Technology Officer                                   |

**Directors of MIAX Sapphire, LLC**

The following persons are the directors of MIAX Sapphire, 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.

**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 |

| Name               | Title   |
|--------------------|---|
| 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  |
| 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**

- Name:* MIAX Futures, 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 November 30, 2007.
- 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.
- Brief description of business or functions:* MIAX Futures is the owner of 51% of the outstanding membership interests in ConvexityShares, LLC.
- 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

1. *Name:* The Bermuda Stock Exchange  
*Address:* 110 Pitts Bay Road, 4<sup>th</sup> Floor, Pembroke, Bermuda HM 08
2. *Form of organization:* A body corporate incorporated pursuant to The Bermuda Stock Exchange Act 1992.
3. *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:

| <b>Name</b>              | <b>Title</b>                        |
|--------------------------|-------------------------------------|
| 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:

| <b>Council</b>                 |
|--------------------------------|
| 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**

|                                       |
|---------------------------------------|
| <b>Business Development Committee</b> |
| Eric Sites                            |
| Jeff Conyers                          |
| Michael Neff                          |
| Gregory A. Wojciechowski              |

|                               |
|-------------------------------|
| <b>Compensation Committee</b> |
| Thomas P. Gallagher           |
| David Brown                   |
| Jeff Conyers                  |
| Michael Neff                  |

|                                       |
|---------------------------------------|
| <b>Executive Management Committee</b> |
| Thomas P. Gallagher                   |
| David Brown                           |
| Jeff Conyers                          |
| Michael Neff                          |

|                          |
|--------------------------|
| <b>Listing Committee</b> |
| 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, 4<sup>th</sup> 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:

| <b>Council</b>           |
|--------------------------|
| 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:

| <b>Name</b>         | <b>Title</b>  |
|---------------------|---|
| 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:

| <b>Directors</b>    |
|---------------------|
| 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 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:

| <b>Name</b>           | <b>Title</b>  |
|-----------------------|---|
| 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:

| <b>Directors</b>           |
|----------------------------|
| 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**

| <b>Executive Committee</b>              |
|---|
| Thomas P. Gallagher, Chairperson        |
| Kerry L. Melius, First Vice Chairperson |
| Bradley Griffith                        |
| Murray Stahl                            |
| Mark G. Bagan*                          |

| <b>Audit Committee</b>           |
|----------------------------------|
| Thomas P. Gallagher, Chairperson |
| Mark G. Bagan                    |
| De'Ana H. Dow                    |
| Michael V. Dunn                  |
| Bradley Griffith                 |

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

| <b>Regulatory Oversight Committee</b> |
|---------------------------------------|
| De'Ana H. Dow, Chairperson            |
| Michael V. Dunn                       |
| Bradley Griffith                      |
| Thomas P. Gallagher*                  |
| Mark G. Bagan*                        |

| <b>Risk Management Committee</b> |
|----------------------------------|
| 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:

| <b>Name</b>              | <b>Title</b>  |
|--------------------------|---|
| 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:

| <b>Directors</b>    |
|---------------------|
| 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**

- 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:

| 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                          |
| 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:

| <b>Name</b>         | <b>Title</b>  |
|---------------------|---|
| 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:

| <b>Directors</b>    |
|---------------------|
| 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:

| <b>Name</b>         | <b>Title</b>  |
|---------------------|---|
| 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:

| <b>Directors</b>            |
|-----------------------------|
| 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**

| <b>Regulatory Oversight Committee</b> |
|---------------------------------------|
| Lindsay L. Burbage                    |
| Larry Thompson                        |
| Jerome Kemp                           |
| Jill Sommers                          |

| <b>Risk Management Committee</b> |
|----------------------------------|
| Bryan Bishop                     |
| Zachary Dexter                   |
| Kurt M. Eckert                   |
| Thomas P. Gallagher              |
| Jerome Kemp                      |
| Larry Thompson                   |
| Mark Wetjen                      |

| <b>Participant Committee</b> |
|------------------------------|
| Kurt M. Eckert               |
| Zachary Dexter               |
| Jerome Kemp                  |
| Larry Thompson               |

| <b>Nominating Committee</b> |
|-----------------------------|
| Lindsay L. Burbage          |
| Kurt M. Eckert              |
| Jill Sommers                |
| Larry Thompson              |
| Mark Wetjen                 |

| <b>Disciplinary Panel</b> |
|---------------------------|
| Bryan Bishop              |
| Kurt M. Eckert            |
| Jerome Kemp               |
| Jill Sommers              |

| <b>Appeals Committee</b> |
|--------------------------|
| 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               |
| 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 PEARL, 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  |
| Kelli Annequin         | Senior Vice President – Chief Marketing Officer                                      |

| <b>Name</b>             | <b>Title</b>   |
|-------------------------|--|
| 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  |
| 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                                    |
| 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 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 PEARL, LLC

The following persons are the directors of the Exchange:

| <b>Name</b>           | <b>Classification</b>          | <b>Term of Office</b>         | <b>Type of Business</b>  |
|-----------------------|--------------------------------|-------------------------------|--|
| Thomas P. Gallagher   | Industry                       | So long as CEO of the Company | Securities Exchange  |
| Sean Barry            | Industry/Member Representative | Class I – 2024                | Chief Information Officer – ADM Investor Services, Inc.  |
| David Brown           | Non-Industry                   | Class I – 2024                | Retired  |
| Guy Dowman            | Industry/Member Representative | Class I – 2024                | Head of Options Business Development for HRT Financial, LP – Hudson River Trading  |
| Lawrence E. Jaffe     | Non-Industry/Independent       | Class I – 2024                | Attorney (Retired)   |
| Paul Kenyon           | Industry                       | Class I – 2024                | Business Development, Americas – Jump Trading, LLC   |
| William J. O'Brien IV | Non-Industry                   | Class I – 2024                | Chief Executive Officer – Performance Operating Partners, LLC; President and Chief Operating Officer – O'Brien Energy Company, LLC |
| Robert D. Prunetti    | Non-Industry                   | Class I – 2024                | President – Phoenix Ventures, LLC  |
| William T. Bergman    | Non-Industry/Independent       | Class II – 2025               | Vice President and Special Assistant to the President – Temple University  |
| Lindsay L. Burbage    | Non-Industry/Independent       | Class II – 2025               | Attorney   |
| Michael Harrington    | Industry                       | Class II – 2025               | Head of Client Relationships – Citadel, LLC  |

| <b>Name</b>                | <b>Classification</b>          | <b>Term of Office</b> | <b>Type of Business</b>   |
|----------------------------|--------------------------------|-----------------------|---|
| John E. McCormac           | Non-Industry/<br>Independent   | Class II – 2025       | Township Mayor – Woodbridge, New Jersey; Former New Jersey State Treasurer                |
| Miguel Moratiel            | Non-Industry                   | Class II – 2025       | Manager – MDR Inversiones, S.L.   |
| Scott Richardson           | Industry                       | Class II – 2025       | Managing Partner (Austin) – Optiver Services US, LLC                                      |
| Steven Sosnick             | Industry/Member Representative | Class II – 2025       | Chief Strategist – Interactive Brokers LLC  |
| Talal Jassim Al-Bahar      | Non-Industry                   | Class III – 2026      | Chairman – IFA Hotels & Resorts K.S.C.; Vice Chairman and CEO – Kuwait Real Estate K.S.C. |
| Kurt M. Eckert             | Industry                       | Class III – 2026      | Former Partner and Head of Market Structure – Wolverine Trading, LLC                      |
| Leslie Florio              | Non-Industry/<br>Independent   | Class III – 2026      | Vice President – Maxwell Place Condominium Association                                    |
| Nathaniel Pomeroy          | Industry/Member Representative | Class III – 2026      | Principal – Wolverine Trading Technologies, LLC   |
| Cynthia Schwarzkopf        | Non-Industry/<br>Independent   | Class III – 2026      | Professional and Philanthropic Public Speaker   |
| Erik Swanson               | Industry/Member Representative | Class III – 2026      | Chief Executive Officer – Simplex Trading, LLC  |
| Christopher L. Whittington | Non-Industry                   | Class III – 2026      | Attorney  |

### 3. Committees of MIAX PEARL, LLC

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

| <b>COMPENSATION COMMITTEE</b> |                          |
|-------------------------------|--------------------------|
| <b>Name</b>                   | <b>Classification</b>    |
| Cynthia Schwarzkopf (Chair)   | Non-Industry/Independent |
| William T. Bergman            | Non-Industry/Independent |
| Robert D. Prunetti            | Non-Industry             |

| <b>AUDIT COMMITTEE</b>     |                          |
|----------------------------|--------------------------|
| <b>Name</b>                | <b>Classification</b>    |
| Robert D. Prunetti (Chair) | Non-Industry             |
| John E. McCormac           | Non-Industry/Independent |
| Cynthia Schwarzkopf        | Non-Industry/Independent |

| <b>REGULATORY OVERSIGHT COMMITTEE</b> |                          |
|---------------------------------------|--------------------------|
| <b>Name</b>                           | <b>Classification</b>    |
| Lindsay L. Burbage (Chair)            | Non-Industry/Independent |
| Leslie Florio                         | Non-Industry/Independent |
| Lawrence E. Jaffe                     | Non-Industry/Independent |

| <b>APPEALS COMMITTEE</b>  |                                |
|---------------------------|--------------------------------|
| <b>Name</b>               | <b>Classification</b>          |
| Lawrence E. Jaffe (Chair) | Non-Industry/Independent       |
| Kurt M. Eckert            | Industry                       |
| Guy Dowman                | Industry/Member Representative |

| <b>TECHNOLOGY COMMITTEE</b> |                                |
|-----------------------------|--------------------------------|
| <b>Name</b>                 | <b>Classification</b>          |
| Leslie Florio (Chair)       | Non-Industry/Independent       |
| Sean Barry                  | Industry/Member Representative |
| David Brown                 | Non-Industry                   |
| Kurt M. Eckert              | Industry                       |
| John E. McCormac            | Non-Industry/Independent       |

**SECOND AMENDED AND RESTATED  
LIMITED LIABILITY COMPANY AGREEMENT  
OF  
LEDGERX LLC**

This Second Amended and Restated Limited Liability Company Agreement (as amended, restated or otherwise modified, this “Agreement”) of LedgerX LLC (the “Company”) between the Company and M 7 Holdings, LLC, a Delaware limited liability company (the “Current Member”), is entered into as of July 31, 2023, pursuant to the provisions of the Delaware Limited Liability Company Act (6 Del. C. Sections 18-101, et seq.) (as amended from time to time, the “Act”), on the following terms and conditions that appear below. This Agreement amends and restates in its entirety the Amended and Restated Limited Liability Company Agreement of the Company dated September 29, 2014.

**SECTION 1  
DEFINED TERMS**

The following capitalized terms used in this Agreement shall have the meanings specified in this Section 1. Other terms used in this Agreement are defined in the Rules, and those terms shall have the meanings respectively ascribed to them therein.

“Act” has the meaning set forth in the Preamble.

“Agreement” has the meaning set forth in the Preamble.

“Board” has the meaning set forth in Section 5.1.

“Capital Transaction” means any transaction not in the ordinary course of business which results in the Company's receipt of cash or other consideration other than Capital Contributions, including, without limitation, proceeds of sales or exchanges or other dispositions of assets not in the ordinary course of business, the financing or refinancing of Company property, condemnation of Company assets and recovery of substantial amounts of insurance proceeds from casualty loss.

“Certificate” has the meaning set forth in Section 2.1.

“CFTC” means the U.S. Commodity Futures Trading Commission or any successor thereto with similar regulatory authority over the Company and its business, activity, property, or assets.

“Code” means the Internal Revenue Code of 1986, as amended, or any corresponding provision of any succeeding law.

“Company” has the meaning set forth in the Preamble.

“Covered Person” means any current or former Member, Director, or Officer and, with respect to each such Person, such Person’s affiliates, officers, directors, liquidators, partners,

stockholders, managers, members, employees, heirs, executors, administrators, personal and legal representatives, successors in interest, and permitted assigns.

“**Current Member**” has the meaning set forth in the Preamble.

“**Director**” has the meaning set forth in Section 5.1.

“**Member**” means the Current Member and each Person who becomes a party to this Agreement by signing a joinder agreement as a holder of a Unit.

“**Membership Rights**” means all of the rights of a Member, including, but not limited to, a Member’s: (a) Units; (b) right to inspect the Company’s books and records; and (c) right to participate in the management of and vote on matters coming before the Members entitled to vote thereon as provided in this Agreement.

“**Net Capital Proceeds**” means the proceeds from a Capital Transaction reduced by (i) expenditures incurred to effect the Capital Transaction, (ii) expenditures for the recovery, repair, restoration or replacement of any asset damaged or disposed of in the Capital Transaction, (iii) amounts paid on any loans or other obligations of the Company that became due, or that the Board deems it appropriate to pay, as the result of the Capital Transaction, and (iv) such reserves for capital improvements and/or replacements or repairs and/or to meet anticipated expenses as the Board deems to be reasonably necessary for the efficient conduct of the Company’s business.

“**Net Cash Flow**” means, at any time, all cash funds or other liquid assets of the Company derived from operations, without reduction for any non-cash charges, but reduced by funds used to pay current operating expenses and to pay or increase reserves for future expenses, debt service, capital improvements and replacements, in each case as determined by the Board to be appropriate. Net Cash Flow shall be increased by any reduction of previously established reserves. Net Cash Flow shall not include Net Capital Proceeds.

“**Notice**” has the meaning set forth in Section 9.5.

“**Officers**” has the meaning set forth in Section 5.10.

“**Person**” means any natural person, general partnership, limited partnership, joint venture, corporation, limited liability company, trust, estate, sole proprietorship, unincorporated association, employee organization, mutual company, joint stock company, firm, institution, governmental organization or agency, or other entity.

“**Public Director**” has the meaning set forth in Section 5.3(a).

“**Regulatory Requirements**” means any applicable law (including, but not limited to, the Act), rules, regulations, or other requirements imposed by any governmental organization or agency that has authority or jurisdiction over the Company or its business, activities, property, or assets, including, but not limited to, the CFTC.

“**Rules**” has the meaning set forth in Section 2.10.

“**Secretary of State**” has the meaning set forth in Section 2.1.

“**Third Party**” means any Person, or group of Persons acting as a group, in which the then-current equity owners of the Company, their family members and/or affiliates of such equity owners and/or family members do not, directly or indirectly, (i) own more than fifty percent (50%) of the value of equity interests or (ii) have the right to exercise voting control.

“**Transfer**” means, when used as a noun, any voluntary sale, hypothecation, pledge, assignment, attachment, or other transfer, and when used as a verb, means voluntarily to sell, hypothecate, pledge, assign, or otherwise transfer.

“**Units**” mean the membership interests in the Company, representing all rights and duties of a Member of the Company, including the right to a distributive share of the capital, profits and losses of the Company, and the right to receive distributions from the Company, subject to all the provisions of this Agreement and the Act.

“**Withdrawal**” means a Member’s dissociation from the Company as such by any means; *provided that* the bankruptcy or insolvency of a Member shall not automatically constitute a Withdrawal.

## **SECTION 2**

### **FORMATION, NAME, PURPOSE, TERM, AND OFFICE**

2.1. **FORMATION**. The Company has been formed as a limited liability company (and not a partnership) pursuant to the provisions of the Act by the filing of a Certificate of Formation of the Company (the “Certificate”) with Secretary of State of the State of Delaware (the “Secretary of State”) on April 8, 2014.

2.2. **NAME OF THE COMPANY**. The name of the Company shall be “LedgerX LLC”. The Company may do business and conduct its activities under that name, and under any other name or names which the Board may, subject to Regulatory Requirements, determine. If the Company does business or conducts activities under a name other than that set forth in the Certificate, then the Company shall file a trade name certificate as required by Regulatory Requirements. The Company shall hold all of its property and assets in the name of the Company and not in the name of any Member.

2.3. **PURPOSE**. The purpose of the Company shall be to engage in any lawful business or other activities for which a limited liability company may be organized under the Act, including, but not limited to, the operation of an exchange and clearing organization registered with the CFTC for crypto currency derivatives, and to do any and all acts and things that may be necessary or convenient to the foregoing, including, but not limited to, the promotion and conduct of the business and activities of the Company or the ownership and maintenance of its property and assets.

2.4. **POWERS.** The Company shall possess and may exercise all of the powers and privileges granted by the Act, all other Regulatory Requirements, and this Agreement, together with any powers incidental thereto, so far as such powers and privileges are necessary or convenient to the business, activities, property, or assets of the Company.

2.5. **TERM.** The duration of the Company shall be perpetual, unless its existence is terminated pursuant to Section 7 of this Agreement.

2.6. **PRINCIPAL OFFICE.** The principal office of the Company shall be at such location as may be designated by the Board from time to time.

2.7. **REGISTERED OFFICE; REGISTERED AGENT.** The registered office of the Company required by the LLC Act to be maintained in the State of Delaware shall be 1209 Orange Street in the City of Wilmington, County of New Castle, ZIP Code 19801 or such other office as the Board of Directors may designate from time to time. The registered agent for the Company shall be The Corporation Trust Company or such other registered agent as the Board of Directors may designate from time to time.

2.8. **QUALIFICATION.**

(a) **QUALIFICATION WITH DELAWARE.** The Certificate has been filed in the office of the Secretary of State in accordance with the provisions of the Act. The Company shall take any and all other actions reasonably necessary to perfect and maintain the status of the Company under the laws of the State of Delaware. The Company shall prepare and file amendments to the Certificate whenever required by the Act.

(b) **QUALIFICATION WITH OTHER JURISDICTIONS AND AGENCIES.** The Company shall execute and file such forms or certificates and take any and all other actions as may be reasonably necessary or advisable to perfect and maintain the status of the Company under the Regulatory Requirements of any other states, jurisdictions, or governmental organizations or agencies with authority or jurisdiction over the Company or its business, activities, property, or assets.

2.9 **RESERVATION OF OTHER BUSINESS AND OPPORTUNITIES.** Except and solely to the extent that any business or other opportunities of any Member are actually exploited by the Company, no business or other opportunities of a Member shall be deemed the property of the Company. A Member may engage in or possess an interest in any business or other opportunity, independently or with others, of any nature or description, even if such business or other opportunity is in direct competition with the business or activities of the Company, and the Company shall have no rights by virtue hereof in or to such other business or other opportunity, or to the income or profits derived therefrom.

2.10 **THE RULES.** In addition to the terms and conditions of this Agreement, the operation and management of the business and affairs of the Company, the conduct of its activities, and the ownership and maintenance of its property and assets shall be subject to the Rules of LedgerX LLC as in effect from time to time (the "Rules"). To the extent there is any conflict

between the Rules and this Agreement, the Agreement shall govern with respect to the subject matter hereof.

**SECTION 3**  
**MEMBERS, CAPITAL, AND LOANS**

3.1. **MEMBERSHIP.**

(a) **CURRENT MEMBER; UNITS.** The name, business address, and Units of the Current Member are set forth on Exhibit A to this Agreement.

(b) **RESTRICTION ON OWNERSHIP.** Membership in the Company shall be restricted or conditioned to the extent required by the Rules or Regulatory Requirements from time to time.

(c) **ADDITIONAL MEMBERS; VOTING INTERESTS.** Additional Members may be admitted to the Company upon signing a joinder agreement to this Agreement on such terms and conditions as may be approved by the Board and, as applicable, the Members. Unless named in this Agreement or admitted to the Company as a Member as provided herein, no Person shall be considered a Member. The Company shall not be required to deal with any other Person by reason of an assignment of a Unit by a Member or by reason of the bankruptcy of a Member, except as otherwise provided in this Agreement or the Act. The Units of the Member shall be voting interests.

3.2. **CAPITAL CONTRIBUTIONS.** Any Member may make capital contributions to the Company at any time as determined and approved by the Board. No interest shall accrue on any contribution, and no Member shall have any right to withdraw or be repaid any contribution except as provided herein. The provisions of this Agreement are intended to benefit the Members and, to the fullest extent permitted by Regulatory Requirements, shall not be construed as conferring any benefit upon any creditor of the Company (and no such creditor of the Company shall be a third-party beneficiary of this Agreement), and no Member shall have any duty or obligation to any creditor of the Company, including, but not limited to, making any contribution to the Company or responding to any call for capital, pursuant to this Agreement.

3.3. **LOANS TO AND BUSINESS WITH THE COMPANY.** Except as provided in Regulatory Requirements, any Member may, at any time, make or cause a loan to be made to, or assume one or more obligations of, provide collateral for, or transact other business or activities with, the Company in any amount and upon any terms which the Board and the Member may agree, and such Member shall have the same rights and obligations with respect to any such matter as a Person who is not a Member.

**SECTION 4**  
**DISTRIBUTIONS**

4.1 **NET CASH FLOW.** From time to time as it determines to be appropriate, the Board shall determine whether there is any Net Cash Flow available for distribution. If the Board

determines that Net Cash Flow is available for distribution, it shall cause the Company to distribute such Net Cash Flow among the Members in proportion to their relative ownership of Units.

4.2 **NET CAPITAL PROCEEDS.** Within a reasonable time after the occurrence of a Capital Transaction, the Board shall determine the amount of Net Capital Proceeds available for distribution, if any, and shall distribute Net Capital Proceeds in the following manner and/or order of priority:

(i) First, to the extent that the Capital Account balances of the Members are not in proportion to their relative ownership of Units, funds shall be distributed to those Members with Capital Account balances that are proportionately higher than their relative ownership of Units, in portion to such excess Capital Account balances, until all Capital Account balances have been brought into proportion with the Members' relative ownership of Units; and

(ii) Thereafter, funds shall be distributed among the Members in proportion to their relative ownership of Units.

4.3 **LIMITATION ON DISTRIBUTIONS.** Notwithstanding any provision to the contrary contained in this Agreement, the Company shall not make any distribution to any Member unless, after the distribution is made, the assets of the Company are in excess of the liabilities of the Company and such distribution would not violate this Agreement or Regulatory Requirements.

## **SECTION 5** **MANAGEMENT POWERS AND AUTHORITY, DUTIES, AND LIABILITIES**

5.1. **ESTABLISHMENT OF THE BOARD.** The board of directors of the Company (the "Board") is hereby established and shall be composed of natural Persons (each such Person, a "Director") who shall be elected or appointed in accordance with the provisions of this Section 5 and the Act. The business and affairs of the Company shall be managed, operated, and controlled by or under the direction of the Board, and the Board shall have, and is hereby granted, the full and complete power and authority for, on behalf of, and in the name of the Company to take such actions as it may deem necessary or advisable to carry out any and all of the purposes of the Company, subject only to the terms of this Agreement (including, but not limited to, the matters that must be approved by a vote of the Members as set forth in Exhibit B) and the Act.

5.2. **QUALIFICATIONS OF ALL DIRECTORS.** Each Person elected or appointed a Director, prior to serving on the Board, shall certify in writing to the Company that he (a) is not subject to a statutory disqualification under Section 8a(2) of the Commodity Exchange Act, as amended, (b) does not have a history of disciplinary offenses as defined in CFTC Regulation 1.63(a)(6), and (c) meets the other qualifications set forth in Rule 2.4 of the Rules.

5.3. **BOARD COMPOSITION; VACANCIES.**

(a) **BOARD COMPOSITION.** The Directors shall be elected by the Members. Each Director shall hold office until such Director's successor is elected or appointed and qualified or until the earlier death, resignation, or removal of such Director. The Board and

the Members shall take such actions as may be required to ensure that the number of Directors constituting the Board is at all times at least five (as such number shall be determined by the Board, from time to time), which shall include natural Persons who are Public Directors in at least the number and percentage required by the Rules or Regulatory Requirements. For purposes of this Agreement, a “Public Director” means any Director who has been found by the Board, which finding shall be reflected in the Company’s records, to have no Material Relationship (as defined in the Rules) with the Company, and otherwise meets Regulatory Requirements. The Board shall elect a Director to serve as Chairman of the Board, who need not be a Public Director.

(b) **VACANCIES**. In the event that a vacancy is created on the Board at any time due to the death, disability, retirement, resignation, or removal of a Director, then the Board (by action of the remaining Directors (even if less than a quorum)) or the Members shall appoint a natural Person to fill the vacancy (subject to the other provisions of this Section 5). If the vacancy is for a seat filled by a Public Director, the Board or the Members, as applicable, shall appoint a natural Person that satisfies the definition of Public Director.

5.4. **RESIGNATION; REMOVAL**.

(a) **RESIGNATION**. A Director may resign at any time from the Board by delivering a written resignation to the Board. Any such resignation shall be effective upon receipt thereof unless it is specified to be effective at some other time or upon the occurrence of some other event. The Board’s acceptance of a resignation shall not be necessary to make it effective.

(b) **REMOVAL**. A Director may be removed at any time from the Board, with or without cause, by vote of a majority of the Directors then in office or by the Members .

5.5. **MEETINGS**.

(a) **GENERALLY**. The Board shall meet at such time and at such place as the Board may designate. Meetings of the Board may be held either in person, at the offices of the Company or such other place (either within or outside the State of Delaware) as may be determined from time to time by the Board, or by means of telephone, video conference, or other communications device that permits all Directors and other Persons participating in the meeting to hear each other, and a Director’s participation in a meeting by such means shall constitute attendance in person at such meeting. Except as provided in Section 5.5(b), written notice of each meeting of the Board shall be given to each Director at least 24 hours prior to such meeting.

(b) **SPECIAL MEETINGS**. Special meetings of the Board shall be held on the call of the Chairman of the Board, the Chief Executive Officer, or any two Directors upon at least five days’ written notice (if the meeting is to be held in person) or upon 24 hours’ written notice (if the meeting is to be held by telephone, video conference, or other communication device) to the Directors, or upon such shorter notice as may be approved by all of the Directors then in office or is practicable in the case of an Emergency (as defined in the Rules).

(c) **ATTENDANCE AND WAIVER OF NOTICE**. Any Director may waive notice as to such Director. Attendance by a Director at any meeting shall constitute a waiver of

notice of such meeting, except where a Director attends a meeting solely for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board need be specified in the notice or waiver of notice of such meeting.

5.6. **QUORUM; MANNER OF ACTING.**

(a) **QUORUM.** A majority of the Directors serving on the Board, including at least one Public Director, shall constitute a quorum for the transaction of business of the Board. At all times when the Board is conducting business at a meeting of the Board, a quorum of the Board must be present at such meeting. If a quorum shall not be present at any meeting of the Board, then the Directors present at the meeting may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

(b) **BINDING ACT.** Each Director shall have one vote on all matters submitted to the Board (or any committee or subcommittee of the Board of which he is a member). With respect to any matter before the Board (or any committee or subcommittee), the act of a majority of the Directors constituting a quorum shall be the act of the Board (or committee or subcommittee).

5.7. **ACTION BY WRITTEN CONSENT.** Notwithstanding anything herein to the contrary, any action of the Board (or any committee or subcommittee of the Board) may be taken without a meeting and without notice if there is a written consent of all of the Directors on the Board (or committee or subcommittee) approving such action. Such consent shall have the same force and effect as a vote at a meeting where a quorum was present and may be stated as such in any document or instrument filed with the Secretary of State or any other Person.

5.8. **COMPENSATION; NO EMPLOYMENT RIGHTS; POWER OF DIRECTORS.**

(a) **COMPENSATION.** Each Director shall be compensated for service on the Board (and any committee or subcommittee of the Board), and shall be reimbursed for reasonable out-of-pocket expenses incurred in the performance of such Person's duties as a Director, pursuant to such policies as from time to time established by the Board. Nothing contained in this Section 5.8 shall be construed to preclude any Director from serving the Company in any other capacity and receiving reasonable compensation for such services.

(b) **NO EMPLOYMENT RIGHTS.** This Agreement does not, and is not intended to, confer upon any Director any rights with respect to employment or other retention by the Company, and nothing herein shall be construed to have created any employment or other agreement with any Director.

(c) **POWER OF DIRECTORS.** Except as otherwise specifically provided by this Agreement or required by the Rules or Regulatory Requirements, no Director, in such Person's capacity as a Director, shall have the power to act for or on behalf of, or to bind, the Company without prior authorization of the Board.

5.9. **BOARD AND OTHER COMMITTEES AND SUBCOMMITTEES.**

(a) **ESTABLISHMENT AND POWER.** The Board may create, appoint Directors to serve on, and delegate powers to committees and subcommittees. In no event may the Board delegate to any committee or subcommittee all of the power and authority of the Board. Subject to the immediately preceding sentence, any committee or subcommittee, to the extent provided in the Board resolution forming such committee or subcommittee, shall have and may exercise the power and authority of the Board, subject to the limitations set forth in Section 5.9(d). The Board may dissolve any committee or subcommittee or remove any member of a committee or subcommittee at any time, subject to the other requirements of this Agreement, the Rules, and Regulatory Requirements. Each committee or subcommittee shall have a written charter and shall assist in the supervision of the business and affairs of the Company within its particular area of responsibility, subject to the authority of the Board. The Board shall designate the chairman of each committee or subcommittee. Subject to the authority of the Board and this Agreement, each committee or subcommittee shall determine the manner and form in which its proceedings shall be conducted. A majority of the Directors serving on a committee or subcommittee, including where applicable at least one Public Director, shall constitute a quorum for the transaction of business of such committee or subcommittee. The Board has the authority to change or overrule the decisions of any committee or subcommittee.

(b) **REQUIRED COMMITTEES.** In accordance with the Rules, there shall be a Regulatory Oversight Committee, a Risk Management Committee, a Participant Committee, a Nominating Committee, a Disciplinary Panel and an Appeals Committee. Each such committee shall include the number and percentage of Public Directors as required by the Rules.

(c) **ADDITIONAL COMMITTEES.** The Board may create, appoint Directors to serve on, and delegate powers to one or more additional committees, including, but not limited to, an Executive Committee, each of which shall be composed of one or more Directors; *provided that*, if an Executive Committee is formed pursuant to this Section 5.9(c), such committee shall consist of at least 35% Public Directors and at least two Public Directors.

(d) **LIMITATION OF AUTHORITY.** No committee or subcommittee of the Board shall have the authority of the Board in reference to:

- (i) authorizing or making distributions to the Members;
- (ii) authorizing the issuance of any Units;
- (iii) approving a plan of merger or sale of the Company or of all or substantially all of its assets and property;
- (iv) recommending to the Members a voluntary dissolution, winding up, or cancellation of the Company or a revocation thereof;
- (v) removing Directors or filling vacancies on the Board;

(vi) creating, appointing Directors to serve on, or delegating powers to any committees or subcommittees of the Board; or

(vii) amending or repealing this Agreement, or any resolution of the Board that by its terms provides that it shall not be so amendable or repealable.

5.10. **OFFICERS.** The Board shall appoint such natural Persons as officers of the Company (the “Officers”) as it deems necessary or advisable to carry on the business and affairs of the Company, and the Board may delegate to such Officers such power and authority and duties as the Board deems necessary or advisable or as required by the Rules or Regulatory Requirements. No Officer need be a Member or a Director. The Company shall have a Chief Executive Officer, a Chief Regulatory Officer, a Chief Compliance Officer and a Chief Risk Officer. The duties of the Chief Compliance Officer and the Chief Risk Officer shall be consistent with the Rules and Regulatory Requirements. A Person may hold two or more offices of the Company, provided, that, the Chief Risk Officer and Chief Compliance Officer offices may not be held by the same Person. Each Officer shall hold office until a successor is designated by the Board or until the earlier death, resignation, or removal of such Officer. Any Officer may resign at any time upon written notice to the Board. Any Officer may be removed by the Board, with or without cause, at any time, but any such removal shall be without prejudice to the contractual rights of such Officer, if any, to receive any specified compensation or benefits. A vacancy in any office occurring because of death, resignation, removal, or otherwise may be filled by the Board. Each Officer shall be compensated for his service and shall be reimbursed for his reasonable out-of-pocket expenses incurred in the performance of his duties, pursuant to such policies as from time to time established by the Board.

5.11. **INTERESTS TO CONSIDER; FIDUCIARY DUTIES.**

(a) **INTERESTS TO CONSIDER.** Each of the Members, as well as the Company, hereby acknowledges and agrees that, whenever a Covered Person is permitted or required to act or refrain from acting, or to make any other decision (solely in such Person’s capacity as a Covered Person) pursuant to any power or authority of such Person under this Agreement or the Act, such Person shall make such decision in a manner which such Person believes to be in the best interests of the Company and its Members.

(b) **FIDUCIARY DUTIES.** The provisions of this Agreement, including, but not limited to, the extent that they restrict or eliminate the duties, responsibilities, and liabilities of a Covered Person (acting solely in such Person’s capacity as a Covered Person) otherwise existing at law or in equity, are hereby acknowledged and agreed by the Members, as well as the Company, to replace, to the fullest extent permitted by law and equity, such other duties, responsibilities, and liabilities of such Covered Person. This Agreement is not intended to, and does not, create or impose on any Covered Person any duty, responsibility, or liability, including, but not limited to, any fiduciary duty, other than those expressly set forth herein. For the avoidance of doubt, each of the Members, as well as the Company, hereby acknowledges and agrees that he waives any all fiduciary and other duties existing at law or in equity that, absent such waiver, may be implied under the Act, and in doing so, hereby acknowledges and agrees that the duties, responsibilities,

and liabilities of each Covered Person (solely in such Person's capacity as a Covered Person) to the Company and the Members are only as expressly set forth in this Agreement.

**5.12. LIMITATION OF DUTIES AND LIABILITIES; DELEGATION; RELIANCE; INDEMNIFICATION; ADVANCEMENT; EFFECT OF AMENDMENT.**

(a) **LIMITATION OF DUTIES AND LIABILITIES.** Except as otherwise provided in the Act, to the fullest extent permitted by law no Covered Person (solely in such Person's capacity as a Covered Person) shall have any duty or be responsible or liable to the Company or any Member, or to any other Person making claims on behalf of the Company (including, but not limited to, its creditors) or any Member, for any damages, expenses, liabilities, or losses as a result of any act or omission (in relation to the Company, any transaction, any investment, or any other action or inaction, including, but not limited to, for breach of contract, tort (including negligence), strict liability, violation of any applicable legal or equitable principle, or breach of duties (including fiduciary duties)), taken or omitted by the Covered Person, unless there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of such act or omission, and taking into account the acknowledgments and agreements set forth in this Agreement, such Covered Person acted in bad faith, knowingly engaged in fraud or willful misconduct (including, but not limited to, acting beyond the scope of its or such Person's authority) or, in the case of a criminal matter, acted with actual knowledge that such Covered Person's conduct was unlawful.

(b) **DELEGATION.** Subject to its duties and responsibilities as set forth in this Agreement, the Rules, and Regulatory Requirements, the Board may exercise any of the powers and authority granted to it by this Agreement and perform any of the duties and responsibilities imposed upon it hereunder either directly or by or through its committees, subcommittees, and agents, and neither the Board nor any Covered Person (acting solely in such Person's capacity as a Covered Person) shall have any duty or be responsible or liable to the Company or any Member, or to any other Person making claims on behalf of the Company (including, but not limited to, its creditors) or any Member, for any mistake, action, inaction, misconduct, negligence, fraud, or bad faith on the part of any such committee, subcommittee, or agent appointed by the Board unless, with respect to an individual Covered Person only, there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of such delegation, and taking into account the acknowledgments and agreements set forth in this Agreement, such Covered Person had actual knowledge that such committee, subcommittee, or agent was acting in bad faith, knowingly engaging in fraud or willful misconduct (including, but not limited to, acting beyond the scope of its or such Person's authority) or, in the case of a criminal matter, acting with actual knowledge that its or such Person's conduct was unlawful.

(c) **RELIANCE.** Any Covered Person acting for, on behalf of, or in relation to the Company, any transaction, any investment, or any other action or inaction shall be entitled to rely upon the provisions of this Agreement and upon the advice of counsel, accountants, and other professionals or advisors that is provided to the Company, the Board, any committee or subcommittee thereof, or such Covered Person (acting solely in such Person's capacity as a Covered Person), or upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, bond, debenture, paper, document, signature, or writing reasonably

believed by such Covered Person to be genuine, including, but not limited to, any certificate signed by an officer, agent, or representative of any Person, in order to ascertain any fact with respect to such Person or within such Person's knowledge, and such Covered Person shall not have any duty or be responsible or liable to the Company or to any Member, or to any other Person making claims on behalf of the Company (including, but not limited to, its creditors) or any Member, for such Covered Person's reliance thereon; *provided that*, in each case, there has not been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of such reliance, and taking into account the acknowledgments and agreements set forth in this Agreement, such Covered Person acted in bad faith, knowingly engaged in fraud or willful misconduct (including, but not limited to, acting beyond the scope of such Person's authority) or, in the case of a criminal matter, acted with actual knowledge that such Covered Person's reliance was unlawful.

(d) **INDEMNIFICATION**. Each Covered Person (regardless of such Person's capacity and regardless of whether another Covered Person is entitled to indemnification) shall be indemnified and held harmless by the Company (but only to the extent of the Company's property and assets), to the fullest extent permitted under the Act, from and against any and all damage, expense, liability, and loss (including, but not limited to, taxes, penalties, judgments, fines, amounts paid or to be paid in settlement, costs of investigation and preparations, and fees, expenses, and disbursements of attorneys, whether or not the dispute or proceeding involves the Company or any Director, Officer, or Member) reasonably incurred or suffered by such Covered Person (solely in such Person's capacity as a Covered Person) in connection with the Company, any transaction, any investment, or any other action or inaction; *provided that*, such Covered Person shall not be so indemnified and held harmless for any proceeding initiated by such Covered Person; and *provided further that*, such Covered Person shall not be so indemnified and held harmless if there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of the matter for which such Covered Person is seeking indemnification or seeking to be held harmless hereunder, and taking into account the acknowledgments and agreements set forth in this Agreement, such Covered Person acted in bad faith, knowingly engaged in fraud or willful misconduct (including, but not limited to, acting beyond the scope of such Person's authority) or, in the case of a criminal matter, acted with actual knowledge that such Covered Person's conduct was unlawful. The indemnification provided by this Section 5.12(d) shall be in addition to any other rights to which a Covered Person may be entitled under any agreement, as a matter of law or equity, or otherwise, both as to actions and inactions in such Covered Person's capacity as a Covered Person and as to actions and inactions in any other capacity, and shall continue as to a Covered Person who has ceased to serve in such capacity and shall inure to the benefit of the heirs, executors, administrators, personal and legal representatives, successors in interest, and permitted assigns of such Covered Person.

(e) **ADVANCEMENT**. Reasonable, documented expenses incurred by a Covered Person in defending any civil, criminal, administrative, or investigative action, suit, or proceeding referred to in Section 5.12(d) shall be paid by the Company in advance of the final disposition of such action, suit, or proceeding; *provided that*, any such advance shall only be made if the Covered Person delivers a written affirmation by such Covered Person of such Person's good faith belief that he is entitled to indemnification under Section 5.12(d) and agrees to repay all

amounts so advanced if it shall ultimately be determined that such Covered Person is not entitled to such indemnification.

(f) **EFFECT OF AMENDMENT**. Any amendment, modification, or repeal of this Section 5.12 or any provision hereof shall be prospective only and shall not in any way affect the limitations on duty, responsibility, and liability of the Covered Persons, or terminate, reduce, or impair the right of any past, present, or future Covered Person, under and in accordance with the provisions of this Section 5.12 as in effect immediately prior to such amendment, modification, or repeal, with respect to claims arising from or relating to matters occurring, in whole or in part, prior to such amendment, modification, or repeal, regardless of when such claims may arise or be asserted.

5.13. **INSURANCE**. The Company shall (through the Company or the Current Member) maintain insurance (including directors' and officers' insurance) at levels that are consistent with industry practice, at its expense, and the Company may maintain such insurance to protect itself and any Covered Person, in each case against any damage, expense, liability, or loss, whether or not the Company would have the power to indemnify such Person against such damage, expense, liability, or loss under the Act or this Agreement.

## **SECTION 6** **TRANSFER OF UNITS AND WITHDRAWALS OF MEMBERS**

6.1. **TRANSFERS**. Subject to approval by the Board, any Member may Transfer all, or any portion of, the Units held by such Member.

6.2. **WITHDRAWAL**. Subject to approval by the Board, immediately upon the occurrence of the Withdrawal of a Member, the Member's successor shall thereupon become a Member.

## **SECTION 7** **DISSOLUTION, WINDING UP, AND CANCELLATION OF THE COMPANY**

7.1. **EVENTS OF DISSOLUTION**. The Company shall be dissolved if the Board and the Members determine to dissolve the Company. The Company shall not be dissolved merely because of the bankruptcy, dissolution, Withdrawal, death, or disability of any Member.

7.2. **PROCEDURE FOR WINDING UP**. If the Company is dissolved, the affairs of the Company shall be wound up. Upon the winding up of the Company, the property and assets of the Company shall be distributed, first, to creditors of the Company in satisfaction of the liabilities of the Company, and then to the Members (or their successors in interest) in accordance with Section 4.2.

7.3. **FILING OF CERTIFICATE OF CANCELLATION**. If the Company is dissolved, a Certificate of Cancellation shall be promptly filed with Secretary of State. If there are no remaining Members, the Certificate of Cancellation shall be filed by the last Person to be a Member; if there are no remaining Members, or a Person who last was a Member, the Certificate

of Cancellation shall be filed by the heirs, executors, administrators, personal and legal representatives, successors in interest, and permitted assigns of the Person who last was a Member.

**SECTION 8**  
**ACCOUNTS, BOOKS, RECORDS, AND ACCOUNTING**

8.1. **BANK ACCOUNTS.** All funds of the Company shall be deposited in a bank account or accounts opened in the Company’s name. The Board shall determine the institution or institutions at which the accounts will be opened and maintained, the types of accounts, and the Persons who shall have authority with respect to the accounts and the funds therein. Withdrawals from any such bank account shall be made upon such signature or signatures as the Board may designate, and shall be made only for the purposes of the Company.

8.2. **BOOKS AND RECORDS.** The Board shall keep or cause to be kept complete and accurate books and records of the Company and supporting documentation of the transactions with respect to the conduct of the Company’s business and affairs and the ownership and maintenance of its property and assets. The books and records shall be maintained and reported in accordance with United States generally accepted accounting principles, consistently applied, and all Regulatory Requirements.

8.3. **ANNUAL ACCOUNTING PERIOD.** The annual accounting period of the Company shall be its taxable year. The Company’s taxable year shall be selected by the Board, subject to the requirements and limitations of the Code.

**SECTION 9**  
**GENERAL PROVISIONS**

9.1. **REIMBURSEMENT OF EXPENSES.** The Company shall reimburse Members for all direct, out-of-pocket expenses incurred by or on behalf of the Company that relate to the management and affairs of the Company and the ownership and maintenance of its property and assets, subject to policies and procedures adopted by the Board.

9.2. **NO THIRD-PARTY BENEFICIARIES.** This Agreement is not intended to, and shall not be construed to, create any right enforceable by any Person that is not a party to this Agreement, including, but not limited to, any creditor of the Company or of any Member.

9.3. **AMENDMENTS.** This Agreement may be amended only if such amendment is in writing, approved by the Board, and agreed to and signed by all of the Members.

9.4. **ASSURANCES.** The Company and the Members shall execute all such certificates and other documents and shall do all such filing, recording, publishing, and other acts necessary or advisable to comply with all Regulatory Requirements for the formation and operation of the Company, the conduct of its affairs, and the ownership and maintenance of its property and assets.

9.5. **NOTIFICATIONS.** Any notice, demand, consent, election, approval, request, or other communication (individually, a “Notice”) required or permitted under this Agreement must

be in writing and delivered personally or sent by a nationally recognized overnight courier, by certified or registered mail, postage prepaid, return receipt requested, or by electronic mail. A Notice delivered personally, sent by overnight courier, or sent by certified or registered mail shall be deemed given only when acknowledged in writing by the Person to whom it is delivered. A Notice sent by electronic mail shall be deemed given when received. The initial addresses for Notices to any party to this Agreement shall be set forth opposite their signatures to this Agreement or any joinder agreement. Any Person may designate, by Notice, addresses or substitute addresses for Notices, and, thereafter, all Notices to such Person are to be directed to those addressees.

9.6. **SPECIFIC PERFORMANCE**. The parties recognize that irreparable injury will result from a breach of any provision of this Agreement, and that money damages will be inadequate to fully remedy the injury. Accordingly, in the event of a breach or threatened breach of one or more of the provisions of this Agreement, any party who may be injured (in addition to any other remedies that may be available to that party) shall be entitled to one or more preliminary or permanent orders (a) restraining and enjoining any act that would constitute a breach or (b) compelling the performance of any obligation that, if not performed, would constitute a breach.

9.7. **COMPLETE AGREEMENT**. This Agreement, and the documents referred to herein, constitute the complete and exclusive statement of the agreement among the parties hereto with respect to the Company in their capacities as such. This Agreement supersedes all prior written and oral statements with respect thereto, including, but not limited to, any prior representation, statement, condition, or warranty.

9.8. **APPLICABLE LAW**. All questions concerning the construction, validity, and interpretation of this Agreement and the exercise of the rights and performance of the obligations by any Person under this Agreement shall be governed by the internal law, not the law of conflicts, of the State of Delaware, including, but not limited to, the Act.

9.9. **FORUM; SUBMISSION TO JURISDICTION**. The parties hereby agree that any suit, action, or proceeding seeking to enforce any provision of, or based upon any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby, whether in contract, tort, or otherwise, shall be brought in the United States District Court for the District of Delaware or in the Court of Chancery of the State of Delaware (or, if such court lacks subject matter jurisdiction, in the Superior Court of the State of Delaware), so long as one of such courts shall have subject matter jurisdiction over such suit, action, or proceeding, and that any such cause of action shall be deemed to have arisen from a transaction of business in the State of Delaware. Each of the parties hereby irrevocably consents to the jurisdiction of such courts (and of the appropriate appellate courts therefrom) in any such suit, action, or proceeding and irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such suit, action, or proceeding in any such court or that any such suit, action, or proceeding that is brought in any such court has been brought in an inconvenient form. Service of process, summons, or other document sent by registered mail, postage prepaid, return receipt requested, to the address provided by a party pursuant to Section 9.5 shall be effective service of process for any suit, action, or other proceeding brought in any such court.

9.10. **HEADINGS**. The headings herein are inserted as a matter of convenience only, and do not define, limit, or describe the scope of this Agreement or the intent of any provision hereof.

9.11. **BINDING PROVISIONS**. This Agreement is binding upon, and inures to the benefit of, the parties hereto and their respective heirs, executors, administrators, personal and legal representatives, successors in interest, and permitted assigns.

9.12. **TERMS**. Common nouns and pronouns shall be deemed to refer to the masculine, feminine, neuter, singular and plural, as the identity of the Person may in the context require.

9.13. **SEPARABILITY OF PROVISIONS**. Each provision of this Agreement shall be considered separable, and if, for any reason, any provision or provisions herein are determined to be invalid and contrary to any existing or future law, such invalidity shall not impair the operation of or affect those portions of this Agreement that are valid. On a determination by (a) a governmental organization or agency or (b) the Company's legal counsel that any provision is invalid, illegal, or unenforceable with respect to any Regulatory Requirement, the Board and the Members shall take all actions necessary or advisable to amend this Agreement so that the Agreement complies with all Regulatory Requirements.

9.14. **COUNTERPARTS**. This Agreement may be executed simultaneously in two or more counterparts, each of which shall be deemed an original, and all of which, when taken together, shall constitute one and the same instrument.

*[Remainder of this page is intentionally left blank; signature page follows.]*

**IN WITNESS WHEREOF**, the Company and the Current Member have signed this Second Amended and Restated Limited Liability Company Agreement, as of the date first set forth above.

Company:

**LEDGERX LLC**

By: /s/ Zachary Dexter

Name: Zachary Dexter

Title: Chief Executive Officer

Current Member:

**M 7 HOLDINGS, LLC**

By: /s/ Thomas P. Gallagher

Name: Thomas P. Gallagher

Title: Chairman and Chief Executive Officer

**EXHIBIT A**

**Current Member**

| <b>Name</b>       | <b>Mailing Address</b>                         | <b>Number of Units</b> | <b>Limited Liability Company Percentage Interest</b> |
|-------------------|--|------------------------|--|
| M 7 Holdings, LLC | 7 Roszel Road, Suite 1A<br>Princeton, NJ 08540 | 1,000,000              | 100%   |

## **EXHIBIT B**

### **MATTERS THAT MUST BE APPROVED BY THE MEMBERS**

The taking of the action set forth below shall require approval by the vote of the Members:

(1) any acquisition or disposition of a significant business or a business division, line, or subsidiary of the Company from or to any Person, whether by asset purchase, stock purchase, merger, or other business combination;

(2) any (a) sale, transfer, or other disposition of Company assets in any transaction or series of related transactions pursuant to which a Third Party acquires ownership of all or substantially all of the Company's assets; or (b) change in ownership of the Company effected by sale, recapitalization, merger, reorganization, share exchange or other capital transaction as a result of which a Third Party acquires ownership of equity interests in the Company which, together with any interests in the Company theretofore held by such Third Party, gives such Third Party, directly or indirectly, more than fifty percent (50%) of the total fair market value of the equity interests in the Company or more than fifty percent (50%) of the total voting power of the equity interests in the Company;

(3) any transaction, agreement, or action on behalf of the Company that is unrelated to the Company operating a swap execution facility, derivatives clearing organization and designated contract market registered with the CFTC, or that would make it impossible to carry out such operations;

(4) any (a) merger of the Company with and into, or the conversion of the Company into, an entity which is a "C" corporation, with such "C" corporation being the surviving corporation and the Units being converted into shares of common stock in such "C" corporation; (b) exchange of Units for shares of common stock in a "C" corporation; or (c) other transaction pursuant to which the Units are exchanged or converted into shares of common stock in a "C" corporation;

(5) any private or public offer or sale of debt securities or Units;

(6) any amendment to the Agreement, including, but not limited to, any change in the number of Directors;

(7) any Company (a) assignment for the benefit of creditors; (b) application for, or seeking, consenting to, or acquiescing in the appointment of, a receiver, custodian, trustee, examiner, liquidator, or similar official for the Company or any of its property or assets; (c) institution of any proceeding seeking an order for relief under the federal bankruptcy laws or seeking to adjudicate the Company bankrupt or insolvent, or seeking dissolution, winding up, liquidation, reorganization, arrangement, adjustment, or composition of it or its debts under any law relating to bankruptcy, insolvency, or reorganization or relief of debtors, or failure to file an answer or other pleading denying the material allegations of any such proceeding filed against it;

(d) action to authorize or effect any of the foregoing actions; or (e) failure to contest in good faith any appointment or proceeding described above;

(8) any transaction with any member of the Board, Officer or employee of the Company or any “associate” (as defined in Rule 12b-2 promulgated under the Securities Exchange Act of 1934, as amended) of any such person, except transactions made in the ordinary course of business or pursuant to reasonable requirements of the Company’s business and upon fair and reasonable terms; and

(9) any hiring, firing, or material increase in the compensation or benefits of any key management personnel of the Company, including approving any equity compensation plans or material amendments thereto.