

Form 1 Page 1 Execution Page	U.S. SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549	Date filed (MM/DD/YY) 08/15/18	OFFICIAL USE ONLY
APPLICATION FOR, AND AMENDMENTS TO APPLICATION FOR, REGISTRATION AS A NATIONAL SECURITIES EXCHANGE OR EXEMPTION FROM REGISTRATION PURSUANT TO SECTION 5 OF THE EXCHANGE ACT			

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 to 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

SEC Mail Processing

1. State the name of the applicant: Cboe BZX Exchange, Inc.
2. Provide the applicant's primary street address (Do not use a P.O. Box):
400 South LaSalle Street
Chicago, Illinois 60605
3. Provide the applicant's mailing address (if different):

4. Provide the business telephone and facsimile number:
(913) 815-7000 (913) 815-7119
(Telephone) (Facsimile)
5. Provide the name, title and telephone number of a contact employee:
Anders Franzon SVP, Deputy General Counsel, Cboe BZX Exchange, Inc. (913) 815-7154
(Name) (Title) (Telephone Number)
6. Provide the name and address of counsel for the applicant:
Pat Sexton
400 S. LaSalle Street
Chicago, IL 60605
7. Provide the date that applicant's fiscal year ends: December 31
8. Indicate legal status of the applicant: Corporation Sole Partnership Partnership
 Limited Liability Company Other (specify): _____

AUG 17 2018

Washington, DC



18002804

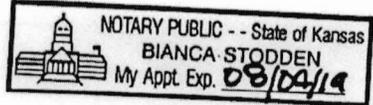
If other than a sole proprietor, indicate the date and place where applicant obtained its legal status (e.g. state where incorporated, place where partnership agreement was filed or where applicant entity was formed):
(a) Date (MM/DD/YY): 11/01/07 (b) State/Country of formation: Delaware/United States of America
(c) Statute under which applicant was organized: General Corporation Law of the State of Delaware

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 statement 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.

Date: 08/15/18 Cboe BZX Exchange, Inc.
(MM/DD/YY) (Name of Applicant)
By: [Signature] Anders Franzon, SVP, Deputy General Counsel
(Signature) (Printed Name and Title)
Subscribed and sworn before me this 15th day of August, 2018 by [Signature]
(Month) (Year) (Notary Public)
My Commission expires 08/09/19 County of Johnson State of Kansas

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





August 15, 2018

Via Federal Express

Ms. Jeanette Marshall
Securities and Exchange Commission
Division of Trading and Markets
100 F Street, N.E.
Mail Stop 6628
Washington, DC 20549-0001

SEC Mail Processing

AUG 17 2018

Washington, DC

Re: **Cboe BZX Exchange, Inc.
Form 1 Amendment**

Dear Jeanette:

On behalf of Cboe BZX Exchange, Inc. (or the "Exchange"), and in connection with the Cboe Form 1 that is on file with the Securities and Exchange Commission ("Commission"), enclosed please find one original and two copies of the Execution Page to Form 1 as well as the following exhibits¹:

- Exhibit C (updated to reflect list of Directors and Committee Members);
- Exhibit H (listing applications, including agreements required to be executed in connection with listing and a schedule of listing fees);
- Exhibit J (updated to reflect any changes in names, titles, positions or term commencement dates and types of business of Officers and Directors);
- Exhibit M (updated to provide a list of firms currently approved as members or other users of the Exchange)

This amendment is filed in accordance with SEC Rule 6a-2 and is intended to replace Exhibits C, H, J & M currently on file with the Commission. Please do not hesitate to contact me if you have any questions or require anything further.

Sincerely,

Anders Franzon
SVP, Deputy General Counsel

Enclosures

¹ See Attachment for a comprehensive list of updates to Exhibits C, H, & J.



Attachment

Summary of changes made to Exhibit C:

- Jill Griebenow (SVP & Chief Accounting Officer) was added as an officer to the following entities: Bats Global Markets Holdings, Inc., Cboe Bats, LLC, Cboe Building Corporation, Cboe BYX Exchange, Inc., Cboe EDGA Exchange Inc., Cboe EDGX Exchange Inc., Cboe Exchange, Inc., Cboe C2 Exchange, Inc., Cboe Data Services, LLC, Cboe ETF.com, Inc., Cboe Futures Exchange, LLC, Cboe FX Holdings, LLC, Cboe FX Markets, LLC, Cboe FX Services, LLC, Cboe III, LLC, Cboe LiveVol, LLC, Cboe SEF, LLC, Cboe Silexx, LLC, Cboe Vest, LLC, Cboe, LLC, Digital Asset Benchmark Administration, LLC, Direct Edge LLC, Loan Markets, LLC, Omicron Acquisition Corp. **(effective 08/15/18)**
- Dave Reynolds was removed as an officer to the following entities: Bats Global Markets Holdings, Inc., Cboe Bats, LLC, Cboe Building Corporation, Cboe BYX Exchange, Inc., Cboe EDGA Exchange Inc., Cboe EDGX Exchange Inc., Cboe Exchange, Inc., Cboe C2 Exchange, Inc., Cboe ETF.com, Inc., Cboe FX Holdings, LLC, Cboe FX Markets, LLC, Cboe FX Services, LLC, Cboe III, LLC, Cboe LiveVol, LLC, Cboe SEF, LLC, Cboe Silexx, LLC, Cboe Vest, LLC, Cboe, LLC, Digital Asset Benchmark Administration, LLC, Direct Edge LLC, Loan Markets, LLC, Omicron Acquisition Corp. **(effective 08/15/18)**

Summary of changes made to Exhibit H:

- Updated all email address contacts from the "@bats.com" handle to the "@cboe.com" handle (applicable to all 3 versions of applications) **(updates made 08/14/18)**

Summary of changes made to Exhibit J:

- Jill Griebenow (SVP & Chief Accounting Officer) was added as an officer **(effective 08/15/18)**
- Dave Reynolds was removed as an officer **(effective 08/15/18)**

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: Please see below responses for the following entities:

A. Bats Global Markets Holdings, Inc.

1. *Name:* Bats Global Markets Holdings, Inc.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on June 29, 2007.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC owns 100% of the membership interests of Bats Global Markets Holdings, Inc. Bats Global Markets Holdings, Inc. is the Exchange's 100% owner.
5. *Brief description of business or functions:* Bats Global Markets Holdings, Inc. is an intermediate holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

B. Direct Edge LLC

1. *Name:* Direct Edge LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on December 31, 2014. Was converted from Direct Edge, Inc., a Delaware corporation, on December 31, 2014.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC owns 100% of the membership interests of Direct Edge LLC.
5. *Brief description of business or functions:* Direct Edge LLC is an intermediate holding company. Direct Edge LLC is the sole shareholder of Cboe EDGA Exchange, Inc. and Cboe EDGX Exchange, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws or corresponding rules or instruments:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

C. Cboe BYX Exchange, Inc.

1. *Name:* Cboe BYX Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on July 31, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe BYX Exchange, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe BYX Exchange, Inc. operates as a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit C

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

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Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year: Not applicable.*

D. Cboe EDGA Exchange, Inc.

1. *Name:* Cboe EDGA Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under the General Corporation Law of the State of Delaware on March 9, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe EDGA Exchange, Inc. is an indirect wholly-owned subsidiary of Cboe Global Markets, Inc., the Exchange's ultimate parent.
5. *Brief description of business or functions:* Cboe EDGA Exchange, Inc. operates a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit C

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

E. Cboe EDGX Exchange, Inc.

1. *Name:* Cboe EDGX Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under the General Corporation Law of the State of Delaware on March 9, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe EDGX Exchange, Inc. is an indirect wholly-owned subsidiary of Cboe Global Markets, Inc., the Exchange's ultimate parent.
5. *Brief description of business or functions:* Cboe EDGX Exchange, Inc. operates a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

F. Cboe Exchange, Inc.

1. *Name:* Cboe Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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. § 101, et seq), February 8, 1972.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Exchange, Inc. is a registered national securities exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
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- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)
- Eric Crampton (SVP, Software Engineer)

- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
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- Todd Furney (VP, Chief Risk Officer)
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- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
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- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
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- Curt Schumacher (VP, CTO Operations)
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- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

G. Cboe C2 Exchange, Inc.

1. *Name:* Cboe C2 Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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. § 101, et seq), July 21, 2009.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe C2 Exchange, Inc. is a registered national securities exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
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- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
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- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
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- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
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- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

H. Cboe Trading, Inc.

1. *Name:* Cboe Trading, Inc.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on June 16, 2005.
4. *Brief description of nature and extent of affiliation:* Cboe Trading, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe Trading, Inc. is a broker-dealer registered as such with the Securities and Exchange Commission and a member of the Financial Industry Regulatory Authority and other self-regulatory organizations. Cboe Trading, Inc. provides routing of orders from the Exchange Cboe BYX Exchange, Inc., Cboe EDGA Exchange, Inc. and Cboe EDGX Exchange, Inc. to other securities exchanges, facilities of securities exchanges, automated trading systems, electronic communication networks or other broker-dealers.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Chris Isaacson
- Brian Schell

Current Officers

- Troy Yeazel (President)
- Anders Franzon (Secretary)
- Bryan Upp (Chief Compliance Officer)
- Derick Shupe (FINOP, Treasurer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

I. Omicron Acquisition Corp.

1. *Name:* Omicron Acquisition Corp.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on February 7, 2011.
4. *Brief description of nature and extent of affiliation:* Omicron Acquisition Corp. is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Omicron Acquisition Corp. is an intermediate holding company of Cboe Worldwide Holdings Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Mark Hemsley (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

J. Cboe FX Holdings, LLC

1. *Name:* Cboe FX Holdings, LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on May 15, 2000.
4. *Brief description of nature and extent of affiliation:* Cboe FX Holdings, LLC is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Holdings, LLC is an intermediate holding company of Cboe FX Markets, LLC, Cboe FX Services, LLC, Cboe SEF, LLC, and Bats Hotspot IB LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

K. Cboe FX Markets, LLC

1. *Name:* Cboe FX Markets, LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in New Jersey under Section 42 of the Limited Liability Company Act of the State of New Jersey on August 7, 2001.
4. *Brief description of nature and extent of affiliation:* Cboe FX Markets, LLC is wholly-owned by Cboe FX Holdings, LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Markets, LLC operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- John Deters (EVP, Chief Strategy Officer and Head of Corporate Initiatives)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of U.S. Equities and Global FX)
- Mark Hemsley (EVP, President Europe)
- Chris Isaacson (EVP, CIO)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Alexandra Albright (Chief Compliance Officer)
- Barry Calder (Head of Liquidity)
- Sean Cleary (VP, Sales FX)
- James Enstrom (VP, Chief Audit Executive)
- Todd Furney (Chief Risk Officer)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- Greg Hoogasian (SVP, Chief Regulatory Officer)

- Stephanie Marrin Lara (Deputy Chief Regulatory Officer)
- Paul Reidy (VP, Cboe FX COO)
- Lisa Shemie (VP, Associate General Counsel and Chief Legal Officer)
- Derick Shupe (VP, Controller)
- Aaron Weissenfluh (VP, CISO)
- Brian Schell (EVP, CFO and Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

L. Cboe FX Services, LLC

1. *Name:* Cboe FX Services, LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in New Jersey under Section 42 of the Limited Liability Company Act of the State of New Jersey on November 22, 2004.
4. *Brief description of nature and extent of affiliation:* Cboe FX Services, LLC is wholly-owned by Cboe FX Holdings, LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Services, LLC operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. Indication of whether such business or organization ceased to be associated with the applicant during previous year: Not applicable.

M. Cboe International Holdings Limited

1. *Name:* Cboe International Holdings Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 1985 on February 5, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe International Holdings Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe International Holdings Limited is a holding company of Cboe FX Europe Limited, Cboe FX Asia PTE. Limited, and IndexPubs S.A.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

N. Cboe FX Europe Limited

1. *Name:* Cboe FX Europe Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 1985 on February 5, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Europe Limited is wholly-owned by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Europe Limited operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

O. Cboe FX Asia Pte. Limited

1. *Name:* Cboe FX Asia Pte. Limited
Address: 16 Collyer Quay, #2104, Sixteen Collyer Quay, Singapore (049318)
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Singapore under the Companies Act (Cap. 50) on February 23, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Asia Pte. Limited is wholly-owned by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Asia Pte. Limited operates an institutional spot foreign exchange market.
6. *Copy of constitution:* No changes.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Ng Lip Chih

Current Officers

- Chris Concannon (President)
- Pek Lay Pheng (Secretary)
- Lai Jek Ping (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

P. Cboe Europe Limited

1. *Name:* Cboe Europe Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 1985 on March 28, 2008.
4. *Brief description of nature and extent of affiliation:* Cboe Europe Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe Europe Limited is recognized as a Recognized Investment Exchange in the United Kingdom under the Financial Services and Markets Act 2000 (“FSMA”). It operates a platform for trading of European equity securities.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- John Woodman
- Mark Hemsley
- Adam Eades
- Richard Balarkas
- Rebecca Fuller
- Julian Corner
- Kristian West
- Ted Hood

Current Officers

- Mark Hemsley (Chief Executive Officer)
- Antonio Amelia (Secretary)
- Jill Griebenow (CFO)
- Adam Eades (Chief Legal and Regulatory Officer)
- Jerry Avenell (Co-Head Sales)
- Alex Dalley (Co-Head Sales)
- Guy Simpkin (Head of Business Development)
- David Howson (COO)

Standing Committees

Audit, Risk and Compliance Committee

- Ted Hood
- Rebecca Fuller
- Richard Balarkas

Remuneration Committee

- John Woodman
- Rebecca Fuller
- Kristian West

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

Q. Cboe Chi-X Europe Limited

1. *Name:* Cboe Chi-X Europe Limited
Address: 10 Lower Thames Street, 6th Floor, London, UK EC3R 6AF
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales.
4. *Brief description of nature and extent of affiliation:* Cboe Chi-X Europe Limited is wholly-owned by Cboe Europe Limited which, in turn, is indirectly wholly owned by Bats Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Chi-X Europe Limited is authorized in the United Kingdom under the Financial Services and Markets Act 2000 (“FSMA”), as an investment firm. Between April 30, 2012 and May 20, 2013 it was a dormant company. Since May 20, 2013, Cboe Chi-X Europe Limited operates the smart order router that is needed for the routing strategies deployed by Cboe Europe Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Mark Hemsley
- Adam Eades
- John Woodman

Current Officers

- John Woodman (Chairman)
- Mark Hemsley (Chief Executive Officer)
- Antonio Amelia (Secretary)
- Jill Griebenow (CFO)
- Adam Eades (Chief Legal and Regulatory Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

R. Cboe ETF.com, Inc.

1. *Name:* Cboe ETF.com, Inc.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on March 28, 2016.
4. *Brief description of nature and extent of affiliation:* Cboe ETF.com, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe ETF.com, Inc. is a media company providing ETF data, news and analysis.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Dave Nadig (Senior Director)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Stephanie Klein (Vice President)
- Laura Morrison (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

S. IndexPubs S.A.

1. *Name:* IndexPubs S.A.
Address: Almagro Plaza, Ste. 508, Pedro Ponce Carrasco, E8-06 y Diego de Almagro, 170516 – Quito, Ecuador
2. *Form of organization:* Corporation (Soceidad Anonima or S.A.).
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Ecuador on January 15, 2008.
4. *Brief description of nature and extent of affiliation:* IndexPubs S.A. is owned 0.1% by Fernando Rivera and 99.9% by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* IndexPubs S.A. is a media company providing ETF data, news and analysis.
6. *Copy of constitution:* No changes.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

Current Officers
 - Dave Nadig (President)
 - Verónica Rocío Bravo (General Manager)
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

T. Cboe SEF, LLC

1. *Name:* Cboe SEF, LLC
Address: 17 State Street, 31st Floor, New York, NY 10004
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on April 19, 2012.
4. *Brief description of nature and extent of affiliation:* Cboe SEF, LLC is wholly-owned by Cboe FX Holdings LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe SEF, LLC is a swap execution facility registered with the Commodity Futures Trading Association, which will soon list non-deliverable foreign exchange forwards for trading.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and Chief Operating Officer)
- Alexandra Albright (Chief Compliance Officer)
- Sean Cleary (Vice President)
- John Deters (EVP, Chief Strategy Officer & Head of Corporate Initiatives)
- James Enstrom (Vice President & Chief Audit Executive)
- Todd Furney (Chief Risk Officer)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (Executive Vice President, Head of U.S. Equities and Global FX)
- Mark Hemsley (Executive Vice President, President Europe)
- Gregory Hoogasian (Senior Vice President & Chief Regulatory Officer)
- Chris Isaacson (Executive Vice President & Chief Information Officer)
- Andrew Lowenthal (Executive Vice President, Head of Global Derivatives & CFE Senior Managing Director)
- Stephanie Marrin (Deputy Chief Regulatory Officer)
- Paul Reidy (Vice President)

- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Brian Schell (Executive Vice President, Chief Financial Officer & Treasurer)
- Lisa Shemie (Vice President, Associate General Counsel & Cboe SEF Chief Legal Officer)
- Derick Shupe (Vice President and Controller)
- Aaron Weissenfluh (Vice President & Chief Information Security Officer)

Managers

- Chris Concannon
- Gilbert Bassett
- Michael Gorham
- James Parisi
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

U. **Cboe Worldwide Holdings Limited**

1. *Name:* Cboe Worldwide Holdings Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 2006 on November 9, 2016.
4. *Brief description of nature and extent of affiliation:* Cboe Worldwide Holdings Limited is wholly-owned by Omicron Acquisition Corp., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe Worldwide Holdings Limited is an intermediate holding company of Cboe Europe Limited, Cboe International Holdings Limited, Cboe Hong Kong Limited, and Cboe UK Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

V. **Cboe Global Markets, Inc.**

1. *Name:* Cboe Global Markets, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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. §101, et seq), August 15, 2006.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC is a wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Frank English
- William Farrow
- Edward Fitzpatrick
- Janet Froetscher
- Jill Goodman
- Roderick Palmore
- Joe Ratterman
- Michael Richter
- Carole Stone
- Eugene Sunshine
- Jill Sommers
- James Parisi

Current Officers

- Ed Tilly (Chairman and Chief Executive Officer)
- Chris Concannon (President and COO)
- Brian Schell (EVP, CFO and Treasurer)
- Chris Isaacson (EVP and CIO)
- Mark Hemsley (EVP, President Europe)
- J. Patrick Sexton (EVP, General Counsel and Corporate Secretary)

- Bryan Harkins (EVP, Equities and FX)
- Andrew Lowenthal (EVP, Global Derivatives)
- John Deters (EVP, Corporate Strategy and Multi-Asset Solutions)
- David Reynolds (VP and Chief Accounting Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)

Compensation Committee

- Frank English
- Janet Froetscher
- Edward Fitzpatrick
- James Parisi

Audit Committee

- William Farrow
- Carole Stone
- Michael Richter
- James Parisi

Nominating and Governance Committee

- Frank English
- Jill Goodman
- Roderick Palmore
- Carole Stone
- Janet Froetscher

Finance and Strategy Committee

- Frank English
- Jill Goodman
- Joe Ratterman
- Roderick Palmore
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

W. Cboe Futures Exchange, LLC

1. *Name:* Cboe Futures Exchange, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
July 16, 2002.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Futures Exchanges, LLC is a
designated contract market (DCM) approved by the Commodity Futures Trading
Commission in August 2003. Cboe Futures Exchange, LLC is a fully electronic
futures exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Chris Concannon
- Gilbert Bassett, Jr.
- Michael Gorham
- James Parisi
- Jill Sommers

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Joseph Caauwe (Managing Director - CFE)
- Kevin Carrai (Vice President, Connectivity, Data & Member Services)
- John Deters (Executive Vice President, Chief Strategy Officer & Head of
Corporate Initiatives)
- James Enstrom (Vice President & Chief Audit Executive)
- Todd Furney (Chief Risk Officer)

- David Gray (Senior Vice President, Global Client Services & CFE Managing Director)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Executive Vice President, Head of U.S. Equities and Global FX)
- Mark Hemsley (Executive Vice President, President Europe)
- Gregory Hoogasian (Senior Vice President & Chief Regulatory Officer)
- Chris Isaacson (Executive Vice President, Chief Information Officer & CFE Senior Managing Director)
- Jennifer Lamie (Chief Regulatory Advisor)
- Stephanie Marrin Lara (Deputy Chief Reg Officer)
- Andrew Lowenthal (Executive Vice President, Head of Global Derivatives & CFE Senior Managing Director)
- Matthew McFarland (Head of CFE Business Operations and Strategy & CFE Managing Director)
- Arthur Reinstein (Senior Vice President, Deputy General Counsel & CFE Chief Legal Officer)
- David Reynolds (VP & Chief Accounting Officer)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Brian Schell (Executive Vice President, Chief Financial Officer & Treasurer)
- Derick Shupe (Vice President and Controller)
- Aaron Weissenfluh (Vice President & Chief Information Security Officer)
- Troy Yeazel (Senior Vice President, U.S. Electronic Trading Operations and CFE Managing Director)

Standing Committees

Executive

- Chris Concannon
- Michael Gorham

Regulatory Oversight Committee

- Michael Gorham
- Gilbert Bassett
- James Parisi
- Jill Sommers

Trading Advisory Committee

- Jay Caauwe
- Kirk Bonniwell
- Zeke Charlesworth
- Michael Dennis
- Johan Drylewicz

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit C

- Alex Gerko
- Josh Grant
- Douglas Schadewald
- Andrew Smith

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

X. CBOE Stock Exchange, LLC

1. *Name:* CBOE Stock Exchange, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
July 31, 2006.
4. *Brief description of nature and extent of affiliation:* CBOE Stock Exchange, LLC
is a 49.96%-owned subsidiary of Cboe Exchange, Inc.
5. *Brief description of business or functions:* CBOE Stock Exchange, LLC operated
the CBOE Stock Exchange, which acted as a trading market for securities other
than options as a facility of Cboe Exchange, Inc. CBOE Stock Exchange, LLC
was approved by the SEC in March 2007. CBOE Stock Exchange, LLC ceased
trading operations on April 30, 2014.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Alan Dean
- James Fitzgibbons
- Jaap Gelderloos
- Andrew Lowenthal
- Tom O'Mara
- Rick Oscher
- John Deters
- Dave Reynolds
- Eric Frait
- Steve Sosnick

Current Officers

- Angelo Evangelou (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

Y. Cboe Building Corporation

1. *Name:* Cboe Building Corporation
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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. § 101, et seq), August 8, 1980.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Owns facility used by Cboe Global Markets, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Marc Magrini (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

Z. Cboe, LLC

1. *Name:* Cboe, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
August 22, 2001.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe, LLC is a limited liability
company member of OneChicago, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

AA. Cboe III, LLC

1. *Name:* Cboe III, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
May 2, 2014.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company for investment in
Tradelegs, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- John Deters

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- John Deters (Vice President)
- Jill Griebnow (Senior Vice President & Chief Accounting Officer)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

BB. Cboe Bats, LLC

1. *Name:* Cboe Bats, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
September 25, 2016.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and Chief Operating Officer)
- Alexandra Albright (VP, Market and Member Regulation)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity, Data and Member Services)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Sean Cleary (VP, Sales FX)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)
- Eric Crampton (SVP, Software Engineering)
- Pamela Culpepper (Chief HR Officer)
- John Deters (EVP, Chief Strategy Officer and Head of Corporate Initiatives)
- Laura Dickman (VP, Associate General Counsel)

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit C

- James Enstrom (VP, Chief Audit Executive)
- Angelo Evangelou (SVP, Chief Policy Officer)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP, Deputy General Counsel)
- Carmen Frazier Brannan (VP, Government Relations)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of U.S. Equities and Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, Chief Regulatory Officer)
- Chris Isaacson (EVP, Chief Information Officer)
- Carol Kennedy (VP, Chief Communications Officer)
- Stephanie Klein (VP, Chief Marketing Officer)
- Deborah Koopman (VP, Investor Relations)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Stephanie Marrin Lara (VP, Deputy Chief Regulatory Officer)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Paul Reidy (VP, Cboe FX COO)
- Arthur Reinstein (SVP, Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Curt Schumacher (VP, CTO Operations)
- Lisa Shemie (VP, Associate General Counsel)
- Derick Shupe (VP, Controller)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (SVP, Research and Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Systems Development)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)
- Brian Schell (EVP, Chief Financial Officer and Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

CC. Cboe Livevol, LLC

1. *Name:* Cboe Livevol, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
May 29, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Livevol, LLC provides equity
and index options technology for professional and retail traders, which includes
options strategy backtesting, trade analysis and volatility modeling technologies
and historical data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Andrew Lowenthal
- John Deters
- Catherine Clay

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- John Deters (Vice President)
- James Enstrom (Vice President, Chief Audit Executive)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation
Officer)
- Jill Griebnow (SVP, and Chief Accounting Officer)
- Chris Isaacson (Vice President)
- Andrew Lowenthal (Vice President)
- Derick Shupe (Vice President)
- Aaron Weissenfluh (Vice President, CISO)
- Brian Schell (Treasurer)

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit C

- J. Patrick Sexton (Secretary)
- Alexandra Albright (Chief Compliance Officer)
- Todd Furney (Chief Risk Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

DD. Cboe UK Limited

1. *Name:* Cboe UK Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
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, March 10, 2016.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Marketing and business development services.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors
 - Dave Gray
Current Officers
 - None
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

EE. Cboe Vest, LLC

1. *Name:* Cboe Vest, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
December 10, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company of majority equity
investment in Cboe Vest Group Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- John Deters

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- John Deters (Vice President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

FF. Loan Markets, LLC

1. *Name:* Loan Markets, LLC
Address: 400 S. LaSalle Street, Chicago, Illinois 60605
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),
May 11, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company for investment in
American Financial Exchange, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- John Deters

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- John Deters (Vice President)
- Jill Griebenow (Senior Vice President & Chief Accounting Office)
- Andrew Lowenthal (Vice President)
- Derick Shupe (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

GG. Cboe Data Services, LLC

1. *Name:* Cboe Data Services, LLC
Address: 400 South LaSalle Street Chicago, Illinois 60605
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),
February 21, 2006.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Data Services, LLC sells market
data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Eric Frait
- Bryan Harkins
- Chris Isaacson
- Jim Roche
- Curt Schumacher

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Kevin Carrai (Vice President)
- Catherine Clay (Vice President)
- James Enstrom (Vice President, Chief Audit Executive)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation
Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Andrew Lowenthal (Vice President)
- Jim Roche (Vice President)
- Derick Shupe (Vice President)

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit C

- Aaron Weissenfluh (Vice President, Chief Information Security Officer)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Alexandra Albright (Chief Compliance Officer)
- Todd Furney (Chief Risk Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

HH. Signal Trading Systems, LLC

1. *Name:* Signal Trading Systems, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
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),
May 13, 2010.
4. *Brief description of nature and extent of affiliation:* Fifty percent (50%)
subsidiary of Cboe Exchange, Inc.
5. *Brief description of business or functions:* Signal Trading Systems, LLC
developed and markets a multi-asset front-end order entry system known as
“Pulse”.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:* There are no directors or officers of
Signal Trading Systems, LLC.
10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

II. The Options Exchange, Incorporated

1. *Name:* The Options Exchange, Incorporated
Address: 400 South LaSalle Street, Chicago, IL 60605
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. § 101, et seq), January 7, 1974.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* The Options Exchange, Incorporated has been inactive since its incorporation.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors
Chris Concannon
 - Ed Tilly
Current Officers
 - Ed Tilly (Chairman)
 - Chris Concannon (President)
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

JJ. Cboe Vest Group, Inc.

1. *Name:* Cboe Vest Group, Inc.
Address: 8300 Greensboro Drive, 8th Floor, McLean, VA 22102
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. §101, et seq), January 2, 2015.
4. *Brief description of nature and extent of affiliation:* Majority-owned subsidiary of Cboe Vest, LLC.
5. *Brief description of business or functions:* Through its subsidiaries, provides options-based investment advisory services.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- John Deters
- Karan Sood
- William Speth

Current Officers

- Karan Sood (Chief Executive Officer)
- Jeffrey Chang (Chief Financial Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable

KK. Cboe Hong Kong Limited

1. *Name:* Cboe Hong Kong Limited
Address: 66th Floor, The Center, 99 Queen's Road, Central, Hong Kong
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:* Hong Kong under the Companies Ordinance (Chapter 622 of the Laws of Hong Kong), May 29, 2017.
4. *Brief description of nature and extent of affiliation:* Cboe Hong Kong Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Marketing and business development services (business expected to commence in September 2017).
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors
 - Dave Gray
Current Officers
 - None
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

LL. Cboe Silexx, LLC

1. *Name:* Cboe Silexx, LLC
Address: 400 South LaSalle Street, Chicago, IL 60605
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),
October 16, 2017.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Silexx, LLC operates the Silexx
order execution management system business.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- John Deters (Vice President)
- James Enstrom (Vice President, Chief Audit Executive)
- Derick Shupe (Vice President)
- Aaron Weissenfluh (Vice President, Chief Information Security Officer)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Alexandra Albright (Chief Compliance Officer)
- Todd Furney (Chief Risk Officer)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation
Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

MM. Digital Asset Benchmark Administration, LLC

1. *Name:* Digital Asset Benchmark Administration, LLC
Address: 400 South LaSalle Street, Chicago, IL 60605
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),
October 17, 2017.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Digital Asset Benchmark
Administration, LLC licenses Gemini-related data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Mark Hemsley (Vice President)
- Catherine Clay (Vice President)
- John Deters (Vice president)
- Derick Shupe (Vice President)
- Alexandra Albright (Chief Compliance Officer)
- James Enstrom (Vice President and Chief Audit Executive)
- Todd Furney (Chief Risk Officer)
- Aaron Weissenfluh (Vice President, CISO)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Jennifer Golding (Vice President, Associate General Counsel, Chief
Litigation Officer)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

NN. Bats Hotspot IB LLC

1. *Name:* Bats Hotspot IB LLC
Address: 17 State Street, 31st Floor, New York, NY 10004
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Illinois under Section 15-1 of the Limited Liability Company Act of the State of Illinois on May 23, 2003.
4. *Brief description of nature and extent of affiliation:* Bats Hotspot IB LLC is wholly-owned by Cboe FX Holdings LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Not applicable.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* Not applicable.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:* None
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* As of December 2017, Bats Hotspot IB LLC ceased to exist.

Exhibit H

Exhibit Request:

A complete set of documents comprising the applicant's listing applications, including any agreements required to be executed in connection with listing and a schedule of listing fees. If the applicant does not list securities, provide a brief description of the criteria used to determine what securities may be traded on the exchange. Provide a table of contents listing the forms included in this Exhibit H.

Response:

Attached please find the following documents:

A. Initial Listings

1. Cboe BZX Exchange, Inc. Listing Application and Related Forms: Exchange Traded Products
2. Cboe BZX Exchange, Inc. Listing Application and Related Forms: Exchange Traded Products-New Series or Fund of a Cboe BZX Exchange, Inc. Listed Issuer
3. Cboe BZX Exchange, Inc. Listing Application and Related Forms: Corporate Transfer



Cboe BZX Exchange, Inc. Listing Application and Related Forms: Exchange Traded Products

To list an “exchange traded product” or “ETP” on Cboe BZX Exchange, Inc. a company must complete and submit all materials set forth below on the Listing Checklist to listingapp@cboe.com.

LISTING CHECKLIST	
The following documentation is required to be submitted prior to launch:	
Due 10 days prior to launch:	
<input type="checkbox"/>	Completed and Executed Listing Application including signatures on the following:
<input type="checkbox"/>	Corporate Governance Certification
<input type="checkbox"/>	Representation Affirmation
<input type="checkbox"/>	Exemptive Relief Letter
<input type="checkbox"/>	Exchange Listing Agreement
<input type="checkbox"/>	Mark Authorization Form
<input type="checkbox"/>	Shareholder Data Release Consent
<input type="checkbox"/>	Fund Information Spreadsheet
<input type="checkbox"/>	Underlying Index Constituent Data (please include “as of” date) or Proposed Portfolio Data (if listing under Rule 14.11(i))
<input type="checkbox"/>	Board Resolution authorizing listing on Cboe BZX Exchange, Inc.
<input type="checkbox"/>	Index Methodology (N/A for actively managed funds)
<input type="checkbox"/>	Mark(s) and Web Description
<input type="checkbox"/>	Trust Document
<input type="checkbox"/>	By-Laws
<input type="checkbox"/>	Certificate of Good Standing dated within 90 days of launch
<input type="checkbox"/>	Firewall Letter (if applicable)
Due 5 days prior to launch:	
<input type="checkbox"/>	LMM Finalization
Due 4 p.m. ET 3 days prior to launch date (delays in adherence to this timeline may cause postponement of launch):	
<input type="checkbox"/>	Form N-1A (Final <i>Effective</i> Registration Statement)
<input type="checkbox"/>	Form 8-A (Registration of Securities)

All application materials sent to Cboe BZX Exchange, Inc. (the “Exchange”) will be reviewed for completeness, deemed confidential and handled in a secure environment. Applications may be shared with the Securities and Exchange Commission (the “SEC”) and other self-regulatory organizations, as necessary, to evaluate and process the application. The Exchange may request additional documentation in addition to what is listed in the Listing Checklist.

If you have questions on completing the Listing Application and related forms, you may direct them to listingapp@cboe.com or by telephone at 913-815-7101. Each reference herein to “Rule” is a Cboe BZX Exchange, Inc. Listing Rule, unless otherwise indicated.

Internal Use Only
Checklist Completed By:
Approved By:
Date:

GENERAL LISTING INFORMATION

GENERAL CORPORATE/TRUST INFORMATION	
Corporation/Trust Name (the "Company"):	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:
State of Incorporation/Date of Incorporation:	
<input type="checkbox"/>	Foreign Private Issuer
SEC File Number:	
Standard Industrial Classification (SIC) Code:	
Central Index Key Number (CIK):	
FUND MANAGER/MANAGER TRUSTEE INFORMATION	
Please list the name and full title of the individual to be designated as the Fund Manager/Managing Trustee. Attach a separate sheet if the contact information for the individual differs from the Fund/Trust information provided above.	
Fund Manager/Manager Trustee:	
TRANSFER AGENT CONTACT INFORMATION	
The Transfer Agent must be a participant in a Direct Registration Program operated by a clearing agency registered under Section 17A of the Exchange Act.	
Company Name/Contact Person:	
Address:	
City, State, Zip:	
Phone:	Email:
SPONSOR INFORMATION	
Firm Name:	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:

SPONSOR CONTACTS

Please attach a separate sheet if the contact information for a designated person differs from the Sponsor Information provided above.

Primary ETP Contact:	Email:
Chief Financial Officer:	Email:
General Counsel:	Email:
Billing Contact:	Email:
Product Manager:	Email:

DISTRIBUTOR CONTACT

Please provide the following information regarding the Distributor.

Firm Name:	
Contact Name:	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:

ETP ADMINISTRATOR CONTACT

Please provide the following information regarding the ETP Administrator.

Firm Name:	
Contact Name:	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:

APPLICATION PRIMARY CONTACT

Please provide a primary contact for the purposes of processing this Listing Application.

Firm Name:	
Contact Name:	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:

SECURITY INFORMATION

Name of Security:

Ticker Symbol(s):

Description:

Initial Listing

Listing Transfer Current listing market: _____ Current ticker symbol: _____

Other (please specify):

Rule Filing Number (if applicable):

Expected effective date of registration statement:

Expected date of initial trading on the Exchange (launch date):

Will the CUSIP number(s) be included in the file of eligible issues of a registered securities depository upon the commencement of trading?

Yes No

Cboe BZX Exchange, Inc.
Corporate Governance Certification Form

COMPANY INFORMATION
Company Name:

Upon the Company's listing on the Exchange, the Company must comply with certain governance requirements of the Exchange, including, but not limited to:

Exemption – Rule 14.10(e)(1)(E): I hereby certify that the Company is a management investment company registered under the Investment Company Act of 1940, as amended, that is proposing to issue on the Exchange Index Fund Shares or Managed Fund Shares, as defined in Rules 14.11(c) and 14.11(i), respectively, and, as such, is exempt from the following corporate governance requirements:

- (i) Independent Directors – Rules 14.10(c)(2)(A) and 14.10(c)(2)(B)
- (ii) Audit Committee Charter – Rule 14.10(c)(3)(A) and Related Interpretation and Policy .04²
- (iii) Audit Committee Composition – Rule 14.10(c)(3)(B)
- (iv) Independent Director Oversight of Executive Officer Compensation – Rule 14.10(c)(4)
- (v) Director Nominations – Rule 14.10(c)(5)(A)
- (vi) Nominations Committee Charter or Board Resolutions – Rule 14.10(c)(5)(B)
- (vii) Code of Conduct – Rule 14.10(d)

Related Party Transactions – Rule 14.10(h)(1): I hereby certify that the Company's audit committee or another independent body of the Company's board of directors conduct on an on-going basis an appropriate review and oversight of all related party transactions for potential conflict of interest situations, as required by Rule 14.10(h)(1). The term "related party transaction" refers to transactions required to be disclosed pursuant to Item 404 of Regulation S-K under the 1934 Act (or, in the case of non-U.S. issuers, the term "related party transactions" refers to transactions required to be disclosed pursuant to Form 20-F, Item 7.B).

AUTHORIZATION BY CORPORATE OFFICER
I am a duly authorized officer of the Company. To the best of my knowledge and belief, the information provided on this Corporate Governance Certification is true and correct as of this date. I will promptly notify the Exchange of any material changes to the information provided herein.
Signature:
Print Name:
Title:
Company Name:
Telephone:
Email:
Date:

² Note, Index Fund Shares and Managed Fund Shares are still subject to the applicable requirements of Rule 10A-3 of the 1934 Act.

ADDITIONAL INFORMATION AND DOCUMENTATION

The fact that an applicant may meet the Exchange's numerical guidelines does not necessarily mean that its application will be approved. In connection with the review of any application, and as set forth in the Exchange's Listing Rules, the Exchange reserves the right to request additional information or documentation, public or non-public, deemed necessary to make a determination regarding a security's qualification for initial inclusion, including but not limited to, any material provided to or received from the SEC or other regulatory authority.

Please provide information in a separate attachment to this application if the Company must answer in the affirmative to the questions below.

Regulatory Proceedings/Litigation

Check here if the Company can answer in the affirmative to the following:

With respect to the Company, its predecessors and its subsidiaries, the Company has engaged in inquiries, investigations, lawsuits, litigation, arbitration, hearings, or any other legal or administrative proceedings commenced within the past ten (10) years:

- a) that are or were initiated or conducted by any regulatory, civil or criminal agency (including but not limited to the SEC, FINRA, PCAOB, state securities regulators, Commodities Futures Trading Commission, Department of Justice, state bar associations, state boards of accountancy, or any foreign regulatory, civil or criminal authority); or
- b) in which claims material to the Company are or were asserted under federal and/or state securities, tax or bankruptcy laws; or
- c) in which claims material to the Company are or were asserted otherwise alleging fraud, deceit or misrepresentation. To the extent that such items have been disclosed in the Company's SEC filings, the applicant may refer to and/or submit copies of the relevant SEC's filings in which such matters were disclosed in lieu of providing a detailed description.

In connection with all proceedings that have been concluded, please provide documentation, which reflects the final disposition of each proceeding. The Company should update Staff promptly of any and all material developments related to the matters identified in the response to these questions and should supplement its response if additional matters arise while its application is pending.

Check here if the Company can answer in the affirmative to the following:

With respect to current executive officers, directors, and ten (10) percent or greater shareholders, the Company has engaged in inquiries, investigations, lawsuits, litigation, arbitration, hearings, or any other legal or administrative proceedings:

- a) that are or were initiated or conducted by any regulatory, civil or criminal agency (including but not limited to the SEC, FINRA, PCAOB, state securities regulators, Commodities Futures Trading Commission, Department of Justice, state bar associations, state boards of accountancy, or any foreign regulatory, civil or criminal authority); or
- b) in which claims are or were asserted otherwise alleging fraud, deceit or misrepresentation and seeking damages in excess of \$100,000.

Note: With respect to the regulatory proceedings and litigation questions above, there is no limit on the time frame covered by the request.

Upon review of the information provided by the applicant, Staff may request additional information, such as copies of all court and administrative filings, and documents, which reflect the substance of the allegations of any proceedings described above, and the sanctions imposed, including but not limited to, complaints, indictments, opinions, orders, final judgments, letters of censure, consents, undertakings and SEC formal orders of investigation.

Bridge Financings, Shelf Registrations, Regulation S Offerings or Private Placements

- Check here if the Company has entered into any bridge financings, shelf registrations, Regulation S offerings, or private placements within the past six months. In a separate attachment to this application, describe the transactions in detail (i.e., date, price per share, discount, terms of conversion, the investors and their relationship to the company or other participants in the transactions), including the terms and conditions of any resale restrictions.

Direct Registration Program (Rule 14.7)

- Check here if the Company is eligible for a Direct Registration Program operated by a clearing agency registered under Section 17A of the Exchange Act, such as the one offered by The Depository Trust Company (“DTC”); and that the security to be listed is eligible for a Direct Registration Program, or will be on the commencement of trading on the Exchange, **or** the security is issued in book entry form only and is exempt from this requirement.

Board Resolutions Authorizing Issuance and Listing

- Check here if the Company has included with this application a board resolution authorizing issuance and listing or separate documentation representing authority to determine the appropriate primary listing Exchange for the Fund.

Continued Listing Standards Representation

- Check here if the Company affirms that it will advise the Exchange of any failure by the Fund or Funds to comply with the continued listing requirements applicable under Rule 14.11(c) (for Index Fund Shares) or 14.11(i) (for Managed Fund Shares) or, where the Fund or Funds are listed pursuant to a rule filing under Section 19(b) of the Act, the Company affirms that it will advise the Exchange of any failure by the Fund or Funds to comply with the continued listing requirements, which include all statements and representations made in the associated rule filing regarding the index composition, the description of the portfolio or reference assets, limitations on portfolio holdings or reference assets, dissemination and availability of index, reference asset, and intraday indicative values (as applicable), or the applicability of Exchange listing rules specified in the filing.

Index Fund Shares Representations

- Check here if the Company affirms that any internal advisory committee, supervisory board, or similar entity that advises or makes decisions on the index or portfolio composition, methodology and related matters, must implement and maintain, or be subject to, procedures designed to prevent the use and dissemination of material non-public information regarding the applicable index.

- Check here if an unaffiliated third party acts as the index provider for the fund(s) (the “Index Provider”).

Please note that, to the extent that any unaffiliated third party acts as the Index Provider for the fund(s), the Company must attach a separate representation letter in which each Index Provider represents that any advisory committee, supervisory board, or similar entity that advises or makes decisions on the index or portfolio composition, methodology and related matters, implements and maintains, or is subject to, procedures designed to prevent the use and dissemination of material non-public information regarding the applicable index.

- Check here if the Company affirms that, upon listing, the Funds’ Net Asset Value per share will be calculated daily and the NAV and portfolio holdings will be made available to all market participants at the same time.

- Please provide underlying index constituent data including CUSIP/ISIN/SEDOL and respective weight (sum total must equal 100%) in excel format.

Managed Fund Shares Representations

- Check here if the Company affirms that, to the extent that the investment adviser: (i) is currently affiliated with a broker-dealer, the investment advisor has implemented a fire wall with respect to its relevant personnel and such broker-dealer regarding access to information concerning the composition and/or changes to the portfolio; and (ii) becomes affiliated with a broker-dealer, the investment adviser will implement a fire wall with respect to its relevant personnel or broker-dealer affiliate regarding access to information concerning the composition and/or changes to the portfolio.
- Check here if the Company affirms that any personnel who make decisions on the fund's portfolio composition are subject to procedures designed to prevent the use and dissemination of material nonpublic information regarding the applicable portfolio.
- Check here if the Company affirms that, upon listing, the Funds' Net Asset Value per share will be calculated daily and the NAV and Disclosed Portfolio will be made available to all market participants at the same time.
- Please provide a sample portfolio including CUSIP/ISIN/SEDOL, number of units for each component (if applicable), and respective weight (sum total must equal 100%) in excel format.

Initial Shares Outstanding

- Check here if the Fund will have a minimum of 100,000 shares at start-up of trading.

AFFIRMATION	
(Name of Individual)	(Title)
(Company Name)	
hereby certify, to the best of my knowledge and belief, that the information contained in the application is true and correct, as of the date below, and will notify the Exchange promptly of any material changes.	
(Signature of Company Officer)	(Date)

Securities Exchange Act of 1934 Exemptive Relief

Indicate the No-Action Letter below Issuer will rely upon to achieve no-action/exemptive relief necessary to operate as a listed ETP of its type:

The following is a list of commonly cited no action/exemptive relief letters issued by the SEC's Division of Trading and Markets under the Securities Exchange Act of 1934. This list is provided for the convenience of the issuer and is not intended to suggest that the issuer is necessarily entitled to rely on any such referenced letter(s):

Letters for Exchange Traded Funds

- Letter dated November 21, 2005 (Section 11(d) and Extension of Class Relief)
- Letter dated October 24, 2006 (Class Relief Letter for ETFs)
- Letter dated April 9, 2007 (Class Relief Letter for Fixed Income ETFs)
- Letter dated June 27, 2007 (Combination ETFs)
- Revised Staff Legal Bulletin No. 9 (September 10, 2010)(for Actively Managed ETFs)
- Letter dated May 9, 2008 or Letter dated June 16, 2011 (regarding Section 11(d) for Actively Managed ETFs)(one but not both may be cited)

Letters for Other Security Types

- Letter dated June 21, 2006 (CurrencyShares; Commodity-Based Investment Vehicles)
- Letter dated January 19, 2006 (DB Commodity Index Tracking Fund)

If additional exemptive relief letters will be relied upon, please indicate the dates that those letters were or will be issued.

All conditions to the no-action/exemptive relief are required to be met upon commencement of trading on Cboe BZX Exchange, Inc.

Exchange Listing Agreement

This listing agreement (“Listing Agreement”) should be executed and submitted by Companies seeking initial listing on the Cboe BZX Exchange, Inc. (collectively, with its affiliates, the “Exchange”) or current Companies changing their name.

COMPANY NAME

(“Company”), in consideration for the listing of its securities on the Exchange, hereby agrees with the Exchange that:

1. Company certifies that it understands and agrees to comply with all Exchange rules, as they may be amended from time to time, and pay all applicable listing fees when due.
2. Company agrees to promptly notify the Exchange in writing of any corporate action or other event that will cause Company to cease to be in compliance with Exchange listing requirements.
3. Company understands that the Exchange may remove its securities, pursuant to applicable procedures, if it fails to meet one or more requirements of Paragraphs 1-2.
4. Company understands that if an exception to any of the provisions of any of the Exchange rules has been granted by the Exchange, such exception shall, during the time it is in effect, supersede any conflicting provision of this Listing Agreement.
5. Company certifies that, no officer, board member or investment advisor has been convicted of a felony or misdemeanor relating to financial issues (e.g., embezzlement, fraud, theft) in the past ten (10) years. The term “officer” in the foregoing sentence is used as such term is defined by the Securities and Exchange Commission in Rule 16a-1(f) under the Securities Exchange Act of 1934, or any successor rule.

Exchange Warranties; Disclaimers of Warranties

6. For any goods or services provided to Company, the Exchange shall endeavor to provide them in a good and workmanlike manner. Beyond the warranties stated in this section, there are no other warranties of any kind, express, implied or statutory (including the implied warranties of merchantability or fitness for a particular use or purpose).

Limitation of Liability

7. In no event will the Exchange be liable for any trading losses, loss of profits, indirect, special, punitive, consequential, or incidental loss or damage, even if the Exchange has been advised of the possibility of such damages. If the Exchange is, for any reason, held liable for any of the above, the liability of the Exchange is limited:
 - a) for goods and services for which Company is specifically charged, to the amount paid by Company for those goods or services during the twelve (12) months preceding the accrual of the claim; and
 - b) in all other instances, to the amount of the annual listing fee paid by Company during the twelve (12) months preceding the accrual of the claim.
8. Notwithstanding the foregoing, the Exchange shall not be relieved from liability for damages that result from the Exchange’s gross negligence or willful tortious misconduct, or from personal injury or wrongful death claims.
9. For goods and services provided under a separate written agreement, the limitation of liability provisions in that

agreement shall govern any claims relating to or arising from the provision of those goods and services.

10. Under no circumstances shall the Exchange have any liability for any third party's goods and/or services.
11. Company and the Exchange agree that these terms reflect a reasonable allocation of risk and limitation of liability.
12. The Listing Agreement shall be deemed to have been made in the United States, in the State of New York, and shall be construed and enforced in accordance with the laws of the State of New York, without reference to principles of conflicts of laws.

AUTHORIZATION BY CORPORATE OFFICER	
As an officer of the Company, I am authorized to execute this agreement on the Company's behalf.	
Signature:	Date:
Name:	Title:

CORPORATE SEAL
(Optional)

Note: Companies changing their name must also concurrently submit the *Notification: Change in Company Record*.

Cboe BZX Exchange, Inc. Mark Authorization Form

This form should be completed by the owner (“Licensor”) of the applicable corporate logos, trade name, and trade/service marks (“Marks”) at the time of application for listing or to update Licensor’s Marks and should be executed by both Licensor and Company, to the extent that Licensor and Company are different entities. Please complete this form and submit Marks according to the requirements described on the Artwork Requirements page. If Licensor plans to authorize Exchange use of more than one Mark, please include the relevant Mark/Trade Name and Registration Number (if registered) on a separate attachment to this form.

Submission-Please check appropriate box:

Licensor Marks at time of application

Updated Licensor Marks

Licensor Name:	
Company Name:	
Mark/Trade Name and Registration Number (if registered):	
Authorized Marks Release Contact Name and Title:	
Address:	
City, State, Zip:	
Phone:	Fax:
Email:	Website:
Artwork/Graphics Contact Name and Title:	
Phone:	Email:

Online instructions for establishing a link to the Exchange website may be found at: <http://markets.cboe.com/>.

(“Licensor”), in consideration for the listing of the securities on the Exchange, hereby agrees with the Exchange that:

1. To the best of Company’s and Licensor’s knowledge, any trading symbol requested to be used by Company does not violate any trade/service mark, trade name, or other intellectual property right of any third party. Licensor agrees and understands that a trading symbol is provided to Company for the limited purpose of identifying Company’s security in authorized quotation and trading systems and that Company and Licensor have no ownership rights in the trading symbol. The assignment and use of a trading symbol is governed by the National Market System Plan for the Selection and Reservation of Securities Symbols, as may be amended from time to time.

2. Licensor grants the Exchange a nonexclusive, nontransferable, limited license for the term of the Listing Agreement between the Company and the Exchange to use Licensor's Marks in order to publicize Company's listing on the Exchange, as well as to convey quotation information, transactional reporting information, and other information regarding Company in connection with the Exchange. In order to ensure the accuracy of the information, Licensor agrees to provide the Exchange with Licensor's current Marks as they may be amended from time to time. The Exchange acknowledges that Licensor is the owner of all right, title and interest in the Marks, the Exchange's use of the Marks inures to the benefit of Licensor, and the Exchange will not contest the validity of or otherwise impair Licensor's rights in the Marks. The Exchange also acknowledges Licensor's right to inspect and disapprove of the Exchange's ongoing use of the Marks and such inspection and disapproval may be conducted by the Company on behalf of the Licensor. This right in no way requires the Exchange to receive approval from Licensor or the Company prior to use of the Marks. Other than the rights granted here and in the Mark Authorization Form, the Exchange acknowledges that it has no other rights in Licensor's Marks.

3. Licensor agrees to hold harmless and indemnify the Exchange (and its officers, directors, employees and agents) against any and all claims and losses, including but not limited to costs and attorneys' fees, resulting from, suffered, or incurred as a result of any third party's claim or litigation relating to the infringement of any trade/service mark, trade name, or other intellectual property right related to or arising out of the Exchange's use of Licensor's Marks in accordance with the terms of this Mark Authorization Form.

AUTHORIZED LICENSOR SIGNATURE	
Signature:	Date:

AUTHORIZED COMPANY SIGNATURE	
Signature:	Date:

Cboe BZX Exchange, Inc. Artwork Requirements

To help investors recognize companies listed on the Exchange, the Exchange uses company logos or marks, where appropriate, instead of trading symbols.

GUIDELINES FOR ARTWORK

1. Since the Exchange implements your logos or marks across varied media (with distinct requirements), all submissions must be in EPS (Encapsulated PostScript) format created in a vector drawing program (Adobe Illustrator or Macromedia Freehand).
2. Three versions of the company logos or marks are required (or six if both horizontal and vertical aspect versions are available):
 - 1 version in color
 - 1 version in color suitable for black background (required only if original logo or mark is not clearly visible on a black background)
 - 1 version in grayscale (for black and white print ads).
3. All fonts must be converted to outlines.
4. All required registered marks, trademarks and service marks should be part of the artwork.
5. No low-resolution flattened artwork in the following applications will be accepted: Adobe PageMaker or InDesign, Microsoft PowerPoint, Word or Excel, Corel Draw, or QuarkXpress.

SUBMITTING ARTWORK

Submit the completed and signed Authorization Form and all artwork and materials to listingapp@cboe.com.

Cboe BZX Exchange, Inc.
Issuer Description

This form should be completed at the time of application for listing or to update a previously provided description.

Please check appropriate box:

- Issuer description at time of application
 Updated issuer description

Cboe BZX Exchange, Inc.
Shareholder Data Release Consent

I hereby consent to the release of periodic shareholder count data by Broadridge Financial Solutions, Inc. to Cboe BZX Exchange, Inc., hereby referenced as “the Exchange,” on all or some current or future issues listed on the Exchange.

We understand that this information will not identify any beneficial holder and will be used for regulatory purposes only.

Please sign and date below:	
I,	as
(Signature)	(Title)
of	
(Corporation or Trust Name)	



Cboe BZX Exchange, Inc. Listing Application and Related Forms: Exchange Traded Products-New Series or Fund of a Cboe BZX Exchange, Inc. Listed Issuer

To list an “exchange traded product” or “ETP” on Cboe BZX Exchange, Inc. that is a New Series or Fund of an issuer with securities currently listed on Cboe BZX Exchange, Inc., a company must complete and submit all materials set forth below on the Listing Checklist to listingapp@cboe.com.

LISTING CHECKLIST	
The following documentation is required to be submitted prior to launch:	
Due 10 days prior to launch:	
<input type="checkbox"/>	Completed and Executed Listing Application including signatures on the following:
<input type="checkbox"/>	Representation Affirmation
<input type="checkbox"/>	Exemptive Relief Letter
<input type="checkbox"/>	Fund Information Spreadsheet
<input type="checkbox"/>	Underlying Index Constituent Data (please include “as of” date) or Proposed Portfolio Data (if listing under Rule 14.11(i))
<input type="checkbox"/>	Board Resolution authorizing listing on Cboe BZX Exchange, Inc.
<input type="checkbox"/>	Index Methodology (N/A for actively managed funds)
<input type="checkbox"/>	Certificate of Good Standing dated within 90 days of launch
<input type="checkbox"/>	Firewall Letter (if applicable)
Due 5 days prior to launch:	
<input type="checkbox"/>	LMM Finalization
Due 4 p.m. ET 3 days prior to launch date (delays in adherence to this timeline will cause postponement of launch):	
<input type="checkbox"/>	Form N-1A (Final Effective Registration Statement)
<input type="checkbox"/>	Form 8-A (Registration of Securities)

All application materials sent to Cboe BZX Exchange, Inc. (the “Exchange”) will be reviewed for completeness. All applications are deemed confidential and are handled in a secure environment. Applications may, however, be shared with the Securities and Exchange Commission (the “SEC”) and other self-regulatory organizations, as necessary, to evaluate and process the application.

The Exchange may request additional documentation in addition to what is listed in the Listing Checklist. If you have questions on completing the Listing Application and related forms, you may direct them to listingapp@cboe.com or by telephone at 913-815-7101. **Each reference herein to “Rule” is a Cboe BZX Exchange, Inc. Listing Rule, unless otherwise indicated.**

Internal Use Only
Checklist Completed By:
Approved By:
Date:

GENERAL LISTING INFORMATION

GENERAL INFORMATION	
Corporation/Trust Name (the "Company"):	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:
State of Incorporation/Date of Incorporation:	
<input type="checkbox"/> Foreign Private Issuer	
SEC File Number:	
APPLICATION PRIMARY CONTACT	
Please provide a primary contact for the purposes of processing this Listing Application.	
Firm Name:	
Contact Name:	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:
SECURITY INFORMATION	
Name of Security:	
Ticker Symbol(s):	
Description:	
<input type="checkbox"/> Initial Listing	
<input type="checkbox"/> Listing Transfer	Current listing market: _____ Current ticker symbol: _____
<input type="checkbox"/> Other (please specify):	
Rule Filing Number (if applicable):	
Expected effective date of registration statement:	
Expected date of initial trading on the Exchange (launch date):	
Will the CUSIP number(s) be included in the file of eligible issues of a registered securities depository upon the commencement of trading?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

ADDITIONAL INFORMATION AND DOCUMENTATION

The fact that an applicant may meet the Exchange's numerical guidelines does not necessarily mean that its application will be approved. In connection with the review of any application, and as set forth in the Exchange's Listing Rules, the Exchange reserves the right to request additional information or documentation, public or non-public, deemed necessary to make a determination regarding a security's qualification for initial inclusion, including but not limited to, any material provided to or received from the SEC or other regulatory authority.

Please provide information in a separate attachment to this application if the Company must answer in the affirmative to the questions below.

Regulatory Proceedings/Litigation

Check here if the Company can answer in the affirmative to the following:

With respect to the Company, its predecessors and its subsidiaries, the Company has engaged in inquiries, investigations, lawsuits, litigation, arbitration, hearings, or any other legal or administrative proceedings commenced within the past ten (10) years:

- a) that are or were initiated or conducted by any regulatory, civil or criminal agency (including but not limited to the SEC, FINRA, PCAOB, state securities regulators, Commodities Futures Trading Commission, Department of Justice, state bar associations, state boards of accountancy, or any foreign regulatory, civil or criminal authority); or
- b) in which claims material to the Company are or were asserted under federal and/or state securities, tax or bankruptcy laws; or
- c) in which claims material to the Company are or were asserted otherwise alleging fraud, deceit or misrepresentation. To the extent that such items have been disclosed in the Company's SEC filings, the applicant may refer to and/or submit copies of the relevant SEC's filings in which such matters were disclosed in lieu of providing a detailed description.

In connection with all proceedings that have been concluded, please provide documentation, which reflects the final disposition of each proceeding. The Company should update Staff promptly of any and all material developments related to the matters identified in the response to these questions and should supplement its response if additional matters arise while its application is pending.

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Note: With respect to the regulatory proceedings and litigation questions above, there is no limit on the time frame covered by the request.

Upon review of the information provided by the applicant, Staff may request additional information, such as copies of all court and administrative filings, and documents, which reflect the substance of the allegations of any proceedings described above, and the sanctions imposed, including but not limited to, complaints, indictments, opinions, orders, final judgments, letters of censure, consents, undertakings and SEC formal orders of investigation.

Bridge Financings, Shelf Registrations, Regulation S Offerings or Private Placements

- Check here if the Company has entered into any bridge financings, shelf registrations, Regulation S offerings, or private placements within the past six months. In a separate attachment to this application, describe the transactions in detail (i.e., date, price per share, discount, terms of conversion, the investors and their relationship to the company or other participants in the transactions), including the terms and conditions of any resale restrictions.

Direct Registration Program (Rule 14.7)

- Check here if the Company is eligible for a Direct Registration Program operated by a clearing agency registered under Section 17A of the Exchange Act, such as the one offered by The Depository Trust Company (“DTC”); and that the security to be listed is eligible for a Direct Registration Program, or will be on the commencement of trading on the Exchange, **or** the security is issued in book entry form only and is exempt from this requirement.

Board Resolutions Authorizing Issuance and Listing

- Check here if the Company has included with this application a board resolution authorizing issuance and listing or separate documentation representing authority to determine the appropriate primary listing Exchange for the Fund.

Continued Listing Standards Representation

- Check here if the Company affirms that it will advise the Exchange of any failure by the Fund or Funds to comply with the continued listing requirements applicable under Rule 14.11(c) (for Index Fund Shares) or 14.11(i) (for Managed Fund Shares) or, where the Fund or Funds are listed pursuant to a rule filing under Section 19(b) of the Act, the Company affirms that it will advise the Exchange of any failure by the Fund or Funds to comply with the continued listing requirements, which include all statements and representations made in the associated rule filing regarding the index composition, the description of the portfolio or reference assets, limitations on portfolio holdings or reference assets, dissemination and availability of index, reference asset, and intraday indicative values (as applicable), or the applicability of Exchange listing rules specified in the filing.

Index Fund Shares Representations

- Check here if the Company affirms that any internal advisory committee, supervisory board, or similar entity that advises or makes decisions on the index or portfolio composition, methodology and related matters, must implement and maintain, or be subject to, procedures designed to prevent the use and dissemination of material non-public information regarding the applicable index.

- Check here if an unaffiliated third party acts as the index provider for the fund(s) (the “Index Provider”).

Please note that, to the extent that any unaffiliated third party acts as the Index Provider for the fund(s), the Company must attach a separate representation letter in which each Index Provider represents that any advisory committee, supervisory board, or similar entity that advises or makes decisions on the index or portfolio composition, methodology and related matters, implements and maintains, or is subject to, procedures designed to prevent the use and dissemination of material non-public information regarding the applicable index.

- Check here if the Company affirms that, upon listing, the Funds’ Net Asset Value per share will be calculated daily and the NAV and portfolio holdings will be made available to all market participants at the same time.

Please provide underlying index constituent data including CUSIP/ISIN/SEDOL and respective weight (sum total must equal 100%) in excel format.

Managed Fund Shares Representations

Check here if the Company affirms that, to the extent that the investment adviser: (i) is currently affiliated with a broker-dealer, the investment advisor has implemented a fire wall with respect to its relevant personnel and such broker-dealer regarding access to information concerning the composition and/or changes to the portfolio; and (ii) becomes affiliated with a broker-dealer, the investment adviser will implement a fire wall with respect to its relevant personnel or broker-dealer affiliate regarding access to information concerning the composition and/or changes to the portfolio.

Check here if the Company affirms that any personnel who make decisions on the fund's portfolio composition are subject to procedures designed to prevent the use and dissemination of material nonpublic information regarding the applicable portfolio.

Check here if the Company affirms that, upon listing, the Funds' Net Asset Value per share will be calculated daily and the NAV and Disclosed Portfolio will be made available to all market participants at the same time.

Please provide a sample portfolio including CUSIP/ISIN/SEDOL, number of units for each component (if applicable), and respective weight (sum total must equal 100%) in excel format.

Initial Shares Outstanding

Check here if the Fund will have a minimum of 100,000 shares at start-up of trading.

AFFIRMATION	
I,	as
(Name of Individual)	(Title)
of	
(Company Name)	
hereby certify, to the best of my knowledge and belief, that the information contained in the application is true and correct, as of the date below, and will notify the Exchange promptly of any material changes.	
(Signature of Company Officer)	(Date)

Securities Exchange Act of 1934 Exemptive Relief

Indicate method by which Issuer will achieve no-action/exemptive relief necessary to operate as a listed Exchange Traded Product of its type:

The following is a list of commonly cited no action/exemptive relief letters issued by the SEC's Division of Trading and Markets under the Securities Exchange Act of 1934. This list is provided for the convenience of the issuer and is not intended to suggest that the issuer is necessarily entitled to rely on any such referenced letter(s):

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Letters for Other Security Types

B. Other Security Types

- Letter dated June 21, 2006 (CurrencyShares; Commodity-Based Investment Vehicles)
- Letter dated January 19, 2006 (DB Commodity Index Tracking Fund)

If additional exemptive relief letters will be relied upon, please indicate the dates that those letters were or will be issued.

All conditions to the no-action/exemptive relief are required to be met upon commencement of trading on Cboe BZX Exchange, Inc.



Cboe BZX Exchange, Inc. Listing Application and Related Forms: Corporate Transfer

To list a security on Cboe BZX Exchange, Inc., a company must complete and submit all materials set forth below on the Listing Checklist to listingapp@cboe.com.

LISTING CHECKLIST	
<input type="checkbox"/>	Completed and Executed Listing Application
<input type="checkbox"/>	Corporate Governance Certification Form
<input type="checkbox"/>	List of Independent Directors, Board Committees and Board Committee Composition
<input type="checkbox"/>	Additional Information and Documentation (see information request on pages 15 & 16)
<input type="checkbox"/>	Exchange Listing Agreement
<input type="checkbox"/>	Company Logo Authorization Form
<input type="checkbox"/>	Shareholder Data Release Consent
<input type="checkbox"/>	Entry Fee Payment Form and Entry Fee (due at time of application)
<input type="checkbox"/>	Formation Documents (Bylaws and Incorporation Documentation)
<input type="checkbox"/>	Board Resolution Authorizing Delisting from Current Exchange and Transfer to Cboe BZX Exchange, Inc.
<input type="checkbox"/>	Certificate of Good Standing
<input type="checkbox"/>	Quarterly Report (10-K or 10-Q, please provide the filing which occurred most recently)
<input type="checkbox"/>	Form 8-A

All application materials sent to Cboe BZX Exchange, Inc. (the “Exchange”) will be reviewed for completeness, deemed confidential and handled in a secure environment. Applications may be shared with the Securities and Exchange Commission (the “SEC”) and other self-regulatory organizations, as necessary, to evaluate and process the application. The Exchange may request additional documentation in addition to what is listed in the Listing Checklist.

The Exchange may request applicants to submit documentation in addition to what is listed in the Listing Checklist. If you have questions on completing the Listing Application and related forms, you may direct them to listingapp@cboe.com or by telephone at 913-815-7101. Each reference herein to “Rule” is a Cboe BZX Exchange, Inc. Listing Rule, unless otherwise indicated.

Internal Use Only
Checklist Completed By:
Approved By:
Date:

PART I – LISTING APPLICATION

COMPANY INFORMATION	
Company Name:	
Address of Principal Executive Office:	
City, State, Zip:	
Phone:	Website:
State of Incorporation/Date of Incorporation:	
SEC File Number:	
Standard Industrial Classification (SIC) Code:	
Central Index Key Number (CIK):	

Market Choice:

- Tier I
- Tier II

PRIMARY CONTACT	
Please provide a primary contact for the purposes of processing this Listing Application.	
Name:	
Firm:	
Address:	
Phone:	Website:

COMPANY CONTACT	
If the primary contact supplied above is someone other than an employee of the Company, please provide a contact at the Company.	
Name:	
Address:	
Phone:	Email:

TRANSFER AGENT CONTACT INFORMATION

The Transfer Agent must be a participant in a Direct Registration Program operate by a clearing agency registered under Section 17A of the Exchange Act.

Name:

Address:

City, State, Zip:

Phone:

Email:

Transfer Agent LPA Number:

INDEPENDENT AUDITOR AND INVESTMENT BANKER OR MARKET MAKER CONTACTS

Please provide the following information regarding the Company's independent auditor and the investment bankers in the underwriting group or the market makers who will make a market in the Company's securities. Attach an additional sheet if necessary.

Firm:

Contact Name:

Address:

City, State, Zip:

Phone:

Website:

Firm:

Contact Name:

Address:

City, State, Zip:

Phone:

Website:

PART II – SECURITY INFORMATION

Description of issue(s) to be listed (include current symbol(s), par or street value, warrant expiration date and exercise price, ration for American Depositary Shares to underlying shares, and other relevant information:
Current Trading Symbol:
Current Trading Market:
Security Type/Class:
CUSIP:
Par Value:
Roundlot Shareholders as of Date:
Beneficial Shareholders as of Date:
Number of Votes per Share:
Unit Components:
Timing of Separation:

PART III – BOARD MEMBER INFORMATION

Please provide the following information regarding any individuals that have either joined or left the Company’s board since the date of the Company’s last proxy statement. Attach an additional sheet, if necessary.

NEW BOARD MEMBERS	
Provide each board member’s full name (first, middle and last).	
Name:	Date Service Commenced:
Primary Employer and Position (if applicable):	
Deemed Independent Under Exchange’s Rules:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Board Committee Participation (if any):	
Name:	Date Service Commenced:
Primary Employer and Position (if applicable):	
Deemed Independent Under Exchange’s Rules:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Board Committee Participation (if any):	
Name:	Date Service Commenced:
Primary Employer and Position (if applicable):	
Deemed Independent Under Exchange’s Rules:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Board Committee Participation (if any):	

- Audit Committee
- Compensation Committee
- Nominations Committee
- Other (please specify)

DEPARTING BOARD MEMBERS	
Name:	Date Service Ended:
Name:	Date Service Ended:
Name:	Date Service Ended:

PART IV – EXECUTIVE INFORMATION

Please provide the following information regarding the applicant’s contact information and the applicant’s executive officers. Your cooperation in notifying the Exchange of any future officer or address changes is requested.	
Company Name:	
Company Address:	
City, State, Zip:	
Telephone:	Website:
CHAIRMAN	
Name:	Title (if different):
Telephone:	Email Address:
Mailing Address:	
CHIEF EXECUTIVE OFFICER	
Name:	Title (if different):
Telephone:	Email Address:
Mailing Address:	
CHIEF FINANCIAL OFFICER	
Name:	Preferred Salutation:
Title (if different):	Telephone:
Mailing Address:	
CORPORATE SECRETARY	
Name:	Preferred Salutation:
Title (if different):	Telephone:
Mailing Address:	
INVESTOR RELATIONS CONTACT	
Name:	Preferred Salutation:
Title (if different):	Telephone:
Mailing Address:	

Cboe BZX Exchange, Inc.
Corporate Governance Certification Form

COMPANY INFORMATION
Company Name:
Symbol:

Upon the Company's listing on the Exchange, the Company must comply with the Exchange's requirements relating to Board Composition, Executive Sessions, Audit Committee, Compensation of Officers, Director Nomination Process, Code of Conduct, Quorum, Review of Related Party Transactions and Direct Registration of Company's Securities. By completing this form, you are certifying your Company's compliance with, or exemption from, these requirements.

In addition, the Cboe BZX Exchange Rules include certain disclosure and notification requirements relating to the use of exemptions and phase-in schedules that are not outlined in this certification. Each Company is responsible for ensuring compliance with such requirements.

Also note that a Company that is a Smaller Reporting Company¹, Controlled Company², or a Foreign Private³ Issuer may need to submit a new certification if that status changes.

1. Independent Directors-Rule 14.10(c)(2)(A)

I hereby certify that the Company's board of directors is comprised of a majority of independent directors as required by Rule 14.10(c)(2)(A). If the Company is currently exempt from this requirement, check the appropriate box below:

For Initial Public Offerings, Companies Emerging From Bankruptcy and Transfers From Other Markets: Check here if the Company is utilizing the phase-in provisions pursuant to Rule 14.10(e)(2) to satisfy this requirement. If this box is checked, the certification above will be effective as of the end of the phase-in period.

For Controlled Companies: Check here if the Company is utilizing the Controlled Company exemption pursuant to Rule 14.10(e)(3)(B) to satisfy this requirement. A company relying upon this exemption must disclose in its annual meeting proxy statement (or, if the Company does not file a proxy, in its Form 10-K or 20-F) that it is a Controlled Company and the basis for that determination. In the event the Company ceases to be a Controlled Company, a new certification will be required.

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the independent director requirement of Rule 14.10(c)(2)(A) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

For Limited Partnerships: Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(e)(1)(D) to satisfy this requirement. If relying on this exemption, the Company must also submit to the

¹ As defined in SEC Rule 12b-2

² A "Controlled Company" is a company of which more than 50% of the voting power for the election of directors is held by an individual, a group or another company.

³ As defined in SEC Rule 3b-4(c)

Exchange a “Limited Partnership Governance Certification Form,” which is available on the Exchange’s website at <http://markets.cboe.com/>.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Cooperatives: Check here if the Company is a cooperative that is structured to comply with relevant state law and federal tax law and does not have a publicly traded class of common stock, relying on the cooperative exemption pursuant to Rule 14.10(e)(1)(B) to satisfy this requirement. Cooperatives must comply with all federal securities laws, including without limitation those rules required by Section 10A(m) of the 1934 Act and Rule 10A-3 thereunder.

For Management Investment Companies: Check here if the Company is a management investment company or business development company registered under the Investment Company Act of 1940, as amended, and is utilizing the management investment company exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement.

2. **Independent Directors-Rule 14.10(c)(2)(B)**

I hereby certify that the Company will have the regularly scheduled meetings at which only independent directors are present (“executive sessions”), as required by Rule 14.10(c)(2)(B). If the Company is currently exempt from this requirement, check the appropriate box below:

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company’s home-country certifying that the Company’s practices are not prohibited by the home-country’s laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the executive session requirement of Rule 14.10(c)(2)(B) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

For Limited Partnerships: Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(e)(1)(D) to satisfy this requirement. If relying on this exemption, the Company must also submit to the Exchange a “Limited Partnership Governance Certification Form,” which is available on the Exchange’s website at <http://markets.cboe.com/>.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Cooperatives: Check here if the Company is a cooperative that is structured to comply with relevant state law and federal tax law and does not have a publicly traded class of common stock, relying on the cooperative exemption pursuant to Rule 14.10(e)(1)(B) to satisfy this requirement. Cooperatives must comply with all federal securities laws, including without limitation those rules required by Section 10A(m) of the 1934 Act and Rule 10A-3 thereunder.

For Management Investment Companies: Check here if the Company is a management investment company or business development company registered under the Investment Company Act of 1940, as amended, and is utilizing the management investment company exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement.

3. Audit Committee Charter-Rule 14.10(c)(3)(A) and Related Interpretation and Policy .04

I hereby certify that the Company has adopted a formal written audit committee charter specifying the items enumerated in Rule 14.10(c)(3)(A), and that the audit committee will review and assess the adequacy of the charter on an annual basis. Please provide a copy of the charter and note the date of its adoption. If the Company is currently exempt from this requirement, check the appropriate box below:

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. A company checking this box must still have an audit committee that satisfies Rule 14.10(c)(3)(C) and must ensure that such audit committee members meet the independence requirement in Rule 14.10(c)(2). The Company must disclose in its annual reports filed with the SEC that it does not comply with the audit committee charter requirement of Rule 14.10(c)(3)(A) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Index Fund Shares⁴ and Managed Fund Shares⁵: Check here if the Company is a management investment fund registered under the Investment Company Act of 1940, as amended, that is also an Index Fund Shares or Managed Fund Shares, and is utilizing the exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement. Note, Index Fund Shares and Managed Fund Shares are still subject to the applicable requirements of Rule 10A-3 of the 1934 Act.

4. Audit Committee Composition-Rule 14.10(c)(3)(B)

I hereby certify that the Company has, and will continue to have, an audit committee of at least three members, comprised solely of directors each of whom: (a) meets the Exchange's definition of independence contained in Rule 14.10(c)(1)(B); (b) meets the requirements of SEC Rule 10A-3(b)(1); (c) has not participated in the preparation of the financial statements of the Company or any current subsidiary of the Company at any time during the past three years; and (d) is able to read and understand fundamental financial statements, including the Company's balance sheet, income statement, and cash flow statement, as required by Rule 14.10(c)(3)(B)(i)(d).

In addition, I hereby certify that the Company has, and will continue to have, at least one member of the audit committee who has past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual's financial sophistication, including being or having been a chief executive officer, chief financial officer or other senior officer with financial oversight responsibilities.

LIST MEMBER(S):

If the Company is currently exempt from this requirement, check the appropriate box below:

For Companies with Exception and Limited Circumstances: Check here if the Company will comply with this requirement by having a committee comprised of all independent directors, except for one director, who meets the criteria set forth in Section 10A(m)(3) of the 1934 Act and is not a current officer or employee or a Family

⁴ As defined in Rule 14.11(c).

⁵ As defined in Rule 14.11(i).

Member⁶ of such officer or employee, where the board, under exception and limited circumstances, has determined that such director's membership on the audit committee is in the best interests of the Company and its shareholders.

For Initial Public Offerings: Check here if the Company is utilizing the phase-in provisions pursuant to Rule 14.10(e)(2) to satisfy this requirement. If this box is checked, the certifications above will be effective as of the end of the phase-in period.

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. A company checking this box must still have an audit committee that satisfies Rule 14.10(c)(3)(C) and must ensure that such audit committee members meet the independence requirement in Rule 14.10(c)(2). The Company must disclose in its annual reports filed with the SEC that it does not comply with the audit committee composition requirements of Rule 14.10 (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirements.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Index Fund Shares and Managed Fund Shares: Check here if the Company is a management investment fund registered under the Investment Company Act of 1940, as amended, that is also an Index Fund Shares or Managed Fund Shares, and is utilizing the exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement. Note, Index Fund Shares and Managed Fund Shares are still subject to the applicable requirements of Rule 10A-3 of the 1934 Act.

5. Independent Director Oversight of Executive Officer Compensation-Rule 14.10(c)(4)

I hereby certify that the Company complies with Rule 14.10(c)(4), which requires independent director involvement in the determination of executive compensation. In addition, in affirmatively determining the independence of any director who will serve on the compensation committee, or who is otherwise permitted to determine the compensation of executive officers of the Company, the board of directors has considered, and will continue to consider, all factors specifically relevant to determining whether a director has a relationship to the Company which is material to that director's ability to be independent from management in connection with the duties of such director, including but not limited to: (i) the source of compensation of such director, including any consulting, advisory or other compensatory fee paid by the Company to such director; and (ii) whether such director is affiliated with the Company, a subsidiary of the Company, or an affiliate of a subsidiary of the Company.

Check the appropriate box below:

The Company complies with this requirement by having a compensation committee comprised solely of independent directors.

The Company complies with this requirement by submitting such matters for approval or recommendation by a majority of the independent directors in a vote in which only independent directors participate.

For Companies with Exception and Limited Circumstances: Check here if the Company will comply with this requirement by having a committee comprised of at least three directors, all of whom are independent except for one director, who meets the criteria set forth in Section 10A(m)(3) of the 1934 Act and is not a current officer or employee or a Family Member of such officer or employee, where the board, under exception and limited circumstances, has determined that such director's membership on the compensation committee is in the best

⁶ As defined in Rule 14.10(c)(1)(B).

interests of the Company and its shareholders.

For Initial Public Offerings, Companies Emerging From Bankruptcy and Transfers From Other Markets: Check here if the Company is utilizing the phase-in provisions pursuant to Rule 14.10(e)(2) to satisfy this requirement. If this box is checked, the certifications above will be effective as of the end of the phase-in period.

For Controlled Companies: Check here if the Company is utilizing the “Controlled Company” exemption pursuant to Rule 14.10(e)(3)(B) to satisfy this requirement. A company relying upon this exemption must disclose in its annual meeting proxy statement (or, if the Company does not file a proxy, in its Form 10-K or 20-F) that it is a Controlled Company and the basis for that determination. In the event the Company ceases to be a Controlled Company, a new certification will be required.

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company’s home-country certifying that the Company’s practices are not prohibited by the home-country’s laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the independent director oversight of executive compensation requirement of Rule 14.10(c)(4) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

For Limited Partnerships: Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(e)(1)(D) to satisfy this requirement. If relying on this exemption, the Company must also submit to the Exchange a “Limited Partnership Governance Certification Form,” which is available on the Exchange’s website at <http://markets.cboe.com/>.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Cooperatives: Check here if the Company is a cooperative that is structured to comply with relevant state law and federal tax law and does not have a publicly traded class of common stock, relying on the cooperative exemption pursuant to Rule 14.10(e)(1)(B) to satisfy this requirement. Cooperatives must comply with all federal securities laws, including without limitation those rules required by Section 10A(m) of the 1934 Act and Rule 10A-3 thereunder.

For Management Investment Companies: Check here if the Company is a management investment company or business development company registered under the Investment Company Act of 1940, as amended, and is utilizing the management investment company exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement.

6. Director Nominations-Rule 14.10(c)(5)(A)

I hereby certify that the Company complies with Rule 14.10(c)(5)(A), which requires independent director oversight of director nominations.

Check the appropriate box below:

The Company complies with this requirement by having a nominations committee comprised solely of independent directors.

The Company complies with this requirement by having director nominees selected or recommended by a majority of its independent directors in a vote in which only independent directors participate.

- For Companies with Exception and Limited Circumstances:** Check here if the Company will comply with this requirement by having a committee comprised of at least three directors, all of whom are independent except for one director, who meets the criteria set forth in Section 10A(m)(3) of the 1934 Act and is not a current officer or employee or a Family Member of such officer or employee, where the board, under exception and limited circumstances, has determined that such director's membership on the nominations committee is in the best interests of the Company and its shareholders.
- For Initial Public Offerings, Companies Emerging From Bankruptcy and Transfers From Other Markets:** Check here if the Company is utilizing the phase-in provisions pursuant to Rule 14.10(e)(2) to satisfy this requirement. If this box is checked, the certifications above will be effective as of the end of the phase-in period.
- For Controlled Companies:** Check here if the Company is utilizing the Controlled Company exemption pursuant to Rule 14.10(e)(3)(B) to satisfy this requirement. If relying upon this exemption, the Company must disclose in its annual meeting proxy statement (or, if the Company does not file a proxy, in its Form 10-K or 20-F) that it is a Controlled Company and the basis for that determination. In the event the Company ceases to be a Controlled Company, a new certification will be required.
- For Foreign Private Issuers:** Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the director nominations requirement of Rule 14.10(c)(5)(A) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.
- For Companies with Pre-Existing Agreements:** Check here if the Company is subject to a binding obligation that was in effect prior to August 30, 2011 that requires a director nomination structure inconsistent with Rule 14.10(c)(5). Pursuant to Rule 14.10(c)(5)(E), the Company is not required to comply with the nomination requirements.
- For Limited Partnerships:** Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(e)(1)(D) to satisfy this requirement. If relying on this exemption, the Company must also submit to the Exchange a "Limited Partnership Governance Certification Form," which is available on the Exchange's website at <http://markets.cboe.com/>.
- For Asset-backed Issuers and Other Passive Issuers:** Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.
- For Cooperatives:** Check here if the Company is a cooperative that is structured to comply with relevant state law and federal tax law and does not have a publicly traded class of common stock, relying on the cooperative exemption pursuant to Rule 14.10(e)(1)(B) to satisfy this requirement. Cooperatives must comply with all federal securities laws, including without limitation those rules required by Section 10A(m) of the 1934 Act and Rule 10A-3 thereunder.
- For Management Investment Companies:** Check here if the Company is a management investment company or business development company registered under the Investment Company Act of 1940, as amended, and is utilizing the management investment company exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement.

7. **Nominations Committee Charter or Board Resolution-Rule 14.10(c)(5)(B)**

I hereby certify that the Company has adopted a formal written charter or board resolution, as applicable, addressing the nominations process and such related matters as may be required under the federal securities laws, as required by Rule 14.10(c)(5)(B). Please provide a copy of the charter or board resolution and note the date of adoption. If the Company is currently exempt from this requirement, check the appropriate box below:

For Controlled Companies: Check here if the Company is utilizing the Controlled Company exemption pursuant to Rule 14.10(e)(3)(B) to satisfy this requirement. If relying upon this exemption, the Company must disclose in its annual meeting proxy statement (or, if the Company does not file a proxy, in its Form 10-K or 20-F) that it is a Controlled Company and the basis for that determination. In the event the Company ceases to be a Controlled Company, a new certification will be required.

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the nominations committee charter/board resolution requirement of Rule 14.10(c)(5)(B) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

For Companies with Pre-Existing Agreements: Check here if the Company is subject to a binding obligation that was in effect prior to August 30, 2011 that requires a director nomination structure inconsistent with Rule 14.10(c)(5). Pursuant to Rule 14.10(c)(5)(E), the Company is not required to comply with the nomination requirements.

For Limited Partnerships: Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(e)(1)(D) to satisfy this requirement. If relying on this exemption, the Company must also submit to the Exchange a "Limited Partnership Governance Certification Form," which is available on the Exchange's website at <http://markets.cboe.com/>.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Cooperatives: Check here if the Company is a cooperative that is structured to comply with relevant state law and federal tax law and does not have a publicly traded class of common stock, relying on the cooperative exemption pursuant to Rule 14.10(e)(1)(B) to satisfy this requirement. Cooperatives must comply with all federal securities laws, including without limitation those rules required by Section 10A(m) of the 1934 Act and Rule 10A-3 thereunder.

For Management Investment Companies: Check here if the Company is a management investment company or business development company registered under the Investment Company Act of 1940, as amended, and is utilizing the management investment company exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement.

8. **Code of Conduct-Rule 14.10(d)**

I hereby certify that the Company has adopted one or more codes of conduct applicable to all directors, officers and employees, and that such codes are publicly available, as required by Rule 14.10(d), and that such codes satisfy the requirements of Rule 14.10(d). If the Company is currently exempt from this requirement, check the appropriate box below:

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the code of conduct requirement of Rule 14.10(d) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

For Asset-backed Issuers and Other Passive Issuers: Check here if the Company is utilizing the Asset-backed Issuer / Passive Issuer exemption pursuant to Rule 14.10(e)(1)(A) to satisfy this requirement.

For Limited Partnerships: Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(e)(1)(D) to satisfy this requirement. If relying on this exemption, the Company must also submit to the Exchange a "Limited Partnership Governance Certification Form," which is available on the Exchange's website at <http://markets.cboe.com/>.

For Management Investment Companies: Check here if the Company is a management investment company or business development company registered under the Investment Company Act of 1940, as amended, and is utilizing the management investment company exemption pursuant to Rule 14.10(e)(1)(E) to satisfy this requirement.

9. Quorum-Rule 14.10(f)(3)

I hereby certify that the Company's by-laws provide for a quorum of at least 33 1/3 percent of the outstanding shares of the Company's common voting stock, as required by Rule 14.10(f)(3). If the Company is currently exempt from this requirement, check the box below:

For Foreign Private Issuers: Check here if the Company is following home-country practices in lieu of this requirement and has provided the Exchange with a written statement from independent counsel in the Company's home-country certifying that the Company's practices are not prohibited by the home-country's laws. The Company must disclose in its annual reports filed with the SEC that it does not comply with the quorum requirement of Rule 14.10(f)(3) (as well as each other requirement of Rule 14.10 that it does not follow) and describe the home-country practice followed by the Company in lieu of such requirement.

10. Related Party Transactions-Rule 14.10(h)(1)

I hereby certify that the Company's audit committee or another independent body of the Company's board of directors conduct on an on-going basis an appropriate review and oversight of all related party transactions for potential conflict of interest situations, as required by Rule 14.10(h)(1). The term "related party transaction" refers to transactions required to be disclosed pursuant to Item 404 of Regulation S-K under the 1934 Act (or, in the case of non-U.S. issuers, the term "related party transactions" refers to transactions required to be disclosed pursuant to Form 20-F, Item 7.B). If the Company is currently exempt from this requirement, check the box below:

For Limited Partnerships: Check here if the Company is utilizing the limited partnership exemption pursuant to Rule 14.10(h)(1) to satisfy this requirement, in which case the Company must certify that it complies with the requirements of Rule 14.10(e)(1)(D) by submitting to the Exchange a "Limited Partnership Governance Certification Form," which is available on the Exchange's website at <http://markets.cboe.com/>.

11. DRS Eligibility-Rule 14.7

I hereby certify that the Company's securities are eligible for a Direct Registration Program operated by a clearing agency registered under Section 17A of the 1934 Act, as required by Rule 14.7. If the Company is currently exempt from this requirement, check the box below:

For Companies Whose Securities are Book Entry: Check here if the Company is exempt from this requirement because the Company's securities are book entry only.

AUTHORIZATION BY CORPORATE OFFICER

I am a duly authorized officer of the Company. To the best of my knowledge and belief, the information provided on this Corporate Governance Certification is true and correct as of this date. I will promptly notify the Exchange of any material changes to the information provided herein.

Signature:

Print Name:

Title:

Company Name:

Telephone:

Email:

Date:

PART V – ADDITIONAL INFORMATION AND DOCUMENTATION

The fact that an applicant may meet the Exchange's numerical guidelines does not necessarily mean that its application will be approved. In connection with the review of any application, and as set forth in the Exchange's Listing Rules, the Exchange reserves the right to request additional information or documentation, public or non-public, deemed necessary to make a determination regarding a security's qualification for initial inclusion, including but not limited to, any material provided to or received from the SEC or other regulatory authority.

Please provide the following information in a separate attachment to this application.

Regulatory Proceedings/Litigation

1. With respect to the Company, its predecessors and its subsidiaries, provide a detailed description of all inquiries, investigations, lawsuits, litigation, arbitration, hearings, or any other legal or administrative proceedings commenced within the past ten (10) years:
 - a) that are or were initiated or conducted by any regulatory, civil or criminal agency (including but not limited to the SEC, FINRA, PCAOB, state securities regulators, Commodities Futures Trading Commission, Department of Justice, state bar associations, state boards of accountancy, or any foreign regulatory, civil or criminal authority); or
 - b) in which claims material to the Company are or were asserted under federal and/or state securities, tax or bankruptcy laws; or
 - c) in which claims material to the Company are or were asserted otherwise alleging fraud, deceit or misrepresentation. To the extent that such items have been disclosed in the Company's SEC filings, the applicant may refer to and/or submit copies of the relevant SEC's filings in which such matters were disclosed in lieu of providing a detailed description.

In connection with all proceedings that have been concluded, please provide documentation, which reflects the final disposition of each proceeding. The Company should update Staff promptly of any and all material developments related to the matters identified in the response to these questions and should supplement its response if additional matters arise while its application is pending.

2. With respect to current executive officers, directors, and 10% or greater shareholders, provide a detailed description of all inquiries, investigations, lawsuits, litigation, arbitration, hearings, or any other legal or administrative proceedings:
 - a) that are or were initiated or conducted by any regulatory, civil or criminal agency (including but not limited to the SEC, FINRA, PCAOB, state securities regulators, Commodities Futures Trading Commission, Department of Justice, state bar associations, state boards of accountancy, or any foreign regulatory, civil or criminal authority); or
 - b) in which claims are or were asserted otherwise alleging fraud, deceit or misrepresentation and seeking damages in excess of \$100,000.

[Note: With respect to questions 2a and 2b, there is no limit on the time frame covered by the request.]

Upon review of the information provided by the applicant, Staff may request additional information, such as copies of all court and administrative filings, and documents, which reflect the substance of the allegations of any proceedings described above, and the sanctions imposed, including but not limited to, complaints, indictments, opinions, orders, final judgments, letters of censure, consents, undertakings and SEC formal orders of investigation.

Additional Offerings

1. Provide a list of any and all bridge financings, shelf registrations, Regulation S offerings, or private placements consummated within the past six months. Describe the transactions in detail (i.e., date, price per share, discount, terms of conversion, the investors and their relationship to the company or other participants in the transactions), including the terms and conditions of any resale restrictions.
2. Please note that securities of companies listing on the Exchange are required to be eligible for a Direct Registration Program operated by a clearing agency registered under Section 17A of the Exchange Act, such as the one offered by The Depository Trust Company (“DTC”). To be eligible, an issuer is required to use a transfer agent that meets DTC’s insurance and connectivity requirements. Further, the transfer agent must instruct DTC to designate the Company’s securities as direct registered eligible securities. In addition, the issuer’s governing documents, such as its by-laws, must permit securities that are not represented by certificates. Please note that this rule does not apply to non-equity securities which are issued in book entry form only.

Please provide a written confirmation from the Company’s transfer agent that the security to be listed is eligible for a Direct Registration Program, or will be on the commencement of trading on the Exchange, or indicate that the security is a non-equity security that is issued in book entry form only.

AFFIRMATION Please sign and date the application.	
I,	as
(Name of Individual)	(Title)
of (Company Name)	
hereby certify, to the best of my knowledge and belief, that the information contained in the application is true and correct, as of the date below, and will notify the Exchange promptly of any material changes.	
(Signature of Company Officer)	(Date)

Exchange Listing Agreement

This listing agreement (“Listing Agreement”) should be executed and submitted by Companies seeking initial listing on the Cboe BZX Exchange, Inc. (collectively, with its affiliates, the “Exchange”) or current issuers Companies their company name.

COMPANY NAME

(“Company”), in consideration for the listing of its securities on the Exchange, hereby agrees with the Exchange that:

1. Company certifies that it understands and agrees to comply with all Exchange rules, as they may be amended from time to time, and pay all applicable listing fees when due.
2. Company agrees to promptly notify the Exchange in writing of any corporate action or other event that will cause Company to cease to be in compliance with Exchange listing requirements.
3. Company understands that the Exchange may remove its securities, pursuant to applicable procedures, if it fails to meet one or more requirements of Paragraphs 1-2.
4. Company understands that if an exception to any of the provisions of any of the Exchange rules has been granted by the Exchange, such exception shall, during the time it is in effect, supersede any conflicting provision of this Listing Agreement.
5. Company certifies that, no officer, board member, or non-institutional shareholder with greater than 10% ownership of the Company has been convicted of a felony or misdemeanor relating to financial issues (e.g., embezzlement, fraud, theft) in the past ten (10) years. The term “officer” in the foregoing sentence is used as such term is defined by the Securities and Exchange Commission in Rule 16a-1(f) under the Securities Exchange Act of 1934, or any successor rule.

Exchange Warranties; Disclaimers of Warranties

6. For any goods or services provided to Company, the Exchange shall endeavor to provide them in a good and workmanlike manner. Beyond the warranties stated in this section, there are no other warranties of any kind, express, implied or statutory (including the implied warranties of merchantability or fitness for a particular use or purpose).

Limitation of Liability

7. In no event will the Exchange be liable for any trading losses, loss of profits, indirect, special, punitive, consequential, or incidental loss or damage, even if the Exchange has been advised of the possibility of such damages. If the Exchange is, for any reason, held liable for any of the above, the liability of the Exchange is limited:
 - a) for goods and services for which Company is specifically charged, to the amount paid by Company for those goods or services during the twelve (12) months preceding the accrual of the claim; and
 - b) in all other instances, to the amount of the annual listing fee paid by Company during the twelve (12) months preceding the accrual of the claim.

8. Notwithstanding the foregoing, the Exchange shall not be relieved from liability for damages that result from the Exchange's gross negligence or willful tortious misconduct, or from personal injury or wrongful death claims.
9. For goods and services provided under a separate written agreement, the limitation of liability provisions in that agreement shall govern any claims relating to or arising from the provision of those goods and services.
10. Under no circumstances shall the Exchange have any liability for any third party's goods and/or services.
11. Company and the Exchange agree that these terms reflect a reasonable allocation of risk and limitation of liability.
12. The Listing Agreement shall be deemed to have been made in the United States, in the State of New York, and shall be construed and enforced in accordance with the laws of the State of New York, without reference to principles of conflicts of laws.

AUTHORIZATION BY CORPORATE OFFICER	
As an officer of the Company, I am authorized to execute this agreement on the Company's behalf.	
Signature:	Date:
Name:	Title:

CORPORATE SEAL
(Optional)

Note: Issuers changing their name are required to submit the *Notification: Change in Company Record and execute a new Listing Agreement*.

Cboe BZX Exchange, Inc.
Entry Fee Payment Form: Initial Submission

All companies submitting applications for the listing of securities on the Exchange are assessed an entry fee of \$100,000 for Tier 1 and \$50,000 for Tier 2, \$25,000 of which represents the non-refundable application fee. All fees are payable to Cboe BZX Exchange, Inc.

Payment By Check: All checks must be sent under separate cover to the address provided below. Please complete this form and submit it with your payment.

Company Name:	
Address:	
City, State, Zip:	
Remitter Name (if not the same as the company):	
Check enclosed in the amount of \$:	Check No.:

Please mail this form and your payment by courier/overnight to:

Cboe Global Markets, Inc.
28851 Network Place
Chicago, IL 60673-1288

Payment By Wire: Please use the following instructions and include the specific reference information provided below when transmitting your payment. Submission of this form is not required.

Please remit electronic payments to:

JP Morgan Chase Bank, N.A.

Wire Routing Number: 021000021

ACH Routing Number: 071000013

SWIFT Code: CHASUS33

Account Name: Cboe Global Markets, Inc.

Account Number: 887294064 Reference: Company name, symbol, and note that the fees are for initial listing.

***Please see Rule 14.13 for further information regarding applicable listing and annual fees.**

Cboe BZX Exchange, Inc. Mark Authorization Form

This form should be completed by the owner (“Licensor”) of the applicable corporate logos, trade name, and trade/service marks (“Marks”) at the time of application for listing or to update Licensor’s Marks and should be executed by both Licensor and Company, to the extent that Licensor and Company are different entities. Please complete this form and submit Marks according to the requirements described on the Artwork Requirements page. If Licensor plans to authorize Exchange use of more than one Mark, please include the relevant Mark/Trade Name and Registration Number (if registered) on a separate attachment to this form.

Submission-Please check appropriate box:

Licensor Marks at time of application

Updated Licensor Marks

Licensor Name:	
Company Name:	
Mark/Trade Name and Registration Number (if registered):	
Authorized Marks Release Contact Name and Title:	
Address:	
City, State, Zip:	
Phone:	Fax:
Email:	Website:
Artwork/Graphics Contact Name and Title:	
Phone:	Email:

Online instructions for establishing a link to the Exchange website may be found at: <http://markets.cboe.com/>.

(“Licensor”), in consideration for the listing of the securities on the Exchange, hereby agrees with the Exchange that:

1. To the best of Company’s and Licensor’s knowledge, any trading symbol requested to be used by Company does not violate any trade/service mark, trade name, or other intellectual property right of any third party. Licensor agrees and understands that a trading symbol is provided to Company for the limited purpose of identifying Company’s security in authorized quotation and trading systems and that Company and Licensor have no ownership rights in the trading symbol. The assignment and use of a trading symbol is governed by the National Market System Plan for the Selection and Reservation of Securities Symbols, as may be amended from time to time.
2. Licensor grants the Exchange a nonexclusive, nontransferable, limited license for the term of the Listing Agreement between the Company and the Exchange to use Licensor’s Marks in order to publicize Company’s listing on the Exchange, as well as to convey quotation information, transactional reporting information, and other information

regarding Company in connection with the Exchange. In order to ensure the accuracy of the information, Licensor agrees to provide the Exchange with Licensor's current Marks as they may be amended from time to time. The Exchange acknowledges that Licensor is the owner of all right, title and interest in the Marks, the Exchange's use of the Marks inures to the benefit of Licensor, and the Exchange will not contest the validity of or otherwise impair Licensor's rights in the Marks. The Exchange also acknowledges Licensor's right to inspect and disapprove of the Exchange's ongoing use of the Marks and such inspection and disapproval may be conducted by the Company on behalf of the Licensor. This right in no way requires the Exchange to receive approval from Licensor or the Company prior to use of the Marks. Other than the rights granted here and in the Mark Authorization Form, the Exchange acknowledges that it has no other rights in Licensor's Marks.

3. Licensor agrees to hold harmless and indemnify the Exchange (and its officers, directors, employees and agents) against any and all claims and losses, including but not limited to costs and attorneys' fees, resulting from, suffered, or incurred as a result of any third party's claim or litigation relating to the infringement of any trade/service mark, trade name, or other intellectual property right related to or arising out of the Exchange's use of Licensor's Marks in accordance with the terms of this Mark Authorization Form.

AUTHORIZED LICENSOR SIGNATURE	
Signature:	Date:

AUTHORIZED COMPANY SIGNATURE	
Signature:	Date:

Cboe BZX Exchange, Inc.

Artwork Requirements

To help investors recognize companies listed on the Exchange, the Exchange uses company logos or marks, where appropriate, instead of trading symbols.

GUIDELINES FOR ARTWORK

1. Since the Exchange implements your logos or marks across varied media (with distinct requirements), all submissions must be in EPS (Encapsulated PostScript) format created in a vector drawing program (Adobe Illustrator or Macromedia Freehand).
2. Three versions of the company logos or marks are required (or six if both horizontal and vertical aspect versions are available):
 - 1 version in color
 - 1 version in color suitable for black background (required only if original logo or mark is not clearly visible on a black background)
 - 1 version in grayscale (for black and white print ads).
3. All fonts must be converted to outlines.
4. All required registered marks, trademarks and service marks should be part of the artwork.
5. No low-resolution flattened artwork in the following applications will be accepted: Adobe PageMaker or InDesign, Microsoft PowerPoint, Word or Excel, Corel Draw, or QuarkXpress.

SUBMITTING ARTWORK

Submit the completed and signed Authorization Form and all artwork and materials to listingapp@cboe.com.

Cboe BZX Exchange, Inc.
Issuer Description

This form should be completed at the time of application for listing or to update a previously provided description.

Please check appropriate box:

- Issuer description at time of application
 Updated issuer description

Cboe BZX Exchange, Inc.
Shareholder Data Release Consent

I hereby consent to the release of periodic shareholder count data by Broadridge Financial Solutions, Inc. to Cboe BZX Exchange, Inc., hereby referenced as “the Exchange,” on all or some current or future issues listed on the Exchange.

We understand that this information will not identify any beneficial holder and will be used for regulatory purposes only.

Please sign and date below:	
I,	as
(Signature)	(Title)
of	
(Corporation or Trust Name)	

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

Pursuant to the Certificate of Incorporation and Bylaws of the Exchange, the Exchange's Board of Directors has appointed the individuals listed below as Officers of the Exchange. These individuals will serve in these positions until their successors have been duly chosen or qualified or until the officer's earlier death, resignation or removal.

Officers				
Name:	Title:	Appointment Date:		Termination/ Change Position Date:
Alexandra Albright	Chief Compliance Officer	02/28/17		
Lawrence Bresnahan	Vice President, Market & Member Regulation	02/13/18		
Rodney Burt	Vice President, Infrastructure	02/10/15		
Kevin Carrai	Vice President, Connectivity	02/10/15		
Bryan Christian	Senior Vice President, Sales US Equities	02/10/15		03/01/18 - Change in title
Paul Ciciora	Vice President, Systems Infrastructure	02/13/18		
Catherine Clay	Vice President, Business Development	02/13/18		

Choe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit J

Gary Compton	Vice President, Corporate Communications	07/30/18	
Chris Concannon	President & COO	02/10/15	
Jeff Connell	Vice President, Deputy Chief Regulatory Officer	11/02/15	03/01/18 - Change in title
Eric Crampton	Senior Vice President, Software Engineer	05/12/15	03/01/18 - Change in title
John Deters	Executive Vice President, Chief Strategy Officer & Head of Corporates Initiatives	02/28/17	03/01/18 - Change in title
Laura Dickman	Vice President, Associate General Counsel	02/13/18	03/01/18 - Change in title
James Enstrom	Vice President, Chief Audit Executive	02/28/17	
Eric Frait	Vice President, Business Analysis	02/28/17	
Anders Franzon	Senior Vice President and Deputy General Counsel	11/02/15	03/01/18 - Change in title
Todd Furney	Vice President, Chief Risk Officer	02/28/17	
Alicia Goldberg	Vice President, Statistical Analysis	02/28/17	
Jennifer Golding	Vice President, Associate General Counsel, Chief Litigation Officer	07/30/18	
David Gray	Senior Vice President, Global Client Services	02/28/17	03/01/18 - Change in title
Jill Griebenow	Senior Vice President & Chief Accounting Officer	08/15/18	
Bryan Harkins	Executive Vice President, Head of	02/10/15	03/01/18 - Change in title

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit J

	U.S. Equities & Global FX			
Mark Hemsley	Executive Vice President, President Europe			
Gregory Hoogasian	Senior Vice President, Chief Regulatory Officer	02/28/17		
Chris Isaacson	Executive Vice President, Global Chief Information Officer	02/10/15		
Jennifer Lamie	Vice President, Chief Regulatory Advisor	02/13/18		03/01/18 - Change in title
Stephanie Marrin Lara	Vice President, Deputy Chief Regulatory Officer	02/13/18		03/01/18 - Change in title
William Looney	Vice president, Advancement & Strategy, Index Options	07/30/18		
Andrew Lowenthal	Executive Vice President, Head of Global Derivatives	02/28/17		03/01/18 - Change in title
Marc Magrini	Vice President, Administration	02/13/18		
Anthony Montesano	Vice President, TSD and Registration	02/13/18		03/01/18 - Change in title
Laura Morrison	Senior Vice President, ETP Listings	05/12/15		03/01/18 - Change in title
Mark Novak	Vice President, CTO Development	02/13/18		
Arthur Reinstein	Senior Vice President and Deputy General Counsel	02/28/17		03/01/18 - Change in title
Bradley Samuels	Vice President, Systems Development	02/13/18		

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit J

Brian N. Schell	Executive Vice President, Chief Financial Officer, Treasurer	02/10/15	
Curt Schumacher	Vice President, CTO Operations	02/13/18	
Derick Shupe	Vice President, Controller	02/10/15	
John Sexton	Executive Vice President, General Counsel & Corporate Secretary	02/28/17	03/01/18 - Change in title
Steven Sinclair	Vice President, Systems Development	02/13/18	
Eileen Smith	Vice President, Systems Planning	02/13/18	
William Speth	Senior Vice President, Research & Product Development	02/13/18	03/01/18 - Change in title
Paul Stephens	Vice President, Global Client Services	02/13/18	03/01/18 - Change in title
Ed Tilly	CEO	02/28/17	
Michael Todorofsky	Vice President, US Market Operations	02/13/18	03/01/18 - Change in title
Michael Trees	Vice President, Trading System Development	02/13/18	
Aaron Weissenfluh	Vice President, Chief Information Security Officer	02/10/15	
Troy Yeazel	Senior Vice President, Operations	11/02/15	
Laura Zinanni	Senior Vice President and Deputy General Counsel	02/13/18	03/01/18 - Change in title
Vivian Yiu	Vice President, Product Strategy	11/01/16	03/01/18 - Change in title

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit J

Former Officers			
Name:	Title:	Appointment Date:	Termination/ Change Position Date:
Tami Schademann	Executive Vice President, Chief Regulatory Officer	02/10/15	02/28/17
Eric Swanson	Executive Vice President, General Counsel, Secretary	02/10/15	02/28/17
Charles Randy Williams	Senior Vice President, Global Investor Relations & Communications	02/10/15	02/28/17
Tony Barchetto	Executive Vice President, Head of Corporate Development	05/03/16	02/28/17
Greg Steinberg	Vice President, Assistant Secretary & Associate General Counsel	02/10/15	02/13/18
Stacie Fleming	Vice President, Communication	02/10/15	02/13/18
Kapil Rathi	Senior Vice President, Options Business Development	05/12/15	02/13/18
Thad Prososki	Vice President, Human Resources	05/12/15	02/13/18
Brett Johnson	Vice President, Software Engineering	09/09/15	02/13/18
Pamela Culpepper	Chief HR Officer	02/28/17	02/13/18
Alan Dean	Executive Vice President F&A, Chief Financial Officer	02/28/17	02/13/18
Angelo Evangelou	Deputy General Counsel	02/28/17	02/13/18
Carol Kennedy	Vice President, and Chief	02/28/17	02/13/18

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit J

	Communications Officer			
Stephanie Klein	Vice President Chief Marketing Officer		02/28/17	02/13/18
Donald Patton	Vice President, Accountant/Controller		02/28/17	02/13/18
Joanne Moffic-Silver	Executive Vice President, General Counsel & Corporate Secretary		02/28/17	02/28/18
Michael Todd	Vice President, OSC		02/13/18	07/30/18
David Reynolds	Vice President, & Chief Accounting Officer		02/28/17	08/15/18

1. Directors

The following directors were appointed in accordance with Article III of the Bylaws of the Exchange. Directors will serve one-year terms ending on the annual meeting following the meeting at which such directors were elected or at such time as their successors are elected or appointed and qualified, except in the event of earlier death, resignation, disqualification or removal. The current directors of the Exchange are the persons listed below:

Directors				
Name	Classification(s)	Appointment Date:	Termination Date:	
Ed Tilly	Chairman & Director	02/28/17		
Bruce Andrews	Director	02/13/18		
Kevin Murphy	Director	02/13/18		
David Roscoe	Director	10/13/10		
Jill Sommers	Director	10/26/15		
Scott Wagner	Director	10/27/16		
Former Directors				
Name:	Title:	Appointment Date:	Termination/Change Position Date:	

Cboe BZX Exchange, Inc. Form 1 Registration Statement: Exhibit J

Matt Billings	Director	10/27/16	02/13/18
Chris Concannon	Director	03/31/15	02/13/18
Sandy Kemper	Director	10/26/15	02/13/18
Joseph Mecane	Director	10/27/15	02/13/18

2. Committees

The committees of the Board shall consist of an Executive Committee and a Regulatory Oversight Committee.

Executive Committee

- Ed Tilly (Chairman)
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner (Chairman)
- Bruce Andrews
- David Roscoe

Exhibit M

Exhibit Request:

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

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

Response:

Attached please find a list of the current Members and Sponsored Participants accepted as Users of the Exchange.

Company Name	BZX Approval Date	BYX Approval Date	EDGA Approval Date	EDGX Approval Date	CBOE Effective Date	C2 Effective Date	Type of User	Address	Phone Number	Primary Activities
ABN AMRO Clearing Chicago LLC	10/15/2008	10/1/2010	5/25/2010	5/27/2010	5/13/1985	9/24/2010	Member TPH	175 W Jackson Boulevard Suite 400 Chicago, IL 60604	312-604-8000	Clearing, Transact Business with the Public, Brokerage
ACS Execution Services, LLC	1/15/2016	1/15/2016	1/15/2016	1/15/2016	NA	NA	Member TPH	12 Broad Street 2nd Floor Red Bank, NJ 07701	732-204-8999	Proprietary Trading
Agency Desk, LLC	7/1/2009	NA	NA	NA	NA	NA	Member TPH	590 Madison Avenue 21st Floor New York, NY 10022	212-935-9835	Market Maker
Akuna Securities LLC	9/15/2015	NA	NA	8/14/2017	2/2/2012	2/12/2015	Member TPH	333 S Wabash Avenue Suite 2600 Chicago, IL 60604	312-994-4640	Market Maker, Proprietary Trading
Albert Fried & Company, LLC	8/18/2008	4/15/2011	5/18/2010	5/18/2010	NA	NA	Member TPH	31 W 52nd Street New York, NY 10019	212-827-7000	Agency
Alpha Direct LLC	8/20/2015	8/20/2015	8/20/2015	8/20/2015	NA	NA	Sponsored Participant	533 2nd Street Encinitas, CA 92024	858-947-8650	Proprietary Trading
Alpha Trading, LP	10/24/2017	10/24/2017	10/24/2017	10/24/2017	NA	NA	Member TPH	640 W California Avenue Sunnyvale, CA 94086	408-990-1940	Market Maker, Proprietary Trading
Alpine Securities Corporation	11/3/2008	11/15/2010	NA	NA	NA	NA	Member TPH	39 Exchange Place Salt Lake City, UT 84111	801-355-5588	Agency
AMS Derivatives B.V.	NA	NA	NA	NA	12/1/2017	NA	Member TPH	Strawinskylaan 3095 Amsterdam, 1077ZX Netherlands	31-020-708-7000	Proprietary Trading
Andrie Trading LLC	NA	NA	NA	NA	10/1/1999	NA	Member TPH	440 S LaSalle Street Suite 1110 Chicago, IL 60605	312-663-8195	Market Maker
Apex Clearing Corporation	6/5/2012	6/5/2012	6/5/2012	6/5/2012	6/6/2012	6/6/2012	Member TPH	One Dallas Center 350 N St. Paul, Suite 1300 Dallas, TX 75201	214-765-1055	Clearing, Transact Business with the Public
Archipelago Securities LLC	8/18/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	353 N Clark Street Suite 3200 Chicago, IL 60654	312-836-6700	Limited Routing Facility of ICE affiliated Exchanges
Athena Capital Research, LLC	7/1/2009	10/20/2010	NA	NA	NA	NA	Sponsored Participant	440 9th Avenue 11th Floor New York, NY 10001	212-931-9056	Proprietary Trading
ATM Execution LLC	3/15/2012	3/15/2012	3/21/2012	3/21/2012	NA	NA	Member TPH	599 Lexington Avenue 21st Floor New York, NY 10022	646-562-1010	Public Customer Business
Barclays Capital Inc.	8/18/2008	10/1/2010	5/14/2010	5/14/2010	9/22/2008	10/6/2010	Member TPH	745 7th Avenue New York, NY 10019	212-526-7000	Clearing, Market Maker, Transact Business with the Public, Brokerage, Proprietary Trading
Bay Crest Partners, LLC	10/15/2008	NA	5/25/2010	5/27/2010	NA	NA	Member TPH	40 Wall Street 42nd Floor New York, NY 10005	212-480-1400	Agency
Balvedere Trading LLC	11/1/2011	3/1/2012	11/29/2011	NA	1/3/2005	4/4/2011	Member TPH	10 S Riverside Plaza Suite 2100 Chicago, IL 60606	312-893-3750	Market Maker, Proprietary Trading
Bengal Capital Trading LLC	NA	NA	NA	NA	1/15/2013	NA	Member TPH	440 S LaSalle Street Suite 2121 Chicago, IL 60605	312-362-4928	Proprietary Trading
Benjamin & Jerold Brokerage I LLC	10/1/2009	12/11/2017	12/11/2017	12/11/2017	NA	NA	Member TPH	80 Broad Street 6th Floor New York, NY 10005	646-558-0055	Agency
BGC Financial, LP	8/17/2009	NA	NA	NA	NA	NA	Member TPH	One Seaport Plaza 19th Floor New York, NY 10038	646-346-7000	Agency
Bloomberg Tradebook LLC	10/23/2008	10/4/2010	5/14/2010	5/14/2010	NA	NA	Member TPH	919 3rd Avenue New York, NY 10022	646-324-3178	Agency
Bluefin Trading, LLC	8/3/2009	6/1/2015	9/27/2013	8/13/2013	4/27/2009	NA	Member TPH	3 Park Avenue 37th Floor New York, NY 10016	212-457-9150	Market Maker, Proprietary Trading
BMO Capital Markets Corp.	8/18/2008	11/15/2010	7/15/2014	7/15/2014	10/8/2013	11/15/2013	Member TPH	3 Times Square New York, NY 10036	212-885-4000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
BMT Trading, LLC	2/1/2010	NA	NA	NA	NA	NA	Sponsored Participant	800 3rd Avenue New York, NY 10022	212-813-0870	Proprietary Trading
BNP Paribas Securities Corp.	8/18/2008	9/15/2010	5/25/2010	5/27/2010	1/5/2005	10/15/2010	Member TPH	787 7th Avenue New York, NY 10019	212-841-2000	Clearing, Order Flow Provider, Proprietary Trading, Transact Business with the Public
BNY Mellon Capital Markets, LLC	NA	NA	NA	1/17/2017	NA	NA	Member TPH	101 Barclay Street New York, NY 10286	212-815-4972	Market Maker
Boerboel Capital LLC	11/17/2017	NA	NA	NA	2/1/2017	NA	Member TPH	300 N LaSalle Street Suite 2060 Chicago, IL 60654	708-967-6843	Market Maker
BTIG, LLC	8/18/2008	11/15/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	600 Montgomery Street 6th Floor San Francisco, CA 94111	415-248-2200	Market Maker
C&C Trading LLC	8/18/2008	10/11/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	71 Arch Street 1st Floor Greenwich, CT 06830	212-706-1227	Proprietary Trading
Canaccord Genuity LLC	10/1/2013	10/1/2013	6/10/2010	6/10/2010	NA	NA	Member TPH	535 Madison Avenue New York, NY 10022	212-389-8000	Market Maker
Canadian Imperial Holdings, Inc.	10/15/2008	11/15/2010	NA	NA	NA	NA	Sponsored Participant	300 Madison Avenue 5th Floor New York, NY 10017	212-856-3877	Proprietary Trading
Cantor Fitzgerald & Co.	10/23/2008	2/13/2015	5/25/2010	5/27/2010	NA	NA	Member TPH	110 E 58th Street 4th Floor New York, NY 10022	212-938-5000	Agency, Institutional Trading
Capital Institutional Services, Inc.	8/18/2008	NA	5/25/2010	5/27/2010	NA	NA	Member TPH	1700 Pacific Avenue Suite 1100 Dallas, TX 75201	214-720-0055	Agency
Cardinal Capital Management, LLC	NA	NA	NA	NA	10/1/2007	NA	Member TPH	141 W Jackson Boulevard Suite 2200A Chicago, IL 60604	312-477-8400	Market Maker
Cboe Trading, Inc.	10/23/2008	9/1/2010	5/14/2010	5/14/2010	NA	4/18/2018	Member TPH	8050 Marshall Drive Suite 120 Lenexa, KS 66214	913-815-7000	Limited Routing Facility of Cboe affiliated Exchanges
CF Global Trading, LLC	10/23/2008	1/3/2011	NA	NA	NA	NA	Member TPH	60 E 42nd Street Suite 1455 New York, NY 10165	212-888-4711	Market Maker
Charles Schwab & Co., Inc.	NA	NA	NA	4/3/2017	6/2/1980	NA	Member TPH	211 Main Street San Francisco, CA 94105	415-636-7000	Clearing, Transact Business with the Public
Chimera Securities, LLC	6/2/2014	6/2/2014	6/25/2014	6/25/2014	NA	NA	Member TPH	27 Union Square W 4th Floor New York, NY 10003	646-597-6100	Proprietary Trading
Chimera Securities, LLC	11/17/2017	11/27/2017	11/27/2017	11/17/2017	NA	NA	Sponsored Participant	27 Union Square W 4th Floor New York, NY 10003	646-597-6100	Proprietary Trading
CIBC World Markets Corp.	8/18/2008	11/15/2010	NA	NA	2/14/1973	NA	Member TPH	425 Lexington Avenue New York, NY 10017	212-856-4000	Clearing, Transact Business with the Public

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Citadel Securities LLC	10/23/2008	10/1/2010	5/14/2010	5/14/2010	4/17/2002	10/7/2010	Member TPH	131 S Dearborn Street 32nd Floor Chicago, IL 60603	312-395-2100	Market Maker, Order Flow Provider, Brokerage
Citi Order Routing and Execution, LLC	8/18/2008	9/15/2010	5/25/2010	5/27/2010	10/1/2008	9/24/2010	Member TPH	11 Ewall Street Mount Pleasant, SC 29464	843-789-2080	Clearing, Transact Business with the Public
Citigroup Derivatives Markets Inc.	2/15/2018	NA	NA	2/15/2018	12/3/2004	2/25/2011	Member TPH	130 Cheshire Lane Suite 102 Minnetonka, MN 55305	212-723-2960	Market Maker
Citigroup Global Markets Inc.	9/24/2008	12/15/2010	5/25/2010	5/27/2010	5/2/2011	NA	Member TPH	390-388 Greenwich Street New York, NY 10013	212-816-6000	Clearing, Proprietary Trading, Transact Business with the Public
Clarksons Platou Securities, Inc.	NA	NA	1/15/2015	NA	NA	NA	Member TPH	280 Park Avenue 21st Floor New York, NY 10017	212-317-7080	Public Customer Business
Clearpool Execution Services, LLC	5/15/2014	5/15/2014	6/16/2014	6/16/2014	NA	NA	Member TPH	17 State Street 38th Floor New York, NY 10004	212-531-8500	Public Customer Business
CLSA Americas, LLC	NA	NA	5/21/2013	5/21/2013	NA	NA	Member TPH	1301 Avenue of the Americas 15th Floor New York, NY 10019	212-549-5097	Agency
CM-CIC Market Solutions, Inc.	8/18/2008	NA	NA	NA	NA	NA	Member TPH	520 Madison Avenue New York, NY 10022	212-659-6292	Agency
CMT Fund XXV Limited	7/2/2012	7/2/2012	NA	NA	NA	NA	Sponsored Participant	500 W Monroe Street Suite 2630 Chicago, IL 60661	312-320-7897	Agency
CMT Trading LLC	3/17/2014	3/17/2014	3/5/2014	3/5/2014	NA	NA	Member TPH	500 W Monroe Street Suite 2630 Chicago, IL 60661	312-930-9050	Market Maker, Proprietary Trading
CMZ Trading, LLC	NA	NA	NA	NA	10/1/2004	NA	Member TPH	141 W Jackson Boulevard Suite 826 Chicago, IL 60604	312-604-3310	Market Maker, Proprietary Trading
CODA Markets, Inc.	10/15/2008	10/4/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	2624 Patriot Boulevard Glenview, IL 60026	224-521-2700	ATS
Cognitive Capital, LLC	NA	NA	NA	NA	5/13/2004	NA	Member TPH	141 W Jackson Boulevard Suite 1620 Chicago, IL 60604	312-431-0400	Proprietary Trading
Comhar Capital Markets, LLC	2/27/2017	NA	NA	NA	NA	NA	Member TPH	311 S Wacker Drive Suite Z280A Chicago, IL 60606	872-205-0190	Proprietary Trading
Consolidated Trading, LLC	NA	NA	NA	NA	1/2/2002	NA	Member TPH	71 S Wacker Drive Suite 2300 Chicago, IL 60606	312-360-7300	Market Maker
COR Clearing LLC	10/15/2009	NA	NA	NA	NA	NA	Member TPH	1200 Landmark Center 1299 Farnam Street Suite 800 Omaha, NE 68102	402-384-6100	Clearing Services
Cowen and Company, LLC	8/18/2008	10/7/2010	5/14/2010	5/14/2010	NA	NA	Member TPH	599 Lexington Avenue 20th Floor New York, NY 10022	646-562-1010	Market Maker
Cowen Execution Services LLC	10/15/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	1633 Broadway 48th Floor New York, NY 10019	800-367-8998	Full Service
Cowen Prime Services LLC	3/15/2011	3/15/2011	NA	NA	NA	NA	Member TPH	599 Lexington Avenue 21st Floor New York, NY 10022	646-562-1010	Public Customer Business, Proprietary Trading
Credit Suisse Securities (USA) LLC	9/3/2008	10/1/2010	5/25/2010	5/27/2010	8/14/1981	10/8/2010	Member TPH	11 Madison Avenue New York, NY 10010	212-325-2000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
Critical Trading, LLC	7/1/2014	6/8/2018	NA	6/8/2018	NA	NA	Member TPH	120 W 45th Street 15th Floor New York, NY 10036	646-918-0529	Market Maker, Proprietary Trading
CSS, LLC	NA	NA	NA	NA	8/21/1998	NA	Member TPH	175 W Jackson Boulevard Suite 440 Chicago, IL 60604	312-542-8505	Proprietary Trading
CTC, LLC	3/15/2018	NA	NA	NA	3/25/1998	3/3/2011	Member TPH	440 S LaSalle Street 4th Floor Chicago, IL 60605	312-863-8000	Market Maker
Cutler Group, LP	4/1/2010	10/6/2010	NA	10/16/2015	4/5/1999	NA	Member TPH	101 Montgomery Street Suite 700 San Francisco, CA 94104	415-293-3956	Market Maker, Proprietary Trading
Dash Financial Technologies LLC	10/23/2008	7/2/2012	6/9/2010	6/9/2010	5/19/2000	9/30/2010	Member TPH	311 S Wacker Drive Suite 1000 Chicago, IL 60606	312-986-2006	Clearing, Floor Broker, Order Flow Provider, Transact Business with the Public, Brokerage
Deutsche Bank Securities Inc.	10/15/2008	10/11/2010	5/21/2010	5/21/2010	4/25/1996	8/15/2011	Member TPH	60 Wall Street New York, NY 10005	212-250-2500	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
DRW Securities, LLC	9/1/2009	11/1/2010	5/25/2010	5/27/2010	11/23/1998	1/22/2016	Member TPH	540 W Madison Street Suite 2500 Chicago, IL 60661	312-542-1000	Market Maker, Proprietary Trading
E*TRADE Securities LLC	NA	NA	NA	6/10/2010	NA	NA	Member TPH	11 Times Square 32nd Floor New York, NY 10036	646-521-4300	Public Customer Business
EG Market Technologies LLC	4/3/2017	4/3/2017	4/3/2017	4/3/2017	NA	NA	Member TPH	787 5th Avenue 45th Floor New York, NY 10153	646-757-2831	Market Maker, Proprietary Trading
Electronic Transaction Clearing, Inc.	10/23/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	660 S Figueroa Street Los Angeles, CA 90017	949-533-1885	Market Maker
Essex Radez LLC	2/17/2009	10/1/2010	5/10/2010	5/14/2010	NA	NA	Member TPH	440 S LaSalle Street Suite 1111 Chicago, IL 60605	312-212-1815	Market Maker
Evercore Group LLC	NA	NA	5/10/2017	NA	NA	NA	Member TPH	55 E 52nd Street New York, NY 10055	212-857-3100	Public Customer Business
FIS Brokerage & Securities Services LLC	8/18/2008	10/1/2010	5/6/2010	5/6/2010	NA	NA	Member TPH	2100 Enterprise Avenue Geneva, IL 60134	630-482-7100	Agency
Flow Traders U.S. Institutional Trading LLC	NA	NA	6/1/2016	NA	NA	NA	Member TPH	1114 Avenue of the Americas 4th Floor New York, NY 10036	917-210-5000	Riskless Principal
Flow Traders U.S. LLC	10/1/2009	8/1/2012	2/28/2014	2/28/2014	8/31/2010	NA	Member TPH	1114 Avenue of the Americas 4th Floor New York, NY 10036	917-210-5000	Proprietary Trading
G1 Execution Services, LLC	8/18/2008	12/1/2010	4/17/2010	4/17/2010	NA	NA	Member TPH	175 W Jackson Boulevard Suite 1700 Chicago, IL 60604	312-362-0404	Market Maker
G2 Trading LLC	6/1/2016	NA	NA	NA	NA	NA	Member TPH	325 S Sangamon Street Chicago, IL 60607	404-697-9915	Market Maker, Proprietary Trading
Gelber Securities, LLC	5/1/2015	NA	NA	NA	NA	NA	Member TPH	350 N Orleans Street 7th Floor Chicago, IL 60654	312-408-4354	Market Maker, Proprietary Trading
Geneva Stock, LLC	NA	NA	NA	NA	4/6/2001	NA	Member TPH	440 S LaSalle Street Suite 1711 Chicago, IL 60605	312-362-4404	Market Maker
Global Execution Brokers, LP	2/1/2010	10/5/2010	12/1/2015	10/15/2015	12/23/2003	9/24/2010	Member TPH	401 City Avenue Bala Cynwyd, PA 19004	610-617-2600	Floor Broker, Transact Business with the Public, Brokerage

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Global HFT Management, LLC	10/1/2010	NA	NA	NA	NA	NA	Sponsored Participant	800 3rd Avenue New York, NY 10022	212-813-0870	Proprietary Trading
Global Liquidity Partners, LLC	4/21/2011	5/15/2012	NA	NA	NA	NA	Sponsored Participant	12 Broad Street Suite 201 Redbank, NJ 07701	773-459-4665	Agency
Goldman Sachs & Co. LLC	10/23/2008	10/12/2010	5/14/2010	5/14/2010	2/21/1973	10/8/2010	Member TPH	200 West Street New York, NY 10282	212-902-1000	Clearing, Market Maker, Proprietary Trading, Transact Business with the Public, Brokerage
Gordon, Haskett Capital Corporation	NA	NA	NA	5/2/2016	NA	NA	Member TPH	441 Lexington Avenue 10th Floor New York, NY 10017	212-883-0600	Agency, Institutional Trading
Green Street Trading, LLC	11/1/2011	NA	NA	NA	NA	NA	Member TPH	660 Newport Center Drive Suite 800 Newport Beach, CA 92660	214-749-4730	Agency
Group One Trading, LP	6/2/2015	NA	NA	9/29/2015	11/23/1994	NA	Member TPH	440 S LaSalle Street Suite 3232 Chicago, IL 60605	312-347-8884	Market Maker
GTS Securities LLC	12/17/2013	5/1/2012	6/2/2014	6/2/2014	NA	NA	Member TPH	545 Madison Avenue 15th Floor New York, NY 10022	212-715-2830	Market Maker, Proprietary Trading
Hainey Investments Limited	6/16/2014	NA	NA	NA	NA	NA	Sponsored Participant	Themistokli Dervi 41 #806-807 Nicosia, Cyprus	704-248-8221	Proprietary Trading
HAP Trading, LLC	10/1/2009	11/15/2010	NA	6/2/2010	3/16/2001	NA	Member TPH	395 Hudson Street Suite 701 New York, NY 10014	212-380-5100	Market Maker, Proprietary Trading
Hardcastle Trading USA LLC	4/15/2009	NA	5/25/2010	5/27/2010	5/16/2005	NA	Member TPH	755 Secaucus Road Suite F-1110 Secaucus, NJ 07094	201-305-8888	Proprietary Trading
Henning-Carey Proprietary Trading, LLC	8/15/2012	NA	NA	NA	NA	NA	Sponsored Participant	141 W Jackson Boulevard Suite 1801 Chicago, IL 60604	312-789-8764	Proprietary Trading
Highbridge Capital Management, LLC	10/23/2008	NA	NA	NA	NA	NA	Sponsored Participant	9 West 57th Street 27th Floor New York, NY 10019	212-287-4900	Proprietary Trading
Hilltop Securities Inc.	10/23/2008	9/1/2010	NA	5/21/2013	10/1/2010	NA	Member TPH	1201 Elm Street Suite 3500 Dallas, TX 75270	214-859-1800	Clearing, Transact Business with the Public
HRT Financial LLC	2/1/2010	10/1/2010	5/18/2010	5/18/2010	1/24/2011	1/24/2011	Member TPH	4 World Trade Center 150 Greenwich Street, 57th Floor New York, NY 10007	212-293-1444	Proprietary Trading
HSBC Securities (USA) Inc.	4/3/2017	4/3/2017	4/3/2017	4/3/2017	11/21/2005	NA	Member TPH	452 Fifth Avenue New York, NY 10018	224-880-7116	Clearing, Transact Business with the Public
HTG Capital Partners, LLC	10/3/2016	10/3/2016	10/3/2016	10/3/2016	NA	NA	Sponsored Participant	601 S LaSalle Street 2nd Floor Chicago, IL 60605	312-327-4112	Proprietary Trading
ICAP Corporates LLC	NA	NA	3/28/2013	NA	NA	NA	Member TPH	Harborside 5 Hudson Street, Suite 1200 Jersey City, NJ 07311	212-341-9944	Agency
IEX Services LLC	10/1/2013	10/1/2013	9/24/2013	9/24/2013	NA	NA	Member TPH	4 World Trade Center 44th Floor New York, NY 10007	646-343-2000	Limited Routing Facility of IEX affiliated Exchanges
IMC Financial Markets	8/18/2008	10/1/2010	5/25/2010	5/27/2010	7/5/2000	9/24/2010	Member TPH	233 S Wacker Drive Suite 4300 Chicago, IL 60606	312-244-3300	Market Maker, Proprietary Trading
Industrial and Commercial Bank of China Financial Services LLC	5/15/2014	5/15/2014	NA	NA	NA	NA	Member TPH	1633 Broadway 28th Floor New York, NY 10019	212-993-7300	Clearing Services
Instinet LLC	8/18/2008	9/1/2010	5/14/2010	5/14/2010	12/29/2009	10/6/2010	Member TPH	Worldwide Plaza 309 W 49th Street New York, NY 10019	212-310-9500	Clearing, Transact Business with the Public, Brokerage
Interactive Brokers Corp.	NA	NA	NA	NA	4/21/2009	10/6/2010	Member TPH	8 Greenwich Office Park Greenwich, CT 06831	203-618-5700	Floor Broker, Brokerage
Interactive Brokers LLC	8/18/2008	9/15/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	One Pickwick Plaza 2nd Floor Greenwich, CT 06830	203-618-5710	Full Service
International Correspondent Trading, Inc.	8/18/2008	NA	NA	NA	NA	NA	Member TPH	One University Plaza Suite 301 Hackensack, NJ 07601	201-222-9300	Agency
Israel A. Englander & Co., LLC	NA	NA	NA	NA	10/27/1995	9/24/2010	Member TPH	666 5th Avenue 14th Floor New York, NY 10103	212-841-4567	Floor Broker, Transact Business with the Public, Brokerage
ISTRA, LLC	12/15/2011	12/15/2011	NA	NA	NA	NA	Sponsored Participant	230 Park Avenue 10th Floor New York, NY 10169	718-618-4929	Proprietary Trading
ITG Inc.	8/18/2008	10/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	One Liberty Plaza 165 Broadway, 4th Floor New York, NY 10006	212-588-4000	Agency
J.P. Morgan Securities LLC	8/18/2008	9/15/2010	5/14/2010	5/14/2010	10/29/1985	11/18/2010	Member TPH	383 Madison Avenue New York, NY 10179	212-272-2000	Clearing, Transact Business with the Public
Jane Street Capital, LLC	5/1/2009	11/15/2010	5/14/2010	5/14/2010	9/4/2012	NA	Member TPH	250 Vesey Street 5th Floor New York, NY 10281	646-759-6000	Market Maker, Proprietary Trading
Jane Street Options, LLC	1/3/2012	NA	NA	NA	NA	NA	Sponsored Participant	One New York Plaza New York, NY 10004	212-651-8969	Proprietary Trading
Jane Street Options, LLC	4/15/2016	NA	NA	NA	5/2/2005	NA	Member TPH	250 Vesey Street 5th Floor New York, NY 10281	646-759-6000	Market Maker
Jefferies Investment Advisers	7/1/2011	7/15/2011	NA	NA	NA	NA	Sponsored Participant	520 Madison Avenue New York, NY 10022	212-323-3993	Full Service
Jefferies LLC	10/23/2008	10/19/2010	5/25/2010	5/27/2010	7/9/2012	7/18/2012	Member TPH	520 Madison Avenue New York, NY 10022	212-284-2300	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
JNK Securities Corp.	11/17/2008	11/15/2010	NA	NA	NA	NA	Member TPH	140 E 45th Street 27th Floor New York, NY 10017	212-885-6300	Agency
Juliet Group, LLC	3/1/2011	3/1/2011	NA	NA	NA	NA	Sponsored Participant	240 E 35th Street #3A New York, NY 10016	646-360-0595	Proprietary Trading
Juliet Labs, LLC	9/20/2017	9/20/2017	9/20/2017	9/20/2017	NA	NA	Sponsored Participant	1 Northside Piers Suite 14H Brooklyn, NY 11249	646-360-0595	Proprietary Trading
Jump Trading, LLC	8/18/2008	10/1/2010	5/14/2010	5/14/2010	4/2/2012	6/6/2017	Member TPH	600 W Chicago Avenue Suite 825 Chicago, IL 60654	312-205-8900	Market Maker, Proprietary Trading
Keefe, Bruyette & Woods, Inc.	8/18/2008	12/1/2010	6/8/2010	6/8/2010	NA	NA	Member TPH	787 7th Avenue New York, NY 10019	212-887-7777	Agency
Lakeshore Securities, LP	NA	NA	NA	NA	1/24/1983	NA	Member TPH	401 S LaSalle Street Suite 1000 Chicago, IL 60605	312-663-1307	Clearing, Floor Broker, Market Maker, Transact Business with the Public
Lamberson Capital LLC	NA	NA	NA	NA	3/23/2016	NA	Member TPH	71 S Wacker Drive Suite 2300 Chicago, IL 60606	312-360-7300	Market Maker

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Lampert Capital Markets Inc.	NA	2/18/2014	2/26/2014	NA	NA	NA	Member TPH	444 Madison Avenue Suite 401 New York, NY 10022	646-833-4900	Introducing Broker
Lamport Capital, LC	NA	NA	NA	3/15/2016	NA	NA	Member TPH	1900 Glades Road Suite 205 Boca Raton, FL 33431	561-883-0454	Public Customer Business, Proprietary Trading
Latour Trading LLC	8/17/2009	10/1/2010	5/26/2010	5/27/2010	4/8/2011	NA	Member TPH	377 Broadway 10th Floor New York, NY 10013	917-388-8000	Proprietary Trading
Leerink Partners LLC	8/18/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	1 Federal Street 37th Floor Boston, MA 02110	617-918-4900	Agency
LEK Securities Corporation	8/18/2008	10/1/2010	5/26/2010	5/27/2010	1/9/2001	9/24/2010	Member TPH	1 Liberty Plaza 165 Broadway, 52nd Floor New York, NY 10006	212-509-2300	Clearing, Transact Business with the Public
Lime Brokerage LLC	8/18/2008	10/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	11 E 44th Street Suite 705 New York, NY 10017	212-824-5000	Transact Business with the Public
Liquidnet, Inc.	9/1/2009	9/15/2010	NA	NA	NA	NA	Member TPH	498 7th Avenue 15th Floor New York, NY 10018	646-674-2000	Agency
Lupo Securities, LLC	NA	NA	NA	NA	8/1/1997	NA	Member TPH	141 W Jackson Boulevard Suite 2200A Chicago, IL 60604	312-477-8400	Market Maker, Proprietary Trading
Macquarie Capital (USA) Inc.	12/1/2009	NA	5/26/2010	5/27/2010	NA	NA	Member TPH	125 W 55th Street Level 22 New York, NY 10019	212-231-1000	Agency
Marathon Trading Group LLC	2/13/2015	NA	NA	NA	1/30/2013	NA	Member TPH	100 Matsonford Road Building 2, Suite 107 Wayne, PA 19087	610-254-4890	Market Maker, Proprietary Trading
Matrix Executions, LLC	8/18/2008	11/15/2010	NA	11/12/2015	2/1/2008	10/26/2010	Member TPH	601 S LaSalle Street Suite 300 Chicago, IL 60605	312-334-8000	Transact Business with the Public, Brokerage
Merrill Lynch Professional Clearing Corp.	8/18/2008	10/5/2010	5/14/2010	5/14/2010	4/8/1985	9/24/2010	Member TPH	One Bryant Park, 6th Floor NY1-100-06-01 New York, NY 10036	646-743-1295	Clearing, Brokerage, Transact Business with the Public
Merrill Lynch, Pierce, Fenner & Smith Incorporated	8/18/2008	10/4/2010	5/14/2010	5/14/2010	4/25/1973	9/27/2010	Member TPH	One Bryant Park New York, NY 10036	800-637-7455	Clearing, Transact Business with the Public, Brokerage, Market Maker, Proprietary Trading
Mint Global Markets, Inc.	NA	NA	5/26/2010	5/27/2010	NA	NA	Member TPH	1717 Route 6 Suite 102 Carmel, NY 10512	800-874-3039	Agency
Mizuho Securities USA, LLC	6/1/2010	1/3/2011	NA	NA	NA	NA	Member TPH	320 Park Avenue 12th Floor New York, NY 10022	212-209-9300	Agency
MKM Partners LLC	8/3/2009	NA	5/14/2010	5/14/2010	NA	NA	Member TPH	300 First Stamford Place 4th Floor East Wing Stamford, CT 06902	203-861-9060	Agency
MNR Executions, LLC	NA	NA	NA	NA	4/30/2008	NA	Member TPH	141 W Jackson Boulevard Suite 3900 Chicago, IL 60604	312-878-4704	Floor Broker, Transact Business with the Public
Monadnock Capital Management, LP	NA	NA	NA	NA	12/1/2014	NA	Member TPH	1845 Walnut Street Suite 940 Philadelphia, PA 19103	267-239-0367	Market Maker
Moors & Cabot, Inc.	NA	4/2/2012	NA	NA	NA	NA	Member TPH	111 Devonshire Street Boston, MA 02109	617-426-0500	Agency
Morgan Stanley & Co. International plc	NA	NA	NA	NA	4/12/2017	NA	Sponsored Participant	20 Bank Street Canary Wharf London, UK E14 4A	#####	
Morgan Stanley & Co. LLC	10/23/2008	9/1/2010	5/14/2010	5/14/2010	8/20/1980	9/24/2010	Member TPH	1585 Broadway New York, NY 10036	212-761-4000	Clearing, Market Maker, Proprietary Trading, Transact Business with the Public, Brokerage
Nasdaq Execution Services, LLC	8/19/2008	9/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	One Liberty Plaza 165 Broadway New York, NY 10006	212-231-5100	Limited Routing Facility of Nasdaq affiliated Exchanges
National Financial Services LLC	10/23/2008	10/4/2010	5/26/2010	5/27/2010	10/8/1987	4/16/2012	Member TPH	200 Seaport Boulevard Boston, MA 02210	617-563-7000	Clearing, Floor Broker, Transact Business with the Public
National Securities Corporation	7/1/2009	NA	NA	NA	NA	NA	Member TPH	One Union Square 600 University Street, Suite 2900 Seattle, WA 98101	206-622-7200	Agency
Needham & Company, LLC	10/23/2008	10/1/2010	NA	NA	NA	NA	Member TPH	445 Park Avenue New York, NY 10022	212-371-8300	Market Maker
Nomura Securities International, Inc.	10/23/2008	10/1/2010	5/26/2010	5/27/2010	9/1/2009	11/16/2010	Member TPH	Worldwide Plaza 309 W 49th Street New York, NY 10019	212-667-9000	Clearing, Transact Business with the Public, Proprietary Trading
Northern Trust Securities, Inc.	8/18/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	50 S LaSalle Street Chicago, IL 60603	312-557-2000	Market Maker
Northland Securities, Inc.	12/15/2010	12/15/2010	NA	NA	NA	NA	Member TPH	45 S 7th Street 20th Floor Minneapolis, MN 55402	612-851-5900	Market Maker, Proprietary Trading
Old Mission Capital, LLC	4/16/2012	4/16/2012	4/25/2012	4/25/2012	9/27/2017	NA	Member TPH	314 W Superior Suite 200 Chicago, IL 60654	312-260-3031	Market Maker
Olivetree Financial, LLC	NA	NA	9/1/2016	NA	NA	NA	Member TPH	420 Lexington Avenue Suite 800 New York, NY 10170	646-930-8600	Agency
Oppenheimer & Co. Inc.	NA	NA	NA	NA	5/17/1973	NA	Member TPH	85 Broad Street 22nd, 24th Floors New York, NY 10004	212-668-8000	Clearing, Transact Business with the Public
Optiver US, LLC	6/15/2009	NA	NA	5/30/2018	6/1/2005	9/24/2010	Member TPH	130 E Randolph Street 14th Floor Chicago, IL 60601	312-821-9500	Market Maker
Oscar Gruss & Son Incorporated	8/7/2017	NA	NA	NA	NA	NA	Member TPH	430 Park Avenue 6th Floor New York, NY 10022	212-419-4000	Agency
OTA LLC	8/18/2008	10/7/2010	NA	NA	NA	NA	Member TPH	One Manhattanville Road Purchase, NY 10577	914-694-5800	Institutional Trading
PEAK6 Capital Management LLC	8/1/2014	NA	NA	2/1/2016	12/2/1997	NA	Member TPH	141 W Jackson Boulevard Suite 500 Chicago, IL 60604	312-444-8000	Proprietary Trading
PEAK6 Capital Management, LLC	11/3/2008	7/15/2011	NA	NA	NA	NA	Sponsored Participant	141 W Jackson Boulevard Suite 500 Chicago, IL 60604	312-362-2401	Market Maker
Penserra Securities, LLC	8/18/2008	10/6/2010	NA	NA	NA	NA	Member TPH	4 Orinda Way Suite 100-A Orinda, CA 94563	212-607-3190	Agency
Pershing LLC	8/18/2008	9/15/2010	5/26/2010	5/27/2010	2/21/1973	9/28/2010	Member TPH	One Pershing Plaza Jersey City, NJ 07399	201-413-2000	Clearing, Transact Business with the Public
Phillip Capital Inc.	NA	NA	NA	11/27/2017	NA	NA	Member TPH	141 W Jackson Boulevard Suite 3050 Chicago, IL 60604	312-356-9001	Clearing Services
Pictet Overseas Inc.	6/1/2015	6/1/2015	5/26/2010	5/27/2010	NA	NA	Member TPH	1000 de la Gauchetiere West Suite 3100 Montreal, Quebec H3B 4W5	514-288-8161	Agency

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Piper Jaffray & Co.	10/15/2008	11/15/2012	5/14/2010	5/14/2010	NA	NA	Member TPH	800 Nicollet Mall Minneapolis, MN 55402	612-303-6000	Market Maker
Potamus Trading, LLC	4/15/2013	4/15/2013	4/11/2013	4/11/2013	NA	NA	Member TPH	2 Seaport Lane 8th Floor Boston, MA 02210	617-855-8722	Market Maker, Proprietary Trading
Princeton Alpha Management, LP	12/1/2015	12/1/2015	12/1/2015	12/1/2015	NA	NA	Sponsored Participant	61 Princeton Hightstown Road West Windsor, NJ 08550	609-269-9212	Agency
PTR, Inc.	NA	NA	NA	NA	8/2/1995	NA	Member TPH	1800 JFK Boulevard Suite 401 Philadelphia, PA 19103	267-909-8368	Floor Broker, Transact Business with the Public
Puma Capital, LLC	NA	NA	6/15/2016	6/15/2016	NA	NA	Member TPH	287 Bowman Avenue 3rd Floor Purchase, NY 10577	212-269-4100	Market Maker, Proprietary Trading
Pundion LLC	2/27/2017	2/27/2017	2/27/2017	2/27/2017	NA	NA	Member TPH	230 Park Avenue 10th Floor New York, NY 10169	718-618-4929	Proprietary Trading
Quantbot Technologies LP	3/27/2018	3/27/2018	3/27/2018	3/27/2018	NA	NA	Sponsored Participant	369 Lexington Avenue New York, NY 10017	212-622-6510	Proprietary Trading
Quantex Clearing, LLC	10/3/2011	12/27/2011	5/17/2011	5/17/2011	NA	NA	Member TPH	70 Hudson Street Hoboken, NJ 07030	201-706-7157	Clearing Services
Quantlab Securities LP	8/18/2008	11/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	3 Greenway Plaza Suite 200 Houston, TX 77046	713-333-3700	Transact Business with the Public, Brokerage
Quiet Light Securities, LLC	NA	NA	NA	NA	5/1/2001	NA	Member TPH	141 W Jackson Boulevard Suite 2020A Chicago, IL 60604	312-431-0573	Market Maker, Proprietary Trading
R.W. Pressprich & Co.	2/17/2009	11/15/2010	6/2/2010	6/2/2010	NA	NA	Member TPH	452 5th Avenue New York, NY 10018	212-832-6200	Agency
Rackson Asset Management, LLC	10/1/2009	NA	NA	NA	NA	NA	Sponsored Participant	2000 Broadway Suite 22C New York, NY 10023	212-724-2567	Proprietary Trading
Rainier Investment Management, Inc.	1/4/2010	NA	NA	NA	NA	NA	Sponsored Participant	601 Union Street Suite 2801 Seattle, WA 98101	206-518-6658	Hedge Fund
RBC Capital Markets, LLC	9/18/2008	10/14/2010	5/14/2010	5/14/2010	11/24/1993	10/19/2010	Member TPH	3 World Financial Center 200 Vesey Street New York, NY 10281	212-858-7000	Clearing, Proprietary Trading, Transact Business with the Public
Robert W. Baird & Co. Incorporated	10/23/2008	1/3/2011	NA	NA	NA	NA	Member TPH	777 E Wisconsin Avenue Milwaukee, WI 53202	414-765-3500	Market Maker
Ronin Capital, LLC	NA	NA	NA	NA	12/17/2001	NA	Member TPH	350 N Orleans Street Suite 2N Chicago, IL 60654	312-244-5000	Market Maker
Ronin Professional, LLC	8/18/2008	10/1/2010	5/25/2010	5/27/2010	1/2/2008	10/20/2010	Member TPH	350 N Orleans Street Suite 2N Chicago, IL 60654	312-244-5400	Order Flow Provider, Transact Business with the Public, Brokerage
Rosenblatt Securities Inc.	8/18/2008	10/6/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	40 Wall Street 59th Floor New York, NY 10005	212-607-3100	Agency
Roth Capital Partners, LLC	8/18/2008	NA	NA	NA	NA	NA	Member TPH	888 San Clemente Suite 400 Newport Beach, CA 92660	949-720-5700	Market Maker
SAC Capital Advisors, LP	10/23/2008	NA	NA	NA	NA	NA	Sponsored Participant	72 Cummings Point Road Stamford, CT 06902	203-890-2275	Hedge Fund
Safra Securities LLC	NA	NA	5/26/2010	5/27/2010	NA	NA	Member TPH	546 5th Avenue New York, NY 10036	212-704-5500	Market Maker
SageTrader, LLC	3/1/2016	6/5/2017	6/5/2017	6/1/2016	NA	NA	Member TPH	340 Pine Street Suite 501 San Francisco, CA 94104	415-293-3894	Public Customer Business
SAL Equity Trading, GP	9/3/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	610-617-3000	Agency, Institutional Trading
Sanford C. Bernstein & Co, LLC	9/10/2008	10/21/2010	5/26/2010	5/27/2010	8/13/2013	NA	Member TPH	1345 Avenue of the Americas New York, NY 10105	212-969-1000	Clearing, Proprietary Trading, Transact Business with the Public
Santander Investment Securities Inc.	4/15/2009	1/3/2011	NA	NA	NA	NA	Member TPH	45 E 53rd Street New York, NY 10022	212-350-3500	Institutional Trading
Scotia Capital (USA) Inc.	3/2/2009	9/15/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	250 Vesey Street New York, NY 10281	212-225-6500	Institutional Trading
Scottrade, Inc.	6/1/2010	11/15/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	700 Maryville Centre Drive St. Louis, MO 63141	314-965-1555	Public Customer Business
Seven Points Capital, LLC	NA	NA	5/14/2010	NA	NA	NA	Member TPH	805 3rd Avenue 15th Floor New York, NY 10022	212-760-0760	Agency
SG Americas Securities, LLC	9/17/2008	11/15/2011	5/14/2010	5/14/2010	4/23/2004	1/2/2015	Member TPH	245 Park Avenue New York, NY 10167	212-278-6000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
Simplex Trading, LLC	3/16/2015	NA	NA	4/13/2017	8/12/2010	3/1/2017	Member TPH	230 S LaSalle Street Suite 4-100 Chicago, IL 60604	312-360-2440	Market Maker, Proprietary Trading
SMBC Nikko Securities America, Inc.	8/7/2017	8/7/2017	8/7/2017	8/7/2017	NA	NA	Member TPH	277 Park Avenue 5th Floor New York, NY 10172	212-224-5039	Institutional Trading
SogoTrade, Inc.	NA	NA	NA	6/19/2017	NA	NA	Member TPH	11 Broadway Suite 514 New York, NY 10004	646-885-6486	Public Customer Business
Stifel, Nicolaus & Company, Incorporated	8/18/2008	NA	6/2/2010	6/2/2010	NA	NA	Member TPH	501 N Broadway St. Louis, MO 63102	314-342-2000	Agency
Summit Securities Group, LLC	7/16/2012	7/16/2012	8/20/2012	8/20/2012	6/6/2012	NA	Member TPH	55 Broadway Suite 2102 New York, NY 10006	646-738-4066	Market Maker, Proprietary Trading
Sumo Capital, LLC	7/15/2013	NA	NA	10/15/2015	3/3/2008	NA	Member TPH	440 S LaSalle Street Suite 2101 Chicago, IL 60605	312-324-0326	Market Maker, Proprietary Trading
SumRidge Partners, LLC	NA	NA	NA	12/27/2017	NA	NA	Member TPH	111 Town Square Place Suite 320 Jersey City, NJ 07310	201-898-2520	Proprietary Trading
Sun Trading LLC	8/18/2008	10/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	100 S Wacker Drive Suite 300 Chicago, IL 60606	312-924-4777	Market Maker, Proprietary Trading
Susquehanna Financial Group, LLLP	9/3/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	800-825-9550	Agency, Institutional Trading
Susquehanna Investment Group	NA	NA	NA	NA	5/1/1987	NA	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	610-617-2600	Market Maker
Susquehanna Securities	10/15/2014	10/15/2014	10/15/2014	10/15/2014	4/4/1994	9/24/2010	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	610-617-2600	Market Maker, Proprietary Trading

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Synergy Capital Management, LLC	8/1/2016	NA	NA	NA	6/5/2007	NA	Member TPH	141 W Jackson Boulevard Suite 1530 Chicago, IL 60604	312-986-8869	Proprietary Trading
TD Ameritrade Clearing, Inc.	5/3/2011	5/3/2011	NA	5/27/2010	NA	NA	Member TPH	200 S 108th Avenue Omaha, NE 68154	800-669-3900	Public Customer Business, Clearing Services
Telsey Advisory Group, LLC	1/24/2011	8/15/2014	NA	NA	NA	NA	Member TPH	555 5th Avenue 7th Floor New York, NY 10017	212-973-9700	Public Customer Business
Tewksbury Investment Fund, Ltd.	7/1/2011	7/1/2011	1/6/2015	1/6/2015	NA	NA	Sponsored Participant	Washington Mall I 20th Church Street, 4th Floor Hamilton, HM 11 Bermuda	610-971-5000	Proprietary Trading
Tewksbury Investment Fund, Ltd.	10/23/2008	11/15/2010	NA	NA	NA	NA	Sponsored Participant	Washington Mall I 20th Church Street, 4th Floor Hamilton, HM 11 Bermuda	212-310-7076	Proprietary Trading
Themis Trading LLC	8/18/2008	10/1/2010	NA	NA	NA	NA	Member TPH	10 Town Square Suite 100 Chatham, NJ 07928	973-685-9600	Agency
ThinkTrade, LLC	2/1/2010	10/20/2010	1/9/2015	1/9/2015	NA	NA	Sponsored Participant	2210 Encinitas Boulevard Suite I Encinitas, CA 92024	760-452-2451	Proprietary Trading
Timber Hill LLC	NA	NA	NA	NA	12/27/1996	12/15/2010	Member TPH	One Pickwick Plaza Suite 200 Greenwich, CT 06830	203-618-5800	Clearing, Market Maker
TJM Investments, LLC	NA	NA	NA	NA	3/11/2013	NA	Member TPH	318 W Adams Street 9th Floor Chicago, IL 60606	312-432-5100	Floor Broker, Transact Business with the Public
Tradebot Systems, Inc.	8/18/2008	9/1/2010	5/28/2010	5/27/2010	NA	NA	Member TPH	1251 NW Briarcliff Parkway Suite 700 Kansas City, MO 64116	816-285-6400	Proprietary Trading
TradeKing	10/15/2009	11/15/2010	NA	NA	NA	NA	Member TPH	888 E Las Olas Boulevard Suite 300 Fort Lauderdale, FL 33301	877-495-5464	Agency
TradeStation Securities, Inc.	8/18/2008	9/1/2010	5/25/2010	5/25/2010	NA	NA	Member TPH	8050 SW 10th Street Suite 2000 Plantation, FL 33324	954-652-7900	Market Maker
TRC Heteopolis, Ltd.	12/11/2009	NA	NA	NA	NA	NA	Sponsored Participant	377 Broadway 11th Floor New York, NY 10013	646-472-1792	Proprietary Trading
TRC Markets LLC	4/13/2017	4/13/2017	4/13/2017	4/13/2017	NA	NA	Member TPH	710 Johnnie Dodds Boulevard Suite 300 Mt. Pleasant, SC 29464	917-388-8644	Agency
Trinity Executions, LLC	NA	NA	NA	NA	11/1/2011	NA	Member TPH	141 W Jackson Boulevard Suite 3900 Chicago, IL 60604	312-878-4704	Floor Broker, Transact Business with the Public
Tudor, Pickering, Holt & Co. Securities, Inc.	8/18/2008	10/17/2011	NA	NA	NA	NA	Member TPH	1111 Bagby Suite 4900 Houston, TX 77002	713-333-7100	Agency
Two Sigma Investments, LLC	9/1/2009	NA	NA	NA	NA	NA	Sponsored Participant	100 Avenue of the Americas 4th Floor New York, NY 10013	212-775-6678	Proprietary Trading
Two Sigma Partners Master Fund, Ltd.	3/2/2009	NA	NA	NA	NA	NA	Sponsored Participant	100 Avenue of the Americas 4th Floor New York, NY 10013	212-775-6678	Proprietary Trading
Two Sigma Securities, LLC	7/1/2009	NA	NA	NA	NA	NA	Sponsored Participant	100 Avenue of the Americas 4th Floor New York, NY 10013	646-292-6643	Proprietary Trading
Two Sigma Securities, LLC	10/1/2009	10/5/2010	5/27/2010	5/27/2010	9/15/2017	7/18/2018	Member TPH	100 Avenue of the Americas 19th Floor New York, NY 10013	212-625-5700	Market Maker, Broker
U.S. Securities, Intl. Corp.	NA	NA	NA	NA	7/3/1973	NA	Member TPH	120 Broadway Suite 1017 New York, NY 10271	212-227-0800	Transact Business with the Public
UBS Financial Services Inc.	NA	NA	NA	NA	12/11/1972	NA	Member TPH	1200 Harbor Boulevard Weehawken, NJ 07086	201-352-3000	Clearing, Transact Business with the Public
UBS Securities LLC	10/15/2008	10/1/2010	4/12/2010	4/12/2010	10/1/1998	10/8/2010	Member TPH	1285 Avenue of the Americas New York, NY 10019	203-719-3000	Clearing, Proprietary Trading, Transact Business with the Public
Ustocktrade Securities, Inc.	4/17/2015	NA	NA	NA	NA	NA	Member TPH	275 Grove Street Suite 2-400 Newton, MA 02466	617-340-3041	Public Customer Business, Proprietary Trading
ViewTrade Securities, Inc.	8/18/2008	11/15/2010	6/10/2010	6/10/2010	NA	NA	Member TPH	7280 W Palmetto Park Road Suite 310 Boca Raton, FL 33433	561-620-0306	Agency
Virtu Americas LLC	9/15/2009	10/14/2010	1/3/2011	1/3/2011	9/18/2009	3/17/2011	Member TPH	300 Vesey Street New York, NY 10282	646-682-8000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
Virtu Financial BD LLC	11/17/2008	10/7/2010	5/27/2010	5/27/2010	3/1/2010	6/12/2012	Member TPH	307 Camp Craft Road Austin, TX 78743	800-544-7508	Proprietary Trading
Virtu Financial Capital Markets LLC	8/18/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	300 Vesey Street New York, NY 10282	212-418-0100	Proprietary Trading
Vision Financial Markets LLC	4/1/2009	11/15/2010	7/13/2012	7/13/2012	12/11/2006	NA	Member TPH	120 Long Ridge Road 3 North Stamford, CT 06902	203-388-2700	Clearing, Transact Business with the Public
Volant Execution, LLC	6/15/2011	NA	NA	10/1/2015	4/12/2005	9/24/2010	Member TPH	111 W Jackson Boulevard 20th Floor Chicago, IL 60604	312-692-5000	Clearing, Brokerage
Volant Liquidity, LLC	4/15/2011	NA	5/27/2010	5/27/2010	2/1/2010	3/23/2011	Member TPH	250 Vesey Street Suite 2601 New York, NY 10281	646-804-7900	Market Maker, Order Flow Provider, Brokerage
Wall Street Access	11/3/2008	10/17/2011	5/27/2010	5/27/2010	NA	NA	Member TPH	17 Battery Place 11th Floor New York, NY 10004	212-709-9400	Agency
Walleye Trading LLC	12/1/2008	11/12/2010	NA	4/17/2018	6/1/2006	NA	Member TPH	2800 Niagara Lane North Plymouth, MN 55447	952-345-6611	Market Maker
Wedbush Securities Inc.	8/18/2008	9/1/2010	5/27/2010	5/27/2010	2/23/2012	3/8/2012	Member TPH	1000 Wilshire Boulevard Suite 900 Los Angeles, CA 90017	213-688-8090	Clearing
Wells Fargo Clearing Services, LLC	7/1/2016	NA	NA	NA	11/14/2016	NA	Member TPH	One N Jefferson Avenue Mail Code: H0004-050 St. Louis, MO 63103	314-875-3000	Clearing, Transact Business with the Public
Wells Fargo Securities, LLC	8/18/2008	10/11/2010	6/9/2010	6/9/2010	4/1/2014	4/1/2014	Member TPH	550 S Tryon Street, 6th Floor D1086-060 Charlotte, NC 28202	704-410-1913	Clearing, Proprietary Trading
Western International Securities, Inc.	8/18/2008	11/15/2010	NA	NA	NA	NA	Member TPH	70 S Lake Avenue Suite 700 Pasadena, CA 91101	626-793-7717	Market Maker
Wolverine Execution Services, LLC	8/18/2008	10/19/2010	5/14/2010	5/14/2010	3/1/2006	9/24/2010	Member TPH	175 W Jackson Boulevard Suite 200 Chicago, IL 60604	312-884-4000	Clearing, Floor Broker, Transact Business with the Public, Brokerage
Wolverine Securities, LLC	NA	NA	NA	5/31/2017	NA	NA	Member TPH	175 W Jackson Boulevard Suite 200 Chicago, IL 60604	312-884-4000	Market Maker
Wolverine Trading, LLC	10/3/2011	NA	NA	10/1/2015	7/12/1994	9/24/2010	Member TPH	175 W Jackson Boulevard Suite 200 Chicago, IL 60604	312-884-4000	Market Maker, Proprietary Trading

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X-Change Financial Access, LLC	NA	NA	NA	NA	5/1/2003	NA	Member TPH	440 S LaSalle Street Suite 2900 Chicago, IL 60605	312-235-0320	Clearing, Floor Broker, Transact Business with the Public
XR Securities LLC	1/15/2009	11/15/2010	5/10/2012	5/10/2012	11/30/2007	NA	Member TPH	550 W Jackson Boulevard Suite 1000 Chicago, IL 60661	312-244-4500	Market Maker, Proprietary Trading