



**THE OPTIONS CLEARING CORPORATION
DISCLOSURE FRAMEWORK FOR FINANCIAL
MARKET INFRASTRUCTURES**



Responding Institution:	The Options Clearing Corporation
Jurisdiction in which the FMI Operates:	United States
Authority regulating, supervising or overseeing the FMI:	U.S. Securities and Exchange Commission U.S. Commodity Futures Trading Commission Board of Governors of the Federal Reserve

The date of this disclosure January 31, 2016.

This disclosure can also be found at [<http://www.theocc.com/pfmresponse>].

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I. EXECUTIVE SUMMARY

The following disclosure constitutes the response of The Options Clearing Corporation, a Delaware corporation, to the Disclosure Framework for Financial Market Infrastructures developed by the Committee on Payment and Settlement Systems (now the Committee on Payments and Market Infrastructures) and the Technical Committee of the International Settlements and the International Organization of Securities Commissions (CPMI-IOSCO). This Disclosure Framework is current as of December 31, 2015, and will be updated following any material changes to OCC's systems or environment or, at a minimum, every two years. This Disclosure Framework provides relevant information regarding the methods that OCC uses to manage the risks it faces as a central counterparty. In addition, this document facilitates OCC's compliance with proposed SEC Rule 17Ad-22(e)(23).

II. SUMMARY OF MAJOR CHANGES SINCE LAST UPDATE

The primary changes to this disclosure since the last publication in 2014 are: (i) updates to OCC's governance structure that reflect changes in executive management and (ii) updates to OCC's liquid net assets funded by equity level pursuant to its approved Capital Plan. In addition, OCC has adopted a comprehensive Enterprise Risk Management Framework, which is referenced throughout the document.



III. GENERAL DESCRIPTION OF OCC

History and Organization

OCC, founded in 1973, is the world's largest equity derivatives clearing organization. OCC's mission is to provide market participants with innovative risk management solutions and provide high quality and efficient clearing and settlement services for options, futures and other financial transactions. OCC also values the important role it plays in educating investors and the public about the prudent use of options and futures markets. As a systemically important institution, OCC recognizes its critical role in promoting financial stability and integrity in every market it serves.

OCC operates under the jurisdiction of both the SEC and the CFTC. In July 2012, OCC was designated by FSOC as a SIFMU pursuant to Title VIII of the Dodd-Frank Act,¹ bringing it under the additional oversight of the Board of Governors of the Federal Reserve.²

OCC issues and clears U.S.-listed options and futures on a number of underlying financial assets including common stocks, currencies and stock indices. OCC's clearing membership consists of approximately 115 of the largest U.S. broker-dealers, U.S. FCMs, and Canadian securities firms representing both professional traders and public customers.

OCC performs a guarantee function, which ensures the financial integrity of the markets in which it clears contracts. In its role as guarantor and central counterparty, OCC ensures that the obligations of the contracts it clears are fulfilled. Through a novation process, OCC becomes the buyer for every seller and the seller for every buyer, thus protecting clearing members from counterparty risk and allowing the settlement of trades in the event a clearing member fails to meet its obligations. OCC does not assume any guarantor role unless it has a precisely equal and offsetting claim against a clearing member. OCC's obligations under the guarantee arise in the event a clearing member is unable to meet its obligations to OCC. Margin deposits and clearing fund deposits are required to collateralize clearing members' obligations and thus support OCC's guarantee.

OCC is the sole clearing organization for all securities options exchanges in the United States. Additionally, OCC clears transactions in commodity futures products and security futures traded on several additional markets and acts as a central counterparty for stock loan transactions.

¹ Pub. L. No. 111-203, 124 Stat. 1376 (2010).

² OCC is not currently designated as systemically important in any non-U.S. jurisdictions.



OCC is owned equally by five of the options exchanges for which it provides clearing services. The stockholder exchanges share equal ownership of OCC. This ownership, along with a diverse clearing member, participant exchange, public director, and management presence on OCC's Board, ensures a continuing commitment to servicing the needs of OCC's participant exchanges, clearing members, and their customers. OCC's Board sets clearing fees and determines the amounts of refunds, and dividends, if any, based upon the current funding needs of OCC and in compliance with policies adopted under OCC's Capital Plan (as discussed below).

OCC's Rules set forth its governance structure. The oversight of OCC's business and affairs is vested in its Board. The Board's composition is intended to provide accountability to all relevant stakeholders. The Board maintains five Committees – the Audit Committee, the Compensation and Performance Committee, the Governance and Nominating Committee, the Risk Committee, and the Technology Committee, each responsible for specific oversight functions. OCC's management ultimately is responsible to the Board. Underneath the Board, there are two chains of command, bifurcating operational and oversight functions.

The Markets OCC Serves

OCC is the sole clearing organization for all securities options exchanges in the U.S. OCC also serves other markets, including those trading commodity futures, options on futures and security futures. A list of the exchanges for which OCC provides clearing services is posted on OCC's website.³

OCC also provides central counterparty services for two securities lending programs, OCC's Stock Loan/Hedge Program and the Market Loan Program, through which OCC provides clearing services to one or more marketplace(s) for securities lending and borrowing.

OCC began clearing OTC Index Options in April 2014, beginning with index options on the S&P 500®⁴ broad-based securities index. OCC also may clear OTC options on other indices and on individual equity securities in the future.

Regulatory Oversight

OCC is registered as a clearing agency under Section 17A of the Securities Exchange Act of 1934, as amended and as a derivatives clearing organization under Section 7a-1 of the Commodity Exchange Act and operates under the jurisdiction of both the Securities and Exchange Commission and the Commodity Futures Trading Commission. OCC has also been designated by the FSOC as a "systemically

³ <http://www.optionsclearing.com/about/corporate-information/what-is-occ.jsp>.

⁴ S&P 500 is a registered trademark of Standard & Poor's Financial Services LLC ("S&P"). OCC uses the S&P 500 trademark pursuant to a license agreement with S&P.



important” financial market utility under Title VIII of the Dodd-Frank Act.⁵ For purposes of Title VIII, the SEC is OCC’s supervisory agency.

The regulatory jurisdiction for the different options and futures contracts are shown below.

Product	Regulator
Options on common stocks and other equity issues	SEC
Options on debt securities	SEC
Options on stock indices	SEC
Options on volatility, variance and strategy-based indices	SEC
Options on foreign currencies	SEC
Futures other than security futures	CFTC
Options on commodity futures	CFTC
Security futures	CFTC and SEC (although OCC clears in its capacity as a SEC-regulated clearing agency)

⁵ Pub. L. No. 111-203, 124 Stat. 1376 (2010).



Key Metrics

OCC's cleared contract volume reached over 4.2 billion contracts in 2015, out of which 89% of the contracts were equity options. Index and commodity futures contracts comprised 82% of the 66.9 million futures contracts cleared by OCC in 2015. The breakdown of volume for options and futures contracts as of December 31, 2015, is shown below.

Contract Type	Volume
Equity Options	3,727,919,066
Index/Other Options	415,718,205
Total Options Contracts	4,143,637,271
Index/Other Futures	55,190,972
Single Stock Futures	11,714,015
Total Futures Contracts	66,904,987
Total Stock Loans	1,399,966

System Design and Operations

OCC supports near real-time trade, post-trade validation and position processing through its clearing system, ENCORE. Each exchange for which OCC clears transactions submits confirmed options and/or futures trades that have been effected on or through the facilities of the exchange to OCC. Upon OCC's acceptance of such a submitted trade, OCC is substituted through novation as the buyer to the seller and the seller to the buyer. Accepted trades and post-trade transactions (e.g., trade allocations, position adjustments, transfers, etc. submitted by clearing members) update clearing member positions on a near real-time basis within the ENCORE system.

Trades are sent to OCC throughout the trading day on a near real-time basis, and each exchange reports to OCC information with respect to each confirmed trade at the end of the day. Based on this information, OCC delivers a Daily Position Report each morning to each clearing member with respect to each clearing member account, listing all of the clearing member's confirmed trades that are settling on that day and any net daily premiums or futures variation margin due to or from OCC as a result of these trades.

OCC employs the proprietary STANS margin methodology to calculate margin requirements based on the position portfolio within ENCORE for each clearing member account. Each morning, OCC makes available to each clearing member a Daily Margin



Report for each account, showing the amount of initial margin required by OCC on the clearing member's marginable positions in each account.

Each clearing member is obligated to pay to OCC an amount equal to any reported deficit by the established cut-off time. Additionally, at or before the "settlement time" as indicated in OCC's Rules, the clearing member will be obligated to pay to OCC the amount of any net daily premium and variation payment due to OCC. OCC is authorized to withdraw funds from the clearing member's applicable bank account with respect to any amounts due. OCC may also require the deposit of additional "intra-day" margin by any clearing member in any account at any time during any business day.

IV. GLOSSARY OF KEY TERMS AND ABBREVIATIONS

Bankruptcy Code:	U.S. Bankruptcy Code
Board:	OCC's Board of Directors
CCO:	Cross-Margining Clearing Organization
CEA:	U.S. Commodity Exchange Act
CFTC:	U.S. Commodity Futures Trading Commission
Clearing Fund:	OCC's clearing or guarantee fund
Clearing Member:	A person or organization that has been admitted to membership in OCC under the Rules
CME:	CME Clearing
Committee:	One of the various committees of the Board
Confirmed Trade:	A purchase, writing or sale of options contracts, security futures, commodity futures, futures options or commodity options that are effected on or through the facilities of an exchange and submitted to OCC for clearance or affirmed through the facilities of any electronic messaging system approved by OCC through which transactions in over-the-counter options are submitted to OCC for clearance
CPMI-IOSCO:	The Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions
CSPA:	A cash settlement procedures agreement entered into by



	OCC and a settlement bank
DCO:	A derivatives clearing organization registered with the CFTC
Director:	Each member of the Board
Dodd-Frank Act:	The Dodd-Frank Wall Street Reform and Consumer Protection Act
DTC:	The Depository Trust Company
ENCORE:	OCC's ENCORE clearing system
ERMC:	Enterprise Risk Management Committee
Exchange Act:	The Securities Exchange Act of 1934
Executive Chairman:	OCC's Executive Chairman
Exchange Director:	A member of the Board that represents one of the stockholder exchanges.
FCM:	Futures Commissions Merchant
FDICIA:	U.S. Federal Deposit Insurance Corporation Improvement Act
FICC:	Fixed Income Clearing Corporation
FMU:	Financial Market Utility
FSOC:	U.S. Financial Stability Oversight Council
ICE Clear:	ICE Clear US, Inc.
IT:	Information technology
Management Director:	An employee of OCC who also serves as a Director
NSCC:	National Securities Clearing Corporation
NSCC Accord:	Options Exercise Settlement Agreement by and between OCC and NSCC
OCC:	The Options Clearing Corporation
OIC:	The Options Industry Council



Participating CCO:	Refers to CME or ICE Clear US, Inc., depending on the circumstances
Participant Exchange:	One of the exchanges that clears confirmed trades in listed options through OCC
President & COO:	OCC's President and Chief Operating Officer
Rules:	OCC's By-Laws and Rules
SEC:	The U.S. Securities and Exchange Commission
Security Futures:	Futures on equity issues and narrow-based stock indices
SIFMU:	Systemically Important Financial Market Utility, pursuant to Title VIII
SIPC:	The Securities Investor Protection Corporation
SPAN:	Standard Portfolio Analysis of Risk margin system developed by the Chicago Mercantile Exchange
SROs:	Self-Regulatory Organizations, under Section 3(a)(26) of the Exchange Act and "registered entities" under the CEA
STANS:	OCC's System for Theoretical Analysis and Numerical Simulations
Stockholder Exchange:	One of the exchanges that is a holder of OCC's Class B Common Stock
Title VIII:	Title VIII of the Dodd-Frank Act
U.S.:	United States of America
VaR:	Value-at-Risk

Note: All times referenced in this Disclosure Framework are Central Time.



V. PRINCIPLE-BY-PRINCIPLE NARRATIVE DISCLOSURE

A narrative response to each Principle and the corresponding Key Considerations, as well as the associated SEC Proposed Rule, is provided below.

PRINCIPLE 1: LEGAL BASIS; SEC Rule 17Ad-22(e)(1)

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Proposed SEC Rule 17Ad-22(e)(1) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to provide for a well-founded, clear, transparent, and enforceable legal basis for each aspect of its activities in all relevant jurisdictions.

Key Consideration 1: *The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.*

The key aspects of OCC clearing activities that require a high degree of certainty include membership, clearing member obligations, specific transaction/trade terms, posting of clearing fund and margin, establishment of accounts, suspension/liquidation of clearing members, and close-out netting on OCC insolvency. Each key aspect is addressed in OCC's Rules, and thus there is a high degree of certainty for each aspect. Further, OCC operates within a sound and certain legal framework, as set forth in its Legal Risk Policy and as described below.

The relevant jurisdictions for OCC's activities are Delaware, New York, Connecticut, District of Columbia, Illinois and Texas, where OCC is authorized to do business. OCC is formed as a Delaware corporation, duly organized and in good standing under Delaware law. Its core organizational issues, including its basic corporate powers and corporate governance, are governed by its Restated Certificate of Incorporation, its Rules and Delaware law. Delaware was chosen as OCC's domicile because of the predictability of its law. Delaware is commonly chosen as a jurisdiction of organization for U.S. corporations for this reason.

OCC's legal basis for its Rules is based upon the regulatory framework in which OCC operates. OCC is registered as a clearing agency under Section 17A of the Exchange Act and as a DCO under Section 7a-1 of the CEA and operates under the jurisdiction of both the SEC and the CFTC. OCC has also been designated by FSOC as a SIFMU under Title VIII. For purposes of Title VIII, the SEC is OCC's supervisory agency.

Under the SEC's jurisdiction, OCC clears or is qualified to clear transactions in "standardized options," as defined in SEC regulations, as well as certain over-the-counter options. Standardized options include options on: common stocks and other equity issues; debt securities; stock indices; volatility, variance and strategy-based



indices; dividend indices; relative performance indices; and foreign currencies. The standardized options also include interest rate and credit default options.

As a registered DCO under CFTC jurisdiction, OCC offers clearing and settlement services for transactions in broad-based index and other futures regulated under the CFTC's exclusive jurisdiction, *i.e.*, futures other than security futures, and options on commodity futures.

OCC clears security futures. Security futures are subject to joint regulation by the SEC and CFTC. However, OCC clears these products in its capacity as an SEC-regulated clearing agency. Under SEC jurisdiction, OCC also acts as a central counterparty for securities lending transactions.

The regulatory regimes for U.S. registered clearing agencies and DCOs provide a significant amount of legal oversight and legal certainty for OCC's activities. Each of these regulatory regimes is sophisticated and well-established.

Other U.S. laws, including the Bankruptcy Code and the FDICIA as they relate to close-out netting and Articles 8 and 9 of the Uniform Commercial Code as they relate to OCC's interests in posted collateral, also provide a certain and predictable legal environment for OCC's activities.

OCC's activities are also governed by its Rules, which expressly provide for all key aspects of OCC's operations – membership, clearing member obligations, specific transaction/trade terms, posting of clearing fund and margin, establishment of accounts, suspension/liquidation of clearing members, and close-out netting on OCC insolvency.

Legal certainty is particularly important with respect to settlement finality. OCC Rules establish an unambiguous point at which contracts are novated. This clarity in turn provides certainty regarding which contracts will be accepted and which will be rejected in the event of a clearing member insolvency. Article VI, Section 5 of OCC's By-Laws (Obligations of the Corporation) specifies that for most contracts cleared by OCC, including options and futures, novation occurs, *i.e.*, OCC is substituted as the buyer to each seller of such a contract, and the seller to each buyer, upon the acceptance of a confirmed trade, and further specifies the time at which such acceptance occurs. Similarly, Article VI, Section 4 of OCC's By-Laws (Obligations of Purchasing Clearing Members) makes it clear that the buyer of an option is obligated to OCC to pay the premium, and Article VI, Section 9 (General Rights and Obligations of Holders and Writers) makes it clear that the seller of a call option has the obligation to purchase the underlying security for such option and that the seller of a put option has the obligation to sell the underlying security to OCC, in each case beginning at the time the option is issued. Article XII, Section 2 of OCC's By-Laws (General Rights and Obligations of Buyers and Sellers of Futures and Futures Options) makes it clear that the buyer and seller of a future are entitled to certain rights and obligations including, but not limited to, the right to receive variation payments from OCC and the obligation to make variation payments to OCC. Additionally, with respect to physically-settled futures, the seller of such a future is obligated to deliver to the buyer thereof, and the buyer is obligated to



accept delivery of and payment to the seller for, a number of shares or units of the underlying interest of the physically-settled future equal to the unit of trading applicable to such future. For a limited number of cleared contracts, settlement occurs between clearing members and OCC's guarantee in connection with delivery is limited to payment of damages in the event of a failure. For these contracts, the nature of the guarantee is specified in the Rules. See, e.g., Rules 1308A (Failure by Clearing Member to Deliver or Receive Underlying Metals) and 1308B (Failure by Clearing Member to Deliver or Receive Underlying Treasury Securities), relating to failures to deliver or receive metals or Treasury securities, respectively, underlying futures contracts. Legal certainty is also important with respect to OCC's security interest in assets in clearing member accounts and OCC's close-out netting provisions. Article VI, Section 3 of OCC's By-Laws (Maintenance of Accounts) provides clear grants of first priority security interests in assets in clearing member accounts; Article VI, Section 27 (Close-Out Netting) provides specific rules for close-out netting in the event of an OCC default or insolvency.

Key Consideration 2: *An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.*

OCC maintains Rules, procedures and contracts that are clear, understandable and consistent with relevant laws and regulations. OCC's Rules expressly provide for all key aspects of OCC's operations – membership, clearing member obligations, specific transaction/trade terms, posting of clearing fund and margin, establishment of accounts, suspension/liquidation of clearing members, and netting on OCC insolvency. To ensure that OCC's Rules are sufficiently clear, where OCC believes it would be helpful to an understanding of a Rule, Interpretations and Policies are added to the Rules.

OCC's Rules are transparent in that both the Rules and all rule filings are posted on OCC's website, pursuant to applicable SEC and CFTC regulations. See SEC Rule 19b-4(l); See *also* CFTC Regulation 40.5(a)(6).

All changes to OCC's Rules are subject to regulatory review. Most Rule changes relating to OCC's business as a registered clearing agency must be approved prior to implementation. Where prior approval by the SEC is not required, such Rules are subject to either a 30-day waiting period prior to effectiveness, during which the SEC could institute disapproval proceedings, or the SEC's authority to temporarily suspend the change. See Exchange Act Section 19(b) and SEC Rule 19b-4.

Rule changes may be filed with the CFTC for prior approval or filed with the CFTC pursuant to a certification process. Rule changes filed with the CFTC pursuant to a certification process are subject to a ten business-day waiting period, during which the CFTC can stay effectiveness of the change. See CEA Section 5c(c), See *also* CFTC Regulation 40.6. Certain Rule amendments, such as non-substantive revisions to Rules, may be made effective without filing with the CFTC so long as OCC provides the CFTC with notification no less frequently than weekly summarizing all such Rule amendments made effective in the preceding week. See CFTC Regulation 40.6(d).



The regulatory oversight by the SEC and CFTC serves to ensure that OCC's Rules are consistent with applicable laws and regulations.

OCC maintains clear, written internal policies and procedures to support its operations. When OCC contracts with third parties, OCC enters into clear, written agreements governed by Illinois law or the law of another acceptable jurisdiction.

Key Consideration 3: *An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.*

OCC regularly articulates the legal basis for its activities to the SEC and CFTC, clearing members, and the general public. Each regulatory filing⁶ OCC submits with its regulators for approval of a Rule change or material operational change must have a description of the reasons that the filing is consistent with the relevant statute and regulations. The Rule filing, including the explanation of its legal basis, is available on OCC's website upon submission to the applicable regulator. OCC also frequently publishes information memoranda describing changes to its Rules or other matters relating to the legal basis for activities, and information memoranda are also available on its website and are disseminated through a free email alert system for registered users.

Key Consideration 4: *An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.*

OCC maintains Rules, procedures, and contracts that are enforceable in all relevant jurisdictions, achieving a high degree of certainty that actions taken by OCC under its Rules and procedures will not be voided, reversed, or subject to stays. U.S. laws supporting the enforceability of clearing organization Rules support OCC's actions.

The authority for the enforceability of OCC's Rules is well established by statute and judicial decisions, although OCC monitors legislative action and court decisions for developments that may affect this enforceability. Insofar as OCC's Rules pertain to its activities as a registered securities clearing agency, they are enforceable by OCC under the enforcement authority provided under the Exchange Act. For example, Section 19(b)(3)(C) of the Exchange Act provides that "[a]ny proposed rule change of a self-regulatory organization [such as OCC] which has taken effect pursuant to subparagraph (A) or (B) of this paragraph may be enforced by such organization to the extent it is not inconsistent with the provisions of this title, the rules and regulations thereunder, and applicable federal and state law." Section 19(g)(1) of the Exchange Act provides that a "self-regulatory organization [such as OCC] shall comply with the provisions of this title, the rules and regulations thereunder, and its own rules, and (subject to the provisions of

⁶ OCC submits both proposed rule changes pursuant to Section 19(b) of the Securities and Exchange Act and Section 5c(c) of the Commodity Exchange Act as well as Advance Notice Filings pursuant to Title VIII of the Payment, Clearing, Settlement, and Supervision Act.



Section 17(d) of this title, paragraph (2) of this subsection, and the rules thereunder) absent reasonable justification or excuse enforce compliance . . . in the case of a registered clearing agency, with its own rules by its participants.”

Relevant to OCC’s activities as a DCO is Section 5b(c)(2)(H) of the CEA, which requires a DCO to “maintain adequate arrangements and resources for . . . the effective monitoring and enforcement of compliance with the rules of the [DCO].” Section 39.17(a)(2) of the CFTC’s regulations provides that a DCO has the authority to “discipline, limit, suspend, or terminate the activities of a clearing member due to a violation by the clearing member of any rule” of the DCO. The SEC and CFTC also have relevant enforcement authority as outlined in Exchange Act Section 19(h) and CEA Section 6b.

As a registered clearing agency OCC is a “self-regulatory organization” under Section 3(a)(26) of the Exchange Act, and as a DCO OCC is a “registered entity” under the CEA. Although the terminology in the Exchange Act and CEA is different, self-regulatory organizations and registered entities have similar functions and authority under the two statutes, and are referred hereto as “self-regulatory organizations.” Self-regulatory organizations include, among other organizations, stock, options, and futures exchanges. In general, courts in the U.S. have found that rules of self-regulatory organizations may be enforced against participants. For example, in *McMahon v. Chicago Mercantile Exchange*, 221 Ill. App. 3d 935, 944 (Ill. App. Ct. 1st Dist. 1991), the court found that a stock or commodity exchange “has the power to adopt and enforce reasonable rules to govern its members.” In *PTR, Inc. v. SEC*, 159 Fed. Appx. 338, 340 (3d Cir. 2005), the court found that under the Exchange Act a registered stock exchange was permitted “to promulgate rules regulating the conduct of members and enforce those rules through disciplinary proceedings and the imposition of sanctions.” In addition, in *McDaniel v. Wells Fargo Investments, LLC*, 717 F.3d 668 (9th Cir. 2013), in which the defendant broker-dealer had, as a means of complying with federal law and SRO rules designed to prevent insider trading, prohibited employees from maintaining self-directed brokerage accounts with outside firms, the court found that the federal law and the SRO rules preempted a California statute prohibiting forced patronage of the employer’s business.

In addition to their enforceability under the Exchange Act and CEA, OCC clearing members contractually agree to be bound by OCC’s Rules and such Rules are generally enforceable against clearing members under applicable contract law. See, e.g., *Case & Co., Inc. v. Board of Trade of City of Chicago, et al.*, 523 F.2d 355, 358 (7th Cir. 1975), in which the court noted that “[r]ules’ adopted by the Board’s membership and ‘regulations’ adopted by its directors govern trading in commodities futures on the exchange and are incorporated into every contract,” and *Gold v. SEC*, 48 F.3d 987, 992 (7th Cir. 1995), in which the court found that a stock exchange had jurisdiction over a former associated person of a member firm pursuant to its own rule because by registering as an associated person with the member firm the individual “consented to submit to the jurisdiction of the [exchange] and agreed to abide by all its rules and regulations.”



The enforceability of OCC's liquidation Rules and procedures in the event of an insolvency of a clearing member, or close-out netting Rules in the event of the insolvency of OCC, is of particular importance. The Bankruptcy Code contains express provisions that, in the event of the insolvency of a clearing member or of OCC, would provide for the protection of contractual rights, including contractual rights arising under the rules of a clearing organization, to terminate cleared contracts and to net resulting assets and liabilities, including collateral held in connection with such contracts, under a "master netting agreement." Enforceability of contractual rights to cause the termination, liquidation, or acceleration of or to offset or net termination values, payment amounts, or other transfer obligations arising under or in connection with securities contracts, commodity contracts, master netting agreements, and certain other financial contracts are generally protected (subject to narrow exceptions) against stays, avoidance, or other limitations under the Bankruptcy Code that could otherwise prevent enforcement of such rights against a debtor in a proceeding under the Bankruptcy Code. See, for example, Sections 362(b)(6) and 561 of the Bankruptcy Code and Section 404 of FDICIA.

For purposes of the provisions of the Bankruptcy Code that protect contractual termination and netting rights, the term "securities contract" is broad enough to cover, among other instruments, options cleared by OCC subject to the jurisdiction of the SEC. Contractual rights of commodity brokers, including DCOs such as OCC, and financial participants to cause the liquidation, termination, or acceleration of commodity contracts upon bankruptcy are similarly protected. The term "commodities contract" is broad enough to cover, among other instruments, futures and other instruments subject to the jurisdiction of the CFTC that are cleared by OCC. In addition to the protections in the Bankruptcy Code, provisions of FDICIA applicable to "clearing organization netting" protect the enforceability of the clearing organization's netting rules by overriding "any other provision of State or Federal law" with certain limited exceptions. Although the above provisions are complex and subject to exceptions, by generally allowing settlements, and liquidations, to proceed in accordance with OCC's Rules notwithstanding the filing of a bankruptcy petition against OCC or a clearing member, OCC has determined that they provide significant protection to the enforceability of OCC's Rules in the event of an insolvency of the clearing member or of OCC. OCC monitors changes in the laws, regulations, and rules applicable to OCC and revises its Rules as necessary.

Key Consideration 5: *An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.*

The legal risk to OCC arising from conflicts of laws is limited because OCC operates exclusively in the U.S. and has limited contacts with other jurisdictions. In furtherance of its policy of mitigating any conflict of laws risks that may exist, OCC includes a choice of law and forum selection provision in Article IX, Section 10 of its By-Laws (Choice of Law and Forum Selection) as well as in its Clearing Member Agreement. Article IX, Section 10 of the By-Laws and the Clearing Member Agreement make it clear that Illinois law and U.S. federal law, without regard to conflict of law principles, govern the



application and interpretation of the Rules and all other agreements with clearing members, unless otherwise agreed by OCC. Article IX, Section 10 of the By-Laws and the Clearing Member Agreement further require that any disputes between a clearing member and OCC arising out of or relating to the Rules will be heard in a federal or state court in Chicago, Illinois. OCC has determined that the Illinois choice of law provision should be enforceable given that OCC's principal place of business is in Chicago, Illinois. When possible, OCC generally includes similar choice of law or forum provisions in any contracts tied to its core clearing functions, designating Illinois or in some cases New York law.

Where OCC's activities and relationships extend outside the U.S., OCC engages local counsel to identify and mitigate any legal risks arising from the application of non-U.S. law.

PRINCIPLE 2: GOVERNANCE; SEC Rule 17Ad-22(e)(2)

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of the relevant stakeholders.

***Proposed SEC Rule 17Ad-22(e)(2)** would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to provide for governance arrangements that are clear and transparent, clearly prioritize the safety and efficiency of the covered clearing agency, and support the public interest requirements in Section 17A of the Exchange Act and the objectives of owners and participants.*

***Key Consideration 1:** An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.*

The fact that OCC is owned by certain options exchanges, along with the significant clearing member presence on its Board, ensures that OCC will continue to be committed to servicing the needs of its participant exchanges, clearing members, and their customers. The Board sets clearing fees and determines the amounts of refunds and dividends, if any, based upon the current funding needs of OCC pursuant to Article IX, Section 9 of OCC's By-Laws (Fees) and consistent with the Fee Policy, Refund Policy, and Dividend Policy adopted under the Capital Plan (as described below). OCC's Rules set forth its governance structure. The management of OCC's business and affairs is vested in the Board. The Board is composed of representatives of OCC's stockholder exchanges, OCC's clearing members, OCC's management and the public, in order to provide accountability to all relevant stakeholders.

OCC's sophisticated risk management programs, disaster recovery capabilities, and technologically advanced systems and data centers are the foundation to the safety and



efficiency of OCC. As stated in the mission statement published on OCC's website,⁷ OCC promotes stability and market integrity through effective and efficient clearance, settlement, and risk management services. OCC maintains a three-tiered system of financial safeguards, which includes rigorous membership standards, margin requirements, and a clearing fund requirement. This system allows OCC to provide stability during times of unexpected events in the derivatives markets. The protections of OCC's financial guarantee and central counterparty role extend beyond listed options to security futures, financial and commodity futures, and securities lending. OCC is also dedicated to providing innovative, reliable, efficient and cost-effective services to its stakeholders.

As a SIFMU, OCC is subject to regulatory expectations and regulatory oversight by the SEC, CFTC, and the Board of Governors of the Federal Reserve. These organizations conduct regular, systematic, reviews of OCC's operating processes and procedures as well as monitor the safety and efficiency of the organization.

OCC also values the important role it plays in educating investors and the public about the prudent use of options and futures markets. The OIC, of which OCC is a participating sponsor, has educated investors on the benefits and risks of options for twenty years. OCC's work with OIC establishes its commitment to assist investors.

Key Consideration 2: *An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.*

OCC's governance structure reflects its dedication to providing world-class risk management, clearance, and settlement services at a reasonable cost to its clearing members. OCC is a Delaware corporation, and the oversight of its business and affairs is vested in the Board. OCC's governance arrangements are clearly set forth in its publicly-available Rules,⁸ and the charters of its Board⁹ and various Committees¹⁰ are publicly available on OCC's website, along with biographies of the members of the Board¹¹ and OCC's management.¹² OCC's management ultimately is responsible to the Board.

The Board performs an oversight role to ensure that OCC is managed and operated in a manner consistent with the discharge of OCC's regulatory responsibilities in connection with its provision of clearance and settlement services as an industry clearinghouse. The Board is responsible for acting as a steward of OCC to make certain OCC has the critical capabilities necessary to achieve its objectives and obligations in a safe, sound, efficient, and prudential manner. The Board is composed of representatives of OCC's

⁷ <http://www.optionsclearing.com/about/corporate-information/mission-statement.jsp>

⁸ <http://www.optionsclearing.com/about/publications/publication-listing.jsp>

⁹ <http://www.optionsclearing.com/about/corporate-information/board-charter.jsp>

¹⁰ <http://www.optionsclearing.com/about/corporate-information/board-committee-charters.jsp>

¹¹ <http://www.optionsclearing.com/about/corporate-information/board/>

¹² <http://www.optionsclearing.com/about/corporate-information/executives/>

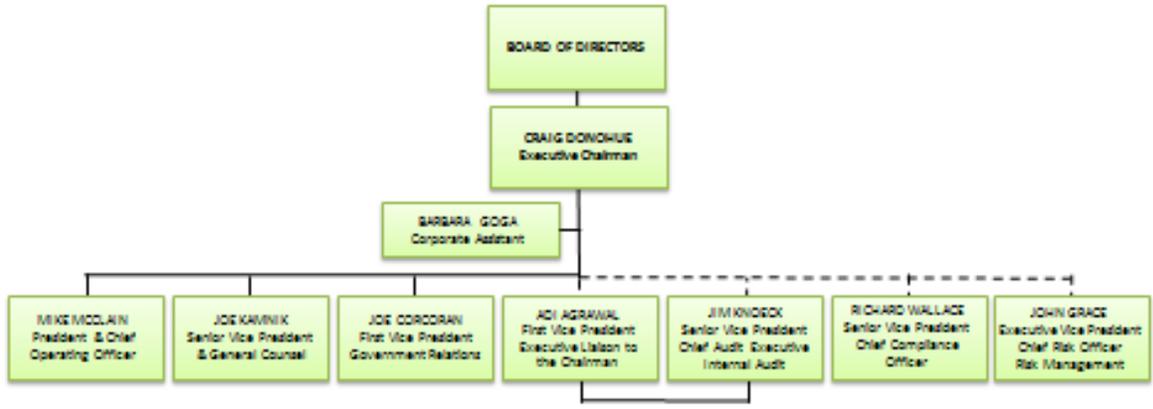


stockholder exchanges, clearing members, public directors, and management in order to provide accountability to all stakeholders. Further details on the roles, responsibilities, and composition of the Board can be found under Key Considerations 3 and 4 of this Principle. The Board maintains five Committees – the Audit Committee, the Compensation and Performance Committee, the Governance and Nominating Committee, the Risk Committee, and the Technology Committee— tasked with specific oversight functions, which are discussed in greater detail under Key Consideration 3.

Executive Chairman

OCC's Executive Chairman serves as the Chairman of the Board and is responsible for enterprise risk management, legal, internal audit, and compliance, external affairs of OCC, and supervision of the officers and agents he appoints. The Board elects the Executive Chairman from among the full-time employees of OCC, and by virtue of this position the Executive Chairman serves as the Management Director on the Board. OCC's President & COO, General Counsel, First Vice President—Government Relations and Executive Liaison all report directly to the Executive Chairman. The Chief Risk Officer, Chief Audit Executive, and Chief Compliance Officer report to the Executive Chairman in an administrative capacity; functionally, the Chief Risk Officer reports to the Risk Committee and the Chief Audit Executive and Chief Compliance Officer report to the Audit Committee. An organizational chart (as of 012/31/2015) showing those members of OCC's management that report to the Executive Chairman is set forth below.

**THE OPTIONS CLEARING CORPORATION
EXECUTIVE CHAIRMAN**



President & COO

OCC’s President & COO is elected by the Board and is responsible for all aspects of the business of OCC that do not report directly to the Executive Chairman, and administration of the day-to-day affairs and business of OCC in accordance with the directions of the Executive Chairman. OCC’s Executive Vice President—Business Development, Executive Vice President –Financial Risk Management, Chief Information Officer, Chief Financial Officer, Chief Human Resources Officer, and Senior Vice President—Business Operations all report directly to the President & COO. An organizational chart (as of 12/31/2015) showing those members of OCC’s management that report to the President & COO is set forth below.

**THE OPTIONS CLEARING CORPORATION
PRESIDENT &
CHIEF OPERATING OFFICER**



1

Key Consideration 3: *The roles and responsibilities of an FMI's board of directors should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.*

Board Responsibilities¹³

As described in the Board's charter, which is publicly available on OCC's website, the Board has certain specified functions – which it carries out either directly or indirectly by delegating certain responsibilities to its various Board Committees. These management oversight functions include, but are not limited to, the following:

- Overseeing management's activities in managing, operating and developing OCC as a firm and evaluating management's performance in executing its responsibilities;
- Selecting, overseeing and, where appropriate, replacing the Executive Chairman of the Board and the President;
- Providing counsel and advice to the Executive Chairman and the President as

¹³ Pending regulatory approval.



well as oversight of the performance of each such officer and of OCC in order to evaluate whether the business is being appropriately managed;

- Advising on, approving and overseeing OCC's business strategies, including expansions of clearing and settlement services to new business lines, as well as, monitoring OCC's performance in delivering clearance settlement services;
- Setting expectations about the tone and ethical culture of OCC, and reviewing management's efforts to instill an appropriate tone and culture throughout OCC;
- Reviewing and approving OCC's financial objectives and strategies, capital plan and capital structure, annual budget and corporate plan, OCC's fee structure, and major corporate plans and actions, including capital expenditures, as well as, periodic review of the types and amounts of insurance coverage available in light of OCC's clearing operations;
- Providing oversight of risk assessment and risk management monitoring processes, including with respect to systemic risk and reviewing risk tolerances submitted to the Board for approval by its Risk Committee;
- Fostering OCC's ability to ensure compliance with applicable laws and regulations, including banking, securities and corporation laws and other applicable regulatory guidance and standards, and overseeing OCC's processes designed to conduct business in a legal and ethical manner;
- Overseeing governance processes in a manner consistent with this Charter, including reviewing Committee charters and reports of Committee activities; effecting Committee appointments; performing an annual self-evaluation of its performance, the performance of its Committees, the performance of individual Directors and committee members; and evaluating the Corporate Governance Principles and Fitness Standards;
- Reviewing the amount of compensation for Public Directors;
- Providing oversight of internal and external audit processes and financial reporting, including approving major changes in auditing and accounting principles and practices;
- Reviewing the annual study and evaluation of OCC's system of internal accounting controls;
- Evaluating and fixing the compensation of the Executive Chairman and President, overseeing succession planning, human resource programs, and talent management processes, and overseeing the development and design of employee compensation, incentive and benefit programs;



- Overseeing OCC's information technology strategy, infrastructure, resources and risks; and
- Performing such other functions as the Board believes appropriate or necessary, or as otherwise prescribed by rules or regulation, including OCC's By-Laws and Rules.

OCC's Rules set forth additional functions and responsibilities for the Board, including, but not limited to:

- Determining disqualifications from Board service and making appointments to fill Board vacancies;
- Electing designated corporate officers;
- Approving OCC's fee schedule, refunds, and dividends, consistent with the policies associated with the Capital Plan (as described below);
- Except when otherwise approved pursuant to delegated authority, approving additions to, amendments of, and deletions from the Rules;
- Conducting convened hearings in connection with a suspension determination;
- Suspending a clearing member; and
- Performing any other functions reserved to the Board under the Rules.

Each Director is required to act in good faith in the best interests of OCC and with due regard to the fiduciary responsibilities owed to OCC as a business and SIFMU, including the duty of care, duty of loyalty, and duty of confidentiality. In addition, each Director is required to comply with the provisions of the Board's "Code of Conduct," including, without limitation, the provisions relating to conflicts of interest and confidentiality. Each Director is required to certify that he or she has received and agrees to abide by the provisions of the Code of Conduct. Additionally, while the Board is responsible for reviewing its own performance, the Governance and Nominating Committee is tasked with developing and recommending to the Board, and coordinating and providing oversight of, the annual process of self-evaluation of the Board's role and performance. The Governance and Nominating Committee also evaluates incumbent Directors for potential re-nomination, taking into consideration, among other things, an incumbent Director's past performance, including attendance at meetings, participation and contributions to the activities of the Board and their adherence to OCC's Fitness Standards for Board Members.

Members of the Board are full board members of the National Association of Corporate Directors. This membership underscores OCC's commitment to the highest standards of corporate governance and board leadership.



Board Procedures

The Board generally meets a minimum of five times per year. Briefing materials are distributed in advance of each regular Board meeting, and Directors are expected to attend all meetings, review all materials in advance, and be prepared to participate fully in the meeting. Special meetings may be called as provided for in the Rules. The Executive Chairman, in consultation with the President & COO, as well as the OCC's Corporate Secretary, is responsible for establishing the agenda for each Board meeting. With respect to each Board Committee, the chair of each such Committee is responsible for establishing the agenda for each meeting. A Director may request that an item be included on any meeting agenda. The Executive Chairman may ask members of management or others to attend the meeting and provide pertinent information as necessary. The Board may call executive sessions from which guests of the Board may be excluded.

In addition to the Executive Chairman, the Board also elects a Member Vice Chairman, who is elected by the Board from the Member Directors, as well as a Secretary and Treasurer, who need not be members of the Board at their time of election. The Board may also, but is not required to, elect one or more Vice Presidents or such other officers as it may determine is necessary from time to time.

Addressing Conflicts of Interest

The Board's Code of Conduct requires that any Director having an actual or apparent conflict of interest in a matter to be acted upon by the Board or a Committee disclose the conflict prior to the discussion or presentation of the matter. The Code of Conduct provides that, if possible, the conflict should be disclosed to the Executive Chairman or to OCC's General Counsel in advance of the meeting. Under the Code of Conduct, the Director should consider whether it is advisable under the circumstances to recuse himself or herself from the discussion and/or vote, and must recuse himself or herself if requested by the chair of the meeting.

A conflict of interest is present whenever the interests of OCC compete with the interests of a director, the director's employer, or any other party with which a director is affiliated, or otherwise whenever a director's corporate or personal interests could be reasonably viewed as affecting the director's objectivity in fulfilling his or her duties to OCC. As set forth in the Board's Code of Conduct, each Director is expected to err on the side of caution and immediately bring to the attention of the Executive Chairman and OCC's General Counsel any matters that may involve conflicts of interest or be reasonably perceived by others to raise questions about potential conflicts, even if the director does not believe that an actual conflict exists. Additionally, each Director must complete an annual Conflicts of Interest Questionnaire, disclosing any actual, potential or apparent conflicts, and must promptly disclose any relevant changes in circumstances.



The Governance and Nominating Committee is tasked with regularly reviewing and recommending to the Board improvements to this conflict of interest policy and the Board's Code of Conduct.

Board Committees¹⁴

The Board currently maintains five Committees: the Audit Committee, the Compensation and Performance Committee, the Governance and Nominating Committee, the Risk Committee, and the Technology Committee.

Audit Committee

The Audit Committee assists the Board in overseeing OCC's financial reporting process, system of internal control, and auditing, accounting and compliance processes. The Audit Committee's role is that of oversight and its primary duties and responsibilities are to serve as an independent and objective party to oversee:

- OCC's financial reporting process, including the integrity of its financial statements;
- OCC's system of internal control;
- The audit efforts of OCC's external auditors and the Internal Audit Department
- OCC's compliance environment and processes; and
- The facilitation of open communication among the external auditors, financial and senior management, the Internal Audit Department, the Compliance Department, and the Board.

The Audit Committee is composed of three or more Directors as appointed annually by the Board, and all members of the Audit Committee are independent from OCC's management. In addition, the Chair of the Audit Committee must be a Public Director. No Management Director is permitted to serve as a member of the Audit Committee.¹⁵

Governance and Nominating Committee

The Governance and Nominating Committee assists the Board in: (i) identifying, screening and reviewing individuals qualified to serve as Directors and recommending to the Board candidates for nomination for election at the annual meeting of stockholders or to fill Board vacancies; (ii) developing, recommending to the Board and overseeing implementation of OCC's Board Code of Conduct; and (iii) reviews the overall corporate governance of OCC and recommends improvements to OCC's Board.

¹⁴ Pending regulatory approval.

¹⁵ This policy is subject to regulatory approval and implementation. Currently, Management Directors are not prohibited from Audit Committee membership.



The Governance and Nominating Committee's functions and responsibilities include, but are not limited to, the following:

- Recommending to the Board for approval and overseeing the implementation and effectiveness of OCC's policies and procedures for identifying and reviewing Board nominee candidates (including experience, qualifications, attribute or skills in light of OCC's business structure);
- Identifying, screening and reviewing individuals qualified to serve as Directors of OCC, consistent with criteria approved by the Board (including evaluation of incumbent Directors for potential re-nomination, taking into consideration, among other things, an incumbent Director's past performance, including attendance at meetings and participation and contributions to the activities of the Board);
- Recommending to the Board candidates for nomination for election or re-election by the stockholders and any Board vacancies that are to be filled by the Board, after consultation with the Executive Chairman;
- Assessing the appropriateness of a Director continuing to serve on the Board where such Director submits his or her offer to resign upon the Director ceasing to hold the principal occupation or business association that such Director held when originally invited to join the Board, and recommending to the Board any action to be taken thereto, consistent with the requirements of the By-Laws concerning the continued eligibility of such person to remain a Director;
- Reviewing periodically the composition of the Board as a whole, including whether the Board reflects the appropriate balance of Member Directors, Exchange Directors, Public Directors and Management Directors, business specialization, technical skills, diversity (including diverse professional backgrounds) and other desired qualities such as sound judgment and a reputation for integrity; and
- Reviewing periodically the continued appropriateness of the term limits applicable to Member Directors and Public Directors set forth in the By-Laws and recommend to the Board, where appropriate, changes to such provisions.

In addition to the foregoing, the Governance and Nominating Committee may undertake other and different activities, as appropriate, or as the Board may delegate to it. In discharging its role, the Governance and Nominating Committee confers with management and other employees of OCC to the extent the Governance and Nominating Committee deems it necessary to fulfill its duties.

The Governance and Nominating Committee is composed of at least one Public Director, one Exchange Director and one Member Director. No Management Director is permitted to serve as a member of the Governance and Nominating Committee.



Risk Committee

The Risk Committee assists the Board in overseeing OCC's policies and processes for identifying and addressing strategic, operational and financial risks. The Risk Committee is responsible for overseeing the overall enterprise risk management framework implemented by OCC's management, including reviewing material policies and processes relating to: (i) membership criteria and financial safeguards, (ii) member and other counterparty risk exposure assessments, (iii) liquidity requirements and maintenance of financial resources, (iv) risk modeling and assessments, (v) default management planning, and (vi) risk relating to new initiatives. The Risk Committee is also responsible for coordinating risk oversight with other Board committees, as appropriate, to achieve a comprehensive and holistic oversight of OCC's risk-related matters. Moreover, the Risk Committee is responsible for performing those functions delegated to the Committee under the Rules.

Consistent with the above authority, the Risk Committee has oversight over the activities of OCC's Chief Risk Officer. The Risk Committee meets regularly with the Chief Risk Officer and has the authority to approve management's recommendation to appoint or replace the Chief Risk Officer. The Risk Committee, in consultation with the Executive Chairman, also reviews the performance of OCC's Enterprise Risk Management and Model Validation programs. Further, the Risk Committee determines whether or not to accept or modify the Executive Chairman's recommendations with respect to the performance assessment and annual compensation for the Chief Risk Officer.

The Risk Committee is composed of: (i) the Executive Chairman, (ii) at least one Exchange Director, (iii) at least one Member Director, and (iv) at least one public Director who shall be appointed annually by the Board. The chair of the Risk Committee is a Public Director.

Compensation and Performance Committee

The Compensation and Performance Committee assists the Board with: (i) overseeing the overall performance of OCC in promptly and accurately delivering clearance, settlement, and other designated industry services, and the accomplishment of other periodically established corporate goals and objectives in light of OCC's role as a systemically important financial market utility; (ii) overseeing OCC's Capital Plan (as described below) and financial performance; (iii) overseeing OCC's Human Resources program; (iv) overseeing the structure, design, and funding, as applicable, of employee (including management) compensation, incentive, and benefit programs; and (v) recommending the compensation of the Executive Chairman and the President to the Board and approving the compensation of members of OCC's Management Committee and certain other key officers, as appropriate..

The Compensation and Performance Committee consists of the Board's Executive Chairman and Member Vice Chairman, as well as three or more other Directors



appointed annually by the Board. A Public Director serves as chair of the Performance Committee.

Technology Committee

The Technology Committee assists the Board in overseeing OCC's information technology ("IT") strategy, infrastructure, resources, and risks, including: (i) overseeing major IT related strategies, projects and technology architecture decisions, (ii) monitoring whether OCC's IT programs effectively support OCC's business objectives and strategies, (iii) monitoring OCC's IT risk management efforts and the security of OCC's information systems and physical security of information system assets, and (iv) conferring with OCC's senior IT management team and informing the Board on IT related matters.

The Technology Committee meets at least four times per year and is comprised of three or more directors appointed by the Board.

Key Consideration 4: *The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).*

Board Composition

As set forth in the Rules, the Board is required to be composed of:

- nine Member Directors, *i.e.*, a clearing member or representative of a clearing member;
- a number of Exchange Directors equal to the number of stockholder exchanges, which is currently five;
- five Public Directors; and
- one Management Director.

Fitness Standards for Directors

The Governance and Nominating Committee, the stockholder exchanges, and the Board are required to apply certain fitness standards when considering nominees for election to the Board, including the following criteria:

- Characteristics essential for effectiveness as a member of the Board, including, but not limited to, integrity, objectivity, sound judgment and leadership;
- Expertise and experience in an area relevant to governance of the OCC, including, but not limited to: (i) strategic planning, such as new business development, expansion of markets, products and customers, and joint



venture development; (ii) risk management relevant to risks such as credit, market, liquidity, operational, legal and regulatory compliance, payment systems, clearance and settlement, new products, risk modeling, risk valuation, and systemic risk management; (iii) technology, such as infrastructure, applications development and maintenance, information security, and disaster recovery; (iv) operations; (v) trading; (vi) business management; (vii) finance; (viii) audit; (ix) governmental and legislative relationship management; (x) compensation and human resources; and (xi) legal, regulatory, and compliance expertise.

- Substantial seniority in own firm;
- Knowledge of securities and/or futures industries;
- Appropriate educational credentials or other certifications;
- For current Directors eligible for re-election, length of service on the Board and attendance, participation and contribution at Board and Committee meetings; and
- Appropriate weight given to diversity factors.

Disqualifying Characteristics

No person is qualified to serve on the Board if the person:

- is subject to a “statutory disqualification” under Section 3(a)(39) of the Exchange Act;
- may be refused registration under the CEA pursuant to Section 8a(2) of the CEA; or
- has a history of serious disciplinary offenses, including, but not limited to, those that would be disqualifying under CFTC Regulation § 1.63.

When selecting Member Directors the Governance and Nominating Committee must also consider: balanced representation among all clearing members; balanced representation of all business activities of clearing members; the nature of the firm with which each prospective Director is associated; industry affiliations; assuring that not all Member Directors are representatives of the largest clearing member organizations based on the prior year’s volume; and, developing a mix of Member Directors that includes representatives of clearing member organizations that are primarily engaged in agency trading on behalf of retail customers or individual investors.

Public Directors

OCC includes five Public Directors on its Board. The Audit Committee, Compensation and Performance Committee, Governance and Nominating Committee, and Risk



Committee are each required to include at least one Public Director. The Audit Committee and the Compensation and Performance Committee are each required to be chaired by a Public Director. Section 6A of Article III of OCC's By-Laws (Public Directors) define a Public Director as a person "not affiliated with any national securities exchange or national securities association or with any broker or dealer in securities." When new Directors are announced, OCC has historically designated, in the accompanying press release, which of the new Directors are Public Directors.

Board Compensation

In order to provide the incentives needed to attract and retain Public Directors with appropriate skills, Public Directors are compensated for their services at rates determined by the Board from time to time. Member Directors and Exchange Directors receive nominal compensation for their service. Members of the Board also may be reimbursed for their reasonable expenses in attending meetings of the Board or any Committee thereof.

Key Consideration 5: *The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.*

Since its inception, OCC has operated with integrity, fairness, and trust. These principles provide the foundation on which OCC's reputation rests, and key stakeholders remain confident that the organization is able to perform its critical responsibilities as both a clearing and self-regulatory organization.

Article IV of OCC's By-Laws (Officers) set forth the roles and responsibilities of OCC's Executive Chairman, Vice Chairman, President & COO, Vice Presidents, Treasurer, Secretary, and Controller. The Executive Chairman and the President & COO delegate authority for certain aspects of their responsibilities to certain senior executives. OCC's website¹⁶ provides biographies of the key members of OCC's executive team. Each member of the executive team is ultimately responsible for the day-to-day operations and performance of his or her applicable business area. Management is also responsible for establishing and maintaining internal control over the clearing and settlement of transactions cleared by OCC.

When selecting members of its management, OCC requires that they possess the appropriate experience, skills, and integrity. OCC seeks out individuals with significant experience and background in relevant subject areas, such as compliance and regulatory work, risk management, accounting, finance, and other areas of experience specific to the position requirements. OCC's current management, for example, has a variety of skills and experiences, including degrees in areas of accounting, law, economics, and organizational management. The Compensation and Performance Committee oversees OCC's management compensation policies and practices by: (i)

¹⁶ <http://www.optionsclearing.com/about/corporate-information/executives/>



recommending to the Board the compensation of the Executive Chairman and the President & COO and approving compensation for certain other officers; (ii) reviewing and approving the structure and design of compensation programs for employees, including officers; and (iii) assessing whether the compensation program promotes an appropriate approach to risk management and ensures that succession plans are in place for key executives.

The performance of each member of OCC's management team is reviewed annually by her direct supervisor, according to the organization charts set forth under Key Consideration 2 of this Principle. As part of the regular performance management process, on an annual basis the Compensation and Performance Committee reviews the performance and approves compensation of Management Committee members and other key officers, and reviews the performance of and makes a recommendation to the Board regarding the compensation of the Executive Chairman and the President & COO. Through evaluation of management performance, and by linking compensation to performance, the Board seeks to ensure that management has the incentives and skills needed to achieve the clearing agency's objectives, and that management is accountable for its performance.

OCC's Code of Conduct describes the expectation that each person performing work for OCC will do so lawfully, honestly, and ethically. This means conducting business in accordance with applicable laws and regulations with the highest standards of personal and professional conduct. The Code of Conduct applies to all employees, contractors and temporary personnel, as each person's actions contribute to OCC's overall success and reputation. The Code of Conduct is an expression of OCC's commitment to honesty and integrity. Disciplinary measures, up to and including termination, may be taken against anyone who directs and approves noncompliant conduct, or has knowledge of such noncompliance and does not promptly act to correct or report it.

OCC can remove a member of its management if necessary. The Board may remove any officer at any time with or without cause. Each of the Executive Chairman and the President & COO, respectively, may remove any officer or agent he has appointed, at any time with or without cause.

Key Consideration 6: *The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crisis and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.*

OCC has established an Enterprise Risk Management Framework that articulates OCC's framework for identifying, measuring, managing, and reporting both internal and external risk to OCC.

OCC's Enterprise Risk Management Framework is designed to ensure that OCC can fulfill its duties to its clearing members, exchanges, markets, and other market



participants that it serves. Because OCC is the common clearing facility for U.S. exchange-traded securities options and security futures and serves a critical risk management function for its clearing members and exchanges, it is critical that OCC be able at all times to provide the financial guarantees required by its role as a central counterparty. The Enterprise Risk Management Framework is designed to ensure it meets this critical objective.

In furtherance of the above, the Enterprise Risk Management Framework is designed to ensure that OCC has strong and proactive risk management and governance. A critical component of the Enterprise Risk Management Framework is the Board-approved Risk Appetite, which articulates the aggregate levels and types of risk OCC is willing and able to assume within its risk capacity to achieve its corporate goals and objectives and business and operating plans, as well as fulfill its obligations to stakeholders. The Risk Appetite includes: (i) qualitative and quantitative risk appetite statements; (ii) risk parameters, constraints, and limits; (iii) an outline of roles and responsibilities concerning governance and oversight; and (iv) a description of reporting, monitoring, and escalation criteria and requirements.

OCC's "Three Lines of Defense"

OCC's enterprise risk management program has adopted the "three lines of defense" governance framework to manage risk. These include the following:

- The **first line** of defense includes the management and staff of OCC's business units and has direct responsibility for the management and control of their risk. The first line of defense executes OCC's business strategy and adheres to the parameters set forth in the risk appetite framework by monitoring OCC's risk profile and executing the risk mitigation plans.
- The **second line** of defense provides guidance and independent oversight of the risk management activities of the first line of defense. This includes the Enterprise Risk Management Department, the Model Validation Group, and the Compliance Department. In this regard, responsibilities of the second line of defense include: (i) developing firm-wide risk management and compliance policies; (ii) risk assessment programs; (iii) identifying and assessing both internal and external risks; (iv) participating in business unit risk meetings; (v) reviewing and assessing business unit risk reports and policies; and (vi) validating compliance with the Enterprise Risk Management Framework requirements with the objective of ensuring that risk are actively and appropriately managed.
- The **third line** of defense is the Internal Audit function. The Internal Audit Department provides independent testing and verification of efficacy of corporate standard and business line compliance with the risk appetite framework, validates the overall risk framework, provides assurance that the risk management and compliance processes are functioning as designed and identifies improvement opportunities.



Enterprise Risk Management Governance

The Chief Risk Officer, the Chief Audit Executive, and the Chief Compliance Officer functionally report to one of the Board Committees and administratively report to the Executive Chairman.

Board of Directors

The Board, as part of its general oversight role, sets the risk management vision and tone for OCC and ensures that corporate governance is in place to properly identify and manage risk management issues.

Risk Committee

The Board has established a Risk Committee — which is described in greater detail above under Key Consideration 3 — to assist the Board in overseeing OCC's policies and processes for identifying and addressing strategic, operational, and financial risks. The Risk Committee is responsible for overseeing the Enterprise Risk Management Framework implemented by OCC's management, including reviewing material policies and processes relating to: (i) membership criteria and financial safeguards, (ii) member and other counterparty risk exposure assessments, (iii) liquidity requirements and maintenance of financial resources, (iv) risk modeling and assessments, and (v) default management.

The Risk Committee's role is one of oversight. OCC's management is responsible for identifying, addressing and reporting on strategic, operational, and financial risks arising from OCC's clearance, settlement, and other business activities in light of OCC's role as a SIFMU.

Executive Chairman

The Executive Chairman's role and responsibilities are described above under Key Consideration 2. The Executive Chairman is responsible for the OCC's control functions, including the Enterprise Risk Management, Internal Audit, and Compliance Departments. Further, Section 6 of Article IV of OCC's By-Laws (Executive Chairman of the Board) grants the Executive Chairman the authority to take certain steps to protect OCC from risks presented from certain clearing members, such as suspending a clearing member.

Chief Risk Officer

The Chief Risk Officer is responsible for developing and implementing OCC's enterprise risk management program, primarily through supervision of both OCC's Enterprise Risk Management Department, Third-Party Risk Management Group and the Model Validation Group. The Chief Risk Officer reports directly to the Risk Committee of the Board for functional duties and to the Executive Chairman for administrative purposes. The development and implementation of



OCC's risk-related guidelines and strategies require close coordination with OCC's management. The Chief Risk Officer also chairs the Enterprise Risk Management Committee.

Chief Compliance Officer

The Chief Compliance Officer is responsible for maintaining an appropriate compliance framework aligned with sound practice and regulatory requirements. This framework establishes the manner in which the Compliance Department will oversee and monitor compliance risks across the firm, including execution of key compliance activities, e.g., governance/oversight, risk assessment, policies and procedures, training, monitoring, testing and reporting. The Chief Compliance Officer oversees the development, administration and enforcement of appropriate compliance policies and procedures reasonably designed to prevent violations of applicable laws, rules, regulations, and internal policies. The Chief Compliance Officer reports directly to the Audit Committee of the Board for functional duties and to the Executive Chairman for administrative purposes.

Chief Audit Executive

The Chief Audit Executive is responsible for financial, operational and information system audit activities performed by the staff of OCC's Internal Audit Department. Such audit areas include core clearing and settlement operations and administrative and support services areas, e.g., human resources, legal, corporate communications and accounting and finance, as well as OCC's corporate compliance program and the enterprise risk management program. The Chief Audit Executive reports directly to the Audit Committee of the Board for functional duties and to the Executive Chairman for administrative purposes.

The Enterprise Risk Management Committee

The Enterprise Risk Management Committee was established to support OCC's management of risks across the enterprise, taking into account: (i) OCC's Enterprise Risk Management Framework and (ii) OCC's systemically important role in ensuring the continued stability of the national clearance and settlement system in relation to clearance of listed options, other derivatives contracts, and stock loan transactions as well as containment and resolution of potential risks in connection therewith.

The Chief Risk Officer chairs the Enterprise Risk Management Committee. The Committee consists of officers with the rank of Senior Vice President or higher. Voting members are the Executive Chairman, President & COO, Chief Risk Officer, Chief Financial Officer, Executive Vice President – Financial Risk Management, Chief Information Officer, Chief Operating Officer, General Counsel, Chief Compliance Officer, Chief Human Resources Officer, and other members as determined by the Chair. The non-voting members of the Committee shall be the Deputy General



Counsel, Chief Audit Executive, the Chief Security Officer and other members as determined by the Chair

Internal Audit Department

OCC's Internal Audit Department plays a key role in managing risk by providing independent testing and verification of the risk management framework described above. As set forth in the Internal Audit Policy, the Internal Audit Department's role is to provide independent, objective assurance services designed to add value and improve OCC's operations. The Internal Audit Department helps OCC accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

The Internal Audit Department is established by the Board's Audit Committee, and is overseen by the Chief Audit Executive, who reports functionally to the Audit Committee and administratively to the Executive Chairman. All members of the Internal Audit Department are required to maintain independence from the organization in both fact and appearance. Ensuring independence is a function of both individual employee certification and ongoing oversight of the employee. The Chief Audit Executive is responsible for annually affirming independence of the function to the Audit Committee.

Emergency Authority

In an emergency situation it may be necessary for members of OCC's management to take rapid action to ensure that OCC can continue to operate safely and efficiently. OCC's Rules provide clear authority for members of OCC's management to make decisions in case of an emergency, and establish a decision-making hierarchy. Article III, Section 15 of the By-Laws (Emergency Powers) provides that in the event of an emergency such as a terrorist attack, war or communications systems failure in which the Board or a standing committee of the Board cannot be convened, the Executive Chairman or President & COO can declare the existence of an emergency. If the Executive Chairman or President & COO are not able to take this action, Article IV, Section 7 of the By-Laws (Vice Chairmen of the Board) provides that the authority is transferred to certain officers of OCC identified in the By-Laws. Article III, Section 15 of the By-Laws (Emergency Powers) provides that the relevant officer can call special meetings of the Board at any time.

Under Article III, Section 15 of the By-Laws (Emergency Powers), the Board may approve a rule change during an emergency by vote of a majority of Directors present at a meeting even if the change would otherwise require approval of a greater number of Directors.

Pursuant to Article III, Section 15 (Emergency Powers), OCC maintains a Board-approved list of officers, in order of priority, that may be considered Board members to the extent necessary to establish a quorum, and similar list of officers that may take action that the Executive Chairman or President & COO is authorized, but unable, to take.



In an emergency situation it may be necessary to suspend or waive certain provisions of the Rules in the interests of financial stability or to ensure that OCC may continue to operate safely and efficiently. Article IX, Section 14 of OCC's By-Laws (Suspension of Rules in Emergency Circumstances) allows the Board, the Executive Chairman, or President & COO to waive or suspend any provision of OCC's Rules, policies, or procedures if it or he determines that an emergency exists and the waiver or suspension is necessary or advisable to protect OCC or the public interest in order for OCC to continue to clear transactions. Article IX, Section 14 (Suspension of Rules in Emergency Circumstances) requires that OCC notify the SEC or CFTC within two hours of any such emergency waiver or suspension and that the waiver or suspension may continue for no more than 30 days unless OCC has submitted a rule change seeking to continue the effectiveness of the waiver or suspension. The SEC and CFTC have the ability to immediately discontinue any such waiver or suspension upon written notice of objection transmitted to OCC.

Key Consideration 7: *The board should ensure that FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.*

As noted above under Key Consideration 4, the Rules requires that OCC's Board always include nine Member Directors representing the OCC clearing members, and Member Directors are represented on each Board Committee. Member Directors are nominated by the Governance and Nominating Committee with the goal of ensuring diverse and balanced representation from the membership. OCC also includes Public Directors on its Board and the Audit Committee, Compensation and Performance Committee, Governance and Nominating Committee, and Risk Committee to provide for meaningful representation of the public interest. The Audit Committee and the Compensation and Performance Committee are each required to be chaired by a Public Director.

OCC and its Committees and officers are also involved in multiple industry forums, including the Financial Services-Information Sharing and Analysis Center, the Financial Services Sector Council, the Futures Industry Association, the International Options Markets Association, the International Swaps and Derivatives Association, the National Association of Corporate Directors, the Options Industry Council Roundtable, the Securities Industry and Financial Markets Association, Securities Traders Association, and the World Wide Federation of Exchange. OCC's participation in these groups helps provide it with feedback from all sectors of the marketplace, including indirect participants who benefit from OCC's services, to verify that OCC's policies and strategies are in line with the overall interests of the market.

OCC directly solicits feedback from its clearing members through its Member Services Function dedicated to providing OCC's clearing members with premier customer service, and through its formation and active participation in OCC's Clearing Member Roundtable, which provides clearing members with an opportunity to discuss with OCC



operational effectiveness and efficiency and larger industry issues. OCC also maintains a clearing member representative program, under which each clearing member has a designated OCC contract for any issues, training needs or questions. The Customer Relationship Management Program and Clearing Member Roundtable are discussed in greater detail under Principle 21, below.

OCC uses a number of resources in order to disseminate accurate and transparent information regarding its operations to clearing members, market participants and the general public:

- OCC's public website (www.optionsclearing.com), which contains information regarding OCC's governance and operations, OCC's Rules and changes to the Rules, as well as educational information regarding trading options and futures, market data, risk management tools and OCC clearing membership requirements;
- OCC's private secured proprietary website for clearing members, participant exchanges, approved retail brokers and trading desk personnel (myocc.theocc.com), which provides users with a secure, customized, single point of access to authorized Web-enabled information, data, resources and applications;
- An educational website (www.OptionsEducation.org), which provides general information to the public about options trading and the options industry, on behalf of the Options Industry Council;
- OCC Alerts on various topics, including daily volume, contract adjustments, market data updates, expiration notices, new listings, press releases, OCC updates, and other important notices, broadcast to public email distribution lists;
- Social media, which provides general information to the public;
- Press Releases, announcing significant updates in OCC's business;
- Clearing Member Update monthly newsletter, which may discuss various topics, including upcoming system enhancements, new product introductions and clearing updates;
- Information memoranda providing targeted information to clearing members;
- The Options Operation Committee monthly conference call, which is open to all clearing members and staff;
- OCC's Annual Reports, which are published on the OCC corporate website; and
- Posting on OCC's website announcing significant updates in OCC's business.



PRINCIPLE 3: FRAMEWORK FOR THE COMPREHENSIVE MANAGEMENT OF RISK; SEC Rule 17Ad-22(e)(3)

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Proposed Rule 17Ad-22(e)(3) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to maintain a sound risk management framework for comprehensively managing legal, credit, liquidity, operational, general business, investment, custody, and other risks that arise in or are borne by the covered clearing agency.

Key Consideration 1: *An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.*

As discussed above under Key Consideration 5 of Principle 2, OCC maintains an Enterprise Risk Management Framework, which articulates OCC's framework for identifying, measuring, monitoring, and managing the range of risks that arise in, or are borne by, OCC. OCC's Enterprise Risk Management Framework is designed to ensure that OCC can fulfill its duties to its clearing members, exchanges, markets, and other market participants that it serves. Because OCC is the common clearing facility for U.S. exchange-traded securities options and security futures and serves a critical risk management function for its clearing members and exchanges, it is critical that OCC be able at all times to provide the financial guarantees required by its role as a central counterparty. The Enterprise Risk Management Framework is designed to ensure it meets this critical objective.

The Enterprise Risk Management Framework is based on the Risk Appetite that is reviewed and approved by OCC's Board on an annual basis. The Risk Appetite consists of an analysis of the wide variety of risks OCC faces as a central counterparty and an assessment of OCC's tolerance for each such risk. The categories and sub-categories of risk covered in the risk appetite framework include:

- Financial Risks: Credit Risk, Market Risk, Liquidity Risk, and Model Risk;
- Cyber/Technology Risks: Disaster Recovery, System and Data Integrity, System Availability, System Implementation, and System Security;
- Reputational Risks: Adverse Publicity and Company Perception;
- Operational Risk: Process Management, Execution and Delivery Risk, Financial Reporting & Control Risk, Damage to Physical Assets, Human Capital Risk, Business Disruption Risk, Fraud (Internal & External) Project Management Risk, Systemic Risk, and Third Party Risk;



- Legal Risk: Litigation, Regulatory Compliance & Interpretation Risk, Business and Product Risk, Legal Compliance and Interpretation Risk; and
- Strategic Risk: Strategic Planning Risk, Market Environment Risk, Business and Product Risk, Legislative Action Risk, and Governance Risk.

The Risk Appetite sets forth OCC's appetite for each of these risks while the Enterprise Risk Management Framework sets forth a framework to identify, measure, manage, and report on each risk. Particularly, the Enterprise Risk Management Framework seeks to manage these risks through several a series of individual risk management policies designed to address risk in light of OCC's tolerance for each material inherent risk. These firm-wide policies include:

- Financial Resources Policy (described in more detail under Principle 7);
- Credit Risk Management Policy (described in more detail under Principle 4);
- Collateral Risk Management Policy (described in more detail under Principle 5);
- Liquidity Risk Management Policy (described in more detail under Principle 7);
- Margin Policy (described in more detail under Principle 6);
- Clearing Fund Policy (described in more detail under Principle 4);
- Default Management Policy (described in more detail under Principle 13);
- Model Risk Management Policy (described in more detail under Principle 6);
- Operational Risk Management Policy (described in more detail under Principle 17);
- Legal Risk Policy (described in more detail under Principle 1);
- Business Continuity Planning Policy (described in more detail under Principle 17);
- Vendor Risk Management Policy (described in more detail under Principle 17);
- Information Technology Risk Management Policy (described in more detail under Principle 17);
- Capital Requirements Policy (described in more detail under Principle 17); and



- Systems Incident Escalation Policy (described in more detail under Principle 17).

The Risk Appetite is monitored and managed by OCC's Enterprise Risk Management Department and helps to ensure that there is strong and proactive risk governance, supported by an appropriate framework and process. Given the firm-wide overview of the enterprise risk management program, it is able to take both a top-down and bottom-up view of key risks and create a big-picture assessment of OCC's aggregate risk profile. Because risks can be interrelated and trigger effects across the enterprise, OCC considers the interrelationships of risk within the enterprise risk management program. The enterprise risk management program is applied throughout the company to ensure that business is managed within defined risk tolerances.

OCC believes that risk management is a process that is always evolving. Risk continuously evolves and manifests itself in many different ways, and can arise from changes in the economy, new products, services, technology, regulations, or personnel. Consistent with this philosophy, each policy within the Enterprise Risk Management Framework has a defined review schedule, during which applicable staff are responsible for updating and maintaining the policy. The Enterprise Risk Management Committee meets monthly to review the implementation and design of the entire risk framework, including the risk management related policies, and to monitor OCC's risk management practices, escalating issues that require action to the Risk Committee.

Key Consideration 2: *An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.*

OCC incentivizes its clearing members to manage and contain the risks they pose to OCC through certain Rules. OCC Rule 311 (Clearing Member Risk Management) requires all clearing members to maintain "current written risk management policies and procedures that address the risks [it] may pose to" OCC and to make available to OCC "information and documentation . . . regarding [its] risk management policies, procedures, and practices, including, but not limited to, information and documents relating to the liquidity of its financial resources and its settlement procedures." In addition, OCC's Rules set forth clearing member qualifications that include initial and ongoing minimum financial resource and net capital requirements (see OCC Rules 301 (Initial Requirements) and 302 (Minimum Net Capital)), as well as requirements that clearing members provide early warning notice to OCC upon the occurrence of certain reportable events related to the clearing member's financial wellbeing (OCC Rule 303 (Early Warning Notice)). Failure to comply with any OCC Rule may result in fines or in a clearing member's censure, suspension or expulsion, or the imposition of limitations on the clearing member's activities, functions or operations (see Chapter XII of OCC's Rules (Disciplinary Proceedings)).

OCC also maintains a Clearing Member Watch Level framework, which serves a critical role in protecting OCC and its clearing members against the default of a clearing member through the identification of various business, operational, and financial-related concerns. The Clearing Member Watch Level framework is structured by degree of



severity into a tiered system used to detect deterioration in a clearing member's financial condition and/or excessive exposure. These issues are promptly escalated to senior management and the Risk Committee, as necessary. Pursuant to the Clearing Member Watch Level framework, clearing members may become subject to additional margin requirements, more frequent reporting requirements, business restrictions and other protective measures, including suspension, if OCC observes certain materially adverse changes in the clearing member's financial condition or if the degree of exposure, based on a clearing member's aggregate exposure compared to the clearing member's capital, presents risks to OCC. Conversely, OCC may waive certain of these protective measures, including any additional margin requirements, if the clearing member can demonstrate that it has taken, or is taking, mitigating action to remedy the violation and minimize the risk to OCC.

OCC also provides its clearing members and their customers with a variety of tools to help them estimate their margin requirements, and manage and contain their risks, including the interactive Risk Application, which is available through OCC's ENCORE clearing system, and the Portfolio Margin Calculator, which is available through OCC's website. Such tools incentivize clearing member risk management by providing an easy way to see how new risks may change their margin requirements, empowering clearing members and their customers to monitor their own risk exposures and estimate their margin obligations to OCC. OCC further provides its clearing members and their customers with information relevant to managing and containing their risks through its Rules, policies, and information memos, as well as through the market data it publishes on its website, including information regarding daily volume, open interest, and a directory of listed products and series.

OCC produces reports for clearing members and provides online access to the ENCORE clearing system to assure that members have a complete view of their positions and account activity. OCC publishes an Operations Manual for products cleared by OCC to assist its clearing members. The Operations Manual covers positions and premium settlement; margin requirements; daily settlement; collateral; money-only settlement services; position movements; exercise/assignment; expiration; stock loan; clearing fund; product inquiry; clearing member transfer and allocation agreements; and other relevant information. In addition, OCC provides on-site training, online help, and a staffed Help Desk where clearing members may contact OCC personnel for assistance with any questions or problems.

Key Consideration 3: *An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.*

Because OCC is a SIFMU, the Enterprise Risk Management Framework takes into account the systemic risks that it faces and the broader impact that its risk management decisions have on the financial markets that it serves. OCC also serves an important role in the financial system and the broader economy, and OCC's inability to complete settlement would have significant adverse effects on both. While OCC's services



provide stability in financial markets, it is a concentrated point of risk in those markets because of its role as a central counterparty and the complex interdependencies it has with other FMUs. OCC incorporates these considerations into the Enterprise Risk Management Framework and its everyday risk management decisions.

In its role as a central counterparty and SIFMU, OCC has developed interdependencies with other entities, like settlement banks, depositories, and other clearinghouses, in an effort to maximize operational and capital efficiencies for its members and reduce overall systemic risk. These linkages exist in the form of depository relationships, cash market settlement services, and cross-margin arrangements. These interdependencies present certain risks to OCC, such as the loss of settlement services, loss of access to clearing member collateral, and the loss of margin offsets and net settlement with respect to cross margin relationships. These losses can be quantified based on the dollar amount of exposure related to settlements performed, transactions processed, or cross-margin benefits lost. At a higher level, the failure or interruption of services with respect to one or multiple FMUs would create a unique set of credit, liquidity, legal, and operational risks for OCC to address. Due to the key interdependencies related to these linkages and the lack of substitutes available, OCC actively monitors and reports on the overall financial and operational health of each financial utility with which it interacts, assesses its exposure to these entities, and considers contingency plans, to the extent possible. OCC conducts an annual written review of each FMU relationship, which is reviewed by the Enterprise Risk Management Committee. The policies and procedures governing the management of FMU relationships are described in greater detail under Principle 20.

With respect to interdependencies with other FMUs, OCC maintains cross-margining relationships with CME and ICE Clear U.S. These relationships present mutual risks to the parties involved, including credit risk and the risk of default by the other clearinghouse. These risks are largely addressed by the terms of the cross-margining agreement OCC has entered into with each such clearinghouse. Each agreement details the treatment of initial margin and variation margin, which are used to cover risks across both clearinghouses. These cross-margining relationships are discussed in greater detail under Key Consideration 5 of Principle 6 and Principle 20.

Additionally, because of the role settlement banks play in OCC's settlement processes, the possibility of a settlement bank failure or settlement service interruption is a risk to OCC. OCC manages this risk by maintaining relationships with multiple settlement banks, requiring clearing members to only use banks approved by OCC, only approving banks pursuant to its policies and procedures, and maintaining continued monitoring of such approved banks through a Bank Watch Level framework. Pursuant to the Bank Watch Level framework, OCC monitors for the occurrence of certain events that may serve as early warnings that a bank has exhibited increasingly negative trends in capital or profitability or is descending towards OCC's minimum standards for participation. The Bank Watch Level framework is reviewed annually by the Enterprise Risk Management Committee to evaluate the continued effectiveness and suitability of the requirements.



A default involving OCC would also put its own clearing members at risk. OCC helps its clearing members manage this risk by having Rules that would allow them to close out their positions upon such an occurrence. Pursuant to Section 27 of Article VI of OCC's By-Laws, in the event of OCC's default or insolvency, close-out netting procedures apply. Pursuant to these procedures, in the event of OCC's default or insolvency, OCC is required to notify the SEC, CFTC, all clearing members, any clearing organizations with which OCC has cross-margining or cross-guaranty agreements, and all markets for which OCC clears transactions. In response to this notice, any clearing member, so long as it is not suspended or in default, may provide a written notice to OCC of its intent to initiate the liquidation process with regard to its own contracts. This notice would trigger a liquidation of the contracts of *all* clearing members. This procedure is necessary because liquidating contracts of less than all clearing members would result in an imbalance of the clearing system and therefore be unworkable.

Upon this liquidation, the close-out netting procedures provide that the rights and obligations within and between accounts of each clearing member will be netted to the same extent as if the clearing member had been suspended and its accounts were being liquidated under Chapter XI of the Rules (Suspension of a Clearing Member) – a process that is described in greater detail under Principle 13. These procedures are designed to allow the prompt and orderly liquidation of outstanding positions, and facilitate the return of any remaining assets to any clearing member entitled to them in accordance with the Bankruptcy Code.

Key Consideration 4: *An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.*

OCC's maintains a recovery and wind-down plan that identifies its critical operations and services, scenarios that present a threat to OCC continuing to provide its critical operations and services as a going concern, and plans for its recovery or orderly wind-down in the event such a scenario is realized.

Furthermore, and as described in greater detail under Principles 4, 7, 15 and 17, the Enterprise Risk Management Framework contemplates situations involving credit, liquidity, general business, or operational risk and sets forth policies and procedures designed to manage such risks and identify new sources of such risks. Each of these risks and OCC's corresponding risk management policies are explained under other Principles within this disclosure.

PRINCIPLE 4: CREDIT RISK; SEC Rule 17Ad-22(e)(4)

An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each



participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

Proposed Rule 17Ad-22(e)(4) would require a covered clearing agency to establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively identify, measure, monitor, and manage its credit exposures to participants and those exposures arising from its payment, clearing, and settlement processes.

Key Consideration 1: *An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.*

As a SIFMU, OCC must carefully manage credit risk from clearing members, banks, and certain other parties. OCC maintains robust processes to identify and mitigate this credit risk, including procedures intended to ensure that it transacts only with financially strong counterparties. OCC also maintains robust surveillance processes intended to identify counterparty credit concerns and to allow it to take appropriate action in response. These surveillance processes also allow OCC to capture its aggregate credit exposure across counterparties, or related entities, and allow it to mitigate these risks in a manner that ensures the integrity of financial markets.

OCC has a low appetite for credit risk and, pursuant to its Financial Resources Policy, maintains financial resources sufficient to cover its credit exposure to clearing members and banks under normal and stressed conditions. Specifically, OCC manages credit risk by maintaining margin and clearing fund resources that are sufficient to cover OCC's credit exposure to clearing members and to cover a wide range of stress scenarios that includes the default of OCC's largest participant and its affiliates under extreme but plausible market conditions. OCC also manages credit risk by enforcing membership standards and monitoring the creditworthiness and operational reliability of its clearing members and banks on an initial and ongoing basis.

OCC has established a Credit Risk Management Policy designed to identify, quantify, monitor, and manage credit risk. The Credit Risk Management Policy outlines the process by which OCC identifies and mitigates credit risk, ensuring that OCC only transacts with counterparties that demonstrate strong financial health and a low probability of default. The Credit Risk Management Policy also establishes robust surveillance processes intended to identify deterioration in a counterparty's credit and to trigger certain protective actions when deterioration is detected. Finally, the Credit Risk



Management Policy is also designed to capture the aggregation of credit exposure across counterparties, or related entities.

For the protection of the clearinghouse against a clearing member default, OCC manages risk through financial safeguards that include rigorous admission standards, member surveillance activities, collection of high quality margin collateral and a mutualized Clearing Fund. This system allows OCC to provide stability during times of unexpected events in the derivatives markets. OCC uses its margin methodology, including STANS, to measure clearing member portfolio risk and to properly value and collateralize positions, which reduces credit risk and provides protections to clearing members and to OCC against any possible defaults.

Key Consideration 2: *An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.*

OCC is exposed to credit risk given its role as guarantor of the contracts it clears. While OCC is primarily exposed to the failure of a clearing member, it also has exposure to failures by banks (e.g., settlement, letter of credit, custodial, escrow, and committed credit facility participants) as well as other FMUs.

OCC has identified several sources of credit risk including, but not limited to, the following:

- (1) The failure of a clearing member to pay for purchased options, meet expiration-related settlement obligations, make any required daily mark-to-market payments, or meet margin obligations;
- (2) Costs associated with liquidating a clearing member's positions in the event of suspension;
- (3) Inability of OCC to access cash or collateral held in the custody of a custodial bank;
- (4) A credit facility's failure to fund a draw requested by OCC;
- (5) A letter of credit issuer's failure to fund a demand for payment;
- (6) A committed credit facility participant ceases to function as a going-concern or fails to honor a borrowing request; and,
- (7) The failure of an FMU.

Establishing and Assessing Counterparty Creditworthiness

OCC's primary tool for identifying credit risk is screening the creditworthiness of potential counterparties. To facilitate this, OCC maintains onboarding procedures that



require that all clearing members, banks and FMUs meet certain minimum financial and operational standards before OCC will agree to do business with them. For clearing members, these minimum participation standards are set forth in OCC's Rules. Standards relate to maintaining appropriate registrations, capital in excess of regulatory minimums and commensurate with activity anticipated to be transacted, and sufficient staffing with appropriate levels of experience. Moreover, based on risks identified during the onboarding process, OCC may place limits or contingencies on the relationship. For example, before a new clearing member or an existing clearing members request of an expansion of its membership is approved, OCC's Risk Committee may first recommend to the Board, or the Board may require, that additional financial requirements, such as increased capital or margin requirements be imposed, as well as restrictions on clearing activities.

OCC also engages in ongoing monitoring of the creditworthiness of its counterparties by reviewing the financial reports for clearing members, banks, and FMU relationships in order to identify any deterioration in a counterparty's financial condition. Parameters considered include deterioration in capital, profitability, and maturing subordinated debt agreements. Staff reviews independent auditors' reports and internal control reports provided within the counterparty's annual reports. OCC also monitors relevant market data including, but not limited to, publicly traded stock prices, credit default swap prices, and/or relevant market news to identify potential issues that may affect a counterparty. Staff also reviews clearing members' risk management policies, procedures, and processes as described under Key Consideration 2 of Principle 3. Finally, OCC monitors the operational performance of each counterparty on a daily basis to detect any signs of deterioration in its operational capabilities.

With this information, OCC applies Watch Level parameters, whereby the detection of certain facts and circumstances suggesting the counterparty's deteriorating financial condition triggers enhanced surveillance requirements and/or business restrictions that OCC may impose pursuant to OCC Rule 305 (Restrictions on Certain Transactions, Positions and Activities). For example, a clearing member whose net capital has dropped below a certain threshold or who has demonstrated an operational insufficiency will be placed on an elevated Watch Level and may become subject to a special margin call pursuant to OCC Rule 609 (Intra-Day Margin) or even suspended pursuant to OCC Rule 1102 (Suspension). OCC also conducts daily stress tests of individual clearing member's risk exposure, with additional margin requirements automatically triggered if the clearing member's perceived credit risk exceeds predetermined thresholds. OCC has developed separate Watch Level parameters for clearing members and banks, accounting for differences in their regulatory reporting and overall business operations. These Watch Level parameters have been approved by the Risk Committee and are reviewed annually to assess the effectiveness and adequacy of the parameters. This annual assessment includes a review of the various components of OCC's Watch Level frameworks and how they performed over the previous year, as well as a review of any observed counterparty-specific issues or trends. Other components of this assessment include regulatory changes that may affect OCC Watch Level frameworks or parameters. These reviews are also intended to identify gaps where additional Watch



Level frameworks could serve to enhance existing policies or eliminate certain policies that have become stale.

OCC also monitors for changes in the intra-day credit exposure of its clearing members to ensure that it is able to identify emerging risks and take protective measures when deemed necessary, including the calling of an intra-day margin call. Additionally, OCC monitors the credit exposure created by daily trade premium activity and clearing members' establishment of new positions.

Moreover, OCC monitors the concentration of its credit risk by taking a holistic view of its credit risk across all counterparties – clearing members, banks, and FMUs – and aggregating the risks presented by related entities. OCC aggregates the multiple credit and/or operational risks that may be presented by the same entity – e.g., a clearing member that has an affiliate that is also a custodial bank for OCC, or a clearing member that is also designated to be one of OCC's liquidation agents under a default scenario. OCC reviews these reports on the concentration of credit risk monthly at both Financial Risk Management meetings and ERM meetings.

Key Consideration 3: *A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.*

Key Consideration 3 is not applicable to OCC, because OCC is not a payment system or SSS.

Key Consideration 4: *A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.*



OCC utilizes a number of financial resources to cover its credit exposure, including the collection of margin from clearing members in respect of their outstanding positions, which is discussed in greater detail under Principle 6, and a requirement that clearing members make contributions to the Clearing Fund. The Clearing Fund is a critical financial resource that is in place to help cover clearing member defaults and certain other potential losses, as specified in Article VIII of OCC's By-Laws (Clearing Fund) and OCC's Financial Resources Policy. In the event that a defaulting clearing member's margin deposits are insufficient to close out its positions, OCC may use the Clearing Fund to satisfy any remaining obligations, as the non-defaulting clearing members' margin cannot be used to pay for losses attributable to the defaulting clearing member. OCC would first use the Clearing Fund deposits of the suspended clearing member. Should those assets still be insufficient to close out the suspended clearing member's positions, OCC would use the Clearing Fund deposits of the non-suspended clearing members. This "waterfall" is described in more detail in Principle 4, Key Consideration 7 below. The Clearing Fund can also be used to meet the obligations resulting from the default of any bank or FMU. OCC also maintains additional financial resources, including the ability to call for Clearing Fund assessments, as described below under Key Consideration 7.

Clearing Fund Composition

OCC currently permits clearing members to deposit any of the following assets to satisfy their Clearing Fund obligations:

- Cash (USD only);
- U.S. government securities; and
- Canadian government securities.

Because one function of the Clearing Fund is to provide OCC with a pool of liquid securities that can be used to collateralize a draw on its committed credit facilities, the list of securities eligible for pledge as Clearing Fund deposits aligns with those securities that OCC's committed bank credit facility permits to be pledged. OCC also monitors collateral types that are accepted for Clearing Fund purposes to make sure determinations are consistent with OCC's risk appetite.

OCC applies a haircut to Clearing Fund securities, in a manner consistent with levels prescriptively described within Article VIII, Section 3 of OCC's By-Laws (Form of Contributions).

Clearing Fund Size

OCC sets the Clearing Fund size to provide a high degree of assurance that market integrity can be maintained in the event that OCC's largest clearing member, including its affiliates, fails to meet its obligations to OCC. OCC believes this approach, designed to meet the "Cover One" assumptions, is currently satisfactory to its needs and is



appropriate given that OCC is neither systemically important in multiple jurisdictions nor involved in activities with a more complex risk profile.

Each business day, OCC uses a model approach to estimate the Clearing Fund's size relative to covering the cost of liquidation under stressed market conditions to a very high confidence level. The model uses the STANS framework and involves various further assumptions specific to the Clearing Fund sizing methodology. The model used for sizing the Clearing Fund uses the same 2-day liquidation risk horizon as OCC's margin methodology. Model assumptions include:

- stressed market conditions to a very high confidence level;
- simulations utilize the 99th percentile under a distribution assumption of "perfect dependence;"
- "near-simultaneous" default scenarios assuming that it is not possible for OCC to replenish the Clearing Fund prior to the second default occurring; and
- there is no credit given for either Clearing Fund replenishment rights or for any recoveries the Clearing Fund might make from assets of defaulted clearing firm(s) not held at OCC.

The Clearing Fund size is set on the first business day of each month, subject to intra-month resizing as described below under Key Consideration 5. OCC performs a monthly review of the Clearing Fund model parameters, as required by SEC Rule 17Ad-22, and OCC's Model Validation Group, which reports to and is supervised by the Chief Risk Officer and which must present its Model Risk Management Framework to the Risk Committee and Board for review and approval, reviews daily backtesting results and conducts an annual review of the model to determine whether it is working as intended and if the existing validation activities are sufficient. OCC's Executive Vice President—Risk Management, who reports to the President & COO, is responsible for ensuring that the Clearing Fund size is set and maintained in a manner consistent with the Board-approved Clearing Fund mandate.

Key Consideration 5: *A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a*



CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.

In setting the Clearing Fund size, OCC utilizes stress tests based on the STANS methodology, as explained under Principle 6. Additionally, each month, OCC reevaluates the appropriateness of the Clearing Fund model's assumptions to ensure their continued relevance, given current market and business conditions, and to recommend possible stress tests that might be developed to help identify gaps within the design of the Clearing Fund methodology. Stress test assumptions in Clearing Fund include: (i) a marked rise in volatility, (ii) perfect dependence of equity movements, (iii) worst-case timing of default, and (iv) removal of any excess collateral. In these stress test assumptions, OCC does not assume it will be able to recover from defaulting firms or utilize its Clearing Fund replenishment rights. The results of these assessments are summarized and presented at the monthly Risk Management meetings. All new or modified stress tests are reviewed by the Enterprise Risk Management Committee. Any recommended changes to the Clearing Fund methodology also require Management Committee review prior to being presented to the Board's Risk Committee.

OCC has established procedures that monitor and analyze daily these stress test exposures, in order to identify circumstances when it is necessary to collect additional collateral from the clearing member driving the peak exposures, or when it should consider an intra-month resizing of the Clearing Fund to ensure OCC maintains sufficient financial resources. Upon an intra-month resizing, clearing members are given two business days to fund any Clearing Fund deficits.

Annually, OCC also assesses the adequacy of the Clearing Fund relative to its stated purposes, with any recommended changes to the Clearing Fund sizing or allocation formulas subject to approval by the Risk Committee and the Board.

Additionally, OCC has developed and implemented a comprehensive stress and scenario testing approach. In order to ensure that OCC maintains enough financial resources to meet the above described standards in extreme but plausible market conditions, OCC maintains a comprehensive stress testing program that covers a wide range of potential stress scenarios. The comprehensive stress testing program is designed to be dynamic: OCC can add historical scenarios with different attributes, add hypothetical scenarios, and align scenarios with various aspects of OCC's business, as appropriate. Currently, the comprehensive stress testing program is designed to provide OCC with the ability to examine under what scenarios and methodologies potential weaknesses may emerge within or beyond OCC's financial resources frameworks.

The results of these assessments are summarized and presented at the monthly Financial Risk Management meetings as well as ERM meetings. All new or modified stress tests are reviewed by the Enterprise Risk Management Committee. Any recommended changes to the Clearing Fund methodology also require Management Committee review prior to being presented to the Board's Risk Committee.



As noted above under Key Consideration 4, the Clearing Fund model parameters are reviewed monthly and are subject to OCC's Model Risk Management Policy and the Model Validation Group's regular model validation process.

Key Consideration 6: *In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.*

OCC has designed its stress testing framework and capabilities with these guidelines in mind, and executes both historic and hypothetical stress tests to cover a wide range of market scenarios. OCC also considers emerging risks during scenario design to create forward looking scenarios. Reverse stress testing scenarios are developed including but not limited to extreme but implausible market moves and multiple defaults.

As discussed under Key Consideration 5 above, each month, OCC assesses potential recommendations for stress tests to apply to the Clearing Fund methodology. Stress test assumptions that are assessed include: a marked rise in volatility; perfect dependence of equity movements; worst-case timing of default; removal of any excess collateral; collateral subject to traditional haircuts realized at no premium to haircut levels; and no reliance on recoveries from defaulted firms or on Clearing Fund replenishment rights.

Key Consideration 7: *An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.*

OCC's Rules (particularly Sections 5 & 6 of Article VIII of the By-Laws and Rules 707 (Close-Out of OCC X-M Accounts) and 1104 (Creation of Liquidating Settlement Account)) directly address how OCC mitigates any potential credit losses resulting from the default of one or more clearing members. The Rules are aimed at minimizing losses to OCC and minimizing systemic risk to other members and key market participants. The policies and procedures governing the default of a clearing member and the closeout of such a defaulting member's open positions are described in greater detail under Principle 13.

In order to meet settlement obligations that result from a clearing member's default and resulting suspension, OCC's Rules provide for the usage of the following resources in the following order:

- (1) *Margin deposits of the suspended firm.* This includes cash, deposits converted to cash and borrowings using such deposits to obtain funds.



This specifically excludes deposits in lieu of margin (*i.e.*, specific or escrow deposits);¹⁷

- (2) *Clearing fund deposits of the suspended firm.* OCC may utilize any cash, convert the Clearing Fund deposits of the suspended clearing member to cash, or effect borrowing or other transactions using such deposits in order to obtain funds;
- (3) *Clearing fund deposits of non-defaulting firms.* OCC may utilize any cash, convert Clearing Fund deposits of non-defaulting firms to cash, or effect borrowing or other transactions using such deposits in order to obtain funds;
- (4) *Clearing fund assessments.* In the unlikely event that Clearing Fund deposits prove to be inadequate to cover OCC's losses, each clearing member may be assessed an additional amount equal to the amount of its initial deposit. A clearing member is liable for further assessments until the balance of OCC's losses are covered or the clearing member has withdrawn from membership in OCC; and
- (5) *OCC Retained Earning.* Under certain circumstances OCC may use its retained earning.

To provide additional liquidity in the event of a clearing member default, OCC also maintains a committed line of credit with various banks that may be used in certain situations as well as committed lines of credit with a non-bank institution.

PRINCIPLE 5: COLLATERAL; SEC Rule 17Ad-22(e)(5)

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

Proposed Rule 17Ad-22(e)(5) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to limit the assets it accepts as collateral to those with low credit, liquidity, and market risks, and also require policies that set and enforce appropriately conservative haircuts and concentration limits if the covered clearing agency requires collateral to manage its own or its participants' credit exposures.

Key Consideration 1: *An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.*

¹⁷ Under OCC's Rules, if a clearing member has made a specific or escrow deposit with respect to a short position, for example, that short position is considered to be "covered" and is not included in calculating the clearing member's margin requirements, and such deposits in lieu of margin are kept separate from margin deposits during a clearing member default. OCC is in the process of amending its Rules to clarify that in the event a clearing member is in default with respect to a position, OCC is authorized to take possession of the cash and securities making up any escrow or specific deposit in support of such position in order to satisfy the defaulting clearing member's obligations and/or reimburse OCC for losses incurred as a result of the default. Any such amendment would require regulatory approval.



OCC employs a Collateral Risk Management Policy to govern the types of assets that OCC will accept as collateral, collateral valuation and how collateral eligibility is determined and changed. In addition, the policy describes the risks associated with collateral and the key components of the collateral management process.

OCC holds three basic pools of collateral – margin, deposits in lieu of margin and clearing fund deposits – each of which collateralizes a different set of obligations and has different standards for acceptable collateral that are related to the nature of the obligations that the collateral is intended to secure. OCC requires its clearing members to deposit collateral as margin to support obligations on short options, futures contracts and other obligations arising within the clearing members' accounts at OCC. OCC also requires clearing members to deposit collateral serving as Clearing Fund assets to protect OCC should the margin of the defaulting clearing member be insufficient to guarantee the defaulting clearing member's clients' positions. The Clearing Fund provides OCC with a liquid pool of collateral that it can use to collateralize a committed credit facility that is available to cover liquidity needs. Clearing members are required at all times to maintain sufficient collateral balances to satisfy requirements calculated by STANS. These requirements are determined daily for margin and monthly or, in certain circumstances, intra-month, for the Clearing Fund.

Acceptable Collateral

To ensure these deposits serve the purposes intended, OCC limits the types of acceptable assets to those with low credit, market and liquidity risks, by imposing a set of criteria used to ensure it only holds quality assets as margin and/or clearing fund deposits.

Margin and Initial Margin

Acceptable forms of margin collateral include: (1) cash; (2) U.S. government securities; (3) Canadian government securities; (4) letters of credit; (5) government sponsored debt; (6) money market mutual funds; and (7) common stocks, ETFs and ETNs. These forms of collateral are accepted as margin for options positions, stock loan positions and all other cleared contracts other than variation payments on futures contracts and stock loan positions. The amount of margin required on open positions is calculated daily on an account-by-account basis. Any shortfall in the margin on deposit for any account is eliminated by withdrawing cash from the clearing member's designated bank account.

Variation Payments on Futures Contracts and Stock Loan Mark-to-Market

Variation payments, as they relate to futures and stock loan positions, are calculated on a daily basis to collateralize the change in market value. Variation payments pass through the daily losses and gains from the "winning side" of the contract to the "losing side" each day based on marking prices.

During times of distress and high volatility, intra-day margining may be required. Variation margin can be satisfied by USD cash only.



Deposits in Lieu of Margin

A clearing member or approved custodian may also post deposits in lieu of margin, as a means of facilitating “covered” option writing by permitting the clearing member or its customer to deposit the underlying asset or, in the case of a put, the exercise price, as collateral in lieu of the margin that would otherwise be required. In the case of certain index call options, the clearing member or approved custodian may deposit cash, common stock or U.S. government securities equal in value to the notional value of the underlying index. As a result, these positions are fully collateralized and are not included in the calculation of margin. Deposits in lieu of margin are held by a third party custodian that has been approved by OCC.

Clearing Fund Deposits

Acceptable clearing fund collateral is limited to the most liquid forms of collateral to ensure that OCC maintains adequate sources of liquidity in the event of a clearing member default. Acceptable forms of clearing fund deposits consist solely of: (1) cash; (2) U.S. government securities; and (3) Canadian government securities.

Risk Considerations When Determining Acceptability

OCC determines the acceptability of different forms of collateral after a thorough risk analysis. Before an asset class is accepted as a margin and/or clearing fund collateral type, OCC assesses the eligibility of the collateral for such purposes as well as whether the collateral should be valued through a modeled approach within STANS or be applied a haircut.

In order to assess which asset classes would be considered as acceptable forms of margin and/or clearing fund collateral, OCC considers each asset class’s overall market, credit and liquidity risk. In addition, OCC applies additional asset class-specific criteria, intended to ensure individual securities are of high quality and are assets with low credit, liquidity and market risk.

For example, OCC assesses the acceptability of equity securities as collateral and, as described below under Key Consideration 2, employs a “Collateral in Margins” approach that incentivizes clearing members to pledge equity security collateral that serves as a hedge to the clearing member’s position in cleared contracts. If such an equity security does not underlie an existing option contract, OCC requires it to have a market value of at least \$3 per share for it to be accepted as a valued security for collateral. OCC may also determine not to accept a security that meets these requirements at its discretion, based on other factors, including trading volume, the number of shareholders, the number of outstanding shares, and the current bid/ask spreads.



In assessing acceptability, OCC's risk considerations include, but are not limited to, the following:

- **Market Risk Considerations.** OCC considers factors such as the collateral's trading volume, number of shareholders, number of shares outstanding, intra-day and end-of-day pricing, price volatility, offsetting potential with other cleared contracts, modeling costs and projected inventories. For any security to be considered for a modeling approach and inclusion within STANS, intra-day pricing must be available in order to evaluate deposits during the trading day;
- **Sovereign Credit Risk.** OCC considers the risk associated with investing in or accepting as collateral a foreign country's debt, the risk of capital being locked up or frozen by a government action, and exchange-rate risk. Exchange-rate risk is managed through the application of a haircut. OCC also considers the operational aspect of maintaining custody of the collateral, and the manner in which OCC can perfect a security interest in the collateral considering the relevant bankruptcy laws of the respective sovereign entities. Most of the sovereign debt accepted by OCC is debt of the United States government;
- **Issuer Credit Risk.** For letters of credit, money market instruments and debt securities, OCC considers the creditworthiness of the issuer. This risk is managed, with respect to money market funds, by requiring compliance with SEC Rule 2a-7, among other requirements, and with respect to letters of credit, by requiring minimum financial standards and concentration limits are also applied. For example, no more than 50% of a clearing member's margin on deposit may include letters of credit in the aggregate, and no more than 20% may include letters of credit issued by any one institution. Further, the total amount of letters of credit issued for the account of any one clearing member by a U.S. or Non-U.S. institution shall not exceed 15% of such institution's Tier 1 Capital;
- **Wrong-way Risk.** OCC has developed policies designed to limit the wrong-way risk posed by a clearing member's margin deposits. These policies involve limiting the valuation of margin deposits that would likely lose value in the event that the clearing member providing the collateral defaulted, particularly with respect to equity securities and exchange-traded notes issued by the clearing member or an affiliate of the clearing member; and
- **Liquidity Risk.** For all forms of collateral, OCC considers the liquidity risk. For example, for government securities it is conceivable that coupon payments might be delayed due to a government default related to the debt ceiling or short term payment imbalances. OCC Rules grant it sufficient flexibility to adjust the valuation assigned to such collateral in response to such liquidity risk considerations. Additionally, the concentration limits OCC applies to equity securities collateral also are designed to address liquidity



risk.

In addition to market, credit and liquidity risk, collateral also presents operational and custodian risk. These factors are built into OCC's policies on collateral eligibility, and OCC also maintains separate policies and procedures designed to manage these risks, as discussed under Principles 16 and 17.

Key Consideration 2: *An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.*

OCC revalues all clearing member collateral holdings and verifies them against the margin and clearing fund requirements every day. In making these valuations, OCC manages the market risk of collateral either by applying a traditional haircut approach or through a modeled approach by including the collateral within the STANS margin methodology, where OCC calculates the combined risk of cleared and collateral positions. This approach is known as Collateral in Margins. The STANS methodology is described in greater detail under Principle 6.

Modeled Approach

Under the Collateral in Margins approach, collateral is treated the same as a position in cleared contracts, incentivizing clearing members to pledge collateral that has risk reducing properties when it interacts with their cleared positions. Risk associated with the collateral is based on each security's unique volatility parameters, which are updated monthly as part of a monthly update of STANS's econometric models and daily as a result of the STANS scale factor adjustments. Securities that are included in STANS, and thus utilize a modeled approach to manage their risk, include common stock and non-inflation adjusted U.S. government securities.

Haircut Approach

Collateral with market risk that is not managed by the modeled approach is subject to percentage haircuts. OCC develops a haircut approach for each asset class at the time the asset class is recommended for acceptance as margin and/or clearing fund collateral. The haircuts are codified in OCC's Rules and their adequacy is evaluated on a daily basis and formally reviewed each month.

Collateral haircuts and the related monitoring processes are formally reviewed annually by OCC for adequacy. Recommended changes may be proposed in light of the previous year's performance, emerging trends or the needs of the marketplace or other factors and must be presented to the Risk Committee for approval.

Key Consideration 3: *In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.*



The modeled approach described above leverages STANS to value and mitigate the market risk related to accepted margin collateral deposits. Because the modeled approach utilizes the same robust econometric modeling techniques supported by STANS – specifically the use of a short-term and a long-run historical time series to model the volatility of an asset to the greater of the two – it captures numerous critical risk attributes (e.g., intraday revaluations, stressed market conditions, procyclicality, concentration and wrong-way risk).

Those collateral types that are subject to haircuts, OCC's Collateral Risk Management Policy dictates the usage of multiple historical price time series to capture both near-term changes in market volatility and long-run volatility, which serves as a floor to mitigate pro-cyclicality.

Key Consideration 4: *An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.*

To properly manage concentration risk, OCC considers the average daily trading volume for each security in a clearing member account in relation to OCC's assumptions regarding its ability to liquidate assets. With respect to each equity security deposited as margin, OCC effectively limits the number of shares that can be given value to two times the 90-day average daily volume, unless the security is hedging a cleared position. Shares exceeding the threshold level, while remaining pledged, do not receive any collateral value and are not included in margin calculations. This is systematically enforced on both a start-of-day and intra-day basis.

Additionally, clearing members are not allowed to pledge more than 5% of the total number of outstanding shares of any one fund when posting money market fund assets as collateral.

Annually, OCC staff analyzes the adequacy of this concentration risk policy and presents its findings to the Risk Committee, which has the final authority to approve any change in the concentration risk threshold levels.

Key Consideration 5: *An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.*

OCC accepts Canadian government securities as collateral. This is the only form of cross-border collateral that OCC currently accepts. To account for the exchange rate risk, OCC applies an additional haircut. Canadian government securities accepted as collateral were subject to the same risk consideration acceptability analysis described above under Key Consideration 1.

Key Consideration 6: *An FMI should use a collateral management system that is well-designed and operationally flexible.*



Collateral is frequently exchanged between OCC and its clearing members. To manage this, OCC maintains an effective and comprehensive collateral management process that covers the end-to-end collateral flow. In order to ensure smooth operations under times of market stress, OCC's relies on automated processes and always maintains staffing levels adequate to support the system during peak utilization periods.

The Collateral Management System

OCC's collateral management system consists of several modules in ENCORE. It is highly automated and yet is flexible enough to accept a variety of collateral types and maintain the same performance, efficiency and effectiveness for each type. The system provides clearing members with an overview of their collateral inventory and value, margin requirements, margin deficits that are "rolled-up" from certain related accounts, and the excess/deficit balance of their margin accounts. The various modules also allow clearing members to view and manage their collateral inventory of cash, letters of credit, government securities, valued securities, specific deposits, escrow deposits and money market funds.

The system is designed to accommodate large numbers of automated transactions and is stress-tested annually as part of high volume system testing. The system is also designed to ensure that a clearing member is never allowed to go into a collateral deficit situation as the result of a collateral withdrawal or substitution, and it reports the excess or deficit status of each account in real-time. To ensure the system's continued high-quality performance, OCC conducts annual regression tests that assess various metrics around the performance of the system.

OCC requires a perfected security interest in the collateral pledged or delivered by clearing members. When interfacing with another FMU, OCC also may rely on legal pledge agreements to accomplish the same goal. Prior to implementing any custodial process dealing with either free-deliveries or pledges, OCC first analyzes the custodial processing, considering operational aspects of maintaining custody of the collateral and the manner in which OCC can perfect a security interest in the collateral considering any relevant bankruptcy laws.

Collateral deposits and withdrawals may be facilitated through ENCORE, and clearing members may substitute deposited collateral for other acceptable forms of collateral and request the release of cash from any account they hold with OCC, subject to OCC's ability to reject a withdrawal request in certain situations as specified in OCC's Rules.

Margin Call Management

If a clearing member does not meet a required margin call within one hour of notification by OCC, the clearing member is considered to be in default, and OCC would consider suspension and liquidation of the member's positions. This is carried out pursuant to OCC's Default Management Policy. In circumstances where the failure to settle within an hour is operational in nature – e.g., the transfer of the collateral to the bank was



delayed before settlement was approved – OCC may consider the technical default to be a violation of OCC's Rules, but it would not suspend the clearing member.

Portfolio Reconciliation

OCC performs daily balancing of collateral activity, utilizing reports generated by ENCORE, as well as activity reports provided by or retrieved from OCC's custodial or settlement banks. Additionally, systematic inventory discrepancy reports are produced daily, comparing collateral assets maintained in ENCORE to the inventory maintained in OCC's accounts at the applicable bank or depository. OCC additionally performs weekly audits of collateral to ensure that OCC's records are in balance with the collateral maintained in ENCORE. Any discrepancy identified is required to be immediately addressed.

Collateral Reinvestment Options

OCC invests margin and clearing fund cash collateral in overnight bi-lateral reverse repurchase agreements. As collateral to the trade, OCC receives 102% in U.S. government treasury securities. Interest proceeds from the investment are retained by OCC. Collateral reinvestment is also subject to OCC's Cash and Investment Management Policy, which is described in greater detail under Principle 16.

Collateral Rehypothecation and Substitution

OCC is only permitted to rehypothecate margin collateral for financing purposes when a clearing member has defaulted or OCC anticipates that there may be a default. OCC is permitted to rehypothecate Clearing Fund securities in order to access liquidity facilities to satisfy anticipated liquidity needs at the discretion of OCC's management. In the event that a member requests the release of a security that has been rehypothecated, OCC can initiate a substitution of securities with the provider of the liquidity facility, in order to make available the requested security.

Collateral Reporting

OCC systematically generates core end-of-day activity and inventory reports that are available to both clearing members and banks. Additionally, clearing members and banks can generate on-demand activity and inventory reports via ENCORE. Activity reports can be generated for current and historical data, and inventory data is current-day point-in-time reporting. In addition, inventory and transactional information can be viewed or exported via the collateral management system in ENCORE.

PRINCIPLE 6: MARGIN; SEC Rule 17Ad-22(e)(6)



A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

Proposed Rule 17Ad-22(e)(6) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to cover its credit exposures to its participants by establishing a risk-based margin system that is monitored by management on an ongoing basis and regularly reviewed, tested, and verified.

Key Consideration 1: *A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.*

STANS, or the System for Theoretical Analysis and Numerical Simulations, is OCC's proprietary risk management system that calculates clearing members' margin requirements. STANS utilizes large-scale Monte Carlo simulations to forecast price movement and correlations in determining a clearing member's margin requirement.¹⁸

OCC computes margin each day independently for each account maintained by a clearing member. Intra-day calls for additional margin also may be made on accounts incurring significant losses. Under the STANS methodology, the daily margin calculation for each account is based on full portfolio¹⁹ Monte Carlo simulations and is constructed conservatively to ensure a very high level of assurance that the overall value of cleared products in the account, plus collateral²⁰ posted to meet margin requirements, will not be appreciably negative at a two-day horizon.

OCC's margin methodology is set forth in OCC's STANS Margin Methodology Document, and a summarized version of which is made publically available on OCC's website. The interactive Risk Application, which is also available through OCC's ENCORE Clearing System, assists participants in estimating their margin obligations in accordance with this methodology.

Customer segregated futures accounts are held separately from securities customers' accounts and proprietary accounts and OCC utilizes the SPAN, or Standard Portfolio Analysis of Risk, margin calculation system instead of STANS for determining the initial margin requirements of such segregated futures accounts. This complies with CFTC rules that require OCC to margin all customer segregated futures accounts on a gross

¹⁸ The total margin requirement for an account is composed of two parts: (a) the Net Asset Value calculation or mark-to-market component, which is the cost to liquidate a position at current market prices; and, (b) the risk component, which provides a cushion to cover two-day market risk.

¹⁹ Long option positions held in a clearing member's (omnibus) securities customers' accounts for which a clearing member has not issued "spread" instructions pursuant to OCC Rule 611 (Segregation of Long Positions) are not given any value in OCC margin calculations for such account for investor protection reasons. As a result, these segregated long positions do not offset any short positions carried in such account. Proprietary accounts and market-maker accounts, in contrast, are margined on a net basis.

²⁰ Pursuant to the modeled approach, which is discussed above under Principle 5, equity securities and U.S. Treasury securities (excluding Treasury inflation-protected securities) that have been posted as collateral are included in the Monte Carlo simulations.



basis. Proprietary accounts and market-maker accounts, in contrast, are margined on a net basis. SPAN is a market simulation-based VaR system that calculates initial margin requirements for financial instruments and assesses the risk of a portfolio by calculating the maximum likely loss that could be suffered by the portfolio based on certain risk parameters, which include ranges of prices, volatility and other variables. While OCC uses SPAN to calculate initial margin requirements for each segregated futures account on a gross basis, OCC's Rules also require it to simultaneously calculate what the margin requirements would be for the account on a net basis utilizing STANS. If at any time OCC observes that the initial margin requirement for the account calculated under STANS on a net basis exceeds the requirement calculated under SPAN on a gross basis, OCC collateralizes this risk exposure by applying an enhanced margin requirement in the amount of such difference.

The time at which margin payments are due during a settlement cycle is clearly defined in OCC's Rules or in the specific instructions accompanying the margin call and is set and applied uniformly in Central Time. OCC maintains adequate controls and staffing to support clearing members and ensure that payment is made during each cycle. If a clearing member does not make a required margin payment by the specified deadline, the clearing member is considered to be in default and OCC may determine to suspend the clearing member and commence clearing member default procedures. These procedures are discussed in greater detail under Principle 13. In situations where a clearing member misses a deadline due to operational issues — e.g., the clearing member's collateral is delayed in being transferred to the bank before settlement is approved — OCC would deem such an event to be a "technical" default but would not necessarily suspend the clearing member or commence the default management procedures.

Key Consideration 2: *A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.*

OCC relies both on exchanges and data vendors for the price data used in its margin calculations. OCC manages its price data vendor relationships to ensure redundancy. This includes a preference for using multiple vendors for most products, including equity and index options and underlying interests, and the ability to use either exchange or vendor-provided data for proprietary products, including index and other cash-settled options and futures products. OCC also encourages the price vendors themselves to build infrastructure-redundancy into their pricing systems, by maintaining independent data feeds and processing capabilities in their primary and back-up data centers.

OCC has automated and manual processes to review and edit price data to ensure price data integrity. OCC may override price data following a comparison to a third-party data source, after consultation with the exchanges or after comparison to surrounding contracts and prior day pricing. Pursuant to the Rules, OCC has the authority to modify prices or fix prices on its own, in the event a price, variance or other value that is used as, or to determine, a contract's final settlement price is unreported, inaccurate, unreliable, unavailable or inappropriate for such use.



Key Consideration 3: *A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the subportfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilizing, procyclical changes.*

STANS Model Design

Initial margins, except with respect to segregated futures accounts, are calculated using the STANS margin methodology. STANS is a data-driven methodology, which relies heavily on robust historical price data to model the volatility of a product in addition to the correlation among different products. STANS methodology utilizes Monte Carlo simulations of portfolio values at a 2-day risk horizon, based on the behavior of approximately 7,000 risk factors affecting values of clearing member accounts. STANS assumes a 2-day closeout period for all products, because OCC believes it is appropriate for all products it margins through the STANS system. The standard historical data period used for econometric estimation is 500 business days, with limited allowance for missing observations. For its current purposes, OCC believes this 500 business days historical data sample is the optimal size.

The primary risk factors utilized in the STANS methodology are total returns and proportional changes in representative implied volatilities on about 7,000 individual equity securities. Other risk factors considered include: (i) returns and implied volatilities on equity indices, (ii) changes in the calibrated coefficients of a model describing the yield curve for U.S. government securities, (iii) "returns" on the nearest-to-expiration futures contracts of various kinds; and, (iv) changes in foreign exchange rates. For the volatility of each risk factor, the Monte Carlo simulations use the greater of: (i) the short-term volatility level predicted by the model; and (ii) an estimate of its longer-run level. In between the monthly re-estimations of all the models, volatilities are automatically re-scaled by a "uniform scale factor" based on the greater of the short-term or the longer-run levels to mitigate procyclicality in the margin levels.

The "base component" of the margin requirement for each account is obtained from the risk measure known as 99% expected shortfall. The 99% expected shortfall exceeds the 99% VaR in that the expected shortfall accounts for tail-end risk and effectively serves as a weighted average of the exposures between the 99% VaR and the 100% VaR levels. As a result, the base component serves to ensure that STANS



continuously satisfies the requirement that initial margins exceed a confidence level of 99%.

The base component is adjusted by the addition of a “stress test component.” The stress test component is obtained from consideration of the increases in the expected shortfall that would arise from: (i) market movements that are especially large and/or in which various kinds of risk factors would exhibit perfect or zero correlations, instead of the correlations otherwise estimated from historical data; or (ii) extreme adverse idiosyncratic movements in individual risk factors to which the account is particularly exposed.

Several other additional components of the overall margin requirement exist, but are considerably smaller than the base and stress test components, and many of them affect only a minority of accounts.

SPAN Model Design

OCC calculates the initial margin requirements for segregated futures accounts using SPAN. SPAN is a market simulation-based methodology that calculates initial margin requirements for a wide variety of financial instruments including futures, options, physical commodities, equities, or any combination of these instruments. SPAN assesses the risk of a portfolio by calculating the maximum likely loss that could be suffered by the portfolio based on SPAN risk parameters set by an exchange or DCO. These risk parameters, known as “scan ranges,” include ranges of prices, volatility and other variables. Using these scan ranges, SPAN simulates a certain number of market scenarios, known as “risk scenarios,” and calculates a “SPAN risk array,” which is a set of numerical values that indicate how a particular contract is expected to gain or lose value under the various risk scenarios. The risk array representing the maximum likely loss to a portfolio is then used to determine margin requirements. OCC sets the SPAN scan ranges for cleared contracts held in segregated futures accounts based on a review of both two years and five years of two-day daily returns that will be analyzed for each tenor of cleared contract. The time-series generating the larger scan range is selected to mitigate procyclicality.²¹ In the event that a sufficient daily return history is unavailable, OCC utilizes the model output returns produced by STANS to set the SPAN scan ranges. Scan ranges are initially set to provide coverage for a minimum 99% confidence level. OCC uses the price history from the futures exchange that lists a particular contract to establish the minimum margin threshold. In the event that a contract is listed by a futures exchange that is economically equivalent to another futures exchange’s contract, OCC uses the SPAN parameters from the primary market to establish the minimum margin threshold.

OCC resets the minimum SPAN scan ranges on an at least quarterly basis. OCC continuously assess the current SPAN scan ranges by comparing changes in

²¹ For certain products OCC will utilize daily price returns and may also adjust for seasonality. This approach is utilized where the standard industry practice for economically equivalent products traded on multiple market centers.



settlement values to the established SPAN scan ranges on a daily basis and updating scan ranges as needed based on established procedures.

On an annual basis, OCC reviews the adequacy of its margin methodology, including both STANS and SPAN, and reports findings and recommendations to the Risk Committee. The Risk Committee is responsible for approving any changes to the methodology prior to its implementation.

Key Consideration 4: *A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.*

OCC utilizes the Portfolio Revaluation System within ENCORE to revalue clearing member portfolios throughout the day to calculate updated account NAV. In order to protect against extreme intra-day market volatility, OCC's Rules grant it the authority to issue intra-day margin calls. OCC notifies by phone each clearing member who is in a deficit condition as a result of an intra-day margin call and instructs the clearing bank to debit funds from such clearing member's account and credit OCC's account. The clearing member must satisfy the deficit within one hour. Generally speaking, margin calls are issued between 11:00 AM and 1:30 PM, when unrealized losses are observed for an account, based on start-of-day positions, exceeding 50% of that account's total risk charges. Margin calls are subject to a minimum value of \$25,000. Margin calls during this window must be approved by an officer of OCC. Margin calls outside of this window must be approved by the Executive Vice President—Risk Management, the Chief Risk Officer, the President & COO or the Executive Chairman.

Additionally, OCC may issue "holiday" margin calls when markets are open, but OCC or banks are closed, to collect additional margin prior to the holiday.

Key Consideration 5: *In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorized to offer cross-margining, they must have appropriate safeguards and harmonized overall risk-management systems.*

OCC's margin methodology permits the offsetting of unsegregated long and short options within the same series on a contract-for-contract basis to arrive at a net long or net short contract quantity to be used in the margin calculation. The STANS system also incorporates risk-based offsets between product-pairs for which, based on its Monte Carlo simulations, STANS has found a correlation between the risk of one product and the risk of the other. As described above under Key Consideration 3, the STANS methodology – and consequently any correlations it detects that result in a risk-based offset – incorporates a stress test component, and OCC may collect additional margin in response to the stress test results.



CFTC rules prohibit OCC from netting positions of different customers against one another or allowing any risk offset between positions of different customers in segregated futures accounts.

Cross-Margining Programs

OCC has established cross-margining programs with two Participating CCOs: CME and ICE Clear US, Inc. These arrangements are also discussed under Principle 20 and Key Consideration 3 of Principle 3. OCC uses the term “cross-margining program” to mean an arrangement whereby a clearing member can elect to combine positions in certain securities derivatives regulated by the SEC with positions in futures products regulated by the CFTC in order to permit the calculation of a single margin requirement for the clearing member across the jurisdictional boundary based upon the net risk of positions that may be hedging or offsetting each other. Cross-margining increases the pricing efficiency and liquidity of options and futures markets while decreasing the over-collateralization of inter-market hedged position risk at the clearinghouse level. Each cross-margining arrangement is governed by a cross-margining agreement between OCC and the Participating CCO, and a list of products eligible for cross-margining is maintained on OCC’s website.

OCC’s cross-margining agreements with each Participating CCO provide that both OCC and the Participating CCO may each use its own margin program to calculate a margin requirement on a clearing member’s cross-margining account and the required margin will be the higher of the two numbers or they may elect to rely on the margin calculation of one of them. Either clearing organization may call for additional margin at any time if it deems such a call to be prudent. In practice, the clearing organizations work cooperatively to harmonize their respective margin procedures in ways that both clearing organizations agree are prudent and not excessive.

Internal Cross-Margining Program

OCC is both a DCO and a registered securities clearing agency, and therefore also maintains an “internal cross-margining program” permitting the cross-margining of certain SEC-regulated products cleared by OCC with CFTC products also cleared by OCC. In the case of proprietary positions of a clearing member, cross-margining is essentially automatic since proprietary accounts of a clearing member are not subject to segregation requirements, and proprietary positions of a clearing member in both SEC- and CFTC-regulated products can be carried in the clearing member’s “firm” account at OCC. However, because segregation requirements ordinarily prohibit the combining of the property of securities and futures customers, a special “internal cross-margining” account must be established on the books of OCC and conducted according to applicable orders of the respective regulatory agencies. These accounts are treated for regulatory purposes as futures accounts and limited to the activity of market professionals.



In all of OCC's cross-margining programs, margin offsets are provided only where OCC's margin systems show sufficient risk offset from related positions on opposite sides of the market to justify a lower margin requirement.

Key Consideration 6: *A CCP should analyze and monitor its model performance and overall margin coverage by conducting rigorous daily backtesting – and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model's coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.*

Daily Backtests

OCC conducts daily backtests for each margin account, analyzing in detail all accounts showing excessive losses. The purpose of these backtests is to statistically verify or falsify the basic risk-covering assumptions used by STANS.

A secondary purpose of the backtest is to find potential problems and deficiencies with OCC's risk-assessment process. Such problems may involve both technical and model-related issues. For example, technical problems may include issues such as product set-ups, contract adjustments due to corporate actions or dividend and coupon payments. Model-related problems may include issues such as the accuracy or adequacy of pricing models, price-editing functions, estimated univariate distributions or missing model components such as implied volatility or interest rates.

All accounts experiencing total margin exceedances are analyzed in detail by OCC's Financial Risk Management Department to determine possible and probable causes for the exceedances. The Risk Application, various providers and vendors of market data and other tools are used in the analysis. OCC's Quantitative Risk Management Department is responsible for reporting any identified unique or systematic problems to the responsible business units on a timely basis.

OCC tracks reoccurring exceedances in member accounts and any model related causes. Quantitative Risk Management analyzes all exceedances of total margin for clearing member accounts and also statistically analyses VaR exceedances on a model and product basis. These findings are presented monthly to Risk Management Department leadership. Models that indicate statistically significant exceedances rates and have material open interest are flagged for in-depth analysis by the Quantitative Risk Management Department.

Reporting Backtest Results

Daily backtesting results are accumulated for the preparation of monthly, quarterly, and yearly reports. At least annually, OCC also reviews the overall adequacy of OCC's



margin methodology. The analysis behind these assessments is presented to the Risk Committee for evaluation and, to the extent the analysis reveals any inadequacies or unexpected results, any proposed changes to the methodology are subject to the Risk Committee's approval.

Key Consideration 7: *A CCP should regularly review and validate its margin system.*

OCC's Model Validation Group is tasked with overseeing model validation, evaluating model assumptions and mitigating factors and ensuring effective and independent challenges are made to the models. The mission of the Model Validation Group as the "second line of defense" in the enterprise risk management framework is to provide an independent assessment of OCC's quantitative risk models, including the models underlying OCC's margin system.

Before any new or modified model is implemented, the Model Validation Group first certifies that it has sufficiently reviewed the model's performance in relation to its intended use and that OCC's assumed level of risk is adequately mitigated. Specifically, the model validation process involves three key elements:

- **Evaluation of conceptual soundness, including development evidence.** This involves the Model Validation Group testing the underlying assumptions that comprise the model to determine if the model is designed in accordance with its intended purpose;
- **Ongoing monitoring, including process verification and benchmarking.** After the model is deployed, the Model Validation Group monitors it on an ongoing basis to determine that it is performing as intended; and
- **Outcome analysis, including backtesting.** The outcome of the model is examined to determine whether or not the model has been implemented correctly and to judge whether or not the model is performing as intended. This involves model validation backtesting, where actual outcomes are compared against model forecasts during a sample period not used in the model development process.

OCC also performs a formal monthly review of the margin and clearing fund parameters in order to comply with SEC Rule 17Ad-22. Validation activities continue on an ongoing basis after a model goes into use, to track known model limitations and to identify any new ones. The Model Validation Group conducts a periodic review, at least annually, of each model to determine whether it is working as intended and if the existing validation activities are sufficient. The Model Validation Group sets forth the results of the model assessment in a report that is submitted to the Chief Risk Officer and that contains observations and recommendations for model improvement and risk mitigation.

PRINCIPLE 7: LIQUIDITY RISK; SEC Rule 17-Ad-22(e)(7)

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day



and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

Proposed Rule 17Ad-22(e)(7) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to effectively measure, monitor, and manage the liquidity risk that arises in or is borne by it, by meeting, at a minimum, the ten specified requirements.

Key Consideration 1: *An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers and other entities.*

As a registered clearing agency with the SEC and a registered DCO with the CFTC, OCC is required to manage its liquidity risks pursuant to certain provisions of the Exchange Act and the CEA and the rules thereunder.²² As a framework to satisfy these requirements and help ensure that OCC properly manages its liquidity risks, OCC maintains a Liquidity Risk Management Policy, which is approved annually by the Risk Committee of OCC's Board of Directors.

Key Consideration 2: *An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.*

OCC's liquidity needs may generally be separated into those related to maintaining day-to-day operations as a going-concern and those related to meeting its guaranteed settlement obligations in the event of a clearing member default. In connection with its operational activities, OCC has an obligation to fund its going concern requirements and maintain contingent capital in this respect in accordance with CFTC Rule 39.11 and would also be required to do so under proposed SEC Rule 17Ad-22(e)(15). Retained earnings that serve as working capital are generated from clearing fees, and OCC is not permitted to include them as part of the waterfall of financial resources dedicated to support OCC's settlement guarantee to the extent they support compliance with CFTC Rule 39.11(a)(2) or proposed SEC Rule 17Ad-22(e)(15). Instead, the resources are managed separately to satisfy OCC's operating expense obligations. These liquidity requirements must be satisfied in the form of cash or equity capital and are currently being satisfied through OCC's working capital.

OCC complies with CFTC Rules 39.11(a)(2) and 39.11(e)(2), which require it to maintain financial resources sufficient to cover its operating expenses for at least one year, and that such resources include unencumbered, liquid financial assets equal to at least six month's operating expenses. These resources are not included in calculations of the financial resources supporting OCC's risk management needs and are managed

²² See e.g., 15 U.S.C. 78q-1; 17 CFR 240.17Ad-22(b)(1), (3), (d)(2), (3) and (5); 7 U.S.C. 7a-1(c)(2)(B), (D), (E) and (F); 17 CFR 39.11.



separately to satisfy OCC's requirement as a DCO under CFTC Regulation 39.11 to be able to cover its operating costs for a period of at least twelve months on a rolling basis, including unencumbered, liquid financial assets equal to at least six months' worth of those operating expenses. While OCC is authorized to utilize these resources for risk management purposes, it can only do so to the extent that it remains in compliance with these regulatory requirements with respect to its maintenance of liquid assets covering its operating costs. OCC also complies with SEC proposed Rule 17Ad-22(e)(15), which would require OCC to hold liquid net assets funded by equity equal to the greater of either (i) six months of OCC's current operating expenses, or (ii) the amount determined by the Board to be sufficient to ensure a recovery or orderly wind-down of critical operations and services of OCC.

The primary risk OCC faces from a liquidity perspective results from a clearing member failing to honor settlements to OCC that are owed by OCC to other clearing members. OCC operates a single net settlement process with all settlements occurring in the morning. This morning settlement is comprised of the settlement of trade premiums, variation settlements (e.g., mark-to-market settlements) and cash settlements related to expiring options.

To track and measure liquidity risk due to clearing member default, OCC has developed a risk framework that includes the assessment of its exposure to each of the following risk factors: (i) trade premium funding, (ii) variation margin funding, and (iii) expiration settlement funding. OCC's liquidity position is measured by comparing, on the one hand, available liquidity from its committed credit facilities, cash or letters of credit deposited as margin by the clearing member generating the liquidity demand, clearing fund cash with, on the other hand, required liquidity related to forecasted cash settlements from trade premiums, expiration processing of cash settled options, and mark-to-market settlements on stock loan or futures contracts over a rolling two day period. As part of this analysis, OCC excludes margin deficits because failure to deposit margin is considered a credit exposure as opposed to a liquidity exposure because margin is not tied to a payment obligation by OCC. OCC also excludes any resources that may be obtained by OCC under its liquidity contingency funding plan, which requires OCC to obtain additional liquidity through tri-party repo transactions and cash or cash equivalent margin deposits if OCC's committed credit facilities fall below procedurally defined thresholds. This exclusion is designed to ensure that OCC is able to rely exclusively on its committed liquidity resources.

A secondary liquidity risk that OCC may also face concerns the potential failure of a commercial bank to fund committed credit facility draw, OCC mitigates this risk by including stress tests that cover this scenario in its stress testing framework. OCC also monitors the operations of all banks with which it does business as part of its ongoing financial surveillance program. Commensurate with risks presented by settlement banks, OCC's risk management personnel may determine that a bank may need to be placed on a higher watch level and OCC's management also has authority at its discretion to limit business with a settlement bank.



Key Consideration 3: *A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.*

OCC does not operate as a payment system or a securities settlement system, so this Key Consideration does not apply.

Key Consideration 4: *A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.*

OCC maintains sufficient liquid resources in all relevant currencies to effect daily settlement of all payment obligations on time with a high degree of confidence, and cover a wide range of stress scenarios that include the default of the clearing member and its affiliates that would generate the largest aggregate liquidity obligation in extreme but plausible market conditions. As noted, to track and measure liquidity risk due to clearing member default, OCC employs a risk management framework that includes the assessment of its exposure to each of the following risk factors: option premium funding; variation payment funding for futures and stock loan contracts and settlement funding related to expirations

OCC determines its need for immediate access to liquidity by examining potential liquidity needs under a variety of hypothetical default scenarios, including a default by the clearing member and its affiliates to which OCC has the largest exposure. Other default scenarios are also considered, including estimating the liquidity that would be necessary to close out and liquidate a defaulting clearing member's portfolio. Generally speaking, however, the highest projected liquidity demands consistently arise within scenarios where it is assumed that a clearing member defaults prior to meeting its settlement obligations associated with option premiums and cash proceeds associated with index options exercised at expiration.

OCC's strategy to address its liquidity needs utilizes a tiered approach that includes: (1) committed credit facilities sized to cover peak liquidity demands, (2) access to uncommitted liquidity to cover forecasted liquidity demands in excess of committed



facilities, for example through securities lending and repo markets; and (3) funding requirements under OCC's Rules that permit OCC to draft a clearing member in advance for cash if projected liquidity demands for that clearing member exceed OCC's committed and drawn upon uncommitted liquidity resources. With respect to the size of its available credit facilities, OCC currently maintains two credit facilities:

- \$2.0 billion secured revolving credit facility to provide OCC with liquidity to meet settlement obligations as a central counterparty to the options market. Upon making any borrowings under the facility, OCC will grant the lenders a security interest in U.S. or Canadian government securities. OCC may use proceeds of the facility only: (i) to meet obligations related to the default or suspension of a clearing member and (ii) to reimburse itself for losses by reason of the failure of a bank or securities or commodities clearing organization to perform an obligation to OCC because of its bankruptcy, insolvency, receivership, suspension of operations or similar event.
- Up to \$1.5 billion secured non-bank liquidity facility to provide OCC with liquidity to meet settlement obligations as a central counterparty to the options market. Under the facility, OCC would enter into a repurchase transaction with a counterparty in order to obtain cash for U.S government securities. OCC may use proceeds of the facility only: (i) to meet obligations related to the default or suspension of a clearing member and (ii) to reimburse itself for losses by reason of the failure of a bank or securities or commodities clearing organization to perform an obligation to OCC because of its bankruptcy, insolvency, receivership, suspension of operations or similar event.

OCC provides the ERM and Risk Committee with a review of historical peak liquidity demands along with additional trending and forecasted information, including stressed market periods, serves as the basis for OCC's recommendation to the Risk Committee concerning the amount in committed credit facilities that should be sourced on a commercial basis to provide a base liquidity level over the next year. In the interest of structuring committed credit facilities with a strong likelihood of being funded even in stressed market conditions, participation is sought by lending participants that have a high level of creditworthiness and that represent a diverse group of lenders.

Key Consideration 5: *For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.*



OCC's minimum liquidity resource requirement is determined according to its largest liquidity need as described immediately above in Key Consideration 4, which includes the default of the clearing member and its affiliates that would generate the largest aggregate liquidity obligation in extreme but plausible market conditions. OCC's strategic liquidity plan to address that liquidity need is consistent with the qualifying liquid resources specified in Key Consideration 5 in that OCC relies on committed credit facilities, cash from its Clearing Fund, and OCC's Rules that permit OCC to draft a clearing member in advance for cash if projected liquidity demands for that clearing member exceed OCC's committed and drawn upon uncommitted liquidity resources. As a SIFMU, OCC may be eligible to receive discount and borrowing privileges from a Federal Reserve Bank under unusual or exigent circumstances. However, for purposes of meeting its minimum liquid resource requirement, OCC does not count any liquidity that might be available as a result of this potential access.

Key Consideration 6: *An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as part of its liquidity plan.*

OCC is in the process of pursuing additional resources as part of its liquidity plan that would supplement its qualifying liquid resources. Specifically, OCC is pursuing access to uncommitted liquidity through securities lending and repo arrangements to cover forecasted liquidity demands in excess of its committed facilities and is discussing these plans with its regulators.²³ These resources would be in addition to, and not count as part of, its required qualifying liquid resources.

Key Consideration 7: *An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.*

OCC periodically, but no less than annually, performs test draws on its committed liquidity resource facilities to assess their performance and reliability. OCC also maintains its liquidity resources only at banks that meet certain standards of creditworthiness, and invests cash resources in overnight investments in highly

²³ This policy is subject to regulatory approval and implementation.



marketable collateral as prescribed in the investment policy maintained by OCC. OCC monitors the financial and operational performance of its liquidity providers and banks as outlined in OCC's Bank Relationship Policy.

Key Consideration 8: *An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.*

On July 18, 2012, OCC was designated as a SIFMU by FSOC. As part of this designation, OCC is eligible to receive discount and borrowing privileges from a Federal Reserve Bank under unusual or exigent circumstances pursuant to Section 806 of Title VIII of Dodd Frank. OCC does not consider its eligibility for such central bank borrowing privileges as a necessary part of its liquidity plan to meet its liquidity needs. However, OCC has filed an application with the Federal Reserve System to access to a central bank account, in accordance with Federal Reserve Regulation HH, as a means of reducing custody risk.

Key Consideration 9: *An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.*

OCC forecasts its liquidity risk by measuring and forecasting daily settlement activity under normal and stressed market conditions, for example with respect to trade premiums, variation settlements, and settlements resulting from the expiration of derivatives contracts, and measures these results against the liquid resources maintained to meet these observed peak settlements generated by a clearing member or group of affiliated clearing members.

The analytic forecasts used in OCC's stress testing focus on historical data as well as stressing current positions under hypothetical extreme but plausible market scenarios. OCC also considers certain ad-hoc stress tests and reverse stress tests that are intended to challenge OCC's liquidity resources. For example, OCC's liquidity policies and procedures include provisions that exclude liquidity resources provided by affiliated entities of a clearing member group driving the largest liquidity forecasts by assuming



the simultaneous default of the related entities. Other examples of stress tests OCC may consider include extended close-out periods and multiple clearing member defaults.

Each month, the results of the stress tests are reported to the Enterprise Risk Management Department and are reported regularly to the Risk Committee.

Key Consideration 10: *An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.*

OCC operates a single net settlement process with all settlements occurring in the morning. The cash settlement process involves debiting the bank accounts of clearing members for amounts owed to OCC prior to the settlement time for such payments and crediting the bank accounts of clearing members for amounts owed to the clearing member at or prior to the settlement time for such payments.

OCC's primary resource to ensure that it will be able to fulfill its settlement obligations with respect to its available financial resources are its committed credit facilities. OCC relies on committed credit facility providers to provide OCC with immediate access to liquidity in the event of a clearing member suspension or a failure of a bank or other securities or commodity clearing organization to meet an obligation owing to OCC.

In the event of a clearing member default that results in charges against the Clearing Fund, OCC requires each clearing member to replenish up to 100% of its then required contribution. Specifically, Article VIII, Section 6 of the By-Laws (Making Good of Charges to Clearing Fund) provides that whenever an amount is paid out of a clearing member's contribution, whether because of a proportionate charge against all clearing members or to satisfy a clearing member's obligations from its own contribution, the clearing member is liable to make good the deficiency in its Clearing Fund contribution resulting from such payment. This allows OCC replenish its liquidity resources that were employed during a stress event.

PRINCIPLE 8: SETTLEMENT FINALITY; SEC Rule 17Ad-22(e)(8)

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

Proposed Rule 17Ad-22(e)(8) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to define the point at



which settlement is final no later than the end of the day on which the payment or obligation is due and, where necessary or appropriate, intraday or in real time.

Key Consideration 1: *An FMI's rules and procedures should clearly define the point at which settlement is final.*

OCC maintains a Settlement Policy that sets forth the procedures governing settlement of the different products OCC clears. OCC conducts cash settlement between itself and its clearing members at least once each business day for each account of each clearing member in which a cash payment is due to or from the clearing member.

Cash Settlement

OCC uses commercial banks to facilitate cash settlement with its clearing members. Clearing members are required as part of the onboarding process to select an approved settlement bank(s) through which to facilitate cash settlement. OCC's relationship with each of its approved settlement banks is governed by a CSPA, which follows a standard form. Pursuant to the CSPA and OCC's Rules, OCC issues "settlement instructions" to the settlement bank to credit or charge the account of a clearing member, and correspondingly to charge or credit OCC's account, with a specific dollar amount. Settlement finality occurs when the settlement bank either: (1) approves the settlement instruction; or (2) is silent, past a specified deadline as provided within the CSPA.

OCC relies on the enforceability of the CSPA to ensure that settlement finality is achieved in all relevant jurisdictions with a high degree of legal certainty.

NSCC Settlement—Physically-Settled Stock Options and Futures

OCC's Rules provide that delivery of, and payment for, securities underlying physically-settled stock options and single stock futures cleared by OCC are effected through the facilities of a correspondent clearing corporation. Accordingly, settlement obligations arising from the exercise or assignment of stock options and the maturity of stock futures are ordinarily reported by OCC to NSCC and settled within NSCC's Continuous Net Settlement system. OCC's Rules (in the case of stock options and stock futures) and its agreement with NSCC (in the case of stock options) specify the time at which responsibility for the settlement passes from OCC to NSCC. Thereafter, settlement finality is governed by NSCC's – and not OCC's – rules and procedures.

Clearing Bank Settlement—Treasury Futures

The settlement of physically-settled Treasury futures is facilitated through delivery advices initiated at one or more of the clearing banks. Treasury futures settlement is finalized once the physical delivery of treasury securities settles on a delivery-versus-payment basis between clearing members at the clearing bank. The banks used for the delivery settlement are selected by the clearing members and are not subject to OCC's



approval. Each clearing member can provide OCC with one or more banks for use in the settlement process and can designate one as its preferred default settlement bank.

FICC Settlement—Treasury Options

Settlement obligations resulting from exercise or assignment of single CUSIP U.S. Treasury options can be settled via FICC. To facilitate these deliveries, clearing members review details provided by OCC-generated reports and submit matching trades to FICC for inclusion in FICC's settlement process. After the match occurs, FICC guarantees settlement of the transaction, and OCC has no further obligation. As final settlement is carried out through FICC's facilities, settlement finality is governed by FICC's – and not OCC's – rules and procedures.

Key Consideration 2: *An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.*

Pursuant to OCC Rule 502 (Daily Premium and Futures Variation Settlement), each clearing member is required to pay to OCC prior to the settlement time for such payments the amount of any net daily premium and variation payments due to OCC for each of such clearing member's accounts on that day. Cash amounts due from OCC to clearing members in each account are paid at or prior to the settlement time for such payments on each business day. These regular daily settlements also include exercise settlement amounts due to or from clearing members in respect of exercise settlement of cash-settled options and any other cash payments due to or from the clearing member on the same business day. Such payment rights and obligations are generally netted as permitted by OCC's Rules, though OCC may require any clearing member to pay the *gross* amount due to OCC in respect of all of its confirmed trades reaching settlement on that business day without credit for amounts payable to the clearing member. OCC is authorized to withdraw funds due to OCC from the clearing member's bank account. Intra-day variation settlements with respect to some or all classes of futures may be effected from time to time or regularly on each business day as determined by OCC and as communicated to the affected clearing members by OCC.

Key Consideration 3: *An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.*

Daily cash settlements between OCC clearing members and OCC are ordinarily made at the direction of OCC and not at the direction of the clearing member. Clearing members have no right or power to revoke a payment instruction the bank has become obligated to make pursuant to the terms of the CSPA, as described above under Key Consideration 1, or to reverse a payment that has been completed. Similarly, under the terms of OCC's Rules, its agreements with custodian banks or under the rules of DTC, once securities have been transferred (or pledged) to OCC's accounts they only may be returned to the depositing clearing member upon OCC's approval.



PRINCIPLE 9: MONEY SETTLEMENTS; SEC Rule 17 Ad-22(e)(9)

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Proposed Rule 17Ad-22(e)(9) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to ensure it considers conducting its money settlements in central bank money, where available and determined to be practical by the board of directors of OCC, and minimizes and manages credit and liquidity risk arising from conducting its money settlements in commercial bank money if central bank money is not used by OCC.

Key Consideration 1: *An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.*

If OCC is granted an account at a Federal Reserve Bank, OCC will evaluate the use of this account for conducting money settlements. Currently OCC conducts money settlements through approved commercial banks.

Key Consideration 2: *If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.*

OCC conducts its money settlements using commercial bank money, denominated in the currency of the underlying product, which is the U.S. Dollar. Using commercial bank money ensures that the financial obligation is met with minimal credit or liquidity risk.

Key Consideration 3: *If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalization, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.*

In order to manage the credit and liquidity risk that arises from using commercial settlement banks, OCC maintains procedures providing for the ongoing monitoring of all such banks. This includes ongoing monitoring for compliance with certain operational and financial requirements, as well as applying the Bank Watch Level framework, which provides for enhanced scrutiny upon the occurrence of certain events signaling the deteriorating of a bank's financial condition. OCC pays special attention to banks that have significant or repeated operational incidents, as well as banks that have triggered heightened surveillance under the Bank Watch Level framework.

Ongoing Operational Monitoring



OCC requires all banks to continue to satisfy the minimum operational requirements described above under Key Consideration 1. OCC's monitoring includes the following components:

- Monitoring of daily processing of all cash and securities activity;
- Monitoring of the timeliness of settlement approvals, operational difficulties a bank has using OCC's Online Cash Settlement system or fax capabilities, and any settlement activities performed by the bank that are contrary to the CSPA;
- Monitoring of the cash movements between banks and the processing accuracy of transactions, including reviewing for duplicate debits and credits applied by the bank and any other bank errors;
- Evaluation of the responsiveness of the bank to general questions or requests;
- Monitoring of the availability of the banks proprietary banking systems for initiating wire transfers and performing real-time account balance reporting; and
- Obtaining the most recent annual Standards for Attestation of Engagements No. 16 SOC report (type I and type II) from the bank to determine if its controls are designed appropriately and operating effectively, specifically the controls related to the service the bank is providing to OCC.

OCC seeks to remediate with the relevant bank any operational issues discovered through the monitoring process, including, but not limited to, bank errors, late settlement approvals, late funding by credit facility and securities financing banks and bank systems not working. These operational issues and the remediation performed by the banks are documented and maintained by OCC. Certain issues, such as late settlements and the movement of collateral without OCC's instruction or any other significant bank operational issues, are reported immediately. Each month, OCC internally discusses any operational problems presented by the banks from the prior month.

OCC staff conducts an annual review with the banks, focusing on operational performance from the prior year. For settlement banks, this review is performed onsite at the bank. The discussion includes a review of the bank's performance, as well as any system changes, fee increases or general changes the bank may be anticipating, that would affect OCC's relationship with the bank.

Ongoing Financial Monitoring

OCC conducts additional monitoring of banks' financial and other related requirements including, but not limited to, the following:



- All banks' financial reports are monitored against OCC's Bank Watch Level framework, which includes parameters for capital ratios, credit ratings and profitability, among others;
- General market news and events, as well as common stock and credit default swap prices, are monitored for any potential impact on the creditworthiness of the bank; and
- Aggregate bank/depository exposures are reported as needed, but no less than monthly. These reports include a breakdown by exposure type and cross-exposures, which typically include custodial collateral balances, credit extensions, settlement activity, and affiliated clearing member margin and uncollateralized position risk exposures.

The above information may lead to an elevation of the bank's watch level and/or monthly reporting to OCC's management, which may result in a limitation on or reduction in exposures and/or other protective measures deemed necessary at OCC's sole discretion. OCC's management and the Risk Committee are informed of violations of the Bank Watch Level parameters, depending on severity.

OCC has established risk management policies regarding the selection of settlement banks. Banks being considered for a new type of relationship with OCC are required to submit to a formal evaluation that includes a review of the bank's: (1) ownership, structure, headquarters location and background; (2) scope of activity with OCC; (3) financial and credit data; (4) registration in the U.S. and with bank regulators; (5) current credit rating; and, (6) proof of access to the Federal Reserve Bank's Fedwire Funds Transfer Service, as necessary.

Prospective settlement banks also are required to meet certain operational and financial requirements.

Operational Requirements for Settlement Banks

OCC staff conducts a review of the applicant's intended activity, staffing and system capabilities to determine if the bank satisfies its operational requirements. The type of relationship being considered influences the scope of the operational review. Pursuant to the operational requirements, the settlement bank is required to:

- maintain adequate staff to perform the services requested, including sufficient staffing and systems to address operational issues;
- maintain detailed business continuity and recovery and resolution plans;
- perform an Office of Foreign Assets Control check; and
- have received an unqualified opinion on the bank's most recent Standards for Attestation of Engagements No. 16 Service Organization Control.



OCC relies on its Rules and requires each clearing member to provide OCC with an “authorization to draft” form to ensure that it has the legal authority to obtain prompt access to the assets held at the bank.

Settlement banks are required to have access to the Federal Reserve Bank’s Fedwire Funds Transfer Service in addition to possessing all operational capabilities discussed in the CSPA, including the ability to meet settlement timeframes outlined in the CSPA. Settlement banks also are required to be able to provide OCC with daily account balances.

Financial Requirements for Settlement Banks

All prospective settlement banks are required to meet certain financial criteria. OCC reviews the bank’s organizational structure and ownership, financial condition/capital ratios and intended activity with OCC. Banks are evaluated against minimum requirements as well as early warning indicators described in OCC’s Bank Watch Level framework. OCC also assesses the bank’s capital adequacy per the Federal Reserve’s Prompt Corrective Action framework. Additionally, OCC staff:

- review the bank’s financial reports, whether annual or more frequent;
- compare anticipated levels of exposure relative to the bank’s total risk-based capital to gauge the applicant’s financial wherewithal;
- assess concentration risk; and
- analyze cross-exposures with other approved banks and clearing members.

Settlement Bank Approval

Based on the above completed tasks, a Bank Relationship Consideration Memo is prepared, summarizing all material information gathered during the review process. The President & COO or Executive Chairman must approve in writing any new relationship with a settlement bank.

Key Consideration 4: *If an FMI conducts money settlements on its own books, it should minimize and strictly control its credit and liquidity risks.*

OCC conducts all cash settlements through its commercial settlement banks, so this Key Consideration is not applicable.

Key Consideration 5: *An FMI’s legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.*



As discussed in Principle 8, each CSPA between OCC and a settlement bank clearly identify the time at which settlement finality and irrevocability occurs.

PRINCIPLE 10: PHYSICAL DELIVERIES; SEC Rule 17Ad-22(e)(10)

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

Proposed Rule 17Ad-22(e)(10) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to establish and maintain transparent written standards that state its obligations with respect to the delivery of physical instruments and operational practices that identify, monitor, and manage the risk associated with such physical deliveries.

Key Consideration 1: An FMI's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.

OCC clears physically-settled stock and Treasury options, as well as physically-settled futures on stocks and Treasury securities.²⁴ The obligations of delivering and receiving clearing members are clearly set forth in OCC's Rules. Specifically, Chapter IX of OCC's Rules (Delivery of Underlying Securities and Payment) governs the delivery of stock upon exercise of a physically-settled stock option contract or maturity of a physically-settled stock futures contract. Exercise settlement for physically-settled stock futures is further governed by OCC Rule 1302 (Delivery of Underlying Securities). OCC Rule 1403 (Exercise Settlement of Treasury Securities Options) governs the delivery of Treasury securities upon exercise of physically-settled Treasury options. Rules governing the settlement of physically-settled metals futures, and Treasury futures can be found in OCC Rules 1302A (Delivery of Underlying Metals) and 1302B (Delivery of Underlying Treasury Securities), respectively.

OCC's Rules require that settlement upon exercise of physically-settled options, maturity of physically-settled futures, or settlement of stock loan transactions, be made as follows for:

- stock options and stock futures, through the facilities of NSCC;
- Treasury options, through the facilities of the FICC;
- Treasury futures, directly between the clearing members through means of correspondent banks;
- metals futures, through delivery of vault receipts using the facilities of the

²⁴ OCC has rules that support the physical settlement of futures on metals but does not presently clear these contracts.



relevant exchange; and

- stock loans, through the facilities of DTC, unless OCC directs otherwise.

As a general matter, OCC is not obligated to make physical delivery on behalf of a clearing member that fails to fulfill its delivery obligations with respect to one of these physically-settled contracts. With respect to a failure to make delivery of the metals or Treasury securities underlying a physically-settled futures contract, or a failure to fulfill delivery obligations resulting from the exercise and assignment of single-issue U.S. Treasury option, OCC's obligation is to determine and assess the damages incurred by the receiving clearing member, taking into account the delivery payment amount, the market price of the underlying interest, market conditions generally and reasonable and customary transaction costs applicable to transactions in the underlying interest, and to pay these damages to the receiving clearing member. OCC is then entitled to withdraw the amount of the damages from the applicable bank account of the defaulting clearing member.

With respect to physically-settled stock options, OCC's Rules generally provide for settlement through NSCC. Under OCC Rule 901(c) (Settlement Through Correspondent Clearing Corporations), if a settlement obligation with respect to exercise of a physically-settled stock option or maturity of a physically-settled stock future is reported to and not rejected by NSCC, OCC generally has no further obligations with respect to the settlement. The only exception to this cessation of OCC's obligation is that it retains any obligations that exist under the NSCC Accord. The NSCC Accord, which relates only to the exercise of physically-settled stock options, specifies the time at which OCC's obligation to guarantee delivery is extinguished. The time that OCC's obligation is extinguished differs depending on whether the exercise occurs on the last permissible date before the expiration of the options.

OCC also acts as the guarantor of stock loan transactions submitted for clearing. For stock loan transactions supported by OCC, there is a physical delivery component, but delivery of the loaned stock occurs through the DTC's systems. Under OCC Rule 2209 (Settlement) with respect to the Stock/Loan Hedge Program, and under OCC Rule 2209A (Termination of Market Loans) with respect to the Market Loan Program, upon a clearing member failure, OCC is not obligated to complete delivery and may fix a cash settlement value for the quantity of loaned stock outstanding.

Key Consideration 2: *An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.*

As described above, OCC never assumes an obligation to fulfill physical delivery, and it does not physically store any commodities. Therefore, OCC does not directly assume any storage or delivery risk. In the event of a failure to deliver by a clearing member, OCC's obligation is to assess and provide reasonable damages to the non-defaulting clearing member, for which OCC would utilize the margin posted by the defaulting clearing member and the Clearing Fund, as necessary.



For physically-settled Treasury futures contracts that are settled through correspondent banks – rather than through FICC – clearing members can facilitate delivery by approving correspondent banks through which such contracts can be settled via a delivery-versus-payment system.

PRINCIPLE 11: CENTRAL SECURITIES DEPOSITORIES; SEC Rule 17Ad-22(e)(11)

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimize and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilized or dematerialized form for their transfer by book entry.

Proposed Rule 17Ad-22(e)(11) would require a covered CSD to establish, implement, maintain and enforce written policies and procedures reasonably designed to: (i) maintain securities in an immobilized or dematerialized form for their transfer by book entry, ensure the integrity of securities issues, and minimize and manage the risks associated with the safekeeping and transfer of securities; (ii) implement internal auditing and other controls to safeguard the rights of securities issuers and holders and prevent the unauthorized creation or deletion of securities; and, (iii) protect assets against custody risk through appropriate rules and procedures consistent with relevant laws, rules, and regulations in jurisdictions where it operates.

OCC does not function as a central securities depository. Therefore, Principle 11 is not applicable.

PRINCIPLE 12: EXCHANGE-OF-VALUE SETTLEMENT SYSTEMS; SEC Rule 17Ad-22(e)(12)

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

Proposed Rule 17Ad-22(e)(12) would require a covered clearing agency to establish, implement, maintain and enforce written policies and procedures reasonably designed to eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other, regardless of whether the covered clearing agency settles on a gross or net basis and when finality occurs.

OCC does not settle any cleared transaction by way of exchange-of-value settlement. Therefore, Principle 12 is not applicable.

PRINCIPLE 13: PARTICIPANT- DEFAULT RULES AND PROCEDURES; SEC Rule 17Ad-22(e)(13)

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the



FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Proposed Rule 17Ad-22(e)(13) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to ensure that OCC has the authority and operational capacity to take timely action to contain losses and liquidity demands and continue to meet its obligations in the event of a participant default.

Key Consideration 1: *An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.*

OCC's Rules provide OCC with effective and clearly-defined mechanisms to manage a clearing member default. A clearing member may be summarily suspended at any time by OCC's Board or a designated officer²⁵ of OCC in the event the clearing member experiences an event of default. Additionally, if a clearing member incurs excess risk during an overnight trading session, OCC has procedures in place so that the relevant exchange would invoke use of its "kill switch" and thereby prevent the clearing member from taking on additional risk.

A detailed listing of default events is found in OCC Rule 1102(a) (Suspension), but generally they include:

- the suspension or expulsion of the clearing member from another self-regulatory or other regulatory organization; the clearing member's failure to make timely delivery of cash, securities or property to OCC as provided in the Rules;
- failure to make timely delivery of funds or securities to another clearing member or NSCC as provided for in the Rules; and
- a determination made by the Board or a designated officer that the clearing member is in financial or operational difficulty that suspension is necessary for the protection of OCC, other clearing members or the public on notice to one or more designated regulatory authorities.

OCC will advise the suspended clearing member, other clearing members, and appropriate regulatory authorities when it has suspended a clearing member.

To manage a clearing member default, the Rules ensure that OCC can take timely action to contain losses and liquidity pressures and continue to meet its obligations. Generally speaking, OCC closes out open positions of the suspended clearing member in the most orderly manner practicable, which may include a private auction. Open long

²⁵ Currently, the Executive Chairman, the President, the Chief Risk Officer, and the Executive Vice President—Financial Risk Management are the designated OCC officers that may suspend a clearing member.



positions, short positions and covered short options positions and open long and short positions in futures may be closed out as provided for in OCC Rule 1106 (Open Positions), including by offset, also known as “netting,” and by other permitted transactions or means. To the extent that clearing member margin or clearing fund deposits are converted to cash, the cash is to be deposited into, as applicable, a liquidating settlement account or segregated liquidating settlement account. Losses are generally satisfied first from the margin deposited by the defaulting clearing member subject to exceptions designed to ensure that margin securing obligations of clearing member customer accounts is only used to satisfy the obligations in those accounts, and to take into account cross-margining arrangements between OCC and other clearing organizations.

After the application of margin deposits, any remaining losses are next charged against the Clearing Fund contribution of the defaulting clearing member. Assuming the margin deposits of the defaulting clearing member and its share of the Clearing Fund are not sufficient to cover the loss, and the clearing member does not satisfy a demand by OCC to pay the unsatisfied amount, the remaining deficiency is then proportionately charged against the remaining clearing members’ contributions to the Clearing Fund, with the allocation determined in accordance with OCC Rule 1001(b) (Size of Clearing Fund and Amount of Contribution). In lieu of charging the Clearing Fund and allocating losses in this manner, OCC may in its discretion charge them against its current earnings or retained earnings. However, OCC is not permitted to do so to the extent retained earnings are dedicated to comply with the liquid net assets requirement in proposed SEC Rule 17Ad-22(e)(15). If a charge is made against retained earnings, it is considered a refund of clearing fees to the non-defaulting clearing members to whose Clearing Fund contributions the loss or deficiency would otherwise have been charged. OCC may also borrow funds to meet obligations arising out of the default, and may use the assets in the Clearing Fund to secure any such borrowings. However, if such loan remains outstanding for 30 days OCC considers the amount of Clearing Fund assets used to support OCC’s obligations under the outstanding transaction as an actual loss to the Clearing Fund and immediately allocates the loss in accordance with Article VIII, Section 5(b) of its By-Laws (Application of the Clearing Fund).

Following the allocation of losses against the Clearing Fund contributions of the non-defaulting members, the non-defaulting clearing members must replenish the Clearing Fund by making a deposit in the amount charged to them, which may exceed their Clearing Fund contribution, provided that a clearing member will not be responsible for a deposit of more than 100% of the amount of its currently-required contribution if within five days of the charge it notifies OCC that it is withdrawing as a clearing member, does not initiate new transactions and closes out or transfers all of its open positions.

OCC also reserves the right to use retained earnings to cover losses from clearing member default at any time with the unanimous approval of its stockholders. As explained above, this is also subject to OCC’s ongoing need to maintain sufficient retained earnings to comply with the liquid net assets requirement in proposed SEC Rule 17Ad-22(e)(15) and CFTC Rules 39.11(a)(2) and 39.11(e)(2).



Key Consideration 2: *An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.*

In addition to the provisions of the Rules that address the management of a clearing member default, OCC also maintains a Clearing Member Default Management Policy that is overseen by the Executive Vice President-Financial Risk Management. The purpose of the Policy is to ensure that OCC can continue to meet its obligations in the event of a clearing member default, to describe the sequencing and use of financial resources to manage a default in a way that minimizes losses to OCC and minimizes systemic risk to other members and key market participants, and to ensure that OCC is well prepared to implement its default Rules and procedures through annual testing involving its participants and other stakeholders.

OCC prepares an annual recommended testing plan based upon input from all departments across OCC with guidance and approval from the Enterprise Risk Management Committee. The plan specifies elements for testing such as scenarios including simulations with a credit facility draw and various auction methods, products and accounts across a diverse set of both actual and hypothetical portfolios, and systems to be tested along with recommendations for internal and/or external involvement. OCC staff coordinates and executes the approved plan and provides the Enterprise Risk Management Committee with a summary of the results. OCC's management and other designated staff members meet as necessary to review the close-out process, evaluate lessons learned and target areas for improvement or change.

Key Consideration 3: *An FMI should publicly disclose key aspects of its default rules and procedures*

OCC's default rules and procedures are contained in the Rules, which are publicly available on OCC's website. In addition, OCC's website provides an overview of OCC's default Rules and procedures that cross references operative provisions of the Rules and describes the sequence of events involved with the suspension of a clearing member and the "waterfall" of financial resources available to satisfy OCC's obligations with respect to guaranteed settlement.

Key Consideration 4: *An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.*

As part of the execution of the approved testing plan, OCC involves certain clearing members and participants in the clearing facilities of OCC in the testing and review of its default procedures, including with respect to acting as liquidation agents, auction participants and credit providers. In addition to helping to ensure that OCC is well prepared to implement its default management plans, these drills provide OCC clearing



members and other participants that are involved with opportunities to gain practical familiarity with OCC's default rules and procedures and to provide meaningful feedback on simulated events.

PRINCIPLE 14: SEGREGATION AND PORTABILITY; SEC Rule 17Ad-22(e)(14)

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

***Proposed Rule 17Ad-22(e)(14)** would apply to a covered clearing agency that is either a security-based swap clearing agency or a complex risk profile clearing agency. The proposed rule would require such a covered clearing agency to establish, implement, maintain and enforce written policies and procedures reasonably designed to enable the segregation and portability of positions of a member's customers and the collateral provided to the covered clearing agency with respect to those positions, and effectively protect such positions and related collateral from the default or insolvency of that member.²⁶*

***Key Consideration 1:** A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customer's positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.*

In the case of OCC's activities as a clearing agency for securities options and other derivatives regulated by the SEC, the primary relevant authority is the SEC's customer protection rule, Rule 15c3-3 and its hypothecation rules, Rules 8c-1 and 15c2-1. Rule 15c3-3 has two basic requirements. First, it requires broker-dealers to maintain possession and control of certain customer securities, free of any liens. Second, broker-dealers must deposit, in a special reserve bank account for the benefit of customers, cash or certain short-term securities in an amount determined by a formula intended, generally speaking, to reflect the net cash obligation of the broker to its customers. SEC Rules 8c-1 and 15c2-1 impose additional requirements with regard to securities against which borrowing is permitted. These rules, among other things, require that any lien created in connection with borrowings against customer securities be separate from any lien created in connection with borrowings against proprietary securities. The rules also generally limit the amount that a broker-dealer may borrow against customer securities to the total amount owed to the broker-dealer by all customers. While the above rules do not apply directly to OCC, OCC's Rules are designed to permit registered U.S. broker-dealers who are clearing members of OCC to remain in compliance with these rules.

²⁶ By its terms, proposed SEC Rule 17Ad-22(e)(14) does not apply to OCC, since OCC is not a security-based swap clearing agency or a complex risk profile clearing agency.



With respect to futures accounts held in OCC's capacity as a CFTC-regulated DCO, Section 4d of the CEA in essence provides that the segregated funds of futures customers may be commingled and used by a derivatives clearing organization in connection with the trades of futures and options customers but prohibits such funds from being commingled with other funds or used for any other purposes.

Public customer securities accounts are protected by SIPC, which insures individual customer accounts up to \$500,000. SIPC protection also extends to security futures positions carried in customer securities accounts. Futures positions that are not carried in a securities account are not afforded SIPC protection; however, if carried in a segregated futures account, they are protected under the segregated funds regulations of the CFTC.

OCC's Rules are designed to achieve the segregation of customer property in accordance with the laws and regulations referenced above, whether directly applicable to OCC, as in the case of the segregation provisions of the CEA and CFTC regulations thereunder, or that are directly applicable to OCC's clearing members, as in the case of the segregation provisions of the Exchange Act and SEC regulations.

Key Consideration 2: *A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual accounts or in omnibus customer accounts.*

Article VI, Section 3 of OCC's By-Laws (Maintenance of Accounts) sets forth the various types of accounts that clearing members may maintain. A segregated futures account and a segregated futures professional account are each limited to trades in futures and other commodity interests subject to the jurisdiction of the CFTC. OCC has a lien on the assets in each of these accounts. However, the lien is restricted in the sense that it serves as security for the obligations of the clearing member only in respect of those accounts. The assets in the account may not, for example, be used to satisfy obligations arising in the clearing member's proprietary account. The provisions of Article VI, Section 3 (Maintenance of Accounts) describing these accounts specifically provide that OCC will comply with the CFTC's regulations with regard to segregation.

Article VI, Section 3 (Maintenance of Accounts) of OCC's By-Laws provides for a "customers' account," which is limited to trades of a clearing member's securities customers. OCC has a lien on the securities, funds and other property in the customers' account, but the lien is restricted in the sense that it only secures obligations arising out of that account. In addition, the lien does not extend to "segregated" long positions, which are long positions in options identified as segregated on OCC's books and records and with respect to which OCC therefore does not maintain a lien.

Chapter XI of OCC's Rules (Delivery of Underlying Securities and Payment) governs the suspension of a clearing member and the liquidation of the assets in the clearing members' accounts with OCC. These rules are designed to preserve the segregation of customer property established under the provisions referenced above in the event of the



suspension of a clearing member. OCC Rule 1104(a) (Creation of Liquidating Settlement Account), provides that cash derived from margin deposited in respect of segregated futures accounts may not be commingled with any other cash and may be applied only to the obligations of the segregated futures accounts. In connection with the suspension of a clearing member, OCC creates a liquidating settlement account, into which the funds obtained from the liquidation of property in the suspended clearing members' accounts are deposited. However, OCC Rule 1104(a) expressly provides that funds held in or payable to a segregated futures account, and proceeds of segregated long positions, are not deposited in the liquidating settlement account. Funds held in or payable to segregated futures accounts are deposited in a segregated liquidating settlement account and are thereby kept separate from other property in the clearing member's accounts. OCC Rule 1104(a) further provides that if the proceeds derived from liquidation of all assets attributable to a restricted lien account, such as the customers' account or segregated futures accounts, exceed the amount withdrawn by OCC from the liquidating settlement account or the segregated liquidating settlement account, as applicable, to satisfy obligations of, or reimburse OCC for losses arising out of, the relevant account, the excess will be disbursed by OCC to the clearing member or its representative for distribution to the persons entitled thereto.

The provisions of OCC's Rules governing pending transactions further preserve the segregation of customer property. OCC Rule 1105(a) (Pending Transactions and Variation Payments), provides that premiums on closing sale transactions in securities cleared by OCC that close out segregated long positions in the customers' account will be deposited in a customer's settlement account "for distribution to the persons entitled thereto in accordance with applicable law." OCC Rule 1105(g) similarly provides that variation payments received on positions or transactions in futures in the segregated futures account will be credited to the segregated liquidating settlement account.

Key Consideration 3: *A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.*

OCC's segregated account structure helps promote the likelihood that positions and collateral of customers of a defaulting clearing member would be able to be identified and transferred to other clearing members in the event of a clearing member default. Under OCC's segregation framework for securities accounts, however, transfer of positions and collateral may in certain cases be inconsistent with competing policies and regulations of U.S. regulators that instead promote liquidation to return assets to customers of clearing members rather than facilitating direct transfer. For example, if a failed clearing member is liquidated in a formal proceeding under the Securities Investor Protection Act, the customer securities and cash would be isolated under OCC's account structure and therefore would be readily identifiable as "customer property" that would be available for distribution to customers ahead of other creditors.

Key Consideration 4: *A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customer's positions and related collateral. In particular, the CCP should disclose whether customer collateral is*



protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.

The rules and procedures related to segregation and portability of a clearing member's customer positions and related collateral are publicly disclosed through publication of OCC's Rules on its website. As described, these rules are designed: (i) to be compliant with the segregation requirements applicable to OCC under the CEA as a DCO, and (ii) to facilitate compliance by broker-dealer clearing members with their customer protection obligations under the Exchange Act with respect to respect of OCC's operations as a securities clearing agency. Customer collateral is protected on an omnibus basis.

PRINCIPLE 15: GENERAL BUSINESS RISK; SEC Rule 17Ad-22(e)(15)

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialize. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Proposed Rule 17Ad-22(e)(15) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that OCC can continue operations and services as a going concern if those losses materialize.

Key Consideration 1: *An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.*

As part of its Enterprise Risk Management Framework and Risk Appetite, the development of which is discussed in greater detail above under Principle 3, OCC has identified the following potential sources of general business or strategic risk:

- ***New Business Risk.*** OCC's new products or services may have unintentional negative effects on OCC or OCC's key stakeholders. This can include exceeding OCC's resource capacity or a disruption of current operations;
- ***Market Environment Risk.*** OCC may be negatively affected by external environment factors such as changes in the competitive landscape, general financial market changes, and government actions;
- ***Systemic Risk.*** Financial system instability could negatively affect OCC due to the interdependence of entities in the financial system and the risk the failure of OCC would pose to the financial system;



- **Vision & Planning Risk.** OCC may be negatively affected by a failure to articulate and communicate a strategic vision, as well as various communication, direction and execution errors in the identification, evaluation and selection of strategic alternatives to effectively direct and manage the achievement of strategic objectives; and
- **Governance Risk.** OCC may be negatively affected if its governance process and framework for monitoring and controlling its business, along with its attempts to establish an environment that encourages integrity and ethical behavior, prove inadequate.

OCC manages the above risks through its strategic planning process, whereby OCC's strategic vision, goals and objectives and project plans are reviewed annually and discussed monthly by OCC's management. Also, as discussed in greater detail under Principle 17, OCC utilizes a Risk Control Self-Assessment process, whereby OCC's staff identifies specific risks in OCC's business operations.

Additionally, to manage new business risk, OCC has developed a New Business and Product Policy, which requires, among other steps, the preparation of a new business impact assessment, analyzing all known risks associated with the new business and how it fits within OCC's existing models and risk management systems. OCC utilizes these impact assessments to determine the new business fit within OCC's existing risk appetite framework and to ensure that all risks are identified, monitored and reported. OCC may adjust the Enterprise Risk Management Framework to address the risks presented by the new business. OCC also reviews the impact assessment against the compliance risk assessment framework. No new business is approved without first reviewing these assessments and concluding that the initiative can be properly managed, controlled and processed.

OCC also manages financial risks through an annual budget process and monthly budget reviews. In addition, OCC performs a monthly analysis of projected financial resources compared to its projected operating expenses, and the Board reviews the schedule of fees on a quarterly basis to determine whether changes need to be made to ensure revenue derived from clearing fees is sufficient to cover OCC's operating expenses and maintains a business risk buffer of an additional 25% (absent extraordinary circumstances). Article IX, Section 9 of OCC's By-Laws (Fees) also requires and empowers OCC to change clearing fees to ensure revenue covers operating expenses plus a 25% business risk buffer (absent extraordinary circumstances).

OCC has implemented procedures designed to control and manage risks associated with the acquisition of hardware and software. These processes ensure that consistent standards are applied when justifying decisions to purchase, lease or license such assets. Additionally, OCC maintains a vendor risk management program that seeks to identify, mitigate and manage enterprise vendor risks, including financial viability and risks that could impact OCC's brand and reputation.



Key Consideration 2: *An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.*

OCC complies with regulation and proposed regulation from its two regulators regarding the maintenance of liquid net assets to cover business losses. OCC currently complies with CFTC Regulation 39.11(a)(2), which requires a derivatives clearing organization such as OCC to hold an amount of financial resources that, at a minimum, exceeds the total amount that would enable it to cover its operating costs for a period of at least one year, calculated on a rolling basis, and 39.11(e)(2), which requires that these financial resources include unencumbered, liquid financial assets – *i.e.*, cash and/or highly liquid securities – equal to at least six months' operating costs. OCC also complies with proposed SEC Rule 17Ad-22(e)(15), which requires OCC to hold liquid net assets funded by equity equal to the greater of either (i) six months of OCC's current operating expenses or (ii) the amount determined by the Board to be sufficient to ensure a recovery or orderly wind-down of OCC's critical operations and services.

Key Consideration 3: *An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.*

As mentioned above, OCC's approved Capital Plan is in compliance with proposed SEC Rule 17Ad-22(e)(15) that would require OCC to hold liquid net assets funded by equity equal to the greater of either (i) six months of OCC's current operating expenses or (ii) the amount determined by the Board to be sufficient to ensure a recovery or orderly wind-down of OCC's critical operations and services. OCC also has a recovery and wind-down plan and estimates the cost associated with a recovery or orderly wind-down to help determine the amount of liquid net assets funded by equity that is required to be held by OCC to facilitate the recovery or orderly wind-down in the event that cost is greater than six months of OCC's current operating expenses.

Key Consideration 4: *Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.*

Financial resources held to cover general business risk are held in sufficiently liquid assets to cover its operating costs for a period of six months. These assets are held at custodial accounts as cash or government securities, invested in overnight repurchase



agreements, which are highly liquid assets that can be converted into cash at little or no loss of value in adverse market conditions, pursuant to OCC's Cash and Investment Management Policy, which is described in greater detail below under Key Consideration 4 to Principle 16. In addition, OCC maintains an unsecured, committed revolving credit facility that can provide OCC with access to additional liquidity for working capital and general corporate purposes. These resources are in addition to, and are kept separate from, those resources that OCC holds to cover participant defaults or other risks covered by the financial resource principles, like the Clearing Fund and clearing member margin deposits.

Key Consideration 5: *An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.*

OCC's approved Capital plan includes a commitment by OCC's Stockholder Exchanges to provide replenishment capital to OCC, for a maximum amount of \$200 million. If OCC's capital levels fall below its capital requirement per proposed SEC Rule 17Ad-22(e)(15) plus 75% of the target capital buffer, OCC's Board and senior management will review alternatives to raising capital and take appropriate action as necessary, including but not limited to increasing fees or decreasing expenses, to restore equity to the target level. If OCC's capital levels fall below 125% of the capital requirement per proposed SEC Rule 17-Ad(22)(e)(15), OCC's Board must determine whether to attempt a recovery, an orderly wind-down of OCC's operations, or a sale or similar transaction (subject in each case to stockholder consent). If the Board determines to recover or wind-down, OCC will access replenishment capital in an amount deemed sufficient to return OCC's capital levels to \$20 million above the amount that is 125% below the capital requirement per proposed SEC Rule 17-Ad(22)(e)(15) (if a recovery), or to fund the wind-down (if a wind-down). OCC's approved Capital Plan is evaluated by the Board on a regular basis.

PRINCIPLE 16: CUSTODY AND INVESTMENT RISKS; SEC Rule 17Ad-22(e)(16)

An FMI should safeguard its own and its participants' assets and minimize the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

Proposed Rule 17Ad-22(e)(16) *would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to safeguard its own and its participants' assets and minimize the risk of loss and delay in access to these assets.*

Key Consideration 1: *An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.*

OCC holds its own and its clearing members' assets at regulated commercial settlement banks and custodian bank entities in the United States and Canada as well as the



Depository Trust Company. These entities are regulated institutions within their respective jurisdictions. All such banks are also required to meet the operational and financial standards set forth in its Bank Relationship procedure and its Cash and Investment Management Policy. As set out in these policies, OCC only utilizes U.S. or non-U.S. custodial and settlement banks that meet certain minimum Tier 1 Capital and capital ratio requirements, as well as other regulatory and credit standards. Before establishing a relationship with a bank, OCC also undertakes an operational and financial review of the bank, ascertaining the bank's capital adequacy per the Federal Reserve's Prompt Corrective Action framework.

OCC also regularly monitors the banks in which it deposits assets, by reviewing financial statements and checking for regulatory compliance. The purpose of this review is to ensure continued compliance with the high standards OCC expects from its settlement, escrow and custodial banks, and to ensure that its own and its clearing members' assets are being properly protected. OCC's risk management program for the ongoing monitoring of banks is described in greater detail under Key Consideration 2 of Principle 9.

Additionally, OCC complies with all applicable customer protection and segregation requirements with respect to the handling of customer funds, and maintains all of its working cash, as well as any clearing member cash that is not otherwise invested, exclusively in demand deposit accounts in order to minimize any delay in access to such cash.

Key Consideration 2: *An FMI should have prompt access to its assets and the assets provided by participants, when required.*

As part of its initial approval and ongoing monitoring of the banks it uses, OCC structures each of the custody agreements it has entered into with a bank to ensure that OCC has the legal authority necessary for it to obtain prompt access to the assets held at the bank. To ensure prompt access, OCC also monitors each bank's timeliness of settlement approvals and any operational difficulties the bank might have with OCC's cash settlement systems. Additionally, OCC monitors the availability of the bank's systems for initiating wire transfers and performing real-time balance reporting.

Key Consideration 3: *An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.*

As part of its procedures designed to manage custody and investment risk, OCC conducts annual reviews of each custodial bank, focusing on the bank's performance over the past year, as well as any system changes, fee increases or other changes that would affect OCC's relationship with the bank. OCC also monitors all banks' financial reports against its Bank Watch Level framework. The Bank Watch Level framework monitors the capital ratios, credit ratings and profitability, as well as other criteria and is designed to detect when a bank's financial condition is deteriorating and posing an increased credit risk to OCC. If an increased "watch level" is triggered for a bank, OCC may increase its surveillance of the bank relationship or place business restrictions on



the use of the bank. OCC staff also monitors general market news and events, as well as common stock and credit default swap prices, for any potential impact to its depositories.

As a general policy, OCC keeps its working cash and securities in multiple banks in order to mitigate concentration risk. Additionally, OCC staff regularly monitors OCC's aggregate exposures to different banks and depositories and, at least once a month, reports these exposures to OCC's management, including a breakdown by exposure type and cross-exposures (*i.e.*, when a bank maintains multiple relationships or has affiliated clearing member relationships), as well as information regarding custodial collateral balances, credit extensions, settlement activity, affiliated clearing member margin and uncollateralized position risk exposures. OCC also pays special attention to its aggregate exposure to certain banks that interact with OCC in multiple ways – for example, when the same bank or an affiliate simultaneously serves as a custodian bank, an administrative agent for a credit facility, a lender and a clearing member.

Key Consideration 4: *An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.*

OCC invests its assets in accordance with its Cash and Investment Management Policy and its Investment Procedures, which are designed to minimize OCC's risk of loss or delay in accessing its assets. A brief description of these investment policies is included in OCC's annual report, which is posted on OCC's website and is available to clearing members and the public.²⁷ OCC sets these investment policies, and both the Treasurer and the Board, or an applicable Committee, must approve any changes. Pursuant to these policies and procedures, OCC is currently permitted to invest its own and its clearing members' cash in U.S. or Canadian government securities. This investment strategy emphasizes minimizing investment risks, including credit, market, and liquidity risk. OCC does not commingle its own cash investments with its clearing members' cash investments, and it complies with all customer protection and segregation regulations regarding the handling and investment of futures customer funds. Moreover, OCC only invests its own cash in instruments that pose minimal credit and liquidity risk, and only invests clearing member cash in overnight instruments. At this time, OCC does not make any investments with futures customer segregated funds.

OCC's investment strategy currently focuses on the purchase of U.S. government securities through the use of delivery-versus-payment repurchase agreements. This method of investment further reduces OCC's investment risk, because it controls the movement of OCC's assets via a custodian bank. Such investments also permit quick liquidation with little adverse price effect. In order to minimize counterparty risk, OCC restricts its potential counterparties for these repurchase agreements to only financial institutions or FMUs that meet certain standards of size, capital adequacy, product offering and operational capability. OCC also requires the collateral delivered by the

²⁷ <http://www.optionsclearing.com/about/corporate-information/annual-reports/>.



counterparty to be equal to 102% of the cash invested at the point of time the investment is made. This further protects OCC in the event the value of the collateral decreases while the investment is outstanding. As described under Principle 9 above, OCC has filed an application with the Federal Reserve System for access to a central bank account, with the intention of holding cash deposits for safekeeping and eventually eliminating the need for these overnight repurchase arrangements.

PRINCIPLE 17: OPERATIONAL RISK; SEC Rule 17Ad-22(e)(17)

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfillment of the FMI's obligations, including in the event of a wide-scale or major disruption.

Proposed Rule 17Ad-22(e)(17) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to manage the OCC's operational risk.

Key Consideration 1: *An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.*

Based upon the functional components of the Enterprise Risk Management Framework, OCC has established an Operational Risk Management Framework that provides a structured approach to identifying, measuring and reporting operations risk to help ensure that effective controls are in place to mitigate these types of risks.

Operational Risk Categories

OCC has identified the following categories of operational risks:

- **Financial Reporting & Control Risk.** Risk related to material inaccuracies or lack of sufficient control over input into internal or external financial reporting;
- **Process Management, Execution & Delivery Risk.** Risk of loss resulting from inadequate design or control over OCC's processes and controls;
- **Damage to Physical Asset Risk.** Risk of loss or damage to OCC property and equipment;
- **Human Capital Risk.** Risk that OCC does not: (i) attract and retain sufficient and appropriately skilled, and diverse, staff; (ii) adequately plan for

successions; and, (iii) does not provide an healthy, safe, environment for employees;

- **Business Disruption Risk.** Risk that OCC is unable to support continuous business operations in the event of a loss of infrastructure, including network, hardware, software, communications and their interfaces or staff, or both;
- **Fraud (Internal & External) Risk.** Risk of deliberate activities detrimental to OCC, including theft or destruction of OCC assets (financial, physical and information) or the intentional disruption of OCC business activities;
- **Project Management Risk.** Risk of failure to manage, execute and implement corporate projects, including technological initiatives, in a coordinated fashion;
- **Third Party Risk.** Risks posed to OCC manage, execute and implement corporate projects, including technological initiatives, in a coordinated manner with third-parties; and
- **Systemic Risk.** Risk that OCC faces and poses to financial systems due to the interdependence of entities.

Identifying and Monitoring Operational Risks

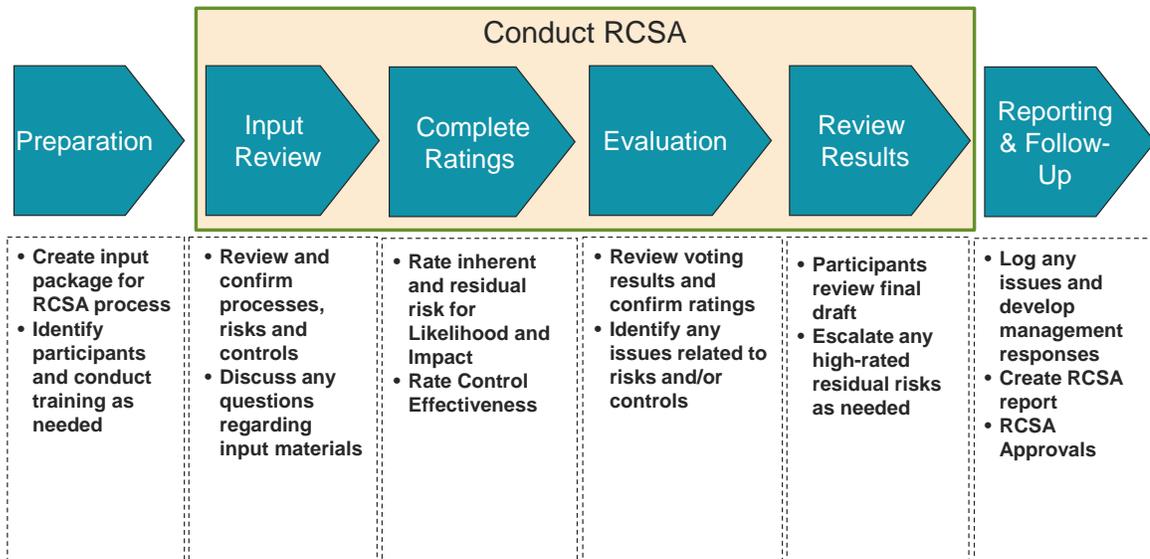
Risk and Control Self-Assessment Program

The Risk and Control Self Assessment ("RCSA") Program provides OCC's business areas with a defined methodology to identify and evaluate operational risks and associated controls, and with a process to help self-identify and address issues and opportunities to enhance risk mitigation. The RCSA Program falls under the Operational Risk Management Policy as well as the "risk management processes" component of the broader Enterprise Risk Management Framework.

RCSAs are scoped according to business processes and involve participants from the organizational groups relevant to the process(as). The RCSA process includes three major stages:

1. Preparation;
2. Conducting the RCSA; and
3. Reporting and follow-up.

Overall Risk and Control Self-Assessment Process



Based on the results of the RCSA process, the Enterprise Risk Management Department produces a report that is reviewed by the Business Area Executive Chief Risk Officer, the Enterprise Risk Management Committee and the Operational Risk Management Group.

Scenario Analysis Program

The Scenario Analysis Program (“Program”) falls under the Operational Risk Management Policy and associates with the “risk identification and assessment” component of the Enterprise Risk Management Framework. The Program provides a methodology for the identification, development and management of scenarios, and a governing framework for the ongoing ownership, maintenance and monitoring of OCC’s scenario register. OCC engages in “scenario analysis” under which it systematically obtains opinions from business managers to derive reasoned assessments of the likelihood of plausible, high-severity operational events. The purpose of the scenario analysis process is to: facilitate the identification of risk exposures for potentially serious events that OCC has not previously experienced; provide a means to evaluate the impact of correlated and/or cumulative events; and develop insights that might not come about in other risk management processes.

Enterprise Risk Management supports the broader Program by: managing the scenario inventory (i.e., modifications to the Scenario Universe); developing and leading operational risk scenarios; providing training and/or guidance to scenario sponsors, leaders, and other participants; assisting in the management of scenario related issues; and aggregating and reporting scenario results to senior management.



Operational Loss/Near Miss Data Tracking

The Operational Loss / Near Miss Data Tracking Process falls under OCC's Operational Risk Management Policy and associates with the "risk identification and assessment" component of the Enterprise Risk Management Framework. The purpose of this process is to: (i) assess significant operational risk exposure and trends; (ii) improve understanding of loss and near miss events (e.g., lessons learned) to minimize or prevent future occurrence; (iii) increase the transparency of operational risks across the enterprise; and, (iv) provide input for scenario workshop, capital modeling development, the Risk & Control Self-Assessments and key risk indicator development.

OCC classifies loss events into two categories: operational loss events or near miss events. Incidents that result in a direct financial loss are classified as an operational loss event, whereas near miss events are those involving a control failure that results in a measurable impact, but not a direct financial loss. The Enterprise Risk Management Department is responsible for facilitating and administering the Operational Loss /Near Miss Data Tracking Process.

Managing Operational Risks

Project Management Policies

OCC maintains a Project and Portfolio Management Policy, designed to ensure that proper oversight exists during the initiation, planning, execution and delivery of OCC projects in order to increase the likelihood of successful project implementation and reduce the reputational risk of failing to meet strategic project goals and objectives. Pursuant to the Policy, after the appropriate departments and Committees approve new projects, they are submitted to and evaluated by OCC's Project Prioritization Team. The team meets weekly, as needed, to prioritize projects and to discuss anticipated delivery dates and possible movement of those dates to accommodate projects added to the portfolio. Management Committee approval is also required if additional resources are required to accommodate new projects and initiatives. A monthly Project Portfolio Review meeting is held with senior officers to review the status of all projects in the portfolio.

All projects and initiatives are required to be reviewed and documented at least quarterly and reviewed and ratified by the Management Committee to ensure that resources are devoted to the highest priority projects and that the portfolio aligns with OCC's strategic, business, regulatory and technological strategy.

OCC also applies the Software Development Lifecycle Process to ensure that project work efforts are properly defined, authorized, tracked and approved by all relevant stakeholders within OCC.

Annually, OCC's management recommends to the Performance Committee certain critical projects that are identified as "Corporate Objectives." These



projects support OCC's mission statement and reflect its strategic, technological, operational and regulatory goals and objectives. Corporate Objectives are derived from projects that exist in the overall project portfolio and from initiatives approved by OCC's management. The completion of projections identified as Corporate Objectives plays an integral role in the Performance Committee's determination of incentive compensation for OCC personnel.

Human Resource Policies

As stated in its corporate mission statement, OCC recognizes that its success depends on the professionalism, talent and diversity of its workforce. To that end, OCC is dedicated to hiring, training and retaining qualified personnel. Prior to receiving a job offer, a candidate must pass a background check, fingerprint screening and drug test. OCC demonstrates its dedication to hiring qualified personnel through a compensation strategy designed to provide market competitive total compensation, with appropriate discretionary bonus opportunities when superior business and individual performance is achieved.

For new hires, OCC also maintains "onboarding" programs to introduce personnel to OCC's culture, organization structure and key policies and procedures. New hires also undergo individual training to ensure familiarity with OCC's Code of Conduct and all necessary compliance procedures. For all employees, OCC also conducts training, including programs on project management, information security, management and controls. OCC regularly monitors the results of these programs and continuously introduces process improvements as necessary.

For every key position, OCC conducts an annual succession planning review. The review consists of identifying potential successors for Management Committee members and assessing their readiness and development planning. The Board is responsible for the succession plans for the Executive Chairman and the President & COO.

OCC maintains an employee Code of Conduct, which sets forth the expectation that all OCC personnel adhere to the letter and the spirit of applicable laws and regulations, apply sound judgment, and raise concerns when a Code of Conduct violation occurs, allows each of us to demonstrate our commitment to our ethical standards. The Code of Conduct includes, among other policies, restrictions on personal investments, conflicts of interest, confidentiality, political activities and contributions, record management rules and prohibitions on bribery and corruption. The Code of Conduct also restricts employee interactions with the media, in an effort to manage reputational risk. Employees are required to annually certify their compliance with the Code of Conduct.

OCC has established a Whistleblower Policy to provide a process for employees to raise concerns regarding: (i) unethical or illegal conduct; questionable accounting, internal controls or auditing matters; (ii) fraudulent, deliberate errors



or misrepresentations in financial reporting; or, (iii) possible violations of the Code of Conduct or its underlying policies and procedures. Employees have several reporting channels: their manager, the Human Resources Department, the Compliance Department, or anonymously through the use of a third-party independent hotline. This Policy prohibits retaliation for good faith reporting of issues and enhances all employees' ability to act responsibly to uphold the reputation of OCC and maintain public confidence.

Key Consideration 2: *An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.*

The Board has approved the Operational Risk Management Policy, which sets forth OCC's approach to identifying, monitoring and managing operational risk. The Policy establishes the Operational Risk Management Group, which oversees and ensures the efficient and effective management of OCC's significant operational risks. The Operational Risk Management Group is a sub-group of the Enterprise Risk Management Committee. The primary objectives of the Operational Risk Management Group are to:

- Discuss identified risks and issues, and assist in the assessment of potential impacts, related controls, and any associated action plans;
- Review operational risk policies, methodologies, and other program documents;
- Facilitate individual and organizational learning around risk management processes and best practices through the engagement of Subject Matter Experts;
- Drive the evolution of risk culture at OCC, and support the embedding of risk management processes and best practices in first line operations;
- Provide a forum for raising first line concerns, dialoging about potential improvements, and building a consensus for change;
- Assist in the identification of emerging and systemic risks, and the prioritization of potential scenarios for consideration by the Chief Risk Officer;
- Review the prioritized list of operational risk capital modeling scenarios to identify gaps, if any, and provide feedback to the Chief Risk Officer; and,
- Prioritize and escalate risks, issues, and discrepancies identified in RCSAs and Scenarios to the Enterprise Risk Management Committee, as appropriate.

The Operational Risk Management Group consists of representatives from the Enterprise Risk Management Department and OCC officer-level department management. Membership of the Operational Risk Management Group is reviewed by the Enterprise Risk Management Department annually to help ensure that OCC's various business groups are adequately represented. The Operational Risk Management Group reports and escalates issues as needed via the Enterprise Risk



Management Department to the Chief Risk Officer and the Enterprise Risk Management Committee. The Operational Risk Management Group meets bi-monthly to review significant operational risks and discuss any operational risks raised by a group member, identifying any specific operational risk issues that should be elevated to the Chief Risk Officer or the Enterprise Risk Management Committee.

OCC's Internal Audit Department prepares an Audit Risk Assessment, which is designed to utilize OCC's entire risk universe and assess the achievement of business objectives, potential for the occurrence of fraud and compliance with law, policies, procedures and regulatory expectations. This assessment is performed at least semi-annually and more frequently as significant organizational or process changes warrant. The Internal Audit Department is organized so as to be independent from the rest of OCC in both fact and appearance, with certain policies and procedures adopted to ensure continuing independence and objectivity. Results of the Audit Risk Assessment are reported to management and the Audit Committee.

Key Consideration 3: *An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.*

OCC maintains clearly defined quality standards that outline performance expectations for operational reliability. OCC staff track system processes and performance for compliance with these standards and hold weekly meetings to review and discuss performance. OCC's management is notified of any detected events that may affect compliance. The Compensation and Performance Committee also is provided with status updates of performance against these quality standards, and the Board is provided with a monthly dashboard report that includes reports of production issues. The standards include:

- Minimum standards for data integrity;
- Minimum standards for data timeliness; and
- Minimum standards for system availability.

These quality standards are reviewed annually by OCC staff to ensure that all new systems or processes are captured.

Additionally, OCC participates in annual industry business continuity/disaster recovery tests that include testing between OCC, participant exchanges, designated clearing members and other partners. Results from these tests are reviewed with senior management and the Enterprise Risk Management Committee.

Key Consideration 4: *An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.*

In order to test the adequacy of its capacity to handle stress volumes, while still maintaining its quality standards, OCC performs High Volume Tests of ENCORE,



successfully processing a trade transaction volume, post-trade transaction volume and option series adds volume of at least 2.5 times high volume levels. Using transaction volume statistics, OCC annually determines its necessary capacity threshold and, to the extent its calculated capacity threshold exceeds the previously tested capacity, schedules such High Volume Tests.

Key Consideration 5: *An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.*

Physical Security

OCC maintains the physical security of its offices by prohibiting unauthorized access. All persons on OCC's premises are required to wear their OCC Security Access ID card, or a required visitors pass, at all times. Additionally, OCC's command and data centers are located within a hardened environment with multiple layers of security that are monitored 24x7. Access to these facilities is restricted to authorized personnel, and an ID/access card, biometric finger scan and/or personal identification number are required to enter.

The OCC Security Services Department utilizes a comprehensive security assessment tool as part of an overall program aimed at developing and maintaining a consistent, structured and integrated methodology for identifying, monitoring, managing and reporting on security risks across physical sites and locations. This process consists of several components which include: (a) a security vulnerability assessment checklist which is "risk-specific" and facilitates the analysis and reporting of risk information using a common language; and (b) quantitative information, including internal theft events and security breaches.

Information Security

The OCC Information Security program is led by the Chief Security Officer under the direction of the Chief Information Officer. Information Security includes a broad set of activities executed in support of the overall security posture of the organization, including mitigating activities for networks, systems and information assets against internal or external threats and vulnerabilities (i.e., cyber threats). These activities include various measures in place to identify, protect, detect, respond, and recover from external threats and unauthorized or malicious internal user activities. This process area also includes management's treatment of emerging technologies, vendors, and risks through formal risk assessment activities and implementation of mitigating controls.

OCC's risk appetite framework notes that OCC has a low appetite for technology risk and consequently makes significant investments in information technology, or IT, infrastructure, controls and personnel that enable OCC to meet the requirements of its clearing members and the markets for which it clears in an efficient, timely and accurate manner, consistent with its Quality Standards. Information Security updates are also provided to the OCC Board of Directors as a component of the monthly Enterprise Risk



Dashboard with escalation of certain cyber/ technology incidents as defined in the risk appetite framework.

OCC's IT Risk Management Policy contains policies and procedures designed to identify and manage risks and controls within OCC's IT systems and provide input to the enterprise risk management process to ensure that technology risks are appropriately considered by OCC. OCC's IT Risk Management Policy is reviewed annually by OCC's IT Governance and Risk Management staff, the Chief Information Officer, the Enterprise Risk Management Committee and the Technology Committee.

OCC's Information Security Policies and Standards are a key part of its system design and information security is built into its systems. OCC has installed a variety of security systems and products to assure the security of its information systems. Firewall systems are utilized to protect systems from the Internet and partner networks. Intrusion detection systems monitor for unauthorized access 24/7. Encryption technologies are used to protect sensitive information that is transmitted outside of OCC's network. Additionally, access to systems and information within OCC is limited to only those personnel who require such access. Those accessing OCC systems must use strong authentication technology to authenticate a user to their computer. This process is augmented by a number of transparent mechanisms, including IP Geolocation (monitoring which geographical locations a user has logged in from in the past.)

OCC employees are responsible for upholding the Information Security Policy and Standards. All employees receive information security awareness training to raise awareness of, and underscore the importance of adhering to, the Information Security Policies and Standards. Such security policies cover the use of usernames and passwords and restrictions on the use of electronic messaging, software and Internet access. OCC also maintains a Privacy Policy that sets forth best privacy practices with respect to personal information that may be required in order to authenticate users.

OCC also maintains a "clean desk" policy, under which sensitive and confidential documentation is required to be stored safely in locked drawers, cabinets and offices. OCC also maintains an Information Classification and Handling Policy that provides specific instructions for the electronic and paper handling and storage of information generated by OCC.

OCC maintains procedures for security incident management. If an employee, contractor, or other third party that provides services to OCC suspects a security weakness or notices an area of exposure to OCC security, the employee, contractor or third party must notify OCC's Security Services team immediately.

Key Consideration 6: *An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The*



plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.

Business Continuity

OCC has established a Business Continuity Program with requirements outlined in the Business Continuity Planning Policy. This policy establishes requirements and defines the governance structure, high level roles and responsibilities, strategies, and actions designed to minimize the impact of a business interruption and to facilitate the swift return to normal levels of operation and service delivery.

The goal of OCC's Business Continuity Program is to support continuance of critical business processes in the event of a catastrophic loss of both infrastructure and staff at either the primary or alternate locations. The Business Continuity Program establishes the capability to recover and resume critical clearing and settlement activities within the business day on which a disruption occurs, or no later than the next business day with the goal of achieving recovery and resumption within two hours after a disaster has been declared.

There are five primary phases within the Business Continuity Program that ensure the creation, implementation, and maintenance of the business continuity plans to meet the above goals. These phases represent the key steps within a continuous improvement lifecycle for business continuity.

- Business Impact Analysis (BIA) and Risk Assessment;
- Business Continuity Strategy;
- Risk Management;
- Test, Training, & Exercise; and
- Plan Maintenance.

OCC's Business Continuity Officer is responsible for the development, implementation and maintenance of the business continuity plan to protect all business processes associated with OCC's critical clearance, settlement and risk management services. OCC also has established a Crisis Management Team and a Cyber Incident Response Team for the purpose of coordinating recovery and response activities in response to a business disruptive event. It is the responsibility of all of OCC's management to assist in the development and support of the business continuity plan. All employees and contractors are responsible for understanding and being prepared to execute the plans for their area.

Business Continuity / Disaster Recovery Testing

OCC's Business Continuity Program mitigates risk through redundant infrastructure and regular testing of both Business Continuity Plans and IT Disaster Recovery.



Given the nature and breadth of significant business disruptive events, OCC maintains a primary and an alternate data center in different regions within the U.S., separated by approximately 900 miles. Production processing is replicated between the primary and alternate sites sufficiently timed to ensure that there is no more than a five minute variance in data. As an additional safety measure, OCC maintains a secure data bunker with exact copies of core production data.

OCC data centers and the data bunker have emergency monitoring and backup systems including: fire detection and suppression systems, uninterruptable power supply, standby generators, and dual path telecommunications. Both data centers have sufficient capacity to process the entire core production workload and can function as production site within two hours.

Business Continuity Strategy

The Business Continuity Strategy is established by the Business Continuity Officer with input from OCC's Chief Operating Officer, Chief Information Officer, Chief Security Officer, First Vice President—Production Services and other key managers, and is annually reviewed and re-approved by the same. At least annually, or when significant changes are being considered, the Chief Information Officer presents the Business Continuity Strategy to the Board. OCC's Business Continuity Strategy is built on the following key characteristics:

- Geographic separation between processing sites greater than 900 miles;
- Totally redundant production functionality;
- Two-hour recovery goal for critical infrastructure;
- Resilient and redundant communications network and telecom system;
- Robust, high speed, long-range data replication;
- Decentralized technical, business and management staff capable of running production from either site or remotely;
- Continuous readiness validation through testing;
- Virtual Private Network (VPN) availability to support employees working remotely; and
- Working with third-party service providers, exchanges and critical clearing members to foster sector preparedness.

Risk Assessment and Business Impact Analysis

Annually, OCC conducts a formal risk and control self-assessment to address business and security threats and recovery time objectives, contemplating potential technological,



environment, terrorist, regional or global disasters. The risk and control self-assessment process is described above under Key Consideration 1 of this Principle.

Plans and Procedures

OCC maintains five types of plans and procedures to support the business continuity plan:

- ***Enterprise Business Continuity Plans*** are designed to cover the company as a whole. Enterprise Business Continuity Plans are developed and maintained by the Business Continuity Officer and reviewed and approved by the Chief Information Officer and Chief Security Officer. These plans are reviewed and updated at least annually;
- ***Department Business Continuity Plans*** (also known as business interruption plans) specify the procedures each department will execute to address a business continuity event. These events include a loss of facilities, staff, technology, service providers and/or non-electronic records. Prior to implementation, the relevant department head and the Business Continuity Officer approve all business interruption plans. These plans are reviewed and updated at least annually;
- ***Emergency Management Procedures*** are procedures to be executed during various stages of a business continuity event with the intended purpose of life safety and are developed and maintained by the Business Continuity Officer and reviewed and approved by the Chief Information Officer and the Chief Security Officer. These plans are tested at least quarterly and are reviewed and updated at least annually;
- ***Disaster Recovery Procedures*** are procedures to transition production systems from the primary data center to the backup data center. Testing is led by the Disaster Recovery Coordinator and the Director—Enterprise Operations, with test results approved by the First Vice President—Production Services, the Business Continuity Officer and the Chief Information Officer; and
- ***External Plans*** include the business continuity plans of OCC's clearing members, banks, exchanges and service providers. These plans are required to be maintained and tested, at least annually.

Business Continuity/Disaster Recovery Tests and Exercises

OCC conducts internal business continuity testing and participates in industry-wide business continuity tests. Every year, OCC develops a business continuity/disaster recovery test plan focusing on high risk areas based on the risk and control self-assessment results, critical areas of system processing, significant changes to the infrastructure and industry exercises for OCC participation, which is subject to the approval of the Chief Information Officer, Chief Security Officer and Chief Risk Officer.



Pursuant to OCC Rule 218, OCC clearing members may be required to participate in business continuity/disaster recovery testing with OCC.

Education and Awareness

OCC conducts an average of fifteen business continuity/disaster recovery tests and exercises each year. In addition to the “hands on” business continuity/disaster recovery training accomplished through the tests and exercises, the Business Continuity Officer issues three to five annual updates to all employees and contractors instructing them on business continuity plan best practices, health and safety practices or changes to OCC’s business continuity plan program. Additionally, each department has a business interruption plan coordinator who conducts annual review and training sessions with their department staff.

OCC is actively involved in various working groups and public committees dedicated to business continuity/disaster recovery best practices, as well as various public-private partnerships, including ChicagoFIRST, the Financial Services Sector Coordinating Council and the Financial Services Information Sharing and Analysis Center.

Key Consideration 7: *An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.*

As discussed under Principles 3, 4, 5, 6, 7, 15, 16 and 20, OCC has risk management policies in place designed to identify and address the risks it faces from its own clearing members, other FMIs, banks and various service and utility providers. The occurrence of a business continuity event at a clearing member or one of OCC’s stockholder exchanges could potentially disrupt OCC’s operations. To this end, OCC conducts coordinated testing of its own business continuity and disaster recovery plans with those of its exchanges and the clearing member firms making up the top 80% of trading volume, which must include no fewer than ten clearing member entities. Additionally, OCC expects all of its clearing members, exchanges and “Tier 1” service providers to maintain their own business continuity plans. OCC also maintains a vendor risk management team, which meets monthly and assesses the risks presented by OCC’s various service providers and regularly tests OCC’s vendors for adherence to and compliance with OCC’s requirements.

OCC does not outsource any of its core clearing or settlement functions. Its only outsourcing arrangements pertain to information technology, including its external domain name system provider and a vendor that provides network monitoring services. OCC’s general approach to managing the risk presented by third-party service providers is to build redundancy into its systems, in order to minimize reliance on any one service provider and avoid potential service interruptions.



As discussed in greater detail under Principle 20, OCC is cognizant of the risks presented by, and that it presents to, linked FMIs. These risks are managed, in part, by the contractual agreements governing the particular link arrangement.

OCC also maintains contingent capital to comply with CFTC Rule 39.11 and proposed SEC Rule 17Ad-22(e)(15) regarding financial resources that it must maintain to cover potential business losses unrelated to clearing member defaults so it can continue as a going-concern. These resources are not included as resources supporting OCC's risk management needs and are managed separately to satisfy the requirement under Rule 39.11 that OCC must be able to cover its operating costs for a period of at least twelve months on a rolling basis and have unencumbered, liquid financial assets equal to at least six months of those operating expenses and under proposed SEC Rule 17Ad-22(e)(15) that OCC must hold liquid net assets funded by equity equal to the greater of either (i) six months of OCC's current operating expenses or (ii) the amount determined by the Board to be sufficient to ensure a recovery or orderly wind-down of OCC's critical operations and services.

PRINCIPLE 18: ACCESS AND PARTICIPATION REQUIREMENTS; SEC Rule 17Ad-22(e)(18)

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Proposed Rule 17Ad-22(e)(18) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to establish objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access by direct and, where relevant, indirect participants and other FMUs.

Key Consideration 1: *An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.*

OCC's participation requirements are outlined in Article V, Section I of OCC's By-Laws (Qualifications) and Chapters II (Miscellaneous Requirements) and III (Financial Requirements) of the Rules. These requirements are objective measures designed to ensure that participants are able to meet their obligations, without creating overly restrictive access requirements.

To initially qualify for membership, an applicant must be a broker dealer registered with the SEC or an FCM registered with the CFTC, or a non-U.S. securities firm. An applicant must also meet specified minimum net capital requirements. For example, the initial minimum net capital requirement is \$2,500,000 for SEC-registered broker-dealers or CFTC-registered FCMs. The only non-U.S. securities firms currently eligible for OCC membership are Canadian firms; to initially qualify for clearing membership any such firm must maintain an "early warning reserve," computed in accordance with International Financial Reporting Standards, of \$2,500,000. To qualify for membership clearing members must satisfy certain other requirements relating to operational capabilities and experience and qualifications of clearing operations personnel.



Each applicant is also required to submit specified documentation, including the OCC Pre-Qualification Online Application and audited financial statements. OCC conducts a pre-membership examination, which involves an examination of the firm's books and records, including the relevant financial statements, certain SEC and CFTC regulatory filings and net capital calculations, if applicable, and any business continuity plans and facilities management agreements, as well as interviews with the firm's principals.

Information from a prospective clearing member's application and pre-membership examination, along with information from the applicant's designated examining authority, is submitted to the Risk Committee. Final approval of an applicant requires Board approval. This initial application process is intended to ensure that only applicants that have a stable financial condition and operational infrastructure are admitted as OCC members, while providing fair access through objective criteria.

Key Consideration 2: *An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavor to set requirements that have the least-restrictive impact on access that circumstances permit.*

As noted above, OCC's participation requirements are outlined in OCC's By-Laws, which are made publicly available on OCC's website. Further, a clear summary of these requirements is publicly available on OCC's website.²⁸ The participation requirements focus on financial stability and operational capability and therefore are closely tied to OCC's goals of clearing transactions safely and efficiently.

The Risk Committee annually reviews the access and participation criteria. In reviewing such criteria, OCC's Risk Committee seeks to balance the need to ensure the creditworthiness of an applicant versus providing broad and equal access to the clearance and settlement services offered by OCC.

Many of OCC's access and participation requirements not only are risk-based, but also are required under certain applicable laws or regulations. SEC rules provide that "[a] registered clearing agency may deny participation to, or condition the participation of, any person if such person does not meet such standards of financial responsibility, operational capability, experience, and competence as are prescribed by the rules of the clearing agency" (Exchange Act Section 17A(b)(4)(B)). SEC rules set forth certain minimum requirements for membership in a registered clearing agency. For example, pursuant to SEC Rule 17Ad-22(b)(2), a registered clearing agency must require members to have "sufficient financial resources and robust operational capacity to meet obligations. . . ." OCC Rules are designed to require members to meet these financial and operational requirements. SEC rules also require that a clearing agency "[p]rovide the opportunity for a person that does not perform any dealer or security-based swap dealer services to obtain membership on fair and reasonable terms at the clearing agency to clear securities for itself or on behalf of other persons." SEC Rule 17Ad-

²⁸ <http://www.optionsclearing.com/membership/become-member/>.



22(a)(5). As described above, OCC designs its rules to provide reasonably open access.

OCC Rules for access and participation, including OCC's Fitness Standards for clearing members, are designed to comply with CFTC regulations in addition to SEC regulations. CFTC Regulation 39.12 on Participant and Product Eligibility requires a derivatives clearing organization to "establish appropriate admission and continuing participation requirements for clearing members of the derivatives clearing organization that are objective, publicly disclosed, and risk-based." This includes participation requirements based on financial as well as operational criteria for all members.

Key Consideration 3: *An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.*

Once clearing members are admitted, OCC monitors their ongoing creditworthiness. For example, pursuant to OCC's Rules, each clearing member is required to file monthly financial statements with OCC. The clearing member's financial condition is then evaluated in relation to predefined standards, which are also reviewed annually by the Risk Committee. Clearing members are also required to submit annual audited financial statements to OCC staff. These measures ensure that OCC's clearing members have the financial resources necessary for safe and effective clearing operations.

To effectively monitor members with a deteriorating financial condition, OCC has a financial reporting requirement known as an "early warning" notice, which requires clearing members to promptly notify OCC of certain material adverse changes in financial condition, such as a decline in net capital below a specified threshold or increase in aggregate indebtedness above a specified threshold.

OCC Rules provide for increased surveillance of members with deteriorating financial condition through a variety of automated systems employed by OCC's risk management staff. These automated systems are based upon general market conditions and the clearing member's exposure to market risk. First, OCC identifies those clearing members whose financial or operational condition has deteriorated over time by analyzing the trends in key financial ratios evidenced in monthly financial statements. Then, OCC identifies clearing members whose uncollateralized position risk exposure relative to capital proves excessive. If necessary, OCC may then take corrective action with respect to these members in the form of higher margin requirements, reductions in the clearing member's positions, increased capital or some combination of these actions.

OCC maintains the effectiveness of its access and participation requirements through a clearly established suspension procedure. Suspensions are governed by Chapter XI of OCC's Rules (Suspension of a Clearing Member). The Rules are publicly available on



OCC's website. Further, an outline of events that can lead to suspension of a clearing member, as well as the suspension procedure, is publicly available on OCC's website.²⁹

OCC Rules provide clear events that may lead to the suspension of a member who no longer meets OCC's membership criteria. These objective criteria are based upon the financial or operational deterioration of the clearing member. The Board or certain designated officers may summarily suspend any clearing member that:

- has been and is expelled or suspended from any self-regulatory or other regulatory organization;
- fails, either directly or through its designated agent, to make timely delivery of cash, securities or other property to OCC as required by the Rules;
- fails to make any delivery of funds or securities to another clearing member required pursuant to the Rules;
- is in such financial or operating difficulty that the Board or certain designated officers determines and so notifies the appropriate regulatory agency for such clearing member, or, in the case of a non-U.S. clearing member, the appropriate non-U.S. regulatory agency, and the SEC and CFTC, that suspension is necessary for the protection of OCC, other clearing members, or the general public; or
- in the case of a non-U.S. clearing member, has been and is expelled or suspended by its non-U.S. regulatory agency or any securities exchange or clearing organization of which it is a member.

Pursuant to OCC Rules, OCC will notify the suspended clearing member, other clearing members, appropriate regulatory authorities and applicable self-regulatory organizations when it has suspended a clearing member.

OCC's suspension procedure allows for fair review of OCC's decision. A suspended clearing member may request a written statement of the grounds for suspension and has the right to appeal its suspension as provided for in OCC Rule 1110 (Right of Appeal). In the event a clearing member appeals its suspension, the procedures specified in OCC Rule 1110, which require written notice of appeal within a specified timeframe, must be followed.

Upon receipt of a written notice of appeal of a suspension determination, OCC must process and record the appeal as provided for in its procedures. This will include convening an appointed review panel and providing the suspended clearing member with the opportunity to be heard within the time periods specified in OCC Rule 1110. OCC will provide the suspended clearing member with written notice of the review panel's decision, and the decision is reviewable by the OCC Board in accordance with

²⁹ <http://www.optionsclearing.com/risk-management/default-rules/>



OCC Rule 1110. By following this procedure, OCC ensures that the suspension of members is fair and orderly, and that all members are aware of the relevant procedures.

PRINCIPLE 19: TIERED PARTICIPATION ARRANGEMENTS; SEC Rule 17Ad-22(e)(19)

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Proposed Rule 17Ad-22(e)(19) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to identify, monitor, and manage the material risks to OCC arising from arrangements in which firms that are indirect participants in OCC rely on the services provided by direct participants in the OCC to access the covered clearing agency's payment, clearing, or settlement facilities.

Key Consideration 1: *An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.*

OCC does not currently maintain formal tiered participation or sponsored access arrangements. While OCC has a legally binding agreement with its clearing members, OCC has no legally binding agreements with the clearing members' underlying customers and non-clearing member affiliates. However, the customers and non-clearing member affiliates of its clearing members may be indirect participants with OCC, and may pose a risk to OCC if they experience losses significant enough to affect the financial condition of a direct clearing member. Accordingly, OCC monitors the risks presented by indirect participants through the real-time monitoring of clearing member positions and through large trader reporting.

OCC maintains a Large Trader Monitoring and Analysis Procedure. Under CFTC Rule 39.13(h)(2), OCC has an obligation to obtain copies of all large trader reports that its clearing members are required to file with the CFTC. Pursuant to this requirement, OCC obtains a daily file of all large trader positions submitted by its clearing members to the relevant contract markets, as well as large trader account information submitted by clearing members on CFTC Form 102. Additionally, OCC compiles this data with reportable large trader positions carried in proprietary accounts of its clearing members that it separately disseminates to other regulatory bodies on its member firms' behalf. Clearing members also submit to OCC large option position reporting data, pursuant to Financial Industry Regulatory Authority, Inc. Rule 2360(b)(5) and various exchange rules. Upon receipt and consolidation of the reports, OCC conducts a daily review of the large trader reports to ascertain the risk presented by each large trader's overall portfolio to all clearing members that carry accounts for that particular large trader. Each month, OCC reviews a summary of the prior two months' risk metrics broken down by large trader account, as well as other information relevant to evaluating OCC's larger risk management situation.



Key Consideration 2: *An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.*

As discussed above under Principle 18, OCC monitors its clearing members' ongoing compliance with certain membership requirements, many of which are aimed at ensuring the clearing member's ongoing financial and operational soundness. These regular reviews of clearing member operations provide OCC with a vantage point to observe and identify the material dependences that exist between these clearing members and their largest customers. For clearing members that are securities brokers or FCMs, if one of their customers represents a disproportionately large volume of the clearing member's activity with OCC, the clearing member may be dependent on that customer meeting its payment obligations in order for the clearing member to meet its own payment obligations at OCC. OCC's regular review of its clearing member's operations, combined with the large trader monitoring procedures and other surveillance activities discussed above under Key Consideration 1, allows OCC to identify such material dependencies and to act to mitigate the resulting risks.

Key Consideration 3: *An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.*

As discussed above under Key Consideration 1, OCC maintains a Large Trader Monitoring and Analysis Procedure that allows it to detect those indirect participants who bring significant volume trading exposures to the clearing members and to OCC. This information, combined with information it collects from its ongoing monitoring of clearing member finances and operations, allow it to monitor the proportion of activity attributable to certain large traders relative the capacity of the direct participants through which they access OCC.

Indirect participants whose transaction volumes or positions are particularly large present credit risk to OCC, because the failure of one of these indirect participants to meet its payments obligations might cause that indirect participant's clearing member to default on its own obligations to OCC. Without proper risk controls, such a clearing member default, in theory, might then cause losses to that clearing member's other customers, and then spread to any other clearing members where those customers have accounts. OCC maintains risk management policies designed to effectively contain such risks. First, as discussed under Principles 4, 5, and 6, OCC collects margin and maintains the Clearing Fund specifically to mitigate the fallout from a default. Moreover, as discussed under Principle 13, upon a clearing member default, OCC's Rules permit OCC to suspend the defaulting clearing member and allow for the transfer of customer accounts to another clearing member. OCC also properly segregates all customer accounts from a clearing member's proprietary accounts, in accordance with the applicable SEC and CFTC requirements, which further acts to protect a clearing member's customers from the default of the clearing member.



One of OCC's key risk management tools is simply having financially and operationally sound clearing members. OCC furthers this objective through its initial and ongoing clearing membership requirements, and its ongoing monitoring of clearing member operations and finances. OCC also requires that clearing members maintain robust risk management programs that, in addition to complying with other regulatory requirements, are designed to address the risks they present to OCC. Moreover, OCC's requirements that each clearing member collect customer-level margin with respect to futures positions, and the margining of customer segregated futures accounts on a gross basis, in accordance with the CFTC requirements, also furthers this objective.

Key Consideration 4: *An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.*

As discussed under Key Considerations 2 and 3, OCC manages the credit risks presented by tiered participation arrangements through its margin, default management, clearing membership and large trader monitoring policies and procedures. All of these policies are subject to regular review and testing, as discussed in greater detail under Principles 6, 13 and 16.

PRINCIPLE 20: FMI LINKS; SEC Rule 17Ad-22(e)(2)

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Proposed Rule 17Ad-22(e)(20) *would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to identify, monitor, and manage risks related to any link with one or more other clearing agencies, FMUs, or trading markets.*

Key Consideration 1: *Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.*

OCC has established the following link arrangements with FMUs:

- **CME:** OCC has a cross-margining arrangement with CME allowing positions cleared at each clearing organization to be combined into a single portfolio for margin and settlement purposes. Clearing level margins are computed based on the combined positions maintained in the cross-margin accounts. This results in one margin requirement for the participant;
- **ICE:** OCC has a cross-margining arrangement with ICE Clear that is substantially the same as OCC's arrangement with CME, allowing positions cleared at each clearing organization to be combined into a single portfolio for margin and settlement purposes, resulting in one margin requirement for the participant;



- **NSCC:** OCC maintains a link with NSCC to facilitate the clearing of physically-settled stock options and stock futures. Under the Accord, when the option holder exercises a physically-settled stock option at OCC, OCC reports the exercise to NSCC so that physical settlement can be carried out through NSCC. NSCC also performs a similar function in facilitating the settlement of physically-settled stock futures, though this is outside the scope of the Accord; and
- **DTC:** OCC maintains a link with DTC in order to facilitate the pledging of collateral to OCC and the clearing of stock loans. OCC supports two stock loan programs: the Stock Loan/Hedge Program and the Market Loan Program. Under the Stock Loan/Hedge Program, clearing members enter into bilateral loan transactions that are submitted to DTC for settlement, with OCC subsequently processing and guaranteeing the cash mark-to-market payments between clearing members associated with the transaction. Under the Market Loan Program, transactions are first matched on the AQS alternative trading system and then passed to OCC for settlement via DTC.

Identifying Risks from Prospective Links

New FMU links are analyzed pursuant to OCC's Financial Market Utility Relationship Policy, which entails a thorough review of the FMU's current business activities, financial and liquidity resources, risk management practices and operational performance, as well as an assessment of OCC's perceived direct and indirect risk exposures to the FMU and an evaluation of how the failure or disruption of the FMU's services would affect OCC and its clearing members.

Once the operational, financial, and legal review of the proposed FMU link is complete and has been reviewed by the appropriate members of OCC's management, the proposed link is presented to the Risk Committee, which makes a recommendation to OCC's Board regarding approval of the FMU link.

Monitoring Ongoing Risk from Links

OCC continuously monitors linked FMUs for any material changes in their financial condition, to ensure they are meeting the operational requirements of their respective agreements and for any direct or indirect risk exposures. Each month, OCC reviews a summary of the exposures and any material operational issues and considers the FMU link arrangement in the context of OCC's larger risk framework.

Ongoing Operational Monitoring

CME, ICE, DTC and NSCC are required to maintain operational performance in line with the agreements they have entered into with OCC. Pursuant to the terms of the relevant agreements, OCC may conduct continuous operational assessments of such linked FMUs by reviewing several factors including, but not limited to, system changes and daily interaction with the FMU.



Ongoing Financial Monitoring

OCC conducts ongoing monitoring of linked FMUs' finances. This includes:

- Monthly monitoring of OCC's direct and indirect exposures to the FMU and other related FMUs on a consolidated basis, encompassing collateral exposure, margin offsets, open interest and/or transaction volume and/or settlement activity;
- Monthly review of submitted and pending rule filings from the FMU for any impact to OCC's agreement with the FMU or any operational processes; and
- Annual review of the FMU or any operational processes and financial statements.

Key Consideration 2: *A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.*

As described under Key Consideration 1 of this Principle 20, OCC has established link arrangements with a number of other FMUs. Before entering into these arrangements, OCC conducted significant legal analysis and due diligence, operational review and regulatory review. This included OCC's legal staff or outside counsel analyzing the legal basis for the arrangement and the effective legal framework under which it would be operated, including, as applicable, the need for any changes to OCC's Rules.

All of OCC's current link arrangements are with entities that are located within the jurisdiction of the United States and are subject to the laws and regulations therein.

Key Consideration 3: *Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.*

Not applicable.

Key Consideration 4: *Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.*

Not applicable.

Key Consideration 5: *An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.*

Not applicable.



Key Consideration 6: *An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.*

Not applicable.

Key Consideration 7: *Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.*

As discussed above under Key Consideration 1, OCC undertakes a thorough review of the direct and indirect risks to which OCC is exposed by any FMU link, which includes a review of any “spill-over” credit risks presented by the default of the linked FMU. OCC also considers the impact of a failure by a linked FMU or an unexpected interruption in access to the FMU – e.g., due to a natural disaster or business continuity event – and anticipates what mitigating steps it will take if such an event were to occur. OCC staff includes FMU failure as a scenario in its stress test scenarios. OCC periodically considers the failure of any of OCC’s FMU linked relationships and maintains action plans intended to support OCC’s decision-making process during such a crisis.

Key Consideration 8: *Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP’s ability to fulfil its obligations to its own participants at any time.*

As discussed above under Key Consideration 1, OCC continuously monitors its risk exposures presented by its FMU link arrangements. For cross-margin links, for example, OCC quantifies the actual dollar amount of exposure related to the various risks arising from the settlements performed – e.g., the risk of a loss of settlement services, loss of access to clearing member collateral and loss of margin offsets. OCC assesses these risks and incorporates them into OCC’s stress tests when determining the adequacy of its own financial resources and the margin requirements imposed on clearing members participating in the link relationship. OCC and its linked FMUs each rely on their own clearing or guaranty funds in the event of a default.

All rules governing link arrangements are disclosed to clearing members in OCC’s Rules, as well as through the agreements that clearing members enter into when becoming participants in the cross-margining links.

Key Consideration 9: *A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.*

Not applicable.

PRINCIPLE 21: EFFICIENCY AND EFFECTIVENESS; SEC Rule 17Ad-22(e)(21)



An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Proposed Rule 17Ad-22(e)(21) would require a OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to ensure that it is efficient and effective in meeting the requirements of its participants and the markets it serves.

Key Consideration 1: *An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.*

OCC is dedicated to promoting stability and market integrity through effective and efficient clearance, settlement and risk management services. OCC manages sophisticated systems and processes to support clearing, settlement and risk management. Its systems facilitate transaction processing, fulfillment of margin and settlement obligations and improve the effectiveness of participants' back-office operations and risk management. By providing a breadth of services and maintaining the highest standard of customer service and availability, OCC makes the clearing process efficient, reliable and secure.

OCC's Member Services professionals are committed to providing clearing members with outstanding customer service and support. The Member Services Help Desk, available 24 hours a day, 7 days a week, provides member firms with direct access to knowledgeable staff who are trained to answer questions, provide information about OCC's systems and services and address operational issues. Clearing members can also contact OCC to receive information about the various data offerings available directly from OCC. Trade, post-trade, position, price, series, open interest, and risk based haircut information are available to all clearing members with connectivity.

OCC manages a Customer Relationship Management Program dedicated to providing OCC's clearing members with premier customer service. Central to the Customer Relationship Management Program is a Clearing Member Roundtable, which OCC started over 35 years ago to bring clearing members, exchanges and OCC together to discuss industry and operational issues. The Roundtable meets four times per year and includes representation across OCC's entire membership base. The Roundtable is comprised of representatives of the senior OCC staff, participant exchanges and clearing members, representing the diversity of OCC's membership in industry segments, OCC-cleared volume, business type, operational structure and geography. A service bureau representative is also included to address vendor issues.

Pursuant to its charter, the Roundtable is tasked with the following responsibilities:

- Addressing the operational impact of exchange new products and technologies;



- Addressing the operational impact of OCC new or enhanced clearing systems, services and technologies;
- Driving industry change by identifying clearing member concerns and generating ideas for improving efficiency and reducing cost and risk; and
- Identifying and addressing industry initiatives that may affect clearance procedures for options and futures.

The Customer Relationship Management Program also established the Streamlining Committee for clearing members, which is intended to address areas in which firms and OCC can create operational efficiencies in the clearing life cycle.

In addition to its engagement with its membership, OCC and its officers keep abreast of the latest developments in the larger marketplace through their involvement in several industry groups, as discussed in greater detail under Key Consideration 1 to Principle 2. OCC believes that these efforts at clearing member and marketplace engagement enhance its ability to quickly respond to client needs, while maintaining a high standard of prudent risk management and performance.

OCC also monitors its performance by obtaining annual feedback from both clearing members and participant exchanges. An annual clearing member survey is distributed to all clearing member representatives on the Roundtable to solicit feedback on OCC's performance, systems and operations. The survey asks clearing members to compare OCC to its peer central counterparties and inquires about positive elements as well as areas for improvement. Annually, OCC's President & COO also requests performance letters from OCC's participant exchanges, which provide feedback on perceived areas of excellence and opportunities for improvement. These clearing member surveys and participant exchange performance letters are part of OCC employees' annual performance reviews.

Key Consideration 2: *An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.*

OCC has defined business goals and objectives, which are centered on certain overarching strategic statements set by OCC's management pursuant to the authority granted by the Board. These goals, objectives and strategic statements are honed through periodic comprehensive planning sessions. OCC's management holds monthly discussions and annual reviews of its goals, objectives and strategic statements. OCC's corporate governance arrangements, which are described under Principle 2, are designed to ensure that these goals are pursued and are measurable and achievable.

OCC's main strategic statements are to:

- Enhance Resiliency;
- Promote Operational Excellence;



- Build a High Performance Culture; and
- Foster Growth, Innovation & Thought Leadership.

For each of these strategic objectives, OCC has defined more specific goals aimed at providing short-term and long-term growth and efficiency. For example, with respect to promoting operational excellence, OCC's strategic goals are to:

- Ensure highly reliable and secure services;
- Maintain individual and collective accountability for financial results;
- Provide service levels that meet the diverse needs of market participants; and
- Gain efficiencies in productivity and automation.

For each goal, OCC sets measurable and achievable annual objectives. OCC also categorizes and tracks each of these corporate objectives, as described under Key Consideration 1 of Principle 17. OCC regularly measures and reviews its strategic goals and objectives, as well as any specific projects developed to further them, to ensure that they are being met efficiently and effectively.

OCC also tracks systems and operational performance against established standards, or service levels, for all areas of clearing and settlement. These standards track the performance and timeliness of, effectively measuring the performance of the system and associated processes. Weekly, management meet to review any "hits" to a service level, followed by a bimonthly review meeting with senior management to assess production accountability.

Key Consideration 3: *An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.*

As described under Principle 2 above, OCC's Compensation and Performance Committee plays a key role in overseeing OCC's overall performance, including tracking the accomplishment of established corporate objectives and the efficiency and effectiveness of its delivery of clearance, settlement and other designated industry services to its clearing members. The Compensation and Performance Committee bases its assessments, in part, on the progress reports it receives from OCC's management.

The Compensation and Performance Committee bases its assessments on clearing member feedback in addition to information provided by OCC's staff. As noted under Key Consideration 1, each year OCC asks members of its Clearing Member Roundtable to assess OCC's overall performance, based on systems, collateral and ancillary services, timeliness and reliability, communications and overall customer service. A



summary of these assessments is submitted to OCC's Compensation and Performance Committee annually.

Additionally, service levels or quality standards are integral to OCC's culture. Quality standard performance is also a component in determining employee compensation.

PRINCIPLE 22: COMMUNICATION PROCEDURES AND STANDARDS; SEC Rule 17Ad-22(e)(22)

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

Proposed Rule 17Ad-22(e)(22) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to ensure that it uses, or at a minimum accommodates, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, and settlement.

Key Consideration 1: *An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.*

OCC uses internationally accepted communications standards for clearing and settlement. OCC uses FIXML for exchange-traded options and futures, as well as to communicate regulatory data to self-regulatory organizations on behalf of OCC's clearing members. OCC uses FPML for over-the-counter contracts. In compliance with DTCC's Universal Trade Captures Format, OCC sends security settlement data from exercise and assignment in FIX. OCC also communicates with DTC and certain banks via ISO and SWIFT for collateral deposit and withdrawal transactions.

Procedurally, OCC communicates through its data distribution system, which is a data service facility available for subscribers. Through the data distribution system, OCC distributes information pertaining to trades, post-trade information, positions, prices, and settlement activity. Furthermore, the data distribution system allows subscribers to receive certain information in real-time.

To assist subscribers in utilizing the data distribution system, OCC makes a number of reference guides available on its website. OCC's Member Services Department is also available to field member inquiries regarding the data distribution system.

OCC participates in a number of industry groups to establish communications standards and procedures provided to exchanges, clearing members and other relevant market participants. These industry groups include:

- Securities Industry & Financial Markets Association (SIFMA);
- Futures Industry Association (FIA);



- Shared Market Information System (SHAMIS);
- FIX Protocol Limited (FPL);
- International Swaps and Derivatives Association, Inc. (ISDA); and
- World Federation of Exchanges (WFE).

By using internationally accepted standards and comprehensive communications and distribution procedures, as well as working with industry groups to establish and develop communications standards, OCC seeks to ensure effective communication to its members.

PRINCIPLE 23: DISCLOSURE OF RULES, KEY PROCEDURES AND MARKET DATA; SEC Rule 17Ad-22(e)(23)

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

Proposed Rule 17Ad-22(e)(23) would require OCC to establish, implement, maintain and enforce written policies and procedures reasonably designed to maintain clear and comprehensive rules and procedures that provide specific disclosures of rules, key procedures and market data.

Key Consideration 1: An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.

OCC seeks to ensure that its Rules, which are publicly available on OCC's website, are clear and cover all key OCC operations. OCC's policies and procedures are integrated into the Rules. Among other topics, OCC Rules cover OCC procedures and operations, requirements for membership, financial requirements of clearing members, risk management and suspension procedures.

The process for amending OCC Rules is disclosed in the Rules, which are publicly available on OCC's website. Under Article XI of OCC's By-Laws (Amendment of the By-Laws and the Rules), the By-Laws may generally be amended by the affirmative vote of two-thirds of the Directors then in office. OCC Rules may be amended at any time by the Board. In addition, proposed rule changes are posted to OCC's website.

Key Consideration 2: An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.

OCC's Rules clearly specify the rights and obligations of each clearing member with respect to OCC's system. For example, Chapter II of OCC's Rules (Miscellaneous



Requirements) address various requirements for all clearing members, including certain personnel requirements. Chapter III (Financial Requirements) expressly outlines financial requirements for members. The requirements for membership are also summarized on OCC's website.³⁰ By providing a comprehensive set of rules addressing the requirements of all clearing members, OCC enables clearing members to assess the obligations and risks incurred by participating in OCC's services.

OCC discloses a description of its design and operations through publications available to its clearing members, including technical reference and connectivity documentation.³¹ User manuals and guides are also available to clearing members and exchange staff via OCC's secure intranet.

Key Consideration 3: *An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.*

OCC offers a number of educational tools and services to ensure that clearing members have a sufficient understanding of its Rules as well as the risks of OCC membership. As a qualification for membership, each firm must go through an Operations Orientation. This orientation addresses OCC procedures, OCC financial and operational services, and the clearance process for different option products.

OCC also enhances clearing members' understanding of OCC operations through robust member communication procedures. OCC provides a toll-free customer service phone number, staffed with knowledgeable representatives who are available to assist clearing members. OCC also communicates with members via email and through an electronic messaging radar alert system in ENCORE.

OCC pairs each clearing member with a designated Member Services representative. Each clearing member's Member Services representative is responsible for communicating key business information in a manner tailored to the clearing member's individual needs. Additionally, Member Services representatives conduct on-site orientation and training for members. For example, through OCC's annual firm visitation program, the Member Services representatives visit each assigned firm for an operational review and to discuss OCC updates and industry initiatives.

To further ensure that its Rules and key procedures are clear to clearing members and the public, OCC offers guidance through a variety of informational resources and services. For example, OCC offers a number of user manuals, handbooks and disclosure documents to its clearing members. These publications are designed to

³⁰ <http://www.optionsclearing.com/membership/become-member/>

³¹ Information on Data Distribution Service and Inbound FIXML Reference is available on the following pages in OCC's website: <http://www.theocc.com/membership/dds/dds-reference.jsp>; <http://www.theocc.com/membership/dds/fixml-reference.jsp>; and <http://www.theocc.com/membership/dds/fixml-schema.jsp>.



keep clearing members apprised of OCC operations, including the specific risks associated with membership. OCC also publishes information memoranda, which cover a number of topics pertaining to OCC's operations and services, as well as updates on corporate actions or systems enhancements. These are distributed via email subscription lists and are posted on OCC's website.³²

On OCC's public website, market participants and members of the general public are also able to sign up for "email alerts" on various topics, including: (i) daily volume, contract adjustments and important notices, (ii) market data updates, (iii) expiration notices, (iv) OCC new listings, (v) OCC press releases, (vi) OCC updates, (vii) updates to OCC's risk-based haircut program, (viii) updates to the data distribution system guide; and, (ix) the OCC News online newsletter.³³ OCC also publishes an "OCC Membership Update" newsletter that is posted on the proprietary MyOCC intranet and disseminated via email to clearing members. The newsletter highlights system enhancements, upcoming changes and important reminders. Finally, OCC offers training via webinars and webcasts to explain new processes and changes to existing systems, as well as to provide its clearing members with general "refresher" courses.

OCC is also a sponsor of The Options Industry Council, an industry cooperative that provides education to market participants about the benefits and risks of exchange-listed equity options. The Options Industry Council hosts options seminars, videos and podcasts, distributes educational literature, maintains a website and offers live help from options professionals. The Options Industry Council's roundtable is the independent governing body of the Council and is comprised of representatives from the participant exchanges, clearing member brokerage firms and OCC. Appropriate compliance and legal staff of the exchanges ensure that all Council-produced information includes a balance of the benefits and risks of options.

Key Consideration 4: *An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.*

OCC discloses the nature and purpose of its fee structure to clearing members through Article IX, Section 9 of the By-Laws (Fees). Per OCC's approved Capital Plan, clearing fees are set to cover OCC's operating expenses and maintain a business risk buffer of 25% (absent extraordinary circumstances). OCC discloses its fee schedule publicly on its website. This fee schedule covers membership fees, as well as clearing services fees and fees for ancillary services.³⁴ Member Services is made available to respond to inquiries regarding fees. OCC also discloses a description of its clearing and ancillary services on its website.³⁵

When a change is made to OCC's fee schedule, the new fee schedule is posted on OCC's public website and an announcement of the change is communicated to clearing

³² <http://www.theocc.com/webapps/infomemos>.

³³ <http://www.theocc.com/webapps/email-alerts>.

³⁴ <http://www.optionsclearing.com/membership/schedule-of-fees/>

³⁵ <http://www.optionsclearing.com/clearing/>



members through OCC's intranet. A change to OCC's fee schedule also requires regulatory rule change filings with the SEC and CFTC, which will be published on OCC's website and in the Federal Register. OCC also disseminates information memoranda regarding the new fee information to representatives of all clearing members.

Key Consideration 5: *An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.*

OCC's response to the CPSS-IOSCO disclosure framework for financial market infrastructures is available at [<http://www.theocc.com/pfmresponse>]. OCC plans to update its response at least once every two years and following any material changes to its risk management infrastructure.

OCC regularly makes a number of data reports available on its website. For example, OCC posts daily, weekly and monthly volume reports to its website, as well as position limit data and position limit data change reports. Data is also made available through information memoranda posted on OCC's website and through email alerts.³⁶

PRINCIPLE 24: DISCLOSURE OF MARKET DATA BY TRADE REPOSITORIES

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

OCC is not a trade repository. Therefore, Principle 24 is not applicable.

³⁶ Comprehensive volume reports, in many formats, can be found at: <http://www.theocc.com/market-data/volume/>; open interest reports can be found at: <http://www.theocc.com/market-data/open-interest/>; series and trading data can be found at: <http://www.theocc.com/market-data/series/overview.jsp>; information memoranda can be found at: <http://www.theocc.com/webapps/infomemos>; information regarding data sales can be found at: <http://www.theocc.com/market-data/data-sales/default.jsp>; batch processing reports can be found at: <http://www.theocc.com/market-data/batch-processing.jsp>; and one can sign up for email alerts at: <http://www.theocc.com/webapps/email-alerts>.



VI. LIST OF PUBLICLY AVAILABLE RESOURCES

Resources pertaining to OCC can be found at www.optionsclearing.com. Hyperlinks to documents specifically referenced in this Disclosure Framework are below.

[By-Laws and Rules](#)

[Rule Filings](#)

[Mission and Values Statement](#)

[Board Charter](#)

[Board Committee Charters](#)

[Board Member Biographies](#)

[Financial Safeguards Document](#)

[Management Team Biographies](#)

[Margin Methodology](#)

[Participation Requirements](#)

[Overview of Default Rules and Procedures](#)

[Data Distribution System Reference Guides](#)

[Investor Services Contact Information](#)

[Fee Schedule](#)

[Description of Clearing and Ancillary Services](#)

[OCC Annual Report Archive](#)