



# **CME Clearing Risk Management and Financial Safeguards**

CME Group Inc. (“CME Group”) is the parent company of Chicago Mercantile Exchange Inc. (“CME Inc.”). CME Inc. operates a registered Derivatives Clearing Organization (“DCO”). CME Clearing, a division of CME Inc., is one of the world’s leading central counterparty clearing services. CME Clearing provides clearing and settlement services for exchange-traded contracts and cleared over-the-counter (“OTC”) derivatives transactions. CME Clearing applies robust risk management standards and applicable Commodity Futures Trading Commission (“CFTC”) customer protection standards for all products it clears.

CME Group brings buyers and sellers together through numerous venues including the CME Globex electronic trading platform, open outcry trading facilities in Chicago and New York, cleared privately negotiated transactions, and an array of clearing services offered through CME ClearPort. CME Clearing serves as the counterparty to every trade, becoming the buyer to each seller and the seller to each buyer, limiting credit risk and therefore mitigating the risk of default.

CME Clearing’s integrated clearing function is designed to ensure the safety and soundness of our markets, serving the risk management needs of customers around the globe by offering clearing services for a wide range of global benchmark products. CME Clearing continues to structure its services, safeguards, and registration status to best serve the evolving markets to which it provides clearing services. This includes business transacted on the Board of Trade of the City of Chicago Inc. (“CBOT”), CME Inc., Commodity Exchange, Inc. (“COMEX”), the New York Mercantile Exchange, Inc. (“NYMEX”), Dubai Mercantile Exchange (“DME”), and Eris Exchange, as well as transactions submitted for clearing through CME ClearPort.

CME Clearing is vitally aware of its role in global markets and is confident that our operational standards paired with our financial safeguards provide an effective set of risk management tools and capabilities that result in industry leading risk management capabilities.

*This brochure is intended to provide an overview of CME Clearing’s financial safeguard system. For additional details and applicable Rules, please reference the CME Inc., CBOT, and NYMEX rulebooks published on CME Group’s website ([www.cmegroup.com](http://www.cmegroup.com)).*

# CME Clearing Overview

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CME Inc. is registered with the U.S. CFTC as a DCO. CME Clearing provides clearing services to a variety of CFTC registered Designated Contract Markets (“DCMs”), including CME Inc., CBOT, NYMEX, and COMEX. CME Inc. additionally, provides clearing services for the DME and Eris Exchange. CME Clearing also accepts trades submitted for clearing through CME ClearPort, a flexible clearing service that allows market participants to transact trades on OTC terms and submit them for clearing, either clearing products as OTC swaps or as futures and options on futures (through an exchange-of-futures-for-swaps or EFS transaction), pursuant to applicable rules.

CME Clearing provides clearing services to the OTC markets through uniquely designed services for the Interest Rate Swap (“IRS”) and Credit Default Swap (“CDS”) markets. In order to support its role as the central counterparty to market participants utilizing products in these various markets, CME Clearing has three independent Guaranty Funds and financial safeguards waterfalls, where the contributions to one waterfall cannot be used to cure losses in a different waterfall (as further explained below): one for IRS, one for CDS, and one for futures and cleared OTC products other than IRS or CDS (the Base Guaranty Fund).

Risk management and financial surveillance are principal functions of CME Clearing’s financial safeguards system. The safeguards are designed to provide the highest level of security. The safeguards aim to protect and mitigate the consequences to Clearing Members and their customers in the case of a participant default.<sup>1</sup> CME Clearing’s financial safeguards system is continually evaluated and updated to reflect the most advanced risk management and financial surveillance techniques. The CME Clearing Risk Management department, in collaboration with the Financial and Regulatory Surveillance, Banking and Collateral Services, Legal, CME Clearing Compliance, and Market Regulation departments, are responsible for design, development, monitoring, and managing the financial safeguards system.

## Governance Structure

CME Clearing risk management policies and actions are monitored by several layers of governance designed to align incentives and ensure prudent oversight. CME Group maintains a Risk Committee of the Board of Directors (“Board Risk Committee”), with the primary remit to review, assess, and provide oversight of the CME Group’s enterprise-wide risk management. A copy of the charter for the Board Risk Committee is available on CME Group’s website.<sup>2</sup> The Board Risk Committee assesses the integrity and adequacy of CME Group’s Enterprise Risk Management (“ERM”) Program and the Compliance and Ethics (“C&E”) Program. The Board Risk Committee assists the Board in its oversight of the effectiveness of the Company’s policies and processes to identify, manage, and plan for its operational, strategic, financial, and regulatory and compliance risk under its ERM Program and C&E Program. The Board Risk Committee maintains oversight of operational risks on an enterprise wide basis, which includes CME Clearing.

The Board Risk Committee is comprised of members from other Board and non-Board level committees that have risk oversight responsibilities, including the Market Regulation Oversight Committee, the Clearing House Risk Committee (“CHRC”), the Interest Rate Swap Risk Committee (“IRSRC”), and the Credit Default Swap Risk Committee (“CDSRC”). Cross-representation ensures appropriate information sharing across the Committees. The Board Risk Committee is also responsible for periodically performing a gap analysis of the division of risk-related responsibilities among the Board and non-Board level committees to ensure effective oversight of CME Group’s key risks and make recommendations for enhancing such oversight to the Board, as necessary.

The Chairmen of the Board Risk Committee, as well as the Co-Chairs or Chairman, as applicable, of the CHRC, the IRSRC, and the CDSRC make regular oral reports to the Board during meetings of the Board. Additionally, in a continued effort to keep the Board of CME Group apprised of CME Clearing’s activities, the President of the Clearing House makes at least annual reports to the Board.

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<sup>1</sup> Rule 802.A.1, a Clearing Member is in default when it “fails to promptly discharge any obligation to” CME Clearing.

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<sup>2</sup> <http://investor.cmegroup.com/investor-relations/committees.cfm?DocumentID=14475>

## CME Clearing Overview, *continued*

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The various non-Board level functional committees have been established to oversee the financial safeguards system, including the CHRC, the CDSRC, and the IRSRC, as described in the CME Inc.'s Rulebook. Each Risk Committee represents a balanced constituency of Clearing Members and industry experts and is chaired by a Board member.

The primary functions of the CHRC, IRSRC, and CDSRC, in their respective major asset classes, Base, IRS, and CDS, are to provide oversight on major risk management policy issues and financial safeguards, oversee financial surveillance activities and recommend disciplinary action, and supervise on membership issues.

Additionally, the CHRC is charged in its charter with guiding the Board of CME Group in maintaining and enhancing CME Clearing's role as the industry leader in risk management. It is an objective of the CHRC to provide an open avenue of communication amongst the Board of CME Group, CME Group management, CME Clearing, the other Risk Committees, and Clearing Members.

## Financial Integrity of CME Clearing

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CME Clearing serves as the counterparty to every cleared transaction, becoming the buyer to each seller and the seller to each buyer, limiting the credit risk by guaranteeing the financial performance of both parties and netting down exposures. In a bilateral system, each participant faces the concentrated, individual credit risk of the other party to the transaction. Satisfactory fulfillment of the transacted contract or agreement depends primarily on the creditworthiness and proper behavior of each individual party to each transaction. CME Clearing mitigates counterparty risk through becoming the counterparty to both sides of the transaction, while utilizing risk tools, collection of performance bond, mark-to-market cycles, and collection of Guaranty Fund contributions, among other tools. By this mechanism, the concentrated credit risk of each transaction is transformed into a well-diversified and regulated risk supported by the Financial Safeguards system (described below).

Clearing Members are the cornerstone of the financial safeguards system. All transaction participants must be represented by a Clearing Member who guarantees their obligations to the Clearing House. Each Clearing Member assumes performance and financial responsibility for all transactions it clears, including transactions cleared on behalf of its customers and for its own account and for its affiliates.

CME Clearing utilizes a variety of risk management metrics to evaluate Clearing Members' abilities to withstand changing market dynamics. Each Clearing Member is accountable to CME Clearing as the guarantor for payment and performance bond (also referred to as margin) obligations arising from the accounts it clears. Under the structure which CME Clearing operates, CME Clearing evaluates the risks faced by market participation and ensures that Clearing Members provide prudent oversight and evaluation of their individual customers. CME Clearing evaluates Clearing Members for the adequacy of their customer level risk monitoring policies and procedures. CME Clearing additionally, monitors the risk exposure of individual customer accounts throughout the day that are deemed to be "Large Trader" accounts.

Prospective clearing members may apply for clearing membership for all or a subset of cleared products. Membership requirements may vary by product class, but generally include maintaining adequate financial resources, contributing to each Guaranty Fund

applicable to their membership, satisfying capital requirements, meeting the necessary operational and technological requirements associated with the products planned to be cleared, and demonstrating adequate knowledge and experience in the desired products, including the appropriate risk management policies and procedures and participating in default management. CME Clearing is committed to providing Clearing Members with fundamental risk management tools to promote and protect the financial integrity of the market, including the interest of Clearing Members, their customers, and CME Clearing.

# Risk Management Controls

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CME Clearing provides risk management controls for Clearing Members to utilize in the assessment and control of risk exposures associated with providing clearing services to clients, including those that have direct market access (“DMA”). The risk control parameters are determined and set by the Clearing Member. As an additional layer of protection for the marketplace, CME Clearing reviews and monitors the risk control parameters that Clearing Members put in place on their clients. All CME Clearing risk tools are continually assessed to ensure appropriateness and effectiveness, as well as evaluated against prevailing industry best practices to ensure that the tools are properly measuring potential risks facing the Clearing House.

## Trade Execution, Clearing, & Reporting

CME Globex is the platform that hosts CME’s global electronic trading execution for futures and options on futures. On CME Globex, all futures and options markets can be accessed directly through iLink. CME Globex provides access to the broadest array of futures and options products available on any platform, nearly 24 hours a day throughout the trading week, from anywhere in the world. CME Globex offers high-speed execution, transparency, anonymity, and global distribution.

CME Globex incorporates numerous mechanisms that prevent excessive price movements to preserve market integrity. Stop Spike Logic allows for a momentary pause in trade matching when the pre-established triggered stop levels would cause the market to trade outside of predefined values. This prevents excessive price movements from occurring due to trading in illiquid market conditions. Similarly, Velocity Logic introduces a momentary pause in trade matching when a predefined number of market movements, either up or down, are detected within a predefined time period. Additionally, to preserve market integrity, Price Banding is employed for all incoming electronic orders, which subjects orders to price verification. Many exchange traded products also have daily price limits and/or circuit breakers to afford market participants the necessary time to mobilize liquidity during periods of significant price swings. CME Globex also employs matching algorithms so market participants receive fair prices at execution for each product group.

Further information on CME Globex can be found on CME Group’s website in the CME Globex Reference Guide.<sup>3</sup>

CME Clearing also offers service through CME ClearPort, which is a platform that hosts CME Clearing’s OTC products and a comprehensive set of flexible clearing services for global OTC markets fully backed by CME Clearing. CME ClearPort offers an array of clearing services that vary depending on the nature of the product traded, allowing users to submit bilaterally negotiated trades for clearing. CME ClearPort has the capacity to report transactions in multiple asset classes and provides significant mitigation of counterparty risk and neutral valuations across asset classes.

Additionally, market participants can access CME Group’s exchange traded and OTC markets through CME Direct. CME Direct is integrated with CME ClearPort, allowing for OTC trades to be submitted for clearing instantaneously. CME Clearing provides Clearing Members with applications to view and control risk settings at the clearing- and executing firm-level for CME Direct and OTC trades. These applications are also fully integrated with CME ClearPort. All trades submitted to CME Clearing for clearing are subject to risk controls, regardless of the way in which they come into clearing.

CME Inc. also supports a Swap Data Repository (“SDR”) that provides public reporting on cleared, non-cleared and uncleared swap transactions reported to the Repository – providing an infrastructure that allows for greater transparency into OTC markets. The information is published by asset class in real-time after any applicable regulatory-mandated delays and includes access to the history on all previous publicly reported swap transactions. CME SDR seamlessly integrates with CME Clearing and simplifies swap transaction reporting, reconciliation, and compliance.

CME Inc. has received temporary registration as a swap execution facility (“SEF”), which will be accessible via CME Direct, and will provide enhanced operational flexibility to meet customers’ needs. CME Inc.’s SEF will initially launch with commodities and additional asset classes will be evaluated based on customer demand.

All OTC swap trades submitted for clearing that are executed on a SEF or other third party execution platforms are subject to all relevant CME Clearing Rules, particularly Rule 815. Clearing

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3 <http://www.cmegroup.com/globex/files/GlobexRefGd.pdf>

## Risk Management Controls, *continued*

Members must implement the appropriate risk controls even when a trade is executed on a third party execution platform. CME Clearing maintains sole discretion in accepting or rejecting a trade for clearing. Additionally, all third party execution platforms that submit trades for clearing to CME Clearing are subject to CME Clearing Rules and must give CME Clearing access to its execution platform for risk management purposes. CME Clearing's authority over third party execution platforms gives CME Clearing the ability to ensure that their prudent risk management standards are met for all trades that enter into clearing through third party execution platforms.

### Credit Controls

CME Clearing has pre-trade credit control systems in place to manage credit risk by providing Clearing Members access to CME Clearing risk controls for exchange traded and cleared OTC products. The risk control tools provide Clearing Members the ability to limit their total exposure to electronic trading accounts through credit limits. CME Clearing's risk control systems allow risk managers at both CME Clearing and Clearing Members to gain insight into credit exposures at the execution firm level. CME Clearing requires all Clearing Members to place credit controls on their customers, pursuant to CME Clearing Rule 949.

CME Globex Credit Controls ("GC2") is a front-end application that provides pre-execution risk controls to enable risk administrators at a Clearing Member or partner exchange Clearing Member to set credit limits, which protect against the risks posed by electronic execution on CME Globex. GC2 allows Clearing Members to retain the ability to implement risk controls in a manner that is most appropriate for their customers and business profile. Risk administrators can choose from a set of real-time actions to alert them of limit breaches, including e-mail notifications, order blocking, and order cancellation.

GC2 features include:

- **Exposure Limits** - set exposure limits for futures and options;
- **Open and Filled Position Calculations** - open and filled positions are calculated for a product complex per Executing Firm ID / Exchange group;

- **Good 'til Cancel** – Good 'til Cancel ("GTC") orders remain active in the order book until they are completely executed, canceled, or when the instrument expires;
- **Good 'til Date** - Good 'til Date ("GTD") orders remain active in the order book until they are completely executed, expire at the specified date, are canceled, or when the instrument expires;
- **Advanced Settings** - used to set a reference margin rate for credit utilization; and
- **Max Quantity Limits** - in addition to Exposure Limits, the risk administrator can enter the optional Max Quantity Limit Clip Size for Buy/Sell Futures and/or Buy/Sell Options for the grouping.

OTC Clearing Members have the flexibility to implement client credit controls utilizing CME Clearing risk control tools or their own internal systems, allowing for risk management that is commensurate to the unique client base of each Clearing Member.

For both OTC and exchange-traded products, Futures Commission Merchant ("FCM")<sup>4</sup> Clearing Members act as risk managers for their clients, which allows CME Clearing to use the knowledge these Clearing Members have of their clients to assist in managing client accounts overall risk exposures, including liquidity, and funding obligations. CME Clearing maintains the right to advise a Clearing Member if any limits appear to be inappropriate for the Clearing Member's clients for OTC and exchange traded products. CME Clearing has transparency into the risk managers' oversight of their clients and is able to evaluate the overall risk to the marketplace through in part taking a more holistic look at market participants' exposures.

Additionally, before a trade can enter into clearing, CME Clearing sets credit controls on its IRS and CDS customers, due to the different market structures that exist for exchange-traded products and OTC products. Both IRS and CDS credit controls are set at the clearing level with additional credit controls set by CME Clearing at the trade level for IRS. Credit controls are reset at the start of each trading day and monitored by CME Clearing's Risk Management team on a real-time basis.

<sup>4</sup> Title VII U.S.C. 1(a)(28)

## Risk Management Controls, *continued*

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As an IRS or CDS Clearing Member approaches their credit limits, the CME Clearing Risk Management team may take any of the following actions:

Contact the firm to discuss changes to their risk profile and assess next steps;

- Request additional collateral, if appropriate;
- Adjust limit thresholds to reflect the risk profile; and/or
- Permit risk-reducing trades only, for the respective account.

Overall, credit controls allow for CME Clearing to prudently manage and have oversight into Clearing Members risk exposures and are necessarily flexible to account for changing market conditions.

### Drop Copy

The Drop Copy service allows customers to receive real-time copies of CME Globex Execution Report and Acknowledgement messages as they are sent over iLink order entry system sessions on a separate, dedicated path. This gives greater transparency to both the risk managers at the Clearing Member- and customer-level.

Drop Copy features include the ability to monitor orders and activity, as well as aggregate execution and reject messages. Drop Copy aggregates iLink messages, enabling Clearing Members to monitor messages for clients with direct market access.

### Cancel on Disconnect

CME Globex Cancel On Disconnect (“COD”) monitors the iLink system for involuntary lost connections between iLink users and the CME Globex platform. The COD functionality allows users to have working orders automatically canceled upon the involuntary loss of session connectivity. Market makers and liquidity providers have the ability to utilize this tool to control their risk in the market. Upon a session disconnect, the COD functionality checks for resting orders for registered session and trader ID pairs and sends a command to cancel the orders. Through the COD function, a user will receive all cancel acknowledgment messages upon reconnecting.

### Risk Management Interface

Risk Management Interface (“RMI”) gives Clearing Members with access to CME Globex markets the ability to implement granular pre-trade risk controls. RMI allows Clearing Members to block or unblock order entries by execution firm, account, exchange, derivative type, and side (buy or sell). Clearing Members also have the capability to view blocked orders through RMI.

### FirmSoft

FirmSoft gives market participants access to real-time information for working and filled CME Globex orders, an important risk management tool. Risk managers at the Clearing Member have greater insight into working and filed orders with FirmSoft. Additionally, FirmSoft provides order visibility and cancellation capabilities.

### Kill Switch

Kill Switch provides Clearing Members the ability to implement a one-step shut-down for all of CME Globex activity for a specific entity, allowing Clearing Members to limit total exposure to electronic trading entities. Upon activation of the Kill Switch by the Clearing Member, all order entry capabilities are blocked and all working orders are cancelled.



# Financial Safeguards System

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CME Clearing has established a financial safeguard system to provide optimal risk management protections. CME Clearing provides clearing services for a variety of products and has developed independent financial safeguards to best serve the unique attributes of the market infrastructure serving particular products. Each Clearing Member is required to participate in each applicable financial safeguards system package for the products it is eligible to clear.

CME Clearing employs a variety of tools and methods to manage risk including, mark-to-market functionality, performance bond requirements, and account identification as standard risk management practices across all asset classes, and additional procedures specific to more dynamic markets. CME Clearing's Clearing Members are subject to stringent capital, operational, and risk management standards as a condition of clearing membership. These Clearing Member standards are augmented by CME Clearing risk management and financial surveillance techniques that are designed to:

- Estimate potential market exposures;
- Prevent the accumulation of losses;
- Manage concentration risk among Clearing Members;
- Closely monitor the financial integrity and capability of Clearing Members;
- Ensure that sufficient resources are available to cover future obligations;
- Result in the prompt detection of financial and operational weaknesses; and
- Allow for swift and appropriate action to rectify any financial problems and protect market participants.

## Real-Time Monitoring

CME Clearing monitors intraday price movements and trading activity throughout the trading session. To assess the impact of these price changes on Clearing Members, CME Clearing monitors market participants' exposures in real-time. CME Clearing conducts intraday mark-to-market calculations, which are performed on Clearing Member and customer positions and reviewed by CME Clearing throughout the day and overnight. CME Clearing Risk Management continuously monitors profit and loss

on real-time positions that are marked to real-time market prices, reducing the accumulation of debt in the marketplace. Through 24 hour, 6 days a week monitoring, CME Clearing is able to reduce risk across time zones, from Europe to Asia with settlement occurring during peak activity in the U.S. time zone. Since one of the duties of CME Clearing's Risk Management team is to conduct the daily monitoring of Clearing Member exposures they may coordinate with other exchanges or clearing organizations to follow up on Clearing Member activity at their respective organizations.

On a daily basis, CME Clearing conducts stress testing of Clearing Member portfolios and for Clearing Members' large individual customer accounts. Numerous stress scenarios have been modeled to reflect a diverse set of possible market events. Stress results are evaluated against performance bond on deposit and Clearing Member adjusted net capital. Results of stress tests may lead CME Clearing to request that a Clearing Member provide additional information about its customer accounts, such as whether offsetting positions for CME Clearing cleared products exist in other markets. In some cases, stress test results may cause CME Clearing to increase a Clearing Member's performance bond requirement, capital requirements, or require a Clearing Member to reduce or transfer positions.

## Mark-to-Market

CME Clearing's risk management model uses both performance bond and settlement variation to mitigate the risk of default by a Clearing Member, with performance bond addressing the costs of hedging and liquidation in the case of a default. CME Clearing performs mark-to-market settlement variation and performance bond settlement cycles for all products in the Base waterfall twice per day and for all OTC IRS and OTC CDS cleared products at least once per day to appropriately limit the build-up of risk exposures. CME Clearing's twice daily mark-to-market cycles limit the risk associated with trading hours in the European and Asian time zones. CME Clearing also reserves the right to perform ad hoc settlement cycles as market conditions warrant or to call for additional performance bonds, as necessary.

At each settlement cycle, CME Clearing determines the change in market value of all open positions from the prior settlement cycle and communicates to the respective Clearing Members for

## Financial Safeguards System, *continued*

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settlement. These processes remove accumulated obligations from the system while ensuring that CME Clearing at a minimum holds sufficient collateral to protect against potential losses that may accumulate prior to the next settlement cycle. The settlement process is covered in greater detail under Rule 814, Settlement Variation and Option Value.

### Performance Bond Requirements

Performance bond (also referred to as margin) requirements are good-faith deposits to mitigate non-financial performance on open positions, acting as an ex-ante risk based tool to cover potential future exposures. Through CME CORE, a web-based tool, CME Clearing offers full transparency to market participants giving them the ability to calculate and evaluate performance bond requirements for all products cleared by CME Clearing. CME Clearing establishes minimum initial and maintenance performance bond levels for all cleared products. All Clearing Members are required to post maintenance performance bond levels to CME Clearing, which represents the minimum amount of protection against potential losses of a position or portfolio.

The buffer between initial performance bond and maintenance performance bond levels acts as an anti-procyclical measure, ensuring that prudent margin levels are maintained, while not requiring the Clearing Member to post additional margin if the risk profile of their position changes only slightly. The buffer between initial performance bond and maintenance performance bond is currently 10% with CME Clearing having the discretion to increase the buffer, where appropriate. Clearing Members' adherence to meeting maintenance performance bond levels acts as an anti-procyclical measure, while also maintaining stable, prudent risk management standards. Any deficit in a Clearing Member's performance bond requirement results in a direct debit to the Clearing Member's account at its designated settlement bank.

Pursuant to CFTC Regulation 39.13(g)(8), Clearing Members are required to collect at a minimum from their customers the amount of performance bond set by the DCO. CME Clearing therefore, requires that Clearing Members collect initial performance bond levels from a customer when an account is new or when the account's equity falls below minimum maintenance performance bond requirements set by CME Clearing, allowing customers to absorb some losses before issuance of another performance

bond call. When performance bonds on deposit at the customer level fall below the maintenance performance bond requirement, the account is topped up to the current initial performance bond level resulting in a direct debit to the Clearing Members account at its designated settlement bank. CME Clearing permits Clearing Members to deposit performance bond sufficient to cover their net exposures for their proprietary positions. CME Clearing calculates performance bond requirements for each customer, collecting gross performance bond for the aggregate cleared swap customer account and customer segregated account.

Clearing Members may impose more stringent performance bond requirements on their customers than the minimums established by CME Clearing, due to the greater visibility they have into the credit risk profiles of their customers. The "excess" collateral above the amount required by and held by the Clearing House or the Clearing Member minimizes the potential need for more frequent calls for additional collateral from customers. Excess customer collateral is carefully monitored and protected (see "Customer Protections and Financial Surveillance" below).

Performance bond requirement policy is established to ensure appropriate coverage for all products and portfolios, while allowing flexibility to CME Clearing to adjust settings or model parameters as market conditions change. CME Clearing covers, in compliance with CFTC Regulation 39.13, 99% of the potential price moves for a product or portfolio of products over a minimum of one-day for futures and options on futures; one-day for swaps on agricultural commodities, energy commodities, and metals; and five-days for all other swaps.

Pursuant to CFTC Regulations, CME Clearing is required to maintain 99% performance bond coverage on an ex-post basis. CME Clearing calibrates performance bond requirements for each asset type to, at a minimum, to meet the necessary 99% coverage standard within the defined margin period of risk ("MPOR") and therefore, where appropriate, utilizes confidence levels that exceed 99% in calibrating performance bond requirements.

Performance bond methodologies utilized to calculate portfolio risk give consideration to product specific risk profiles, including but not limited to potential concentration risk and liquidity risk. All of CME Clearing's performance bond methodologies look to balance prudent coverage standards with the potential impact

## Financial Safeguards System, *continued*

of procyclicality to the market place. CME Clearing determines performance bond floors for certain products, where appropriate, which ensures targeted performance bond levels are maintained during periods of low volatility. CME Clearing considers seasonal volatility for specific products that are subject to seasonal behavioral patterns. CME Clearing utilizes both short- and longer-term volatility movements to appropriately calibrate stable performance bond requirements.

CME Clearing monitors Clearing Members' customer and house portfolios for various risk exposures and under Rule 824, may require additional performance bonds from any Clearing Member when deemed necessary in response to unstable conditions. This practice allows CME Clearing to better calibrate performance bonds against expected liquidity profiles of certain portfolios in times of market stress. In conducting reviews of product or portfolio liquidity profiles, CME Clearing may increase the coverage standards and/or MPOR for particular products directly within the portfolio risk assessment methodology, or alternatively, by addressing liquidity issues through "add-ons" to the basic portfolio risk assessment algorithm calculations. Additionally, CME Clearing establishes minimum performance bond requirements for exchange-traded and certain OTC products.

Further information on the performance bond methodologies utilized by CME Clearing is disclosed in CME Clearing's Principles for Financial Infrastructures Disclosure document on CME Group's website.<sup>5</sup>

CME Clearing uses rigorous backtesting to validate that performance bond models are performing as they were intended and are meeting the coverage standards defined for each product. Any backtesting violations trigger analysis exercises to assure model parameters are appropriately tuned to existing market conditions. CME Clearing Senior Risk Management and the appropriate Risk Committees have a certain level of insight into backtesting results.

### Concentration Performance Bond

CME Clearing maintains concentration performance bond programs for each major asset class. Clearing Members are subject to a concentration performance bond charge if they hold positions that are sufficiently large to trigger the concentration charge in the position's respective major asset class. Each major asset class maintains a unique trigger for its concentration charge that allows for prudent management of concentration risks. A Clearing Member's positions relative to the overall market and adjusted net capital, among other things can trigger concentration performance bond charges. The purpose of concentration performance bond programs is to recognize the potential market exposures due to large positions relative to the overall market.

### Guaranty Funds

CME Clearing maintains three distinct financial safeguards packages with individual Guaranty Funds for each of its major asset classes, Base, IRS, and CDS that can be utilized to remedy a potential Clearing Member default. Each Guaranty Fund is sized to cover the default of the two Clearing Members with the largest potential shortfalls. The funds of one financial safeguards package cannot be used to cure the losses within a different financial safeguards package. Further information on the financial safeguards packages and the management of a Clearing Member default can be found below in the "Default by a Clearing Member" section.

### Acceptable Collateral

CME Clearing determines the acceptability of various collateral types, in accordance with relevant CFTC Regulations and CME Clearing Rules, and determines appropriate haircuts as well as requirement type eligibility (core, reserve, concentration, or Guaranty Fund). Clearing Members may meet performance bond requirements using a wide variety of collateral that maintains minimal credit, market, and liquidity risks. CME Clearing offers a comprehensive collateral management program that allows for market participants to meet collateral requirements with a broad set of eligible assets, while reducing concentration risk. CME Clearing's diverse collateral offering reduces the risk that illiquidity or pricing issues in one type of collateral will have an impact on Clearing Members' abilities to meet their collateral requirements.

<sup>5</sup> <http://www.cmegroup.com/pfmidisclosure>

## Financial Safeguards System, *continued*

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CME Clearing also has several different collateral management programs, providing efficient and cost-effective solutions for Clearing Members' collateral management needs. Acceptable collateral may vary by account class and account type, with further detail disclosed on the CME Group website.<sup>6</sup>

Risks associated with various forms of acceptable collateral are mitigated through ongoing review, daily valuation, prudent haircuts, and limits. Securities are revalued on a daily basis, at a minimum, and are subject to prudent haircuts. Haircuts are set with the intention to account for the potential decline in liquidity and value of collateral during stressed market conditions. CME Clearing ensures that their haircuts are sufficiently conservative and reviewed on a regular basis, while meeting industry regulatory standards for haircuts. Additionally, CME Clearing's sovereign model utilizes numerous factors, which are reflective of the risk of the country and other elements to evaluate the sovereign risk CME Clearing is potentially exposed to.

### Secured Credit Facility

CME Clearing maintains a fully secured, committed line of credit with a consortium of domestic and international banks, which supports CME Clearing's diverse collateral offering. Under the terms of the credit agreement, CME Clearing may use the proceeds of the credit line to provide temporary liquidity in the event of a Clearing Member default, in the event of a liquidity constraint or default by a depository institution (custodian of the collateral), or if there is a temporary problem with the domestic payments system that would delay payments of settlement variation between CME Clearing and Clearing Members. The line of credit thus provides CME Clearing with additional capacity to facilitate payments in a default situation and/or in stressed market conditions. As of June 30, 2015, the size of the facility was \$7 billion, expandable to \$10 billion.

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<sup>6</sup> <http://www.cmegroup.com/clearing/financial-and-collateral-management/>

# Customer Protections and Financial Surveillance

## Customer Positions and Collateral

CME Clearing employs an account structure that distinguishes and segregates customer positions and performance bond from that of the Clearing Members and their affiliates, as required by the Commodity Exchange Act and CFTC Regulations. Performance bond for customers is collected on a gross basis consistent with CFTC Regulation 39.13(g)(8)(ii). Customer performance bond for the futures and options on futures regulatory regime is referred to as “customer segregated” and for cleared swaps is referenced in relationship to a “cleared swap customer account”. Regardless of product type, customer performance bond is collected on a gross omnibus basis for each Clearing Member, as the sum of performance bond requirements for each individual customer of the Clearing Member. Customer performance bond is held to protect CME Clearing from the failure of a Clearing Member to make payments associated with a settlement cycle. CME Clearing Rules are supported by the collection of customer performance bond on a gross basis and by CFTC Part 190 Bankruptcy regulations, which are designed to protect customers in the event of insolvency or financial instability of their FCM Clearing Member.

CME Clearing’s Financial and Regulatory Surveillance department routinely inspects Clearing Member records to monitor compliance with segregation and cleared swap customer account requirements. The integrity of segregation and requirements of cleared swap customer accounts relies on the accuracy and timeliness of the information provided to CME Clearing by FCM Clearing Members. Violations by a Clearing Member of segregation or cleared swap customer account requirements are considered serious infractions and can result in the imposition of significant penalties.

## Customer Protection

The regulatory requirements for customer protections are different for futures and options on futures than for cleared swaps.

Per CFTC Regulation 39.13(g), CME Clearing sets minimum performance bond levels to the sum of requirements calculated for each individual customer account for products that are under the futures regulatory regime and swaps regulatory regime. The performance bond requirement for futures is referenced in relationship to Customer Gross Margining (“CGM”) and the performance bond requirement for cleared swap customer accounts is referenced in relationship to Legal Segregation with

Operational Commingling (“LSOC”) regulatory requirements. Both CGM and LSOC, ensure each customer account is gross margined rather than offset against other customers at the same Clearing Member. Customer positions and performance bond is required to be segregated from the positions and performance bond of its Clearing Member for customer segregated and cleared swap customer accounts, in line with CFTC Regulation 1.20(a) and CFTC Regulation 22.2(b), respectively. Additionally under CFTC Regulations, no futures customer collateral or cleared swaps customer collateral can be applied to losses stemming from house positions under any circumstances.

LSOC is implemented through CFTC Regulations 17 CFR Parts 22 and 190, which establishes customer protections for cleared swaps. LSOC additionally prevents a DCO from using the collateral of one customer to pay for the obligation of another customer in the event an FCM Clearing Member defaults. CME Clearing goes above and beyond the requirements of LSOC to provide additional protections to customers. CME Clearing’s LSOC with excess program allows for Clearing Members to post cleared swap customers’ “excess” collateral, which is the amount collected that exceeds the margin requirement set by CME Clearing to the Clearing House, while allowing for the customers’ full collateral value, as reported by the Clearing Member to be protected. Additionally, upon the default of a Clearing Member, CME Clearing will cease netting settlement variation for cleared swap customers of such Clearing Member and will allow the cleared swap customers of the defaulted Clearing Member to settle directly with the Clearing House.

CME Clearing complies with CFTC Regulation 1.25 that sets forth requirements for the reinvestment of segregated account funds and cleared swap customer account funds on deposit at a DCO. This ensures a high level of safety of customer funds and ready access to liquidity. CFTC Regulation 1.25 imposes requirements that mitigate credit, liquidity, and market risks, while ensuring the preservation of principal and maintenance of liquidity. CME Clearing only invests customer collateral in highly liquid, low risk instruments that are permitted under Regulation 1.25. Furthermore, CME Clearing adheres to the permitted investment categories laid out in Regulation 1.25 for non-customer collateral and Guaranty Fund deposits, which goes above and beyond the requirements of the CFTC. Additionally, CME Clearing complies with CFTC Regulation 1.29, which requires that a DCO bear all

## Customer Protections and Financial Surveillance, *continued*

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losses related to the investment of customer funds. CME Clearing also applies CFTC Regulation 1.29 protections against investment losses related to the house account funds it holds.

### Financial Surveillance

Recognizing the need to monitor the financial condition of Clearing Members, CME Clearing's Financial and Regulatory Surveillance department, in conjunction with other self-regulatory organizations, operates a sophisticated financial surveillance program. The program has several important aspects, as outlined below:

**Reporting.** FCM Clearing Members are required to maintain excess segregated, secured 30.7, and cleared swap funds at all times including on an intraday basis.<sup>7</sup> FCM Clearing Members must calculate and report segregation, secured 30.7, and customer cleared swap statements daily to the Financial and Regulatory Surveillance department. FCM Clearing Members are also required to ensure their segregated, secured 30.7, and customer cleared swap customer funds depositories independently report daily balances to the Financial and Regulatory Surveillance department. In addition, FCM Clearing Members must submit to the Financial and Regulatory Surveillance department bi-monthly investments reports.

All Clearing Members must maintain compliance with capital requirements at all times, including on an intraday basis. Clearing Members must provide full financial statements monthly, provide certified financial statements once a year, and submit more frequent reports (daily or weekly) as directed by CME Clearing. Clearing Members regulated by another regulatory authority (i.e. banks) must submit to CME Clearing annual audited financial statements as well as all unaudited financial statements provided to its primary regulator within five days after such statements are provided to their regulator.

**Notification.** Clearing Members are required to report any failure to meet segregation, customer cleared swap account requirements, foreign futures or foreign options secured amount, or minimum capital requirements. Clearing Members also must notify CME Clearing prior to any significant business transaction, any significant change in operations, or significant declines in net

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<sup>7</sup> Secured 30.7 accounts primarily contain funds of a FCM's U.S. domiciled customers trading futures and options on futures on foreign exchanges.

capital. Numerous other notifications are required and Clearing Members should be familiar with such requirements as highlighted in the CME Clearing Rulebook.

**Inspection.** Generally, each Clearing Member is subject to a financial and operational review every year. The reviews are tailored to focus on the specific risks of the Clearing Member with inspections performed on an impromptu basis.

**Information Sharing.** CME Clearing participates in formal agreements with other domestic and foreign regulatory authorities, as well as clearing and self-regulatory organizations with regard to information sharing. As part of these agreements, CME Clearing regularly exchanges financial and operational information about joint Clearing Members with other participating entities. Recognizing that the financial marketplace spans the globe, CME Clearing was instrumental in developing the International Information Sharing Memorandum of Understanding, which established a framework for participating exchanges and clearing organizations worldwide to share information relevant to managing risk on a global basis. CME Clearing also seeks broader cooperation between clearing organizations through such industry forums as the Unified Clearing Group<sup>8</sup>, CCP 12<sup>9</sup>, the Joint Audit Committee<sup>10</sup>, and the Intermarket Surveillance Group<sup>11</sup>.

CME Clearing has continually been a supporter of implementing prudent financial surveillance over its Clearing Members and its Financial and Regulatory Surveillance department proactively adopted enhanced customer protection reporting requirements and monitoring practices of FCM Clearing Members. Various CFTC enhanced customer protection requirements were in place and being enforced by CME Clearing prior to their adoption by the CFTC. Further CME Clearing has adopted several customer

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<sup>8</sup> *The Unified Clearing Group promotes the cooperation of securities and futures clearing agencies on common interest topics.*

<sup>9</sup> *CCP 12 is an industry group with clearing house representatives from Asia, the Americas, and Europe.*

<sup>10</sup> *The Joint Audit Committee is a voluntary, cooperative organization comprised of representatives from U.S. futures exchanges and regulatory organizations.*

<sup>11</sup> *The Intermarket Surveillance Group is comprised of an international group of exchanges, market centers, and market regulators that perform market surveillance in their respective jurisdictions.*

## Customer Protections and Financial Surveillance, *continued*

enhancements which go beyond those required by the CFTC to provide an even stronger customer protection regime.

### Capital Requirements for Clearing Members

CME Clearing monitors the financial health of its Clearing Members to ensure they are capable of meeting their obligations to customers and to the Clearing House. CME Clearing requires Clearing Members comply with CFTC capital requirements and also sets its own minimum requirements. Capital requirements vary to reflect the risk of each Clearing Member's customer and non-customer exposures, as well as CME Clearing's assessment of each Clearing Member's internal controls, risk management policies, and back office operations. Minimum capital (Adjusted Net Capital for non-Banks and Tier 1 Capital for Banks) is the greatest of the CFTC (8% of all foreign and domestic domiciled customers and non-customers [excluding proprietary] risk maintenance performance bond requirements for all domestic, foreign futures and options on futures contracts and cleared swaps) or the SEC capital requirement or:

For non-Banks:

- \$5,000,000 if clearing only exchange-traded futures/options or agricultural OTC products; or
- \$20,000,000 if it will clear exchange-traded futures/options and it will guarantee NYMEX Floor Members pursuant to the program referenced in NYMEX Rule 992;
- \$50,000,000 if clearing OTC derivative products (including but not limited to metals OTC, energy OTC, FX OTC, CDS and IRS); or
- 20% of aggregate performance bond requirements for all customer and house accounts containing CME cleared CDS and IRS positions.

For Banks:

- \$5,000,000,000 if clearing exchange-traded futures/options; or
- \$50,000,000 if clearing only OTC derivative products; or
- 20% of aggregate performance bond requirements for all proprietary and affiliate accounts containing CME cleared CDS and IRS positions.

The CHRC, IRSRC, CDSRC, or the Clearing House may prescribe additional capital requirements or grant exemptions for Clearing Members. Capital requirements are monitored by CME Clearing's Financial and Regulatory Surveillance department.

#### ANC is computed based on the following formula:

##### Current Assets

##### – Adjusted Liabilities

##### – Capital Charges

#### Adjusted Net Capital

**Current Assets:** Cash and other assets that are reasonably expected to be realized as cash, or sold, during the next twelve months. However, certain assets such as prepaid expenses, deferred charges, and unsecured receivables from customers, non-customers, subsidiaries, and affiliates, which would be classified as current under generally accepted accounting principles are deemed non-current. Exchange memberships are also reflected as non-current assets.

**Adjusted Liabilities:** The Clearing Member's total liabilities less the liabilities which have been subordinated to the claims of general creditors.

**Capital Charges:** Regulatory capital charges primarily encompass percentage deductions ("haircuts") on the following:

- Speculative proprietary futures and options positions
- Proprietary inventories, fixed price commitments and forward contracts
- Undermargined customer, noncustomer and omnibus accounts
- Marketable securities

Non-bank Clearing Members which are members of all CME Group Exchanges (CME Inc., CBOT, NYMEX, and COMEX) must assign to CME Clearing two CME Group memberships, two IMM memberships, two IOM memberships, one GEM membership, one full CBOT membership (two if a registered FCM), two full NYMEX memberships, and two full COMEX memberships. To obtain clearing privileges for a single CME Group Exchange, a Clearing Member must meet the membership requirements of

## Customer Protections and Financial Surveillance, *continued*

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that particular Exchange. To obtain clearing privileges for multiple CME Group Exchanges, Clearing Members need to meet the membership requirements of each of those particular Exchanges.

Additionally, CME Inc., CBOT, and NYMEX/COMEX rules generally require owners of five percent or more of the equity securities of a Clearing Member to guarantee obligations arising out of house (non-customer and proprietary) accounts of the Clearing Member to the extent of their ownership interest. Owners of 50 percent or more must guarantee 100 percent of the Clearing Member's house obligations. This parent guarantee provides a high level of assurance that obligations arising out of trades made and positions held by owners or affiliates of Clearing Members are promptly discharged. Additionally, per the terms of Rule 901G, CME Clearing staff may require a guarantee in situations where Clearing Members are subject to common ownership.

### Market Regulation

Through CME Group's Market Regulation department, CME Clearing's Risk Management team has access to specific account position information for Clearing Members' large individual customer accounts. Such position information, which is maintained on a highly confidential basis, allows the identification of concentrated positions as they arise and the aggregation of positions that may be owned by common principals through several different Clearing Members. Knowledge of concentrated or high-risk positions, coupled with information routinely gathered on the cash and/or related derivative markets, enables CME Clearing to respond rapidly to market situations that might adversely affect the financial integrity of CME Clearing or the financial stability of a Clearing Member.

### Clearing Member Risk Reviews

CME Clearing conducts onsite visits, at least once every two years of Clearing Members to evaluate various financial metrics such as liquidity, capital adequacy, asset quality, and earnings/profitability. In addition, reviews are conducted to review policies for new and existing account monitoring, risk management procedures for customer and proprietary exposures, default management capabilities, monitoring of liquidity risk, and operational risk management. These reviews cover credit, market, and liquidity risks through a series of topics:

- Customer credit risk monitoring and control;
- Proprietary trading risk monitoring and control;
- Risk management, monitoring, and stress test reports;
- Demonstration of risk management systems;
- Demonstration of credit control functionality;
- Counterparty credit risk management;
- Internal funding process;
- Internal risk system for pays/collects;
- Collateral policy;
- Settlement bank relationships; and
- Liquidity/capital plans in case of assessment to CME Clearing.

Results of each review are provided to CME Clearing Senior Management. If a review indicates a potential weakness or area of concern, the CME Clearing Risk Management team will submit recommendations to CME Clearing Senior Management and the appropriate Risk Committee for approval. Recommendations may include, among other things, issuing a formal request to the Clearing Member to address the matter within a specified period to alleviate the need for more significant action to be taken.

Information from Clearing Member reviews is also supplemented by CME Clearing's ongoing monitoring of counterparty exposures, which encompasses the monitoring of Clearing Members. On a daily basis, CME Clearing monitors counterparty market data, including share price, CDS spreads, and external credit ratings, among other items. Each Clearing Member is subject to an internal credit risk rating determined by CME Clearing, based on quantitative and qualitative metrics. In assessing a Clearing Member, public and private information is considered. Internal credit ratings are in part utilized to determine tolerance thresholds for Clearing Members that highlight when Clearing Member settlement variation and/or initial margin payment obligation amounts to CME Clearing exceed the designated threshold, which then requires risk staff to investigate the matter further. Clearing Members with strong ratings are given higher tolerance thresholds, while those with weaker ratings are assigned more conservative thresholds and are subject to more frequent review schedules.



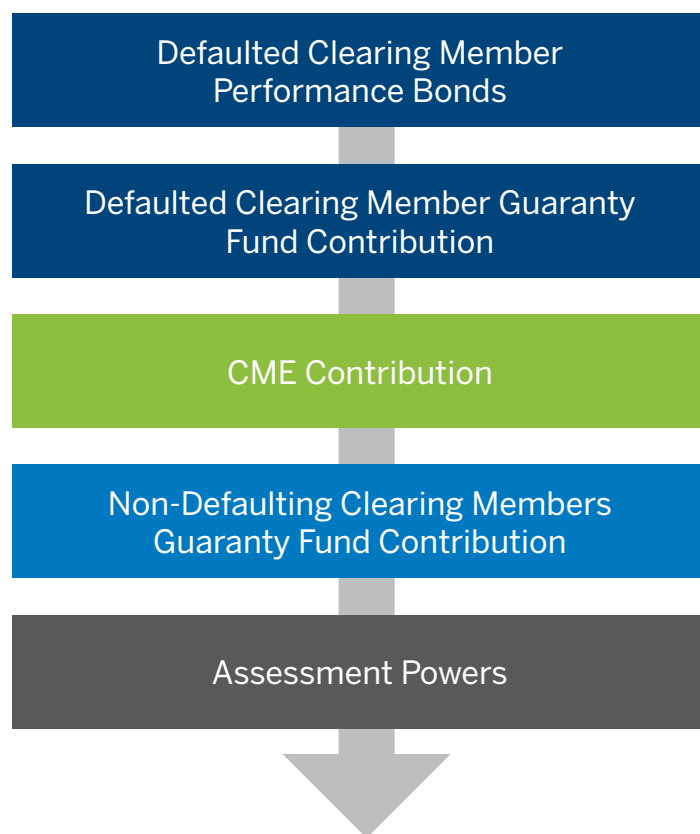
## Default by a Clearing Member

The failure of a customer to meet their financial obligations to their Clearing Member, which does not cause the failure of the Clearing Member to meet their financial obligations to the Clearing House, is managed by the Clearing Member and therefore, outside the scope of this document.

CME Clearing's financial safeguards system includes processes related to managing defaults for both exchange-traded and cleared OTC markets. The risk management and financial surveillance techniques of CME Clearing are designed to minimize the possibility that a Clearing Member will default on its obligations to CME Clearing. CME Clearing, by Rule and by operational practice, has prepared contingencies to expeditiously deal with the unlikely event of a Clearing Member default. A Clearing Member may be declared to be in default when it fails to promptly discharge any obligation to CME Clearing<sup>12</sup>, including but not limited to failure to satisfy its financial obligations to CME Clearing. Upon the default of a Clearing Member, CME will attempt to port all non-defaulting customers as quickly as practicable to a non-defaulting Clearing Member. CME Clearing will work to identify stable Clearing Members with similar or complimentary customer profiles who may be well placed to absorb solvent customers prior to the default of the distressed Clearing Member, minimizing the amount of time necessary to port customers once the default has been declared. Under Chapter 8 of CME Clearing's Rulebook CME Clearing has the right to immediately transfer customer positions and associated performance bond value to a non-defaulting Clearing Member, when the default did not occur in such customer account. In managing past Clearing Member failures, CME was able to quickly transfer all customer positions and collateral to non-defaulting Clearing Members, preserving customers' access to CME Clearing's services.

In the event of a default of a Clearing Member, depending upon the products cleared by the particular Clearing Member, CME Clearing may utilize the appropriate Guaranty Fund(s) and financial safeguards waterfall(s), in which the Clearing Member participates, but may not use those in which the defaulted Clearing Member does not participate. CME Clearing maintains three waterfall structures: one for IRS, one for CDS, and one for futures and options on futures and OTC cleared products other than IRS

and CDS (the Base Guaranty Fund). Each financial safeguards waterfall is structured in the same way, where the default of a Clearing Member will result in the utilization of the performance bonds and Guaranty Fund contributions of the defaulted Clearing Member first, and then in the unlikely event those funds are insufficient the CME Clearing contribution would be utilized, followed by the non-defaulting Clearing Members' Guaranty Fund contributions, and lastly funds collected through the assessment of non-defaulting Clearing Members – with the waterfall(s) associated with the defaulted Clearing Member's membership(s) only being utilized.



<sup>12</sup> CME Rule 802.A.1 (Default by Clearing Member).

## Default by a Clearing Member, *continued*

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### Guaranty Funds

CME Clearing's rules are designed to maximize the safety of the mutualized pool of Guaranty Funds. CME Clearing's Guaranty Fund practices are consistent with regulatory requirements and industry standards and subject to review and approval by the appropriate Risk Committee. The Guaranty Funds are designed to cover the tail risk of potential losses under extreme but plausible scenarios, as measured by stress tests. Consistent with CFTC Regulation 39.33(a), the Guaranty Funds for each waterfall are sized to cover the potential loss caused by the simultaneous default of the two Clearing Members and their affiliates with the largest potential shortfalls, within the individual major asset class. For all major asset classes, the largest potential losses from hypothetically defaulting Clearing Members are identified through a series of stress tests simulating extreme but plausible market fluctuations based on historical data for individual products as well as hypothetical stresses. The stress test results are reviewed by the CME Clearing Stress Testing committee at least on a monthly basis, in addition to daily reviews of the results to ensure adequacy of the Guaranty Funds. Results are also shared with the appropriate Risk Committees.

Each Clearing Member is required to contribute a minimum amount to the Guaranty Fund of the waterfall for each major asset class it clears. The minimum contributions are defined in Rules 816, 8G07, and 8H07 for Base, IRS, and CDS waterfalls, respectively.

Contributions to the Base Guaranty Fund<sup>13</sup> are computed as the greater of \$500,000 or the results of a formula under which 95 percent of the total requirement is based on the Clearing Member's proportionate contribution to aggregate risk performance bond requirements over the prior three months and the remaining 5 percent is based on the Clearing Member's contribution to risk-weighted transaction activity over the prior three months.

Individual Clearing Member contributions to the IRS Guaranty Fund are computed as the greater of the minimum specified under Rule 8G07 or the Clearing Member's proportional share of the fund based on (a) a 30-day trailing average of their Portfolio Residual Loss, which is the tail risk the Clearing Member brings

to the Clearing House (90%) and (b) a 30-day trailing average of their Gross Notional (10%).

Individual Clearing Member contributions to the CDS Guaranty Fund are computed as the greater of the minimum specified under Rule 8H07 or the Clearing Member's proportional share of the fund based on (a) a 30-day trailing average of their Portfolio Residual Loss (95%) and (b) a 30-day trailing average of their Gross Notional (5%).

CME Clearing recalculates Guaranty Fund requirements on a regular basis and requires Clearing Members to deposit any additional required funds at the beginning of each quarter for the Base Guaranty Fund and at the beginning of each month for both the IRS and CDS Guaranty Funds, or more frequently as conditions warrant to ensure the Guaranty Funds for each waterfall are sized to cover the defaults of the two largest net debtors. The aggregate size of the Guaranty Fund contributions for each major asset class are disclosed on the CME Group website and updated regularly.<sup>14</sup>

### Assessment Powers

If the prefunded financial safeguards are insufficient to mitigate losses and to re-establish a matched book resulting from a Clearing Member default, CME Clearing would invoke its right to assess non-defaulting Clearing Members that make contributions to the waterfall associated with the asset class in which the default occurred. For the Base financial safeguards waterfall, assessment powers cannot exceed 2.75 times the aggregate Base Guaranty Fund requirement across all Clearing Members for a single default.

For both the IRS and CDS financial safeguard waterfalls, assessment powers are sized to cover the third and fourth largest theoretical net debtors.<sup>15</sup>

In the event any of the prefunded financial safeguards packages are utilized, non-defaulting Clearing Members are required to replenish their contributions to the Guaranty Funds of the financial safeguards packages that were utilized. The funds to replenish their contribution(s) to the respective Guaranty Fund(s) are due prior to the close of business on the business day following the day the Guaranty Fund(s) deposits are used. If more than one

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<sup>13</sup> Clearing members that clear OTC products in the Base guaranty fund must maintain a minimum guaranty fund deposit of \$2.5 million.

<sup>14</sup> <http://www.cmegroup.com/clearing/cme-clearing-overview/safeguards.html>

<sup>15</sup> Rule 8H802 and 8G802 (Protection of Clearing House).

## Default by a Clearing Member, *continued*

Clearing Member defaults, the non-defaulted Clearing Members are required to replenish the maximum assessments during the applicable cooling off periods, 5 business days for base products and 25 business days for IRS and CDS products, as further described in CME Clearing Rules 802.H, 8G802.H, 8H802.H, respectively.

### House Account Default

If a Clearing Member fails to meet its financial obligations to CME Clearing, related to its house account (sometimes referred to as proprietary or non-customer) account, CME Clearing may act immediately to:

- Transfer segregated and cleared swap customer account customer positions and collateral to a non-defaulting Clearing Member;
- Take control of and/or liquidate positions in the Clearing Member's house account;
- Apply the Clearing Member's Guaranty Fund and house performance bond deposits to satisfy the Clearing Member's obligations to CME Clearing with regard to its house account;
- Utilize all other assets of the Clearing Member that are available to CME Clearing (e.g., Exchange memberships); and/or
- Invoke any applicable parent guarantee.

Customer segregated and cleared swap customer account assets (positions and/or collateral) on deposit with or in the control of CME Clearing may not be used or impaired by CME Clearing in the case of a Clearing Member default related to the house account.

### Customer Segregated Account or Cleared Swap Customer Account Default

If a Clearing Member fails to meet its financial obligations resulting in a failure to make payment within its customer segregated or cleared swap customer account, CME Clearing may act immediately to:

- Transfer non-defaulting customer segregated or cleared swap customer account positions and collateral to a non-defaulting Clearing Member;

- Take control of and/or liquidate defaulting customer segregated or cleared swap customer account positions and house positions;
- Apply the Clearing Member's Guaranty Fund and house performance bond deposits to the failed obligation to CME Clearing; and/or
- Utilize all other assets of the Clearing Member that are available to CME Clearing (e.g. Exchange memberships).

Although CME Clearing separates customer segregated performance bond deposits and positions from the Clearing Member's proprietary performance bond deposits and positions, the customer performance bond deposits and positions for each Clearing Member are held in aggregate. Holding customer performance bond deposits in aggregate allows for CME Clearing to quickly transfer non-defaulted customers to a solvent Clearing Member, reducing the likelihood that customers would not be able to access CME Clearing's services during market stress.

In the case a Clearing Member's default stems from a customer segregated account, CME Clearing has the right to apply toward the default all performance bond deposits and positions within the respective customer segregated account at CME Clearing. For futures, a Clearing Member's customer segregated account is held in aggregate without specific customer ownership identification, which potentially subjects positions and performance bonds deposited by customers not causing a default to liquidation risk. For cleared swaps, LSOC rules require daily reporting of individual customer deposits and positions, which works to help safeguard collateral from one customer to another customer. Further, under LSOC CME Clearing is prohibited from using the value contributed by one customer to satisfy losses of another customer.

### Unsatisfied Obligation

As previously discussed, should there be any remaining unsatisfied obligations to CME Clearing following the above steps, CME Clearing would utilize the remaining portion of the waterfall associated with the major asset class in which the default occurred in the following order: CME Clearing contributed funds, Guaranty Fund contributions of non-defaulting Clearing Members, and funds collected through an assessment against non-defaulting Clearing Members.

## Default by a Clearing Member, *continued*

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CME Clearing believes it's critical that a Clearing House commit a meaningful first-loss contribution to the waterfall structure, in advance of a mutualized Clearing Member Guaranty Fund, to further align the incentives of the Clearing House and market participants. The size of the designated CME Clearing Contribution for each asset classes' waterfall structures are also covered under Rules 802, 8G802, and 8H802 for Base, IRS, and CDS, respectively.

In the event CME Inc. is facing severe stress, unrelated to a Clearing Member default, Clearing Member and customer assets are bankruptcy remote from CME Inc.'s estate.

### Default Management

CME Clearing performs various default management exercises throughout the year with Clearing Members participating in drills across products in all three Guaranty Funds at least semi-annually. The drills are structured consistent with existing Clearing Member exposures and contain large and complex portfolios representative of the risks held by existing Clearing Members. Each drill consists of a hedging phase, where appropriate, and an auction and/or liquidation of the hypothetically defaulting Clearing Member's positions. The results of each drill are reviewed by the relevant Risk Committee and changes to default management processes are implemented as warranted. Guidance for the IRS and CDS default drills is provided by the respective major asset classes Default Management Committee. CME Clearing's Default Management Committees include representatives from Clearing Members.

As part of CME Clearing's membership requirements, IRS and CDS Clearing Members must participate in the auction process of a defaulted Clearing Member's portfolio. IRS and CDS Clearing Members must construct a bid for a default management auction if they are a Clearing Member for the asset class in which the default has occurred. With regard to a default in the Base waterfall, CME Clearing may conduct an auction for selected buy-side and sell-side participants to bid on the defaulted Clearing Member's portfolio. Participation in the Base waterfall default management auction is voluntary.

For defaults within the IRS or CDS waterfalls, the Active Default Management Committee is comprised of seconded traders who are charged with advising CME Clearing in the hedging and/or

liquidation process of a defaulted Clearing Member's portfolio in order to facilitate an orderly auction. Both the IRS and CDS Active Default Management Committees are subsets of their respective Default Management Committees and are comprised of a number of members from their respective Default Management Committees, as determined by CME Clearing. All IRS and CDS Clearing Members are required to have representation on the Default Management Committees, which are associated with the membership(s) they hold and the products they trade.

### Recovery Plan

As a Systemically Important Derivatives Clearing Organization ("SIDCO"), CME Inc. maintains a Recovery Plan in compliance with CFTC Regulation 39.39, which additionally targets to align with the guidance issued by CPMI-IOSCO's report on Recovery of Financial Market Infrastructures. The Recovery Plan includes analysis of stressed market scenarios, which are supposed to threaten CME Inc. from a "going concern" perspective, while taking into account independent and related risk. The recovery tools laid out in the Recovery Plan have the goal of preserving CME Clearing's critical services and operations. The recovery tools as described in the CME Inc. Recovery Plan commonly extend beyond the actions laid out in the CME Clearing Rulebook to allow for a continuity of services. The CME Inc. Recovery Plan presents a number of financial tools available to CME Inc. to address both Clearing Member defaults and non-Clearing Member defaults.

## Disaster Recovery and Business Continuity

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The Business Continuity Management (“BCM”) program is designed to ensure CME Group can respond to an incident while ensuring the safety of the employees of CME Group’s subsidiaries, guarantee the survivability of core trading and clearing functions, and meeting CME Group’s fiduciary responsibility to its stakeholders. The mission of CME Group’s BCM team is to manage risk and mitigate potential impacts to our markets, customers, assets, and employees. The BCM program is designed to ensure CME Group can respond to an incident while safeguarding the interests of our stakeholders, ensuring the safety of employees, and protecting our reputation and brand. CME Clearing conducts disaster recovery drills at least twice annually and participates in the annual FIA sponsored industry wide drills, while also performing other annual exercises to test its business continuity plan, which allows CME Clearing to continually improve and test its disaster recovery and business continuity plans.

BCM ensures CME Group’s resiliency through:

- A proven framework that aligns with US and international standards;
- Solid recovery strategies that are both flexible and agile;
- Representation on CME Group’s Risk Management team and close partnership with all risk-mitigation groups throughout the company;
- Tested exercise models that evolve with CME Group’s environment and architecture;
- Identified mitigation plans for single points of failure; and
- Established relationships with external entities, partnerships, and agencies.

If CME Group experiences an event that impacts operations, it will meet its service level agreements and customer agreements by taking mitigating steps to resolve the issues. CME Group utilizes a tiered recovery approach where it would recover critical operations first and continue to ramp up the rest of its operations until normal business operations were resumed.

The business continuity management teams are responsible for responding once the Crisis Management Team (“CMT”) makes a declaration of a crisis event. The CMT is comprised of senior managers across CME Group business lines and is supported

by the logistics team, which is made up of representatives from numerous departments across CME Group that would support the recovery during any activation or declaration by acting as the coordination, status, and communication hub. The recovery teams are responsible for ensuring CME Group’s priorities are met during the recovery.

At each of CME Group’s subsidiaries’ office locations there is a Regional Incident Response team. This Team is the local governance for an event that is occurring at that particular office. Their recommended action plan will be submitted to the Chief Operating Officer, who is the CMT Commander, for approval prior to any actions taken.

In response to a CMT declaration, the CMT and logistics teams have identified primary and secondary meeting locations that they would use as their Command Center. Once the CMT is activated the teams will relocate to their assigned area. Initial and ongoing damage assessment will be completed to identify the impact of the event and to ensure the true impact of the event has been determined.

Currently, CME Clearing operates under a two hour recovery time objective (“RTO”), pursuant to CFTC Regulation 39.34. This RTO is the timeframe utilized during testing cycles, both internal and external (client facing). During the testing windows CME Clearing identifies and tests the critical systems required to complete end of day processing and settlement cycles. These systems and applications are tested at both the region recovery site, as well as the out of region recovery site.



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