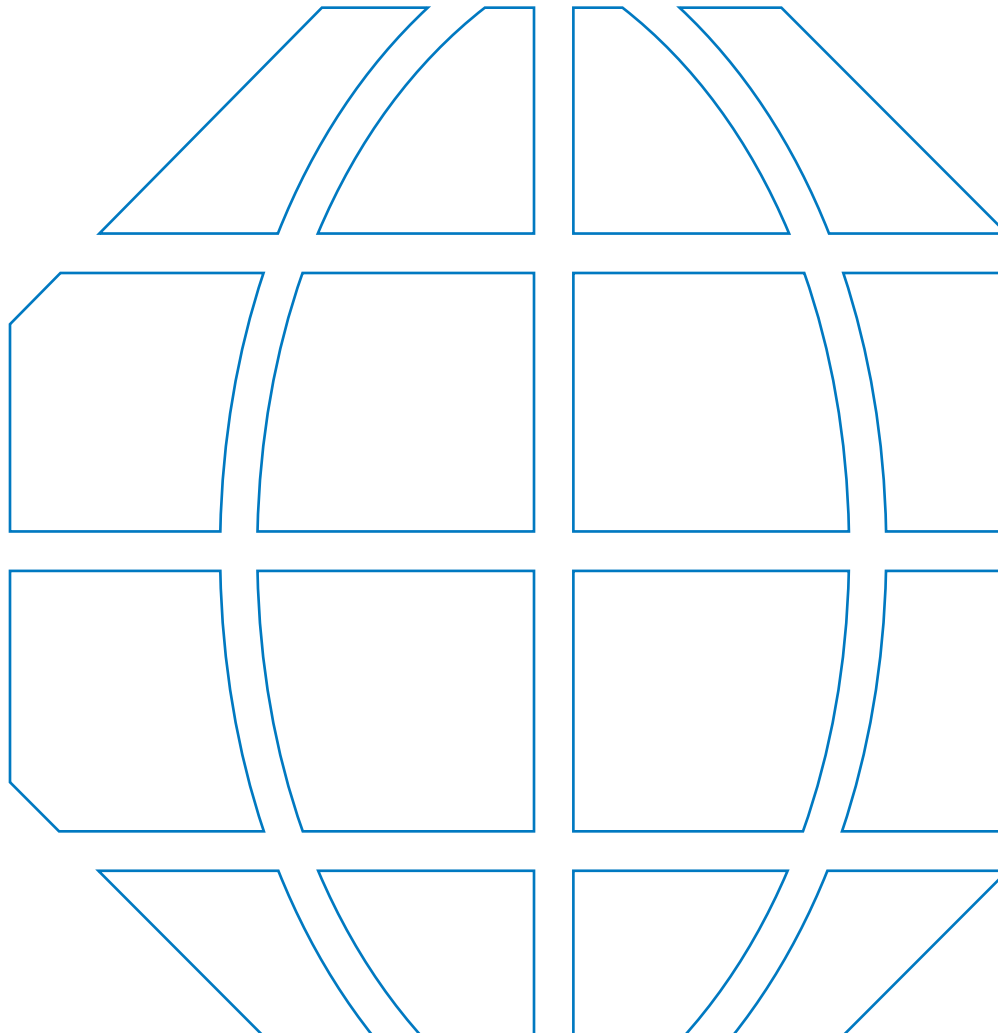


CME Clearing Financial Safeguards



CME Group Inc. is the parent company of Chicago Mercantile Exchange Inc. (CME). CME Clearing, a division of CME, 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 CFTC customer protection standards for all products it clears.

CME Clearing 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 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 CBOT, CME, COMEX, NYMEX, Green Exchange (GEX) and Dubai Mercantile Exchange (DME), as well as OTC transactions cleared 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, CBOT, and NYMEX rulebooks published on CME Group's website (www.cmegroup.com).

FINANCIAL SAFEGUARDS OVERVIEW

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 and the early detection of unsound financial practices. The safeguards aim to protect and mitigate the consequences to clearing members and their customers from a participant default.¹ CME Clearing's financial safeguards system is continually evaluated and updated to reflect the most advanced risk management and financial surveillance techniques. The financial safeguards system is administered by the Risk Management Department with collaboration from management from the Audit, Banking and Collateral Services, Legal and Market Regulation departments.

For products other than cleared OTC interest rate swaps (IRS) and cleared OTC credit default swaps (CDS), CME Clearing is overseen on major risk management policy issues, financial safeguards, and financial surveillance and membership issues by the Clearing House Risk Committee (CHRC).²

For general matters related to cleared OTC IRS products, including risk management policies and practices, CME Clearing has established an IRS Risk Committee.³ For general matters relating to cleared OTC CDS products, including risk management policies and practices, CME Clearing has established a CDS Risk Committee.⁴ Each of these committees is chaired by one or more members of the CME Group Board of Directors with broader participation largely comprised of market participants, who typically comprise a majority representation, and independent representatives.

Clearing members may apply for clearing privileges 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 applicable guaranty fund, satisfying risk-based capital requirements, and demonstrating adequate knowledge and experience in the desired products including the appropriate risk management policies and procedures.

CME Clearing is registered with the U.S. Commodity Futures Trading Commission (CFTC) as a derivatives clearing organization (DCO). CME Clearing provides clearing services to a variety of CFTC-registered designated contract markets (DCMs), including CME, CBOT, NYMEX, COMEX, DME, and GEX. CME Clearing also accepts trades 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 (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 IRS and CDS markets. In order to underpin 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 (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).

¹ As provided in Rule 802.A.1, a clearing member is in default when it "fails to promptly discharge any obligation to" CME Clearing.

² CME Rule 403 (Clearing House Risk Committee).

³ CME Rule 8G27 (IRS Risk Committee).

⁴ CME Rule 8H27 (CDS Risk Committee).

FINANCIAL INTEGRITY OF CME CLEARING

CME Clearing serves as the counterparty to every cleared transaction, becoming the buyer to each seller and the seller to each buyer, and limiting credit risk by guaranteeing financial performance of both parties. Each clearing member assumes performance and financial responsibility for all transactions it clears, including transactions cleared on behalf of its customers and on behalf of the clearing member and its affiliates.

CME Clearing utilizes a variety of risk management metrics to evaluate clearing members' ability to withstand changing market dynamics. Each clearing member is accountable to CME Clearing as the guarantor for payment and performance bond obligations arising from the accounts it clears. CME Clearing relies on the prudent oversight and evaluation of individual customers by each clearing member, and evaluates clearing members for the adequacy of their customer credit- and risk-monitoring.

CME Clearing is committed to providing clearing firms 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.



PRE-EXECUTION RISK CONTROLS

CME Globex

CME Globex is the world's leading electronic trading platform, providing access to a broad array of futures and options products. CME Globex offers high-speed execution, vast capabilities, direct market access, fairness, transparency, anonymity and global distribution. CME Globex is accessible nearly 24 hours a day throughout the trading week.

Risk management services on CME Globex include Globex Credit Controls, Drop Copy service, and Cancel on Disconnect functionality designed to protect CME Globex customers and clearing firms.

Globex Credit Controls

CME Globex Credit Controls provides pre-execution risk controls that enable administrators to set credit limits through the CME Globex Credit Controls (GC2) tool. Risk administrators are able to define trading limits and select real-time actions if those limits are exceeded, including e-mail notification, order blocking and order cancellation.

Drop Copy

Drop Copy service allows market participants to receive real-time copies of CME Globex execution reports and reject messages as they are sent over iLink sessions. Features include the ability to monitor orders and activity, as well as aggregate execution and reject messages.

Cancel on Disconnect

Upon an involuntarily dropped CME Globex to iLink user connection, Cancel on Disconnect (COD) functionality cancels all resting session/day futures and options orders for that user to protect market participants from position changes without the ability to monitor activity.

CME ClearPort

CME ClearPort is a comprehensive set of flexible clearing services for global OTC markets backed by CME Clearing. CME ClearPort offers an array of clearing services that depend on the nature of the product traded, allowing users to submit bilaterally negotiated trades for clearing. It has the capacity to report transactions in multiple asset classes and provides significant mitigation of counterparty risk and neutral valuations across asset classes.

CME ClearPort offers enterprise-wide credit limits, primarily used by clearing member administrators to allow for prudent risk management. Clearing members control the creation of accounts, permission tradable products, set position limits, and establish overall performance bond limits.

FINANCIAL SAFEGUARDS SYSTEM

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 firms are subject to stringent capital, operational, and risk management standards as a condition of clearing membership. These clearing firm 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
- Ensure appropriate 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
- Allow for swift and appropriate action to rectify any financial problems and protect market participants

Mark-to-Market

CME Clearing promotes financial stability throughout the financial system by monitoring and removing accumulated debt obligations among market participants. At each settlement cycle, CME Clearing determines the change in market value of all open positions from the prior settlement cycle and communicates to respective clearing members for settlement. Debt obligations from option contracts are immediately removed when the option buyer pays the premium (cost of the option) at the time of purchase and subsequently as positions are marked-to-market.

CME Clearing's basic standard is to mark open positions to market at least twice a day, require payments from clearing firms whose positions have lost value, and make payments to clearing firms whose positions have gained value. For select cleared-only markets, positions are marked-to-market daily, with the capability to

mark-to-market more frequently as conditions warrant.

CME Clearing establishes minimum performance bond requirements for exchange-traded and OTC products including CDS and IRS. During each settlement cycle, CME Clearing captures and collects performance bond for any new positions and determines the change in value of existing positions. Cash settlement occurs for the mark-to-market on open futures positions and the option premium associated with new option positions, known as settlement variation. Settlement variation for open option positions can be satisfied with collateral as part of performance bond requirements. These processes remove accumulated debt obligations from the system while ensuring that CME Clearing holds sufficient collateral to protect against potential losses that may accumulate prior to the next settlement cycle.

Settlement variation payments through CME Clearing averaged \$3.2 billion per day for the twelve months ending December 30, 2011 and reached a record of \$18.5 billion on October 13, 2008.

FINANCIAL SAFEGUARDS SYSTEM, continued

Performance Bond Requirements

Performance bond (also referred to as margin) requirements are good-faith deposits to guarantee financial performance on open positions. CME Clearing establishes minimum initial and maintenance performance bond levels for all cleared products. CME Clearing requires that clearing members post maintenance performance bond levels, which represent the minimum amount of protection against potential losses of a position or portfolio. Any deficit in a clearing member's performance bond requirement results in a direct debit to the clearing member's account at a designated settlement bank.

CME Clearing requires that clearing members obtain initial performance bond levels from a customer when an account is new or when the account's equity falls below minimum maintenance 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 requirement, the account is re-margined at the required (higher) initial performance bond level resulting in a direct debit to the clearing members account at its settlement bank. Clearing members may impose more stringent performance bond

requirements on their customers than the minimums established by CME Clearing.

Performance bond requirements vary by product, and are based on, and adjusted for, historical and implied price volatilities, market composition, current and anticipated market conditions, and other relevant information. In setting performance bond requirements, CME Clearing monitors historical price and implied volatility movements covering short-, intermediate-, and long-term data as well as liquidity, concentration, seasonality and other factors.

For futures and options on futures, performance bond levels are established to cover at least 99 percent of expected price changes for a given product within a given historical period, providing further quantitative and qualitative considerations based on market risk. Actual performance bond requirements may exceed this level for some products. Performance bond requirements for options reflect movements in the underlying futures price, volatility, time to expiration and other risk factors, and adjust automatically each day to reflect the unique and changing risk characteristics of each option series.

To compute performance bond requirements for exchange-traded futures, CME Clearing

utilizes Standard Portfolio Analysis of Risk (CME SPAN), a system developed and implemented by CME Clearing. CME SPAN bases performance bond requirements on the overall risk of the portfolios, using parameters determined by CME Clearing, providing transparency and the ability to replicate margin computations by end users. CME SPAN simulates the effects of changing market conditions and uses tailored options pricing models to determine a portfolio's overall risk. It treats all products uniformly while recognizing the unique features of options. In standard options pricing models, three factors most strongly affect options values: underlying price, volatility (variability of the underlying price), and time to expiration. As these factors change, positions may gain or lose value. CME SPAN constructs scenarios of price and volatility changes to simulate what the entire portfolio might reasonably lose over a specified time horizon. The resulting CME SPAN performance bond requirement covers this potential loss. Additionally, options purchased must be paid for in full and, therefore, the value is added to account equity. Conversely, the value of options sold is added to the overall performance bond requirement for the account. CME Clearing mandates stringent minimum performance bonds for short option positions.

FINANCIAL SAFEGUARDS SYSTEM, continued

CME SPAN is the industry's standard performance bond system licensed by CME Clearing to exchanges and clearing organizations around the world. CME Clearing requires "gross" performance bonds for customer segregated and customer sequestered positions in CME, CBOT⁵, COMEX and NYMEX products. The clearing member must deposit performance bonds for each open position (long or short) held at each clearing cycle, with appropriate allowances for risk offsets. CME Clearing allows for "net" performance bonds for non-segregated or proprietary positions.

For cleared OTC IRS and cleared OTC CDS, performance bond levels are established to cover at least 99 percent of expected price changes for a given product within a given historical period, providing further quantitative and qualitative considerations based on market risk. CME Clearing applies a multi-factor risk model to compute margin requirements for CDS. The multi-factor risk model captures the impact of overall macro-economic price risks and event risk at

the sector, single name, liquidity, and basis levels. The methodology provides 99 percent coverage over a five-day period. CME Clearing applies a historical value-at-risk model to compute margin requirements for IRS. The model achieves 99 percent coverage over a five-day period by scaling observed historical returns by exponentially-weighted moving average volatilities.

For both cleared OTC IRS and cleared OTC CDS, CME Clearing continually monitors volatility, performs backtesting, and reviews margin coverage to ensure appropriate coverage is maintained both at a position and portfolio level, with the ability to demand additional collateral when required to maintain desired coverage. CME Clearing allows for "net" performance bonds for clearing members' proprietary positions in these products. CME Clearing calculates performance bond requirements for each customer, collecting gross performance bond for the aggregate customer sequestered account.

Concentration Performance Bond

CME Clearing also maintains a concentration performance bond program, which allows CME Clearing to charge additional performance bond requirements when a clearing member's potential market exposures become large relative to the financial resources available to support those exposures.

Guaranty Funds

CME Clearing's rules are designed to maximize the liquidity and safety of the pool of guaranty funds. Guaranty fund contributions to the Base guaranty fund are sized to cover a default to CME Clearing by the largest net debtor,⁶ and 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.

⁵ Clearing firms are optionally allowed to post net margin for CBOT customer positions, if they also agree to forego utilization of long option value in CME Clearing's calculation of clearing level performance bond requirement. This optional CBOT performance bond calculation profile is due to be phased out by November 2012.

⁶ Clearing members that clear OTC products in the Base guaranty fund must maintain a minimum guaranty fund deposit of \$2.5 million.

FINANCIAL SAFEGUARDS SYSTEM, continued

The CDS guaranty fund is sized to cover defaults by the two largest net debtors.

Individual Clearing Member contributions are computed as the greater of \$50 million or the Clearing Member's proportional share of the fund based on (a) a 90-day trailing average of their Performance Bond Requirements (95%) and (b) a 90-day trailing average of their Gross Notional (5%).

The IRS guaranty fund is sized to cover defaults by the two largest net debtors.

Individual Clearing Member contributions are computed as the greater of \$50 million or the Clearing Member's proportional share of the fund based on (a) a 90-day trailing average of their Potential Residual Loss, which is the tail risk the Clearing Member brings to the Clearing House (90%) and (b) a 90-day trailing average of their Gross Notional (10%).

CME Clearing recomputes guaranty fund requirements on an ongoing 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. As of December 30, 2011, the aggregate contribution requirements

across all three guaranty funds totaled \$4.5 billion. As more fully discussed below, assessment powers augment funds on deposit in the guaranty fund.

Acceptable Collateral

CME Clearing determines the acceptability of various collateral types, in accordance with applicable CFTC regulations, and determines appropriate haircuts as well as requirement type eligibility (core, reserve, concentration or guaranty fund). Active clearing members may meet performance bond requirements using a wide variety of collateral, which may include:

- Cash, including USD and select foreign currencies
- U.S. Treasuries, including TBILL, TBOND, TNOTE, TSTRIP, TLGP
- U.S. Agencies, including select discount notes and bills, select coupon bearing instruments, select mortgage backed securities
- Select Foreign Sovereign Debt
- Letters of credit
- Physical gold

- Stocks, including select stock from S&P 500 Index
- Specialized collateral programs including:
 - Money market mutual fund program
 - Tri-party collateral management program for pledging alternative collateral
 - Cash with interest on trust ledger of participating banks

FINANCIAL SAFEGUARDS SYSTEM, continued

Securities are revalued on a daily basis, at minimum, and are subject to prudent haircuts. Foreign cash is subject to haircuts in selected circumstances. Various forms of collateral are also subject to concentration and diversification limits. CME Clearing offers a choice of 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, please refer to the following link for further details <http://www.cmegroup.com/clearing/financial-and-collateral-management/index.html>.

Customer Protection

Customers face credit risk in doing business through any particular futures commission merchant (FCM), so each customer's selection process for a suitable FCM is important. While the laws, rules and regulations applicable to segregation of customer positions and collateral for products traded in regulated markets are designed to protect customers from the consequences of an FCM's failure, they may not provide complete protection if the FCM's default to CME Clearing results from a shortfall in customer segregated (or sequestered) funds (e.g., if the FCM's default is caused by another customer failing to meet its financial obligations to the FCM). Protection

against a customer-caused default rests primarily with the management of the clearing member and its internal risk management controls. Generally, a clearing organization's role in the customer protection process is to monitor risk management requirements to provide oversight, require all customers to post adequate performance bonds, administer financial surveillance programs designed to monitor the financial viability of FCM clearing members, and, when necessary, impose specific remedies in an effort to avert the consequences of financial deterioration of a clearing member.

Segregation and Sequestration of Customer Positions and Collateral

CFTC regulations require customer positions and collateral to be segregated or kept separate from the positions and collateral of the FCM clearing member. The requirements apply directly to the activity and accounting by the clearing member and are further detailed in CME rules. CME Clearing has adopted rules for customer OTC derivatives accounts (known as customer sequestered accounts) that parallel CFTC regulations for customer segregated accounts. These rules are supported by CFTC Part 190 Bankruptcy regulations and are designed to protect customers in the event of insolvency or financial instability of their FCM clearing member.

CME Clearing's Audit Department routinely inspects clearing member records to monitor compliance with segregation and sequestration requirements. The integrity of segregation and sequestration 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 sequestration requirements are considered serious infractions and can result in imposition of significant regulatory penalties.

Capital Requirements for Clearing Members

CME Clearing members that are subject to CFTC regulation are required to maintain Adjusted Net Capital (ANC) at prescribed levels. All active clearing members are required to maintain the greatest of:

- \$5,000,000;⁷
- CFTC minimum regulatory capital requirements (see below); or
- SEC minimum regulatory capital requirements

⁷ Or such other minimum as may be established for particular products.

FINANCIAL SAFEGUARDS SYSTEM, continued

CME Clearing and the CFTC have adopted a risk-based capital requirement as the regulatory minimum capital requirement. This requirement is computed as 8 percent of domestic and foreign domiciled customer and 8 percent of non-customer (excluding proprietary) risk maintenance performance bond requirements for all domestic and foreign futures and options on futures contracts,⁸ excluding the risk margin associated with naked long option positions and any cleared OTC contracts.

Either in conjunction with or separately from being a clearing member for futures and options on futures listed by CME, CBOT, NYMEX and/or COMEX, a firm may have become an OTC clearing member, an IRS clearing member or a CDS clearing member. OTC, IRS and CDS clearing members are subject to the requirements established within the relevant rule set.

As set forth below, minimum capital requirements for a clearing member that clears OTC derivatives depend upon the

⁸ Any risk maintenance performance bond requirements for cleared OTC products must also be included in the calculation.

categories of OTC products the firm is entitled to clear:⁹

- \$50,000,000 if the clearing member will clear only commodity (i.e. agricultural, metal and energy) and/or foreign exchange OTC derivative products;
- \$300,000,000 if the clearing member will clear only the OTC derivative products listed above and other OTC derivative products for which a separate capital requirement has not been established;
- \$500,000,000 if the clearing member will clear CDS and other OTC derivative products listed above; or
- \$1,000,000,000 if the clearing member will clear IRS and other OTC derivative products listed above.

However, banks that are IRS clearing members must maintain minimum Tier I capital of \$5,000,000,000. In addition, a firm that does not maintain capital of \$1,000,000,000 and wants to clear IRS may, subject to certain conditions and with approval of the IRS Risk Committee, provide a parent guarantee to be eligible as an IRS clearing member.

⁹ Please note that certain clearing member capital requirements will change in accordance with new CFTC Regulation 39.12(a)(2)(iii), which will become effective on May 7, 2012.

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

FINANCIAL SAFEGUARDS SYSTEM, continued

Capital requirements are monitored by CME Clearing's Audit Department. Capital requirements vary to reflect the risk of each clearing member's positions as well as CME Clearing's assessment of each clearing member's internal controls, risk management policies and back office operations. Clearing members which are members of all of CME Group Exchanges (CME, CBOT, NYMEX and COMEX) must assign to CME Clearing two CME memberships, two IMM memberships, two IOM memberships, one GEM membership, two full CBOT memberships, two full NYMEX memberships and one full COMEX membership. To obtain clearing privileges for a single CME Group Exchange, a firm must meet the membership requirements of that particular Exchange. To obtain clearing privileges for two CME Group Exchanges, firms need to meet the membership requirements of those particular Exchanges.

Clearing members that are only entitled to clear OTC derivatives products are subject to capital and membership requirements based on the particular products cleared.

Finally, CME, 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 staff may require a guaranty in situations where clearing firms are subject to common ownership.

Financial Surveillance

Recognizing the need to monitor the financial condition of clearing members, CME Clearing's Audit Department, in conjunction with other self-regulatory organizations, operates a sophisticated financial surveillance program. The program has several important aspects, as outlined below:

Reporting. Clearing members must calculate segregation and sequestered requirements and ensure compliance with capital requirements on a daily basis. In addition, firms must submit to the Audit Department full financial statements monthly, provide certified financial statements once a year, and submit more frequent reports (daily or weekly) as directed. OTC Clearing Members regulated by another regulatory authority must submit to CME 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 its regulator.

Notification. Clearing members are required to report any failure to meet segregation, sequestered, 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 capital.

Inspection. Generally, each clearing member is subject to a financial/operational review every year. The reviews are tailored to focus on the specific risks of the clearing member. All such inspections are 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. As part of these agreements, CME Clearing regularly exchanges financial and operational information about joint clearing members with other participating markets. Recognizing that the financial marketplace spans the globe, CME Clearing was instrumental in developing

FINANCIAL SAFEGUARDS SYSTEM, continued

the International Information Sharing Memorandum of Understanding, which established a framework for participating exchanges and clearing organizations worldwide to share information relevant to managing global market emergencies. CME Clearing also seeks broader cooperation between clearing organizations through such industry forums as the Unified Clearing Group, CCP 12, the Joint Audit Committee, the Intermarket Financial Surveillance Group and the DCO Risk Committee.

Intra-Day Monitoring

CME Clearing monitors intra-day price movements and trading activity throughout the trading session. To assess the impact of these price changes on clearing members, intra-day mark-to-market calculations are performed on clearing member and customer positions and reviewed by CME Clearing throughout the day and overnight. The risk management team may contact exchanges or clearing organizations to follow up on clearing firm activity at their respective organizations. On a daily basis, CME Clearing conducts stress testing of clearing member portfolios and individual customer accounts of their large customers. 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-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.

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 periodically visits clearing member firms to evaluate various financial metrics such as liquidity, capital adequacy, asset quality, and earnings/profitability, and to review policies for new and existing account monitoring, risk management procedures for customer and proprietary exposures, and monitoring for liquidity risk and operational risk management. Results of each review are summarized for CME Clearing management. If a review indicates a potential weakness or area of concern, the risk management team will submit recommendations to CME Clearing management and the CHRC 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 severe action to be taken.

FINANCIAL SAFEGUARDS SYSTEM, continued

Cross-Margining

CME Clearing has administered a range of cross-margining programs for more than twenty years. In recognition of the linkages among the markets for exchange-traded equity derivative products, as well as the need to promote efficient clearing procedures and to focus on the true inter-market risk exposure of clearing members, CME Clearing, in conjunction with the Options Clearing Corporation (OCC), offers a cross-margining program with respect to market professionals and proprietary accounts. Combining the positions of joint or affiliated clearing members in certain broad-based equity index futures and options into a single portfolio, and utilizing the sophisticated risk-based margining systems of each clearing organization, results in a single performance bond requirement across both markets. The clearing organizations jointly hold a first lien on and security interest in the positions in cross-margined accounts. All performance bond deposits associated with these accounts are jointly held. The cross-margining program significantly enhances both the efficiency and financial integrity of the clearing system by

allowing gains accruing to futures or options positions to be immediately available to meet the requirements for funds from losing positions.

If a clearing organization were to suspend a cross-margining member, the positions in the cross-margin accounts would be liquidated and all performance bond collateral would be converted to cash and applied toward each clearing organization's costs of liquidating the cross-margin accounts. CME Clearing and the OCC each would be entitled to half of any surplus to apply toward other obligations of the clearing member; if one clearing organization did not need its entire share of the surplus, the excess would be made available to the other clearing organization.

CME Clearing also maintains a cross-margin agreement with the Fixed Income Clearing Corporation (FICC). The program provides cross-margining of selected interest rate products and fixed income products. The design of the FICC program differs from the above-mentioned OCC program in that performance bond collateral is held separately

at each respective clearing organization. If CME Clearing or FICC were to suspend a cross-margining participant, the cross-margined positions would be liquidated and performance bond collateral would be converted to cash at each respective clearing organization. If the liquidation of cross-margined positions and performance bond resulted in a cross-margin loss, there would be a cross-margin guarantee payment from one clearing organization to the other to share the loss.

Additionally, CME Clearing and Singapore Exchange Limited (SGX) have a mutual offset agreement. CME Clearing can maintain collateral in the form of U.S. Treasury securities or irrevocable letters of credit. Regardless of the collateral, CME Clearing guarantees all cleared transactions submitted through SGX. In the event of a default, CME Clearing would initiate procedures designed to satisfy these financial obligations, such as the use of performance bond and guaranty fund contributions of the defaulting clearing member.

DEFAULT BY A CLEARING MEMBER

CME Clearing's financial safeguards system includes default procedures 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,¹⁰ including but not limited to failure to satisfy its financial obligations to CME Clearing. In the event of a default by a clearing member, depending upon the products cleared by the particular clearing member firm, CME Clearing may utilize one of three different guaranty funds and financial safeguards waterfalls: one for IRS, one for CDS, and one for futures and OTC cleared products other than IRS and CDS (the Base guaranty fund).

CME Clearing performs various default management exercises throughout the year. For CDS and IRS, default management drills are conducted twice yearly, with oversight provided by default management committees.

The procedures detailed below outline CME Clearing's general procedures in the event of a clearing member default. More detailed procedures may be applied to respond to the unique attributes of defaults involving specific asset classes, such as IRS and CDS.¹¹

House Account Default

If a clearing member were unable to meet its financial obligations to CME Clearing resulting in a failure to make a payment within its house (sometimes referred to as proprietary or non-customer) account, CME Clearing may act immediately to:

- Transfer segregated and sequestered customer positions and collateral to another clearing member;
- Take control of, 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 sequestered 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 to CME Clearing resulting from house account activity.

Customer Segregated or Sequestered Account Default

If a clearing member were unable to meet its financial obligations resulting in a failure to make payment within its customer segregated or customer sequestered account, CME Clearing may act immediately to:

- Transfer non-involved customer segregated or customer sequestered positions and collateral to another clearing member.
- Take control of, or liquidate, involved customer segregated or customer sequestered positions and house positions.
- Apply the clearing member's guaranty fund and house performance bond deposits to the failed obligation to CME Clearing.
- Utilize all other assets of the clearing member that are available to CME Clearing (e.g. Exchange memberships).

¹⁰ CME Rule 802.A.1 (Default by Clearing Member).

¹¹ See CME Rules 8H802 AND 8G802 (Protection of Clearing House).

DEFAULT BY A CLEARING MEMBER, continued

Although CME Clearing separates customer segregated and customer sequestered 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, without identifying specific ownership at the customer level. If a default to CME Clearing occurred in the clearing member's customer segregated or customer sequestered accounts, CME Clearing has the right to apply toward the default all performance bond deposits and positions within the respective account at CME Clearing. Accordingly, positions and performance bonds deposited by customers not causing the default are potentially at risk if there is a default to CME Clearing in the respective customer account of their clearing member and may be liquidated.

Unsatisfied Obligation

Should there be any remaining unsatisfied obligations to CME Clearing following the above procedures, CME Clearing would apply CME designated funds, guaranty fund contributions of non-defaulting clearing members, and funds collected through an assessment against such clearing members. CME has designated a minimum of \$100 million to each of the financial safeguard

packages. For the financial safeguard package that includes the Base guaranty fund, CME-designated surplus funds represent the amount of CME working capital reduced by an amount necessary to support normal operations and is targeted at a minimum of \$100 million. For each of the IRS and CDS financial safeguard packages, CME-designated contributed capital is \$100 million.

Following the application of CME-designated funds, CME Clearing would apply the guaranty funds of the non-defaulting clearing members, limited to the contributions to the financial safeguards package associated with the default.

If necessary to cure the default to CME Clearing, CME Clearing would then invoke its right to assess non-defaulting clearing members. For the financial safeguards package that includes the Base guaranty fund, assessment powers cannot exceed 2.75 times the aggregate Base guaranty fund requirement across all clearing members for a single default. For multiple defaults in a five-day period, assessment powers are capped at 5.5 times the aggregate guaranty fund. For both the IRS and CDS financial safeguard packages, assessment powers are sized to match the third and fourth largest theoretical

net debtors.¹² Should the applicable financial safeguard package be exhausted, beyond maximum assessment powers, the terms of Rule 818 Close-Out Netting would apply.

Liquidity Facility

CME Clearing maintains a fully secured, committed line of credit with a consortium of domestic and international banks that may be used in certain situations. Under the terms of the credit agreement, CME Clearing may use the proceeds of the advances to provide temporary liquidity in the unlikely 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 pay settlement variation to all clearing members even if a clearing member may have failed to meet its financial obligations to CME Clearing. As of December 30, 2011, the size of the facility was \$3 billion, expandable to \$5 billion.

¹² Rule 8H802 and 8G802 (Protection of Clearing House).

DEFAULT BY A CLEARING MEMBER, continued

U.S. Insolvency Law Protections

In the case of a bankruptcy of an FCM clearing member, the U.S. Bankruptcy Code, the CFTC Part 190 Bankruptcy Rules and other laws contain a number of provisions that provide protections to a clearing member's public customers. These provisions include special priority rules for distribution of property to customers and certain exceptions to the Bankruptcy Code's automatic stay and voidability provisions. Set forth below is a general overview of these provisions.

In the event of a clearing member bankruptcy, the Bankruptcy Code provides a number of protections to CME Clearing, regardless of whether the bankrupt clearing member holds public customer accounts or only clears proprietary trades. For example, a trustee may not void pre-bankruptcy payments of original performance bond or settlement variation made to CME Clearing (except in the event of a fraudulent transfer). In addition, the filing of a bankruptcy petition will not stay a set-off by CME Clearing of claims for original performance bond or settlement variation payments owed by a clearing member against cash, securities or other property of a clearing member held by CME Clearing. These provisions establish a priority for CME Clearing with respect to performance bond

deposits, which protect all clearing members. Further, the Bankruptcy Code provides that neither a clearing member's bankruptcy nor any order of a bankruptcy court can prevent CME Clearing from exercising any contractual right it has to liquidate a commodity contract.

The Bankruptcy Code and the CFTC Part 190 Bankruptcy Rules provide a five-day grace period during which time customer accounts may be transferred from a defaulting clearing member to non-defaulting clearing members, either pursuant to arrangements made by the customer or as part of a "bulk transfer" of accounts coordinated with CME Clearing and the CFTC. With respect to distribution of customer property remaining at the defaulting clearing member, the CFTC Part 190 Bankruptcy Rules classify a clearing member's customers as either "public" or "non-public." Non-public customers include certain account holders that are affiliated with or related to the clearing member such as the clearing member officers, directors, general partners or ten percent or greater owners. All other customers are considered "public," and their property on deposit with the clearing member is subject to CFTC segregation requirements.

The Bankruptcy Code and CFTC Part 190 Rules afford claims of public customers the highest priority, subject only to the payment of claims relating to the administration of customer property. For purposes of claims in an FCM bankruptcy, customers of the FCM are divided into the following account classes: U.S. futures accounts (governed by Section 4d of the Commodity Exchange Act and related CFTC Regulations), foreign futures accounts (governed by CFTC Regulation 30.7), cleared swaps accounts, leverage accounts and delivery accounts. Each account class is a separate pool of funds for claims. The claims of customers whose funds are held in defined account classes will have priority over proprietary claims and the claims of general creditors in an FCM bankruptcy to funds in that pool. All property segregated on behalf of, or otherwise traceable to, a particular account class is allocated to that class and distributed to customers in that class on a pro-rata basis.

DEFAULT BY A CLEARING MEMBER, continued

For banks and foreign entities that are direct clearing members, the applicability of these and other insolvency-related provisions will depend on the circumstances of each situation.

An insolvency of a domestic bank would be controlled by the Federal Deposit Insurance Corporation (FDIC) or a receiver appointed by the Comptroller of the Currency (Comptroller) depending on the type of banking services provided by the clearing member bank. If the clearing member is a retail depository bank, and therefore insured by the FDIC, its insolvency would be administered under the Federal Deposit Insurance Act (FDIA) with the FDIC as receiver. A non-depository bank would not be subject to the FDIA, and its insolvency would be controlled by the Comptroller as the licensing agency. Such insolvency is governed by the National Banking Act.

CME Clearing's outside counsel has indicated that based on the FDIA and the Federal Deposit Insurance Corporation Act of 1991 (FDICIA) there is strong legal support for contractual netting among a clearing organization such as CME Clearing and its members, including U.S. banks. FDICIA generally provides that the covered contractual payment obligations and the covered contract payment entitlements of a member of a clearing organization to and from all other members of a clearing organization shall be netted. In addition, the FDIA has provisions that are similar to the Bankruptcy Code in permitting broad cross-product netting and allowing prompt liquidation of contracts with an insolvent bank.

Foreign banks will fall within one of three relevant categories. If the foreign bank has assets but no subsidiaries or branches in the U.S., it would be subject to the U.S. Bankruptcy Code. Second, a foreign bank

could establish a subsidiary bank in the U.S., either as a retail depository bank subject to FDIC regulations or as a non-depository bank that must be licensed by the Comptroller. The subsidiary's insolvency would be processed in the same manner as a U.S. bank. Finally, the foreign bank could set up branches rather than a bank subsidiary in the U.S. Such branches would not be permitted to accept retail deposits, and therefore the Comptroller, which would license the branches, would be the federal regulator rather than the FDIC. A receiver appointed by the Comptroller would administer the insolvency process in the U.S.

CME CLEARING FINANCIAL SAFEGUARDS SYSTEM RESOURCES

Under no circumstances will customer segregated or sequestered performance bond deposits held by CME Clearing for one FCM clearing member be used to cover either a house or customer default of another clearing member. Customers doing business through a clearing member not involved in a default are insulated from losses incurred by the failure of another clearing member.

At December 30, 2011, CME Clearing maintained aggregate performance bonds of approximately \$90 billion.¹³ The following highlights additional available resources of CME Clearing at December 30, 2011 in the event that the resources of the defaulting firm are exhausted.

Base Financial Safeguards Package

CME Surplus Funds ¹⁴	\$100,000,000
Guaranty Fund Contributions	\$2,968,000,000
Assessment Powers	\$8,161,000,000
Aggregate base financial safeguards ¹⁵	\$11,229,000,000

IRS Financial Safeguards Package¹⁶

CME Designated Working Capital	\$100,000,000
Guaranty Fund Contributions	\$948,000,000
Minimum Total Assets Available for Default	\$1,048,000,000

CDS Financial Safeguards Package¹⁷

CME Designated Working Capital	\$100,000,000
Guaranty Fund Contributions	\$629,000,000
Minimum Total Assets Available for Default	\$729,000,000

¹³ Aggregate performance bonds stated represent the value after any applicable CME Clearing performance bond haircuts.

¹⁴ CME Surplus funds is targeted at \$100 million and represent the amount of working capital reduced by an amount necessary to support normal operations and amounts designated for our IRS and CDS financial safeguards package.

¹⁵ Exchange memberships assigned to CME Clearing are available in the event of the respective clearing member default.

¹⁶ IRS Financial Safeguards additionally include assessment powers as detailed in Rule 8G802 (Protection of Clearing House).

¹⁷ CDS Financial Safeguards additionally include assessment powers as detailed in Rule 8H802 (Protection of Clearing House).

DISASTER RECOVERY AND BUSINESS CONTINUITY

The Business Continuity Management (BCM) program is committed to ensuring CME Group can respond to an incident while ensuring the safety of our people, guarantee the survivability of core trading and clearing functions and meeting our fiduciary responsibility to our stakeholders.

Key components of the program include:

- Identifying a program framework that aligns with U.S. and International standards.
- Multiple-redundant systems components, maintained at separate, geographically-dispersed facilities.
- Multiple-redundant network connectivity between clearing firms and CME Clearing, into those separate, geographically-dispersed facilities.
- Real-time mirroring of data storage between separate facilities.
- Physical dispersion of operations oriented staff.
- Multiple electricity feeds as well as back-up generator capability.
- Redundant voice telecommunications lines with automatic switching to backup facilities.
- Routinely-tested scenarios include both the completion of the daily clearing cycle and the resumption of normal clearing processing.

CME CLEARING EUROPE

CME Clearing Europe, CME Group's European Clearing House, is approved as a Recognised Clearing House by the UK Financial Services Authority. CME Clearing Europe was launched in May 2011 initially offering clearing for a wide range of OTC products. CME Clearing Europe is a separate legal entity which is wholly owned by CME Group; although CME Clearing Europe benefits from CME Clearing's system infrastructure and proven risk management expertise, it has its own experienced staff based in London and its own governance structure including a Board of Directors and Risk Committee. It also has its own membership criteria for firms wishing to clear business through the European entity and maintains its own financial safeguards to protect against the default of a Clearing Member.

The following highlights the available resources of CME Clearing Europe at December 30, 2011 in the event that the resources of the defaulting firm are exhausted.

Financial Safeguards Package:

CME Clearing Europe Guarantee Fund Contribution	\$20,000,000
Clearing Member Guaranty Fund Contributions	\$40,000,000
Assessment Powers	\$110,000,000

For more information on CME Clearing Europe visit cmeclearingeurope.com.

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All matters pertaining to rules and specifications herein are made subject to and are superseded by official CME Group rules.

Current CME Group rules should be consulted in all cases concerning contract specifications.

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