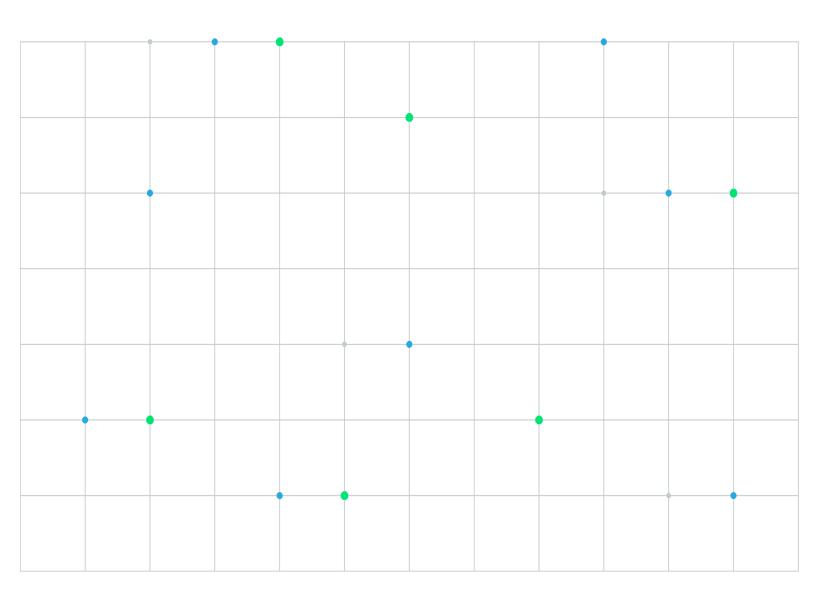


Risk Management Tools User Manual

22 November 2025



Neither futures trading nor swaps trading are suitable for all investors, and each involves the risk of loss. Swaps trading should only be undertaken by investors who are Eligible Contract Participants (ECPs) within the meaning of Section 1a(18) of the Commodity Exchange Act. Futures and swaps each are leveraged investments and, because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for either a futures or swaps position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles and only a portion of those funds should be devoted to any one trade because traders cannot expect to profit on every trade. All examples discussed are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience.

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Getting Started

CME Group Risk Management Tools is used to access: CME Globex Credit Controls (GC2), the Risk Management Interface (RMI), Kill Switch. A CME Clearing Member Firm (CMF) or exchange partner Clearing administrator authorizes access to users via their CME Group Login ID and password. A CME Clearing Member Firm (CMF)¹ or exchange partner Clearing administrator authorizes access to the risk administrator for one or more of the following functions:

- CME Globex Credit Controls (GC2) set pre-execution credit control limits on futures and options.
- Risk Management Interface (RMI) block / prevent and unblock / allow orders and cross-requests from being entered or modified by Execution Firm accounts. Also, view and generate reports for blocked, unblocked, and canceled orders.
- <u>Access Manager</u> to enable order entry on CME Globex, positively permission accounts for <u>restricted products</u>.
- <u>Kill Switch</u> provides a Globex Orders Kill function for the following levels: Legal Clearing Entity, Execution Firm and Sender Comp.

Access the Risk Management Tools login: https://risktools.cmegroup.com/

Note: Only versions of Chrome and Internet Explorer released in the most recent 12-month period will be certified and supported.

If you receive a message from the browser indicating that this file is restricted, select the message and select **Allow Blocked Content**.

Learn about any of the following functions:

- CME Globex Credit Controls (GC2)
- Risk Management Interface (RMI)
- Access Manager
- Kill Switch

¹The CME Group Class A Clearing Member Firm

Obtain Access

Only authorized CME Group Clearing Firm or partner exchange Clearing Firm administrators will have the capability to authorize access for new risk administrators. Risk administrators will need a CME Group Login to access CME Group Risk Management Tools / Globex Credit Controls.

Obtain Access to CME Group Risk Management Tools / Globex Credit Controls:

- 1. A clearing firm or partner exchange clearing administrator completes the Exhibit C CME Risk Tool User Access / Deletion Request Form of the Schedule 6 of the Customer Connection Agreement and faxes or emails the form to your Global Account Manager.
 - Note: Executing Firms will need to have their clearing firm(s) submit a Schedule 6 on their behalf to access Kill Switch.
- 2. The Global Account Manager verifies the paperwork and coordinates across CME Group departments to ensure processing of the request.
- 3. The Global Account Manager contacts the clearing firm or partner exchange clearing firm when the new user has been granted access.

Login and Logout

Login

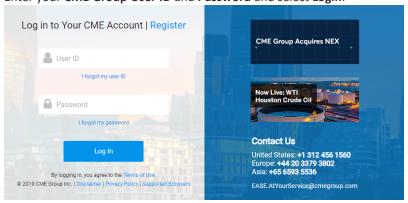


To login:

1. Go to the https://login.cmegroup.com.



2. Enter your CME Group User ID and Password and select Login.



3. From the CME Group page, select **Portfolio & Risk > Risk Management Tools** to start the application and display the home page.



Logout

Risk Administrators must log out of the application when finished.



To log out:

From the **Risk Management Tools** tab, select the user profile icon, then **Logout**



If you forget a username or password, request a reminder or reset through the CME Group Login application.

Note: If changes are required to your password or ID, access <u>CME Group Login</u> with your current information, or, if you have forgotten your ID or password, follow the appropriate links on the page.

For CME Group Login support and troubleshooting (e.g. lockout after unsuccessful login attempts), contact <u>Enterprise</u>

Application & System Entitlements (EASE).

Additional Resources

- Client Systems Wiki
- Risk Management Video

What's New

The following content has been updated or added to the Risk Management Tools Help system:

Date	Topic	Description	
22 November 2025	CME Globex Credit Controls (GC2)	Added a feature to manage <u>weekend</u> trading access at the execution firm / exchange group level.	
8 July 2025	various	Support for MGEX as a partner exchange has ended (last day of trading June 27, 2025) and references to Minneapolis Grain Exchange / MGE / MGEX have been removed.	
14 April 2025	Access Manager Granting Permissions	Uniform Mortgage Backed Securities (UMBS) TBA futures have been <u>removed</u> from Access Manager function.	
20 August 2024	Spread Order Calculations	Updated spread examples and calculations.	
1 July 2024	Globex Credit Controls	Dynamic Clip Size, Dynamic Margin Rate, Advanced Settings has been removed. Dynamic margin rate has been replaced by <i>Specific Listed Contract Margin Rate</i> (actual product) margin rate.	
15 August 2023	Globex Credit Controls	Removed a function that cancels all working orders at 100% of the limit.	
13 June 2023	Dynamic Clip Size Spread Order Calculations	Eurodollar futures examples have been updated to Three-Month Secured Overnight Financing Rate (SOFR) futures.	
8 November 2022	Format	Website and PDF format changes only.	
30 October 2022	Access Manager	Updated Access Manager product expiration period restrictions.	
18 May 2021	Access Manager	Updated Access Manager product restrictions.	
6 January 2021	Access Manager	Updated Light Sweet Crude Oil Futures restricted period details.	
16 September 2020	Access Manager	Added instructions for managing account level trading permissions for restricted products and accessing the active permissions report. Authorized users can grant / revoke permission for All execution firm accounts for restricted products.	
23 April 2020	Access Manager	Refresh access manager links to restricted products.	
15 April 2019	Kill Switch	Updated primary feature description.	
20 July 2018	Set Exposure / Max Qty Limits Dynamic Clip Size	Application handling for credit calculations, evaluates user set max clip size or clip size calculated by the credit calculation.	
14 May 2018	Time Frame for Changes	Added reference for Basis Trade at Cash Open (TACO) product specific schedule.	

Date	Topic	Description	
20 Dec 2017	Format	Changed format to comply with new CME standards. Content is the same.	
21 Dec 2016	Getting Started Access Manager	Updated MAC Swap Futures reference to include additional restricted <u>products</u> .	
27 Aug 2016	Various	 Renamed Deliverable Swap Futures (DSF) to MAC Swap Futures. Convert online version to HTML5. Replaced "click" with "select" (accommodates mobile devices and tablets). Login instructions starting from cmegroup.com. 	
28 Mar 2016	CME Group Risk Management Tools	 Reference to Schedule 6, Customer Connection Agreement has been updated to reflect required exhibits to be completed. References to SMART Click now called CME Group Login. 	
27 Oct 2014	Getting Started	Updated Login section with login details.	
28 Apr 2014	1. Globex Credit Con-	Exposure limits added to newly created firms or exchanges will take effect at 16:45 CT each weeknight or upon Sunday start-up.	
	2. Enforcing Kill Switch	2. Added: The SenderCompID (FIX Tag 49) is made up of Session ID (first three characters), Firm ID (second three characters), and Fault Tolerance (last character).	
15 Apr 2014	All	Updated links and edited to meet Help standards.	
2 Mar 2014	Set Exposure Limits and/or Max Quantity Limits	 Updates for Exposure Limit:. Minimum Exposure Limit level is \$0.5M. Increase from \$0.5M in \$0.1M increments. Only one decimal place to the right is recognized. 	
13 Dec 2013	Getting Started	Roles of RMI Risk Admin and GC2 Risk Admin are combined.	
18 Oct 2013	DSF Access Manager (new) Kill Switch (new) Partner Exchange report	Added Access Manager and Kill Switch functionality. Added Kill Switch Reports. Added Partner Exchange report. Updated images on various pages.	
26 Aug 2013	CME Globex Credit Controls (GC2)	Updated "Newly created execution firms" and "Newly added exchanges" bullet points.	
21 Jun 2013	CME Globex Credit Controls Advanced Settings	Updated text / table header on CME GC2 page (GC2 Features / Time Frame for Changes) Updated text on Dynamic Clip Size page (Prior to Trading). Updated images on Advanced Settings page.	
30 Apr 2013	Regroup Exchanges	Updated warning that required changes are effective upon the next Sunday start-up.	

Date	Topic	Description
	CME Globex Credit Controls (GC2)	
11 Aug 2012	Basics of Position Calculations Instruction History RMI Reports Global	Updated example. Added Filter functionality. Added topic. Streamlined topics and expanded What's New section.
23 Mar 2012	General/ Instruction History	 Updated RMI sections to rename Pending Block tab to Create Block tab. Added Export to Excel description to RMI Instruction History.
24 Feb 2012	General/Risk Management Interface Basics	 Incorporated Risk Management Interface (RMI) functionality, including a new RMI section. The Risk Management Tools GUI was renamed from CME Globex Credit Controls to now support both CME Globex Credit Controls (GC2) and a new Risk Management Interface (RMI). All graphics updated to reflect renaming of Credit Controls tab.

CME Globex Credit Controls (GC2)

The CME Globex Credit Controls (GC2) function provides pre-execution risk controls that enable Clearing Firm or Partner Exchange Clearing Firm risk administrators to set exposure limits for CME Globex order and trade activity cleared by CME Clearing. The Clearing firm or partner exchange Clearing firm risk administrators can choose a set of real-time actions to follow if specified limits are breached, including e-mail notifications, order blocking, and order cancellation.

GC2 Functions

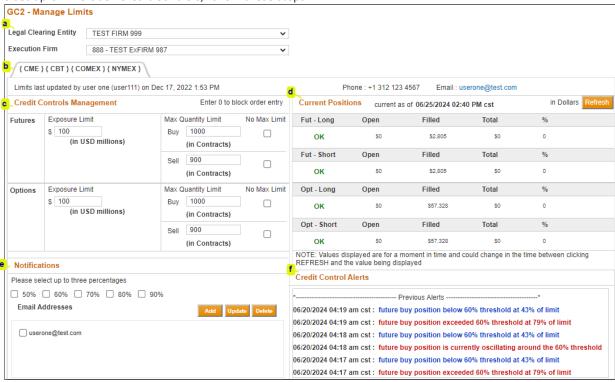
The GC2 function incorporates Execution Firm ID / Exchange group functionality. Predefined groups appear with associated credit control settings for the selected (active) tab.

For a given Legal Clearing Entity and Execution Firm, authorized GC2 Risk administrators can manage limits and other risk settings described below.

- Credit Controls Management
- Exposure and Maximum Quantity Limits
- Notifications
- Positions
- Credit Control Alerts

Credit Controls Management

To set up CME Globex Credit Controls, follow these steps:



- a. Select the Legal Clearing Entity / Execution Firm to manage.
- b. **Exchange Grouping** (optional): Newly added exchanges will have a "0" exposure limit and appear in a separate tab. This means that the firm is blocked from the newly added exchanges.

Customers can request to re-group / modify exchange groupings or set up a new group.

Requested updates will be effective at the next Sunday start-up.

- c. **Credit Controls Management**: To enable trading, the GC2 Risk Administrator must enter the Exposure Limit / Max Quantity Limits for Futures and Options for each Executing Firm ID / Exchange group.
 - Manage Futures and Options exposure / quantity limits for:
 - Futures on the Buy / Sell side (Long / Short)
 - Options on the Buy / Sell side (Long / Short)

The Exposure Limit is applied to both Long and Short trades and positions.



Note: If both Exposure Limits and Max Quantity Limits are set, the most conservative value is used.

• Max Quantity Limits - In addition to currency based Exposure Limits, the risk administrator can enter the optional Max Quantity Limit (Buy/Sell) for Futures and Options by group.

To enter Max Quantity Limits, Uncheck the No Max Limit checkbox.

Newly created execution firms will have a "0" exposure limit. This means that the firm is blocked. To enable trading, the clearing firm admin must enter a value.

Exposure limits added to newly created firms or exchanges will take effect at 16:45 CT each weeknight or upon Sunday start-up.

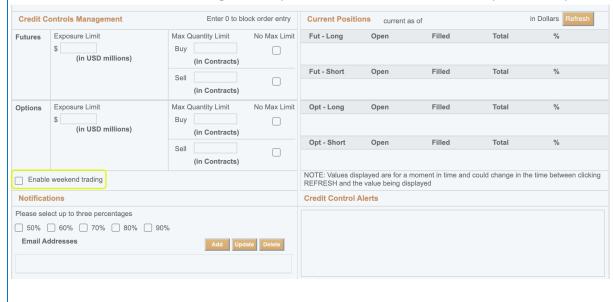


Enable weekend trading: By default, weekend trading is not enabled.

This feature is available for authorized clearing firm risk administrators to **allow** (checked) or **restrict** (unchecked) weekend trading at the execution firm(s)/exchange group level.

When unchecked, limit values (*Exposure* and *Max Quantity Limit*) will be set to zero (0) for the weekend. Before the next weekday trading session begins, limit values will automatically revert to the previous *weekday* value.

To be effective for the weekend trading session, updates must be submitted before 4:00 p.m. CT Friday.



d. **Current Positions**: Open and filled positions are calculated for a product complex per Executing Firm ID / Exchange group.

To update the Current Positions area, select **Refresh**.

- **Total Futures Long** (Fut Long) = Sum of all weighted quantity open long futures orders + Sum of all weighted long fills Sum of all weighted short fills.
- **Total Futures Short** (Fut Short) = Sum of all weighted quantity open short futures orders + Sum of all weighted short fills Sum of all weighted long fills.
- Total Options Long(Opt Long) = Sum of all weighted quantity open long options orders + Sum of all weighted long fills Sum of all weighted short fills.
- Total Options Short(Opt Short) = Sum of all weighted quantity open short options orders + Sum of all weighted short fills Sum of all weighted long fills.

For additional information, see: Position Calculations

e. <u>Notifications</u>: This area identifies the three threshold percentages when notifications occur. The area also identifies the email address(es) of the recipient(s) of the alerts when the 100% threshold is reached. These percentages are selected by the GC2 Risk Administrator.



Note: At least one email address must be entered per Executing Firm ID / Exchange group.

f. Credit Control Alerts: Lists recent position activity that exceeds configured notification levels.

Time Frame for Changes

The following table summarizes when CME Globex Credit Controls (GC2) updates are effective.

- Clearing firms have the ability to apply exposure limits to Executing Firm IDs created on or transferred mid-week. Limits are applied by 16:45 CT.
- Filled positions are not carried over between trading days and are reset to zero at 16:30 Central Time (CT).
- Basis Trade at Cash Open (TACO) products operate on unique contract terms and trading schedule.

After trade execution (fill), positions are reset as specified in the Client Systems Wiki - Basis Trade at Cash Open.

Type of Change	Realtime	16:30-16:45 Monday through Friday or upon Sunday start-up	Next Sunday Start-up
Exposure Limits	Х		
Max Quantity Limits	Х		
Executing Firm ID / Exchange Regrouping			Х
New Firms		х	
Clearing Mapping Relationships		х	

Set Exposure Limits and/or Max Quantity Limits

Using the **Credit Controls Management** function, GC2 Risk Administrators can manage the risk settings for a Legal Clearing Entity and Execution firm entity:

- **Exposure Limit**: USD millions, with a minimum value of \$0.5M and increments in \$0.1M increments (maximum one decimal to the right). Only one decimal place to the right is recognized.
 - Futures / Options
 - Long / Short

Spread orders that have both Buy and Sell sides will apply a <u>spread adjustment factor</u> (10%) to working spread orders, which may affect trading/risk limits for new orders.

- Max Quantity Limit
 - Buy
 - Sell
 - No Max Limit

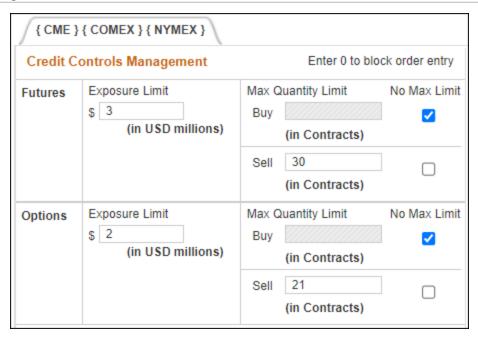
Orders are evaluated against the more restrictive of either:

- User specified exposure and maximum quantity (including no max limit).
 - No Max Limit: When selected, all orders are evaluated against CME Group specified product limits.



To Modify the Exposure Limit:

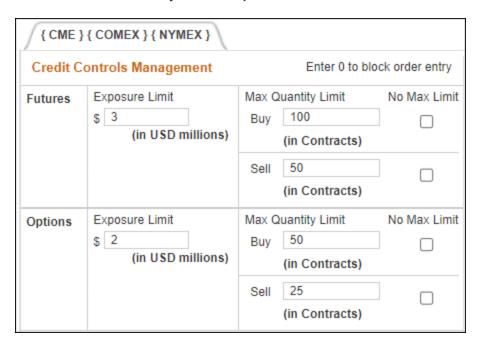
1. Enter the Futures and Options Exposure Limit.



2. Select **Save**if there are no other changes.

To Modify the Max Quantity Limit:

- 1. Uncheck the **No Max Limit**checkboxes.
- 2. Enter the Buy Max Quantity Limit for Futures.
- 3. Enter the Sell Max Quantity Limit for Futures.
- 4. Enter the Buy Max Quantity Limit for Options.
- 5. Enter the Sell Max Quantity Limit for Options.



6. Select Savewhen finished.

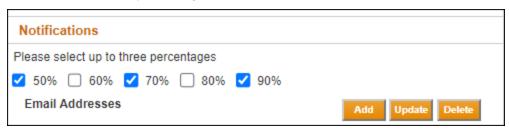
Notifications

GC2 offers a feature to notify specified users (by email) when the percentage of exposure limit is reached.



To set notification percentage:

1. Select the **Notification percentages** for up to **three**levels.



2. Select Add.



3. Type the **Email Address** and select **OK**.



4. Select Savewhen finished.

Proceed to one of the following procedures to modify the email address:

- Update an Email Address
- Delete an Email Address

To Update an Email Address

- 1. Select the check box next to the **Email Address** that requires updating.
- 2. Select Update.
- 3. Modify the email Address and select **OK**.
- 4. Select **Save**when finished.

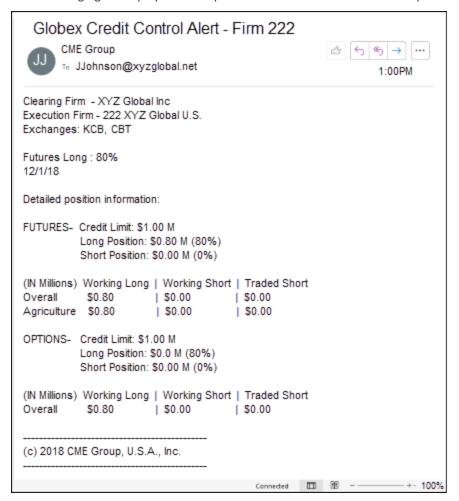
To Delete an Email Address

- 1. Select the check box next to the **Email Address** that needs to be deleted.
- 2. Select Delete.

- 3. Confirm the deletion by selecting **OK**.
- 4. Select Savewhen finished.

Email Notification Messages

The following figure displays an example email notification from CME Group.



Regroup Exchanges

Use the Regroup Exchanges function to create or modify a Legal Clearing Entity & Executing Firm ID association with an exchange / group of exchanges.

To navigate to the Regroup Exchanges Window:

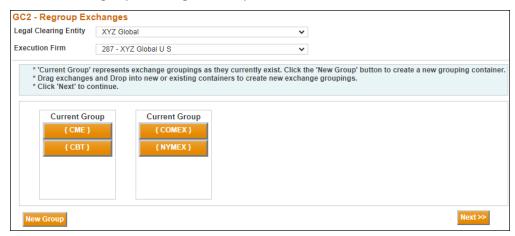
1. From the GC2 menu, select Regroup Exchanges.





Note: Exchange group modifications are effective upon the next Sunday start-up.

The two current groups in the figure correspond to the tabs on the GC2 main window.



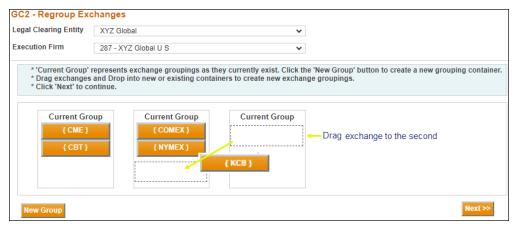
- 2. From this window, the GC2 Risk Administrator can modify or set up a new group, proceed to the following instructions:
 - · Modify a Group
 - Set Up a New Group

Modify a Group

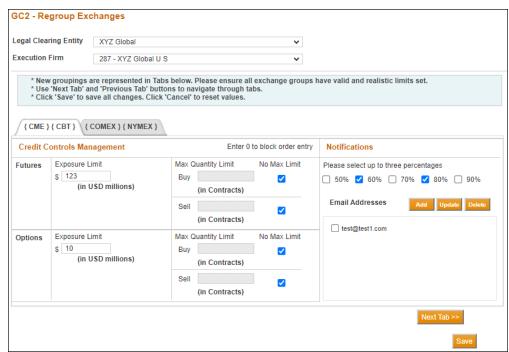


To modify a group:

1. Drag the exchange button to a different group. In this example, MGE was moved to the second group.

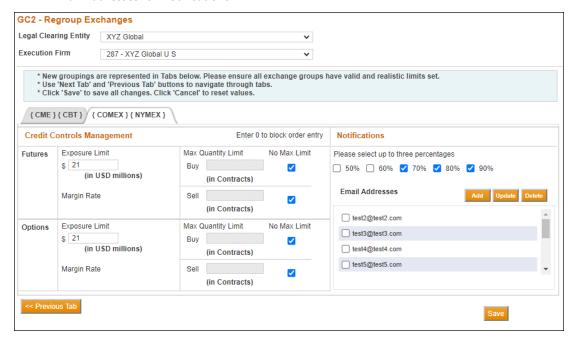


- 2. Select **Next**when all exchanges have been moved to the correct group(s).
- 3. Verify or modify the following for the Current Group:
 - Exposure Limits for Futures and Options
 - Max Quantity Limit Buy and Sell for Futures and Options.
 - Notification Percentages
 - Email Addresses for Notifications
- 4. To modify additional exchange groupings, select **Next Tab**.



5. Verify or modify the following for the Current Group:

- Exposure Limits for Futures and Options
- Max Quantity Limit Buy and Sell for Futures and Options
- Notification Percentages
- Email Addresses for Notifications



Note: On Exchange tabs, All Execution Firms must have Exposure Limits. Although not required, Max Quantity Limits can be set additionally.

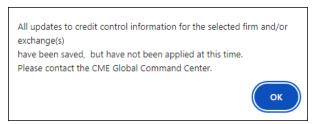
- 6. Select **Add**in the Email Addresses area and enter the email address.
- 7. Select **Save**when finished.

GC2 displays a message that the modifications were successfully made.



- 8. Select OK.
- 9. Select **OK** on the GC2 window.

The following message displays.



10. Select **OK** to respond to this message.



Note: Select Cancel to revert to the previous settings.

Set Up a New Group

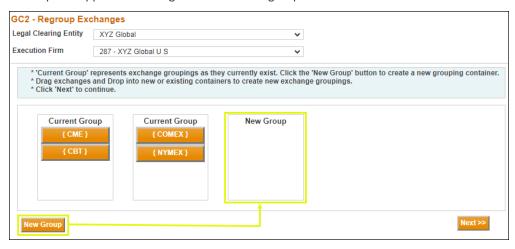
The following instructions illustrate the process to group exchanges in a tab to manage associated execution firms settings; limits / notifications when a limit is reached.



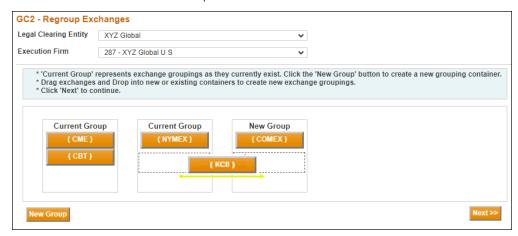
To set up a new group:

- 1. Navigate to the Regroup Exchanges window.
- 2. Select the **New Group**button at the bottom of the window.

A new panel appears to the right of the current group.



3. Drag the appropriate exchanges from the Current Group (first) to the New Group (second). In this example, *COMEX* and *MGE* were moved to the New Group.



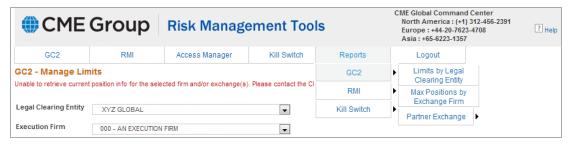
- 4. Select the **Next**button.
- 5. Verify or modify the following for the **Current Group (first)**:
 - Exposure Limits for Futures and Options
 - · Max Quantity Limit Buy and Sell for Futures and Options
 - Notification Percentages
 - Email Addresses for Notifications
- 6. Select the Nextbutton when finished.

- 7. Enter the following for the **New Group (second)**:
 - Exposure Limits for Futures and Options
 - Max Quantity Limit Buy and Sell for Futures and Options
 - Notification Percentages
 - Email Addresses for Notifications
 - Note: Exposure Limits and/or Max Quantity Limits are required.
 In addition at least one email address must be enteredfor the notification alerts.
- 8. Select **Save**when finished or select **Cancel**to revert to the existing group settings.
 - GC2 displays a message that the modifications were successfully made.
- 9. Select **OK**to respond to this message.
- 10. Select Next Tab when finished.

GC2 Reports

To run a GC2 report:

From the CME Group Risk Management Tools window, point to Reports, then GC2.



Select one of the following options:

- · Limits by Legal Clearing Entity
- Max Positions by Exchange Firm
- Partner Exchange

Limits by Legal Clearing Entity



To run a Limits by Legal Clearing Entity report:

1. Select Reports >GC2> Limits by Legal Clearing Entity.

- 2. From the Legal Clearing Entity drop-down box, select a firm.
- 3. Select Run Report.
- 4. Depending on the browser being used, the file either automatically downloads or a dialog box displays with open / save file options. If dialog box displays, take actions as appropriate.

Max Positions by Exchange Firm





To run a Max Positions by Exchange Firm report:

- 1. Select Reports > GC2 > Max Positions by Exchange Firm.
- 2. Select the **Legal Clearing Entity** and the **Execution Firm**.
- 3. Enter the From Date and To Date.
- 4. Select Run Report.
- 5. Depending on the browser being used, the file either automatically downloads or a dialog box displays with open / save file options. If dialog box displays, take actions as appropriate.

Partner Exchange

Generates the partner exchange limits that have been set.





To run a Partner Exchange report:

- 1. Select **Reports >GC2> Partner Exchange >**, and then select one of the following:
 - BMD (Bursa Malaysia™)
 - KRX [Korea Exchange™ (한국거래소)]
 - GME (Gulf Mercantile Exchange)
- 2. Select Run Report.
- 3. Depending on the browser being used, the file either automatically downloads or a dialog box displays with open / save file options. If dialog box displays, take actions as appropriate.

Position Calculations

Current position totals are calculated as overall long and short positions for both futures and options per Executing Firm ID.

The current position totals are defined as the *Specific Listed Contract Margin Rate*multiplied by the number of contracts, which

is an aggregate of open orders and fills per product complex. Product complex values are then aggregated to the total overall position.

- Quotes (Mass Quotes) are not included in open position calculations. Fills resulting from quotes are included in the filled and total position.
- The following are included in the filled and total position, but not the open position.
 - User Defined Spreads (UDS) covered instruments
- Positions are maintained separately for each futures product complex and for each options product complex. Then futures product complex positions are aggregated and options product complex positions are aggregated.
- Positions are calculated continuously. Filled Positions are reset at the end of each trade day at 16:30 CT.

Note: Good 'til Cancel (GTC) and Good 'til Day (GTD) orders are included in the position calculation for the given Executing Firm ID / Exchange group at the beginning of the trading week.

• Submitted orders that trigger a violation at 100% of the limit will not be rejected as long as the order does not violate product and credit limits. Any subsequent orders will be rejected.

See also: Spread Order Calculations.

Spread Order Calculations

GC2 nets out the working exposure for both positions as long as both Buy/Sell sides exist for the spread, and applies a **Spread Adjustment Factor** to all working spread orders.

Contents

- Spread Adjustment Factor
- Working Order Spread Calculation
- Spread Calculation Examples

Spread Adjustment Factor

The Spread Adjustment Factor (10%) is applied to all qualifying spreads and only applicable to working spread orders. The spread's working margin value is "unwound", or recalculated, if the spread order's open quantity matches partially. The Spread Adjustment Factor:

- available for intra-commodity, calendar, option strategy spreads
- is calculated to a maximum of two decimals places
- is always a positive value

Conditions for Spread Adjustment Factor Application

All of the following conditions must be valid before the Spread Adjustment Factor is applied:

- 1. The spread legs are in the same Product Complex. Current Product Complexes include Agriculture, Energy, Environmental, Equity Index, FX, Interest Rates , Metals, and Weather.
- 2. The spread legs are all within the same Product Type, which is either "all futures" or "all options".
 - The Spread Adjustment Factor is not applied to spread types that have both Futures and Options, for example Covereds.
- 3. For futures spreads, the spread contains at least one buy leg and one sell leg.
- 4. For options spreads, the spread contains at least one buy leg and one sell leg and/or one call and one put.

- 5. All the spread legs are within the same exchange group; the product / Legal Clearing Entity relationship defined by the Risk Administrator.
- 6. In conditions where a spread has some legs which qualify for the Spread Adjustment Factor and some leg(s) do not:
 - For the legs which do qualify, the Spread Adjustment Factor and the resulting working margin will be applied to the associated group, Executing Firm ID / Exchange.
 - For the leg(s) which do not qualify, GC2 applies the full margin rates to the associated group, Executing Firm ID / Exchange.

Spread Adjustment Factor Application and Exception Examples		
Intra-Commodity Future Spread	For a Secured Overnight Financing Rate (SOFR) bundle, the Spread Adjustment Factor does not apply because all the future legs are on the same side.	
Intra-Commodity Covered (single option leg and single future leg)	For 10-yr Note option call covered by the 10-yr Note future, the Spread Adjustment Factor does not apply because the spread crosses over futures and options Product Types.	
Inter-Exchange Future Spread across exchange groups	For Gulf Mercantile Exchange (GME) / NYMEX energy future calendar spread, the Spread Adjustment Factor does not apply if the Risk Admin defined the GME and NYMEX across two exchange groups. If the Risk Admin has grouped them in the same exchange group, then the Spread Adjustment Factor would apply.	

Note: GC2 enforces Inter-Exchange Spreads (IES) at the leg-level. Breach of the exposure limit on one or more of the exchange groups, results in the rejection of the IES order.

Working Order Spread Calculation

When a spread meets the criteria specified above, the following calculations are applied:

Calculate Value A = Spread's total margin	 Value A is the sum of: the spread order quantity (+/- for buy/sell) multiplied by each leg's buy/sell ratio (+/- for buy/sell) multiplied by each leg's maintenance margin rate
Calculate Value B = Spread's total margin in absolute value (abs) terms Calculate Value C = Value B multiplied by the Spread Adjustme	Value B is the sum of: • the spread order quantity • multiplied by each leg's buy/sell leg Ratio • multiplied by each leg's maintenance margin rate ent Factor (10%)
Determine the spread's working long value	 If Value A is positive then the working long value is Value A + Value C If Value A is zero or negative then the working long value is Value C
Determine the spread's working short value	 If Value A is negative then the working short value is the absolute Value of A + Value C If value A is zero or positive then the working short

	value is Value C
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Working Summary

	Working Long	Working Short
If Value A is positive	Value A + Value C	Value C
If Value A is negative	Value C	absolute Value of A + Value C
If Value A is zero	Value C	Value C

Spread Calculation Examples

Following are examples for intra-commodity, calendar, user defined spreads. Use these examples as a guide for GC2 <u>exposure</u> / <u>max quantity limit</u> risk settings. The below values are in USD.

Example 1 - Intra-Commodity Spread with equal margin rates (Buy) 1 UBU4 - (Sell) UBZ4 spread (Ultra U.S. Treasury Bond Sep 2024 - Dec 2024) with equal margin rates

- Leg 1: One contract UBU4 Maintenance Margin (MM) \$5500
- Leg 2: One contract UBZ4 Maintenance Margin (MM) \$5500

Value A = [qty * MM leg 1 - qty * MM Leg 2]	1 qty * 5500 MM - 1 qty * 5500 MM = \$0
Value B = absolute value [qty * MM leg 1) + abs (qty * MM leg 2]	(1 qty * 5500 MM) + (1 qty * 5500 MM) = \$11000
Value C = Value B * 0.10 (spread adjustment factor)	\$11000 (value B , above) * 0.10 (spread adjustment factor) = \$1100

- GC2 Working Long Exposure = \$1100
- GC2 Working Short Exposure = \$1100

Example 2 - Intra-Commodity Spread with different margin rates

Buy 1 CLN5-CLZ5 (Crude Oil Future Jul 2025 - Dec 2025) with different margin rates

- Leg 1: One contract CLN5 Maintenance Margin (MM) \$4000
- Leg 2: One contract CLZ5 Maintenance Margin (MM) \$3600

Value A = [qty * leg 1 - qty * leg 2]	1 (qty) * 4000 MM - 1 (qty) * 3600 MM= \$400
Value B = absolute value (qty) * leg 1 + absolute value (qty) * leg 2	1 (qty) * 4000 MM) + 1 (qty) * 3600 MM = \$7600
Add sum of the Maintenance Margin of the legs and multiply by 10% - spread adjustment factor, then apply to the applicable working long and short $ \text{Value } \textbf{C} = \text{Value } \textbf{B} * 0.10 $	\$7600 (value B , above) * 0.10 (spread adjustment factor) = \$760
 GC2 Working Long Exposure = A (\$400) + C (\$760) = \$1160 GC2 Working Short Exposure = C = \$760 	

Example 3 - Option Strategy Spread

User defined spread - 10-Year U.S. Treasury Note spread - Sep 2024 109.50 / 112.00 call option spread

- Underlying future maintenance margin of ZNU4 = \$2000
- Risk value = Maintenance Margin (MM) of underlying future (ZNU4) * delta of OZNU4 Risk values are calculated using prior end of day (eod) delta
- Leg 1: Buy One contract OZNU4 Sep 2024 Call Option -109.5 strike MM \$2000 * (prior-eod) delta 0.755 = \$1510
- Leg 2: Sell One contract OZNU4 Sep 2024 Call Option 112.0 strike MM \$2000 * (prior-eod) delta 0.279 = \$558

Value A = [qty * leg 1 risk value- qty * leg 2 risk value]	1 qty * \$1510 risk value - 1 qty * \$558 risk value = \$952
Value B = absolute value [qty * leg 1 risk value + absolute value qty * leg 2 risk value]	\$1510 + \$558 = \$2068
Multiply sum of risk values by spread adjustment factor Value C = Value B * 0.10	2068 * 0.10 (spread adjustment factor) = \$207
 GC2 Working Long Exposure: A (\$952) + C (\$207) = \$1159 GC2 Working Short Exposure: C = \$207 	

Terminology

Term	Provided By Risk Administrator	Definition
Buy Futures	Υ	The Buy Futures area on the GC2 window that enables the GC2 Risk Administrator to set Max Quantity Limit for a futures "buy" order.
Buy Options	Υ	The Buy Options area on the GC2 window that enables the GC2 Risk Administrator to set Max Quantity Limit for an options "buy" order.
CME Globex API	N	Also called Executing Firm ID.
Clearing Firm	N	The CME Group or partner exchange Clearing member firm.
Clearing Firm Administrator	N	Individual at the Clearing firm who has the capability to enter and change risk parameters for GC2.
Control Group	N	Logical grouping of Executing Firm ID / Exchange within a Legal Clearing Entity (LCE).
Covered Spread N	Buying and selling option(s) and future(s) to achieve delta neutrality (i.e. insulate the option leg(s) from price risk).	
		Example : Buying 10 50-delta eMini S&P Dec call options and selling 5 eMini S&P Dec futures.
Credit Control Alerts	Y	GC2 displays exposure limit and (product) maximum quantity limit

Term	Provided By Risk Administrator	Definition
Current Positions - Futures	N	The area on the GC2 window which details the long and short futures positions. The position is based on the <i>Specific Listed Contract Margin Rate</i> and defined in U.S. dollars.
Current Positions - Options	N	The area on the GC2 window which details the long and short options positions. The position is based on the margin rate defined in U.S. dollars.
Exchange	N	An organization, incorporated or unincorporated, that constitutes, maintains, or provides a marketplace or facilities for bringing together purchasers and sellers of securities or futures. Examples: CBOT, CME, NYMEX, COMEX and KCBT.
Exchange	N	Spreads whose legs are defined by the Exchange. EDS is the only way by which future
Defined Spread (EDS)		spreads are defined. There is no EDS for options.
Executing Firm ID	N	A logical entity allowed to trade products in accordance with its clearing relationships. The Executing Firm ID is three digits long and is alphanumeric or just numeric. Sometimes this coincides with the Clearing Firm ID. Executing Firm ID is synonymous with: Executing Firm, CME Globex API / CME Globex API ID, Trading Member Firm (TMF) / Trading Firm, and Badge Firm.
Exposure Limit	Υ	The GC2 Risk Administrator must set the exposure limits per Executing Firm ID / Exchange for: • Futures overall exposure limit in USD (no default, a value must be set) • Options overall exposure limit in USD (no default, a value must be set) If a position reaches the exposure limit at 100%, CME Globex rejects all new orders and cancel/replace messages on the exceeding side. A cancel message is accepted.
Inter-Exchange	Inter-Exchange N Spread	Buying and selling the same future but on different Exchanges
Spread		Example: NYMEX July Wheat vs KCBT Oct Wheat
Inter-Market Spread	N	All legs are in a similar underlying asset. Buying one future in a given delivery month and selling a different future in the same delivery month.
		Example: Crack Spread = Crude Oil vs.Unleaded Gasoline and Heating Oil
		Example : Crush spread = Soybeans vs Soybean Oil and Soybean Meal
Intra- Commodity Spread	N	Buying and selling the same future but for different months Example: Buy July Wheat and sell Dec Wheat.
Legal Clearing Entity (LCE)	N	GC2 Entity is defined as the Clearing firm which legally guarantees trades executed for a single Executing Firm on CME Globex. The clearing firm may clear products from a single or multiple exchanges. GC2 Entity is defined as the combination of Legal Clearing Entity + Executing Firm ID

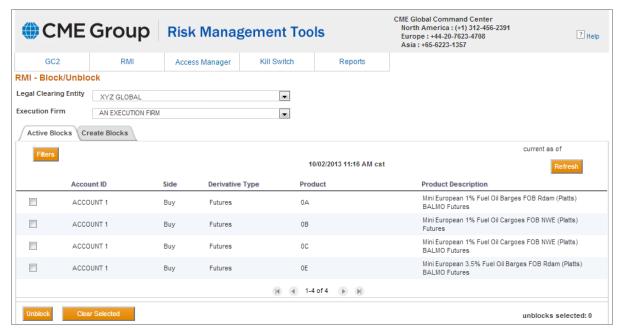
Risk Management Tools

Term	Provided By Risk Administrator	Definition
		+ Exchange
Max Quantity Limits	Υ	In addition to entering the Exposure Limits, the risk administrator can enter the optional Max Quantity Limit for Buy/Sell Futures and/or Buy/Sell Options for the grouping.
Notifications	Υ	The Clearing Firm or partner exchange risk administrator can specify the percentage of utilized limit at which to receive a credit control alert.
Product N Complex	Describes a group of products belonging to a given economic sector or market segment which include: Agriculture, Credit, Economic Events, Energy, Equity Index, FX, Interest Rates or Metals.	
		See also: Exchange Traded Instruments on CME Globex - Product Complex (on the CME Group Client Systems Wiki)
Risk Administrator	N	Defines the daily exposure limits per Executing Firm ID/ Exchange group using GC2.
Sell Futures	Υ	The Sell Futures area on the CME Globex Credit Controls window where the GC2 Risk Administrator sets Max Quantity Limit for a futures "sell" order.
Sell Options	Υ	The Sell Options area on the GC2 window where the GC2 Risk Administrator sets Max Quantity limit for an options "sell" order.
Spread Adjustment Factor	N	A positive single percentage value that is universally applied for all qualifying spreads.
User Defined Spread (UDS)	N	Spreads whose legs are defined by the client. UDS are the only way by which option spreads and Covereds can be created.

Risk Management Interface (RMI)

The Risk Management Interface (RMI) allows authorized Clearing Firm risk administrators to manage market exposure of their respective execution firms, at the account level, by <u>Blocking</u> or <u>Unblocking</u> the entry of all new orders.

- To view or manage blocks:
 - 1. Login to CME Group Risk Management Tools.
 - 2. From the RMI tab, select Block/Unblock.
 - 3. Select the **Legal Clearing Entity** and **Execution Firm** from the drop-down boxes. The **Active Blocks** tab populates. The bottom of the **Active Blocks** tab displays the number of results and page navigation:



- To manage active or pending blocks, proceed to one of the following topics:
 - Unblock Accounts
 - Block Accounts
 - Manage Pending Blocks

Unblock Accounts

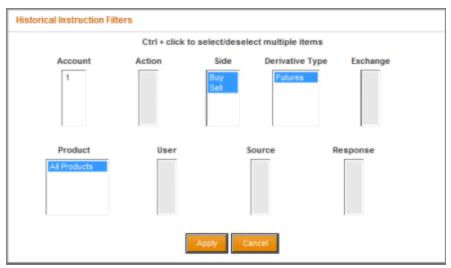
Trading member firms can resume trading only if the Clearing firm risk administrator unblocks the account through RMI.



To unblock actively blocked accounts:

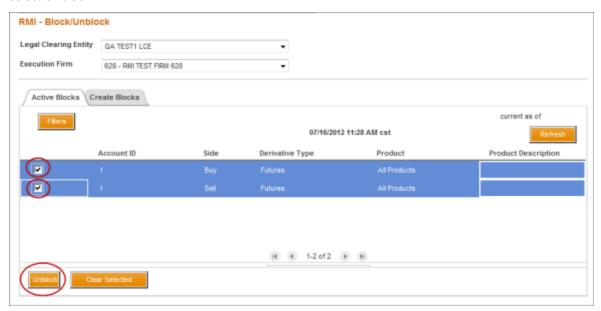
- 1. From the RMI tab, select Block/Unblock.
- 2. Select the **Legal Clearing Firm** and **Execution Firms** from the drop-down lists.
- 3. From the **Active Blocks** tab, select the check box for the Account(s) to Unblock. By default, all currently active blocks for all accounts belonging to the selected execution firm are populated in the list, regardless of which system or user applied the blocks. The total number of blocks and page navigation display at the bottom of this tab.

To narrow an account search, select **Filters**, select search criteria, then select **Apply**:





Select Unblock.



- 4. A pop-up message confirms the unblock. Select **OK** to proceed.
- 5. A pop-up message indicates the unblock was successful. Select **OK**.

Unblocking an account removes the criteria from the Risk Management Interface. Active blocks will never appear on the Create Blocks tab, as they are independent of one another.

To block another account, refer to **Block Accounts**.

Block Accounts

The RMI Risk Administrator can set order entry blocks from a specific Execution Firm account, defined by Product Type (Options or Futures), Product, and Side (Buy or Sell) restrictions.



To block an account:

- 1. From the **RMI** tab, select **Block/Unblock**.
- 2. Select the Legal Clearing Firm and Execution Firms from the drop-down lists.
- 3. From the Create Blocks tab, either add a new account name or select one from the Account List box.

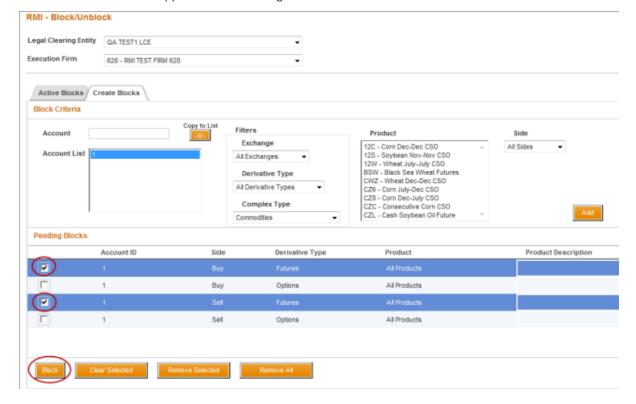
To enter a new account, from the Account box, type an Account name, then select

The Account name copies to the Account List box, where it remains until RMI session logout.

- 3. From the Account List box, select the account name for which to set block criteria.
- 4. Filter the block criteria as needed by selecting any of the following drop-down boxes:
 - Exchange
 - **Derivative Type** All Derivative Types, Futures, Options. Selecting a Derivative Type without selecting a Product blocks all Products for the selected type.
 - Complex Type All Complex Types, Commodities, Energy, Equities, Interest Rate CBOT, Interest Rate CME.
 - Product Select a product to block. Select multiple products by pressing either Ctrl + Select, or Shift + Select.
 - Side- All Sides, Buy, Sell.

If you do not select any criteria, ALL is selected by default.

5. Select Add. The selection appears in the Pending Blocks section of the screen.



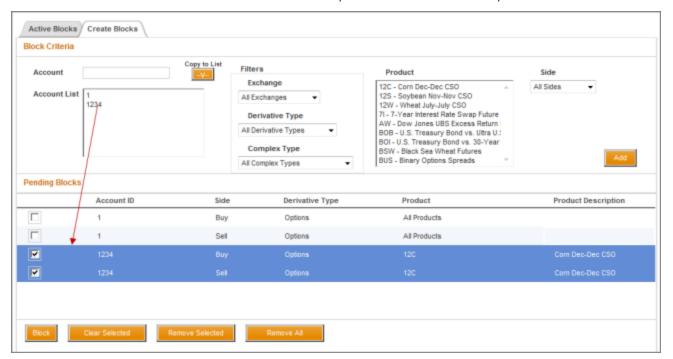
- 6. Select the check box next to the account to block, then select **Block**.
- 7. A pop-up message confirms the block. Select **OK** to proceed.
- 8. A pop-up message indicates the block was successful. Select **OK**.

When an account is Blocked, it appears in the list on the **Active Blocks** tab, where it can then be **Unblocked**.

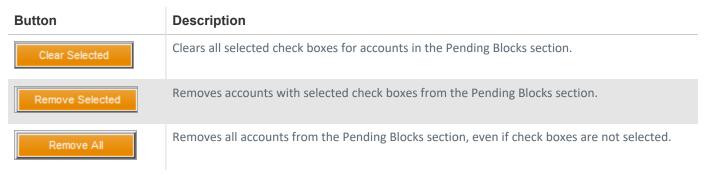
To make any changes to a selected pending block, proceed to Manage Pending Block.

Manage Pending Blocks

The Create Blocks tab of RMI lists all accounts that have not yet been blocked from activity.



After setting block criteria and adding the selected accounts to the Pending Blocks section, RMI Risk Administrators can use the following buttons to manage any of the accounts for which they have selected check boxes:



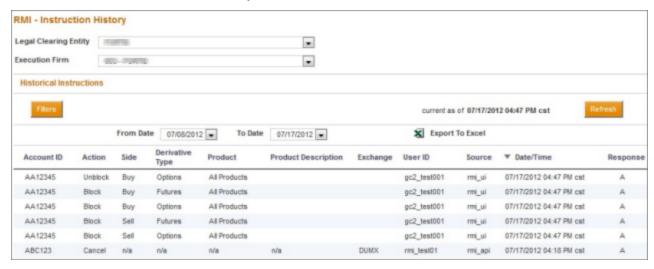
For additional information, see how to Block or Unblock an account.

Instruction History

The RMI Instruction History function allows the Risk Management Interface (RMI) Risk Administrator to view, filter, and export the last 10 days of blocked, unblocked and cancel activity within RMI.

To view Instruction History:

1. From the RMI tab, select Instruction History.



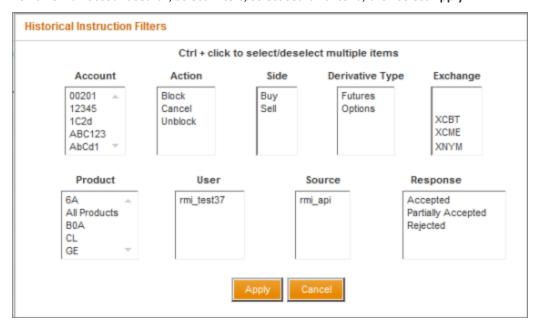


Note: When the number of results exceeds 5000 rows, select **Next** or **Previous** to navigate the result pages.

2. Select the Legal Clearing Firm and Execution Firms from the drop-down lists.

Perform any of the following actions to filter or sort the activity information:

To narrow an account search, select Filters, select search criteria, then select Apply:



• Select the **From Date** and **To Date** drop-down boxes to filter activity by specific dates within the last 10 days. After setting the date range, select **Reload** to update the search results.

- Select any column heading to sort the results.
- Select **Refresh** at any time to clear all sort/filter criteria and view most recent activity.



To export the activity information to Excel:

- 1. Select the **Export to Excel** icon. The **File Download** window appears, prompting to Open or Save the file.
- 2. Save the file in a desired location or Open the file to view the output:

	A1	,	· (a	£ Acco	ount ID					
- 4	Α	В	С	D	E	F	G	Н		J
1	Account ID	Action	Side	Derivative Type	Product	Product Description	Requested By	Source	Date/Time	Response
2	1234	Block	Buy	Options	CZ6	Corn July-Dec CSO	E11960	rmi_ui	07/16/2012 02:15 PM cst	Accepted
3	1234	Block	Sell	Options	CZ6	Corn July-Dec CSO	E11960	rmi_ui	07/16/2012 02:15 PM cst	Accepted
4	1	Unblock	Buy	Futures	All Products		E11960	rmi_ui	07/16/2012 02:00 PM cst	Accepted
5	1	Unblock	Sell	Futures	All Products		E11960	rmi_ui	07/16/2012 02:00 PM cst	Accepted
6	1	Unblock	Sell	Futures	All Products		E11960	rmi_ui	07/16/2012 02:00 PM cst	Accepted
7										

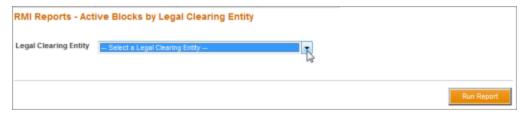
RMI Reports



To run an RMI report:

1. From the CME Group Risk Management Tools window, select Reports>RMI>Active Blocks by Legal Clearing Entity.

The following window displays:



- 1. From the **Legal Clearing Entity** drop-down box, select a firm.
- 2. Select Run Report.
- 3. Depending on the browser being used, file either automatically downloads or a dialog box displays with open / save file options. If dialog box displays, take actions as appropriate.

Access Manager

Using Access Manager, Clearing Firm Risk Managers can manage permissions for CME Globex accounts to submit orders for restricted products.

- · Clearing Firm Risk Managers are automatically assigned permissions to use Access Manager.
- Access Manager does not keep a record of open orders or start of day positions.
- Open positions and resting orders, entered before the restriction period, are valid until acted upon or contract expiration.
- Authorized users can permit accounts to submit orders for restricted products during the restricted period before contract expiration; see Granting Account Permissions Individual / All Accounts)

Restricted Products

The following MAC Secured Overnight Financing Rate (SOFR) Swap and MAC Swap futures are restricted **five** *trading* / *business days* prior to the last trading day for the expiring contract

Product	iLink: TAG 1151-SECURITY GROUP MDP 3.0: TAG 6937-ASSET	iLink: TAG 55-SYMBOL MDP 3.0 TAG 1151 - SECURITY GROUP
30-Year USD MAC SOFR Swap Futures	<u>B1S</u>	SM
20-Year MAC SOFR Swap Futures	<u>E1S</u>	S2
10-Year MAC SOFR Swap Futures	<u>N1S</u>	SN
7-Year MAC SOFR Swap Futures	<u>\$1\$</u>	S7
5-Year MAC SOFR Swap Futures	<u>F1S</u>	SF
2-Year MAC SOFR Swap Futures	<u>T1S</u>	SJ
30-Year USD MAC Swap Futures	<u>B1U</u>	SM
20-Year USD MAC Swap Futures	<u>E1U</u>	S2
10-Year USD MAC Swap Futures	<u>N1U</u>	SN
7-Year USD MAC Swap Futures	<u>S1U</u>	S7
5-Year USD MAC Swap Futures	<u>F1U</u>	SF
2-Year USD MAC Swap Futures	<u>T1U</u>	SJ

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Note: For additional information, see Interest Rate Swaps on the Client Systems wiki.

For trading days, hours and restricted periods see Trading Hours - Globex and CME Group Holiday Calendar

The following Crude Oil futures are restricted two trading / business days prior to the last trading day for the expiring contract

Product	iLink: TAG 1151-SECURITY GROUP MDP 3.0: TAG 6937-ASSET	iLink: TAG 55-SYMBOL MDP 3.0 TAG 1151 - SECURITY GROUP
Crude Oil Futures	<u>CL</u>	CL
WTI Crude Oil London Trade at Market Futures	CLL	TM

WTI Crude Oil Singapore Trade at Marker CLS
Futures TS

The Crude Oil TAS future is restricted one trading / business day prior to the last trading day for the expiring contract

Product iLink: TAG 1151-SECURITY GROUP iLink: TAG 55-SYMBOL MDP 3.0: TAG 6937-ASSET MDP 3.0 TAG 1151 - SECURITY GROUP

Crude Oil TAS Futures CT

Note: For all CL products, Executing Firms are automatically defaulted to **permit** all accounts to trade during the restricted period.

To enforce the restricted period, use the revoke function.

For trading days, hours and restricted periods see Trading Hours - Globex and CME Group Holiday Calendar

The following COMEX London Spot Gold / Silver futures are restricted **one** calendar day prior to the last trading day for the expiring contract

Product	iLink: TAG 1151-SECURITY GROUP MDP 3.0: TAG 6937-ASSET	iLink: TAG 55-SYMBOL MDP 3.0 TAG 1151 - SECURITY GROUP		
COMEX London Spot Gold	GSP	GSP		
COMEX London Spot Silver	SSP	SSP		

Note: For additional information, see <u>Precious Metals Spot Spreads</u> and <u>London Spot Gold</u> / <u>London Spot Silver</u> on the Client Systems wiki.

For trading days, hours and restricted periods see Trading Hours - Globex and CME Group Holiday Calendar

Use the Access Manager to:

The below instructions illustrate the process to manage account permissions to trade restricted products, including:

- View Active Permissions
- Grant Permissions to execution firm accounts
 - Individual
 - All Accounts
- · Revoke Active Permissions for execution firm accounts
 - Individual
 - All accounts

Viewing Active Permissions

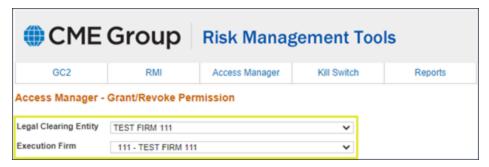


1. From the Access Manager tab, select Grant / Revoke Permission.

The Access Manager - Grant / Revoke Permission page appears.



2. Select Legal Clearing Entity and Execution Firm to manage.



Active permissions appear in a list.



Available functions:

- Filters: Select appropriate criteria, and select Apply. Filtered rows are removed from list and a message displays
 indicating filters are applied.
- Refresh: Cancel active filters.
- SelectAll: Selects all permission assignments in the list.
- ClearSelected: Deselect selected checkboxes.
- <u>Revoke</u>: Removes permission assignment and blocks the account from submitting buy / sell orders for the restricted product.

Note: Clearing Firm Risk Managers can view a summary report of all Firm / Account product permissions by accessing the *Access Manager Report* > *Active Permissions by Legal Clearing Entity*.

See Report - Active Permissions by Legal Clearing Entity.

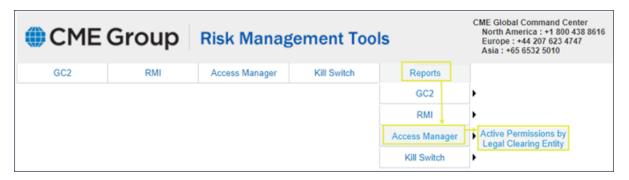
Report - Active Permissions by Legal Clearing Entity

Clearing Firm Risk Managers can access a report that lists all active permissions for a given Legal Clearing Entity (LCE).



To access the active permissions report:

1. From the Reports tab, select Access Manager > Active Permissions by Legal Clearing Entity.



2. Select the Legal Clearing Entity from the drop down menu, then select **Run Report** (Run Report (If you have access to one LCE, it is automatically selected.



A MS Excel compatible report (ActivePermissionsByLegalClearingEntity_date.xls) is downloaded to the default web browser directory.

Information included in the report details active permissions assigned to execution firms and accounts associated with the LCE.

- · Execution Firm ID
- Account ID
- · Product Information
- Product
- Product Description
- · Derivative Type
- Full Name of the user that assigned the permission for the account and execution firm
- Date: Effective date the permissions was assigned



Granting Account Permissions

Manage account permissions to trade restricted products prior to expiration.



Note: Selected account and product information remains populated for the current session only.



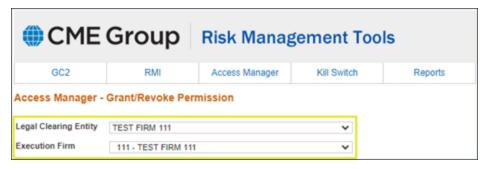
To add permissions to an account:

1. From the Access Manager tab, select Grant / Revoke Permission.

The Access Manager - Grant / Revoke Permission page appears.



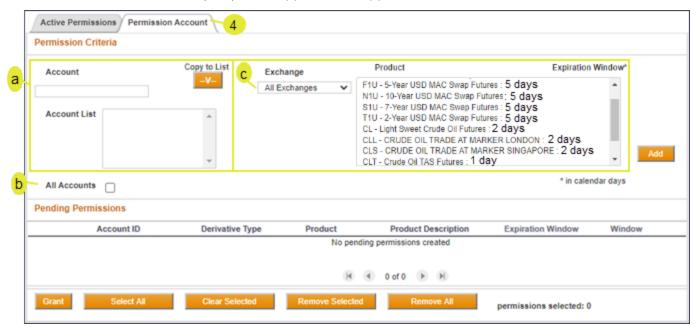
Select Legal Clearing Entity and Execution Firm to manage.



3. Select the Legal Clearing Entity and Execution Firm to view / manage.

Currently assigned permissions and associated account appear in the Active Permissions pane.

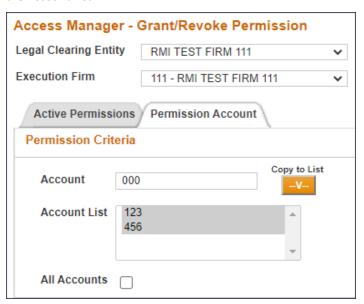
4. Select the Permission Account tab, specify Account(s) and Product(s).



Account

a. Enter the ${\bf Account\ ID}$ to manage, then select ${\bf Copy\ to\ List}$ (

To select multiple LCE / Execution firm accounts, enter additional *Account IDs*, selecting **Copy to List** to add to the *Account List*.

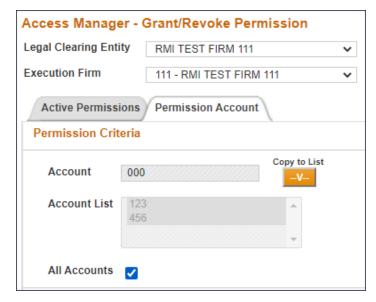


Note: The Account List is available during the current Access Manager user session only. If the browser is closed or user logs off the account list will be lost.

Prior to logging off, finalize permission assignment.

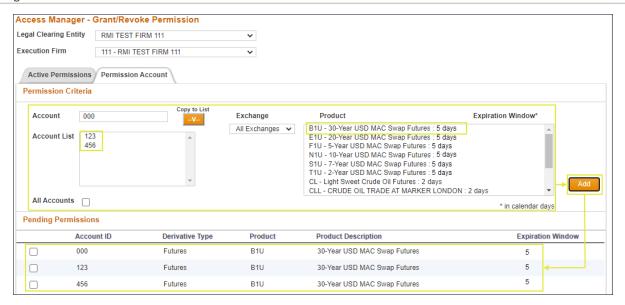
or

b. Select All Accounts checkbox to select all accounts associated with a given Execution Firm.



Product

- c. Filter and / or select Product(s).To select multiple products, press CTRL + Select.
- 5. Add (Add) Account(s) and Product(s) to Pending Permissions pane.



Ensure that Accounts and Products are selected (blue highlight).



6. In the *Pending Permissions* pane, select the **checkbox** for the permissions to grant, then select **Grant**.

Note: To aid in the management of multiple accounts, a Clearing Risk Admin can search and select multiple *Accounts* and *Products* before *Adding* to the Pending Permissions pane.



- Revoking All Account permissions > Grant Permissions for multiple Account and products
- Granting All Account permissions > Revoke individual Account permissions

Pending Permissions

From Permission Account tab > Pending Permissions pane the following functions are available:

- Checkboxes: Prior to selecting from the below functions, select pending permission assignments from the list.
- Select All: Selects all pending permission assignments in the list.
- Clear Selected: Deselect selected checkboxes.
- Remove Selected: Remove pending permission assignment(s) from the list.
- Remove All: Remove all pending permission assignment(s) from the list.



Note: After selecting Grant, the chosen accounts have access to trade immediately.



Revoking Individual Permissions

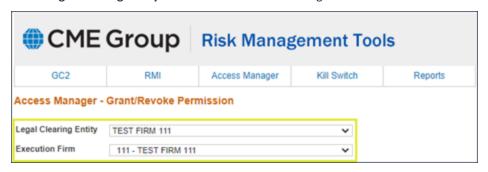


To revoke active permissions:

1. From the Access Manager tab, select Grant / Revoke Permission. The Access Manager - Grant / Revoke Permission page appears.



2. Select Legal Clearing Entity and Execution Firm to manage.





Note: It may be necessary to scroll down to see options at the bottom of the page.

3. Select an Permission from this list, then select Revoke.

This will revoke the permission for the selected products to trade through the expiration window.

4. To proceed, click OK.

Selected account permissions are removed from the Active Permissions list.

Note: After selecting **Revoke**, the chosen accounts will immediately lose access to submit orders for the product.

Open positions and resting orders, entered before the restriction period, are valid until acted upon or the contract expires.

Revoking All Permissions

The following instructions illustrate the process to enforce the restricted period all Execution Firm account; using the Revoke > All Accounts function.

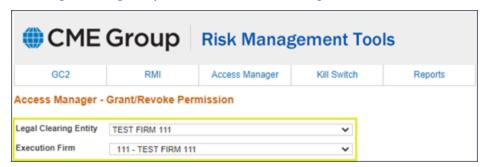


To revoke product permissions for all accounts:

1. From the Access Manager tab, select Grant / Revoke Permission.



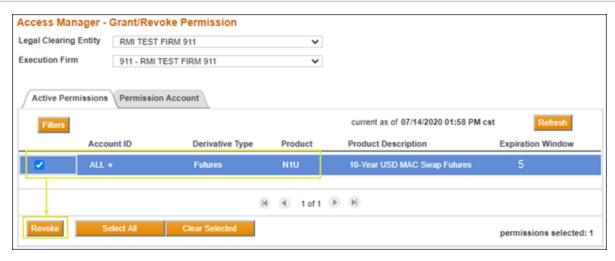
2. Select Legal Clearing Entity and Execution Firm to manage.



3. From the Active Permissions tab select the Permission to revoke (example: All Accounts permission to trade N1U),

then select **Revoke** (Revoke)

This will revoke the permission for the selected products to trade through the expiration window.



4. To proceed, click OK.

Selected account permissions are removed from the **Active Permissions** list and the accounts will lose trading privileges immediately.

Note: Once a clearing firm has revoked "All Accounts" for and Execution Firm, users can optionally grant permission to specific accounts to trade during the restricted period.

Additional functions:

- Revoke All:
- **SelectAll**: Selects all permission assignments in the list.
- ClearSelected: Deselect selected checkboxes.

Account Rules

When creating accounts:

- Permission is only granted to the account exactly as it is entered.
- The following special characters are not permitted: $\$ \ \# \ \% \ \& \ ! \ ^* \ +$

Same Account	Different Accounts			
ABC1	ABBC1			
#ABC1	ABC			
\$ABC	(ABC1			
%ABC1	(-ABC1			
&ABC1	1ABC			
!ABC1	@ABC1			
*ABC1	^ABC1			
+ABC1	ACB1			
abc1	ABC11			

Kill Switch

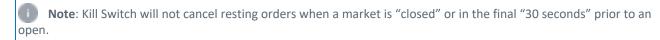
Kill Switch provides a Globex Orders Kill function for the following levels: <u>Legal Clearing Entity</u>, <u>Execution Firm and Sender Comp</u>.

See Enforcing Kill Switch for more detailed information.

Primary Features

Kill Switch functionality:

• All Day Orders and Good 'til orders are canceled when Kill Switch is invoked.



- Mass Quotes will not be canceled.
- New order entry is prohibited.
- Impacted customers are prevented from submitting any message other than what is required to keep alive the connection with the exchange (session management).
- Only orders intended for CME core match engines are impacted.
- Customers receive a reject message with entity level and administrator role information.
- Blocking takes less than one second, though the cascading cancellations may extend beyond this time frame.

For detailed information, see Message Impact.

Access Kill Switch

Kill Switch may be activated by the following administrator roles:

- Legal Clearing Entity Admin
- · Execution Firm Admin
- CMF Admin

See Administrators on the Enforcing Kill Switch page for more detailed information on Administrator roles and permissions.

Access Kill Switch using:

- Execution Firm
- Legal Clearing Entity

Enforcing Kill Switch

CME Kill Switch tool enables Legal Clearing Entity (LCE) risk administrators and Execution Firm risk administrators to immediately block all new order entry and cancel all working orders.

The kill switch has three levels of kills that are enforced independently.

- Sender Comp is the most granular level. The SenderCompID (FIX Tag 49) is made up of Session ID (first three characters), Firm ID (second three characters), and Fault Tolerance (last character).
- Execution Firm (EF) is the next highest level and contains one or more Sender Comps assigned to an execution firm.
- Legal Clearing Entity (LCE) is the highest level and contains one or more EFs which in turn contain one or more Sender Comps.

Legal Clearing Entity 1							
Execution Firm 1			Execution Firm 2				
EF1 - EF1 - EF1 - SenderComp1 SenderComp2 SenderComp3		EF2 - SenderComp1	EF2 - SenderComp2	EF2 - SenderComp3	EF2 - SenderComp4		

These levels act as a hierarchy where higher level kills will affect all levels below. Examples from the table above:

- IF **EF1 SenderComp1** is killed, all new order entry is prevented and all working orders are canceled for EF1 Sender-Comp1.
- If **Execution Firm 1** is killed, all new order entry is prevented and all working orders are canceled for EF1-SenderComp1 through EF1-SenderComp3.
- If Legal Clearing Entity 1 is killed, all new order entry is prevented and all working orders are canceled for all Execution Firms and Sender Comps that are cleared by Legal Clearing Entity 1.

Administrators

The kill switch has three levels of risk administrators that can send kill/unkill instructions.

- Execution Firm risk administrators can be granted access to Kill Switch by their LCEs.
 - Once permissioned, EF risk admins can send kill/unkill instructions for all Sender Comps under their Executing firms. Kill/unkill instructions impact only exchanges to which the execution firm has access.
 - Multiple EF risk administrators can be permissioned for the same Execution Firm, in which case a kill applied by one administrator can be removed by another.
 - EF risk administrators can view kills that are put on by LCE administrators or CME administrators but do not have permission to change these kills/unkill instructions.
- Legal Clearing Entity (LCE) GC2 risk administrators are automatically granted access to Kill Switch. They have permissions to kill/unkill the LCE, all Execution Firms that the LCE clears, and all Sender Comps that the LCE clears.
 - An LCE risk administrator is only able to kill/unkill activity at these levels for exchanges that the LCE clears.
 - If an Execution Firm clears CME at LCE 1 but clears CBT at LCE 2, a kill instruction sent by the risk admin at LCE 1 would only affect trading for CME.
 - LCE administrators are able to view kill/unkill status placed by EF administrators and CME administrators but not change that status.
- CME administrators have the ability to act as both EF administrators and LCE administrators.
 - · When impersonating risk admins, CME risk administrators have identical rights as the role they are impersonating.
 - CME risk administrators have the ability to view kill/unkill status placed by EF risk administrators and LCE risk administrators but not change that status.

Administrator Permissions

Administrator	May Clear:	Permissions
Legal Clearing Entity (LCE) Admin	 Legal Clearing Entity 	Kill their own LCE for permissioned exchanges across all EFs and Sender Comps.
	Execution FirmSender Comp	Kill Execution Firms and Sender Comps orders that have been Guaranteed by that LCE.
Execution Firm Admin	Execution FirmSender Comp	Kill Execution Firms and Sender Comps under their Executing firms.
CME Admin	Legal Clearing EntityExecution FirmSender Comp	 Kill any Legal Clearing Entity, Execution Firm and or Sender Comp. Kill all guaranteed exchanges for EFs and Sender Comps. Use the Kill functions on behalf of any other Initiator (can impersonate a CM or EF risk admin).

Additional Rules

- Kill states at different levels by different roles are independent of each other.
- Multiple kills can be in place at the same time, however, an administrator cannot kill more than one entity at the same level at the same time. For example, if three Sender Comps are to be killed, each requires a separate kill instruction.
 - An EF can put a kill on a single Sender Comp, multiple Sender Comps, or the entire EF.
 - An LCE can place kills on specific Sender Comps, the entire EF, or the entire LCE.
- If there are multiple kills on a Sender Comp, they will have to be removed at each level before that Sender Comp is completely unkilled.
- A kill instruction placed at the Sender Comp level will remain in place until it is unkilled at the Sender Comp level; regardless of whether kill/unkill instructions have been placed at other levels.
- A kill instruction placed at the EF level will remain in place until it is unkilled at the EF level; regardless of whether kill/unkill instructions have been placed at other levels.
- A kill instruction placed at the LCE level will remain in place until it is unkilled at the LCE level; regardless of whether kill/unkill instructions have been placed at other levels.

Message Impact

Blocked Messages

The following message types are blocked when a kill is being enforced:

- New Order
- Cancel Replace
- New Order Cross
- Cancel
- Order Status
- Quote Request
- Security Definition Request (to create a UDS determine exchange ID based on first leg since although there could be multiple groups there are no inter-exchange UDS)
- Mass Quote (determine exchange ID based on first leg since there is only one exchange ID per instrument group)
- Quote Cancel (applies only to cancel quotes for a specific instrument & instrument group)
- Mass Cancel (applies only to cancel orders for a specific instrument & instrument group)

If a message is blocked due to kill switch, an order reject message will be generated for the customer.

Non-Blocked Messages

These messages will not be blocked since they could potentially encompass an exchange which is not supposed to be blocked:

- Quote Cancel (cancel all quotes)
 - This message covers the entire options market. It is not possible to block this message based on a Kill Switch invocation of any one exchange or group of exchanges since the market maker could have working quotes belonging to exchanges which do not come under the domain of that particular Kill Switch command.
- Mass Cancel (cancel all orders for a market segment ID [match engine])
 - Market segments potentially envelope multiple exchanges. It is therefore not possible to block the Mass Cancel
 message based on a Kill Switch invocation for one exchange or group of exchanges, as a segment could be hosting
 other exchanges which do not fall within the domain of that particular Kill Switch command.

Administrative <u>messages</u> which the trading entity uses to maintain its connection to Globex are allowed (for example, heartbeat, sequence reset, resend).

iLink Kill Switch Messages

iLink messages that may be used when Kill Switch is invoked.

Message	Example
Order reject because of Execution Firm level block placed by CME	8=FIX.4.29=15535=334=739369=83652=20131009- 22:16:11.30549=CME50=G56=U17985N57=DUMMY143=US,IL45=836 58=Kill Switch enforced by CME for Executing Firm 985 1028=Y10=202
Order reject because of Sender Comp level block placed by Execution Firm Admin	8=FIX.4.29=15535=334=739369=83652=20131009- 22:16:11.30549=CME50=G56=U17985N57=DUMMY143=US,IL45=836 58=Kill Switch enforced by EF for Sender Comp ID U17985 1028=Y10=202
Order reject because of LCE level block placed by LCE Admin	8=FIX.4.29=15735=334=3498369=276752=20131010- 01:41:19.67549=CME50=G56=ZU8650N57=DUMMY143=US,IL45=2767 58 = Kill Switch enforced by LCE for Executing Firm 650 1028=N10=022
Order Cancel ack	8=FIX.4.29=30935=834=734369=83252=20131009- 22:14:45.10949=CME50=G56=U17985N57=0J070143= US,IL1=123456=011=verylongorderID1314=017=82305:137870520=037=8210361888638=1 39=4 40=241= 044=962048=80704754=155=GE59=060=20131009- 22:14:45.107107=GEZ8150=4151=0167=FUT 378=106 432=201310101028=Y9717=ERIC110=079 Note: For Order Cancel ack the cancel type indicator(tag 378) is same as RMI(106).
	Note: 101 Order earlier ack the earlier type indicator(tag 576) is suite as fivil(100).

Execution Firm

View Dashboard or Execution Firm Kill/Unkill page as an Execution Firm Administrator.

Dashboard



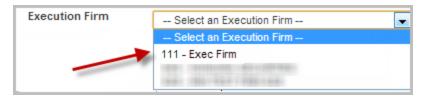
To access Execution Firm Dashboard:

1. From the Kill Switch tab, select Firm Dashboard.



Kill Switch - Execution Firm Dashboard displays.

2. Select an Execution Firm.



Kills for selected Execution Firm display.

Execution Firm Kills								
EF Level		Sender Comp Level						
0 of 1				4 of 13				
LCE Kills								
LCE Name	LCE Name			EF Level	Sender Comp Level			
A Legal Clearing	A Legal Clearing Entity			0 of 1	0 of 13			
CME Group Kills								
LCE Level	LCE Level EF Le				Sender Comp Level			
0 of 1	1			1 of 13				

Execution Firm Kill / Unkill

Use this page to Kill or Unkill Legal Exchanges at the Execution Firm and Sender Comp levels.



To utilize Execution Firm Kill/Unkill page:

1. From the Kill Switch tab, select Firm Kill/Unkill.

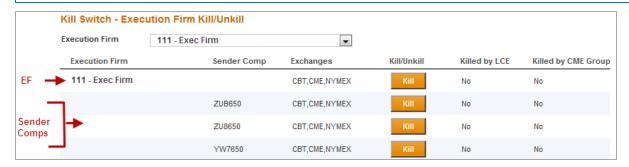


Kill Switch - Execution Firm Kill/Unkill page displays.

2. Select an Execution Firm from the list. Selected Execution Firm and associated Sender Comps display.



Note: The Sender Comps that display will depend on Administrator role.



- 3. Do one or more of the following:
 - Select Kill or Unkill for Execution Firm, and select the confirmation message.
 - Select Kill or Unkill for one or more Sender Comps, and select the respective confirmation messages.

Note: A kill can be made at the Execution Firm level by one administrator with the appropriate permissions, and one or more Sender Comps can be killed by a different administrator with the appropriate permissions. Kills at all levels must be cleared before the Execution Firm or Sender Comp can trade again.

Kill Switch Execution Firm Reports

Kill switch reports show all firms killed for an Execution Firm.

Note: If an execution firm has been selected previously in the Dashboard or Firm Kill/Unkill page, the report will automatically populate with kills for that execution firm.



To run a Kill Switch report for an execution firm:

1. From the CME Group Risk Management Tools window, select Reports>Kill Switch> Firm Kill Switch,



The Kill Switch - Execution Firm Report page displays.

2. Select a firm from the **Execution Firm** drop-down box. Report populates.



- To view active blocks only, select Active Blocks Only.
- To export to an Excel spreadsheet, select the icon.

Legal Clearing Entity

View Dashboard or Legal Clearing Entity Kill/Unkill page as a Legal Clearing Entity Administrator.

Dashboard



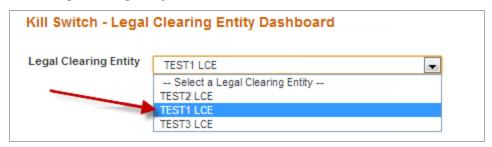
To access Legal Clearing Entity Dashboard:

1. From the Kill Switch tab, select LCE Dashboard.

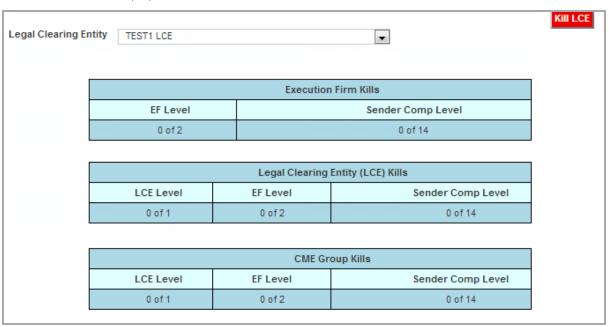


Kill Switch - Legal Clearing Entity Dashboard displays.

2. Select a **Legal Clearing Entity**.



Kills for selected LCE display.



Note: To Kill the LCE and all underlying Execution Firms and Sender Comps from this page, select the red Kill LCE in the upper right of the page, and select **OK** on the confirmation pop-up.

Legal Clearing Entity Kill / Unkill

Use this page to Kill or Unkill Legal Exchanges at the Legal Clearing Entity (LCE), Execution Firm, and Sender Comp levels.



To utilize the Legal Clearing Entity Kill/Unkill page:

1. From the Kill Switch tab, select LCE Kill/Unkill.



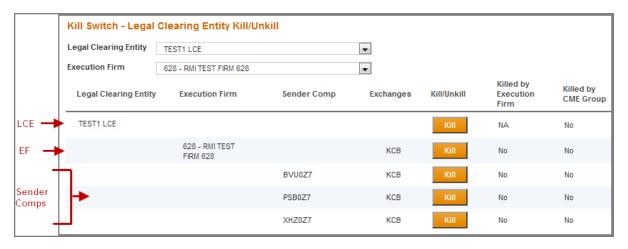
Kill Switch - Legal Clearing Entity Kill/Unkill page displays.

Select a Legal Clearing Entity from the list. Legal Clear Entity, Execution Firms and Sender Comps display for the selected LCE.



Note: The Execution Firms and Sender Comps that display will depend on Administrator Role.

3. Select an Execution Firm from the list (Optional). View is restricted by to selected Execution Firm.



- 4. Do one or more of the following:
 - Select Kill or Unkill for the Legal Clearing Entity, and select the confirmation message.
 - Select Kill or Unkill for one or more Execution Firms, and select the respective confirmation messages.
 - Select Kill or Unkill for one or more Sender Comps, and select the respective confirmation messages.

Kill Switch Legal Clearing Entity Reports

Kill switch reports show all firms killed for a Legal Clearing Entity (LCE).

Note: If an LCE has been selected previously in any section of Risk Management Tools, the report will automatically populate with kills for that LCE.



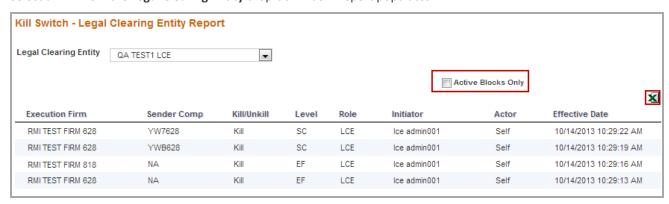
To run a Kill Switch report for an execution firm:

1. From the CME Group Risk Management Tools window, select Reports>Kill Switch> Firm Kill Switch,



The Kill Switch - Legal Clearing Entity page displays.

2. Select a firm from the **Legal Clearing Entity** drop-down box. Report populates.



- To view active blocks only, select Active Blocks Only.
- To export to an Excel spreadsheet, select the icon.