



# Equities Risk Checks

User Interface User Guide

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# 1. Introduction

Nasdaq offers members and sponsored access firms configurable pre-trade risk checks via a user interface on Nasdaq's WorkX platform. In addition to the configuration of risk parameters, members will also be able to monitor exposure, configure alerting, and retrieve audit information via the UI.

The risk checks are available on all order entry protocols on Nasdaq, BX, and PSX:

- OUCH
- FLITE
- FIX
- RASHport

# 2. Risk Entities

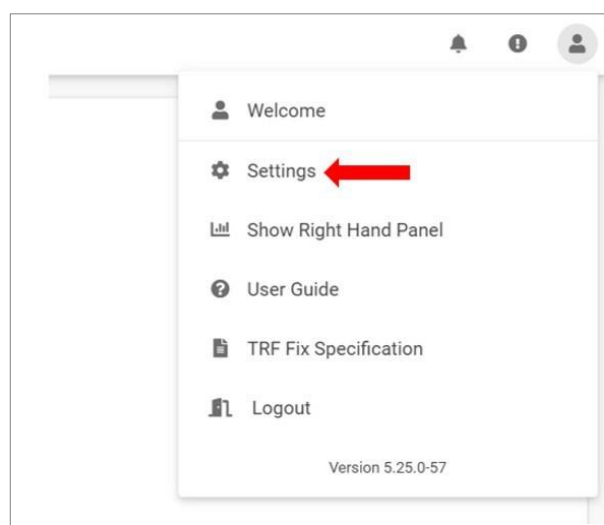
A Risk Entity is a business unit for which different risk limits may be set. The available Risk Entities and their applicability per risk control type is as follows:

- **MPID**
  - Mandatory for all checks
- **MPID + Port**
  - Entering firms have the ability to segment risk at a more detailed level by specifying a MPID + Port combination.
  - MPID + Port is required for Message Rate Threshold and Duplicative Order Protection checks
- **MPID + Symbol**
  - Entering firms will be required to specify a symbol in order to enable certain risk checks
- **MPID + Port + Symbol**
  - Entering firms have the ability to segment risk at a more detailed level by specifying a Port with the MPID + Symbol hierarchy.
- **MPID + Group ID hierarchy**
  - Entering firms have the ability to register Group IDs within their MPIDs to segment risk at a more detailed level than MPID
  - Group ID format:
    - 2 byte short integer

Risk Control	MPID	MPID + Port	MPID + Group ID	MPID + Symbol	MPID + Port + Symbol
Maximum Notional Value per order	Y	Y			
Maximum Shares per order	Y	Y			
Single Order - Percentage of Symbol ADV	Y	Y			
Reject ISO	Y	Y			
Reject Short Sale Orders	Y	Y			
Reject Non-Auction Market Orders	Y	Y			
Reject Pre-Market Trading	Y	Y			
Reject Post-Market Trading	Y	Y			
Reject Short Sale Exempt	Y	Y			
Require Locate	Y	Y			
Restricted Stock List				Y	Y
Hard to Borrow List				Y	Y
Fat Finger Protection	Y	Y			
Market Impact Check	Y	Y			
Message Rate Threshold - Port & Symbol		Y			
Duplicative Order Protection		Y			
Gross Exposure – Open	Y	Y	Y		
Gross Exposure – Executed	Y	Y	Y		
Gross Exposure - Notional	Y	Y	Y		

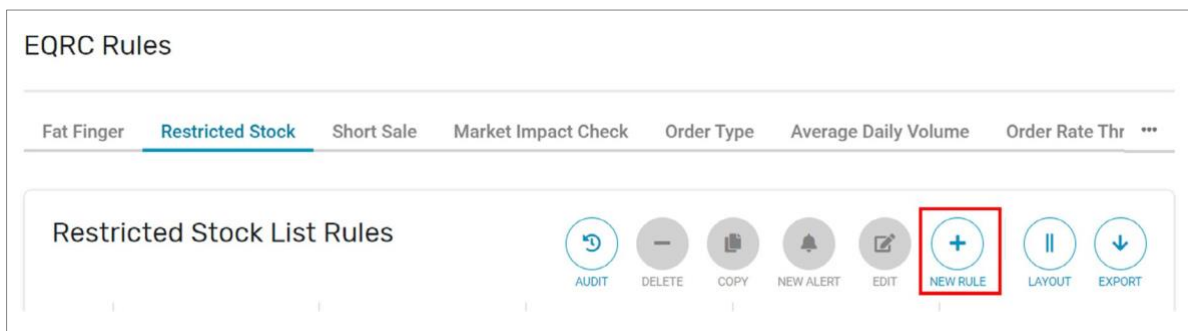
### 3. View/Create/Edit Risk Settings

All rule creation, maintenance, auditing, and alerts can be managed in the EQRC Rules section of the Settings menu.



### 3.1. Creating a new rule

- To add a new rule, select the applicable risk setting tab and click the “New Rule” button.



- Mandatory fields will be designated with an orange circle
- Newly configured rules will automatically default to a status of CONFIGURED and will not become active until the next trading session.

#### 3.1.1. Maximum Shares per order

**Breach Action:** triggered when calculation > limit. Order rejected on arrival.

**Calculation:**

- Value specified in Shares field of the order.

**Configuration:** configurable at the MPID and MPID+Port level.

- Min: 0 Max 999,999

**Design:** Each individual order that would exceed the configured limit will be rejected on arrival.

The image shows a dialog box titled 'Create Max Shares Per Order Rule'. It has a close button (X) in the top right corner. The dialog contains three dropdown menus: 'Exchange' (set to NASDAQ), 'MPID' (set to INET), and 'Port' (set to Select...). To the right of these dropdowns is a purple 'CLEAR' button. Below the dropdowns is a text input field labeled 'Per Order Shares Limit' with the value '500000' entered. At the bottom of the dialog, there are two buttons: 'CLOSE' and 'SAVE'.

#### 3.1.2. Maximum Notional Value per order

**Breach Action:** triggered when calculation > limit. Order rejected on arrival.

**Calculation:**

- Calculated as booked price x Shares.

**Configuration:** configurable at the MPID level.

- Min: 0 Max: Max Long
- Must be configured in increments of 1,000

**Design:** Each individual order that would exceed the configured limit will be rejected on arrival.

Create Max Notional Order Rule

Exchange: PSX | MPID: INET | Port: Select... | CLEAR

Per Order Notional Limit: 20000000

CLOSE SAVE

### 3.1.3 Percentage of Symbol Average Daily Volume

**Breach Action:** triggered when Shares > calculated maximum quantity. Order rejected on arrival.

**Calculation:**

- The single order maximum quantity for a given symbol is calculated as the symbol's 20 day Average Daily Volume x the configured percentage limit.
- Additional ability for customers to specify a minimum CADV value; e.g minimum 20 day CADV is  $\geq Y$  shares.
  - For any symbol that has a 20 day CADV below this value, the value specified by the customer will be used for calculation.
- The rolling 20-day consolidated Average Daily Volume (ADV) is updated for each symbol at the end of each trading day. If a symbol has been trading for less than 20 days, the exchange will take the average volume across the days that it has been trading. If no trading has occurred the value will be zero.

**Configuration:** configurable at the MPID and MPID+Port level.

- Min: 0% Max: 100%

**Design:**

- Each individual order that would exceed the configured limit will be rejected on arrival.
- Enabling this setting will result in this check being done on all symbols (i.e. there will not be an ability to enable on a per symbol basis).

Create Average Daily Volume Rule

Exchange: NASDAQ | MPID: INET | Port: Select... | CLEAR

Percent ADV: 5 | Minimum Volume: 10000

CLOSE SAVE

### 3.1.4 Order Type/Attribution Restrictions

**Breach Action:** Order rejected on arrival.

**Configuration:** configurable at the MPID and MPID+Port level

- Reject ISO - on/off
- Reject Pre-Market Trading - on/off
- Reject Post-Market Trading - on/off
- Reject Short Sale orders – on/off
- Reject Non-Auction Market Orders – on/off
- Reject Short Sale Exempt Orders – on/off

**Design:** Each individual order subject to the configured restriction will be rejected on arrival.

#### Create Order Type Rule ✕

Exchange: NASDAQ | MPID: INET | Port: Select... CLEAR

<input checked="" type="checkbox"/> ISO Orders Enabled?	<input type="checkbox"/> Short Sale Orders Enabled?
<input type="checkbox"/> Non Market Orders Enabled?	<input checked="" type="checkbox"/> Pre Market Trading Enabled?
<input checked="" type="checkbox"/> Post Market Trading Enabled?	<input type="checkbox"/> Short Sale Exempt Enabled?

CLOSE SAVE

### 3.1.5 Shares Located Check

**Breach Action:** Order rejected on arrival.

**Configuration:** configurable at the MPID+Symbol and MPID+Port+Symbol level

- Require Locate on Short Sale/Short Sale Exempt orders - on/off.
  - Applicable to orders with Side = Short Sale/Short Sale Exempt
  - Check only available on OUCH 5.0, FIX, and RASHport 1.2
- Require Broker List on Short Sale/Short Sale Exempt orders – on/off

**Design:** Each individual order subject to the configured restriction will be rejected on arrival.

#### Create Shares Located Check Rule - Step 1 of 2

Exchange: NASDAQ | MPID: INET | Port: Select... | CLEAR

Shares Located Check: Select... |  Include Short Sale Exempt

CLOSE | NEXT

#### Create Shares Located Check Rule - Step 2 of 2

Exchange: NASDAQ | MPID: INET | Port: Select... | CLEAR

Broker List: Select or create options | [Settings]

BACK | SAVE



### 3.1.6 Restricted Stock List

**Breach Action:** Order rejected on arrival.

**Configuration:** configurable at the MPID+Symbol and MPID+Port+Symbol level

- Reject Restricted Symbol (all Sides) - on/off

**Design:** Each individual order subject to the configured restriction will be rejected on arrival.

The screenshot shows a dialog box titled "Create Restricted Stock Rule" with a close button (X) in the top right corner. The dialog is divided into two main sections: "Exchange" and "Symbols".

**Exchange Section:**

- Exchange:** A dropdown menu with "NASDAQ" selected.
- MPID:** A dropdown menu with "INET" selected.
- Port:** A dropdown menu with "(1) selecte" selected.
- CLEAR:** A purple button to clear the selection.

**Symbols Section:**

- Symbols:** A text input field containing "AAPL" with a small "x" icon to its right. To the right of the input field are a dropdown arrow and a gear icon.

**Bottom Section:**

- CLOSE:** A light blue button.
- SAVE:** A dark blue button.

### 3.1.7 Hard to Borrow List

**Breach Action:** Order rejected on arrival.

**Configuration:** configurable at the MPID+Symbol and MPID+Port+Symbol level

- On/off

**Design:**

- Short Sale exempt orders are NOT included in this check
- Each individual order subject to the configured restriction will be rejected on arrival.

The screenshot shows a dialog box titled "Create Short Sale Rule" with a close button (X) in the top right corner. The dialog is divided into two main sections: "Exchange" and "Symbols".

**Exchange Section:**

- Exchange:** A dropdown menu with "BX" selected.
- MPID:** A dropdown menu with "INET" selected.
- Port:** A dropdown menu with "Select..." selected.
- CLEAR:** A purple button to clear the selection.

**Symbols Section:**

- Symbols:** A text input field containing "TSLA" with a small "x" icon to its right. To the right of the input field are a dropdown arrow and a gear icon.

**Bottom Section:**

- CLOSE:** A light blue button.
- SAVE:** A dark blue button.

### 3.1.8 Market Impact Check

**Breach Action:** order rejected on arrival, or cancellation when applied to a previously entered order.

**Calculation:** far-side of the current LULD bands (i.e. buy (sell) order cannot be more aggressive than the upper (lower) band).

**Configuration:** configurable at the MPID and MPID+Port level

- On/off

**Design:**

- Each individual order that would exceed the configured limit will be rejected.
- Enabling this setting will result in this check being done on all symbols (i.e. there will not be an ability to enable on a per symbol basis).
- Check is only available during market hours and will only apply to non-market priced orders in the continuous market.

The screenshot shows a dialog box titled "Create Market Impact Check Rule". It contains three dropdown menus: "Exchange" with "PSX" selected, "MPID" with "INET" selected, and "Port" with "Select..." selected. To the right of these is a purple "CLEAR" button. Below the dropdowns is a checkbox labeled "Market Impact Check Enabled?" which is checked. At the bottom right of the dialog are two buttons: "CLOSE" and "SAVE".

### 3.1.9 Fat Finger Protection

**Breach Action:** triggered when calculation > limit. Order rejected on arrival

**Calculation:** incoming order's limit price differs from the NBBO by more than the configured limit

**Configuration:** configurable at the MPID and MPID+Port level

- Reference Price - contra side NBBO. If NBBO is not available, the previous day's Official Closing Price will be used as the reference price. Separate limits can be set depending on the reference price ranges below.

RiskRangeID	Reference Price
1	Below \$1.00
2	Equal to \$1.00 and Below \$10.00
3	Equal to \$10.00 and Below \$50.00
4	Equal to \$50.00 and Below \$100.00
5	Equal to \$100.00 and Below \$500.00
6	Equal to \$500.00 and Above

- **Percentage:** Min: 0% , Max: 500%
- **Notional:** Min 0 , Max: Max Long

**Design:**

- Each individual order that would exceed the configured limit will be rejected.
- Customers will have the ability to configure Fat Finger limits using both percentage-based limits and/or dollar-based limits.
- When both percentage and dollar-based limits are specified, the more conservative limit will be enforced.
- Fat Finger protection does not apply to ISOs, Market Maker Peg, and orders designated for the opening/closing/IPO/Halt auctions.

**Create Fat Finger Rule** [X]

● Exchange: NASDAQ [v]    ● MPID: INET [v]    Port: Select... [v]    CLEAR

● Range 1 Amt: 0    ● Range 1 %: 0    ● Range 2 Amt: 50    ● Range 2 %: 10

● Range 3 Amt: 70    ● Range 3 %: 10    ● Range 4 Amt: 100    ● Range 4 %: 5

● Range 5 Amt: 100    ● Range 5 %: 5    ● Range 6 Amt: 100    ● Range 6 %: 5

CLOSE    SAVE

**3.1.10. Order Rate Thresholds**

**3.1.10.1. Duplicative Order Protection**

**Breach Action:** triggered when count of duplicative orders > limit.

**Calculation:** Duplicative orders that have the same side, price, quantity and symbol that have been entered during a configurable amount of time (in seconds, and specified by the customer) for the same MPID.

**Configuration:** configurable at the MPID+Port level

- Number of orders: Min: 0 Max: Max Long
- Number of seconds: Min: 1 Max: 30

**Design:** Each individual order that would exceed the configured limit will be rejected. A breach will require customers to send a Safety Switch command to allow new orders to be entered via the affected port(s).

**Create Order Rate Threshold Rule** [X]

● Exchange: Select... [v]    ● MPID: Select... [v]    ● Port: Select... [v]    CLEAR

● Max Duplicate Messages: [ ]    ● Duplicate Time Window Size: [ ]    ● Max Port Messages: [ ]

● Port Time Window Size: [ ]    ● Max Symbol Messages: [ ]    ● Symbol Time Window Size: [ ]

CLOSE    SAVE

### 3.1.10.2 Message Rate Thresholds

**Breach Action:** triggered when count of messages (Port or Symbol) > limit

**Calculation:** The maximum number of messages (Port or Symbol) sent in a rolling one second window, calculated from the time a non-heartbeat message is received. All non-cancel messages, via non-dedicated cancel ports, will count towards this threshold.

**Configuration:** configurable at the MPID+Port level

- Number of messages: Min: 0 Max: Long

**Design:**

- Once breached, all new orders and modifications will be rejected, and cancels will continue to be accepted via the affected MPID/port. Manual intervention from the firm will be required to re-allow new orders and modifications to be entered via the affected MPID/port.
- A breach will require customers to send a Safety Switch command to allow new orders to be entered via the affected port(s).

Create Order Rate Threshold Rule

Exchange MPID Port

Select... Select... Select... CLEAR

Max Duplicate Messages Duplicate Time Window Size Max Port Messages

Port Time Window Size Max Symbol Messages Symbol Time Window Size

CLOSE SAVE

### 3.1.11 Gross Exposure - Open, Executed, Notional Breach

**Action:** triggered when calculation > limit.

**Calculation:** Gross Open, Executed, and Notional exposure is calculated at an aggregated basis, at EACH separate exchange (Nasdaq, BX, PSX) and for routed orders.

- **Gross Open Exposure**

– [sum of booked price \* size for all open buy orders] + [sum of booked price \* size for all open sell orders]. Orders exposed will be calculated using the resting order's booked price on the book (which may be less aggressive than the order's entered limit price).

- **Gross Executed Exposure**

– [sum of size \* trade price for all buy orders executed] + [sum of size \* trade price for all sell orders executed].

- **Gross Notional Exposure**

– Total open and executed order exposure; (buys executed + buys exposed + sells executed + sells exposed)

**Configuration:** configurable at the MPID, MPID+Port, and MPID+GroupID

- Min: 1 Max: Long

**Design:**

- Orders received after the breach is detected will be rejected
- Port auto-unlock will apply if the amount falls under the configured limit.
- For each of the Gross Exposure risk controls, the following options are available as automatic actions if the specific risk control is breached on each individual exchange. This action will be applied to the specific level where the limits configured were breached
  - Reject new orders
  - Reject new orders and cancel all open orders including Opening and Closing Cross orders
  - Reject new orders and cancel all open orders excluding Opening and Closing Cross orders
- Gross Exposure checks offer three threshold levels:
  - **Watch:** exposures exceeding this value will generate an email alert (when configured)
  - **Warn:** exposures exceeding this value will generate an email alert (when configured)
  - **Action:** exposures exceeding this value will generate an email alert (when configured) and trigger the selected Breach Action (Reject, Cancel All, Cancel Non Cross)

### Create Gross Exposure Rule ✕

● Exchange: PSX | ● MPID: INET | Port: Select... CLEAR

Group ID: Select or create an option ⚙

● Open Exposure Watch: 10000	● Open Exposure Warn: 20000	● Open Exposure Action: 30000
● Executed Exposure Watch: 5000	● Executed Exposure Warn: 6000	● Executed Exposure Action: 7000
● Notional Exposure Watch: 20000	● Notional Exposure Warn: 25000	● Notional Exposure Action: 30000

● Breach Action: CANCEL NON CRO... ⌵

CLOSE SAVE

### 3.2. Deleting a rule

- To delete a current rule, select the rule by checking the box to the left and click “Delete”.
- Rule deletions will take immediate effect intraday and the applicable risk settings will no longer be active.
- Rule deletions are not retroactive and will not impact orders entered prior to the deletion.

The screenshot shows the 'EQRC Rules' interface with the 'Restricted Stock' tab selected. Below the navigation tabs, there is a toolbar with icons for 'AUDIT', 'DELETE', 'COPY', 'NEW ALERT', 'EDIT', 'NEW RULE', 'LAYOUT', and 'EXPORT'. The 'DELETE' icon, which is a minus sign, is highlighted with a red box. Below the toolbar is a table titled 'Restricted Stock List Rules' with columns for 'STATUS', 'MPID', 'PORT', 'EXCHANGE', and 'SYMBOLS'. The first row is selected, and its 'DELETE' checkbox is checked.

	STATUS	MPID	PORT	EXCHANGE	SYMBOLS
<input checked="" type="checkbox"/>	ACTIVE	INET	IN19T6	NASDAQ	NDAQ, ZWZZT
<input type="checkbox"/>	ACTIVE	INET	IN21T7	BX	NDAQ, ZWZZT
<input type="checkbox"/>	ACTIVE	INET	IN20T9	PSX	NDAQ
<input type="checkbox"/>	ACTIVE	INET	IN19T9	ROUTED	NDAQ, IBM
<input type="checkbox"/>	CONFIGURED	INET	BTFGW2	NASDAQ	AAPL
<input type="checkbox"/>	CONFIGURED	INET	IN16T7	ROUTED	MSFT, BB

### 3.3. View/Edit current rules

- Clicking on each rule tab will display all current risk settings in the table below.
- Rules with a status of ACTIVE are currently being enforced in the trading system.
- Rules with a status of CONFIGURED have been setup but are not yet active. Such rules will automatically become ACTIVE for the next trading session.

This screenshot is identical to the one above, but the 'DELETE' button in the toolbar is no longer highlighted with a red box. The table content remains the same.

	STATUS	MPID	PORT	EXCHANGE	SYMBOLS
<input type="checkbox"/>					
<input type="checkbox"/>	ACTIVE	INET	IN19T6	NASDAQ	NDAQ, ZWZZT
<input type="checkbox"/>	ACTIVE	INET	IN21T7	BX	NDAQ, ZWZZT
<input type="checkbox"/>	ACTIVE	INET	IN20T9	PSX	NDAQ
<input type="checkbox"/>	ACTIVE	INET	IN19T9	ROUTED	NDAQ, IBM
<input type="checkbox"/>	CONFIGURED	INET	BTFGW2	NASDAQ	AAPL
<input type="checkbox"/>	CONFIGURED	INET	IN16T7	ROUTED	MSFT, BB

- To edit an existing rule, select the rule and click “Edit”.

The screenshot shows the 'EQRC Rules' interface. At the top, there are tabs for 'Restricted Stock', 'Short Sale', 'Market Impact Check', 'Order Type', 'Average Daily Volume', and 'Order Rate Thr'. Below the tabs is a section titled 'Restricted Stock List Rules'. This section contains a toolbar with icons for 'AUDIT', 'DELETE', 'COPY', 'NEW ALERT', 'EDIT' (highlighted with a red box), 'NEW RULE', 'LAYOUT', and 'EXPORT'. Below the toolbar is a table with columns: 'STATUS', 'MPID', 'PORT', 'EXCHANGE', and 'SYMBOLS'. The table contains five rows of data, all with a status of 'ACTIVE'.

	STATUS	MPID	PORT	EXCHANGE	SYMBOLS
<input checked="" type="checkbox"/>	ACTIVE	INET	IN24T9	ROUTED	NDAQ
<input type="checkbox"/>	ACTIVE	INET	IN19T9	ROUTED	BABA
<input type="checkbox"/>	ACTIVE	INET	IN24T4	NASDAQ	NDAQ, SPCE
<input type="checkbox"/>	ACTIVE	INET		NASDAQ	AMD

- When editing CONFIGURED rules, the rules can only be edited using the “Next Day (Configured)” radio button and will take effect when the rule becomes ACTIVE.
- When editing ACTIVE rules, any changes made will take immediate effect and will be applied during the current trading session.

### 3.4. Audit rules

- Users are able to audit the history of a given rule by selecting the rule and clicking “Audit”.
- User will need to specify the Exchange, MPID, and Date Range
- The audit feature will produce a .CSV file detailing the Revision Date, Revision Type, User, and relevant changes made to the rule.

The screenshot shows the 'Fat Finger Rules' interface. A dialog box titled 'Audit Fat Finger Rule' is open over the table. The dialog box contains the following fields:

- Exchange: NASDAQ
- MPID: INET
- Port: Select...
- Group ID: Select or create an option
- Date Range: 4/1/2023 - 6/13/2023

At the bottom of the dialog box are two buttons: 'AUDIT' and 'DISCARD'. The background table shows a list of rules with columns for 'STATUS', 'MPID', 'Port', 'Exchange', 'Range 1 Amount', and 'Range 1 %'.

	STATUS	MPID	Port	Exchange	Range 1 Amount	Range 1 %
<input checked="" type="checkbox"/>	ACTIVE	INET			0	0
<input type="checkbox"/>	ACTIVE	INET			1,000	1
<input type="checkbox"/>	ACTIVE	INET			0	0
<input type="checkbox"/>	ACTIVE	INET			0	0
<input type="checkbox"/>	CONFIGURED	AKAM			2	3
<input type="checkbox"/>	CONFIGURED	INET			1	1
<input type="checkbox"/>	CONFIGURED	INET			2	2
<input type="checkbox"/>	CONFIGURED	INET			1	1
<input type="checkbox"/>	CONFIGURED	INET	A0061R	NASDAQ	1	1
<input type="checkbox"/>	CONFIGURED	INET	BRUTD1	NASDAQ	1	1

### 3.5. Email alerts

- Users are able to create email alerts when breaches occur for any of their established risk settings.
- A user is only allowed to configure email alerts for a MPID, Port, and GroupID to which they have access
- The user need to specify the following when configuring an email alert:
  - Rule Type
  - Exchange
  - MPID/Port/Group ID
  - Email address(es)
- Users can create email alerts directly through the configuration screen for the specific rule or through the Alert Configurations tab:
  - To create an alert through the configuration screen for the specific rule, select the appropriate rule from the EQRC Rules screen and click the “New Alert” button. Select or type the email address that should receive the alerts, check “Configuration Enabled”, and click “Save”.

The screenshot displays the 'EQRC Rules' interface. At the top, there are tabs for 'Fat Finger', 'Restricted Stock', 'Short Sale', 'Market Impact Check', 'Order Type', 'Average Daily Volume', and 'Order'. The 'Restricted Stock' tab is selected. Below the tabs, there is a section titled 'Restricted Stock List Rules' with a table of rules. Above the table, there are several action buttons: 'AUDIT', 'DELETE', 'COPY', 'NEW ALERT' (highlighted with a red box), 'EDIT', 'NEW RULE', 'LAYOUT', and 'EXPORT'. The table has columns for 'STATUS', 'MPID', 'PORT', 'EXCHANGE', and 'SYMBOLS'. The first row is selected and shows 'ACTIVE' status, MPID 'INET', PORT 'IN20T9', EXCHANGE 'PSX', and SYMBOLS 'NDAQ'. Other rows show various statuses like 'ACTIVE' and 'CONFIGURED' with different MPID, PORT, EXCHANGE, and SYMBOLS values.

	STATUS	MPID	PORT	EXCHANGE	SYMBOLS
<input checked="" type="checkbox"/>	ACTIVE	INET	IN20T9	PSX	NDAQ
<input type="checkbox"/>	ACTIVE	INET	IN19T9	ROUTED	NDAQ, IBM
<input type="checkbox"/>	ACTIVE	INET	IN19T6	NASDAQ	NDAQ, ZWZZT
<input type="checkbox"/>	ACTIVE	INET	IN21T7	BX	NDAQ, ZWZZT
<input type="checkbox"/>	CONFIGURED	INET	BTFGW2	NASDAQ	AAPL
<input type="checkbox"/>	CONFIGURED	INET	IN16T7	ROUTED	MSFT, BB



- To create an alert through the Alert Configurations tab, navigate to this tab and click on “New”.
  - User will have to manually select the applicable risk entities, rule type, and email addresses for the alerts, select “Configuration Enabled”, and click “Save”.

### Create Alert Configuration ✕

● Exchange

● MPID

Port

**CLEAR**

Group ID

● Rule Type

● Email Addresses

Configuration Enabled?

**CLOSE** **SAVE**

- NOTE: For Gross Exposure checks, an email alert will be received for a breach of each threshold (Watch/Warn/Action).
- Users can view all current email alerts that have been set up through the Alerts Configurations tab in the EQRC Rules menu.

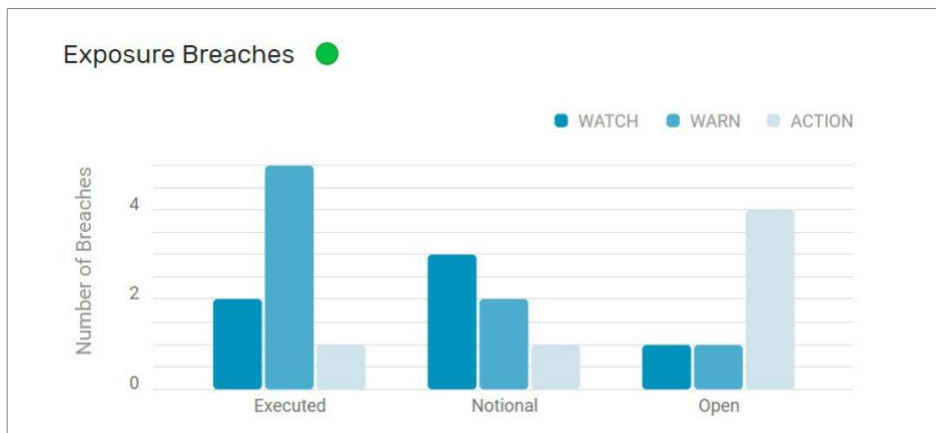
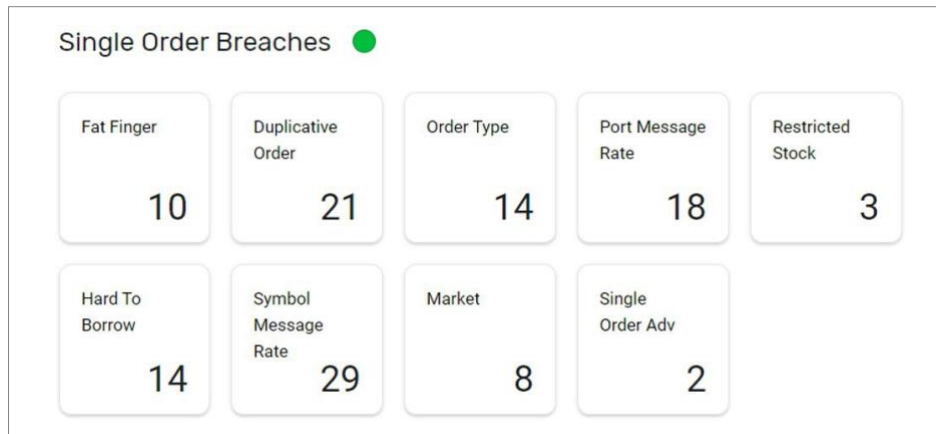
EQRC Rules					
<a href="#">Fat Finger</a> <a href="#">Restricted Stock</a> <a href="#">Short Sale</a> <a href="#">Market Impact Check</a> <a href="#">Order Type</a> <a href="#">Average Daily Volume</a> <a href="#">Order Rate Thresholds</a> <a href="#">Gross Exposure</a> <a href="#">Alert Configurations</a>					
EQRC Alert Configuration					
	MPID	PORT	EXCHANGE	RULE TYPE	EMAIL ADDRESSES
<input type="checkbox"/>					
<input type="checkbox"/>	INET	IN2177	BX		test2@nasdaq.com

## 4. Breach and Exposure Monitoring

- The EQRC UI provides users with the ability to monitor risk limit breaches, current exposure levels, as well as the ability to cancel orders/disable ports via the Safety Switch function.
- Users will only be able to see breaches and exposure levels for MPIDs for which they have access.
- When selecting an MPID, users will see all breaches and exposure levels for that MPID and have the ability to further refine the results by Port.

### 4.1. Breach Monitoring

- The EQRC user interface provides users with the ability to monitor single order and exposure breaches.
- The number of breaches listed for each risk setting represents the cumulative breaches for the MPID or MPID+Port to which the user has access.



## 4.2. Exposure Monitoring

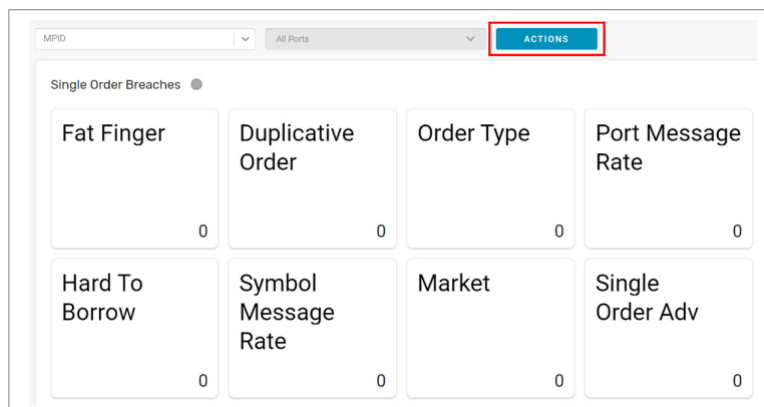
- The EQRC UI provides users with the ability to monitor current exposure levels against all configured Open Exposure, Executed Exposure, and Notional Exposure rules.
- All active rules will be listed in the “Current Exposure” section of the UI.
- For each established exposure limit, the UI will provide the three threshold levels (Watch, Warn, Action) as well as the current exposure for a given MPID/Port.
- Users can also monitor exposure levels by looking at the threshold bar which displays the level within which the current exposure lies.
- The percentage usage within the current level can be viewed by hovering over the black indicator arrow.

The screenshot shows the 'Current Exposure' dashboard with a table of exposure rules. The table has columns for CHECK, MPID, EXCHANGE, GROUP ID, PORT, CURRENT EXPOSURE, WATCH, WARN, ACTION, and THRESHOLDS. A tooltip is visible over the 'Current Open Exposure' cell, indicating it is 20% of the Watch threshold.

CHECK	MPID	EXCHANGE	GROUP ID	PORT	CURRENT EXPOSURE	WATCH	WARN	ACTION	THRESHOLDS
Open	INET	ROUTED		IN19T9	12,000	14,000,000	15,000,000	20,000,000	[Progress Bar]
Notional	INET	ROUTED		IN19T9	75,000	400,000,000	450,000,000	500,000,000	[Progress Bar]
Executed	INET	ROUTED		IN19T9	68,500,000	25,000,000	30,000,000	35,000,000	[Progress Bar]
Open	INET	NASDAQ		IN19T6	200,000,000	1,000,000,000	2,000,000,000	3,000,000,000	[Progress Bar]
Notional	INET	NASDAQ		IN19T6	2,000,000	1,000,000,000	2,000,000,000	4,000,000,000	[Progress Bar]
Executed	INET	NASDAQ		IN19T6	2,999,999	1,000,000,000	2,000,000,000	5,000,000,000	[Progress Bar]
Open	INET	BX		IN21T7	16,000,000	10,000,000	15,000,000	20,000,000	[Progress Bar]

## 4.3. Safety Switch

- The EQRC UI offers users the ability to mass cancel orders (including or excluding cross orders) and/or disable ports via the Safety Switch function.
- Users can perform one or both of these functions in a single command by clicking on the “Actions” button in the EQRC dashboard:



- Users must specify the Exchange, MPID, Port, Cancel Action and/or Port Action for each Safety Switch request.

**Safety Switch**

---

- Exchange
 

NASDAQ ▼
- MPID
 

INET ▼
- Port
 

All (395) ▼
- Cancel Action
 

All ▼
- Port Action
 

Disable ▼

---

CLOSE
SEND ACTION

- Port disablement requests will only last for the current trading session and will not carry over to the next session
- The Safety Switch is also used to re-enable ports that have been disabled due to prior Safety Switch requests or rate threshold breaches. To re-enable a port, set the Port Action to “Enable” when performing the action.

## 5. Permissioning and Configurability

### 5.1. Availability and Permissioning

#### Availability

- UI will only be available Monday through Friday
- UI will not be available on holidays
- Creation/update/delete will not be allowed EST 8:30pm- 4:30am

#### Users

- Each user accessing the interface will require a unique user id and password
- Users are permissioned on a service by service level and whether they are allowed read, write, or have other access levels available in the UI.

#### Roles

##### 1. Read only

- Allows for reading of rules, breaches, and current exposure in the UI.

##### 2. Read/Write

- Allows for creation/updating/deletion of rules, reading of breaches and exposure within UI.

## API Roles

### 1. rules-api-rules-read

– Allows for reading of rules within rules api.

### 2. rules-api-rules-write

– Allows for creation/updating/deletion of rules within rules api.

### 3. rules-api-audit-read

– Allows for reading of rules audit data on rules api.

### 4. rules-api-unbreach

– Allows for use of unbreach endpoints.

### 5. history-api-read

– Allows for reading of history data.

## 5.2. Configurability

Risk Users are firms eligible to set, modify, and view risk check settings. Users also have the ability to analyze the historical usage of the risk checks settings.

*Note: If a specific risk check is configured at multiple hierarchies (e.g. MPID and Group ID) or across both the UI and legacy levels, the most restrictive limit will always be enforced.*

## API Commands GET

- Controls/settings service – ability to retrieve all risk settings
- Consumption level service – for each aggregate check, allow user to retrieve current consumption
- Audit service – ability to retrieve data on any changes that were made
- Historical utilization service – for each check, allow user to retrieve a total consumption amount on a daily and monthly basis
- Alert/breaches service – retrieve all limit thresholds and breaches applicable on a daily and monthly basis
- View Restricted list service
- View Short sale list service

## POST / DELETE (intraday changes will reflect next trading day)

- Upload/Delete restricted list
- Upload/Delete short sale list
- Create/Delete Risk limits

## PUT (intraday changes will reflect same day)

- Update risk limits

### Email Alert configuration:

- A user is only allowed to configure email alerts for a MPID, Port, and GroupID to which they have access
- The user need to specify the following when configuring an email alert:
  - Rule Type
  - Exchange
  - MPID/Port/GroupID
  - Email address(es)
- Example below for POST/alert/configuration:

Risk Management is the Firm's Responsibility. The Nasdaq Risk Controls are intended to be supplemental and complimentary to the firm's overall internal monitoring and procedures related to risk management and are not designed to be the sole means of the firm's risk management and should not be relied upon as such. Any risk control features are configurable and should be under the direct control and supervision of the member firm. Risk controls used on multiple Nasdaq exchanges need to be coordinated by the member firm to ensure compliance with applicable regulatory and financial requirements across exchanges. Nasdaq expressly disclaims all responsibility for the configuration of the risk control features. Moreover, use of the risk controls will not automatically constitute compliance with any exchange or federal rules, including but not limited to SEC Rule 15c3-5 (the "Market Access Rule"), and it is the firm's sole responsibility to ensure its own compliance with the Market Access Rule and all other exchange and federal rules.

## Document History

Version	Published	Author(s)	Summary of Changes
1.0	30 May 2023	US Equities Product Management	Initial draft
1.1	30 Jan 2024	US Equities Product Management	Updated verbiage and added API commands

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