Contents

1.	Introduction	4
2.	Portal Access	4
3.	Risk Management	5
1.1	Default Limits	7
1.2	Adding a Risk Limit	9
1.3	Selecting Dates	10
1.3.1	Date Range	11
1.3.2	Time Range	12
1.4	Editing a Risk Limit	13
1.5	Adding Multiple Risk Limits	14
1.6	Accepted and Rejected Trades	15
2.	Multi-Currency Functionality	17
3.	Setting Limits For Group Accounts	20
3.1	For Clients With Multiple Group Accounts	20
3.2	For Clients With Only One Group Account	21
4.	Omnibus Accounts	22
4.1	As GCM 1	23
4.2	As GCM 2	24
4.3	Upon Trade Registration	25
4.3.1	As A Broker	25
4.3.2	As GCM 2	26
4.3.3	As GCM 1	27
5.	Bulk Actions	29
5.1	Delete All Risk Limits	29
5.2	Add For Multiple Clients	30
5.3	Manage Alerts	30
5.4	View All Trades	31
6.	Importing and Exporting Risk Limits	32
6.1	Importing Risk Limits	32
6.1.1	Important Notes on Importing Risk Limits	37

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 -	-	Э. Т			•	
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6.2	Exporting Risk Limits and Other Information	38
7.	Audit Log	39
Appen	dix I: Document History	41

1. Introduction

The Cleartech Portal is a web-based application offering a wide range of personalized services for brokers, traders and GCMs.

The Risk Manager function of the Cleartech Portal for GCMs, allowing for the management of Risk Limits across clearing accounts linked to the GCMs.

2. Portal Access

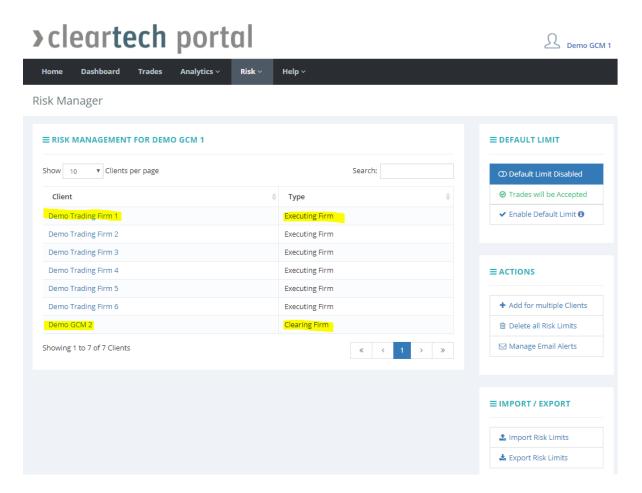
Portal Access can be secured through a mandatory 2FA, through an Authenticator App or via email. A static IP can also be setup to ensure access only from authorized locations or networks.

3. Risk Management

Upon logging into the Portal, select the "Risk" menu option, and select "Risk Manager"



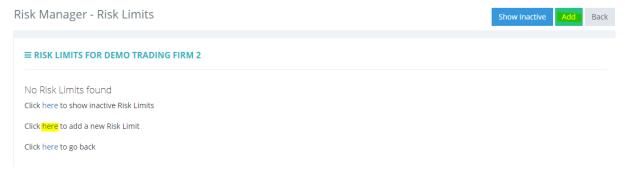
This displays the **Risk Manager screen** for the GCM, which shows the executing firms and Clearing Firms that are linked to the users' GCM.



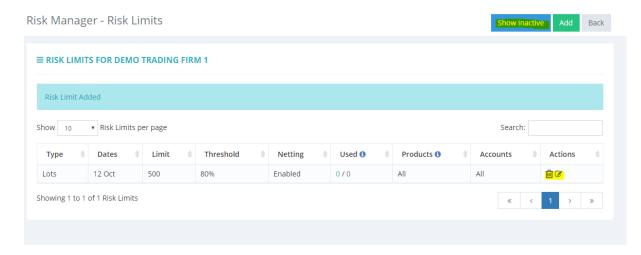
Click on the *Trading Firm* (eg Demo Trading Firm 1) to display the **list of risk limits** for the selected entity.

Active risk limits are applicable <u>today</u> and will show here. Trades which have been assessed against **active** risk limits will also show here.

If no Risk Limits currently exist, the screen will appear as such:



Add Risk Limits by clicking the green *Add* button or the highlighted text. Once added, the risk limits will appear:



The following actions are possible: -

- Delete a risk limit.
- Edit the risk limit
- View the history of the risk limit (visible once the limit is modified)
- View the trades assessed against the risk limit (visible once a trade is registered)

View **deleted risk limits** and **past risk limits** by clicking *View Inactive Limits*. Add new ones by clicking the *Add* button above. The screen will show risk limits for the <u>last 7 days</u>.

1.1 Default Limits

The Default Limit function enables a Stop Limit function for any Trading Firms without an Active Limit.



When **Disabled**, all Trades from Trading Firms **without** an Active Limit will be **accepted**. Trading Firms with an Active Limit will be governed by the Limits set.

Clicking Enable Default Limit will turn Default Limits on.

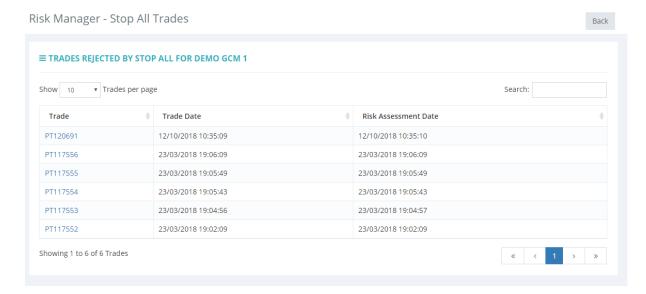
■ DEFAULT LIMIT



When **Enabled**, any trades from Trading Firms **without** an Active Limit will be **rejected**. Trading Firms with an Active Limit will be governed by the Limits set.

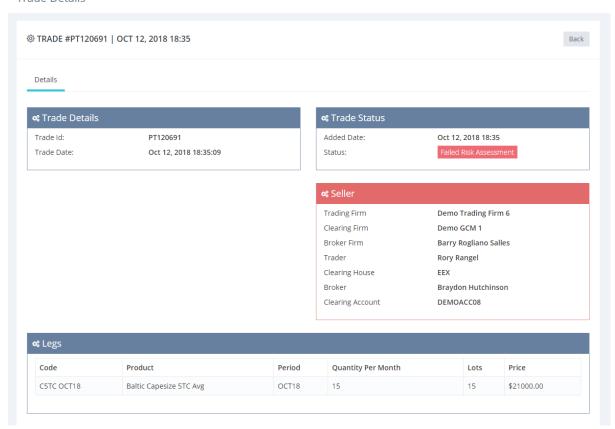
View Rejected Trades will appear if there have been trades rejected by this Stop All function.

Clicking View Rejected Trades will show a list of trades that have been attempted to be registered, but have been rejected for Trading Firms without an Active Limit when the Default Limit is Enabled.



Clicking into the Trade ID will give further details of the rejected trade.

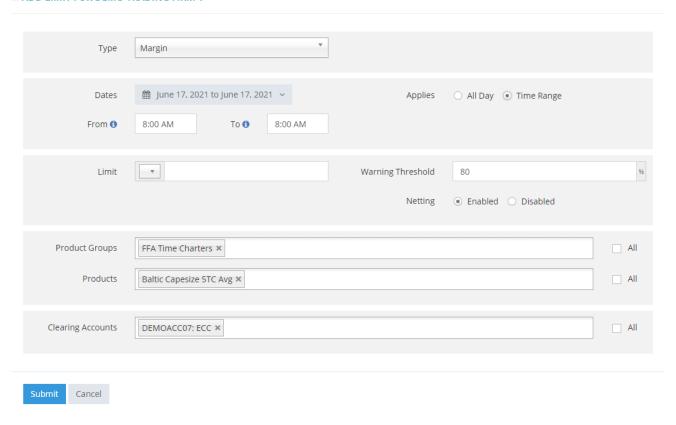
Trade Details



1.2 Adding a Risk Limit

There are 4 types of Risk Limits to select from: Lots, Margin, Lots per Trade and Stop.

■ ADD LIMIT FOR DEMO TRADING FIRM 1



The limit can be set for a certain Dates period or infinitely (No Expiry).

The limit can be applied across All Day, in which the limit will be refreshed daily at 12am UTC, or applied to a certain Time Range.

Selecting Margin will bring up an additional option to select the currency in USD (\$) or Euros (€).

Warning Thresholds can be set for Lots and Margins only. Once the limits set breach the threshold, GCMs will be warned that trades booked are nearing the limit.

Netting can be set for Lots and Margins only. When Enabled, Netting will nett the margins or lots for Long and Short positions. Reaching the set limit will take a longer time, unless the Trading Firm is accumulating a certain position. Disabling it will cause positions to accumulate on both the Long and Short up to the set limit.

Eg: Setting a Lots limit of 500 lots and Disabling Netting will only allow positions to accumulate across both long and short positions up to 500 lots.

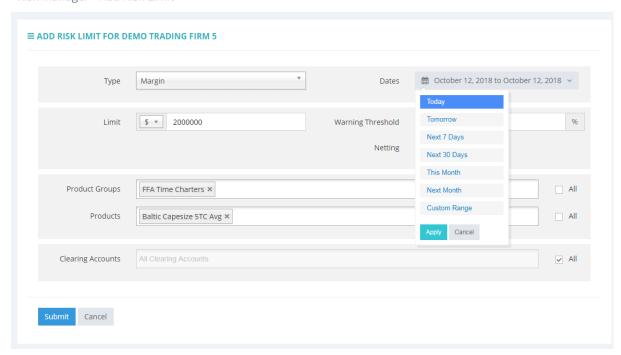
Limits can be set for specific Product Groups, Products and Clearing Accounts, or can be set to All.

Eg: Setting a stop limit for S10TC will stop all S10TC from clearing.

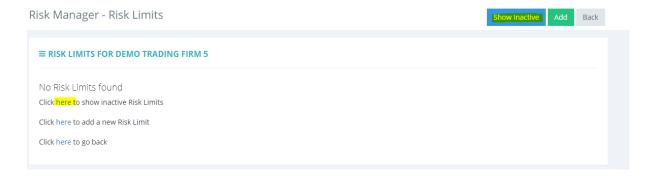
1.3 Selecting Dates

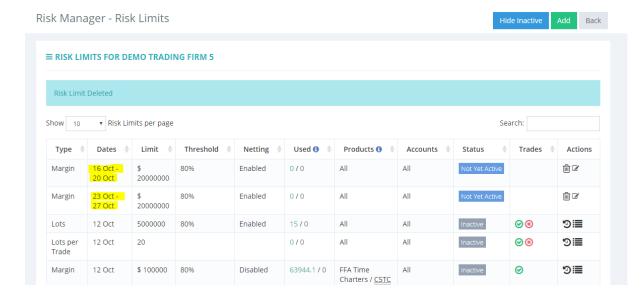
Risk Limits can be assigned on future dates using predefined time periods or custom ranges.

Risk Manager - Add Risk Limit



Risk Limits that are in **a future time period** will **not** appear in the Risk Manager Front Page as they are currently **inactive**.





Clicking Show Inactive will show the defined risk limits.

This will show limits beyond that of a 7-day time period.

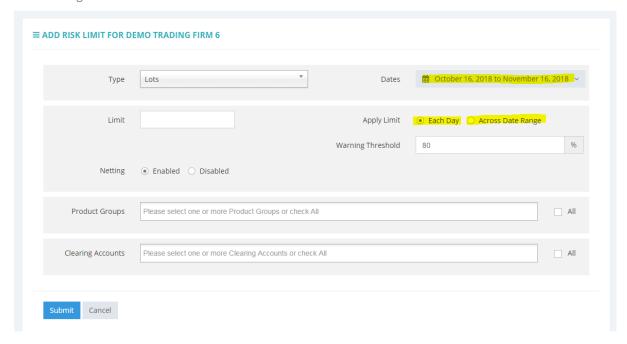
1.3.1 Date Range

A date range can be set for all four types of risk limit. If the date range is greater than a single day, an additional option is available on Lot type limits, highlighted below.

Selecting *Apply Limit Each Day* will result in the Lot size limit calculations being reset every day (0000 UTC). Selecting *Across Date Range* will cause the limits to be cumulative across the selected period.

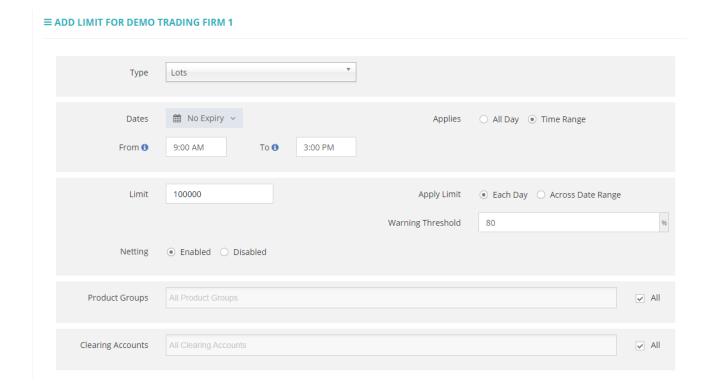
Note: Margin Type Limits will always reset every day (0000 UTC)

Risk Manager - Add Risk Limit



1.3.2 Time Range

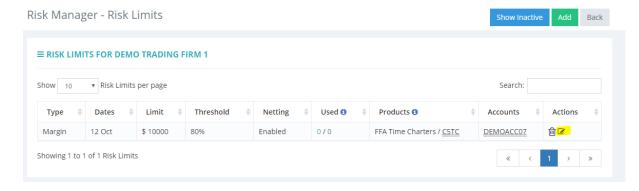
A time range can be set for all four types of risk limit. The time during which the limit is applied is in UTC.



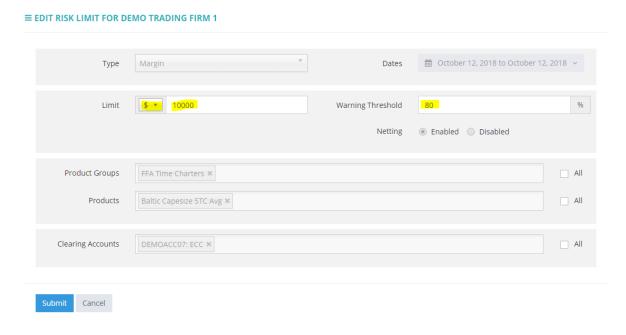


1.4 Editing a Risk Limit

A Risk Limit can be edited once set by clicking the Edit button on the right-hand side.



Only the Limit Values, the Currency and the Warning Threshold can be edited.



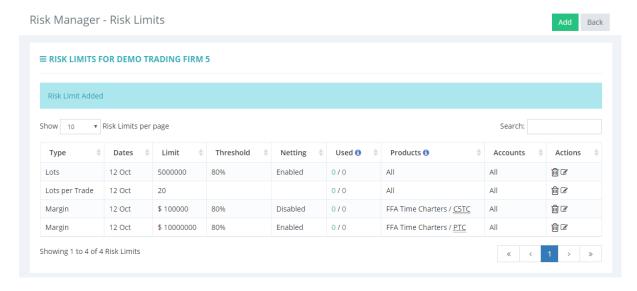
If other fields have to be modified, delete the existing limit and set up a new limit instead.

1.5 Adding Multiple Risk Limits

Multiple risk limits can be added for each Trading Firm. Each risk limit set is independent of each other.

The trade is assessed against all the applicable risk limits based on product and clearing accounts.

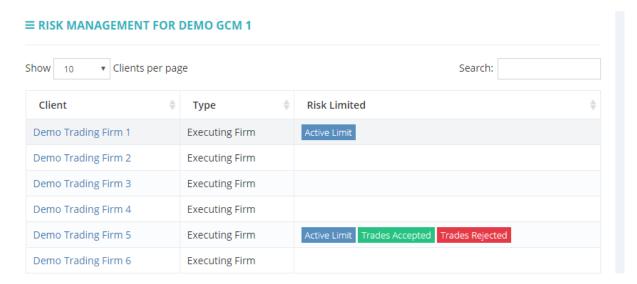
The trade will only be accepted if the trade passes all the risk limits.



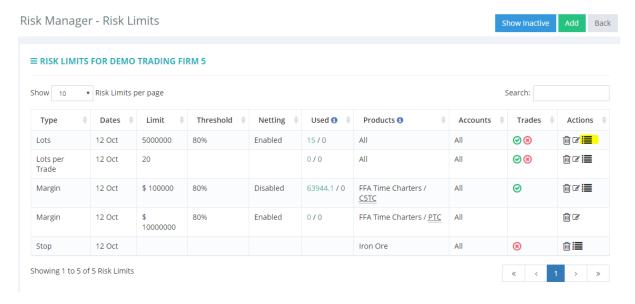
1.6 Accepted and Rejected Trades

Trades that are either Accepted or Rejected will show in the risk manager in several areas:

1. At the Risk Manager Front Page:

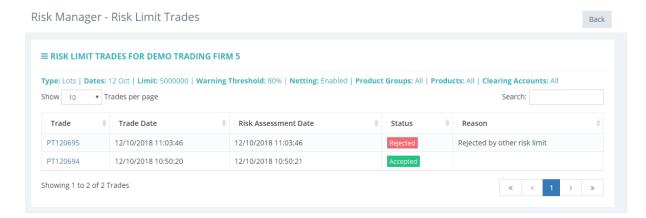


2. Upon clicking into the Trading Firm:



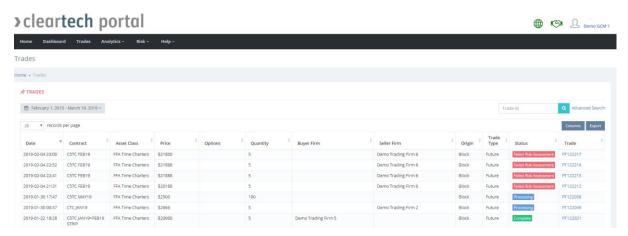
A Green Tick indicates that there are trades that have been accepted within the limits set. A Red Cross indicates that there are trades that have been rejected.

To view these trades, click View Trades, the button highlighted above. A summary of the parameters set to define the limit is contained within the page. Click the Trade ID in blue to view these trades in further detail.



3. At the Trades Front Page:

All trades done by Trading Firms with Clearing Accounts linked to the GCM are shown on the Trades page for easy access.



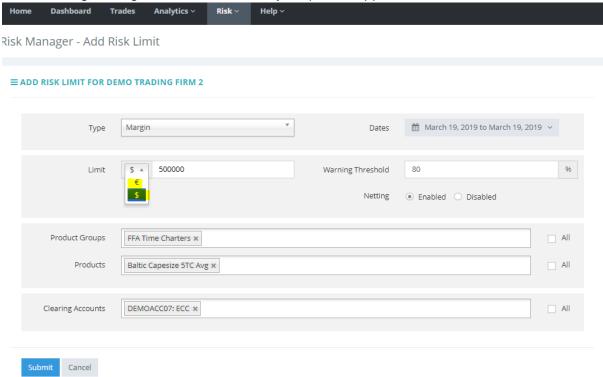
From the screenshot, even trades that **Failed the Risk Manager Assessment** are visible on this page. These trades generate an ID but **are not sent to the Clearing House**.

An example of the error message received by a broker when attempting to submit such trade that has breached the limits is as below:

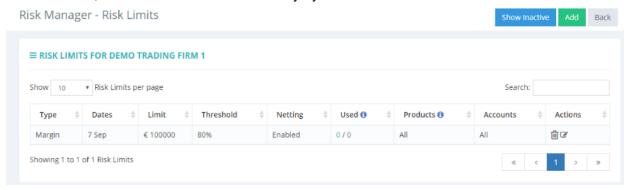
Failed Risk Assessment: Rejected. The Buy side failed risk assessment due to 'The Lots allowed has been exceeded'; The Buy side failed risk assessment due to 'Restriction applied to Account'

2. Multi-Currency Functionality

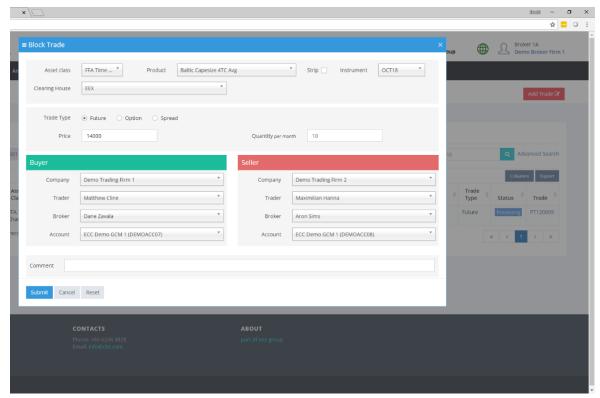
Cleartech Portal's Risk Management currently supports both US Dollars (\$) and Euros (€). When adding a margin risk limit, a currency dropdown appears in front of the limit field.



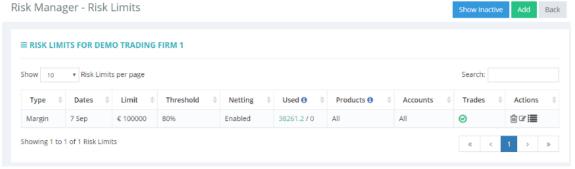
Once created, the limit will show the currency symbol in front of the limit value.



A broker registers a trade for 10 days of CTC OCT18, with the trading firm (against whom the limit has been created) selected as the buyer.

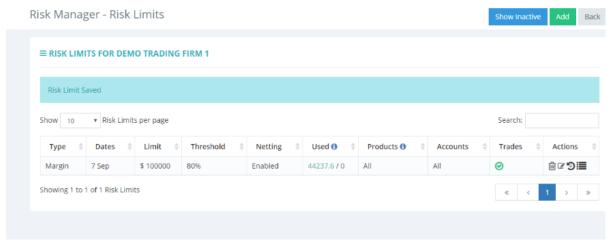


Now looking at the risk limit, 38261.2 of the long limit has been used up.

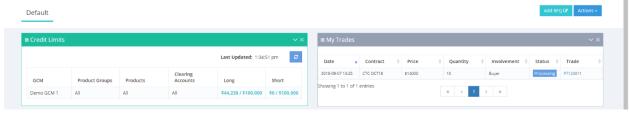


The deposit for CTC OCT18 is 4423.76 USD, the exchange rate is 1.1562 USD to 1 EUR. For 10 lots of CTC OCT18, the deposit required is 38261.20 EUR.

The Risk Limit can be amended at any time, changing the currency to USD. As a result, all risk limit balances are automatically re-calculated – the screen below now shows the limit as being 100000 USD, and the amount used 44237.6:

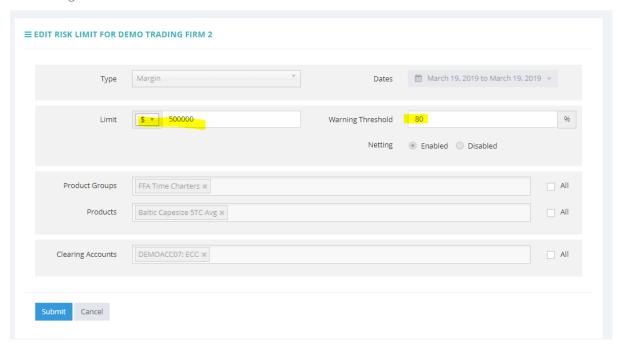


The limit currency is furthermore correctly displayed on the Trader credit limit screen:



A risk limit can be modified using the edit screen. It is not possible to change the risk limit type during an edit. Only the *Limit, Currency* and *Warning Threshold* can be edited.

Risk Manager - Edit Risk Limit



3. Setting Limits For Group Accounts

Cleartech Portal is able to display clearing accounts on a **sub-account** level. If this setup is preferred, please provide the static on a sub-account level.

eg: Group Account: AAAEX for Demo Trading Firm 6

Subaccount 1: AAAEX (Long)

Subaccount 2: AAAEX (Short)

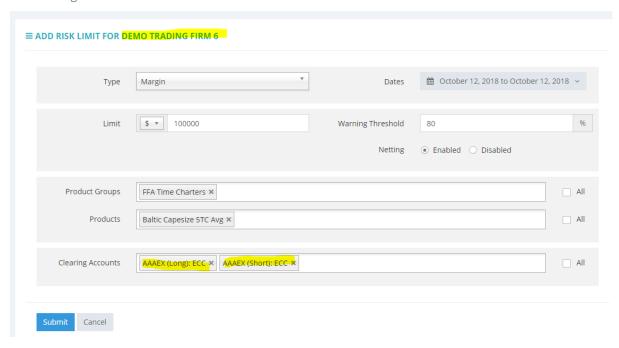
The below will cover limit setup for group accounts.

3.1 For Clients With Multiple Group Accounts

Add Limits on a **Group Level** by adding **both the Long and Short** accounts when adding a Risk Limit for Demo Trading Firm 6.

The Limits set are then **shared** and applicable towards both sub-accounts. Once a limit has been breached, both sub-accounts cannot be used for the submission of trades.

Risk Manager - Add Risk Limit



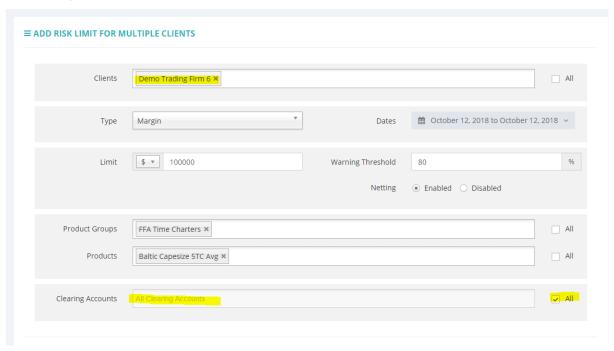
Repeat for each Group level account.

3.2 For Clients With Only One Group Account

Bulk Actions can be utilized to set limits across sub-accounts on a Group Level.

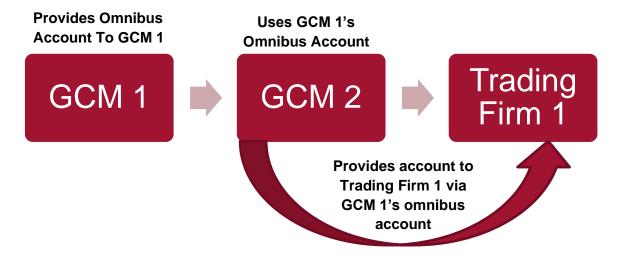
However, this can only be used for Trading Firms with only one Group-level account as **all** clearing accounts are selected by default.

Risk Manager - Add Risk Limit

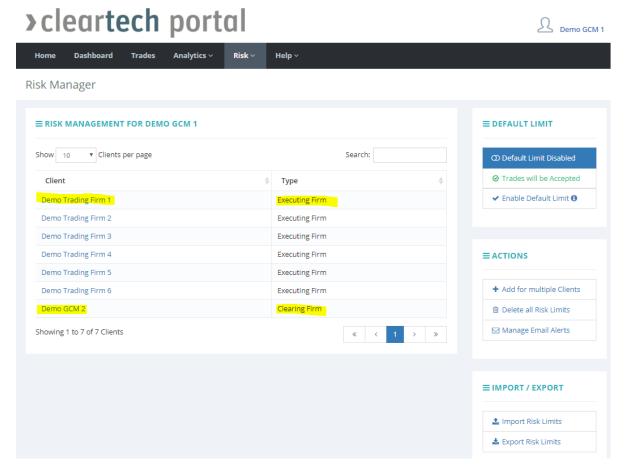


4. Omnibus Accounts

Omnibus relationships between GCMs can be established on Cleartech Portal. A diagram illustrating the relationship is as below:



As GCM 1, a Risk Limit can be set for GCM 2, like that of a Trading Firm.

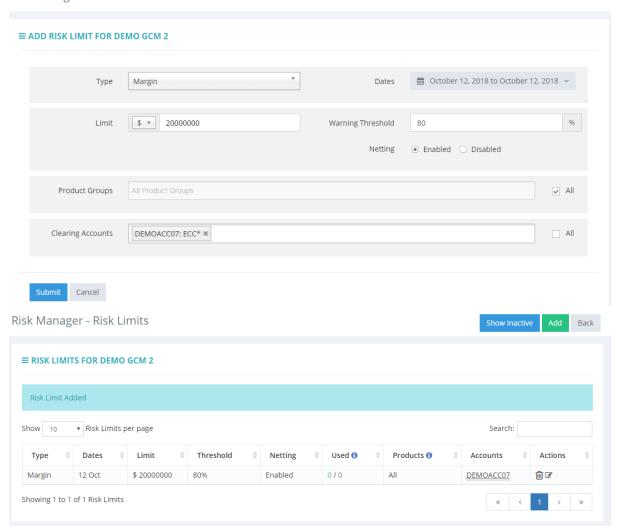


4.1 As GCM 1

In this example, GCM 2 provides Demo Trading Firm 2 with an account: DEMOACC07 through an omnibus account provided by GCM 1.

GCM 1 can then set a Margin Risk Limit for GCM 2 without visibility to GCM 2's clients.

Risk Manager - Add Risk Limit

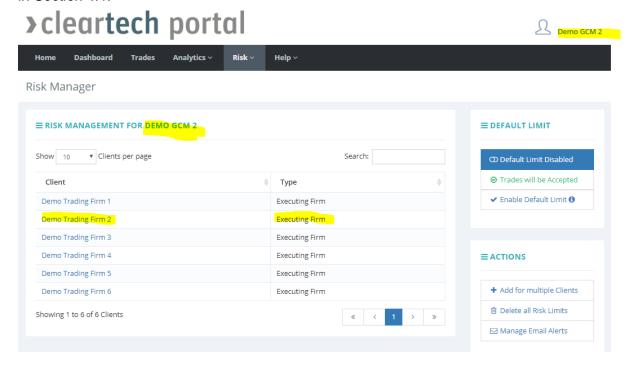


Demo GCM 2 is not able to see the limits set against them by Demo GCM 1 within Cleartech Portal.

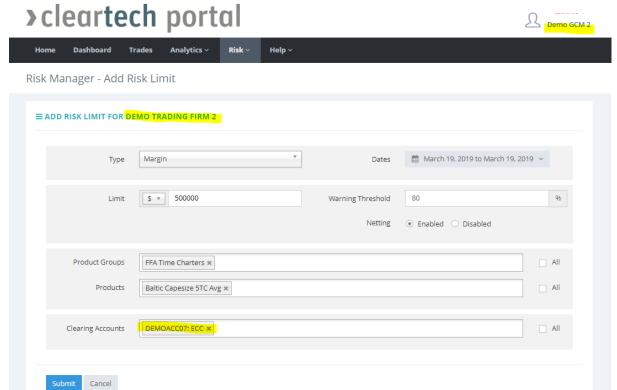
4.2 As GCM 2

Demo GCM 2 is not able to see the limits set against them by Demo GCM 1 within Cleartech Portal. Only the Trading Firms with a relationship to GCM 2 will be visible.

If GCM 2 provides an omnibus account to another GCM, the setup will be the same as that of GCM 1 in Section 4.1.



A Risk Limit can then be added for Demo Trading Firm 2.

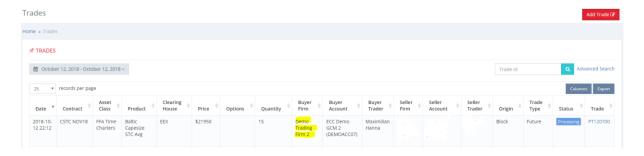


4.3 Upon Trade Registration

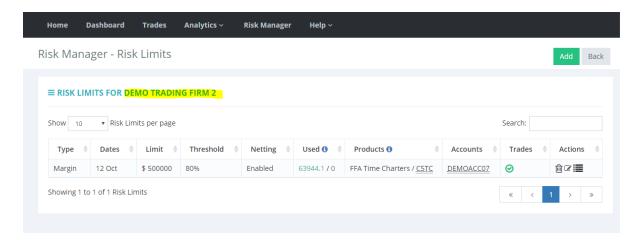
Upon registration of a trade, Risk Limits for both GCM 1 and GCM 2 will update.

4.3.1 As A Broker

Note that when a trade is registered, Cleartech Portal shows the GCM of the account to be GCM 2 despite the omnibus relationship.

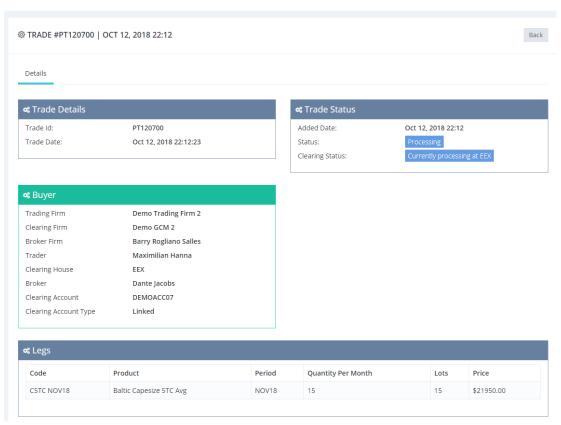


4.3.2 As GCM 2



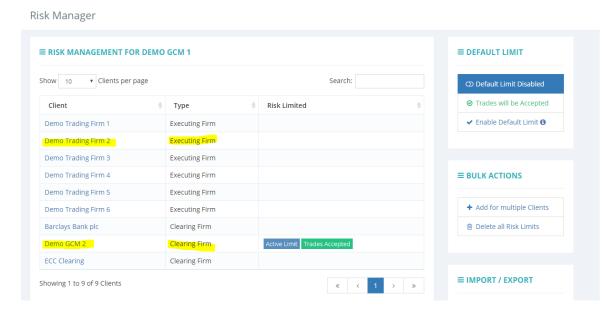
Viewing into Trade Details:

Trade Details

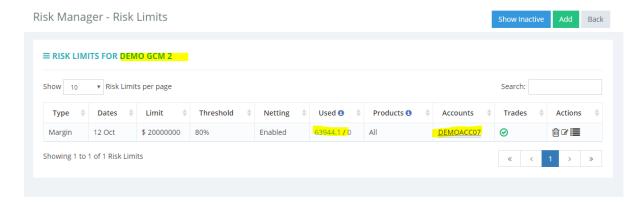


4.3.3 As GCM 1

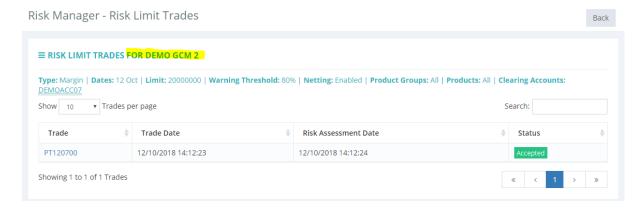
Note that even if GCM 1 has Trading Firm 2 as a client, the Omnibus Relationship via GCM 2 will not affect the relationship between GCM 1 and Trading Firm 2 on the Risk Manager.



Clicking into Demo GCM 1 will show the margins used correspondingly.

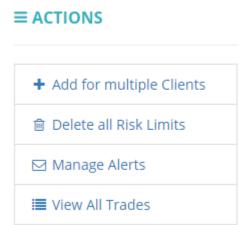


GCM 1 is able to see the Trade ID, but is not able to see the Trade Details:



5. Bulk Actions

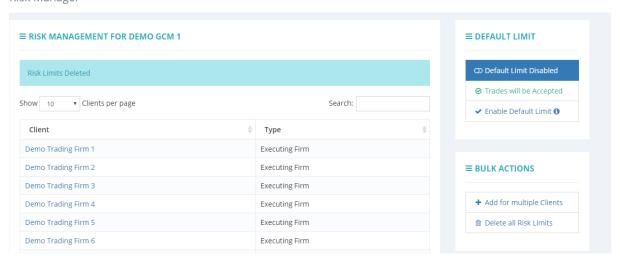
Use the *Actions* function to affect multiple Trading Firms simultaneously. Four actions are available: *Add for Multiple Clients, Delete All Risk Limits, Manage Alerts and View All Trades.*



5.1 Delete All Risk Limits

Clicking Delete all Risk Limits will delete Risk Limits across all clients:

Risk Manager

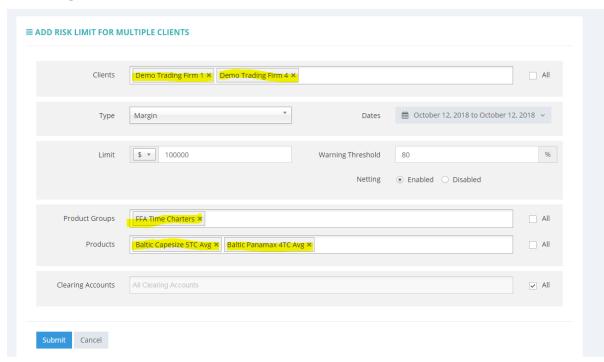


5.2 Add For Multiple Clients

Clicking *Add For Multiple Clients* allows the addition of Risk Limits across **multiple** clients. Fields that allow for multiple selections are: *Clients, Product Groups* and *Products*.

Please note that Clearing Accounts can only be set to All if set via Bulk Actions.

Risk Manager - Add Risk Limit



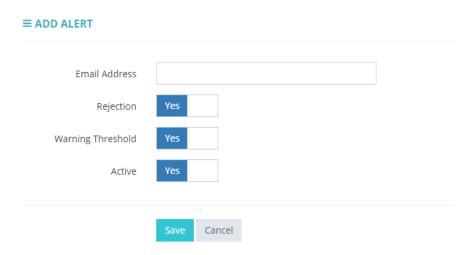
If multiple Trading Firms are added through *Bulk Actions* as above, the limits set are set for each individual Trading Firm and are not shared between.

eg: If a limit of eg \$100,000 is set as above, both Demo Trading Firm 1 and Demo Trading Firm 4 will have a \$100,000 limit set shared across their respective clearing accounts.

5.3 Manage Alerts

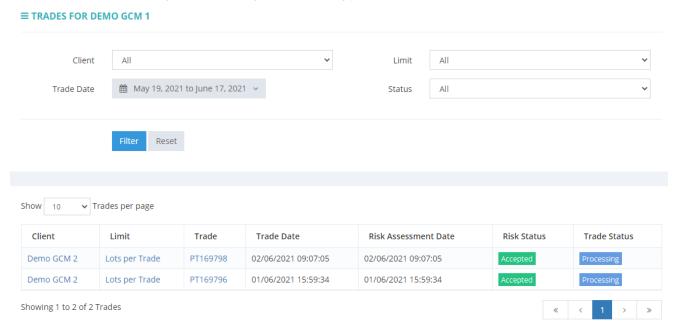
Alerts may be set for any rejected trades or warning threshold breaches. Please note that only 1 email address may be input per addition. An email notification will be sent for all active alerts.





5.4 View All Trades

Clicking *View All Trades* shows all trades executed by all trading and clearing firms linked to the user's GCM. Trades may be filtered by client, limit type, trade date and trade status.



6. Importing and Exporting Risk Limits

The previous pages show how to manually set the risk limits and is useful to help understand what the GCM is setting up.

An **import function** is available to allow many risk limits to be set using one import file. This will be useful for uploading Risk Limits across multiple clients when done on a daily basis.

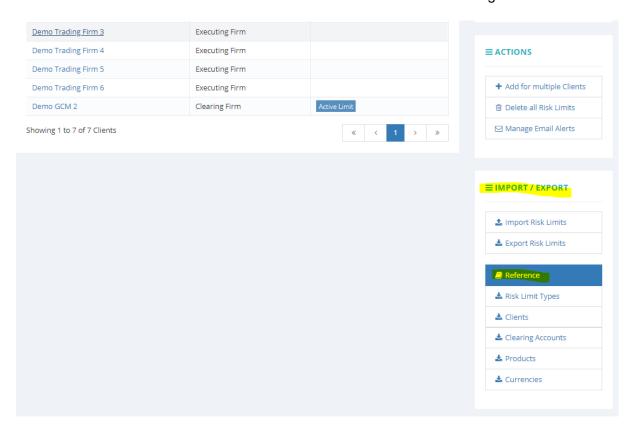
6.1 Importing Risk Limits

To import risk limits, a CSV file like the below is used:



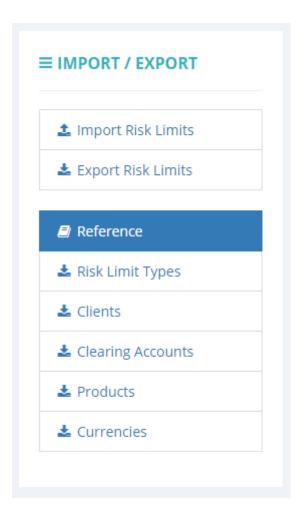
Note that the Client, Risk Limit, Product Groups, Products, Clearing Accounts and Currency has been **anonymized** by codes.

These codes are extracted from the **Reference** section of the Risk Manager.



Below is a list of **References** that can be exported, with a reference to the anonymized coding:

File	Content List
Risk Limit Types	Risk Limit, and their reference code
Clients	Client, client type, and their reference code
Clearing Accounts	Clearing Account, associated clearing house, and their reference code
Product	Product Group, and its reference code, Products, and their reference code
Currencies	Currency Type, and their reference code

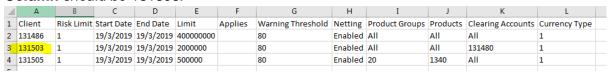


Clicking any of these references will trigger the download of a CSV file.

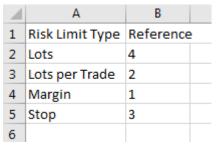
1) An example of the Clients CSV:

4	А	В	С
1	Client	Туре	Reference
2	Demo Trading Firm 1	Executing Firm	131503
3	Demo Trading Firm 2	Executing Firm	131505
4	Demo Trading Firm 3	Executing Firm	131507
5	Demo Trading Firm 4	Executing Firm	131509
6	Demo Trading Firm 5	Executing Firm	131511
7	Demo Trading Firm 6	Executing Firm	131513
8	Demo GCM 2	Clearing Firm	131486
Q			

eg: To set limits for Demo Trading Firm 1, the value keyed in the **Import CSV** under the **Clients Column** should be 131503.



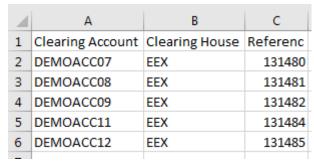
2) An example of the Risk CSV:



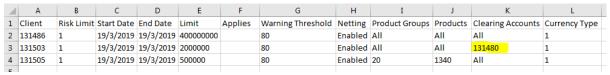
eg: To set Margin type limit, the value keyed in under the Risk Limit Column should be 1.

	Α	В	С	D	E	F	G	Н	I	J	K	L
1	Client	Risk Limit	Start Date	End Date	Limit	Applies	Warning Threshold	Netting	Product Groups	Products	Clearing Accounts	Currency Type
2	131486	1	19/3/2019	19/3/2019	400000000		80	Enabled	All	All	All	1
3	131503	1	19/3/2019	19/3/2019	2000000		80	Enabled	All	All	131480	1
4	131505	1	19/3/2019	19/3/2019	500000		80	Enabled	20	1340	All	1
5												

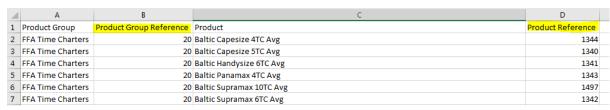
3) An example of the Clearing Accounts CSV:



eg: To set a limit for a specific clearing account DEMOACC07, the value keyed in under the **Clearing Account Column** should be 131480.



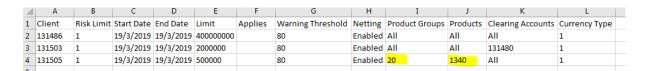
4) An example of the **Products** CSV:



Note that the *Product Group Reference* is an anonymized code for the **Asset Class.** The *Product Reference* is an anonymized code for the **specific Product.**

eg: To set a limit for FFA Time Charters (Asset Class), the value keyed in under the **Product Groups Column** should be 20.

eg: To set a limit for Capesize 5TC (Product), the value keyed in under the **Products Column** should be 1340.



5) An example of the Currency CSV:

4	Α	В	
1	Currency Type	Reference	
2	Euro	2	
3	United States Dollar	1	
4			

eg: To set a limit for USD, the value keyed in under the Currency Column should be 1.

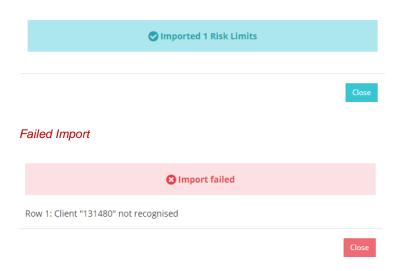
1	Α	В	С	D	Е	F	G	Н	I	J	K	L
1	Client	Risk Limit	Start Date	End Date	Limit	Applies	Warning Threshold	Netting	Product Groups	Products	Clearing Accounts	Currency Type
2	131486	1	19/3/2019	19/3/2019	400000000		80	Enabled	All	All	All	1
3	131503	1	19/3/2019	19/3/2019	2000000		80	Enabled	All	All	131480	1
4	131505	1	19/3/2019	19/3/2019	500000		80	Enabled	20	1340	All	1
5												

The CSV file is then uploaded using the *Import Risk Limits* function.



The import process is generally quick, but may take longer for a first time import or if an error was present.

Successful Import:



6.1.1 Important Notes on Importing Risk Limits

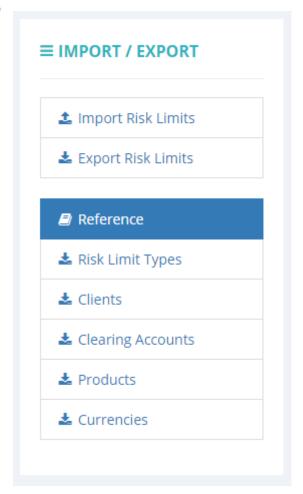
- 1) Risk limits for **future** dates can be imported but will show as **Not Yet Active** in the *Inactive* page as per Section 1.6.
- 2) Importing a Risk Limit will **inactivate** any **existing active limits**.
- 3) Consider exporting an existing Risk Limit and using it as a **template** for new risk limits to reduce the risk of import errors.

6.2 Exporting Risk Limits and Other Information

CSV files can be exported from the Risk Manager Menu. These values can be used on their own and can also be used to help fill in the Import File for Upload.

Below is a list of what can be exported by clicking the *Export Risk Limits* button:

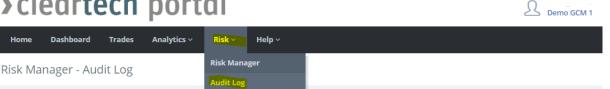
File	Content List
Risk Limit	Risk Limit, and their reference code
Clients	Client, client type, and their reference code
Clearing Code	Clearing Account, associated clearing house, and their reference code
Product	Product Group, and its reference code, Products, and their reference code
Currencies	Currency Type, and their reference code



Audit Log 7.

Audit Logs are available to users with an Audit Log function.

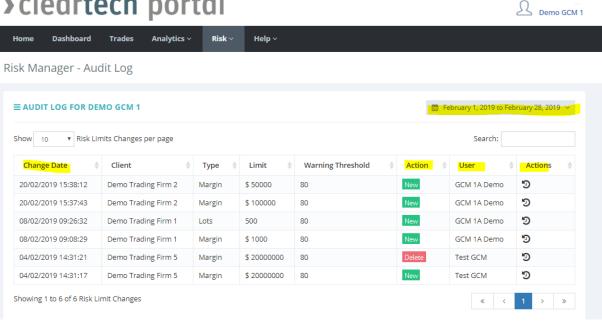
>cleartech portal



The Audit Log records all changes to the margins across all accounts in the GCMs.

The period is customizable, the default period will be T-day.

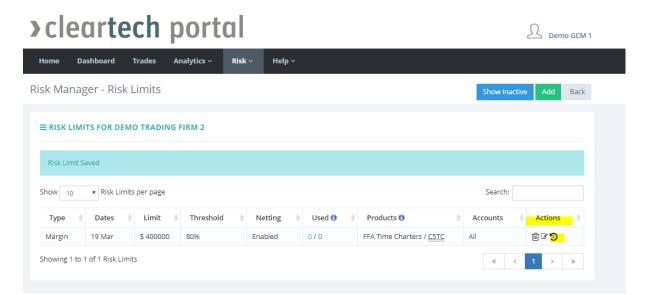




The Audit Log shows

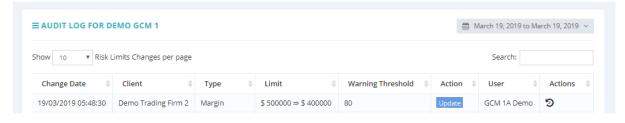
- 1) Change Date
- 2) The Action that was carried out
- The User that carried out the Action
- 4) Further Actions on the right-most column.

If a limit was edited, a new action "View History" appears beside the limit in the Risk Manager:



The Audit Log will also be amended to reflect the update:

Risk Manager - Audit Log



Appendix I: Document History

Version	Date	Summary of Changes	Author / Reviewer	Approver
1.0	12/10/2018	First Iteration of the User Guide	Amirah Aidura	Zhi Rui Ang
1.1	19/3/2019	Update of Images	Amirah Aidura	Zhi Rui Ang
		Update of Import Process		
		Addition of Audit Log Process		
1.2	17/6/2021	Update of new features & format	EEX Asia Market Ops	Zhi Rui Ana