Credit Management System (CMS)

Market Participant Scope

CMS Technical Conference Call
November 30, 2007

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1   Overview

NYISO Finance Product Management held a technical conference on October 18, 2007 to initiate discussions with Market Participants about an automated and integrated Credit Management System (CMS). The objective of this conference was to understand, from a Market Participant's perspective, the high-level requirements of the CMS.

1.1   Document Purpose

The purpose of this document is to provide the identified scope based on the summary requests that were discussed during, and provided after, the October 18th and November 9th technical conferences. The requirements identified in this document as Minimum Requirements will be those that NYISO will look to implement with the CMS solution.

1.2   Document Layout

NYISO has begun a process of categorizing the requests for easier identification and prioritization.

The following categories have been used in this document:

- ❖ Functional – pertain to the overall functionality of the application

- ❖ Data – data needs not specific to a NYISO-administered market

- ❖ User Interface – MP interaction with application for information and portfolio management

- ❖ Analytical – requirements to support MP analysis to assist in the decision-making process

- ❖ Reporting – standard and custom reporting requirements not specific to a NYISO-administered market

- ❖ Energy and Ancillary Services Market – requirements specific to the Energy and Ancillary Services Market

- ❖ ICAP Market – requirements specific to the ICAP Market

- ❖ TCC Market – requirements specific to the TCC Market

- ❖ Virtual Transactions Market – requirements specific to the Virtual Transactions Market

- ❖ Calculations – calculation requirements not specific to a NYISO-administered market

- ❖ Technical Functionality – application technical requirements

Additionally, each category has been broken down into two subsections; Minimum Requirements and Additional Requirements based on NYISO's current understanding of the Market Participant request.

- ❖ Minimum Requirements: CMS application functionality that is necessary for Market Participants to accurately and efficiently conduct business in the New York markets. It is envisioned that these requirements will be addressed in the context of the CMS implementation.

- ❖ Additional Requirements: CMS application functionality, that if not fulfilled, will not hinder Market Participants from conducting their business. These items will be assessed and addressed to the extent budget dollars and resources are available to support the functionality.

2   Functional

2.1   Minimum Requirements

2.1.1   Define 'Real-Time'

A one day lag instead of the existing two day lag of Energy prices was requested. This is a function of current market design as reflected in the billing system and is out of scope for CMS. The real requirement is for the NYISO and Market Participants to work together to define what 'real-time' means for each market. In other words, defining how old is the data being used. For example, in the Energy Market real-time will be dependent on the completion of the daily bill run.

2.1.2   Maintain Audit Trail

CMS must maintain a visible audit trail of who moves collateral around, the amount of collateral moved, and when it was moved. This includes information such as User ID, date and time stamp.

2.2   Additional Requirements

2.2.1   Support Long Term Capability

The CMS must have the flexibility to support long term capability functionality for any of the NYISO markets (i.e. ICAP, TCC).

3   Data

3.1   Minimum Requirements

3.1.1   All Data That Currently Exists On the Operating Requirement Report Must Be Available In CMS

The Operating Requirement Report is created by the NYISO Credit Department and distributed to the Market Participants. It compares and displays a Market Participant's collateral to its calculated operating requirement. The Credit Department will supply a copy of this report to the CMS analysts so that the analysts can ensure all data requirements are captured.

3.2   Additional Requirements

3.2.1   Display Working Capital On The Collateral Summary Screen – Removed 11/9/2007

A request was made to think about displaying working capital on the portfolio management summary screen. Even though working capital is not part of the credit calculations, displaying the working capital would help Market Participants in understanding the amount of collateral actually available. There was some discussion that providing this display could confuse MPs as it does not affect any of the credit calculations.

It was determined during the MP Requirements follow-up call that this requirement can be removed. The Market Participant should refer to the Con Invoice reports to see their working capital.

4   User Interface

4.1   Minimum Requirements

4.1.1   Allow Portfolio Management

The CMS must allow each Market Participant the ability to move its collateral. CMS must allow a view of all necessary information to allow the MP the ability to analyze its credit position and move its collateral to various markets, as appropriate. At a minimum the information that must be available includes:

- ➢ Operating requirement
- ➢ Minimum collateral requirements by market
- ➢ Posted collateral
- ➢ Allocated collateral by market
- ➢ Available collateral
- ➢ Concentration Cap
- ➢ "Roll off" dates
  - o This requirement is in reference to ICAP and TCCs that are awarded in future months.
- ➢ Run rates
  - o Used in Energy Calcs – Included in requirement to capture everything that currently exists in the Operating Requirement Report

- ➢ Credit limits - Removed 11/9/2007 – Determined that it is available collateral.
- ➢ Invoice amount – Removed 11/9/2007 – Use Con Invoice Reports

4.1.2   CMS Should Not Automatically Move Collateral Around

With the exception of allocating unassigned collateral discussed below, collateral should only be moved around by a Market Participant, not by default through logic generated within the application.

4.1.3   CMS Will Allocate Unassigned Collateral

Each MP will have the ability to assign some, or all, of its available collateral to any of the NYISO-administered markets in which the MP is approved to participate. At the completion of each auction for a particular market, the CMS will recalculate the operating requirement for that market.   Further, the CMS will determine if the MP needs to post additional collateral based on the updated operating requirement. If the CMS determines additional collateral is required, the CMS automatically will draw from the MP's available, unassigned collateral to fulfill the additional requirements.

Note: If a Market Participant is deficient in one market and is over allocated in another market, the NYISO Credit Department will decide whether or not to remove the MP from all markets or allow them to continue to participate in their already approved markets.

4.1.4   Allow MPs To Allocate Collateral And Request Refunds

Currently, MPs must contact the NYISO credit department via phone or email in order to allocate collateral or request refunds of unused collateral. CMS must allow the MPs to allocate collateral and request refunds via a user interface.

4.1.5   Support Drill Down Functionality

The Market Participants would like to see a summary level screen with drill down functionality to display requested details.

4.1.6   User Interfaces Must Not Be Cluttered And Confusing

CMS should not display too much information on any particular screen to ensure the application is "user-friendly."

4.1.7   Display Pending Bids That Are Used In The Exposure Calculations

Pending bids result in exposure; therefore, the Market Participants have requested the ability to view its pending bids in all markets. This will allow the MPs to understand current positions; this is essential for efficient portfolio management. Therefore, the MP's must be given a way to view these bids (and offers) in the source systems. The bids and offers will not be stored within the CMS.

4.2   Additional Requirements

N/A

5   Analytical

5.1   Minimum Requirement

5.1.1   Support Separate Display Of Exposure And Awarded Collateral Requirements

Where applicable, separately display the exposure and awarded collateral requirements (i.e. TCC, ICAP).

5.1.2   Capture And Display Details Of Calculations

Provide the ability to view all data used in the CMS calculations. At a minimum the information that must be available includes:

- ➢ Historical data
- ➢ Estimated calculations
- ➢ Details that support the 10-day run rate
- ➢ Impact of generator outages – Removed 11/9/2007
- ➢ Separating collateral from previous and upcoming auctions
    - o This requirement is in reference to ICAP and TCCs that are awarded in future months.

5.1.3   Support Trend Analysis

CMS should be able to report how the MP's credit position has changed on a day-by-day basis or over a specified period. This could be a graphical representation of a Market Participants posted collateral vs operating requirements over a specified period of time. The requirement is only to trend historical positions.

5.2   Additional Requirement

5.2.1   Provide "What If" Online Calculator

CMS should provide an online calculator that the Market Participants can use to perform "what if" scenarios with the calculation of operating requirements for each market.

5.2.2 View Projected Current Month Settlement – Removed 11/9/2007

View projected current month settlement prior to the invoice being posted. This will give the MP the ability to begin the analysis for managing their portfolio.

The intent of this requirement was to allow the Market Participant to know their financial position at any point in time. They would need to refer to the existing Con Invoice reports to satisfy this requirement.

5.2.3 Display Credit Risk Based On Four Month True-up

Request was made to collect collateral for credit risk as determined based on four month true up.

5.2.4 Display Credit Risk Of Non-Payment For Costs Incurred For Backstop Solutions

When backstop solutions are required to ensure reliability, there is a potential credit risk to the market if the payment is not made to the entity incurring costs to the upgrade. Transmission Owners have obligations to build generators to ensure reliability. The cost of building these generators are shared by the Loads. This requirement is to cover the risk that the Loads do not pay their share.

6   Reporting

6.1   Minimum Requirements

6.1.1   Create New Credit Reports

The CMS will be the centralized credit reporting repository for all Markets. These reports will be defined along with the individual Market requirements. For example, new reports will be needed from the ICAP Automated System.

6.1.2   Support Standard Reporting.   Removed 11/9/2007 → And Ad Hoc Reporting

CMS must support standard and ad hoc reporting with formatting capability.

Removed Ad Hoc Reporting because it is sufficient to have upload and download capability.

6.2   Additional Requirements

N/A

7   Energy and Ancillary Services Market

7.1   Minimum Requirements

N/A

7.2   Additional Requirements

N/A

8   ICAP Market

8.1   Minimum Requirements

N/A

8.2   Additional Requirements

N/A

9   TCC Market

9.1   Minimum Requirements

N/A

9.2   Additional Requirements

N/A

10 Virtual Transactions Market

10.1 Minimum Requirements

10.1.1 Calculate Virtual Market Maximum Exposure On A Real-Time Basis

Develop maximum exposure report for the Virtual Market. Bids are awarded at 11:00 am in the DAM, refresh maximum exposure calculation based on Real-Time awards as they happen. If the price is corrected, the new price should be reflected in the exposure calculation. Also, it should be indicated if reserve prices were used.

10.1.2 Calculate Virtual Market Credit Requirements Based On Zones Bidding In

Currently, the Virtual Market credit requirement is based on the highest price differential of all zones in which the MP has requested to participate. The calculation should be changed to calculate credit requirement based on MWs bid in each zone.

10.2 Additional Requirements

10.2.1 Support Virtual Market Process Change In Regard To Use Of Biddable Points

This requirement is tied to Requirement 10.1.2 in which it was requested that the Virtual Market credit calculation be revised to use each bid points' associated proxy price. This requirement is contingent on the implementation of the market design solution for disaggregated virtual transactions.

10.2.2 Support The Ability To Bid By Dollar Amount Instead Of Mw Amount By Zone

The current functionality of bidding in the Virtual Market requires the Market Participant to specify the Mw it wishes to bid into each zone. This request was made to allow the MP to bid by dollar amount in each zone.

11 Calculations

11.1 Minimum Requirements

11.1.1 All Credit Calculation Logic Will Be Stored In CMS

All credit calculation logic will reside in the CMS.

11.1.2 Calculate Net Receivables Daily

Currently, net receivables are calculated on a monthly basis. The components of the net receivables calculation can change on a daily basis. Since it is currently calculated only at the beginning of each month, the net receivables amount used throughout the month may be too high or too low on any particular day. Therefore, it would benefit both the NYISO and the MPs to calculate the net receivables value on a daily basis after the daily bill runs. This requirement is tied to 5.2.1.

11.1.3 Allow An MP To Notify The NYISO Via The User Interface That A Generator Is Not Operating – Removed 11/9/2007

MPs would like the CMS calculations to account for generator outages so that the appropriate run rate is reflected.

11.2 Additional Requirements

N/A

12 Technical Functionality

12.1 Minimum Requirements

12.1.1 Import and Export Functionality

Allow for import and export from Excel. Must be able to import and export as .csv files so that the data can be easily identified and parsed (i.e. import into Excel cells instead of all data being imported into one cell).

12.2 Additional Requirements

12.2.1 Build in APIs

A request was made to build APIs for retrieving information so the user is not dependent on a browser. The user would like API's to retrieve any information made available via the user interfaces.