

Overview of TCC Auction Activities

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TCC Auction Overview

Bid and Offer Processing and Validation

- **Bids and Offers are received from Market Participants via email.**
 - Each Bid and Offer form is opened using the appropriate password and inspected visually.
 - Each Bid and Offer form is processed using a structured Excel workbook (template) which performs most of the validations and computes the maximum credit exposure.
 - Credit check is performed.
 - These steps are performed independently by at least two people who compare results prior to responding to the MP.

TCC Auction Overview

Bid and Offer Processing and Validation

- **An email message is prepared and sent to each Market Participant indicating the status of their Bid (or Offer) form.**
 - The bids (or offers) have been received and validated.
 - Information about any problems with the form or the individual bids (or offers) on the form as necessary.
- **Following the close of the Bidding Period, the validated bid (and offer) data from all MPs is assembled for use in the Auction OPF analysis process.**

TCC Auction Overview

Auction OPF Analysis

- Prepare the starting point (initial condition) powerflow using the network model and data for all existing TCCs and the valid bids and offers.
 - Conduct powerflow and contingency analysis to determine if the initial condition powerflow is feasible.
 - Adjust powerflow parameters as necessary to develop a feasible initial condition, if possible.
 - A feasible initial condition is required for each round of a capability period auction.

TCC Auction Overview

Auction OPF Analysis

- **Starting point (initial condition) powerflow preparation and analysis.**
 - This usually requires several iterations.
 - Feasibility is not absolutely required for a Monthly Reconfiguration Auction.
 - Infeasibility may be caused by changes in Grandfathered Rights or TCCs and changes in transmission facility status.
 - Analysis is conducted to determine the reasons for any infeasibility.
 - The time and effort required to complete this step is difficult to forecast.

TCC Auction Overview

Auction OPF Analysis

- Conduct the auction optimization analysis without considering contingency constraints.
 - The valid TCC bids and offers are active in the optimization.
 - A feasible **non** contingency-constrained solution is the required result.
 - Results from a contingency analysis step are used to determine the contingency cases which must be evaluated in the contingency-constrained optimization.

TCC Auction Overview

Auction OPF Analysis

- **Conduct the auction optimization analysis considering contingency constraints.**
 - A feasible, contingency-constrained solution is an absolute requirement.
 - This usually requires several iterations.
 - Contingency analysis results from previous iterations are used to refine the set of contingency cases which must be evaluated in the contingency-constrained optimization.
 - The time and effort required to complete this step is also difficult to forecast.

TCC Auction Overview

Auction OPF Analysis

- **Two engineers perform this analysis independently and compare results.**
- **The analysis process for each auction is documented in a detailed log.**
- **All critical data and program results files are retained.**
- **The analysis is completely repeatable.**

TCC Auction Overview

Post-Processing of Auction OPF Results

- **Several auction OPF program output files from the final contingency-constrained solution are processed to develop the auction results.**
 - A structured Excel workbook (template) performs most of the initial output processing.
 - Additional processing steps are performed using structured Excel workbooks which help assure consistent handling of information.
 - Uploading of TCC awards to the NYISO databases used for settlements is a manual process which utilizes structured Excel workbooks.

TCC Auction Overview

Validation of Auction Data and Results

- An independent validation process has been established with the following objectives.
 - Validate the consistency of the data between the NYISO production and TCC Auction Databases.
 - Validate that the Source Emails (bids/offers) match the Excel bids/offers worksheets
 - Validate the consistency of the data propagating through the Auction process.
 - Validate that the appropriate award notices/letters are being sent to the correct company .

TCC Auction Overview

Validation of Auction Data and Results

- **Independent validation process.**
 - Performed by NYISO staff not directly involved in conducting the auction.
 - A special-purpose validation tool has been developed for this effort.
 - Staff reviews, investigates and documents any exceptions resulting from the validation processes .
 - Thirty five (35) distinct validations are performed covering nearly all aspects of the auction process.

TCC Auction Overview

Posting of Auction Results

- The processed results are used to develop the three sets of information which are posted on the NYISO web site on the last day of the auction.
 - TCCs Awarded (new TCCs purchased and existing TCCs sold).
 - Nodal (Market Clearing) Prices.
 - Binding Constraints.
 - The public information is posted before the Market Participant specific information is transmitted via email.

TCC Auction Overview

Interim Award Notices

- **An email message is prepared and sent to each Market Participant who submitted bids or offers in the auction containing their interim award notice.**
 - MP-specific information is password protected.
 - An Excel file listing which bids to purchase TCCs were awarded, their clearing prices and collateral requirements.
 - A Excel file listing which offers to sell TCCs were awarded and their clearing prices.
 - Each email is prepared manually and checked several times.