

**OVERVIEW OF
METHODOLOGY FOR ADDRESSING THE
IMPACT OF THE OVERSELLING OF TCCs IN THE
SPRING 2004 CAPABILITY PERIOD AUCTION
7/30/04 DRAFT**

This document describes the NYISO's methodology for determining overpayments made by Transmission Owners as a consequence of a NYISO database error that resulted in the overselling of Transmission Congestion Contracts ("TCCs") in the Spring 2004 Capability Period Auction. This methodology addresses both TCC auction revenues that were calculated incorrectly for the Spring 2004 Capability Period auction and congestion rent shortfalls and surpluses that were attributable to the database error over the period May 1 to July 11, 2004 to determine the net refund due to each Transmission Owner.

I. CALCULATION OF REFUNDS OWED TO TRANSMISSION OWNERS

The NYISO has used a multi-step process to determine the net impact of the database error on each Transmission Owner and the refund, if any, to be paid to each Transmission Owner. First, the NYISO estimated the amount of TCC auction revenues that each Transmission Owner would have received absent the NYISO error. Second, the NYISO estimated the amount of congestion rent shortfalls and surpluses that each Transmission Owner would have paid or received absent the NYISO error. Third, the NYISO compared the historical auction revenues and congestion rent shortfalls and surpluses with the *corrected* amounts calculated as described below. The difference between these amounts represents the impact of the NYISO database error on each Transmission Owner and determined the amount of refunds to be paid to TOs through the recovery mechanism.

A. Calculation of Corrected Auction Revenues

The overselling of TCCs in the Spring Capability Period auction impacted: (i) the total auction revenues; (ii) the amount of revenues generated from the sale of Existing Transmission Capacity for Native Load ("ETCNL"); (iii) the net Residual Auction Revenues; and (iv) the relative allocation among Transmission Owners of revenues generated from the sale of Residual TCCs. The methodologies for correcting these calculations are described below.

(i) Determination of Corrected Total TCC Auction Revenues

Problem: The failure to correctly account for 912 MW of Grandfathered Rights in the Spring 2004 Capability Period auction resulted in the overselling of Residual TCCs and created excess TCC auction revenues.

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Remedy: The NYISO estimated the amount of auction revenues that were attributable to the overselling of Residual TCCs as a result of the NYISO database error based on the price in the six-month rounds of the Spring 2004 Capability Period auction of 912 MWs of six-month TCCs from Indian Point 3 to Zone J (which is the excess transmission capacity made available for auction as TCCs as a result of the database error). The amount of these excess revenues, \$37.365 million¹ was returned by the relevant Transmission Owners and has been deducted from the revenues received in the six-month rounds of the Spring 2004 Capability Period auction. The original auction revenues for rounds 5-8 were \$80,307,502. After deduction of the \$37.365 million of excess auction revenues attributable to the database error, the corrected auction revenues for these rounds were \$42,942,146.

(ii) Calculation of Corrected ETCNL Revenues

Problem: Prior to each Capability Period auction, the NYISO evaluates whether the ETCNL held by Transmission Owners satisfies the NYISO's simultaneous feasibility test. For the Spring 2004 Capability Period auction, the NYISO evaluated whether the ETCNL eligible for pricing in that auction was simultaneously feasible in combination with (i) Grandfathered Rights and (ii) TCCs sold in previous auctions that remained valid for the period covered by the Spring Capability Period auction. To the extent that the ETCNL eligible for valuation in the Spring Capability Period auction was not simultaneously feasible, the NYISO proportionately reduced each TO's ETCNL to achieve simultaneous feasibility. Two elements of the original proration calculation were erroneous as a result of the data error in the TCC auction. First, the proration calculation assumed that 65 percent of the available ETCNL was eligible for valuation in the spring auction, the remaining 35 percent having been previously valued in the form of five-year TCCs in the Fall 2000 auction and in the form of one year TCCs in the Fall 2003 auction. These outstanding TCCs were directly reflected in the proration test. Because of the billing system error impacting the Fall 2003 auction, however, the proportion of the ETCNL into Zone J made available for sale in the form of TCCs in the Fall 2003 was larger than intended, and thus the outstanding TCCs into Zone J as of the Spring 2004 Capability Period auction reflected more than 35 percent of the total feasible ETCNL.

Second, the ETCNL proration calculation in Spring 2004 did not account for the 912 MW of omitted Grandfathered TCC and thus made too much capability into Zone J available for sale. Since the Transmission Owners are allocated revenues based on ETCNL, the under-reduction of ETCNL resulted in improper allocation of auction revenues to Transmission Owners releasing ETCNL into the auction.

¹ The amount of the excess auction revenues is calculated based on rounds 5-8 of the Spring 2004 Capability Period auction.

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Remedy: After correcting for the database error, the NYISO re-ran the simultaneous feasibility test described above for the ETCNL available in the Spring 2004 Capability Period auction. The correct amount of ETCNL that should have remained after ETCNL reduction was determined. It is noteworthy that after correctly accounting for proration of ETCNL, the feasible ETCNL was zero or positive for all source sink pairs.

The next step was to apply this proration to the individual auction rounds. Since it has been assumed that the excess auction revenues were received in rounds 5-8, the auction revenues for rounds 1-3 are unchanged from the original auction results. The ETCNL valued in rounds 1-3 should therefore also remain unchanged from the original auction results to avoid mismatches between auction revenues and ETCNL claims across auction rounds. The original ETCNL amounts valued in rounds 1-3 were applied to deriving ETCNL values for rounds 1-3. The adjusted proration resulting from accounting for the omitted 912 MW grandfathered TCC was applied in rounds 5-8, the same rounds in which the auction revenues are reduced to reflect the database error.

The original Spring 2004 auction settlement also contained minor errors unrelated to the data entry error. These errors have also been corrected in the revised settlement calculations. First, the original auction settlement mistakenly represented Gilboa to Zone F ETCNL as Fitzpatrick to Zone F ETCNL. Because a Fitzpatrick to Zone F TCC had a materially higher price in the auction than a Gilboa to Zone F TCC, this error overstated certain ETCNL values. Second, the NYISO interprets the OATT as requiring that ETCNL available for sale be defined in whole MW. This rounding down was not consistently applied in the original auction settlements.²

For the purpose of determining the revised ETCNL valuation, the ETCNL reserved by a Transmission Owner in the Spring 2004 Capability Period auction (and thus retained in the form of reserved TCCs) was not altered to reflect the impact of proration as these TCCs were in fact retained by the relevant Transmission Owner and were not sold in the auction.³

In some instances, however, the ETCNL reserved by a Transmission Owner exceeded the feasible TCC after accounting for the omitted Grandfathered TCCs. In these instances, the ETCNL available for sale in rounds 5-8 of the auction is negative, offsetting the value in kind of infeasible reserved ETCNL.⁴

² The rounding down is applied to the total ETCNL available for sale on each path. In some instances, these ETCNL were subsequently split in the auction settlements into separate ETCNL values that may include fractional quantities.

³ The value of ETCNL retained in the form of TCCs is accounted for in the calculation by including the value of ETCNL received in kind, i.e., in the form of TCCs, based on the price of six-month TCCs in the auction (all reserved ETCNL are six-month TCCs).

⁴ In some instances, the original auction settlements were based on the reservations of fractional MW of ETCNL on some paths. The NYISO interprets the tariff to require reservation of whole MW TCCs and reservation of whole MW TCC are in fact reflected in the outstanding TCCs. This error has been
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In additional cases the ETCNL sold in rounds 1-3 (which is not adjusted for additional prorationing) exceeded the total ETCNL available for sale in the auction and the ETCNL available for sale in rounds 5-8 of the auction is again negative. Under this methodology, the Transmission Owner is in effect only credited with the value of the ETCNL over the Winter 2004 Capability Period (i.e., the difference between the ETCNL valued in the annual rounds and the six-month rounds), by carrying through the negative ETCNL quantities in the six-month rounds. Because of these instances of negative ETCNL quantities in the six-month auction rounds, ETCNL revenues in these rounds are set to zero only if the ETCNL price (the MCP) is negative; that is, they are not set to zero if the MCP is positive and the ETCNL quantity sold is negative.

Corrected ETCNL and residual TCC values were then calculated for each auction round.⁵

iii. Calculation of Residual Auction Revenues

The residual auction revenues were then calculated for each round of the Spring 2004 auction by subtracting the payments to original residual TCC holders (unchanged from the original values), ETCNL values (corrected for proration as discussed in section ii) from the auction revenues for each round (corrected for the oversale of TCCs as discussed in section i).

(iv) Calculation of Corrected Allocation of Total Residual TCC Revenues

Problem: In addition to impacting the total amount of auction revenues received for Residual TCCs in Capability Period auctions, the database error affected the allocation of those revenues among Transmission Owners. For the Spring 2004 Capability Period auction, the Facility Flow-Based Methodology determined the allocation of auction revenues among Transmission Owners. The variables used to calculate Transmission Owner allocations under the FFB methodology, however, were affected by the NYISO database error, resulting in incorrect allocations of amounts owed to Transmission Owners in the Spring 2004 Capability Period auction.

corrected in the revised calculation of the Spring 2004 auction revenue. This correction did not affect the total amount of reserved ETCNL, but resulted in slight differences in the source designations for some reserved ETCNL between the original and corrected auction settlements. In some instances the NYISO auction settlements split ETCNL into two entries, resulting in apparent fractional TCC reservations.

⁵ The price of the ETCNL is the difference between the price at the POW and the POI. The total value of the ETCNL sold in each round is the product of the ETCNL price and the amount sold. The value of the residual TCCs are unchanged from the original auction results, as are the results of the reconfiguration rounds (4 and 9).

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Remedy: The NYISO recalculated the allocation factors calculated pursuant to the Facility Flow-Based Methodology for rounds 5-8 of the Spring 2004 Capability Period auction. The NYISO corrected the Transmission Owner allocation factors by removing the impact of the NYISO database error on the variables used to calculate these allocation factors. This recalculation of the FFB ratio had four elements. First, consistent with the assumption in section i above, it was assumed that all of the excess auction revenues attributable to the sale of excess TCCs was collected in the six-month auction rounds. Thus, by definition, none of the annual TCCs sold in the Spring Capability Period auction were excess and none were retired for the Winter 2004-2005 Capability Period. The FFB ratios for rounds 1-4 and 9 are therefore unchanged from the original auction. Second, the initial energy flow on each transmission facility from TCCs valid at the beginning of round 5 ($F_{I, IC5}$) was recalculated to reflect the TCCs outstanding at the end of round 4, including the previously omitted Grandfathered Right from Indian Point 3 to Zone J. Third, the energy flow at the end of round 8 ($F_{I, 8}$) was calculated based on the TCCs outstanding at the end of round 8, less the TCCs repurchased pursuant to the settlement. Fourth, the FFB ratio was calculated collectively for rounds 5 through 8, rather than separately for each round. This fourth element of the methodology reflected the reality that there is no objective method for assigning repurchased TCCs to rounds, and the original auction results at the end of round eight were infeasible and did not reflect the value of the actual transmission system owned by the various Transmission Owners.

The revised FFB ratios were applied to the recalculated auction residual to determine the revised auction residual for each individual Transmission Owner.

(v) Auction Impact

The next step was to calculate the total auction revenues by transmission owner, summing for each transmission owner the original residual TCC values, ETCNL values, and Residual Auction Revenues.

Finally, the corrected auction revenues were compared to the original auction revenues to determine the impact of the billing system error on each transmission owner.

B. Calculation of Corrected Congestion Rent Shortfalls and Surpluses

The overselling of TCCs also impacted the total amount of congestion rent shortfalls and congestion rent surpluses.

Problem: As a result of the sale of excess TCCs, the NYISO has made congestion payments for some or all hours of the May 1 to July 11 period for TCCs that would not have been sold absent the NYISO database error. These extra congestion payments have caused congestion rent shortfalls to be higher and congestion rent surpluses to be lower than they would have been absent the NYISO error.

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Remedy: The excess congestion payments resulting from the NYISO database error are those congestion payments made to TCCs that would have been infeasible absent the database error. Accordingly, the NYISO has corrected the database error and rerun the Power Flow solution for the TCCs outstanding at the end of the Spring 2004 Capability Period auction to determine the amount by which each transmission constraint enforced in the Spring 2004 Capability Period auction was overloaded as a result of the database error.

The MW amount of the overload on each constraint attributable to infeasible TCCs was then multiplied by the shadow price of that constraint in each hour of the day-ahead market from May 1 through July 11, 2004 and summed over the period to calculate the total congestion payments in the day-ahead market to the infeasible portion of outstanding TCCs.⁶ By subtracting this amount from the amount of congestion rents that the NYISO collected for each hour, the NYISO calculated the total amount of congestion rent shortfalls or congestion rent surpluses that would have accrued absent the database error.

The monthly congestion rent shortfalls attributable to the database error were then attributed to the individual Transmission Owners based on the relevant congestion balancing factors (Equation N-13). These congestion balancing factors for May-June 2004 depend on past auction results, including auctions impacted by the database error and have not been recalculated.

The July congestion balancing factor also depends on the valuation of Grandfathered TCCs based on prices in the July reconfiguration auction, which did not take place. For this purpose, the Grandfathered TCCs have been valued based on prices in the June reconfiguration auction.

C. Calculation of Net Impact on Each TO from the Overselling of TCCs

The NYISO has compared the *actual* auction revenues, ETCNL payments, and congestion rent shortfalls and surpluses paid to each Transmission Owner during the Historic Periods against the *corrected* amounts calculated pursuant to Sections I.A. and I.B. The difference between the actual amounts and the corrected amounts has been

⁶ It should be noted that some congestion charges in the Day-ahead market during July were attributable to overloads on the Leeds-N.SctInd constraint in contingency case 570, which is a maintenance contingency. None of these costs have been assigned to the auction error because this contingency was not enforced in the Spring 2004 auction (it was not expected to occur). Thus, while there are overloads in this contingency if the 912 MW Grandfathered TCC is included in the TCCs outstanding at the end of the Spring 2004 Capability Period auction, these overloads are only slightly higher than those calculated if the Grandfathered TCC is not accounted for. The overloads are a result of maintenance activity, not the database error.

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summed to determine the net impact of the NYISO database error on each Transmission Owner.