

**April 2, 2010**

**By Hand Delivery**

Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**Re: *New York Independent System Operator, Inc., Docket No.ER10-\_\_\_ - \_\_\_*  
Proposed Tariff Modifications Regarding Auctions for Transmission  
Congestion Contracts**

Dear Ms. Bose:

Pursuant to Section 205 of the Federal Power Act,<sup>1</sup> the New York Independent System Operator, Inc. (“NYISO”) hereby submits proposed revisions to its Open Access Transmission Tariff (“OATT”) and Market Administration and Control Area Services Tariff (“Services Tariff”) to improve the process for reselling previously purchased Transmission Congestion Contracts (“TCCs”) within Centralized TCC Auctions. This filing proposes to offer Market Participants the opportunity to sell previously purchased TCCs in any round of a Centralized TCC Auction, appropriate to their duration, including a round within the same Centralized TCC Auction in which they bought their TCCs, and to make other conforming changes. This new opportunity would replace the two limited Centralized TCC Auction TCC resell options currently available -- the single Reconfiguration round that follows each duration-specific set of rounds or across all the Stage 1 rounds of a specific duration in a subsequent Centralized TCC Auction. The NYISO is not proposing changes to the monthly Reconfiguration Auction process.

Providing Market Participants the opportunity to offer TCCs into any round of the current, or subsequent, Centralized TCC Auction, increases TCC Auction liquidity, benefiting TCC Auction participants and the Energy market as a whole. These Tariff amendments have been approved by the NYISO’s Management Committee and the NYISO Board.

**I. Documents Submitted**

1. This filing letter;

---

<sup>1</sup> 16 U.S.C. §824d (2000).

2. A clean version of the proposed revisions to the NYISO's Open Access Transmission Tariff ("OATT") and Market Administration and Control Area Services Tariff ("Services Tariff") ("Attachment I"); and
3. A black-lined version of the proposed revisions to the NYISO's Open Access Transmission Tariff ("OATT") and Market Administration and Control Area Services Tariff ("Services Tariff") ("Attachment II").

## **II. Background and Justification for Proposal**

The NYISO makes transmission Capacity not being used to support currently valid TCCs or Grandfathered Rights available for purchase as TCCs in Centralized TCC Auctions. The NYISO offers available transmission capacity across a series of duration-specific Stage 1 rounds and runs a Stage 2 Reconfiguration round for each set of duration-specific Stage 1 rounds. The NYISO also administers Reconfiguration Auctions on a monthly basis.

Market Participants may offer previously acquired TCCs (which the Tariff otherwise allows to be sold) in subsequent Centralized TCC Auctions, in Stage 2 Reconfiguration rounds of Centralized TCC Auctions and in monthly Reconfiguration Auctions. Market Participants can also effectively sell previously acquired TCCs by purchasing offsetting TCCs in a subsequent Stage 1 round of a Centralized TCC Auction. That is, they can purchase a TCC of the same duration, but going in the opposite direction, of the TCC they wish to sell and request the NYISO to offset the two equal but opposite TCCs.

The current resale opportunities are limited in their commercial flexibility. Market Participants selling previously-acquired TCCs in Stage 1 rounds of a subsequent Centralized TCC Auction cannot identify a single round in which to offer their TCCs nor can they revise their minimum offer price once the offer has been submitted. The Market Participant is limited to designating a duration into which it wishes to offer each TCC it is proposing to sell and to providing a single floor price. The NYISO treats this as a "global offer" and prorates the transmission Capacity represented by the offered TCCs proportionally across all the Stage 1 rounds of the seller-designated duration using the single floor price provided and pays round-specific market clearing prices for TCC MWs that are actually sold in those rounds.<sup>2</sup>

Reselling TCCs in a Stage 2 Reconfiguration round is similarly limited as it is a single round, duration-specific opportunity to sell TCCs. While the option of selling TCCs by purchasing identical but offsetting TCCs can be used in any round, it can require the Market Participant to post additional credit until the TCCs are offset.

---

<sup>2</sup> The designated Stage 1 rounds must be appropriate to the duration of the TCC being offered – that is, a six-month TCC cannot be offered in the one-year Stage 1 rounds.

As a result of these limitations, Market Participants have worked with the NYISO to design a more liquid and commercially viable resale opportunity. The instant proposal improves TCC resale opportunities by replacing the single, duration-specific, Stage 2 Reconfiguration round with an opportunity for Market Participants to sell TCCs, otherwise allowed to be resold, in any round of a Centralized TCC Auction, appropriate to their duration, including those rounds immediately following the TCC's purchase.<sup>3</sup>

Under this proposal, Market Participants will no longer be limited in their resale opportunities to the single Stage 2 Reconfiguration round or to the multiple rounds of a global offer. It will be up to the Market Participants to choose the round(s) into which they will offer their TCCs, provided such rounds are appropriate to their duration. The market clearing prices they receive will also be specific to the rounds in which they chose to sell their TCCs. With the availability of this new opportunity to resell TCCs in any round of a Centralized TCC Auction, the NYISO and its Market Participants agreed that the Stage 2 and global offer resale opportunities were no longer needed and could be eliminated.<sup>4</sup> The NYISO proposes tariff amendments to Attachment M to add this new capability and to delete the provisions that are no longer necessary, as is more specifically discussed in Section III.

The NYISO also proposes to use this opportunity to clarify other TCC-related provisions. The NYISO proposes to add a definition of the term Sub-Auction and to refer all uses of the term sub-auction in the tariff to the defined term. The NYISO also proposes to replace shorthand phrases such as "auction" or "TCC auction" with the term "Centralized TCC Auction."

These Tariff amendments have been approved by the NYISO's Management Committee and the NYISO Board.

---

<sup>3</sup> An ancillary benefit of the elimination of Stage 2 Reconfiguration rounds is a decrease in the length of the Centralized TCC Auction cycle. A shorter TCC auction cycle offers the NYISO the option to start the TCC auction cycle closer to the effective date of the TCCs being purchased and/or to offer additional rounds or TCC durations within the time frame currently used.

<sup>4</sup> Monthly Reconfiguration auctions offer a useful, month-by-month TCC resale opportunity and they are not being proposed for revision. Similarly, Market Participants can still purchase an offsetting TCC to cancel out an existing TCC.

### **III. Description of Proposed Tariff Revisions**

#### **OATT Body**

The NYISO proposes to add a new section 1.42c.1 to the OATT defining the term “Sub-Auction” and to replace the existing lower-case term “sub-auction” with the new, capitalized term throughout Attachment M. The proposed Section 1.42c.1 would read as follows:

##### **1.42c.1 Sub-Auctions**

The set of rounds in a given Capability Period Auction in which TCCs of a given duration may be purchased.

#### **Attachment M of the OATT**

Throughout Attachment M the NYISO proposes to replace the shorthand phrases, “Auction” and “TCC Auction,” with the phrase “Centralized TCC Auction” wherever necessary. As is more specifically described below, the NYISO also proposes to eliminate the phrases “stage,” “stages,” “two stages,” “stage 1,” and “stage 2,” wherever they appear, to reflect the elimination of the Stage 2 Reconfiguration Auctions. The NYISO also proposes to add clarifying terminology to clearly refer to any round within the Centralized TCC Auction as a Sub-Auction round.

In Section 2.1.2, the NYISO proposes to revise the description of a Fixed Price TCC to eliminate the use of the phrase “Stage 1 rounds” and replace it with the phrase “one-year Sub-Auction rounds.” This revises the terminology while retaining the meaning of the existing language. Since the pricing formula of a Fixed Price TCC may require the NYISO to incorporate market clearing prices from one-year Stage 1 rounds of Centralized TCC Auctions that were conducted before these changes became effective, language has been added to indicate that one-year Sub-Auction-round market clearing prices from Centralized TCC Auctions conducted before May 1, 2010 are those from the Stage 1 one-year rounds of the Centralized TCC Auctions.

The NYISO proposes to eliminate the last sentence on Revised Tariff Sheet 577 describing a Stage 2 Centralized TCC Auction round to reflect the elimination of these rounds in the Auction software.

The NYISO proposes to revise the opening paragraph of Attachment M, Section 9.1, “Auction Structure,” to eliminate language describing the process of making a global offer of TCCs in a subsequent Centralized TCC Auction. The provisions being removed include those that: (i) authorize Primary Holders to offer their TCCs in Stage 1 rounds of the Centralized TCC Auction, (ii) list the limitations and prohibitions set forth in the OATT on such sale opportunities; and (iii) describe the need for such Primary Holders to specify the TCCs they wish to sell before Stage 1 rounds begin.

The NYISO proposes to revise the sentence immediately following the amendment just described to specifically indicate that TCCs purchased in any round of a Sub-Auction may be resold in a subsequent round of that Sub-Auction or a subsequent Sub-Auction appropriate to their duration. The NYISO also proposes to revise the description of sales of previously purchased TCCs in Stage 2 rounds, in the paragraph immediately following these amendments, to apply such rules to sales of TCCs in any Sub-Auction round of a Centralized TCC Auction. Note that these rules apply to TCCs not only previously purchased in the same Centralized TCC Auction but also to TCCs purchased in previous Centralized TCC Auctions, provided they remain valid.

In the unnumbered subsection “Bidding Rounds,” the NYISO proposes to eliminate the description of how the NYISO implements the global offer of previously purchased TCCs into a Centralized TCC Auction for a Primary Holder for the reasons discussed above.

In subsection 9.7, the subsection that describes the manner in which the NYISO pursues round by round Power Flows that are simultaneously feasible, the NYISO is proposing a clarifying change. The NYISO proposes to include TCCs purchased in an earlier round of the current auction among the set of TCCs that need to be accommodated by the Power Flow if they are not being offered for sale in that round, but remain valid. The provision that automatically includes TCCs awarded in earlier rounds (as indicated in subpart (iii)) as fixed injections and withdrawals in the Power Flow, would be eliminated. Such TCCs will be so modeled under this proposal only if they are not being offered for sale in the round or were offered for sale but not sold, as the clarification now makes explicit.

Finally, the NYISO also proposes to eliminate the description, a few paragraphs later, of the set of winning bids which must be accommodated within the simultaneous Power Flow of a Stage 2 reconfiguration round since these rounds are being proposed for elimination.

#### **Attachment N of the OATT**

The NYISO proposes three generic changes to this Attachment. First, the NYISO proposes to capitalize all uses of the term “sub-auctions,” to recognize its use as a defined term. Second, the NYISO proposes to eliminate the terms Stage 1 and Stage 2 as no longer necessary to describe the rounds of a Centralized TCC Auction and to adjust language remaining in the sentence as necessary. Third, the NYISO proposes to insert in the term of several formulas the clarifying phrase:

For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

In Formula N-15, and N-29, this clarification is needed to identify the average market clearing price, needed to calculate imputed revenue from the Direct Sale of Original Residual TCCs and ETCNL, and the imputed value of Grandfathered TCCs and Grandfathered Rights, when the average market clearing price is to be ascertained from 6-month Sub-Auction rounds of a Centralized TCC Auction conducted before May 1, 2010.

#### **Attachment K of the Services Tariff**

Finally, the NYISO proposes to delete five instances of the term “Stage 1” in Attachment K of the Services Tariff to be consistent with the changes made to other portions of the tariff. The NYISO also proposes to add a clarifying phrase in the TCC component of the Operating Requirement formula specifying that for Centralized TCC Auctions conducted prior to May 1, 2010, the average market clearing price used in rounds of the 6-month Sub-Auction are Stage 1 six month rounds. This is the same phrase that the NYISO is proposing to add to the formulas in Attachment N, as discussed above.

#### **IV. Effective Date**

The NYISO requests an effective date of May 31, 2010 for the proposed revisions to its Services Tariff and OATT. The Commission has discretion to waive the sixty day prior notice period and make tariff revisions effective before it closes when “good cause” is shown.<sup>5</sup> Good cause for such a waiver exists in this proceeding because the NYISO wishes to include these changes in NYISO’s eTariff baseline filing due June 2, 2010<sup>6</sup> and such an effective date reduces the notice period by only two days. If the full 60-day period is observed, these changes would not become effective until June 2, 2010, and therefore, could not be included in the baseline filing. All NYISO stakeholders have been on notice that the NYISO would make this filing. Finally, as is noted below, all of the NYISO’s proposed tariff revisions were approved without any negative votes.

#### **V. Requisite Stakeholder Approval**

The NYISO’s Management Committee approved this proposal on February 24, 2010 and the Board approved this proposal on March 16, 2010.

---

<sup>5</sup> See e.g., *California Independent System Operator Corp.*, 113 FERC ¶61, 287 at PP 48-50 (2005).

<sup>6</sup> See e.g., Notice of Date for Submission of Transitional eTariff Baseline Schedules, *New York Indep. Sys. Operator Inc.*, Docket No. RM01-5-000 (December 21, 2009).

**VI. Communications and Correspondence**

All communications and service in this proceeding should be directed to:  
Robert E. Fernandez, General Counsel  
Elaine Robinson, Interim Vice President External Affairs  
\*Mollie Lampi, Assistant General Counsel  
Kristin Bluvas, Attorney  
New York Independent System Operator, Inc.  
10 Krey Boulevard  
Rensselaer, NY 12144  
Tel: (518) 356-8875  
Fax: (518) 356-7678  
[rfernandez@nyiso.com](mailto:rfernandez@nyiso.com)  
[erobinson@nyiso.com](mailto:erobinson@nyiso.com)  
[mlampi@nyiso.com](mailto:mlampi@nyiso.com)  
[kbluvas@nyiso.com](mailto:kbluvas@nyiso.com)

\* Designated to receive service.

**VII. Service**

The NYISO will send an electronic link to this filing to the official representative of each of its customers, to each participant on its stakeholder committees, to the New York Public Service Commission, and to the electric utility regulatory agency of New Jersey. In addition, the complete filing will be posted on the NYISO's website at [www.nyiso.com](http://www.nyiso.com).

**VIII. Conclusion**

Wherefore, for the foregoing reasons, the New York Independent System Operator, Inc. respectfully requests that the Commission accept this filing to be effective May 31, 2010.

Respectfully submitted,

/s/ Mollie Lampi  
Mollie Lampi  
Assistant General Counsel  
New York Independent System Operator, Inc.  
10 Krey Blvd.  
Rensselaer, New York 12144

Honorable Kimberly D. Bose  
April 2, 2010  
Page 8

**Privileged and Confidential**  
**Draft**

(518) 356 7530  
[mlampi@nyiso.com](mailto:mlampi@nyiso.com)

cc: Michael McLaughlin  
Anna Cochrane  
Connie Caldwell  
Michael Bardee  
Kathleen Nieman  
Lance Hinrichs  
Rachel Spiker  
Gregory Berson  
Jeffrey Honeycutt



subsequent Capability Period, as specified in the ISO Procedures. An LSE that elects to obtain Fixed Price TCCs under this paragraph shall pay the same price that the ISO originally offered for the same Fixed Price TCCs with a duration of five years, i.e., the price that the ISO calculated under Section 2.1.2 for Fixed Price TCCs commencing on November 1, 2008 (including the original historic inflation adjustment) for the LSE in advance of the Autumn 2008 Centralized TCC Auction.

All elections under this Section 2.1.1.a shall be made during an election period specified in the ISO Procedures and shall be subject to all of the notification, certification, feasibility and other requirements established under Section 2.1 and the ISO Procedures.

#### **2.1.2 Calculating Prices for Fixed Price TCCs**

Except as is specifically noted below, if an LSE chooses to obtain Fixed Price TCCs pursuant to this Section 2.1 it shall pay a base price per MW/year equal to the average of:

(i) the average of the inflation-adjusted market-clearing prices calculated for TCCs with the POI and POW associated with the Fixed Price TCC in the one-year Sub-Auction rounds of each of the four previous Centralized TCC Auctions. The average adjusted market-clearing price will be determined by first calculating the average market clearing price in the one-year Sub-Auction rounds for each Centralized TCC Auction. One-year Sub-Auction-round market clearing prices from Centralized TCC Auctions conducted before May 1, 2010 are those from the Stage 1 one-year rounds of the Centralized TCC Auctions. The average market-clearing price for the first, second, and third of the four previous Centralized TCC Auctions will then be adjusted for inflation between: (a) the date that TCCs sold in them went into effect, and (b) the start of the Capability Period during which the TCCs sold in the fourth Centralized Auction went into effect; and

The ISO shall apply this methodology as follows:

- (i) first, on the Table 1 ETCNL/TCCs (prior to the conversion of any ETCNL to ETCNL TCCs), and
- (ii) second, on the Table 1 ETCNL/TCCs remaining after conversion into ETCNL TCCs of ETCNL included in such table 1 ETCNL/TCCs.

For purpose of the second reduction, a holder of ETCNL may elect to disaggregate the ETCNL in accordance with ISO Procedures prior to conducting the reduction process. If a TO elects to have its ETCNL disaggregated, the number of MW of ETCNL allocated to that TO specifying each Load Zone as its POW shall be replaced by the same number of MW of ETCNL, specifying the same POI as the original ETCNL, but specifying various buses within that Load Zone as the POWs, as determined in accordance with ISO Procedures.

To the extent more than one model is used in a given Centralized TCC Auction (e.g. to reflect different summer / winter ratings), the ISO shall retest the Table 1 ETCNL/TCCs remaining after reduction so as to avoid reducing the Table 1 ETCNL/TCCs more than is necessary to prevent infeasibility in a given Sub-Auction. However, any Table 1 ETCNL/TCC that is deemed infeasible in one Centralized TCC Auction may be deemed reduced and not eligible for retesting in a subsequent Centralized TCC Auction.

The Initial Centralized TCC Auction will consist of a series of Sub-Auctions, which will be conducted consecutively. In each Sub-Auction, TCCs of a single duration will be available (e.g., only TCCs with a five-year duration might be available in one Sub-Auction). Sub-Auctions will be conducted in decreasing order of the length of the period for which TCCs sold in the Sub-Auction are valid. Therefore, if the ISO were to determine that five years would be the maximum length of TCCs available in the Centralized TCC Auction, then the Sub-Auction for TCCs with a duration of five years would be held first. All TCCs sold in the 5-year TCC Sub-Auction (other than those offered for sale in the next Sub-Auction, as described in Section 9.1) would then be modeled as fixed injections and withdrawals in the next Sub-Auction, in which TCCs of the next longest duration, as determined by the ISO (e.g., four years), would be available for purchase. Following that Sub-Auction, TCCs sold in either of the first two Sub-Auctions (other than those offered for sale in the next Sub-Auction) would then be modeled as fixed injections and withdrawals in the third Sub-Auction (e.g., a Sub-Auction for TCCs with a duration of three years), etc.

Each Sub-Auction shall normally consist of at least four rounds unless the Transmission Owners unanimously consent to fewer rounds. The ISO shall have the authority to determine the percentage of the available transmission Capacity that will be available to support TCCs sold in each round of each Sub-Auction such that all of the transmission Capacity offered for sale in that Sub-Auction shall be offered by the last round of that Sub-Auction. The ISO shall announce these percentages before the Sub-Auctions. The “scaling factor” for each round shall equal the percentage of available transmission Capacity that has not yet been made available to support the sale of TCCs in previous rounds, divided by the percentage of available transmission Capacity that will be made available to support the sale of TCCs in that round.

The ISO shall also determine the maximum duration of TCCs sold in the Centralized TCC Auction, and whether the TCCs sold in Centralized TCC Auction shall be separately available for purchase as on-peak and off-peak TCCs. (For purposes of this Attachment, the on-peak period will include the hours from 7 a.m. to 11 p.m. Prevailing Eastern Time Monday through Friday. The remaining hours in each week will be included in the off-peak period.)

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

TCCs. Reconfiguration Auctions will also capture short-term changes in transmission Capacity. The ISO will conduct Reconfiguration Auctions monthly and TCCs purchased in Reconfiguration Auctions will be valid for the month following the Reconfiguration Auction. A Reconfiguration Auction will consist of a single round. Any Primary Holder of a TCC that is valid for the month in which TCCs are being sold in the Reconfiguration Auction, including a purchaser of a TCC in a Centralized TCC Auction that has not sold that TCC and a Transmission Owner that is the Primary Owner of an ETCNL TCC or RCRR TCC, may offer that TCC for sale in a Reconfiguration Auction; provided however that the sale of TCCs in a Reconfiguration Auction shall be subject to the limitations and prohibitions set forth in this ISO OATT including the limitation on the sale or transfer of Fixed Price TCCs and the limitation on the sale or other transfer of Incremental TCCs. The transmission Capacity used to support these TCCs, as well as any other transmission Capacity not required to support already-outstanding TCCs, will be available to support TCCs purchased in the Reconfiguration Auction.

LIPA may offer transmission Capacity associated with LIPA's Transmission District in a Reconfiguration Auction.

## **9.0 Procedures for Sales of TCCs in Each Auction**

### **9.1 Auction Structure**

Participation in a Sub-Auction -TCCs may be offered for sale in each Sub-Auction round of the Centralized TCC Auction.

TCCs purchased in any round of any Sub-Auction may be resold in a subsequent round of that Sub-Auction. For example, the purchaser of a 5-year TCC purchased in the 5 year Sub-Auction may release a 4-year TCC with the same Point of Injections and Point of Withdrawal for sale in the 4-year Sub-Auction. Similarly, that purchaser could instead release a corresponding 3-year TCC for sale in the 3-year Sub-Auction.

The following holders of TCCs may offer to sell TCCs in any round of a Sub-Auction appropriate to their duration: (i) Primary Holders who did not sell those TCCs in a Direct Sale or in a previous round of the Centralized TCC Auction; (ii) purchasers of TCCs in previous rounds of that Centralized TCC Auction or in previous Auctions who have not subsequently sold those TCCs through an Auction; and (iii) purchasers of TCCs through a Direct Sale who qualify to become Primary Holders and have not already sold those TCCs through an Auction or through a Direct Sale, provided however that the sale of TCCs shall be subject to the limitations and prohibitions set forth in this ISO OATT including the limitation on the sale or transfer of Fixed Price TCCs and the limitation on the sale or other transfer of Incremental TCCs.

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

**Bid Requirements** - Bidders shall submit Bids into the Auction in accordance with this Attachment and ISO Procedures. Bidders shall submit Bids such that the sum of the value of its Bids (excluding Bids for TCCs already held by that bidder) shall not exceed that bidder's ability to pay for TCCs, as determined by ISO Procedures.

**Bidding Rounds** - Bidders shall be awarded TCCs in each round of the Auction and shall be charged the market clearing price for that round, as defined in this Attachment, for all TCCs they purchase.

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

**Reconfiguration Auctions** - All rules stated in this Section 9.0 for the auction rounds of a Centralized TCC Auction shall also apply to Reconfiguration Auctions unless otherwise stated or the context otherwise requires it. The scaling factor for the single round of a Reconfiguration Auction shall be one.

## **9.2 Responsibilities of the ISO**

The ISO shall establish the Auction rules and procedures consistent with this Tariff. The ISO shall conduct the Optimal Power Flows in each round of the Centralized TCC Auction. The ISO will verify that the Optimal Power Flows calculated in each round of the Centralized TCC Auction corresponds to a simultaneously feasible Power Flow as described in Section 9.7 of this Attachment M. The ISO shall



In the Centralized TCC Auction, if the ISO elects to perform separate Auctions for on-peak and off-peak TCCs, the procedure used to select winning Bids in an on-peak Auction will not depend on winning Bids selected in an off-peak Auction; nor shall the procedure used to select winning Bids in an off-peak Auction depend on winning Bids selected in an on-peak Auction.

The market clearing price for each TCC in each round of a Centralized TCC Auction shall be determined using a similar algorithm to that used to determine LBMPs (refer to Attachment J and ISO Procedures). The market clearing price for each TCC shall be based on the lowest winning Bid made in that round for that TCC (or for other TCCs if injections and withdrawals corresponding to those TCCs would have the same impact on flows over congested Interfaces as injections and withdrawals corresponding to that TCC).

#### **9.6 Settlements, Billing, Payment, and Disputes**

Each bidder must pay the market clearing price for each TCC it is awarded in the Centralized TCC Auction

Charges for TCCs awarded in the Centralized TCC Auction, shall be billed upon completion of the Centralized TCC Auction or Reconfiguration Auction process through the delivery of an award notice by the ISO. Charges for Fixed Price TCCs shall be billed in accordance with ISO Procedures.

The ISO shall establish a dispute period following the conclusion of the Centralized TCC Auction during which challenges to awards may be made and mistakes in the calculation of market clearing prices may be corrected. Notice of the dispute period established by the ISO and of procedures to be employed in bringing a dispute or correcting a market clearing price shall be provided by the ISO on its OASIS.

Following the resolution of challenges, if any, to Centralized TCC Auction or Reconfiguration Auction awards, or mistakes in the calculation of market clearing prices, raised during the dispute period, charges and payments for TCCs awarded or sold in the Centralized TCC Auction and Reconfiguration Auction shall be final as provided in the award notices provided by the ISO and shall not be subject to revision.

#### **9.7 Simultaneous Feasibility**

The set of winning Bids selected in each round of a Sub-Auction shall correspond to a simultaneously feasible Power Flow.

The Power Flow must be able to accommodate in each round injections and withdrawals corresponding to each of the following TCCs and Grandfathered Rights: (i) TCCs not offered for sale in that round, including Grandfathered TCCs, Original Residual TCCs, or any other existing TCCs whether purchased in a previous Auction, an earlier round of the current Auction or otherwise acquired that are valid for any part of the duration of any TCCs to be sold in that round; (ii) Grandfathered Rights; and (iii) TCCs awarded in the

current round. Each injection and withdrawal associated with TCCs and Grandfathered Rights will be multiplied by a scaling factor which apportions the transmission Capacity available among each of the rounds.

A set of injections and withdrawals shall be judged simultaneously feasible if it would not cause any thermal, voltage, or stability violations within the NYCA for base case conditions or any monitored contingencies.

When performing Power Flows for the purpose of determining simultaneous feasibility, injections for TCCs that specify a Load Zone as the Point of Injection will be modeled as a set of injections at each Load bus in the

Issued by: Stephen G. Whitley, President  
Issued on: April 2,, 2010

Effective: May 31, 2010

The ISO will make available information about Secondary Market transactions, and all sales of TCCs by Direct Sale, to the extent received by the ISO.

#### **10.0 End-State Auctions for TCCs**

Upon the completion of more sophisticated Auction software, the ISO will perform an End-State Auction, which will permit the Bids submitted by Auction participants to determine the lengths of the TCCs sold in the Auction. The End-State Auction will be held annually. The date for the first End-State Auction shall be determined by the ISO. The period during which each TCC sold in an End-State Auction is valid shall begin on the beginning date of a Capability Period, and shall conclude on the ending date of a Capability Period.

The ISO will determine the maximum duration and minimum duration of the TCCs available in the End-State Auctions. The ISO shall have the authority to determine the percentage of the available transmission Capacity that will be sold in each round of the Auction. The ISO shall announce these percentages before the Auction. The ISO shall also determine the periods for which TCCs will be sold in End-State Auctions (e.g., TCCs valid during on-peak and off-peak periods, or TCCs valid during Winter and Summer Capability Periods). The ISO may elect to vary the duration or the periods for which TCCs will be available from one End-State Auction to the next End-State Auction.

The End-State Auction will not include separate Sub-Auctions for TCCs of different durations. Instead, TCCs of each permitted duration will be allocated as the result of the operation of a single Auction. If a Market Participant wishes to purchase a TCC beginning in the Summer Capability Period of 2003, and ending in the Winter Capability Period of 2004-2005, it would submit a single Bid for this TCC. If that Bid is a winning Bid, the bidder would be awarded a TCC valid for the entire two year-long period; if the Bid is a losing Bid, the bidder would not receive the TCC for any portion of this period. The ISO will not specify in advance the portion of system transmission Capacity that will be used to create TCCs of differing durations. Rather, the durations of TCCs awarded will be determined as part of the objective of the Auction, and will depend on the Bids submitted by participants in the Auction.

In a given round of the End-State Auction, the Market-Clearing Price determined for a TCC that is valid for multiple Capability Periods will equal the sum of the Market-Clearing Prices for shorter-term TCCs with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the longer-term TCC is valid. (For example, the price of a TCC that is valid from May 2001 through April 2003 would equal the sum of the prices in that round for (1) TCCs valid from May 2001 through April 2002 and (2) TCCs valid from May 2002 through April 2003.)

The End-State Auction will include multiple rounds of bidding, as described elsewhere in this Attachment.

subsequent Capability Period, as specified in the ISO Procedures. An LSE that elects to obtain Fixed Price TCCs under this paragraph shall pay the same price that the ISO originally offered for the same Fixed Price TCCs with a duration of five years, i.e., the price that the ISO calculated under Section 2.1.2 for Fixed Price TCCs commencing on November 1, 2008 (including the original historic inflation adjustment) for the LSE in advance of the Autumn 2008 Centralized TCC Auction.

All elections under this Section 2.1.1.a shall be made during an election period specified in the ISO Procedures and shall be subject to all of the notification, certification, feasibility and other requirements established under Section 2.1 and the ISO Procedures.

## **2.1.2 Calculating Prices for Fixed Price TCCs**

Except as is specifically noted below, if an LSE chooses to obtain Fixed Price TCCs pursuant to this Section 2.1 it shall pay a base price per MW/year equal to the average of:

(i) the average of the inflation-adjusted market-clearing prices calculated for TCCs with ~~a duration of one year and~~ the POI and POW associated with the Fixed Price TCC in the one-year Sub-Auction~~Stage 1~~ rounds of each of the four previous Centralized TCC Auctions. The average adjusted market-clearing price will be determined by first calculating the average market clearing price in the one-year Sub-Auction~~Stage 1~~ rounds for each Centralized TCC Auction. One-year Sub-Auction-round market clearing prices from Centralized TCC Auctions conducted before May 1, 2010 are those from the Stage 1 one-year rounds of the Centralized TCC Auctions. The average market-clearing price for the first, second, and third of the four previous Centralized TCC Auctions will then be adjusted for inflation between: (a) the date that TCCs sold in them went into effect, and (b) the start of the Capability Period during which the TCCs sold in the fourth Centralized Auction went into effect; and

The ISO shall apply this methodology as follows:

- (i) first, on the Table 1 ETCNL/TCCs (prior to the conversion of any ETCNL to ETCNL TCCs), and
- (ii) second, on the Table 1 ETCNL/TCCs remaining after conversion into ETCNL TCCs of ETCNL included in such table 1 ETCNL/TCCs.

For purpose of the second reduction, a holder of ETCNL may elect to disaggregate the ETCNL in accordance with ISO Procedures prior to conducting the reduction process. If a TO elects to have its ETCNL disaggregated, the number of MW of ETCNL allocated to that TO specifying each Load Zone as its POW shall be replaced by the same number of MW of ETCNL, specifying the same POI as the original ETCNL, but specifying various buses within that Load Zone as the POWs, as determined in accordance with ISO Procedures.

To the extent more than one model is used in a given Centralized TCC Auction (e.g. to reflect different summer / winter ratings), the ISO shall retest the Table 1 ETCNL/TCCs remaining after reduction so as to avoid reducing the Table 1 ETCNL/TCCs more than is necessary to prevent infeasibility in a given Sub-Auction. However, any Table 1 ETCNL/TCC that is deemed infeasible in one Centralized TCC Auction may be deemed reduced and not eligible for retesting in a subsequent Centralized TCC Auction.

The Initial Centralized TCC Auction will consist of -a series of ~~S~~sub-~~A~~uctions, which will be conducted consecutively. In each ~~S~~sub-~~A~~uction, TCCs of a single duration will be available (e.g., only TCCs with a five-year duration might be available in one ~~S~~sub-~~A~~uction). Sub-~~A~~uctions will be conducted in decreasing order of the length of the period for which TCCs sold in the ~~S~~sub-~~A~~uction are valid. Therefore, if the ISO were to determine that five years would be the maximum length of TCCs available in the Centralized TCC Auction, then the ~~S~~sub-~~A~~uction for TCCs with a duration of five years would be held first. All TCCs sold in the 5-year TCC ~~S~~sub-~~A~~uction (other than those offered for sale in the next ~~S~~sub-~~A~~uction, as described in Section 9.1) would then be modeled as fixed injections and withdrawals in the next ~~S~~sub-~~A~~uction, in which TCCs of the next longest duration, as determined by the ISO (e.g., four years), would be available for purchase. Following that ~~S~~sub-~~A~~uction, -TCCs sold in either of the first two ~~S~~sub-~~A~~uctions (other than those offered for sale in the next ~~S~~sub-~~A~~uction) would then be modeled as fixed injections and withdrawals in the third ~~S~~sub-~~A~~uction (e.g., a ~~S~~sub-~~A~~uction for TCCs with a duration of three years), etc.



Each ~~S~~<sup>sub-</sup>~~A~~<sup>auction</sup> shall normally consist of ~~two stages. Stage 1 of each sub-~~  
~~auction shall consist of~~ at least four rounds unless the Transmission Owners unanimously  
consent to fewer rounds. The ISO shall have the authority to determine the percentage of  
the available transmission ~~C~~<sup>e</sup>apacity that will be available to support TCCs sold in each  
round of each ~~S~~<sup>sub-</sup>~~A~~<sup>auction</sup> such that all of the ~~TCCs~~<sup>transmission Capacity</sup> offered for  
sale in ~~Stage 1 that Sub-Auction~~ shall be offered by the last round of ~~Stage 1 that Sub-~~  
~~Auction~~. The ISO shall announce these percentages before the ~~S~~<sup>sub-</sup>~~A~~<sup>auctions</sup>. The  
“scaling factor” for each round ~~in Stage 1~~ shall equal the percentage of available  
transmission ~~C~~<sup>e</sup>apacity that has not yet been made available to support the sale of TCCs  
in previous rounds ~~of Stage 1~~, divided by the percentage of available transmission  
~~C~~<sup>e</sup>apacity that will be made available to support the sale of TCCs in that round ~~of Stage~~  
~~1~~.

The ISO shall also determine the maximum duration of TCCs sold in the  
Centralized TCC Auction, and whether the TCCs sold in Centralized TCC Auction shall  
be separately available for purchase as on-peak and off-peak TCCs. (For purposes of this  
Attachment, the on-peak period will include the hours from 7 a.m. to 11 p.m. Prevailing  
Eastern Time Monday through Friday. The remaining hours in each week will be  
included in the off-peak period.)

~~Stage 2 of the Centralized TCC Auction shall consist of one round.~~

TCCs. Reconfiguration Auctions will also capture short-term changes in transmission Capacity. The ISO will conduct Reconfiguration Auctions monthly and TCCs purchased in Reconfiguration Auctions will be valid for the month following the Reconfiguration Auction. A Reconfiguration Auction will consist of a single round. Any Primary Holder of a TCC that is valid for the month in which TCCs are being sold in the Reconfiguration Auction, including a purchaser of a TCC in a Centralized TCC Auction that has not sold that TCC and a Transmission Owner that is the Primary Owner of an ETCNL TCC or RCRR TCC, may offer that TCC for sale in a Reconfiguration Auction; provided however that the sale of TCCs in a Reconfiguration Auction shall be subject to the limitations and prohibitions set forth in this ISO OATT including the limitation on the sale or transfer of Fixed Price TCCs and the limitation on the sale or other transfer of Incremental TCCs. The transmission Capacity used to support these TCCs, as well as any other transmission Capacity not required to support already-outstanding TCCs, will be available to support TCCs purchased in the Reconfiguration Auction.

LIPA may offer transmission Capacity associated with LIPA's Transmission District in a Reconfiguration Auction.

## **9.0 Procedures for Sales of TCCs in Each Auction**

### **9.1 Auction Structure**

Participation in a Sub-Auction~~Stage 1 and Stage 2~~ -TCCs may be offered for sale in each ~~stage~~Sub-Auction round of the Centralized TCC Auction. ~~Primary Holders (who have not sold their TCCs in a Direct Sale)~~

~~may offer TCCs for sale in Stage 1 provided however that the sale of TCCs in a Stage 1 Auction shall be subject to the limitations and prohibitions set forth in this ISO OATT including the limitation on the sale or transfer of Fixed Price TCCs and the limitation on the sale or other transfer of Incremental TCCs. If a Primary Holder wishes to offer TCCs for sale, it must specify all of the TCCs it wishes to offer in Stage 1 before Stage 1 begins.~~

TCCs purchased in any round of any sSub-Auction may be resold in a subsequent round of that sSub-Auction. For example, the purchaser of a 5-year TCC purchased in the 5 year Ssub-Auction may release a 4-year TCC with the same Point of Injections and Point of Withdrawal for sale in the 4-year Ssub-Auction. Similarly, that purchaser could instead release a corresponding 3-year TCC for sale in the 3-year Ssub-Auction.

The following holders of TCCs may offer to sell TCCs in ~~the any~~ round of a Sub-Auction appropriate to their duration ~~Stage 2~~: (i) Primary Holders who did not sell those TCCs in a Direct Sale or in a previous round of the Centralized TCC Auction ~~(in either Stage 1 or Stage 2)~~; (ii) purchasers of TCCs in previous rounds of that Centralized TCC Auction or in previous Auctions who have not subsequently sold those TCCs through an Auction; and (iii) purchasers of TCCs through a Direct Sale who qualify to become Primary Holders and have not already sold those TCCs through an Auction or through a Direct Sale, provided however that the sale of TCCs ~~in a Stage 2 Auction~~ shall be subject to the limitations and prohibitions set forth in this ISO OATT including the limitation on the sale or transfer of Fixed Price TCCs and the limitation on the sale or other transfer of Incremental TCCs.-

**Bid Requirements** - Bidders shall submit Bids into the Auction in accordance with this Attachment and ISO Procedures. Bidders shall submit Bids such that the sum of the value of its Bids (excluding Bids for TCCs already held by that bidder) shall not exceed that bidder's ability to pay for TCCs, as determined by ISO Procedures.

**Bidding Rounds** - Bidders shall be awarded TCCs in each round of the Auction and shall be charged the market clearing price for that round, as defined in this Attachment, for all TCCs they purchase. ~~For purposes of determining payments to Primary Holders who release TCCs into the Auction, each Primary Holder that offers TCCs for sale in Stage 1 of the sub-auction shall be deemed to have offered a portion of those TCCs for sale in each round of Stage 1 with that portion equal to the ratio of (1) the percentage of available transmission Capacity that will be made available to support the sale of TCCs in each round of Stage 1 of that sub-auction to (2) the percentage of available transmission Capacity that will be made available to support the sale of TCCs in all rounds of Stage 1 of that sub-auction~~

**Reconfiguration Auctions** - All rules stated in this Section 9.0 for the auction rounds~~Stage 1~~ of a Centralized TCC Auction shall also apply to Reconfiguration Auctions unless otherwise stated or the context otherwise requires it. The scaling factor for the single round of a Reconfiguration Auction shall be one.

## **9.2 Responsibilities of the ISO**

The ISO shall establish the Auction rules and procedures consistent with this Tariff. The ISO shall conduct the Optimal Power Flows in each round of the Centralized TCC Auction. The ISO will verify that the Optimal Power Flows calculated in each round of the Centralized TCC Auction corresponds to a simultaneously feasible Power Flow as described in Section 9.7 of this Attachment M. The ISO shall

In the Centralized TCC Auction, if the ISO elects to perform separate Auctions for on-peak and off-peak TCCs, the procedure used to select winning Bids in an on-peak Auction will not depend on winning Bids selected in an off-peak Auction; nor shall the procedure used to select winning Bids in an off-peak Auction depend on winning Bids selected in an on-peak Auction.

The market clearing price for each TCC in each round ~~of Stages 1 and 2~~ of a Centralized TCC Auction shall be determined using a similar algorithm to that used to determine LBMPs (refer to Attachment J and ISO Procedures). The market clearing price for each TCC shall be based on the lowest winning Bid made in that round for that TCC (or for other TCCs if injections and withdrawals corresponding to those TCCs would have the same impact on flows over congested Interfaces as injections and withdrawals corresponding to that TCC).

## **9.6 Settlements, Billing, Payment, and Disputes**

Each bidder must pay the market clearing price for each TCC it is awarded in the Centralized TCC Auction

Charges for TCCs awarded in the Centralized TCC Auction, shall be billed upon completion of the Centralized TCC Auction or Reconfiguration Auction process through the delivery of an award notice by the ISO. Charges for Fixed Price TCCs shall be billed in accordance with ISO Procedures.

The ISO shall establish a dispute period following the conclusion of the Centralized TCC Auction during which challenges to awards may be made and mistakes in the calculation of market clearing prices may be corrected. Notice of the dispute period established by the ISO and of procedures to be employed in bringing a dispute or correcting a market clearing price shall be provided by the ISO on its OASIS.

Following the resolution of challenges, if any, to Centralized TCC Auction or Reconfiguration Auction awards, or mistakes in the calculation of market clearing prices, raised during the dispute period, charges and payments for TCCs awarded or sold in the Centralized TCC Auction and Reconfiguration Auction shall be final as provided in the award notices provided by the ISO and shall not be subject to revision.

#### **9.7 Simultaneous Feasibility**

The set of winning Bids selected in each round of ~~a Sub-Auction~~~~Stage 1~~ shall correspond to a simultaneously feasible Power Flow.

The Power Flow must be able to accommodate in each ~~Stage 1~~ round injections and withdrawals corresponding to each of the following TCCs and Grandfathered Rights: (i) TCCs not offered for sale in ~~that round~~~~Stage 1~~, including Grandfathered TCCs, Original Residual TCCs, or any other existing TCCs whether purchased in a previous Auction, an earlier round of the current Auction or otherwise acquired that are valid for any part of the duration of any TCCs to be sold in ~~Stage 1~~that round; (ii) Grandfathered Rights; and (iii) ~~TCCs awarded in earlier rounds of Stage 1 (if applicable); and (iv) TCCs awarded in the~~

current round ~~of Stage 1~~. Each injection and withdrawal associated with TCCs and Grandfathered Rights will be multiplied by a scaling factor which apportions the transmission Capacity available ~~in Stage 1~~ among each of the rounds ~~in Stage 1~~.

~~The set of winning Bids selected in the Stage 2 round shall correspond to a simultaneously feasible Power Flow that can accommodate injections and withdrawals corresponding to the following: (i) TCCs not offered for sale in the current round of Stage 2 of the Centralized TCC Auction which include Grandfathered TCCs, Original Residual TCCs, or any other existing TCCs whether purchased in a previous round or Centralized TCC Auction or otherwise acquired that are valid for any part of the duration of any TCCs to be sold in Stage 2; (ii) Grandfathered Rights; and (iii) TCCs awarded in the current round of Stage 2.~~

A set of injections and withdrawals shall be judged simultaneously feasible if it would not cause any thermal, voltage, or stability violations within the NYCA for base case conditions or any monitored contingencies.

When performing Power Flows for the purpose of determining simultaneous feasibility, injections for TCCs that specify a Load Zone as the Point of Injection will be modeled as a set of injections at each Load bus in the



The ISO will make available information about Secondary Market transactions, and all sales of TCCs by Direct Sale, to the extent received by the ISO.

#### **10.0 ~~Phase 2:~~ End-State Auctions for TCCs**

Upon the completion of more sophisticated Auction software, the ISO will perform an End-State Auction, which will permit the Bids submitted by Auction participants to determine the lengths of the TCCs sold in the Auction. The End-State Auction will be held annually. The date for the first End-State Auction shall be determined by the ISO. The period during which each TCC sold in an End-State Auction is valid shall begin on the beginning date of a Capability Period, and shall conclude on the ending date of a Capability Period.

The ISO will determine the maximum duration and minimum duration of the TCCs available in the End-State Auctions. The ISO shall have the authority to determine the percentage of the available transmission Capacity that will be sold in each round of the Auction. The ISO shall announce these percentages before the Auction. The ISO shall also determine the periods for which TCCs will be sold in End-State Auctions (e.g., TCCs valid during on-peak and off-peak periods, or TCCs valid during Winter and Summer Capability Periods). The ISO may elect to vary the duration or the periods for which TCCs will be available from one End-State Auction to the next End-State Auction.

The End-State Auction will not include separate Sub-Auctions for TCCs of different durations. Instead, TCCs of each permitted duration will be allocated as the result of the operation of a single Auction. If a Market Participant wishes to purchase a TCC beginning in the Summer Capability Period of 2003, and ending in the Winter Capability Period of 2004-2005, it would submit a single Bid for this TCC. If that Bid is a winning Bid, the bidder would be awarded a TCC valid for the entire two year-long period; if the Bid is a losing Bid, the bidder would not receive the TCC for any portion of this period. The ISO will not specify in advance the portion of system transmission Capacity that will be used to create TCCs of differing durations. Rather, the durations of TCCs awarded will be determined as part of the objective of the Auction, and will depend on the Bids submitted by participants in the Auction.

In a given round of the End-State Auction, the Market-Clearing Price determined for a TCC that is valid for multiple Capability Periods will equal the sum of the Market-Clearing Prices for shorter-term TCCs with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the longer-term TCC is valid. (For example, the price of a TCC that is valid from May 2001 through April 2003 would equal the sum of the prices in that round for (1) TCCs valid from May 2001 through April 2002 and (2) TCCs valid from May 2002 through April 2003.)

The End-State Auction will include ~~two stages, with each stage including~~ multiple rounds of bidding, as described elsewhere in this Attachment.

- (a) The sum of the amounts calculated in accordance with the appropriate per TCC term-based formula listed below for TCC purchases less the amounts calculated in accordance with the appropriate per TCC term-based formula listed below for TCC sales:

**for two-year TCCs:**

- (1) upon initial award of a two-year TCC until completion of the final round of the current one-year TCC auction:

$$2 \quad \times \quad \text{the amount calculated in accordance with the one-year TCC formula listed below}$$

where:

Pijt = auction price of a one-year TCC in the final round of the prior Capability Period TCC auction with the same POI and POW combination as the two-year TCC; *provided, however*, in the event there is no price for a one-year TCC with the same POI and POW combination as the two-year TCC, then “Pijt” shall equal a proxy price, assigned by the NYISO, for a one-year TCC with like characteristics. For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

- (2) upon completion of the final round of the current one-year TCC auction until commencement of year two of a two-year TCC:

$$2 \quad \times \quad \text{the amount calculated in accordance with the one-year TCC formula listed below}$$

where:

Pijt = auction price of a one-year TCC in the final round of the current one-year TCC auction with the same POI and POW combination as the two-year TCC

(3) upon commencement of year two of a two-year TCC:

1 x the amount calculated in accordance with the one-year TCC formula listed below

where:

$P_{ijt}$  = auction price of a one-year TCC in the final round of the most recently completed one-year TCC auction with the same POI and POW combination as the two-year TCC. For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

**for one-year TCCs, representing a 5% probability curve:**

$$+1.909 \sqrt{e^{10.9729 + .6514 (\ln(|P_{ijt}| + e)) + .6633 * Zone J}} - .9696 P_{ijt}$$

**for six-month TCCs, representing a 3% probability curve:**

$$+2.565 \sqrt{e^{11.6866 + .4749 (\ln(|P_{ijt}| + e)) + .4856 * Zone J - .0373 Summer}} - .8166 P_{ijt}$$

**for one-month TCCs, representing a 3% probability curve:**

$$+2.221 \sqrt{e^{11.2682 + 0.3221 (\ln(|P_{ijt}| + e)) + 1.3734 * Zone J + 2.001 * Zone K + Month}} - .8152 P_{ijt}$$

where:

$P_{ijt}$  = auction price of i to j TCC in round t of the auction in which the TCC was purchased;

Zone J = 1 if TCC sources or sinks but not both in Zone J, zero otherwise;

Zone K = 1 if TCC sources or sinks but not both in Zone K and does not source or sink in Zone J, 0 otherwise;

Summer = 1 for six-month TCCs sold in the spring auction, 0 otherwise; and

- (a) The sum of the amounts calculated in accordance with the appropriate per TCC term-based formula listed below for TCC purchases less the amounts calculated in accordance with the appropriate per TCC term-based formula listed below for TCC sales:

**for two-year TCCs:**

- (1) upon initial award of a two-year TCC until completion of the final ~~Stage 1~~ round of the current one-year TCC auction:

$$2 \quad \times \quad \text{the amount calculated in accordance with the one-year TCC formula listed below}$$

where:

Pijt = auction price of a one-year TCC in the final ~~Stage 1~~ round of the prior Capability Period TCC auction with the same POI and POW combination as the two-year TCC; *provided, however*, in the event there is no price for a one-year TCC with the same POI and POW combination as the two-year TCC, then “Pijt” shall equal a proxy price, assigned by the NYISO, for a one-year TCC with like characteristics. [For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.](#)

- (2) upon completion of the final ~~Stage 1~~ round of the current one-year TCC auction until commencement of year two of a two-year TCC:

$$2 \quad \times \quad \text{the amount calculated in accordance with the one-year TCC formula listed below}$$

where:

Pijt = auction price of a one-year TCC in the final ~~Stage 1~~ round of the current one-year TCC auction with the same POI and POW combination as the two-year TCC

(3) upon commencement of year two of a two-year TCC:

1 x the amount calculated in accordance with the one-year TCC formula listed below

where:

$P_{ijt}$  = auction price of a one-year TCC in the final ~~Stage 1~~ round of the most recently completed one-year TCC auction with the same POI and POW combination as the two-year TCC. For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

**for one-year TCCs, representing a 5% probability curve:**

$$+1.909 \sqrt{e^{10.9729 + .6514 (\ln(|P_{ijt}| + e)) + .6633 * Zone J}} - .9696 P_{ijt}$$

**for six-month TCCs, representing a 3% probability curve:**

$$+2.565 \sqrt{e^{11.6866 + .4749 (\ln(|P_{ijt}| + e)) + .4856 * Zone J - .0373 Summer}} - .8166 P_{ijt}$$

**for one-month TCCs, representing a 3% probability curve:**

$$+2.221 \sqrt{e^{11.2682 + 0.3221 (\ln(|P_{ijt}| + e)) + 1.3734 * Zone J + 2.001 * Zone K + Month}} - .8152 P_{ijt}$$

where:

$P_{ijt}$  = auction price of i to j TCC in round t of the auction in which the TCC was purchased;

Zone J = 1 if TCC sources or sinks but not both in Zone J, zero otherwise;

Zone K = 1 if TCC sources or sinks but not both in Zone K and does not source or sink in Zone J, 0 otherwise;

Summer = 1 for six-month TCCs sold in the spring auction, 0 otherwise; and

## **Section 1.2. Defined Terms Used in Attachment N**

Capitalized terms used in this Attachment N shall have the meaning specified below in this Section 1.2, and capitalized terms used in this Attachment N but not defined below shall have the meaning given to them in Section 1.0 of the OATT:

Actual Qualifying Auction Derating: As defined in Section 3.6.3.1.

Actual Qualifying Auction Outage: As defined in Section 3.6.2.1.

Actual Qualifying Auction Return-to-Service: As defined in Section 3.6.2.1.

Actual Qualifying Auction Upgrading: As defined in Section 3.6.3.1.

Actual Qualifying DAM Derating: As defined in Section 2.4.3.1.

Actual Qualifying DAM Outage: As defined in Section 2.4.2.1.

Actual Qualifying DAM Return-to-Service: As defined in Section 2.4.2.1.

Actual Qualifying DAM Upgrading: As defined in Section 2.4.3.1.

Auction Status Change: Any of the following: Qualifying Auction Outage, Qualifying Auction Derating, Qualifying Auction Return-to-Service, or Qualifying Auction Upgrading.

Centralized TCC Auction Interface Uprate/Derate Table: The interface derate table posted on the ISO website prior to a given Centralized TCC Auction specifying the impact on transfer limits of Qualifying DAM Outages and Qualifying DAM Returns-to-Service for a Sub-Auction of a Centralized TCC Auction.

DAM Constraint Residual: The dollar value associated with a Constraint that is binding for an hour of the Day-Ahead Market, which is calculated pursuant to Section 2.4.1.

DAM Status Change: Any of the following: Qualifying DAM Outage, Qualifying DAM Derating, Qualifying DAM Return-to-Service, or Qualifying DAM Upgrading.

DCR Allocation Threshold: Five thousand dollars (\$5,000), except that this amount shall be reduced for any given month to the extent necessary so that the sum of all DAM Constraint Residuals for the month (for all binding constraints and for all hours of the month) that are less than the DCR Allocation Threshold is not greater than either two hundred and fifty thousand dollars (\$250,000) or five percent (5%) of the sum of all DAM Constraint Residuals for the month (for all binding constraints and for all hours of the month) that would have been calculated if the DCR Allocation Threshold were set equal to zero.

Deemed Qualifying Auction Derating: As defined in Section 3.6.3.1.

Deemed Qualifying Auction Outage: As defined in Section 3.6.2.1.

Deemed Qualifying Auction Return-to-Service: As defined in Section 3.6.2.1.

Deemed Qualifying Auction Upgrading: As defined in Section 3.6.3.1.

Deemed ISO-Directed Auction Status Change: Any of the following: (1) an Actual Qualifying Auction Return-to-Service for a Reconfiguration Auction that occurs for a transmission facility that, in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction, was a Qualifying Auction Outage that qualified as an ISO-Directed Auction Status Change; (2) an Actual Qualifying Auction Upgrading for a Reconfiguration Auction that occurs as a result of an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service of a transmission facility that, in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction, qualified as a Qualifying Auction Outage or Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change; or (3) an Actual Qualifying Auction Derating for a Reconfiguration Auction that occurs as a result of an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service of a transmission facility that, in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction, qualified as an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change.



Deemed ISO-Directed DAM Status Change: Any of the following: (1) an Actual Qualifying DAM Return-to-Service for an hour of the Day-Ahead Market that occurs for a transmission facility that, in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month Sub-Auction of a Centralized TCC Auction held for TCCs valid for the relevant hour, was an Actual Qualifying Auction Outage that qualified as an ISO-Directed Auction Status Change; (2) an Actual Qualifying DAM Upgrading for an hour of the Day-Ahead Market that occurs for a transmission facility that, in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month Sub-Auction of a Centralized TCC Auction held for TCCs valid for the relevant hour, qualified as an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change; or (3) an Actual Qualifying DAM Derating for an hour of the Day-Ahead Market that occurs for a transmission facility that, in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month Sub-Auction of a Centralized TCC Auction held for TCCs valid for the relevant hour, qualified as an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change. (The terms "Actual Qualifying Auction Outage" and "ISO-Directed Auction Status Change" shall, if not defined in this Section 1.2, have the meaning given in the ISO's March 17, 2006, filing.)

Deemed Qualifying DAM Derating: As defined in Section 2.4.3.1.

Deemed Qualifying DAM Outage: As defined in Section 2.4.2.1.

Deemed Qualifying DAM Return-to-Service: As defined in Section 2.4.2.1.

Deemed Qualifying DAM Upgrading: As defined in Section 2.4.3.1.

ISO-Directed Auction Status Change: Either of the following: (1) an Actual Qualifying Auction Outage for a Reconfiguration Auction or a round of a Centralized TCC Auction that is directed by the ISO or results from an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service directed by the ISO; or (2) an Actual Qualifying Auction Derating or an Actual Qualifying Auction Upgrading for a Reconfiguration Auction or a round of a Centralized TCC Auction that results from an Actual Qualifying Auction Outage directed by the ISO.

**Section 2.4.4.2. Shared Responsibility For Outages, Returns-to-Service, and Ratings Changes Directed by the ISO or Caused by Facility Status Changes Directed by the ISO**

A Transmission Owner shall not be responsible for any DAM Status Change that qualifies as an ISO-Directed DAM Status Change or Deemed ISO-Directed DAM Status Change. Instead, the ISO shall allocate any revenue impacts resulting from a DAM Status Change that qualifies as an ISO-Directed DAM Status Change or Deemed ISO-Directed DAM Status Change as part of Net Congestion Rents for hour  $h$ . To do so, the ISO shall be treated as a Transmission Owner when allocating DAM Constraint Residuals pursuant to Section 2.4.2 and Section 2.4.3, and any DAM Status Change that qualifies as an ISO-Directed DAM Status Change or Deemed ISO-Directed DAM Status Change shall be attributed to the ISO when performing the calculations described in Section 2.4.2 and Section 2.4.3; *provided, however*, any O/R-t-S Congestion Rent Shortfall Charge, U/D Congestion Rent Shortfall Charge, O/R-t-S Congestion Rent Surplus Payment, or U/D Congestion Rent Surplus Payment allocable to the ISO pursuant to this Section 2.4.4.2 shall ultimately be allocated to the Transmission Owners as Net Congestion Rents pursuant to Section 2.5.

Responsibility for a Qualifying DAM Return-to-Service or Qualifying DAM Upgrading that is directed by the ISO but does not qualify as a Deemed ISO-Directed DAM Status Change shall be assigned to the Transmission Owner that was responsible for the Qualifying Auction Outage or Qualifying Auction Derating in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month Sub-Auction of a Centralized TCC Auction held for TCCs valid for the relevant hour.

equal to the product of (i)  $NCR_m$ , and (ii) the allocation factor for Transmission Owner  $t$  for month  $m$ , as calculated pursuant to Formula N-15.

Formula N-15

$$\text{AllocationFactor}_{t,m} = \frac{\left( \text{Original Residual}_{t,m} + \text{ETCNL}_{t,m} + \text{NARs}_{t,m} + \text{GFR\&GFTCC}_{t,m} \right)}{\sum_{q \in T} \left( \text{Original Residual}_{q,m} + \text{ETCNL}_{q,m} + \text{NARs}_{q,m} + \text{GFR\&GFTCC}_{q,m} \right)}$$

Where,

$\text{Allocation Factor}_{t,m}$  = The allocation factor used by the ISO to allocate a share of the Net Congestion Rents to Transmission Owner  $t$  for month  $m$

$\text{Original Residual}_{q,m}$  = The one-month portion of the revenue imputed to the Direct Sale or the sale in any Centralized TCC Auction Sub-Auction of Original Residual TCCs that are valid in month  $m$ . The one-month portion of the revenue imputed to the Direct Sale of these Original Residual TCCs shall be the market clearing price of the TCCs in the Reconfiguration Auction held for month  $m$  (or one-sixth of the average market clearing price in the rounds of the 6-month Sub-Auction of the last Centralized TCC Auction if no Reconfiguration Auction was held for month  $m$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.). The one-month portion of the revenue imputed to the sale in any Centralized TCC Auction Sub-Auction of these Original Residual TCCs shall be calculated by dividing the revenue received from the sale of these Original Residual TCCs in the Centralized TCC Auction Sub-Auction by the duration in months of the TCCs sold in that Centralized TCC Auction Sub-Auction.

$ETCNL_{q,m}$  = The sum of the one-month portion of the revenue the Transmission Owner has received as payment for the Direct Sale of ETCNL or for its ETCNL released in the Centralized TCC Auction Sub-Auction held for TCCs valid for month  $m$ . Each one-month portion of the revenue for ETCNL released in such Centralized TCC Auction shall be calculated by dividing the revenue received in a Centralized TCC Auction Sub-Auction from the sale of the ETCNL by the duration in months of the TCCs corresponding to the ETCNL sold in the Centralized TCC Auction Sub-Auction.<sup>1</sup> The one-month portion of the revenue imputed to the Direct Sale of ETCNL shall be the value of the TCCs corresponding to that ETCNL in the Reconfiguration Auction held for month  $m$  (or one-sixth of the average market clearing price of such TCCs in the rounds of the 6-month Sub-Auction of the last Centralized TCC Auction if no Reconfiguration Auction was held for month  $m$ ). For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

---

2 A TCC corresponds to ETCNL if it has the same POI and POW as the ETCNL.

$NAR_{s,q,m}$  = The one-month portion of the Net Auction Revenues the Transmission Owner has received in Centralized TCC Auction Sub-Auctions and Reconfiguration Auctions held for TCCs valid for month  $m$  (which shall not include any revenue from the sale of Original Residual TCCs). The one-month portion of the revenues shall be calculated by summing (i) the revenue Transmission Owner  $q$  received in each Centralized TCC Auction Sub-Auction or Reconfiguration Auction from the allocation of Net Auction Revenue pursuant to Section 3.7, divided by the duration in months of the TCCs sold in the Centralized TCC Auction Sub-Auction or Reconfiguration Auction (or, to the extent TCC auction revenues were allocated pursuant to a different methodology, the amount of such revenues allocated to Transmission Owner  $q$ ), minus (ii) the sum of  $NetAuctionAllocations_{t,n}$  as calculated pursuant to Formula N-27 (as adjusted for any charges or payments that are zeroed out) for Transmission Owner  $q$  for all 6-month Sub-Auction rounds  $n$  of all Centralized TCC Auctions held for TCCs valid in month  $m$ , divided in each case by the duration in months of the TCCs sold in each Centralized TCC Auction Sub-Auction (or, to the extent that the revenue impact of transmission facility outages, returns-to-service, upratings, and deratings were settled pursuant to a different methodology, the net of such revenue impacts for Transmission Owner  $q$ ), minus (iii)  $NetAuctionAllocations_{t,n}$  as calculated pursuant to Formula N-27 and as adjusted for any charges or payments that are zeroed out for Transmission Owner  $q$  for the Reconfiguration Auction  $n$  held for month  $m$  (or, to the extent that the revenue impact of transmission facility outages, returns-to-service, upratings, and deratings were settled pursuant to a different methodology, the net of such revenue impacts for Transmission Owner  $q$ )

$GFR\&GFTCC_{q,m}$  = The one-month portion of the imputed value of Grandfathered TCCs and Grandfathered Rights, valued at their market clearing prices in the Reconfiguration Auction for month  $m$  (or one-sixth of the average market clearing price for rounds in the 6-month Sub-Auction of the last Centralized TCC Auction if no Reconfiguration Auction was held for month  $m$ ), provided that the Transmission Owner is the selling party and the Existing Transmission Agreement related to each Grandfathered TCC and Grandfathered Right remains valid in month  $m$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

$t$  = Transmission Owner  $t$

$T$  = The set of all Transmission Owners  $q$ .

Each Transmission Owner's share of Net Congestion Rents allocated pursuant to this Section 2.5 shall be incorporated into its TSC or NTAC, as the case may be.

Where,

n = A round of a Centralized TCC Auction (which may be either a round of a 6-month Sub-Auction , a round of a Sub-Auction in which TCCs with a duration greater than 6 months are sold,) or a Reconfiguration Auction, as the case may be

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

Net Auction Revenue <sub>n</sub>	= Net Auction Revenue for the round <i>n</i> of a Centralized TCC Auction or for Reconfiguration Auction <i>n</i> , as the case may be
TCC Auction Revenue <sub>n</sub>	= The gross amount of revenue that the ISO collects from the award of TCCs to purchasers in round <i>n</i> or in Reconfiguration Auction <i>n</i> , which results from the charges and payments allocated pursuant to Section 3.2
ETCNL <sub>n</sub>	= Either (i) if round <i>n</i> is a round of a Centralized TCC Auction, the total of all payments that the ISO makes to Transmission Owners releasing ETCNL into the round pursuant to Section 3.3; or (ii) for Reconfiguration Auction <i>n</i> , 0
Primary Holder TCCs Sold <sub>n</sub>	= The net of the total payments and charges the ISO allocates to Primary Holders selling TCCs in round <i>n</i> or in Reconfiguration Auction <i>n</i> pursuant to Section 3.4
Original Residual TCCs <sub>n</sub>	= Either (i) if round <i>n</i> is a round of a Centralized TCC Auction, the total payments the ISO makes in round <i>n</i> pursuant to Section 3.5 to Transmission Owners that release into round <i>n</i> Original Residual TCCs; or (ii) for Reconfiguration Auction <i>n</i> , 0
O/R-t-S&U/D ARSC&ARSP <sub>n</sub>	= Either (i) if round <i>n</i> is a round of a Centralized TCC Auction in which 6-month TCCs are sold, the sum of the total O/R-t-S Auction Revenue Shortfall Charges, U/D Auction Revenue Shortfall Charges, O/R-t-S Auction Revenue Surplus Payments, and U/D Auction Revenue Surplus Payments (calculated as NetAuctionAllocations <sub>t,n</sub> pursuant to Formula N-27) for all Transmission Owners <i>t</i> , reduced by any zeroing out of such charges or payments pursuant to Section 3.6.5; (ii) if round <i>n</i> is a round of a Centralized TCC Auction Sub-Auction in which TCCs with durations longer than 6 months are sold, 0; or (iii) for Reconfiguration Auction <i>n</i> , the sum of the total O/R-t-S Auction Revenue Shortfall Charges(O/R-t-S ARSC <sub>a,t,n</sub> ), U/D Auction Revenue Shortfall Charges (U/D ARSC <sub>a,t,n</sub> ), O/R-t-S Auction Revenue Surplus Payments (O/R-t-S ARSP <sub>a,t,n</sub> ), and U/D Auction Revenue Surplus Payments (U/D ARSP <sub>a,t,n</sub> ) for all Transmission Owners <i>t</i> (which sum is calculated for each Transmission Owner as NetAuctionAllocations <sub>t,n</sub> pursuant to Formula N-27), reduced by any zeroing out of such charges or payments pursuant to Section 3.6.5



The ISO shall allocate the Net Auction Revenue calculated in each round of a Centralized TCC Auction Sub-Auction and in each Reconfiguration Auction to Transmission Owners pursuant to Section 3.7.

**Section 3.2. Charges for TCCs Purchased**

All bidders awarded TCCs in round  $n$  of a Centralized TCC Auction or in Reconfiguration Auction  $n$  shall pay or be paid the market clearing price in round  $n$  or in Reconfiguration Auction  $n$ , as determined pursuant to Attachment M of this Tariff, for the TCCs purchased.

**Section 3.3. Payments for ETCNL**

The ISO shall, in each round of a Centralized TCC Auction in which ETCNL is released, pay the market clearing price determined in that round for TCCs that correspond to that ETCNL to the Transmission Owner that releases the ETCNL.

If a Transmission Owner releases ETCNL for sale in a round of the Centralized TCC Auction, and the market-clearing price for those TCCs corresponding to that ETCNL in that round is negative, the value of those TCCs will not be included in the determination of payments to the Transmission Owners for ETCNL released into the Centralized TCC Auction. If the market-clearing price is negative for TCCs corresponding to any ETCNL, the value will be set to zero for purposes of allocating auction revenues from the sale of ETCNL. If the total value of

In the event a Grandfathered TCC<sup>2</sup> is terminated by mutual agreement of the parties to the grandfathered ETA prior to the conditions specified within Attachments K and L, then the ISO shall distribute the revenues from the sale of the TCCs that correspond to the terminated Grandfathered TCCs in a round of a Centralized TCC Auction directly back to the Transmission Owner identified in Attachment L, until such time as the conditions specified within Attachments K and L are met. Upon such time that the conditions within Attachments K and L are met, the ISO shall allocate the revenues from the sale of the TCCs that correspond to terminated Grandfathered TCCs in the Centralized TCC Auction as Net Auction Revenues in accordance with Section 3.7 of this Attachment.

**Section 3.5. Allocation of Revenues from the Sale of Original Residual TCCs**

Revenues associated with Original Residual TCCs shall be distributed directly to each Primary Holder for the duration of the LBMP Transition Period. The Primary Holder of such an Original Residual TCC shall be paid the market clearing price of the Original Residual TCC in the round of the Sub-Auction in which that Original Residual TCC was sold.

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

---

<sup>2</sup> These TCCs include TCCs, if any, associated with those rate schedules to which footnote 9 of Attachment L pertains, whether by mutual agreement or otherwise.

**Section 3.6. Charges and Payments to Transmission Owners for Auction Outages and Returns-to-Service**

The ISO shall charge O/R-t-S Auction Revenue Shortfall Charges and U/D Auction Revenue Shortfall Charges and pay O/R-t-S Auction Revenue Surplus Payments and U/D Auction Revenue Surplus Payments pursuant to this Section 3.6. To do so, the ISO shall calculate the Auction Constraint Residual for each constraint for each round  $n$  of a Centralized TCC Auction 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, pursuant to Section 3.6.1 and then determine the amount of each Auction Constraint Residual that is O/R-t-S Auction Constraint Residual and the amount that is U/D Auction Constraint Residual, as specified in Section 3.6.1. The ISO shall use the O/R-t-S Auction Constraint Residual to allocate O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments to Transmission Owners pursuant to Sections 3.6.2 and 3.6.4, each of which shall be subject to being reduced to zero pursuant to Section 3.6.5. The ISO shall use the U/D Auction Constraint Residual to allocate U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments to Transmission Owners pursuant to Sections 3.6.3 and 3.6.4, each of which shall be subject to being reduced to zero pursuant to Section 3.6.5.

The ISO shall not calculate an Auction Constraint Residual, O/R-t-S Auction Constraint Residual, or U/D Auction Constraint Residual for any rounds of a Centralized TCC Auction except for rounds of the 6-month Sub-Auction.

**Section 3.6.1. Measuring the Impact of Auction Outages and Returns-to-Service: Calculation of Auction Constraint Residuals and Division of Auction Constraint Residuals into O/R-t-S Auction Constraint Residuals and U/D Auction Constraint Residuals**

The ISO shall identify all constraints that are binding in the final Optimal Power Flow solution for round  $n$  of a 6-month Sub-Auction of a Centralized TCC Auction or for Reconfiguration Auction  $n$ , as the case may be. For each binding constraint  $a$  and for each round  $n$  of a 6-month Sub-Auction of a Centralized TCC Auction or Reconfiguration Auction  $n$ , the ISO shall calculate the Auction Constraint Residual,  $ACR_{a,n}$ , using Formula N-17; *provided, however*, the ISO shall recalculate  $ACR_{a,n}$  using Formula N-18 if (i)  $ACR_{a,n}$  is positive based on the calculation using Formula N-17, and (ii) constraint  $a$  was not binding in the Power Flow used to determine the Energy flow on constraint  $a$  in calculating the variable  $FLOW_{a,n,basecase}$  in Formula N-17.

**Formula N-17**

$$ACR_{a,n} = \text{ShadowPrice}_{a,n} * \left[ \frac{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{basecase}})}{+ (\text{ISORatingChange}_{a,n} * \text{OPFSignChange}_{a,n})} \right] * \% \text{Sold}_n$$

Where,

$ACR_{a,n}$  = The Auction Constraint Residual, in dollars, for binding constraint  $a$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$

$\text{ShadowPrice}_{a,n}$  = The Shadow Price, in dollars/MW- $p$ , of binding constraint  $a$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , where  $p$  is a one-month period for Reconfiguration Auction  $n$  and  $p$  is a six-month period for round  $n$  of a 6-month Sub-Auction, which Shadow Price is calculated in a manner so that if relaxation of constraint  $a$  would permit an increase in the objective function used for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  as described in Attachment M of this tariff, then  $\text{ShadowPrice}_{a,n}$  is positive

$\text{FLOW}_{a,n,\text{actual}}$  = The Energy flow, in MW- $p$ , on binding constraint  $a$  resulting from a Power Flow using, as the case may be:

- (a) For Reconfiguration Auction  $n$ , (i) the Transmission System model for Reconfiguration Auction  $n$ , (ii) the set of TCCs and Grandfathered Rights represented in the solution to Reconfiguration Auction  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction), and (iii) the phase angle regulator schedules determined in the Optimal Power Flow solution for Reconfiguration Auction  $n$ ; or
- (b) For round  $n$  of a 6-month Sub-Auction, (i) the Transmission System model for round  $n$ , (ii) the set of TCCs (scaled appropriately) and Grandfathered Rights represented in the solution to round  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction), and (iii) the phase angle regulator schedule produced in the Optimal Power Flow solution for round  $n$

$\text{FLOW}_{a,n,\text{basecase}}$  = The Energy flow, in MW- $p$ , on binding constraint  $a$  produced in, as the case may be:

- (a) For Reconfiguration Auction  $n$ , a Power Flow using the following base case data set: (i) the Transmission System model for Reconfiguration Auction  $n$ , (ii) the set of TCCs and Grandfathered Rights represented in the solution to the final round of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction), and (iii) the phase angle regulator schedules determined in the Optimal Power Flow solution for the final round of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; or

(b) For round  $n$  of a 6-month Sub-Auction, a Power Flow run using the following base case data set: (i) the Transmission System model for the actual 6-month Sub-Auction, and (ii) the base case set of TCCs (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in the simulated auction) and the phase angle regulator schedule produced in a single simulated TCC auction administered for all rounds of the 6-month Sub-Auction using the Transmission System model for the actual 6-month Sub-Auction modified so as to model as in-service all transmission facilities that were out-of-service in the Transmission System model used for the Sub-Auction and model as fully rated all transmission facilities that were derated in the Transmission System model used for the Sub-Auction, the pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in the Sub-Auction, and all bids to purchase and offers to sell made into all rounds of the Sub-Auction that includes round  $n$

$ISORatingChange_{a,n}$  = The total change in the rating of constraint  $a$  for round  $n$  or Reconfiguration Auction  $n$  resulting from ISO-Directed Auction Status Changes or Deemed ISO-Directed Auction Status Changes described in Section 3.6.4.2, external events described in Section 3.6.4.3, or reasons determined by the ISO to be unrelated to Qualifying Auction Outages or Qualifying Auction Returns-to-Service for round  $n$  or Reconfiguration Auction  $n$ , which shall be calculated as follows:

(a) For Reconfiguration Auction  $n$ , zero, except that in the event of a change in the rating of constraint  $a$  resulting from ISO-Directed Auction Status Changes or Deemed ISO-Directed Auction Status Changes described in Section 3.6.4.2, external events described in Section 3.6.4.3, or reasons determined by the ISO to be unrelated to Qualifying Auction Outages or Qualifying Auction Returns-to-Service for round  $n$  or Reconfiguration Auction  $n$ ,  $ISORatingChange_{a,n}$  shall be equal to the amount, in MW- $p$ , of the change in the rating limit of constraint  $a$  as shown in the Reconfiguration Auction Interface Uprate/Derate Table applicable for Reconfiguration Auction  $n$

(b) For round  $n$  of a 6-month Sub-Auction, zero, except that in the event of a change in the rating of a transmission facility resulting from ISO-Directed Auction Status Changes or Deemed ISO-Directed Auction Status Changes described in Section 3.6.4.2, external events described in Section 3.6.4.3, or reasons determined by the ISO to be unrelated to Qualifying Auction Outages or Qualifying Auction Returns-to-Service for round  $n$  or Reconfiguration Auction  $n$ ,  $ISORatingChange_{a,n}$  shall be equal to the amount, in MW- $p$ , of the change in the rating limit of constraint  $a$  as shown in the Centralized TCC Auction Interface Uprate/Derate Table applicable for round  $n$

$OPFSignChange_{a,n} = 1$  if  $ShadowPrice_{a,n}$  is greater than zero; otherwise,  $-1$

$\%Sold_n =$  Either (i) for round  $n$  of a 6-month Sub-Auction, the percentage of transmission Capacity sold in round  $n$ , divided by the percentage of transmission Capacity sold in all rounds of the Sub-Auction of which round  $n$  is a part; or (ii) for Reconfiguration Auction  $n$ , 1.

### Formula N-18

$$ACR_{a,n} = ShadowPrice_{a,n} * \left[ \begin{array}{l} (FLOW_{a,n,actual} - FLOW_{a,n,basecase}) \\ + (ISORatingChange_{a,n} * OPFSignChange_{a,n}) \\ - (UnsoldCapacity_{a,n,PriorAuction} * OPFSignChange_{a,n}) \end{array} \right] * \%Sold_n$$

Where,

$UnsoldCapacity_{a,n,PriorAuction} =$  Either:

- (a) For Reconfiguration Auction  $n$ , the rating limit for binding constraint  $a$  applied in the model used in the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , minus the Energy flow, in MW- $p$ , on binding constraint  $a$  produced in the Optimal Power Flow in the last round of that Centralized TCC Auction; or
- (b) For round  $n$  of a 6-month Sub-Auction, the rating limit for binding constraint  $a$  applied in the model used in the simulated auction run to determine  $FLOW_{a,n,basecase}$  in Formula N-17, minus the Energy flow, in MW- $p$ , on binding constraint  $a$  produced in the Optimal Power Flow in the simulated auction run to determine  $FLOW_{a,n,basecase}$  in Formula N-17

and each of the other variables is as set forth in Formula N-17; *provided, however*, if  $ACR_{a,n}$  is less than zero when calculated using this Formula N-18,  $ACR_{a,n}$  shall be set equal to zero.

Following calculation of the Auction Constraint Residual for each constraint  $a$  for each round  $n$  of a 6-month Sub-Auction or each Reconfiguration Auction  $n$ , the ISO shall

calculate the amount of each O/R-t-S Auction Constraint Residual and the amount of each U/D Auction Constraint Residual for each constraint  $a$  for each round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be. The amount of each O/R-t-S Auction Constraint Residual for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$  shall be determined by applying Formula N-19. The amount of each U/D Auction Constraint Residual for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$  shall be determined by applying Formula N-20.

#### Formula N-19

$$\text{O/R-t-S ACR}_{a,n} = \text{ACR}_{a,n} * \left[ \frac{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{base case}}) + (\text{TotalRatingChange}_{a,n} * \text{OPFSignChange}_{a,n})}{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{base case}}) + (\text{ISORatingChange}_{a,n} * \text{OPFSignChange}_{a,n})} \right]$$

Where:

O/R-t-S ACR<sub>a,n</sub> = The amount of the O/R-t-S Auction Constraint Residual for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$

TotalRatingChange<sub>a,n</sub> = The total change in the rating of constraint  $a$ , which shall be calculated as follows:

- (a) For Reconfiguration Auction  $n$ , TotalRatingChange<sub>a,n</sub> shall be equal to (1) the rating limit, in MW- $p$ , of constraint  $a$  in the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , minus (2) the rating limit, in MW- $p$ , of constraint  $a$  applicable in Reconfiguration Auction  $n$
- (b) For round  $n$  of a 6-month Sub-Auction, TotalRatingChange<sub>a,n</sub> shall be equal to (1) the rating limit, in MW- $p$ , of constraint  $a$  in a case where all transmission facilities are in-service and fully rated, minus (2) the rating limit, in MW- $p$ , of constraint  $a$  in round  $n$

and the variable ACR<sub>a,n</sub> is as calculated pursuant to Formula N-17 or, if required, pursuant to Formula N-18, and each of the other variables are as defined in Formula N-17.



**Formula N-20**

$$U/D \text{ ACR}_{a,n} = \text{ACR}_{a,n} * \left[ \frac{-(\text{TotalRatingChange}_{a,n} - \text{ISORatingChange}_{a,n}) * \text{OPFSignChange}_{a,n}}{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{base case}}) + (\text{ISORatingChange}_{a,n} * \text{OPFSignChange}_{a,n})} \right]$$

Where,

$U/D \text{ ACR}_{a,n}$  = The amount of the U/D Auction Constraint Residual for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$  and the variable  $\text{ACR}_{a,n}$  is as calculated pursuant to Formula N-17 or, if required, pursuant to Formula N-18, the variable  $\text{TotalRatingChange}_{a,n}$  is defined as set forth in Formula N-19 and each of the other variables are defined as set forth in Formula N-17.

**Section 3.6.2. Charges and Payments for the Direct Impact of Auction Outages and Returns-to-Service**

The ISO shall use O/R-t-S Auction Constraint Residuals to allocate O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments, as the case may be, among Transmission Owners pursuant to this Section 3.6.2. Each O/R-t-S Auction Revenue Shortfall Charge and each O/R-t-S Auction Revenue Surplus Payment allocated to a Transmission Owner pursuant to this Section 3.6.2 is subject to being set equal to zero pursuant to Section 3.6.5.

**Section 3.6.2.1. Identification of Outages and Returns-to-Service Qualifying for Charges and Payments**

For each round of a 6-month Sub-Auction or Reconfiguration Auction, as the case may be, the ISO shall identify each Qualifying Auction Outage and each Qualifying Auction Return-to-Service, as described below. The Transmission Owner responsible, as determined

pursuant to Section 3.6.4, for the Qualifying Auction Outage or Qualifying Auction Return-to-Service shall be allocated an O/R-t-S Auction Revenue Shortfall Charge or an O/R-t-S Auction Revenue Surplus Payment pursuant to Sections 3.6.2.2 or 3.6.2.3.

#### **Section 3.6.2.1.1. Definition of Qualifying Auction Outage**

A “**Qualifying Auction Outage**” (which term shall apply to round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be) shall be defined to mean either an Actual Qualifying Auction Outage or a Deemed Qualifying Auction Outage. For purposes of this Attachment N, “ $o$ ” shall refer to a single Qualifying Auction Outage.

An “**Actual Qualifying Auction Outage**” (which term shall apply to round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be) shall be defined as a transmission facility that, for a given round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be:

- (a) For Reconfiguration Auction  $n$ , meets each of the following requirements:
  - (i) the facility existed and was modeled as in-service in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; and
  - (ii) the facility exists but is not modeled as in-service for Reconfiguration Auction  $n$ ;
  - (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; or
- (b) For round  $n$  of a 6-month Sub-Auction, meets each of the following requirements:
  - (i) the facility exists but is not modeled as in-service for round  $n$  of a 6-month Sub-Auction; and
  - (ii) the facility was not Normally Out-of-Service Equipment at the time of round  $n$  of that 6-month Sub-Auction.

A “**Deemed Qualifying Auction Outage**” (which term shall apply only to a Reconfiguration Auction *n*) shall be defined as a transmission facility that, for Reconfiguration Auction *n*, meets each of the following requirements:

- (i) the facility existed but was not modeled as in-service in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*;
- (ii) the facility existed but was not modeled as in-service in Reconfiguration Auction *n* as a result of an Auction Status Change or external event described in Section 3.6.4.3 in Reconfiguration Auction *n* for which responsibility was assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to 3.6.4) other than the Transmission Owner assigned responsibility for the facility not being modeled as in-service in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*;
- (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*.

#### **Section 3.6.2.1.2. Definition of Qualifying Auction Return-to-Service**

A “**Qualifying Auction Return-to-Service**” shall be defined to mean either an Actual Qualifying Auction Return-to-Service or a Deemed Qualifying Auction Return-to-Service. For purposes of this Attachment N, “*o*” shall refer to a single Qualifying Auction Return-to-Service.

An “**Actual Qualifying Auction Return-to-Service**” shall be defined as a transmission facility that, for a given Reconfiguration Auction *n*, meets each of the following requirements:

- (i) the facility existed but was not modeled as in-service for the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*; and
- (ii) the facility exists and is modeled as in-service in Reconfiguration Auction *n*;
- (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*.

Notwithstanding any other provision of this Attachment N, a transmission facility returning to service for round  $n$  of a 6-month Sub-Auction shall not be an Actual Qualifying Auction Return-to-Service for that round  $n$  and shall not qualify a Transmission Owner for an O/R-t-S Auction Revenue Shortfall Charge or O/R-t-S Auction Revenue Surplus Payment for that round  $n$ .

A “**Deemed Qualifying Auction Return-to-Service**” shall be defined as a transmission facility that, for a given Reconfiguration Auction  $n$ , meets each of the following requirements:

- (i) the facility existed but was not modeled as in-service in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (ii) the facility existed but was not modeled as in-service in Reconfiguration Auction  $n$  as a result of an Auction Status Change or external event described in Section 3.6.4.3 in Reconfiguration Auction  $n$  for which responsibility was assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to Section 3.6.4) other than the Transmission Owner assigned responsibility for the facility not being modeled as in-service for the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; and
- (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ .

**Section 3.6.2.2. Allocation of an O/R-t-S Auction Constraint Residual When Only One Transmission Owner is Responsible for All of the Relevant Outages and Returns-to-Service**

This Section 3.6.2.2 describes the allocation of an O/R-t-S Auction Constraint Residual for a given round of a 6-month Sub-Auction or Reconfiguration Auction, as the case may be, and a given constraint when only one Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for all of the Qualifying Auction Outages and all of the Qualifying Auction Returns-to-Service for that round of a 6-month Sub-Auction or Reconfiguration Auction that contribute to that constraint.

If the same Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for all of the Qualifying Auction Outages  $o$  and Qualifying Auction Returns-to-Service  $o$  for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  that contribute to constraint  $a$ , then the ISO shall allocate the O/R-t-S Auction Constraint Residual for that round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  and that constraint, O/R-t-S  $ACR_{a,n}$ , to that Transmission Owner in the form of either (i) an O/R-t-S Auction Revenue Shortfall Charge in the amount of O/R-t-S  $ACR_{a,n}$  if O/R-t-S  $ACR_{a,n}$  is negative, or (ii) an O/R-t-S Auction Revenue Surplus Payment in the amount of O/R-t-S  $ACR_{a,n}$  if O/R-t-S  $ACR_{a,n}$  is positive.

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

**Section 3.6.2.3. Allocation of an O/R-t-S Auction Constraint Residual When More Than One Transmission Owner is Responsible for the Relevant Outages and Returns-to-Service**

This Section 3.6.2.3 describes the allocation of an O/R-t-S Auction Constraint Residual for a given round of a 6-month Sub-Auction or Reconfiguration Auction, as the case may be, and a given constraint when more than one Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for the Qualifying Auction Outages and the Qualifying Auction Returns-to-Service for the round of a 6-month Sub-Auction or Reconfiguration Auction that contribute to the constraint.

If more than one Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for the Qualifying Auction Outages and the Qualifying Auction Returns-to-Service for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  that contribute to constraint  $a$ , the ISO shall allocate the O/R-t-S Auction Constraint Residual for constraint  $a$  for round  $n$  of a 6-month Sub-Auction or for Reconfiguration Auction  $n$ , O/R-t-S  $ACR_{a,n}$ , in the form of an O/R-t-S Auction Revenue Shortfall Charge or O/R-t-S Auction Revenue Surplus Payment to the Transmission Owners responsible for the Qualifying Auction Outages  $o$  and Qualifying Auction Returns-to-Service  $o$  for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  by first determining the net total impact on the constraint of all

Qualifying Auction Outages and Qualifying Auction Returns-to Service for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  with an impact on the Energy flow across that constraint of 1 MW- $p$  or more by applying Formula N-21, and then applying either Formula N-22 or Formula N-23, as specified herein, to assess O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments.

### Formula N-21

$$\text{O/R-t-SNetAuctionImpact}_{a,n} = \sum_{\text{for all } o \in O_n} \text{FlowImpact}_{a,n,o} * \text{ShadowPrice}_{a,n}$$

Where,

$\text{O/R-t-SNetAuctionImpact}_{a,n}$  = The net impact, in dollars, for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, on constraint  $a$  of all Qualifying Auction Outages and Qualifying Auction Returns-to-Service for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  having an impact of more than 1 MW- $p$  on Energy flow across constraint  $a$ ; *provided, however*, O/R-t-S NetAuctionImpact $_{a,n}$  shall be subject to recalculation as specified in the paragraph immediately following this Formula N-21

$\text{FlowImpact}_{a,n,o}$  = The Energy flow impact, in MW- $p$ , of a Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  on binding constraint  $a$  determined for Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction, which shall either:

- (a) if Qualifying Auction Outage  $o$  is a Deemed Qualifying Auction Outage, be equal to the negative of  $\text{FlowImpact}_{a,n,o}$  calculated for the corresponding Deemed Qualifying Auction Return-to-Service as described in part (b) of this definition of  $\text{FlowImpact}_{a,n,o}$ , or

- (b) if Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  is an Actual Qualifying Auction Outage, an Actual Qualifying Auction Return-to-Service, or a Deemed Qualifying Auction Return-to-Service, be calculated pursuant to the following formula:

$$\text{FlowImpact}_{a,n,o} = \text{BaseCaseFlow}_{a,n} - \text{One-OffFlow}_{a,n,o}$$

Where,

$\text{BaseCaseFlow}_{a,n}$  = Either, as the case may be:

- (i) for a Reconfiguration Auction, the Energy flow on constraint  $a$  resulting from a Power Flow using (1) the set of injections and withdrawals corresponding to the actual TCCs and Grandfathered Rights represented in the solution to the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction); (2) the phase angle regulator schedule determined in the Optimal Power Flow solution for the final round of the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; and (3) the Transmission System model for the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; or
- (ii) for any round of a 6-month Sub-Auction, the Energy flow on constraint  $a$  resulting from a Power Flow run using the following base case data set: (1) the Transmission System model for the actual 6-month Sub-Auction, modified so as to model as in-service all transmission facilities that were out-of-service for the actual 6-month Sub-Auction, and (2) the set of injections and withdrawals corresponding to the base case set of TCCs (including those pre-existing TCCs and Grandfathered Rights that are represented as fixed injections and withdrawals in the 6-month Sub-Auction) and the phase angle regulator schedule produced in the Optimal Power Flow used to calculate the Energy flow on constraint  $a$  for round  $n$  of a 6-month Sub-Auction, as described in the definition of  $\text{FLOW}_{a,n,\text{basecase}}$  in Formula N-17



One-OffFlow<sub>a,n,o</sub> = Either

- (i) if Qualifying Auction Outage *o* or Qualifying Auction Return-to-Service *o* is an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service, the Energy flow on constraint *a* resulting from a Power Flow using each element of the base case data set used in the calculation of BaseCaseFlow<sub>a,n</sub> above (*provided, however*, if a transmission facility was modeled as free-flowing in round *n* of a 6-month Sub-Auction or in Reconfiguration Auction *n*, as the case may be, because of the outage of any transmission facility, the ISO shall appropriately adjust the phase angle regulator schedule and related variables to model the transmission facility as free flowing), but in each case with the Transmission System model modified so as to, as the case may be, either (i) model as out-of-service Actual Qualifying Auction Outage *o*, or (ii) model as in-service Actual Qualifying Auction Return-to-Service *o*; or
- (ii) if Qualifying Auction Return-to-Service *o* is a Deemed Qualifying Auction Return-to-Service, the Energy flow on constraint *a* resulting from a Power Flow using each element of the base case data set used in the calculation of BaseCaseFlow<sub>a,n</sub> above (*provided, however*, if a transmission facility was modeled as free-flowing in round *n* of a 6-month Sub-Auction or in Reconfiguration Auction *n*, as the case may be, because of the outage of any transmission facility, the ISO shall appropriately adjust the phase angle regulator schedule and related variables to model the transmission facility as free flowing), but with the Transmission System model modified so as to model as in-service the facility that is Deemed Qualifying Auction Return-to-Service *o*;

*provided, however*, where the absolute value of FlowImpact<sub>a,n,o</sub> calculated using the procedures set forth above is less than 1 MW-*p*, then FlowImpact<sub>a,n,o</sub> shall be set equal to zero

Issued by: Stephen G. Whitley, President  
Issued on: April 2, 2010

Effective: May 31, 2010

*provided further*,  $\text{FlowImpact}_{a,n,o}$  shall be subject to being set equal to zero as specified in the paragraph immediately following this Formula N-21

$O_n$  = The set of all Qualifying Auction Outages  $o$  and Qualifying Auction Returns-to-Service  $o$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$

$p$  = A one-month period for Reconfiguration Auction  $n$ , or a six-month period for round  $n$  of a 6-month Sub-Auction

and the variable  $\text{ShadowPrice}_{a,n}$  is defined as set forth in Formula N-17.

After calculating  $\text{O/R-t-S NetAuctionImpact}_{a,n}$  pursuant to Formula N-21, the ISO shall determine whether  $\text{O/R-t-S NetAuctionImpact}_{a,n}$  for constraint  $a$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  has a different sign than  $\text{O/R-t-S ACR}_{a,n}$  for constraint  $a$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ . If the sign is different, the ISO shall (i) recalculate  $\text{O/R-t-S NetAuctionImpact}_{a,n}$  pursuant to Formula N-21 after setting equal to zero each  $\text{FlowImpact}_{a,n,o}$  for which  $\text{FlowImpact}_{a,n,o} * \text{ShadowPrice}_{a,n}$  has a different sign than  $\text{O/R-t-S ACR}_{a,n}$ , and then (ii) use this recalculated  $\text{O/R-t-S NetAuctionImpact}_{a,n}$  and reset value of  $\text{FlowImpact}_{a,n,o}$  to allocate O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments pursuant to Formula N-22 or Formula N-23, as specified below.

If the absolute value of the net impact ( $\text{O/R-t-S NetAuctionImpact}_{a,n}$ ) on constraint  $a$  of all Qualifying Auction Outages and Qualifying Auction Returns-to-Service for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  as calculated using Formula N-21 (or recalculated pursuant to Formula N-21 using a reset value of  $\text{FlowImpact}_{a,n,o}$  as described in the

prior paragraph) is greater than the absolute value of the O/R-t-S Auction Constraint Residual (O/R-t-S  $ACR_{a,n}$ ) for constraint  $a$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, then the ISO shall allocate the O/R-t-S Auction Constraint Residual in the form of an O/R-t-S Auction Revenue Shortfall Charge, O/R-t-S  $ARSC_{a,t,n}$ , or O/R-t-S Auction Revenue Surplus Payment, O/R-t-S  $ARSP_{a,t,n}$ , by using Formula N-22. If the absolute value of the net impact (O/R-t-S  $NetAuctionImpact_{a,n}$ ) on constraint  $a$  of all Qualifying Auction Outages and Qualifying Auction Returns-to-Service for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  as calculated using Formula N-21 (or recalculated pursuant to Formula N-21 using a reset value of  $FlowImpact_{a,n,o}$  as described in the prior paragraph) is less than or equal to the absolute value of the O/R-t-S Auction Constraint Residual (O/R-t-S  $ACR_{a,n}$ ) for constraint  $a$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, then the ISO shall allocate the O/R-t-S Auction Constraint Residual in the form of an O/R-t-S Auction Revenue Shortfall Charge, O/R-t-S  $ARSC_{a,t,n}$ , or O/R-t-S Auction Revenue Surplus Payment, O/R-t-S  $ARSP_{a,t,n}$ , by using Formula N-23.

**Formula N-22**

$$O/R-t-S \text{ Allocation}_{a,t,n} = \left( \frac{\sum_{\substack{o \in O_n \\ \text{and } q=t}} (FlowImpact_{a,n,o} * Responsibility_{n,q,o})}{\sum_{\text{for all } o \in O_n} FlowImpact_{a,n,o}} \right) * O/R-t-S \text{ ACR}_{a,n}$$

Where,

O/R-t-S  $Allocation_{a,t,n}$  = Either an O/R-t-S Auction Revenue Shortfall Charge or an O/R-t-S Auction Revenue Surplus Payment, as specified in (a) and (b) below:

(a) If O/R-t-S Allocation<sub>a,t,n</sub> is negative, then O/R-t-S Allocation<sub>a,t,n</sub> shall be an O/R-t-S Auction Revenue Shortfall Charge, O/R-t-S ARSC<sub>a,t,n</sub>, charged to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or round *n* of a 6-month Sub-Auction; or

(b) If O/R-t-S Allocation<sub>a,t,n</sub> is positive, then O/R-t-S Allocation<sub>a,t,n</sub> shall be an O/R-t-S Auction Revenue Surplus Payment, O/R-t-S ARSP<sub>a,t,n</sub>, paid to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or round *n* of a 6-month Sub-Auction

Responsibility<sub>n,q,o</sub> = The amount, as a percentage, of responsibility borne by Transmission Owner *q* (which shall include the ISO when it is deemed a Transmission Owner for the purpose of applying Sections 3.6.4.2 or 3.6.4.3) for Qualifying Auction Outage *o* or Qualifying Auction Return-to-Service *o* in Reconfiguration Auction *n* or round *n* of a 6-month Sub-Auction, as determined pursuant to Section 3.6.4

and the variable O/R-t-S ACR<sub>a,n</sub> is defined as set forth in Formula N-19 and the variables FlowImpact<sub>a,n,o</sub> and O<sub>n</sub> are defined as set forth in Formula N-21.

### Formula N-23

$$\text{O/R-t-S Allocation}_{a,t,n} = \sum_{\substack{o \in O_n \\ \text{and } q=t}} \text{FlowImpact}_{a,n,o} * \text{ShadowPrice}_{a,n} * \text{Responsibility}_{n,q,o}$$

Where,

the variable ShadowPrice<sub>a,n</sub> is defined as set forth in Formula N-17, the variables O/R-t-S Allocation<sub>a,t,n</sub> and Responsibility<sub>n,q,o</sub> are defined as set forth in Formula N-22, and the variables FlowImpact<sub>a,n,o</sub> and O<sub>n</sub> are defined as set forth in Formula N-21.

### Section 3.6.3. Charges and Payments for the Secondary Impact of Auction Outages and Returns-to-Service

The ISO shall use U/D Auction Constraint Residuals to allocate U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments, as the case may be, among Transmission Owners pursuant to this Section 3.6.3. Each U/D Auction Revenue Shortfall

Charge and each U/D Auction Revenue Surplus Payment allocated to a Transmission Owner pursuant to this Section 3.6.3 is subject to being set equal to zero pursuant to Section 3.6.5.

**Section 3.6.3.1. Identification of Upratings and Deratings Qualifying for Charges and Payments**

For each constraint for each round of a 6-month Sub-Auction or Reconfiguration Auction, the ISO shall identify each Qualifying Auction Derating and each Qualifying Auction Uprating, as described below. The Transmission Owner responsible, as determined pursuant to Section 3.6.4, for a Qualifying Auction Derating or Qualifying Auction Uprating shall be allocated a U/D Auction Revenue Shortfall Charge or a U/D Auction Revenue Surplus Payment, as the case may be, pursuant to Section 3.6.3.2.

**Section 3.6.3.1.1. Definition of Qualifying Auction Derating**

A “**Qualifying Auction Derating**” (which term shall apply to round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be) shall be defined to mean an Actual Qualifying Auction Derating or a Deemed Qualifying Auction Derating. For purposes of this Attachment N, “ $r$ ” shall refer to a single Qualifying Auction Derating.

An “**Actual Qualifying Auction Derating**” (which term shall apply to round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be) shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and a given round  $n$  or Reconfiguration Auction  $n$  meets each of the following requirements:

For Reconfiguration Auction  $n$ :

- (i) the constraint has a lower rating in Reconfiguration Auction  $n$  than it would have if all transmission facilities were modeled as in-service in Reconfiguration Auction  $n$ ;
- (ii) this lower rating is in whole or in part the result of an Actual Qualifying Auction Outage  $o$  or an Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (iii) the lower rating resulting from Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was not modeled in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (iv) this lower rating is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (v) the constraint was binding in Reconfiguration Auction  $n$ .

For round  $n$  of a 6-month Sub-Auction:

- (i) the constraint has a lower rating in round  $n$  of the 6-month Sub-Auction than that constraint would have in a case where all transmission facilities are in-service and fully rated;
- (ii) this lower rating is the result of an Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for round  $n$  of the 6-month Sub-Auction;
- (iii) this lower rating is included in the Centralized TCC Auction Interface Uprate/Derate Table in effect for round  $n$  of the 6-month Sub-Auction; and
- (iv) the constraint is binding in round  $n$  of the 6-month Sub-Auction.

A “**Deemed Qualifying Auction Derating**” (which term shall apply to Reconfiguration Auction  $n$ ) shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and a given Reconfiguration Auction  $n$  meets each of the following requirements:

- (i) the constraint has a lower rating in Reconfiguration Auction  $n$  than it would have if all transmission facilities were modeled as in-service in Reconfiguration Auction  $n$ ;
- (ii) this lower rating is in whole or in part the result of a Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (iii) this lower rating resulting from Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was modeled in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , but responsibility for Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  resulting in the lower rating for Reconfiguration Auction  $n$  is assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to Section 3.6.4) other than the Transmission Owner responsible for the lower rating in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (iv) this lower rating is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (v) the constraint is binding in Reconfiguration Auction  $n$ .

#### **Section 3.6.3.1.2. Definition of Qualifying Auction Uprating**

A “**Qualifying Auction Uprating**” shall be defined to mean either an Actual Qualifying Auction Uprating or a Deemed Qualifying Auction Uprating. For purposes of this Attachment N, “ $r$ ” shall refer to a single Qualifying Auction Uprating.

An “**Actual Qualifying Auction Uprating**” shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and Reconfiguration Auction  $n$ , as the case may be, meets each of the following requirements:

- (i) the constraint has a higher rating for Reconfiguration Auction  $n$  than it would have absent an Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (ii) this higher rating resulting from Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was not modeled in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (iii) this higher rating is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (iv) the constraint is binding in Reconfiguration Auction  $n$ .

Notwithstanding any other provision of this Attachment N, a transmission facility uprating for a round of a 6-month Sub-Auction shall not be a Qualifying Auction Uprating and shall not qualify a Transmission Owner for a U/D Auction Revenue Shortfall Charge or U/D Auction Revenue Surplus Payment.

A “**Deemed Qualifying Auction Uprating**” shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and Reconfiguration Auction  $n$ , as the case may be, meets each of the following requirements:

- (i) the constraint has a lower rating in Reconfiguration Auction  $n$  than it would have if all transmission facilities were modeled as in-service in Reconfiguration Auction  $n$ ;
- (ii) this lower rating is in whole or in part the result of a Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (iii) this lower rating resulting from Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was modeled in the last 6-month Sub-Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , but responsibility for Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  resulting in the lower rating for Reconfiguration



Auction  $n$  is assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to Section 3.6.4) other than the Transmission Owner responsible for the lower rating in the last auction held for TCCs valid for hour  $h$ ;

- (iv) this lower rating in Reconfiguration Auction  $n$  is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (v) the constraint is binding in Reconfiguration Auction  $n$ .

### **Section 3.6.3.2. Allocation of U/D Auction Constraint Residuals**

This Section 3.6.3.2 describes the allocation of U/D Auction Constraint Residuals to Qualifying Auction Deratings and Qualifying Auction Upratings.

When there are Qualifying Auction Deratings or Qualifying Auction Upratings in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction for constraint  $a$ , the ISO shall allocate a U/D Auction Constraint Residual in the form of a U/D Auction Revenue Shortfall Charge, U/D ARSC <sub>$a,t,n$</sub> , or U/D Auction Revenue Surplus Payment, U/D ARSP <sub>$a,t,n$</sub> , by first determining the net total impact on the constraint for the round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  of all Qualifying Auction Deratings  $r$  and Qualifying Auction Upratings  $r$  for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction pursuant to Formula N-24 and then applying either Formula N-25 or Formula N-26, as specified herein, to assess U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments.

### **Formula N-24**

$$\text{U/D NetAuctionImpact}_{a,n} = \left( \sum_{r \in R_{a,n}} \text{RatingChange}_{a,n,r} * \text{ShadowPrice}_{a,n} \right) * \text{OPFSignChange}_{a,n}$$

Where,

Issued by: Stephen G. Whitley, President  
 Issued on: April 2, 2010

Effective: May 31, 2010

$U/D \text{ NetAuctionImpact}_{a,n}$  = The net impact, in dollars, on constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction of all Qualifying Auction Deratings or Qualifying Auction Upratings for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction; *provided, however*,  $U/D \text{ NetAuctionImpact}_{a,n}$  shall be subject to recalculation as specified in the paragraph immediately following this Formula N-24

$\text{RatingChange}_{a,n,r}$  = Either:

- (a) If Qualifying Auction Derating  $r$  or Qualifying Auction Uprating  $r$  is a Deemed Qualifying Auction Derating or a Deemed Qualifying Auction Uprating,  $\text{RatingChange}_{a,n,r}$  shall be equal to the amount, in MW- $p$ , of the decrease or increase in the rating of binding constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction resulting from a Deemed Qualifying Auction Outage or Deemed Qualifying Auction Return-to-Service for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction, which in the case of Reconfiguration Auction  $n$  shall be as shown in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ , and which in the case of round  $n$  of a 6-month Sub-Auction shall be as shown in the Centralized TCC Auction Interface Uprate/Derate Table in effect for round  $n$  of a 6-month Sub-Auction; or
- (b) If Qualifying Auction Derating  $r$  or Qualifying Auction Uprating  $r$  is an Actual Qualifying Auction Derating or an Actual Qualifying Auction Uprating,  $\text{RatingChange}_{a,n,r}$  shall be equal to the amount, in MW- $p$ , of the decrease or increase in the rating of binding constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction resulting from an Actual Qualifying Auction Outage or Actual Qualifying Auction Return-to-Service for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction, which in the case of Reconfiguration Auction  $n$  shall be as shown in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ , and which in the case of round  $n$  of a 6-month Sub-Auction shall be as shown in the Centralized TCC Auction Interface Uprate/Derate Table in effect for round  $n$  of a 6-month Sub-Auction;

*provided, however*,  $\text{RatingChange}_{a,n,r}$  shall be subject to being set equal to zero as specified in the paragraph immediately following this Formula N-24

$R_{a,n}$  = The set of all Qualifying Auction Deratings  $r$  or Qualifying Auction Upratings  $r$  for binding constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction

and the variables  $\text{ShadowPrice}_{a,n}$  and  $\text{OPFSignChange}_{a,n}$  are defined as set forth in Formula N-17.

After calculating  $\text{U/D NetAuctionImpact}_{a,n}$  pursuant to Formula N-24, the ISO shall determine whether  $\text{U/D NetAuctionImpact}_{a,n}$  for constraint  $a$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$  has a different sign than  $\text{U/D ACR}_{a,n}$  for constraint  $a$  in round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ . If the sign is different, the ISO shall (i) recalculate  $\text{U/D NetAuctionImpact}_{a,n}$  pursuant to Formula N-24 after setting equal to zero each  $\text{RatingChange}_{a,n,r}$  for which  $\text{RatingChange}_{a,n,r} * \text{ShadowPrice}_{a,n} * \text{OPFSignChange}_{a,n}$  has a different sign than  $\text{U/D ACR}_{a,n}$ , and then (ii) use this recalculated  $\text{U/D NetAuctionImpact}_{a,n}$  and reset value of  $\text{RatingChange}_{a,n,r}$  to allocate U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments pursuant to Formula N-25 or Formula N-26, as specified below.

If the absolute value of the net impact ( $\text{U/D NetAuctionImpact}_{a,n}$ ) on constraint  $a$  for Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction of all Qualifying Auction Deratings or Qualifying Auction Upratings for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction as calculated using Formula N-24 (or recalculated pursuant to Formula N-24 using a reset value of  $\text{RatingChange}_{a,n,r}$  as described in the prior paragraph) is greater than the absolute value of the U/D Auction Constraint Residual ( $\text{U/D ACR}_{a,n}$ ) for

constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction, as the case may be, then the ISO shall allocate the U/D Auction Constraint Residual in the form of a U/D Auction Revenue Shortfall Charge, U/D ARSC<sub>a,t,n</sub>, or U/D Auction Revenue Surplus Payment, U/D ARSP<sub>a,t,n</sub>, by using Formula N-25. If the absolute value of the net impact (U/D NetAuctionImpact<sub>a,n</sub>) on constraint  $a$  for Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction of all Qualifying Auction Deratings or Qualifying Auction Upratings for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction as calculated using Formula N-24 (or recalculated pursuant to Formula N-24 using a reset value of RatingChange<sub>a,n,r</sub> as described in the prior paragraph) is less than or equal to the absolute value of the U/D Auction Constraint Residual (U/D ACR<sub>a,n</sub>) for constraint  $a$  in Reconfiguration Auction  $n$  or round  $n$  of a 6-month Sub-Auction, as the case may be, then the ISO shall allocate the U/D Auction Constraint Residual in the form of a U/D Auction Revenue Shortfall Charge, U/D ARSC<sub>a,t,n</sub>, or U/D Auction Revenue Surplus Payment, U/D ARSP<sub>a,t,n</sub>, by using Formula N-26.

**Formula N-25**

$$\text{U/D Allocation}_{a,t,n} = \left( \frac{\sum_{\substack{r \in R_{a,n} \\ \text{and } q=t}} (\text{RatingChange}_{a,n,r} * \text{Responsibility}_{n,q,r})}{\sum_{\text{for all } r \in R_{a,n}} \text{RatingChange}_{a,n,r}} \right) * \text{U/D ACR}_{a,n}$$

Where,

U/D Allocation<sub>a,t,n</sub> = Either a U/D Auction Revenue Shortfall Charge or a U/D Auction Revenue Surplus Payment, as specified in (a) and (b) below:

Issued by: Stephen G. Whitley, President  
 Issued on: April 2, 2010

Effective: May 31, 2010

(a) If U/D Allocation<sub>a,t,n</sub> is negative, then U/D Allocation<sub>a,t,n</sub> shall be a U/D Auction Revenue Shortfall Charge, U/D ARSC<sub>a,t,n</sub>, charged to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or round *n* of a 6-month Sub-Auction; or

(b) If U/D Allocation<sub>a,t,n</sub> is positive, then U/D Allocation<sub>a,t,n</sub> shall be a U/D Auction Revenue Surplus Payment, U/D ARSP<sub>a,t,n</sub>, paid to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or round *n* of a 6-month Sub-Auction

Responsibility<sub>n,q,r</sub> = The amount, as a percentage, of responsibility borne by Transmission Owner *q* (which shall include the ISO when it is deemed a Transmission Owner for the purpose of applying Sections 3.6.4.2 or 3.6.4.3) for Qualifying Auction Derating *r* or Qualifying Auction Up-rating *r* in Reconfiguration Auction *n* or round *n* of a 6-month Sub-Auction, as determined pursuant to Section 3.6.4

and the variable U/D ACR<sub>a,n</sub> is defined as set forth in Formula N-20 and the variables RatingChange<sub>a,n,r</sub> and R<sub>a,n</sub> are defined as set forth in Formula N-24.

#### Formula N-26

$$\text{U/D Allocation}_{a,t,n} = \sum_{\substack{r \in R_{a,n} \\ \text{and } q=t}} \text{RatingChange}_{a,n,r} * \text{ShadowPrice}_{a,n} * \text{Responsibility}_{n,q,r}$$

Where,

the variables U/D Allocation<sub>a,t,n</sub> and Responsibility<sub>n,q,r</sub> are defined as set forth in Formula N-25, the variable ShadowPrice<sub>a,n</sub> is defined as set forth in Formula N-17, and the variables RatingChange<sub>a,n,r</sub> and R<sub>a,n</sub> are defined as set forth in Formula N-24.

### Section 3.6.4. Assigning Responsibility for Outages, Returns-to-Service, Deratings, and Up-ratings

#### Section 3.6.4.1. General Rule for Assigning Responsibility; Presumption of Causation

Unless the special rules set forth in Sections 3.6.4.2 or 3.6.4.3 apply, a Transmission Owner shall for purposes of this Section 3.6 be deemed responsible for an Auction Status

Auction Status Change or that responsibility is to be shared among Transmission Owners in accordance with Section 3.6.4.2 or Section 3.6.4.3; or (iii) FERC orders otherwise.

**Section 3.6.4.2. Shared Responsibility For Outages, Returns-to-Service, and Ratings Changes Directed by the ISO or Caused by Facility Status Changes Directed by the ISO**

A Transmission Owner shall not be responsible for any Auction Status Change that qualifies as an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change. Instead, the ISO shall allocate any revenue impacts resulting from an Auction Status Change that qualifies as an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change as part of Net Auction Revenues for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ . To do so, the ISO shall be treated as a Transmission Owner when allocating Auction Constraint Residuals pursuant to Section 3.6.2 and Section 3.6.3, and any Auction Status Change that qualifies as an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change shall be attributed to the ISO when performing the calculations described in Section 3.6.2 and Section 3.6.3; *provided, however*, any O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment allocable to the ISO pursuant to this Section 3.6.4.2 shall ultimately be allocated to the Transmission Owners as Net Auction Revenues pursuant to Section 3.7.

Responsibility for a Qualifying Auction Return-to-Service or Qualifying Auction  
Upgrading that is directed by the ISO but does not qualify as a Deemed ISO-Directed Auction  
Status Change shall be assigned to the Transmission Owner that was responsible for the  
Qualifying Auction Outage or Qualifying Auction Derating in the last 6-month Sub-Auction held  
for TCCs valid during the month corresponding to the relevant Reconfiguration Auction.

The ISO shall not direct that a transmission facility be modeled as in-service or out-of-  
service for purposes of a Reconfiguration Auction without the unanimous consent of the  
Transmission Owner(s), if any, that will be allocated a resulting O/R-t-S Auction Revenue  
Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus  
Payment, or U/D Auction Revenue Surplus Payment in accordance with this Section 3.6.4.2.

**Section 3.6.4.3. Shared Responsibility for External Events**

A Transmission Owner shall not be responsible for an Auction Status Change occurring  
inside the NYCA that is caused by a change in the in-service or out-of-service status or rating of  
a transmission facility located outside the NYCA. Instead, the ISO shall allocate any revenue  
impacts resulting from an Auction Status Change caused by such an event outside the NYCA as  
part of Net Auction Revenues for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  
 $n$ . To do so, the ISO shall be treated as a Transmission Owner when allocating Auction  
Constraint Residuals pursuant to Section 3.6.2 and Section 3.6.3 and any Auction Status Change

caused by such an event outside the NYCA shall be attributed to the ISO; *provided, however*, any O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment allocable to the ISO pursuant to this Section 3.6.4.3 shall ultimately be allocated to the Transmission Owners as Net Auction Revenues pursuant to Section 3.7.

### **Section 3.6.5. Exceptions: Setting Charges and Payments to Zero**

#### **Section 3.6.5.1. Zeroing Out of Charges and Payments When Outages and Deratings Lead to Net Payments or Returns-to-Service and Upratings Lead to Net Charges**

The ISO shall use Formula N-27 to calculate the total O/R-t-S Auction Revenue Shortfall Charges, U/D Auction Revenue Shortfall Charges, O/R-t-S Auction Revenue Surplus Payments, and U/D Auction Revenue Surplus Payments,  $\text{NetAuctionAllocations}_{t,n}$ , for Transmission Owner  $t$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , as the case may be. Based on this calculation, the ISO shall set equal to zero all O/R-t-S  $\text{ARSC}_{a,t,n}$ , U/D  $\text{ARSC}_{a,t,n}$ , O/R-t-S  $\text{ARSP}_{a,t,n}$ , and U/D  $\text{ARSP}_{a,t,n}$  (each as defined in Formula N-27) for Transmission Owner  $t$  for all constraints for round  $n$  of a 6-month Sub-Auction or Reconfiguration Auction  $n$ , as the case may be, if (i)  $\text{NetAuctionAllocations}_{t,n}$  is positive and Transmission Owner  $t$  is not responsible (as determined pursuant to Section 3.6.4) for any Qualifying Auction Returns-to-Service or Qualifying Auction Upratings in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , as the case may be, or (ii)  $\text{NetAuctionAllocations}_{t,n}$  is negative and Transmission Owner  $t$  is not responsible (as determined



pursuant to Section 3.6.4) for any Qualifying Auction Outages or Qualifying Auction Deratings in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , as the case may be; *provided, however*, the ISO shall not set equal to zero pursuant to this Section 3.6.5.1 any O/R-t-S  $ARSC_{a,t,n}$ , U/D  $ARSC_{a,t,n}$ , O/R-t-S  $ARSP_{a,t,n}$ , or U/D  $ARSP_{a,t,n}$  arising from an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change described in Section 3.6.4.2 or external events described in Section 3.6.4.3.

**Formula N-27**

$$NetAuctionAllocations_{t,n} = \sum_{\text{for all } a} \left( O/R-t-S \ ARSC_{a,t,n} + U/D \ ARSC_{a,t,n} + O/R-t-S \ ARSP_{a,t,n} + U/D \ ARSP_{a,t,n} \right)$$

Where,

$NetAuctionAllocations_{t,n}$  = The total of the O/R-t-S Auction Revenue Shortfall Charges, U/D Auction Revenue Shortfall Charges, O/R-t-S Auction Revenue Surplus Payments, and U/D Auction Revenue Surplus Payments allocated to Transmission Owner  $t$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$

$O/R-t-S \ ARSC_{a,t,n}$  = An O/R-t-S Auction Revenue Shortfall Charge allocated to Transmission Owner  $t$  for binding constraint  $a$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.2

$U/D \ ARSC_{a,t,n}$  = A U/D Auction Revenue Shortfall Charge allocated to Transmission Owner  $t$  for binding constraint  $a$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.3

$O/R-t-S \ ARSP_{a,t,n}$  = An O/R-t-S Auction Revenue Surplus Payment allocated to Transmission Owner  $t$  for binding constraint  $a$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.2

$U/D \ ARSP_{a,t,n}$  = A U/D Auction Revenue Surplus Payment allocated to Transmission Owner  $t$  for binding constraint  $a$  in round  $n$  of a 6-month Sub-Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.3.

For the sake of clarity, the ISO shall not pursuant to this Section 3.6.5.2 set equal to zero any O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment that fails to meet these conditions, even if another O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment is set equal to zero pursuant to this Section 3.6.5.2 in the same round of a Centralized TCC Auction or the same Reconfiguration Auction, as the case may be.

### **Section 3.6.6. Information Requirements**

#### **Section 3.6.6.1. Posting of Uprate/Derate Tables**

Prior to each Reconfiguration Auction, the ISO shall post on its website the Reconfiguration Auction Interface Uprate/Derate Table, which table shall specify the expected impact (at the time of the Reconfiguration Auction based on all information available to the ISO) of all transmission facility outages and returns-to-service on interface transfer limits for the period for which TCCs are to be sold in the Reconfiguration Auction.

Prior to each Centralized TCC Auction, the ISO shall post on its website the Centralized TCC Auction Interface Uprate/Derate Table, which table shall specify the expected impact (at the time of the Centralized TCC Auction based on all information available to the ISO) of all transmission facility outages and returns-to-service on interface transfer limits for the period for which TCCs are to be sold in each Sub-Auction of the Centralized TCC Auction.

**Formula N-29**

$$NNAR_{t,n} = \frac{\left( \text{Original Residual}_{t,n} + \text{ETCNL}_{t,n} + \text{NARS}_{t,n} + \text{GFR\&GFTCC}_{t,n} \right)}{\sum_{q \in T} \left( \text{Original Residual}_{q,n} + \text{ETCNL}_{q,n} + \text{NARS}_{q,n} + \text{GFR\&GFTCC}_{q,n} \right)}$$

Where,

$NNAR_{t,n}$  = The negative Net Auction Revenue coefficient for Transmission Owner  $t$  for Reconfiguration Auction  $n$

Original Residual $_{q,n}$  = The one-month portion of the revenue imputed to the Direct Sale or the sale in any Centralized TCC Auction Sub-Auction of Original Residual TCCs that are valid during the month corresponding to Reconfiguration Auction  $n$ . The one-month portion of the revenue imputed to the Direct Sale of these Original Residual TCCs shall be one-sixth of the average market clearing price in the rounds of the 6-month Sub-Auction of the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds. The one-month portion of the revenue imputed to the sale in any Centralized TCC Auction Sub-Auction of these Original Residual TCCs shall be calculated by dividing the revenue received from the sale of these Original Residual TCCs in the Centralized TCC Auction Sub-Auction by the duration in months of the TCCs sold in that Centralized TCC Auction Sub-Auction

$ETCNL_{q,n}$  = The sum of the one-month portion of the revenues the Transmission Owner has received as payment for the Direct Sale of ETCNL or for its ETCNL released in the Centralized TCC Auction Sub-Auctions held for TCCs valid for the month corresponding to Reconfiguration Auction  $n$ . Each one-month portion of the revenue for ETCNL released in such Centralized TCC Auction shall be calculated by dividing the revenue received in a Centralized TCC Auction Sub-Auction from the sale of the ETCNL by the duration in months of the TCCs corresponding to the ETCNL sold in the Centralized TCC Auction Sub-Auction.<sup>3</sup> The one-month portion of the revenue imputed to the Direct Sale of ETCNL shall be one-sixth of the average market clearing price of the TCCs corresponding to that ETCNL in the rounds of the 6-month Sub-Auction of the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

Issued by: Stephen G. Whitley, President  
 Issued on: April 2, 2010

Effective: May 31, 2010

<sup>4</sup> A TCC corresponds to ETCNL if it has the same POI and POW as the ETCNL.

- $NAR_{s,q,n}$  = The one-month portion of the Net Auction Revenues the Transmission Owner has received in Centralized TCC Auction Sub-Auctions and Reconfiguration Auctions held for TCCs valid for the month corresponding to Reconfiguration Auction  $n$  (which shall not include any revenue from the sale of Original Residual TCCs). The one-month portion of the revenues shall be calculated by summing (i) the revenue Transmission Owner  $q$  received in each Centralized TCC Auction Sub-Auction from the allocation of Net Auction Revenue pursuant to Section 3.7, divided by the duration in months of the TCCs sold in the Centralized TCC Auction Sub-Auction (or, to the extent TCC auction revenues were allocated pursuant to a different methodology, the amount of such revenues allocated to Transmission Owner  $q$ ), minus (ii) the sum of  $NetAuctionAllocations_{t,n}$  as calculated pursuant to Formula N-27 (as adjusted for any charges or payments that are zeroed out) for Transmission Owner  $q$  for all rounds  $n$  of a 6-month Sub-Auction for all Centralized TCC Auctions held for TCCs valid in the month corresponding to Reconfiguration Auction  $n$ , divided in each case by the duration in months of the TCCs sold in each Centralized TCC Auction Sub-Auction (or, to the extent that the revenue impact of transmission facility outages, returns-to-service, upratings, and deratings were settled pursuant to a different methodology, the net of such revenue impacts for Transmission Owner  $q$ ), minus (iii)  $NetAuctionAllocations_{t,n}$  as calculated pursuant to Formula N-27 and as adjusted for any charges or payments that are zeroed out for Transmission Owner  $q$  for Reconfiguration Auction  $n$
- $GFR\&GFTCC_{q,n}$  = The one-month portion of the imputed value of Grandfathered TCCs and Grandfathered Rights, valued at one-sixth of the market clearing price in the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , provided that the Transmission Owner is the selling party and the Existing Transmission Agreement related to each Grandfathered TCC and Grandfathered Right remains valid in the month corresponding to Reconfiguration Auction  $n$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.
- $t$  = Transmission Owner  $t$
- $T$  = The set of all Transmission Owners  $q$ .

Each Transmission Owner's share of Net Auction Revenues allocated pursuant to this Section 3.7 shall be incorporated into its TSC or NTAC, as the case may be.

## Section 1.2. Defined Terms Used in Attachment N

Capitalized terms used in this Attachment N shall have the meaning specified below in this Section 1.2, and capitalized terms used in this Attachment N but not defined below shall have the meaning given to them in Section 1.0 of the OATT:

Actual Qualifying Auction Derating: As defined in Section 3.6.3.1.

Actual Qualifying Auction Outage: As defined in Section 3.6.2.1.

Actual Qualifying Auction Return-to-Service: As defined in Section 3.6.2.1.

Actual Qualifying Auction Upgrading: As defined in Section 3.6.3.1.

Actual Qualifying DAM Derating: As defined in Section 2.4.3.1.

Actual Qualifying DAM Outage: As defined in Section 2.4.2.1.

Actual Qualifying DAM Return-to-Service: As defined in Section 2.4.2.1.

Actual Qualifying DAM Upgrading: As defined in Section 2.4.3.1.

Auction Status Change: Any of the following: Qualifying Auction Outage, Qualifying Auction Derating, Qualifying Auction Return-to-Service, or Qualifying Auction Upgrading.

Centralized TCC Auction Interface Update/Derate Table: The interface derate table posted on the ISO website prior to a given Centralized TCC Auction specifying the impact on transfer limits of Qualifying DAM Outages and Qualifying DAM Returns-to-Service for a ~~s~~Sub-~~a~~Auction of a Centralized TCC Auction.

DAM Constraint Residual: The dollar value associated with a Constraint that is binding for an hour of the Day-Ahead Market, which is calculated pursuant to Section 2.4.1.

DAM Status Change: Any of the following: Qualifying DAM Outage, Qualifying DAM Derating, Qualifying DAM Return-to-Service, or Qualifying DAM Upgrading.

DCR Allocation Threshold: Five thousand dollars (\$5,000), except that this amount shall be reduced for any given month to the extent necessary so that the sum of all DAM Constraint Residuals for the month (for all binding constraints and for all hours of the month) that are less than the DCR Allocation Threshold is not greater than either two hundred and fifty thousand dollars (\$250,000) or five percent (5%) of the sum of all DAM Constraint Residuals for the month (for all binding constraints and for all hours of the month) that would have been calculated if the DCR Allocation Threshold were set equal to zero.

Deemed Qualifying Auction Derating: As defined in Section 3.6.3.1.

Deemed Qualifying Auction Outage: As defined in Section 3.6.2.1.

Deemed Qualifying Auction Return-to-Service: As defined in Section 3.6.2.1.

Deemed Qualifying Auction Upgrading: As defined in Section 3.6.3.1.

Deemed ISO-Directed Auction Status Change: Any of the following: (1) an Actual Qualifying Auction Return-to-Service for a Reconfiguration Auction that occurs for a transmission facility that, in the last 6-month ~~s~~Sub-a~~A~~uction held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction, was a Qualifying Auction Outage that qualified as an ISO-Directed Auction Status Change; (2) an Actual Qualifying Auction Upgrading for a Reconfiguration Auction that occurs as a result of an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service of a transmission facility that, in the last 6-month ~~s~~Sub-a~~A~~uction held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction, qualified as a Qualifying Auction Outage or Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change; or (3) an Actual Qualifying Auction Derating for a Reconfiguration Auction that occurs as a result of an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service of a transmission facility that, in the last 6-month ~~s~~Sub-a~~A~~uction held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction, qualified as an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change.

Deemed ISO-Directed DAM Status Change: Any of the following: (1) an Actual Qualifying DAM Return-to-Service for an hour of the Day-Ahead Market that occurs for a transmission facility that, in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month ~~s~~S~~ub-a~~uction of a Centralized TCC Auction held for TCCs valid for the relevant hour, was an Actual Qualifying Auction Outage that qualified as an ISO-Directed Auction Status Change; (2) an Actual Qualifying DAM Upgrading for an hour of the Day-Ahead Market that occurs for a transmission facility that, in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month ~~s~~S~~ub-a~~uction of a Centralized TCC Auction held for TCCs valid for the relevant hour, qualified as an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change; or (3) an Actual Qualifying DAM Derating for an hour of the Day-Ahead Market that occurs for a transmission facility that, in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month ~~s~~S~~ub-a~~uction of a Centralized TCC Auction held for TCCs valid for the relevant hour, qualified as an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service that was an ISO-Directed Auction Status Change. (The terms "Actual Qualifying Auction Outage" and "ISO-Directed Auction Status Change" shall, if not defined in this Section 1.2, have the meaning given in the ISO's March 17, 2006, filing.)

Deemed Qualifying DAM Derating: As defined in Section 2.4.3.1.

Deemed Qualifying DAM Outage: As defined in Section 2.4.2.1.

Deemed Qualifying DAM Return-to-Service: As defined in Section 2.4.2.1.

Deemed Qualifying DAM Upgrading: As defined in Section 2.4.3.1.

ISO-Directed Auction Status Change: Either of the following: (1) an Actual Qualifying Auction Outage for a Reconfiguration Auction or a round of a Centralized TCC Auction that is directed by the ISO or results from an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service directed by the ISO; or (2) an Actual Qualifying Auction Derating or an Actual Qualifying Auction Upgrading for a Reconfiguration Auction or a round of a Centralized TCC Auction that results from an Actual Qualifying Auction Outage directed by the ISO.

**Section 2.4.4.2. Shared Responsibility For Outages, Returns-to-Service, and Ratings Changes Directed by the ISO or Caused by Facility Status Changes Directed by the ISO**

A Transmission Owner shall not be responsible for any DAM Status Change that qualifies as an ISO-Directed DAM Status Change or Deemed ISO-Directed DAM Status Change. Instead, the ISO shall allocate any revenue impacts resulting from a DAM Status Change that qualifies as an ISO-Directed DAM Status Change or Deemed ISO-Directed DAM Status Change as part of Net Congestion Rents for hour  $h$ . To do so, the ISO shall be treated as a Transmission Owner when allocating DAM Constraint Residuals pursuant to Section 2.4.2 and Section 2.4.3, and any DAM Status Change that qualifies as an ISO-Directed DAM Status Change or Deemed ISO-Directed DAM Status Change shall be attributed to the ISO when performing the calculations described in Section 2.4.2 and Section 2.4.3; *provided, however*, any O/R-t-S Congestion Rent Shortfall Charge, U/D Congestion Rent Shortfall Charge, O/R-t-S Congestion Rent Surplus Payment, or U/D Congestion Rent Surplus Payment allocable to the ISO pursuant to this Section 2.4.4.2 shall ultimately be allocated to the Transmission Owners as Net Congestion Rents pursuant to Section 2.5.

Responsibility for a Qualifying DAM Return-to-Service or Qualifying DAM Upgrading that is directed by the ISO but does not qualify as a Deemed ISO-Directed DAM Status Change shall be assigned to the Transmission Owner that was responsible for the Qualifying Auction Outage or Qualifying Auction Derating in the last Reconfiguration Auction held for TCCs valid for the relevant hour or the last 6-month ~~s~~Sub-aAuction of a Centralized TCC Auction held for TCCs valid for the relevant hour.



equal to the product of (i)  $NCR_m$ , and (ii) the allocation factor for Transmission Owner  $t$  for month  $m$ , as calculated pursuant to Formula N-15.

Formula N-15

$$\text{AllocationFactor}_{t,m} = \frac{(\text{Original Residual}_{t,m} + \text{ETCNL}_{t,m} + \text{NARs}_{t,m} + \text{GFR\&GFTCC}_{t,m})}{\sum_{q \in T} (\text{Original Residual}_{q,m} + \text{ETCNL}_{q,m} + \text{NARs}_{q,m} + \text{GFR\&GFTCC}_{q,m})}$$

Where,

Allocation Factor $_{t,m}$  = The allocation factor used by the ISO to allocate a share of the Net Congestion Rents to Transmission Owner  $t$  for month  $m$

Original Residual $_{q,m}$  = The one-month portion of the revenue imputed to the Direct Sale or the sale in any Centralized TCC Auction ~~s~~Sub-aAuction of Original Residual TCCs that are valid in month  $m$ . The one-month portion of the revenue imputed to the Direct Sale of these Original Residual TCCs shall be the market clearing price of the TCCs in the Reconfiguration Auction held for month  $m$  (or one-sixth of the average market clearing price in the ~~stage-1~~ rounds of the 6-month ~~s~~Sub-aAuction of the last Centralized TCC Auction if no Reconfiguration Auction was held for month  $m$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.). The one-month portion of the revenue imputed to the sale in any Centralized TCC Auction ~~s~~Sub-aAuction of these Original Residual TCCs shall be calculated by dividing the revenue received from the sale of these Original Residual TCCs in the Centralized TCC Auction ~~s~~Sub-aAuction by the duration in months of the TCCs sold in that Centralized TCC Auction ~~s~~Sub-aAuction.

$ETCNL_{q,m}$  = The sum of the one-month portion of the revenue the Transmission Owner has received as payment for the Direct Sale of ETCNL or for its ETCNL released in the Centralized TCC Auction ~~s~~Sub-~~a~~Auction held for TCCs valid for month  $m$ . Each one-month portion of the revenue for ETCNL released in such Centralized TCC Auction shall be calculated by dividing the revenue received in a Centralized TCC Auction ~~s~~Sub-~~a~~Auction from the sale of the ETCNL by the duration in months of the TCCs corresponding to the ETCNL sold in the Centralized TCC Auction ~~s~~Sub-~~a~~Auction.<sup>1</sup> The one-month portion of the revenue imputed to the Direct Sale of ETCNL shall be the value of the TCCs corresponding to that ETCNL in the Reconfiguration Auction held for month  $m$  (or one-sixth of the average market clearing price of such TCCs in ~~stage 1~~the rounds of the 6-month ~~s~~Sub-~~a~~Auction of the last Centralized TCC Auction if no Reconfiguration Auction was held for month  $m$ ). For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

Issued by: ~~Mark S. Lynch~~Stephen G. Whitley, President  
Issued on: ~~March 17, 2006~~April 2, 2010

Effective:~~January 1, 2004~~May 31, 2010

---

2 A TCC corresponds to ETCNL if it has the same POI and POW as the ETCNL.

$NAR_{s,q,m}$  = The one-month portion of the Net Auction Revenues the Transmission Owner has received in Centralized TCC Auction ~~s~~Sub-aAuctions and Reconfiguration Auctions held for TCCs valid for month  $m$  (which shall not include any revenue from the sale of Original Residual TCCs). The one-month portion of the revenues shall be calculated by summing (i) the revenue Transmission Owner  $q$  received in each Centralized TCC Auction ~~s~~Sub-aAuction or Reconfiguration Auction from the allocation of Net Auction Revenue pursuant to Section 3.7, divided by the duration in months of the TCCs sold in the Centralized TCC Auction ~~s~~Sub-aAuction or Reconfiguration Auction (or, to the extent TCC auction revenues were allocated pursuant to a different methodology, the amount of such revenues allocated to Transmission Owner  $q$ ), minus (ii) the sum of NetAuctionAllocations<sub>t,n</sub> as calculated pursuant to Formula N-27 (as adjusted for any charges or payments that are zeroed out) for Transmission Owner  $q$  for all 6-month ~~s~~Sub-aAuction ~~stage 1~~ rounds  $n$  of all Centralized TCC Auctions held for TCCs valid in month  $m$ , divided in each case by the duration in months of the TCCs sold in each Centralized TCC Auction ~~s~~Sub-aAuction (or, to the extent that the revenue impact of transmission facility outages, returns-to-service, upratings, and deratings were settled pursuant to a different methodology, the net of such revenue impacts for Transmission Owner  $q$ ), minus (iii) NetAuctionAllocations<sub>t,n</sub> as calculated pursuant to Formula N-27 and as adjusted for any charges or payments that are zeroed out for Transmission Owner  $q$  for the Reconfiguration Auction  $n$  held for month  $m$  (or, to the extent that the revenue impact of transmission facility outages, returns-to-service, upratings, and deratings were settled pursuant to a different methodology, the net of such revenue impacts for Transmission Owner  $q$ )

$GFR\&GFTCC_{q,m}$  = The one-month portion of the imputed value of Grandfathered TCCs and Grandfathered Rights, valued at their market clearing prices in the Reconfiguration Auction for month  $m$  (or one-sixth of the average market clearing price ~~in stage 1~~ for rounds in the 6-month ~~s~~Sub-aAuction of the last Centralized TCC Auction if no Reconfiguration Auction was held for month  $m$ ), provided that the Transmission Owner is the selling party and the Existing Transmission Agreement related to each Grandfathered TCC and Grandfathered Right remains valid in month  $m$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

$t$  = Transmission Owner  $t$

$T$  = The set of all Transmission Owners  $q$ .

Each Transmission Owner's share of Net Congestion Rents allocated pursuant to this Section 2.5, shall be incorporated into its TSC or NTAC, as the case may be.

Where,

n = A round of a Centralized TCC Auction (which may be either a ~~stage 1~~ round of a 6-month ~~s~~Sub-aAuction, a ~~stage 1~~ round of a ~~s~~Sub-aAuction in which TCCs with a duration greater than 6 months are sold, ~~or a stage 2 round~~) or a Reconfiguration Auction, as the case may be

Net Auction Revenue <sub>n</sub>	= Net Auction Revenue for the round <i>n</i> of a Centralized TCC Auction or for Reconfiguration Auction <i>n</i> , as the case may be
TCC Auction Revenue <sub>n</sub>	= The gross amount of revenue that the ISO collects from the award of TCCs to purchasers in round <i>n</i> or in Reconfiguration Auction <i>n</i> , which results from the charges and payments allocated pursuant to Section 3.2
ETCNL <sub>n</sub>	= Either (i) if round <i>n</i> is a <del>stage 1</del> round of a Centralized TCC Auction, the total of all payments that the ISO makes to Transmission Owners releasing ETCNL into the round pursuant to Section 3.3; <u>or</u> (ii) <del>if round <i>n</i> is a stage 2 round of a Centralized TCC Auction, 0; or (iii)</del> for Reconfiguration Auction <i>n</i> , 0
Primary Holder TCCs Sold <sub>n</sub>	= The net of the total payments and charges the ISO allocates to Primary Holders selling TCCs in round <i>n</i> or in Reconfiguration Auction <i>n</i> pursuant to Section 3.4
Original Residual TCCs <sub>n</sub>	= Either (i) if round <i>n</i> is a <del>stage 1</del> round of a Centralized TCC Auction, the total payments the ISO makes in round <i>n</i> pursuant to Section 3.5 to Transmission Owners that release into round <i>n</i> Original Residual TCCs; <u>or</u> (ii) <del>if round <i>n</i> is a stage 2 round of a Centralized TCC Auction, 0; or (iii)</del> for Reconfiguration Auction <i>n</i> , 0
O/R-t-S&U/D ARSC&ARSP <sub>n</sub>	= Either (i) if round <i>n</i> is a <del>stage 1</del> round of a Centralized TCC Auction in which 6-month TCCs are sold, the sum of the total O/R-t-S Auction Revenue Shortfall Charges, U/D Auction Revenue Shortfall Charges, O/R-t-S Auction Revenue Surplus Payments, and U/D Auction Revenue Surplus Payments (calculated as NetAuctionAllocations <sub>t,n</sub> pursuant to Formula N-27) for all Transmission Owners <i>t</i> , reduced by any zeroing out of such charges or payments pursuant to Section 3.6.5; (ii) if round <i>n</i> is a <del>stage 2</del> round of a Centralized TCC Auction <del>or a stage 1 round of a Centralized TCC Auction</del> <u>Sub-a</u> Auction in which TCCs with durations longer than 6 months are sold, 0; or (iii) for Reconfiguration Auction <i>n</i> , the sum of the total O/R-t-S Auction Revenue Shortfall Charges (O/R-t-S ARSC <sub>a,t,n</sub> ), U/D Auction Revenue Shortfall Charges (U/D ARSC <sub>a,t,n</sub> ), O/R-t-S Auction Revenue Surplus Payments (O/R-t-S ARSP <sub>a,t,n</sub> ), and U/D Auction Revenue Surplus Payments (U/D ARSP <sub>a,t,n</sub> ) for all Transmission Owners <i>t</i> (which sum is calculated for each Transmission Owner as NetAuctionAllocations <sub>t,n</sub> pursuant to Formula N-27), reduced by any zeroing out of such charges or payments pursuant to Section 3.6.5

The ISO shall allocate the Net Auction Revenue calculated in each round of a Centralized TCC Auction ~~s~~Sub-aAuction and in each Reconfiguration Auction to Transmission Owners pursuant to Section 3.7.

### **Section 3.2. Charges for TCCs Purchased**

All bidders awarded TCCs in round  $n$  of a Centralized TCC Auction or in Reconfiguration Auction  $n$  shall pay or be paid the market clearing price in round  $n$  or in Reconfiguration Auction  $n$ , as determined pursuant to Attachment M of this Tariff, for the TCCs purchased.

### **Section 3.3. Payments for ETCNL**

The ISO shall, in each round of a Centralized TCC Auction in which ETCNL is released, pay the market clearing price determined in that round for TCCs that correspond to that ETCNL to the Transmission Owner that releases the ETCNL.

If a Transmission Owner releases ETCNL for sale in a round of the Centralized TCC Auction, and the market-clearing price for those TCCs corresponding to that ETCNL in that round is negative, the value of those TCCs will not be included in the determination of payments to the Transmission Owners for ETCNL released into the Centralized TCC Auction. If the market-clearing price is negative for TCCs corresponding to any ETCNL, the value will be set to zero for purposes of allocating auction revenues from the sale of ETCNL. If the total value of

In the event a Grandfathered TCC<sup>2</sup> is terminated by mutual agreement of the parties to the grandfathered ETA prior to the conditions specified within Attachments K and L, then the ISO shall distribute the revenues from the sale of the TCCs that correspond to the terminated Grandfathered TCCs in a round of a Centralized TCC Auction directly back to the Transmission Owner identified in Attachment L, until such time as the conditions specified within Attachments K and L are met. Upon such time that the conditions within Attachments K and L are met, the ISO shall allocate the revenues from the sale of the TCCs that correspond to terminated Grandfathered TCCs in the Centralized TCC Auction as Net Auction Revenues in accordance with Section 3.7 of this Attachment.

### **Section 3.5. Allocation of Revenues from the Sale of Original Residual TCCs**

Revenues associated with Original Residual TCCs shall be distributed directly to each Primary Holder for the duration of the LBMP Transition Period. The Primary Holder of such an Original Residual TCC shall be paid the market clearing price of the Original Residual TCC in the round of the ~~s~~Sub-aAuction in which that Original Residual TCC was sold.

Issued by: Stephen G. Whitley, President  
Issued on: ~~March 31~~April 2, 2010

Effective: ~~May 31, 2010~~May 31, 2010

---

<sup>2</sup> These TCCs include TCCs, if any, associated with those rate schedules to which footnote 9 of Attachment L pertains, whether by mutual agreement or otherwise.



### **Section 3.6. Charges and Payments to Transmission Owners for Auction Outages and Returns-to-Service**

The ISO shall charge O/R-t-S Auction Revenue Shortfall Charges and U/D Auction Revenue Shortfall Charges and pay O/R-t-S Auction Revenue Surplus Payments and U/D Auction Revenue Surplus Payments pursuant to this Section 3.6. To do so, the ISO shall calculate the Auction Constraint Residual for each constraint for each ~~stage 1~~ round  $n$  of a Centralized TCC Auction 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$ , as the case may be, pursuant to Section 3.6.1 and then determine the amount of each Auction Constraint Residual that is O/R-t-S Auction Constraint Residual and the amount that is U/D Auction Constraint Residual, as specified in Section 3.6.1. The ISO shall use the O/R-t-S Auction Constraint Residual to allocate O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments to Transmission Owners pursuant to Sections 3.6.2 and 3.6.4, each of which shall be subject to being reduced to zero pursuant to Section 3.6.5. The ISO shall use the U/D Auction Constraint Residual to allocate U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments to Transmission Owners pursuant to Sections 3.6.3 and 3.6.4, each of which shall be subject to being reduced to zero pursuant to Section 3.6.5.

The ISO shall not calculate an Auction Constraint Residual, O/R-t-S Auction Constraint Residual, or U/D Auction Constraint Residual for any rounds of a Centralized TCC Auction except for ~~stage 1~~ rounds of the 6-month ~~s~~Sub-aAuction.

**Section 3.6.1. Measuring the Impact of Auction Outages and Returns-to-Service: Calculation of Auction Constraint Residuals and Division of Auction Constraint Residuals into O/R-t-S Auction Constraint Residuals and U/D Auction Constraint Residuals**

The ISO shall identify all constraints that are binding in the final Optimal Power Flow solution for ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~uAuction of a Centralized TCC Auction or for Reconfiguration Auction  $n$ , as the case may be. For each binding constraint  $a$  and for each ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~uAuction of a Centralized TCC Auction or Reconfiguration Auction  $n$ , the ISO shall calculate the Auction Constraint Residual,  $ACR_{a,n}$ , using Formula N-17; *provided, however*, the ISO shall recalculate  $ACR_{a,n}$  using Formula N-18 if (i)  $ACR_{a,n}$  is positive based on the calculation using Formula N-17, and (ii) constraint  $a$  was not binding in the Power Flow used to determine the Energy flow on constraint  $a$  in calculating the variable  $FLOW_{a,n,basecase}$  in Formula N-17.

**Formula N-17**

$$ACR_{a,n} = \text{ShadowPrice}_{a,n} * \left[ \frac{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{basecase}})}{+ (\text{ISORatingChange}_{a,n} * \text{OPFSignChange}_{a,n})} \right] * \% \text{Sold}_n$$

Where,

$ACR_{a,n}$  = The Auction Constraint Residual, in dollars, for binding constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~uAuction or in Reconfiguration Auction  $n$

ShadowPrice<sub>a,n</sub> = The Shadow Price, in dollars/MW- $p$ , of binding constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or in Reconfiguration Auction  $n$ , where  $p$  is a one-month period for Reconfiguration Auction  $n$  and  $p$  is a six-month period for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, which Shadow Price is calculated in a manner so that if relaxation of constraint  $a$  would permit an increase in the objective function used for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$  as described in Attachment M of this tariff, then ShadowPrice<sub>a,n</sub> is positive

FLOW<sub>a,n,actual</sub> = The Energy flow, in MW- $p$ , on binding constraint  $a$  resulting from a Power Flow using, as the case may be:

- (a) For Reconfiguration Auction  $n$ , (i) the Transmission System model for Reconfiguration Auction  $n$ , (ii) the set of TCCs and Grandfathered Rights represented in the solution to Reconfiguration Auction  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction), and (iii) the phase angle regulator schedules determined in the Optimal Power Flow solution for Reconfiguration Auction  $n$ ; or
- (b) For ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, (i) the Transmission System model for ~~stage 1~~ round  $n$ , (ii) the set of TCCs (scaled appropriately) and Grandfathered Rights represented in the solution to ~~stage 1~~ round  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction), and (iii) the phase angle regulator schedule produced in the Optimal Power Flow solution for ~~stage 1~~ round  $n$

FLOW<sub>a,n,basecase</sub> = The Energy flow, in MW- $p$ , on binding constraint  $a$  produced in, as the case may be:

- (a) For Reconfiguration Auction  $n$ , a Power Flow using the following base case data set: (i) the Transmission System model for Reconfiguration Auction  $n$ , (ii) the set of TCCs and Grandfathered Rights represented in the solution to the final round of the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction), and (iii) the phase angle regulator schedules determined in the Optimal Power Flow solution for the final round of the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; or

(b) For ~~stage 1~~ round  $n$  of a 6-month ~~s~~sSub-~~a~~aAuction, a Power Flow run using the following base case data set: (i) the Transmission System model for the actual 6-month ~~s~~sSub-~~a~~aAuction, and (ii) the base case set of TCCs (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in the simulated auction) and the phase angle regulator schedule produced in a single simulated TCC auction administered for all ~~stage 1~~ rounds of the 6-month ~~s~~sSub-~~a~~aAuction using the Transmission System model for the actual 6-month ~~s~~sSub-~~a~~aAuction modified so as to model as in-service all transmission facilities that were out-of-service in the Transmission System model used for the ~~s~~sSub-~~a~~aAuction and model as fully rated all transmission facilities that were derated in the Transmission System model used for the ~~s~~sSub-~~a~~aAuction, the pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in the ~~s~~sSub-~~a~~aAuction, and all bids to purchase and offers to sell made into all ~~stage 1~~ rounds of the ~~s~~sSub-~~a~~aAuction that includes round  $n$

ISORatingChange<sub>a,n</sub> = The total change in the rating of constraint  $a$  for ~~stage 1~~ round  $n$  or Reconfiguration Auction  $n$  resulting from ISO-Directed Auction Status Changes or Deemed ISO-Directed Auction Status Changes described in Section 3.6.4.2, external events described in Section 3.6.4.3, or reasons determined by the ISO to be unrelated to Qualifying Auction Outages or Qualifying Auction Returns-to-Service for ~~stage 1~~ round  $n$  or Reconfiguration Auction  $n$ , which shall be calculated as follows:

(a) For Reconfiguration Auction  $n$ , zero, except that in the event of a change in the rating of constraint  $a$  resulting from ISO-Directed Auction Status Changes or Deemed ISO-Directed Auction Status Changes described in Section 3.6.4.2, external events described in Section 3.6.4.3, or reasons determined by the ISO to be unrelated to Qualifying Auction Outages or Qualifying Auction Returns-to-Service for ~~stage 1~~ round  $n$  or Reconfiguration Auction  $n$ , ISORatingChange<sub>a,n</sub> shall be equal to the amount, in MW- $p$ , of the change in the rating limit of constraint  $a$  as shown in the Reconfiguration Auction Interface Uprate/Derate Table applicable for Reconfiguration Auction  $n$

(b) For ~~stage 1~~ round  $n$  of a 6-month ~~s~~sSub-~~a~~aAuction, zero, except that in the event of a change in the rating of a transmission facility resulting from ISO-Directed Auction Status Changes or Deemed ISO-Directed Auction Status Changes described in Section 3.6.4.2, external events described in Section 3.6.4.3, or reasons determined by the ISO to be unrelated to Qualifying Auction Outages or Qualifying Auction Returns-to-Service for ~~stage 1~~ round  $n$  or Reconfiguration Auction  $n$ , ISORatingChange<sub>a,n</sub> shall be equal to the amount, in MW- $p$ , of the change in the rating limit of constraint  $a$  as shown in the Centralized TCC Auction Interface Uprate/Derate Table applicable for ~~stage 1~~ round  $n$

$OPFSignChange_{a,n} = 1$  if  $ShadowPrice_{a,n}$  is greater than zero; otherwise,  $-1$

$\%Sold_n =$  Either (i) for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, the percentage of transmission Capacity sold in ~~stage 1~~ round  $n$ , divided by the percentage of transmission Capacity sold in all ~~stage 1~~ rounds of the ~~s~~Sub-aAuction of which ~~stage 1~~ round  $n$  is a part; or (ii) for Reconfiguration Auction  $n$ , 1.

### Formula N-18

$$ACR_{a,n} = ShadowPrice_{a,n} * \left[ \begin{array}{l} (FLOW_{a,n,actual} - FLOW_{a,n,bas e case}) \\ + (ISORatingChange_{a,n} * OPFSignChange_{a,n}) \\ - (UnsoldCapacity_{a,n,PriorAuction} * OPFSignChange_{a,n}) \end{array} \right] * \%Sold_n$$

Where,

$UnsoldCapacity_{a,n,PriorAuction} =$  Either:

- (a) For Reconfiguration Auction  $n$ , the rating limit for binding constraint  $a$  applied in the model used in the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , minus the Energy flow, in MW- $p$ , on binding constraint  $a$  produced in the Optimal Power Flow in the last round of that Centralized TCC Auction; or
- (b) For ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, the rating limit for binding constraint  $a$  applied in the model used in the simulated auction run to determine  $FLOW_{a,n,bas e case}$  in Formula N-17, minus the Energy flow, in MW- $p$ , on binding constraint  $a$  produced in the Optimal Power Flow in the simulated auction run to determine  $FLOW_{a,n,bas e case}$  in Formula N-17

and each of the other variables is as set forth in Formula N-17; *provided, however*, if  $ACR_{a,n}$  is less than zero when calculated using this Formula N-18,  $ACR_{a,n}$  shall be set equal to zero.

Following calculation of the Auction Constraint Residual for each constraint  $a$  for each

~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or each Reconfiguration Auction  $n$ , the ISO shall

calculate the amount of each O/R-t-S Auction Constraint Residual and the amount of each U/D Auction Constraint Residual for each constraint  $a$  for each ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$ , as the case may be. The amount of each O/R-t-S Auction Constraint Residual for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$  shall be determined by applying Formula N-19.

The amount of each U/D Auction Constraint Residual for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$  shall be determined by applying Formula N-20.

#### Formula N-19

$$\text{O/R-t-S ACR}_{a,n} = \text{ACR}_{a,n} * \left[ \frac{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{base case}}) + (\text{TotalRatingChange}_{a,n} * \text{OPFSignChange}_{a,n})}{(\text{FLOW}_{a,n,\text{actual}} - \text{FLOW}_{a,n,\text{base case}}) + (\text{ISORatingChange}_{a,n} * \text{OPFSignChange}_{a,n})} \right]$$

Where:

$\text{O/R-t-S ACR}_{a,n}$  = The amount of the O/R-t-S Auction Constraint Residual for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$

$\text{TotalRatingChange}_{a,n}$  = The total change in the rating of constraint  $a$ , which shall be calculated as follows:

- (a) For Reconfiguration Auction  $n$ ,  $\text{TotalRatingChange}_{a,n}$  shall be equal to (1) the rating limit, in MW- $p$ , of constraint  $a$  in the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , minus (2) the rating limit, in MW- $p$ , of constraint  $a$  applicable in Reconfiguration Auction  $n$
- (b) For ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction,  $\text{TotalRatingChange}_{a,n}$  shall be equal to (1) the rating limit, in MW- $p$ , of constraint  $a$  in a case where all transmission facilities are in-service and fully rated, minus (2) the rating limit, in MW- $p$ , of constraint  $a$  in ~~stage 1~~ round  $n$

and the variable  $\text{ACR}_{a,n}$  is as calculated pursuant to Formula N-17 or, if required, pursuant to Formula N-18, and each of the other variables are as defined in Formula N-17.

### Formula N-20

$$U/D\ ACR_{a,n} = ACR_{a,n} * \left[ \frac{-(TotalRatingChange_{a,n} - ISORatingChange_{a,n}) * OPFSignChange_{a,n}}{(FLOW_{a,n,actual} - FLOW_{a,n,bas\ ec\ ase}) + (ISORatingChange_{a,n} * OPFSignChange_{a,n})} \right]$$

Where,

U/D  $ACR_{a,n}$  = The amount of the U/D Auction Constraint Residual for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$ , as the case may be, for constraint  $a$

and the variable  $ACR_{a,n}$  is as calculated pursuant to Formula N-17 or, if required, pursuant to Formula N-18, the variable  $TotalRatingChange_{a,n}$  is defined as set forth in Formula N-19 and each of the other variables are defined as set forth in Formula N-17.

### Section 3.6.2. Charges and Payments for the Direct Impact of Auction Outages and Returns-to-Service

The ISO shall use O/R-t-S Auction Constraint Residuals to allocate O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments, as the case may be, among Transmission Owners pursuant to this Section 3.6.2. Each O/R-t-S Auction Revenue Shortfall Charge and each O/R-t-S Auction Revenue Surplus Payment allocated to a Transmission Owner pursuant to this Section 3.6.2 is subject to being set equal to zero pursuant to Section 3.6.5.

#### Section 3.6.2.1. Identification of Outages and Returns-to-Service Qualifying for Charges and Payments

For each ~~stage 1~~ round of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction, as the case may be, the ISO shall identify each Qualifying Auction Outage and each Qualifying Auction Return-to-Service, as described below. The Transmission Owner responsible, as determined



pursuant to Section 3.6.4, for the Qualifying Auction Outage or Qualifying Auction Return-to-Service shall be allocated an O/R-t-S Auction Revenue Shortfall Charge or an O/R-t-S Auction Revenue Surplus Payment pursuant to Sections 3.6.2.2 or 3.6.2.3.

#### **Section 3.6.2.1.1. Definition of Qualifying Auction Outage**

A “**Qualifying Auction Outage**” (which term shall apply to ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction *n*, as the case may be) shall be defined to mean either an Actual Qualifying Auction Outage or a Deemed Qualifying Auction Outage. For purposes of this Attachment N, “*o*” shall refer to a single Qualifying Auction Outage.

An “**Actual Qualifying Auction Outage**” (which term shall apply to ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction *n*, as the case may be) shall be defined as a transmission facility that, for a given ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction *n*, as the case may be:

- (a) For Reconfiguration Auction *n*, meets each of the following requirements:
  - (i) the facility existed and was modeled as in-service in the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*; and
  - (ii) the facility exists but is not modeled as in-service for Reconfiguration Auction *n*;
  - (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*; or
- (b) For ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction, meets each of the following requirements:
  - (i) the facility exists but is not modeled as in-service for ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction; and
  - (ii) the facility was not Normally Out-of-Service Equipment at the time of ~~stage 1~~ round *n* of that 6-month ~~s~~Sub-aAuction.



A “**Deemed Qualifying Auction Outage**” (which term shall apply only to a Reconfiguration Auction *n*) shall be defined as a transmission facility that, for Reconfiguration Auction *n*, meets each of the following requirements:

- (i) the facility existed but was not modeled as in-service in the last 6-month ~~s~~Sub-~~a~~Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*;
- (ii) the facility existed but was not modeled as in-service in Reconfiguration Auction *n* as a result of an Auction Status Change or external event described in Section 3.6.4.3 in Reconfiguration Auction *n* for which responsibility was assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to 3.6.4) other than the Transmission Owner assigned responsibility for the facility not being modeled as in-service in the last 6-month ~~s~~Sub-~~a~~Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*;
- (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month ~~s~~Sub-~~a~~Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*.

#### **Section 3.6.2.1.2. Definition of Qualifying Auction Return-to-Service**

A “**Qualifying Auction Return-to-Service**” shall be defined to mean either an Actual Qualifying Auction Return-to-Service or a Deemed Qualifying Auction Return-to-Service. For purposes of this Attachment N, “*o*” shall refer to a single Qualifying Auction Return-to-Service.

An “**Actual Qualifying Auction Return-to-Service**” shall be defined as a transmission facility that, for a given Reconfiguration Auction *n*, meets each of the following requirements:

- (i) the facility existed but was not modeled as in-service for the last 6-month ~~s~~Sub-~~a~~Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*; and
- (ii) the facility exists and is modeled as in-service in Reconfiguration Auction *n*;
- (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month ~~s~~Sub-~~a~~Auction held for TCCs valid during the month corresponding to Reconfiguration Auction *n*.

Notwithstanding any other provision of this Attachment N, a transmission facility returning to service for ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~ubAuction shall not be an Actual Qualifying Auction Return-to-Service for that ~~stage 1~~ round  $n$  and shall not qualify a Transmission Owner for an O/R-t-S Auction Revenue Shortfall Charge or O/R-t-S Auction Revenue Surplus Payment for that ~~stage 1~~ round  $n$ .

A “**Deemed Qualifying Auction Return-to-Service**” shall be defined as a transmission facility that, for a given Reconfiguration Auction  $n$ , meets each of the following requirements:

- (i) the facility existed but was not modeled as in-service in the last 6-month ~~s~~S~~ub-a~~ubAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (ii) the facility existed but was not modeled as in-service in Reconfiguration Auction  $n$  as a result of an Auction Status Change or external event described in Section 3.6.4.3 in Reconfiguration Auction  $n$  for which responsibility was assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to Section 3.6.4) other than the Transmission Owner assigned responsibility for the facility not being modeled as in-service for the last 6-month ~~s~~S~~ub-a~~ubAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; and
- (iii) the facility was not Normally Out-of-Service Equipment at the time of the last 6-month ~~s~~S~~ub-a~~ubAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ .

**Section 3.6.2.2. Allocation of an O/R-t-S Auction Constraint Residual When Only One Transmission Owner is Responsible for All of the Relevant Outages and Returns-to-Service**

This Section 3.6.2.2 describes the allocation of an O/R-t-S Auction Constraint Residual for a given ~~stage-1~~ round of a 6-month ~~s~~S~~ub-a~~Auction or Reconfiguration Auction, as the case may be, and a given constraint when only one Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for all of the Qualifying Auction Outages and all of the Qualifying Auction Returns-to-Service for that ~~stage-1~~ round of a 6-month ~~s~~S~~ub-a~~Auction or Reconfiguration Auction that contribute to that constraint.

If the same Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for all of the Qualifying Auction Outages  $o$  and Qualifying Auction Returns-to-Service  $o$  for ~~stage-1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~Auction or Reconfiguration Auction  $n$  that contribute to constraint  $a$ , then the ISO shall allocate the O/R-t-S Auction Constraint Residual for that ~~stage-1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~Auction or Reconfiguration Auction  $n$  and that constraint, O/R-t-S  $ACR_{a,n}$ , to that Transmission Owner in the form of either (i) an O/R-t-S Auction Revenue Shortfall Charge in the amount of O/R-t-S  $ACR_{a,n}$  if O/R-t-S  $ACR_{a,n}$  is negative, or (ii) an O/R-t-S Auction Revenue Surplus Payment in the amount of O/R-t-S  $ACR_{a,n}$  if O/R-t-S  $ACR_{a,n}$  is positive.

**Section 3.6.2.3. Allocation of an O/R-t-S Auction Constraint Residual When More Than One Transmission Owner is Responsible for the Relevant Outages and Returns-to-Service**

This Section 3.6.2.3 describes the allocation of an O/R-t-S Auction Constraint Residual for a given ~~stage-1~~ round of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction, as the case may be, and a given constraint when more than one Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for the Qualifying Auction Outages and the Qualifying Auction Returns-to-Service for ~~that stage-1~~the round of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction that contribute to ~~that~~the constraint.

If more than one Transmission Owner is responsible, as determined pursuant to Section 3.6.4, for the Qualifying Auction Outages and the Qualifying Auction Returns-to-Service for ~~stage-1~~ round n of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction n that contribute to constraint a, the ISO shall allocate the O/R-t-S Auction Constraint Residual for constraint a for ~~stage-1~~ round n of a 6-month ~~s~~Sub-~~a~~Auction or for Reconfiguration Auction n,  $O/R-t-S\ ACR_{a,n}$ , in the form of an O/R-t-S Auction Revenue Shortfall Charge or O/R-t-S Auction Revenue Surplus Payment to the Transmission Owners responsible for the Qualifying Auction Outages o and Qualifying Auction Returns-to-Service o for ~~stage-1~~ round n of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction n by first determining the net total impact on the constraint of all

Qualifying Auction Outages and Qualifying Auction Returns-to Service for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$  with an impact on the Energy flow across that constraint of 1 MW- $p$  or more by applying Formula N-21, and then applying either Formula N-22 or Formula N-23, as specified herein, to assess O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments.

### Formula N-21

$$\text{O/R-t-SNetAuctionImpact}_{a,n} = \sum_{\text{for all } o \in O_n} \text{FlowImpact}_{a,n,o} * \text{ShadowPrice}_{a,n}$$

Where,

$\text{O/R-t-SNetAuctionImpact}_{a,n}$  = The net impact, in dollars, for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$ , as the case may be, on constraint  $a$  of all Qualifying Auction Outages and Qualifying Auction Returns-to-Service for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction  $n$  having an impact of more than 1 MW- $p$  on Energy flow across constraint  $a$ ; *provided, however*, O/R-t-S NetAuctionImpact $_{a,n}$  shall be subject to recalculation as specified in the paragraph immediately following this Formula N-21

FlowImpact $_{a,n,o}$  = The Energy flow impact, in MW- $p$ , of a Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  on binding constraint  $a$  determined for Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction, which shall either:

- (a) if Qualifying Auction Outage  $o$  is a Deemed Qualifying Auction Outage, be equal to the negative of FlowImpact $_{a,n,o}$  calculated for the corresponding Deemed Qualifying Auction Return-to-Service as described in part (b) of this definition of FlowImpact $_{a,n,o}$ , or

- (b) if Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  is an Actual Qualifying Auction Outage, an Actual Qualifying Auction Return-to-Service, or a Deemed Qualifying Auction Return-to-Service, be calculated pursuant to the following formula:

$$\text{FlowImpact}_{a,n,o} = \text{BaseCaseFlow}_{a,n} - \text{One-OffFlow}_{a,n,o}$$

Where,

$\text{BaseCaseFlow}_{a,n}$  = Either, as the case may be:

- (i) for a Reconfiguration Auction, the Energy flow on constraint  $a$  resulting from a Power Flow using (1) the set of injections and withdrawals corresponding to the actual TCCs and Grandfathered Rights represented in the solution to the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$  (including those pre-existing TCCs and Grandfathered Rights represented as fixed injections and withdrawals in that auction); (2) the phase angle regulator schedule determined in the Optimal Power Flow solution for the final round of the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; and (3) the Transmission System model for the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ; or
- (ii) for any round of a 6-month ~~s~~Sub-aAuction, the Energy flow on constraint  $a$  resulting from a Power Flow run using the following base case data set: (1) the Transmission System model for the actual 6-month ~~s~~Sub-aAuction, modified so as to model as in-service all transmission facilities that were out-of-service for the actual 6-month ~~s~~Sub-aAuction, and (2) the set of injections and withdrawals corresponding to the base case set of TCCs (including those pre-existing TCCs and Grandfathered Rights that are represented as fixed injections and withdrawals in the 6-month ~~s~~Sub-aAuction) and the phase angle regulator schedule produced in the Optimal Power Flow used to calculate the Energy flow on constraint  $a$  for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, as described in the definition of  $\text{FLOW}_{a,n,\text{basecase}}$  in Formula N-17

One-OffFlow<sub>a,n,o</sub> = Either

- (i) if Qualifying Auction Outage *o* or Qualifying Auction Return-to-Service *o* is an Actual Qualifying Auction Outage or an Actual Qualifying Auction Return-to-Service, the Energy flow on constraint *a* resulting from a Power Flow using each element of the base case data set used in the calculation of BaseCaseFlow<sub>a,n</sub> above (*provided, however, if a transmission facility was modeled as free-flowing in ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction *n*, as the case may be, because of the outage of any transmission facility, the ISO shall appropriately adjust the phase angle regulator schedule and related variables to model the transmission facility as free flowing), but in each case with the Transmission System model modified so as to, as the case may be, either (i) model as out-of-service Actual Qualifying Auction Outage *o*, or (ii) model as in-service Actual Qualifying Auction Return-to-Service *o*; or*
- (ii) if Qualifying Auction Return-to-Service *o* is a Deemed Qualifying Auction Return-to-Service, the Energy flow on constraint *a* resulting from a Power Flow using each element of the base case data set used in the calculation of BaseCaseFlow<sub>a,n</sub> above (*provided, however, if a transmission facility was modeled as free-flowing in ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction *n*, as the case may be, because of the outage of any transmission facility, the ISO shall appropriately adjust the phase angle regulator schedule and related variables to model the transmission facility as free flowing), but with the Transmission System model modified so as to model as in-service the facility that is Deemed Qualifying Auction Return-to-Service *o*;*

*provided, however, where the absolute value of FlowImpact<sub>a,n,o</sub> calculated using the procedures set forth above is less than 1 MW-*p*, then FlowImpact<sub>a,n,o</sub> shall be set equal to zero*

*provided further*,  $\text{FlowImpact}_{a,n,o}$  shall be subject to being set equal to zero as specified in the paragraph immediately following this Formula N-21

$O_n$  = The set of all Qualifying Auction Outages  $o$  and Qualifying Auction Returns-to-Service  $o$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~ub-aAuction or Reconfiguration Auction  $n$

$p$  = A one-month period for Reconfiguration Auction  $n$ , or a six-month period for ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~ub-aAuction

and the variable  $\text{ShadowPrice}_{a,n}$  is defined as set forth in Formula N-17.

After calculating O/R-t-S  $\text{NetAuctionImpact}_{a,n}$  pursuant to Formula N-21, the ISO shall determine whether O/R-t-S  $\text{NetAuctionImpact}_{a,n}$  for constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~ub-aAuction or Reconfiguration Auction  $n$  has a different sign than O/R-t-S  $\text{ACR}_{a,n}$  for constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~ub-aAuction or Reconfiguration Auction  $n$ . If the sign is different, the ISO shall (i) recalculate O/R-t-S  $\text{NetAuctionImpact}_{a,n}$  pursuant to Formula N-21 after setting equal to zero each  $\text{FlowImpact}_{a,n,o}$  for which  $\text{FlowImpact}_{a,n,o} * \text{ShadowPrice}_{a,n}$  has a different sign than O/R-t-S  $\text{ACR}_{a,n}$ , and then (ii) use this recalculated O/R-t-S  $\text{NetAuctionImpact}_{a,n}$  and reset value of  $\text{FlowImpact}_{a,n,o}$  to allocate O/R-t-S Auction Revenue Shortfall Charges and O/R-t-S Auction Revenue Surplus Payments pursuant to Formula N-22 or Formula N-23, as specified below.

If the absolute value of the net impact (O/R-t-S  $\text{NetAuctionImpact}_{a,n}$ ) on constraint  $a$  of all Qualifying Auction Outages and Qualifying Auction Returns-to-Service for ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~ub-aAuction or Reconfiguration Auction  $n$  as calculated using Formula N-21 (or recalculated pursuant to Formula N-21 using a reset value of  $\text{FlowImpact}_{a,n,o}$  as described in the



prior paragraph) is greater than the absolute value of the O/R-t-S Auction Constraint Residual (O/R-t-S  $ACR_{a,n}$ ) for constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~uction or Reconfiguration Auction  $n$ , as the case may be, then the ISO shall allocate the O/R-t-S Auction Constraint Residual in the form of an O/R-t-S Auction Revenue Shortfall Charge, O/R-t-S  $ARSC_{a,t,n}$ , or O/R-t-S Auction Revenue Surplus Payment, O/R-t-S  $ARSP_{a,t,n}$ , by using Formula N-22. If the absolute value of the net impact (O/R-t-S  $NetAuctionImpact_{a,n}$ ) on constraint  $a$  of all Qualifying Auction Outages and Qualifying Auction Returns-to-Service for ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~uction or Reconfiguration Auction  $n$  as calculated using Formula N-21 (or recalculated pursuant to Formula N-21 using a reset value of  $FlowImpact_{a,n,o}$  as described in the prior paragraph) is less than or equal to the absolute value of the O/R-t-S Auction Constraint Residual (O/R-t-S  $ACR_{a,n}$ ) for constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~S~~ub-a~~uction or Reconfiguration Auction  $n$ , as the case may be, then the ISO shall allocate the O/R-t-S Auction Constraint Residual in the form of an O/R-t-S Auction Revenue Shortfall Charge, O/R-t-S  $ARSC_{a,t,n}$ , or O/R-t-S Auction Revenue Surplus Payment, O/R-t-S  $ARSP_{a,t,n}$ , by using Formula N-23.

#### Formula N-22

$$O/R-t-S Allocation_{a,t,n} = \left( \frac{\sum_{\substack{o \in O_n \\ \text{and } q=t}} (FlowImpact_{a,n,o} * Responsibility_{n,q,o})}{\sum_{\text{for all } o \in O_n} FlowImpact_{a,n,o}} \right) * O/R-t-S ACR_{a,n}$$

Where,

O/R-t-S Allocation<sub>a,t,n</sub> = Either an O/R-t-S Auction Revenue Shortfall Charge or an O/R-t-S Auction Revenue Surplus Payment, as specified in (a) and (b) below:

(a) If O/R-t-S Allocation<sub>a,t,n</sub> is negative, then O/R-t-S Allocation<sub>a,t,n</sub> shall be an O/R-t-S Auction Revenue Shortfall Charge, O/R-t-S ARSC<sub>a,t,n</sub>, charged to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction; or

(b) If O/R-t-S Allocation<sub>a,t,n</sub> is positive, then O/R-t-S Allocation<sub>a,t,n</sub> shall be an O/R-t-S Auction Revenue Surplus Payment, O/R-t-S ARSP<sub>a,t,n</sub>, paid to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction

Responsibility<sub>n,q,o</sub> = The amount, as a percentage, of responsibility borne by Transmission Owner *q* (which shall include the ISO when it is deemed a Transmission Owner for the purpose of applying Sections 3.6.4.2 or 3.6.4.3) for Qualifying Auction Outage *o* or Qualifying Auction Return-to-Service *o* in Reconfiguration Auction *n* or ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-aAuction, as determined pursuant to Section 3.6.4

and the variable O/R-t-S ACR<sub>a,n</sub> is defined as set forth in Formula N-19 and the variables FlowImpact<sub>a,n,o</sub> and O<sub>n</sub> are defined as set forth in Formula N-21.

### Formula N-23

$$\text{O/R-t-S Allocation}_{a,t,n} = \sum_{\substack{o \in O_n \\ \text{and } q=t}} \text{FlowImpact}_{a,n,o} * \text{ShadowPrice}_{a,n} * \text{Responsibility}_{n,q,o}$$

Where,

the variable ShadowPrice<sub>a,n</sub> is defined as set forth in Formula N-17, the variables O/R-t-S Allocation<sub>a,t,n</sub> and Responsibility<sub>n,q,o</sub> are defined as set forth in Formula N-22, and the variables FlowImpact<sub>a,n,o</sub> and O<sub>n</sub> are defined as set forth in Formula N-21.

### Section 3.6.3. Charges and Payments for the Secondary Impact of Auction Outages and Returns-to-Service

The ISO shall use U/D Auction Constraint Residuals to allocate U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments, as the case may be, among Transmission Owners pursuant to this Section 3.6.3. Each U/D Auction Revenue Shortfall

Charge and each U/D Auction Revenue Surplus Payment allocated to a Transmission Owner pursuant to this Section 3.6.3 is subject to being set equal to zero pursuant to Section 3.6.5.

### **Section 3.6.3.1. Identification of Upratings and Deratings Qualifying for Charges and Payments**

For each constraint for each ~~stage 1~~ round of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction, the ISO shall identify each Qualifying Auction Derating and each Qualifying Auction Uprating, as described below. The Transmission Owner responsible, as determined pursuant to Section 3.6.4, for a Qualifying Auction Derating or Qualifying Auction Uprating shall be allocated a U/D Auction Revenue Shortfall Charge or a U/D Auction Revenue Surplus Payment, as the case may be, pursuant to Section 3.6.3.2.

#### **Section 3.6.3.1.1. Definition of Qualifying Auction Derating**

A “**Qualifying Auction Derating**” (which term shall apply to ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$ , as the case may be) shall be defined to mean an Actual Qualifying Auction Derating or a Deemed Qualifying Auction Derating. For purposes of this Attachment N, “ $r$ ” shall refer to a single Qualifying Auction Derating.

An “**Actual Qualifying Auction Derating**” (which term shall apply to ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$ , as the case may be) shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and a given ~~stage 1~~ round  $n$  or Reconfiguration Auction  $n$  meets each of the following requirements:

For Reconfiguration Auction  $n$ :

- (i) the constraint has a lower rating in Reconfiguration Auction  $n$  than it would have if all transmission facilities were modeled as in-service in Reconfiguration Auction  $n$ ;
- (ii) this lower rating is in whole or in part the result of an Actual Qualifying Auction Outage  $o$  or an Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (iii) the lower rating resulting from Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was not modeled in the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (iv) this lower rating is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (v) the constraint was binding in Reconfiguration Auction  $n$ .

For ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction:

- (i) the constraint has a lower rating in ~~stage-1~~ round  $n$  of the 6-month ~~s~~Sub-aAuction than that constraint would have in a case where all transmission facilities are in-service and fully rated;
- (ii) this lower rating is the result of an Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for ~~stage-1~~ round  $n$  of the 6-month ~~s~~Sub-aAuction;
- (iii) this lower rating is included in the Centralized TCC Auction Interface Uprate/Derate Table in effect for ~~stage-1~~ round  $n$  of the 6-month ~~s~~Sub-aAuction; and
- (iv) the constraint is binding in ~~stage-1~~ round  $n$  of the 6-month ~~s~~Sub-aAuction.

A “**Deemed Qualifying Auction Derating**” (which term shall apply to Reconfiguration Auction  $n$ ) shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and a given Reconfiguration Auction  $n$  meets each of the following requirements:

- (i) the constraint has a lower rating in Reconfiguration Auction  $n$  than it would have if all transmission facilities were modeled as in-service in Reconfiguration Auction  $n$ ;
- (ii) this lower rating is in whole or in part the result of a Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (iii) this lower rating resulting from Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was modeled in the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , but responsibility for Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  resulting in the lower rating for Reconfiguration Auction  $n$  is assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to Section 3.6.4) other than the Transmission Owner responsible for the lower rating in the last 6-month ~~s~~Sub-aAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (iv) this lower rating is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (v) the constraint is binding in Reconfiguration Auction  $n$ .

#### **Section 3.6.3.1.2. Definition of Qualifying Auction Uprating**

A “**Qualifying Auction Uprating**” shall be defined to mean either an Actual Qualifying Auction Uprating or a Deemed Qualifying Auction Uprating. For purposes of this Attachment N, “ $r$ ” shall refer to a single Qualifying Auction Uprating.

An “**Actual Qualifying Auction Uprating**” shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and Reconfiguration Auction  $n$ , as the case may be, meets each of the following requirements:

- (i) the constraint has a higher rating for Reconfiguration Auction  $n$  than it would have absent an Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (ii) this higher rating resulting from Actual Qualifying Auction Outage  $o$  or Actual Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was not modeled in the last 6-month ~~s~~S~~ub-a~~ubAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ ;
- (iii) this higher rating is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (iv) the constraint is binding in Reconfiguration Auction  $n$ .

Notwithstanding any other provision of this Attachment N, a transmission facility uprating for a ~~stage 1~~ round of a 6-month ~~s~~S~~ub-a~~ubAuction shall not be a Qualifying Auction Uprating and shall not qualify a Transmission Owner for a U/D Auction Revenue Shortfall Charge or U/D Auction Revenue Surplus Payment.

A “**Deemed Qualifying Auction Uprating**” shall be defined as a change in the rating of a constraint that, for a given constraint  $a$  and Reconfiguration Auction  $n$ , as the case may be, meets each of the following requirements:

- (i) the constraint has a lower rating in Reconfiguration Auction  $n$  than it would have if all transmission facilities were modeled as in-service in Reconfiguration Auction  $n$ ;
- (ii) this lower rating is in whole or in part the result of a Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$ ;
- (iii) this lower rating resulting from Deemed Qualifying Auction Outage  $o$  or Deemed Qualifying Auction Return-to-Service  $o$  for Reconfiguration Auction  $n$  was modeled in the last 6-month ~~s~~S~~ub-a~~ubAuction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , but responsibility for Qualifying Auction Outage  $o$  or Qualifying Auction Return-to-Service  $o$  resulting in the lower rating for Reconfiguration

Auction  $n$  is assigned pursuant to Section 3.6.4 to a Transmission Owner (including the ISO when it is deemed a Transmission Owner pursuant to Section 3.6.4) other than the Transmission Owner responsible for the lower rating in the last auction held for TCCs valid for hour  $h$ ;

- (iv) this lower rating in Reconfiguration Auction  $n$  is included in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ ; and
- (v) the constraint is binding in Reconfiguration Auction  $n$ .

### **Section 3.6.3.2. Allocation of U/D Auction Constraint Residuals**

This Section 3.6.3.2 describes the allocation of U/D Auction Constraint Residuals to Qualifying Auction Deratings and Qualifying Auction Upratings.

When there are Qualifying Auction Deratings or Qualifying Auction Upratings in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction for constraint  $a$ , the ISO shall allocate a U/D Auction Constraint Residual in the form of a U/D Auction Revenue Shortfall Charge, U/D ARSC<sub>a,t,n</sub>, or U/D Auction Revenue Surplus Payment, U/D ARSP<sub>a,t,n</sub>, by first determining the net total impact on the constraint for the ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$  of all Qualifying Auction Deratings  $r$  and Qualifying Auction Upratings  $r$  for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction pursuant to Formula N-24 and then applying either Formula N-25 or Formula N-26, as specified herein, to assess U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments.

### **Formula N-24**

$$\text{U/D NetAuctionImpact}_{a,n} = \left( \sum_{r \in R_{a,n}} \text{RatingChange}_{a,n,r} * \text{ShadowPrice}_{a,n} \right) * \text{OPFSigChange}_{a,n}$$

Where,

$U/D \text{ NetAuctionImpact}_{a,n}$  = The net impact, in dollars, on constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction of all Qualifying Auction Deratings or Qualifying Auction Upratings for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction; *provided, however*,  $U/D \text{ NetAuctionImpact}_{a,n}$  shall be subject to recalculation as specified in the paragraph immediately following this Formula N-24

$\text{RatingChange}_{a,n,r}$  = Either:

- (a) If Qualifying Auction Derating  $r$  or Qualifying Auction Uprating  $r$  is a Deemed Qualifying Auction Derating or a Deemed Qualifying Auction Uprating,  $\text{RatingChange}_{a,n,r}$  shall be equal to the amount, in MW- $p$ , of the decrease or increase in the rating of binding constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction resulting from a Deemed Qualifying Auction Outage or Deemed Qualifying Auction Return-to-Service for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, which in the case of Reconfiguration Auction  $n$  shall be as shown in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ , and which in the case of ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction shall be as shown in the Centralized TCC Auction Interface Uprate/Derate Table in effect for ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction; or
- (b) If Qualifying Auction Derating  $r$  or Qualifying Auction Uprating  $r$  is an Actual Qualifying Auction Derating or an Actual Qualifying Auction Uprating,  $\text{RatingChange}_{a,n,r}$  shall be equal to the amount, in MW- $p$ , of the decrease or increase in the rating of binding constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction resulting from an Actual Qualifying Auction Outage or Actual Qualifying Auction Return-to-Service for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, which in the case of Reconfiguration Auction  $n$  shall be as shown in the Reconfiguration Auction Interface Uprate/Derate Table in effect for Reconfiguration Auction  $n$ , and which in the case of ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction shall be as shown in the Centralized TCC Auction Interface Uprate/Derate Table in effect for ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction;

*provided, however*,  $\text{RatingChange}_{a,n,r}$  shall be subject to being set equal to zero as specified in the paragraph immediately following this Formula N-24



$R_{a,n}$  = The set of all Qualifying Auction Deratings  $r$  or Qualifying Auction Upratings  $r$  for binding constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction

and the variables  $\text{ShadowPrice}_{a,n}$  and  $\text{OPFSignChange}_{a,n}$  are defined as set forth in Formula N-17.

After calculating  $\text{U/D NetAuctionImpact}_{a,n}$  pursuant to Formula N-24, the ISO shall determine whether  $\text{U/D NetAuctionImpact}_{a,n}$  for constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$  has a different sign than  $\text{U/D ACR}_{a,n}$  for constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$ . If the sign is different, the ISO shall (i) recalculate  $\text{U/D NetAuctionImpact}_{a,n}$  pursuant to Formula N-24 after setting equal to zero each  $\text{RatingChange}_{a,n,r}$  for which  $\text{RatingChange}_{a,n,r} * \text{ShadowPrice}_{a,n} * \text{OPFSignChange}_{a,n}$  has a different sign than  $\text{U/D ACR}_{a,n}$ , and then (ii) use this recalculated  $\text{U/D NetAuctionImpact}_{a,n}$  and reset value of  $\text{RatingChange}_{a,n,r}$  to allocate U/D Auction Revenue Shortfall Charges and U/D Auction Revenue Surplus Payments pursuant to Formula N-25 or Formula N-26, as specified below.

If the absolute value of the net impact ( $\text{U/D NetAuctionImpact}_{a,n}$ ) on constraint  $a$  for Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction of all Qualifying Auction Deratings or Qualifying Auction Upratings for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction as calculated using Formula N-24 (or recalculated pursuant to Formula N-24 using a reset value of  $\text{RatingChange}_{a,n,r}$  as described in the prior paragraph) is greater than the absolute value of the U/D Auction Constraint Residual ( $\text{U/D ACR}_{a,n}$ ) for

constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, as the case may be, then the ISO shall allocate the U/D Auction Constraint Residual in the form of a U/D Auction Revenue Shortfall Charge,  $U/D\ ARSC_{a,t,n}$ , or U/D Auction Revenue Surplus Payment,  $U/D\ ARSP_{a,t,n}$ , by using Formula N-25. If the absolute value of the net impact ( $U/D\ NetAuctionImpact_{a,n}$ ) on constraint  $a$  for Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction of all Qualifying Auction Deratings or Qualifying Auction Upratings for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction as calculated using Formula N-24 (or recalculated pursuant to Formula N-24 using a reset value of  $RatingChange_{a,n,r}$  as described in the prior paragraph) is less than or equal to the absolute value of the U/D Auction Constraint Residual ( $U/D\ ACR_{a,n}$ ) for constraint  $a$  in Reconfiguration Auction  $n$  or ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction, as the case may be, then the ISO shall allocate the U/D Auction Constraint Residual in the form of a U/D Auction Revenue Shortfall Charge,  $U/D\ ARSC_{a,t,n}$ , or U/D Auction Revenue Surplus Payment,  $U/D\ ARSP_{a,t,n}$ , by using Formula N-26.

#### Formula N-25

$$U/D\ Allocation_{a,t,n} = \left( \frac{\sum_{\substack{r \in R_{a,n} \\ \text{and } q=t}} (RatingChange_{a,n,r} * Responsibility_{n,q,r})}{\sum_{\text{for all } r \in R_{a,n}} RatingChange_{a,n,r}} \right) * U/D\ ACR_{a,n}$$

Where,

$U/D\ Allocation_{a,t,n}$  = Either a U/D Auction Revenue Shortfall Charge or a U/D Auction Revenue Surplus Payment, as specified in (a) and (b) below:

- (a) If U/D Allocation<sub>a,t,n</sub> is negative, then U/D Allocation<sub>a,t,n</sub> shall be a U/D Auction Revenue Shortfall Charge, U/D ARSC<sub>a,t,n</sub>, charged to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-~~a~~Auction; or
- (b) If U/D Allocation<sub>a,t,n</sub> is positive, then U/D Allocation<sub>a,t,n</sub> shall be a U/D Auction Revenue Surplus Payment, U/D ARSP<sub>a,t,n</sub>, paid to Transmission Owner *t* for binding constraint *a* in Reconfiguration Auction *n* or ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-~~a~~Auction

Responsibility<sub>n,q,r</sub> = The amount, as a percentage, of responsibility borne by Transmission Owner *q* (which shall include the ISO when it is deemed a Transmission Owner for the purpose of applying Sections 3.6.4.2 or 3.6.4.3) for Qualifying Auction Derating *r* or Qualifying Auction Up-rating *r* in Reconfiguration Auction *n* or ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-~~a~~Auction, as determined pursuant to Section 3.6.4

and the variable U/D ACR<sub>a,n</sub> is defined as set forth in Formula N-20 and the variables RatingChange<sub>a,n,r</sub> and R<sub>a,n</sub> are defined as set forth in Formula N-24.

#### Formula N-26

$$\text{U/D Allocation}_{a,t,n} = \sum_{\substack{r \in R_{a,n} \\ \text{and } q=t}} \text{RatingChange}_{a,n,r} * \text{ShadowPrice}_{a,n} * \text{Responsibility}_{n,q,r}$$

Where,

the variables U/D Allocation<sub>a,t,n</sub> and Responsibility<sub>n,q,r</sub> are defined as set forth in Formula N-25, the variable ShadowPrice<sub>a,n</sub> is defined as set forth in Formula N-17, and the variables RatingChange<sub>a,n,r</sub> and R<sub>a,n</sub> are defined as set forth in Formula N-24.

### Section 3.6.4. Assigning Responsibility for Outages, Returns-to-Service, Deratings, and Up-ratings

#### Section 3.6.4.1. General Rule for Assigning Responsibility; Presumption of Causation

Unless the special rules set forth in Sections 3.6.4.2 or 3.6.4.3 apply, a Transmission Owner shall for purposes of this Section 3.6 be deemed responsible for an Auction Status

Auction Status Change or that responsibility is to be shared among Transmission Owners in accordance with Section 3.6.4.2 or Section 3.6.4.3; or (iii) FERC orders otherwise.

**Section 3.6.4.2. Shared Responsibility For Outages, Returns-to-Service, and Ratings Changes Directed by the ISO or Caused by Facility Status Changes Directed by the ISO**

A Transmission Owner shall not be responsible for any Auction Status Change that qualifies as an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change. Instead, the ISO shall allocate any revenue impacts resulting from an Auction Status Change that qualifies as an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change as part of Net Auction Revenues for ~~stage 1~~ round *n* of a 6-month ~~s~~Sub-~~a~~Auction or Reconfiguration Auction *n*. To do so, the ISO shall be treated as a Transmission Owner when allocating Auction Constraint Residuals pursuant to Section 3.6.2 and Section 3.6.3, and any Auction Status Change that qualifies as an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change shall be attributed to the ISO when performing the calculations described in Section 3.6.2 and Section 3.6.3; *provided, however*, any O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment allocable to the ISO pursuant to this Section 3.6.4.2 shall ultimately be allocated to the Transmission Owners as Net Auction Revenues pursuant to Section 3.7.

Responsibility for a Qualifying Auction Return-to-Service or Qualifying Auction  
Upgrading that is directed by the ISO but does not qualify as a Deemed ISO-Directed Auction  
Status Change shall be assigned to the Transmission Owner that was responsible for the  
Qualifying Auction Outage or Qualifying Auction Derating in the last 6-month ~~s~~Sub-aAuction  
held for TCCs valid during the month corresponding to the relevant Reconfiguration Auction.

The ISO shall not direct that a transmission facility be modeled as in-service or out-of-  
service for purposes of a Reconfiguration Auction without the unanimous consent of the  
Transmission Owner(s), if any, that will be allocated a resulting O/R-t-S Auction Revenue  
Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus  
Payment, or U/D Auction Revenue Surplus Payment in accordance with this Section 3.6.4.2.

#### **Section 3.6.4.3. Shared Responsibility for External Events**

A Transmission Owner shall not be responsible for an Auction Status Change occurring  
inside the NYCA that is caused by a change in the in-service or out-of-service status or rating of  
a transmission facility located outside the NYCA. Instead, the ISO shall allocate any revenue  
impacts resulting from an Auction Status Change caused by such an event outside the NYCA as  
part of Net Auction Revenues for ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or  
Reconfiguration Auction  $n$ . To do so, the ISO shall be treated as a Transmission Owner when  
allocating Auction Constraint Residuals pursuant to Section 3.6.2 and Section 3.6.3 and any  
Auction Status Change

caused by such an event outside the NYCA shall be attributed to the ISO; *provided, however*, any O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment allocable to the ISO pursuant to this Section 3.6.4.3 shall ultimately be allocated to the Transmission Owners as Net Auction Revenues pursuant to Section 3.7.

### **Section 3.6.5. Exceptions: Setting Charges and Payments to Zero**

#### **Section 3.6.5.1. Zeroing Out of Charges and Payments When Outages and Deratings Lead to Net Payments or Returns-to-Service and Upratings Lead to Net Charges**

The ISO shall use Formula N-27 to calculate the total O/R-t-S Auction Revenue Shortfall Charges, U/D Auction Revenue Shortfall Charges, O/R-t-S Auction Revenue Surplus Payments, and U/D Auction Revenue Surplus Payments,  $\text{NetAuctionAllocations}_{t,n}$ , for Transmission Owner  $t$  in ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or in Reconfiguration Auction  $n$ , as the case may be. Based on this calculation, the ISO shall set equal to zero all O/R-t-S  $\text{ARSC}_{a,t,n}$ , U/D  $\text{ARSC}_{a,t,n}$ , O/R-t-S  $\text{ARSP}_{a,t,n}$ , and U/D  $\text{ARSP}_{a,t,n}$  (each as defined in Formula N-27) for Transmission Owner  $t$  for all constraints for ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or Reconfiguration Auction  $n$ , as the case may be, if (i)  $\text{NetAuctionAllocations}_{t,n}$  is positive and Transmission Owner  $t$  is not responsible (as determined pursuant to Section 3.6.4) for any Qualifying Auction Returns-to-Service or Qualifying Auction Upratings in ~~stage-1~~ round  $n$  of a 6-month ~~s~~Sub-aAuction or in Reconfiguration Auction  $n$ , as the case may be, or (ii)  $\text{NetAuctionAllocations}_{t,n}$  is negative and Transmission Owner  $t$  is not responsible (as determined

pursuant to Section 3.6.4) for any Qualifying Auction Outages or Qualifying Auction Deratings in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction  $n$ , as the case may be; *provided, however*, the ISO shall not set equal to zero pursuant to this Section 3.6.5.1 any O/R-t-S ARSC<sub>a,t,n</sub>, U/D ARSC<sub>a,t,n</sub>, O/R-t-S ARSP<sub>a,t,n</sub>, or U/D ARSP<sub>a,t,n</sub> arising from an ISO-Directed Auction Status Change or Deemed ISO-Directed Auction Status Change described in Section 3.6.4.2 or external events described in Section 3.6.4.3.

**Formula N-27**

$$\text{NetAuctionAllocations}_{t,n} = \sum_{\text{for all } a} \left( \text{O/R-t-S ARSC}_{a,t,n} + \text{U/D ARSC}_{a,t,n} + \text{O/R-t-S ARSP}_{a,t,n} + \text{U/D ARSP}_{a,t,n} \right)$$

Where,

NetAuctionAllocations<sub>t,n</sub> = The total of the O/R-t-S Auction Revenue Shortfall Charges, U/D Auction Revenue Shortfall Charges, O/R-t-S Auction Revenue Surplus Payments, and U/D Auction Revenue Surplus Payments allocated to Transmission Owner  $t$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction  $n$

O/R-t-S ARSC<sub>a,t,n</sub> = An O/R-t-S Auction Revenue Shortfall Charge allocated to Transmission Owner  $t$  for binding constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.2

U/D ARSC<sub>a,t,n</sub> = A U/D Auction Revenue Shortfall Charge allocated to Transmission Owner  $t$  for binding constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.3

O/R-t-S ARSP<sub>a,t,n</sub> = An O/R-t-S Auction Revenue Surplus Payment allocated to Transmission Owner  $t$  for binding constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.2

U/D ARSP<sub>a,t,n</sub> = A U/D Auction Revenue Surplus Payment allocated to Transmission Owner  $t$  for binding constraint  $a$  in ~~stage 1~~ round  $n$  of a 6-month ~~s~~Sub-~~a~~Auction or in Reconfiguration Auction  $n$ , calculated pursuant to Section 3.6.3.

For the sake of clarity, the ISO shall not pursuant to this Section 3.6.5.2 set equal to zero any O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment that fails to meet these conditions, even if another O/R-t-S Auction Revenue Shortfall Charge, U/D Auction Revenue Shortfall Charge, O/R-t-S Auction Revenue Surplus Payment, or U/D Auction Revenue Surplus Payment is set equal to zero pursuant to this Section 3.6.5.2 in the same round of a Centralized TCC Auction or the same Reconfiguration Auction, as the case may be.

### **Section 3.6.6. Information Requirements**

#### **Section 3.6.6.1. Posting of Uprate/Derate Tables**

Prior to each Reconfiguration Auction, the ISO shall post on its website the Reconfiguration Auction Interface Uprate/Derate Table, which table shall specify the expected impact (at the time of the Reconfiguration Auction based on all information available to the ISO) of all transmission facility outages and returns-to-service on interface transfer limits for the period for which TCCs are to be sold in the Reconfiguration Auction.

Prior to each Centralized TCC Auction, the ISO shall post on its website the Centralized TCC Auction Interface Uprate/Derate Table, which table shall specify the expected impact (at the time of the Centralized TCC Auction based on all information available to the ISO) of all transmission facility outages and returns-to-service on interface transfer limits for the period for which TCCs are to be sold in each ~~s~~Sub-aAuction of the Centralized TCC Auction.



**Formula N-29**

$$NNAR_{t,n} = \frac{(\text{Original Residual}_{t,n} + ETCNL_{t,n} + NARS_{t,n} + GFR\&GFTCC_{t,n})}{\sum_{q \in T} (\text{Original Residual}_{q,n} + ETCNL_{q,n} + NARS_{q,n} + GFR\&GFTCC_{q,n})}$$

Where,

$NNAR_{t,n}$  = The negative Net Auction Revenue coefficient for Transmission Owner  $t$  for Reconfiguration Auction  $n$

Original Residual $_{q,n}$  = The one-month portion of the revenue imputed to the Direct Sale or the sale in any Centralized TCC Auction ~~s~~Sub-aAuction of Original Residual TCCs that are valid during the month corresponding to Reconfiguration Auction  $n$ . The one-month portion of the revenue imputed to the Direct Sale of these Original Residual TCCs shall be one-sixth of the average market clearing price in the ~~stage 1~~ rounds of the 6-month ~~s~~Sub-aAuction of the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds. The one-month portion of the revenue imputed to the sale in any Centralized TCC Auction ~~s~~Sub-aAuction of these Original Residual TCCs shall be calculated by dividing the revenue received from the sale of these Original Residual TCCs in the Centralized TCC Auction ~~s~~Sub-aAuction by the duration in months of the TCCs sold in that Centralized TCC Auction ~~s~~Sub-aAuction

$ETCNL_{q,n}$  = The sum of the one-month portion of the revenues the Transmission Owner has received as payment for the Direct Sale of ETCNL or for its ETCNL released in the Centralized TCC Auction ~~s~~Sub-aAuctions held for TCCs valid for the month corresponding to Reconfiguration Auction  $n$ . Each one-month portion of the revenue for ETCNL released in such Centralized TCC Auction shall be calculated by dividing the revenue received in a Centralized TCC Auction ~~s~~Sub-aAuction from the sale of the ETCNL by the duration in months of the TCCs corresponding to the ETCNL sold in the Centralized TCC Auction ~~s~~Sub-aAuction.<sup>3</sup> The one-month portion of the revenue imputed to the Direct Sale of ETCNL shall be one-sixth of the average market clearing price of the TCCs corresponding to that ETCNL in the ~~stage 1~~ rounds of the 6-month ~~s~~Sub-aAuction of the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

Issued by: ~~Mark S. Lynch~~Stephen G. Whitley, President  
Issued on: ~~March 17, 2006~~April 2, 2010

Effective:~~May 1, 2006~~May 31, 2010

<sup>4</sup> A TCC corresponds to ETCNL if it has the same POI and POW as the ETCNL.

$NAR_{s,q,n}$  = The one-month portion of the Net Auction Revenues the Transmission Owner has received in Centralized TCC Auction ~~s~~Sub-aAuctions and Reconfiguration Auctions held for TCCs valid for the month corresponding to Reconfiguration Auction  $n$  (which shall not include any revenue from the sale of Original Residual TCCs). The one-month portion of the revenues shall be calculated by summing (i) the revenue Transmission Owner  $q$  received in each Centralized TCC Auction ~~s~~Sub-aAuction from the allocation of Net Auction Revenue pursuant to Section 3.7, divided by the duration in months of the TCCs sold in the Centralized TCC Auction ~~s~~Sub-aAuction (or, to the extent TCC auction revenues were allocated pursuant to a different methodology, the amount of such revenues allocated to Transmission Owner  $q$ ), minus (ii) the sum of  $NetAuctionAllocations_{t,n}$  as calculated pursuant to Formula N-27 (as adjusted for any charges or payments that are zeroed out) for Transmission Owner  $q$  for all ~~stage 1~~ rounds  $n$  of a 6-month ~~s~~Sub-aAuction for all Centralized TCC Auctions held for TCCs valid in the month corresponding to Reconfiguration Auction  $n$ , divided in each case by the duration in months of the TCCs sold in each Centralized TCC Auction ~~s~~Sub-aAuction (or, to the extent that the revenue impact of transmission facility outages, returns-to-service, upratings, and deratings were settled pursuant to a different methodology, the net of such revenue impacts for Transmission Owner  $q$ ), minus (iii)  $NetAuctionAllocations_{t,n}$  as calculated pursuant to Formula N-27 and as adjusted for any charges or payments that are zeroed out for Transmission Owner  $q$  for Reconfiguration Auction  $n$

GFR&  
GFTCC $_{q,n}$  = The one-month portion of the imputed value of Grandfathered TCCs and Grandfathered Rights, valued at one-sixth of the market clearing price in the last Centralized TCC Auction held for TCCs valid during the month corresponding to Reconfiguration Auction  $n$ , provided that the Transmission Owner is the selling party and the Existing Transmission Agreement related to each Grandfathered TCC and Grandfathered Right remains valid in the month corresponding to Reconfiguration Auction  $n$ . For Centralized TCC Auctions conducted before May 1, 2010 the average market clearing price in rounds of the 6-month Sub-Auction are Stage 1 six month rounds.

$t$  = Transmission Owner  $t$

$T$  = The set of all Transmission Owners  $q$ .

Each Transmission Owner's share of Net Auction Revenues allocated pursuant to this Section 3.7 shall be incorporated into its TSC or NTAC, as the case may be.

- 1.42 Short-Term Firm Point-To-Point Transmission Service:** Firm Point-to-Point Service, the price of which is fixed for a short term by a Transmission Customer acquiring sufficient TCCs with the same Points of Receipt and Delivery as its Transmission Service.
- 1.42.01 Sink Price Cap Bid:** A Bid Price provided by an entity engaged in an Export to indicate the relevant Proxy Generator Bus LBMP below which that entity is willing to either purchase Energy in the LBMP Markets or, in the case of Bilateral Transactions, to accept Transmission Service.
- 1.42.01a Special Test Transactions:** The revenues or costs from purchases and/or sales of Energy that may occur pursuant to virtual regional dispatch/intra-hour transaction pilot tests conducted by the ISO to analyze potential solutions for, or approaches to resolving inter-market “seams” issues with neighboring control area operators.
- 1.42.02 Start-Up Bid:** A Bid parameter that may vary hourly and that identifies the payment a Supplier requires to bring a Generator up to its specified minimum operating level from an offline state or a Demand Side Resource from a level of no Demand Reduction to its specified minimum level of Demand Reduction.
- 1.42a Storm Watch:** Actual or anticipated severe weather conditions under which region-specific portions of the NYS Transmission System are operated in a more conservative manner by reducing transmission transfer limits.
- 1.42b Strandable Costs:** Prudent and verifiable expenditures and commitments made pursuant to a Transmission Owner’s legal obligations that are currently recovered in the Transmission Owner’s retail or wholesale rate that could become unrecoverable as a result of a restructuring of the electric utility industry and/or electricity market, or as a result of retail-turned-wholesale customers, or customers switching generation or transmission service suppliers.
- 1.42c Stranded Investment Recovery Charge (“SIRC”):** A charge established by a Transmission Owner to recover Strandable Costs.
- 1.42c.1 Sub-Auctions:** The set of rounds in a given Capability Period Auction in which TCCs of a given duration may be purchased.

- 1.42d Supplier:** A Party that is supplying the Capacity, Energy and/or associated Ancillary Services to be made available under the ISO OATT or the ISO Services Tariff, including Generators and Demand Side Resources that satisfy all applicable ISO requirements.
- 1.42e Supplemental Resource Evaluation (“SRE”):** A determination of the least cost selection of additional Generators, which are to be committed, to meet:  
(i) changed or local system conditions for the Dispatch Day that may cause the Day-Ahead schedules for the Dispatch Day to be inadequate to meet the reliability requirements of the Transmission Owner’s local system or to meet Load or reliability requirements of the ISO; or (ii) forecast Load and reserve requirements over the six-day period that follows the Dispatch Day.
- 1.43 System Impact Study:** An assessment by the ISO of (i) the adequacy of the NYS Transmission System to accommodate a request to build facilities in order to create incremental transfer capability, resulting in incremental TCCs, in connection with a request for Firm Point-To-Point Transmission Service; and (ii) the additional costs to be incurred in order to provide the incremental transfer capability.
- 1.43a Tangible Net Worth:** The value, determined by the ISO, of all of a Customer’s assets less both: (i) the amount of the Customer’s liabilities and (ii) all of the Customer’s intangible assets, including, but not limited to, patents, trademarks, franchises, intellectual property, and goodwill.
- 1.44** Reserved for future use.

- 1.42 Short-Term Firm Point-To-Point Transmission Service:** Firm Point-to-Point Service, the price of which is fixed for a short term by a Transmission Customer acquiring sufficient TCCs with the same Points of Receipt and Delivery as its Transmission Service.
- 1.42.01 Sink Price Cap Bid:** A Bid Price provided by an entity engaged in an Export to indicate the relevant Proxy Generator Bus LBMP below which that entity is willing to either purchase Energy in the LBMP Markets or, in the case of Bilateral Transactions, to accept Transmission Service.
- 1.42.01a Special Test Transactions:** The revenues or costs from purchases and/or sales of Energy that may occur pursuant to virtual regional dispatch/intra-hour transaction pilot tests conducted by the ISO to analyze potential solutions for, or approaches to resolving inter-market “seams” issues with neighboring control area operators.
- 1.42.02 Start-Up Bid:** A Bid parameter that may vary hourly and that identifies the payment a Supplier requires to bring a Generator up to its specified minimum operating level from an offline state or a Demand Side Resource from a level of no Demand Reduction to its specified minimum level of Demand Reduction.
- 1.42a Storm Watch:** Actual or anticipated severe weather conditions under which region-specific portions of the NYS Transmission System are operated in a more conservative manner by reducing transmission transfer limits.
- 1.42b Strandable Costs:** Prudent and verifiable expenditures and commitments made pursuant to a Transmission Owner’s legal obligations that are currently recovered in the Transmission Owner’s retail or wholesale rate that could become unrecoverable as a result of a restructuring of the electric utility industry and/or electricity market, or as a result of retail-turned-wholesale customers, or customers switching generation or transmission service suppliers.
- 1.42c Stranded Investment Recovery Charge (“SIRC”):** A charge established by a Transmission Owner to recover Strandable Costs.
- 1.42c.1 Sub-Auctions:** The set of rounds in a given Capability Period Auction in which TCCs of a given duration may be purchased.

- 1.42d Supplier:** A Party that is supplying the Capacity, Energy and/or associated Ancillary Services to be made available under the ISO OATT or the ISO Services Tariff, including Generators and Demand Side Resources that satisfy all applicable ISO requirements.
- 1.42e Supplemental Resource Evaluation (“SRE”):** A determination of the least cost selection of additional Generators, which are to be committed, to meet:  
(i) changed or local system conditions for the Dispatch Day that may cause the Day-Ahead schedules for the Dispatch Day to be inadequate to meet the reliability requirements of the Transmission Owner’s local system or to meet Load or reliability requirements of the ISO; or (ii) forecast Load and reserve requirements over the six-day period that follows the Dispatch Day.
- 1.43 System Impact Study:** An assessment by the ISO of (i) the adequacy of the NYS Transmission System to accommodate a request to build facilities in order to create incremental transfer capability, resulting in incremental TCCs, in connection with a request for Firm Point-To-Point Transmission Service; and (ii) the additional costs to be incurred in order to provide the incremental transfer capability.
- 1.43a Tangible Net Worth:** The value, determined by the ISO, of all of a Customer’s assets less both: (i) the amount of the Customer’s liabilities and (ii) all of the Customer’s intangible assets, including, but not limited to, patents, trademarks, franchises, intellectual property, and goodwill.
- 1.44** Reserved for future use.