

Time-Differentiated TCCs

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Agenda

- **Background**
- **Current 24x7 Product**
- **Discussion of Technical/Software Capabilities**
- **Additional Market Design Considerations**
- **Next Steps**

Background

2021 Approved Market Project

- The 2021 Time-Differentiated TCCs project deliverable is a Q4 Market Design Concept Proposed
- 2021 Project Schedule Milestone Update
- 2021 Approved Market Projects Product and Project Management
 - See Project 24 (Pages 25-26 of 26)

Project Objectives & Deliverable

- **2021 Project Deliverable: Market Design Concept Proposed**
- **The objective of this project is to work with stakeholders to develop market rule changes needed to facilitate the creation of Transmission Congestion Contract (TCC) products that apply to different periods of time**
 - Current TCC product is a 24x7 product for the applicable effective period
- **The project description notes that the NYISO's assessment will include:**
 - The number of different types of TCCs that would be valid during each month (including whether any new time-differentiated product offerings would supplement, or replace the current 24x7 product)
 - *Discussed, in part, at the May 25, 2021 MIWG/ICAPWG meeting*
 - The hours in which each type of time-differentiated TCC would be valid
 - *Discussed at the May 25, 2021 MIWG/ICAPWG meeting*
 - The procedures the NYISO would use to: (1) auction time-differentiated TCCs, (2) establish the prices of those TCCs, (3) allocate auction revenue, and (4) allocate costs or revenues associated with increases or decreases in transfer capability

Current 24x7 Product

NYISO's Current TCC Product

- NYISO currently offers a single, around-the-clock (ATC) product that is effective 24x7 for the applicable effective period
- Certain stakeholders have requested that any time-differentiated product offerings supplement (rather than replace) the current 24x7 product
- The structure of Historic Fixed Price TCCs and Grandfathered TCCs are based on a 24x7 product
- NYISO proposes to retain the 24x7 product and offer any time-differentiated products as a supplement thereto

Discussion of Technical/Software Capabilities

Review of Prior Stakeholder Feedback

- **At the 5/25/2021 MIWG/ICAPWG meeting, stakeholders requested that NYISO evaluate the current TCC software to determine the technical feasibility of implementing various time-differentiated TCC product offering structures**
 - As was noted by NYISO at the 5/25/2021 MIWG/ICAPWG meeting, the scope of a Market Design Concept Proposed project does not typically include an evaluation of technical feasibility or prototyping
 - However, depending on the nature of the time-differentiated product offering structure pursued, the NYISO currently believes that the software enhancements developed as part of implementing the Balance-of-Period (BoP) Auctions can accommodate time-differentiated products
- **Additionally, several stakeholders noted support for broadening the market design concept to include an “on-peak weekend” product offering, in addition to “on-peak weekday” and off-peak products**

BoP Auction Software Functionality

- **A BoP Auction is a monthly auction that covers the combination of months remaining in the Capability Period**
 - Provides Market Participants (MPs) the ability to purchase and sell TCCs in all the remaining months of a given Capability Period that are offered as part of the auction
 - Currently, the NYISO conducts these auctions as a simultaneous single-period solution. MPs may submit bid(s) for each individual period (*i.e.*, single month), but may not submit bids which cover multiple periods
 - This is considered the “decoupled mode” option for conducting BoP Auctions (see Section 3.3.9 of the Transmission Congestion Contracts [TCC] Manual for additional details)

BoP Auction Software Functionality (cont.)

- **BoP Auctions are also capable of being run in “coupled mode”, but this functionality is not currently used in production**
 - See Section 3.3.9 of the TCC Manual for additional details
- **In coupled mode, a simultaneous multi-period solution within a single auction may be run**
 - In coupled mode, an individual bid(s) may be submitted that covers more than one period/month (*i.e.*, multi-period), which do not need to be sequential
 - In order to be awarded TCCs for each period of a multi-period bid, the same number of MW must be feasible in each month
 - If different MW quantities would be feasible in the different periods covered by a single bid, the MP would receive a TCC award for each period that is equal to the smallest MW quantity that would be feasible in all periods covered by the bid.
 - For example, if a single bid was submitted covering both July and September with 5 MW being determined as feasible in July and 10 MW being determined feasible in September, the MP would be awarded 5 MW for both July and September

Application for Time-Differentiated TCCs

- **The use of coupled mode could facilitate a multi-period solution for time-differentiated TCCs in which MPs could submit a single bid for multiple periods**
 - As noted earlier, certain MPs expressed a desire for NYISO to include a separate “on-peak weekend” product
 - Other MPs noted that use of a separate “on-peak weekend” product does not align with the conventional definition of on-peak and off-peak products in the current over-the-counter (OTC) energy market trading
- **Leveraging the coupled mode functionality could potentially allow for additional time-differentiated products, while allowing MPs to structure their bidding in a way that would align with their desired on-peak and off-peak definitions**

Coupled Mode Functionality Example for Time-Differentiated TCCs

- **Assume that NYISO is holding a future TCC auction with an effective period of one month**
 - In this example, assume the following time-differentiated periods are available:
 - On-peak weekday: non-holiday weekdays, Monday-Friday, HB 7 – HB 22
 - On-peak weekend/holiday: Saturday-Sunday and holidays, HB 7 – HB 22
 - Off-peak: All overnight hours, Monday-Sunday, HB 0 – HB 6, HB 23
- **A Market Participant could submit a bid(s) for any individual period (*e.g.*, just for on-peak weekday or just for off-peak)**
- **A Market Participant could submit a multi-period bid(s) (*e.g.*, a single bid for off-peak and on-peak weekends and holidays)**
 - The particular combination in this example (off-peak and on-peak weekends and holidays) would cover the same hours as the conventional off-peak hours currently used in the OTC energy market trading
 - Under the structure of the coupled bid, the MP would only be awarded TCCs if the MW are feasible for each period covered by the bid (based on the lowest MW quantity in the event of differences in the quantity determined feasible for each period type covered by the bid)
 - This would remove the risk of an MP not clearing both time periods if the auction structure required that an MP submit separate bids for the on-peak weekend and off-peak
- **A Market Participant could submit a bid for the 24x7 product by submitting a single bid covering all of the available periods**

Coupled Mode Functionality for Time-Differentiated TCCs

- **While coupled mode is not currently used in conducting BoP Auctions, the NYISO and its software vendor believe that this previously developed functionality could be used to facilitate time-differentiated TCCs**
 - Testing and prototyping would still be required during the software design/implementation phase before this auction structure would be production ready
- **The NYISO recommends seeking to leverage the previously developed coupled mode functionality to provide greater bidding flexibility to MPs for time-differentiated TCC product offerings**

Additional Market Design Considerations

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■ Auction procedures

- The NYISO's current procedures for determining TCC products to be offered for sale in each Centralized TCC Auction includes soliciting input from MPs, which the NYISO considers when determining the products to be offered
- The NYISO proposes to extend this process to assist in determining the time-differentiated TCC products that would be offered for sale

■ Auction revenue and surplus/shortfall cost allocation

- The NYISO does not anticipate any significant changes to the current overarching concept and methodology of how auction revenue and surplus/shortfall cost allocation is calculated
- Adjustments/modifications would, however, be required to extend the current design to encompass time-differentiated TCCs
- Any necessary tariff changes would be addressed in the Market Design Complete project phase

Questions?

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