

Constraint Specific Transmission Shortage Pricing

Kanchan Upadhyay

Market Design Specialist, Energy Market Design

ICAPWG/MIWG

August 26, 2021

Agenda

- **Project Background**
- **Proposed Tariff Revisions**
- **Next Steps**

Previous Presentations

Date	Working Group	Discussion points and links to materials
June 17, 2021	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing: Updated Analysis and Proposal</u>
May 19, 2021	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing: Project Kickoff</u>
Nov 21, 2019	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing</u>
Feb 15, 2019	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing - Market Design Concept Proposal</u>
October 2, 2018	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing – Study Review</u>
August 7, 2018	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing – High Level Design Considerations</u>
June 25, 2018	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing – Analysis Update</u>
April 10, 2018	Market Issues Working Group (MIWG)	<u>Constraint Specific Transmission Shortage Pricing – Study Approach</u>

Project Background

A Grid in Transition – The Plan

- Carbon Pricing
- Comprehensive Mitigation Review
- DER Participation Model
- Energy Storage Participation Model
- Hybrid Storage Model

Aligning
Competitive
Markets and New
York State Clean
Energy Objectives



- Enhancing Energy & Shortage Pricing
 - Ancillary Services Shortage Pricing
 - Constraint Specific Transmission Shortage Pricing
- Enhanced Fast Start Pricing
- Review Energy & Ancillary Services Product Design
 - More Granular Operating Reserves
 - Reserve Enhancements for Constrained Areas
 - Reserves for Resource Flexibility

Valuing Resource
& Grid Flexibility



- Enhancements to Resource Adequacy Models
- Revise Resource Capacity Ratings to Reflect Reliability Contribution
 - Expanding Capacity Eligibility
 - Tailored Availability Metric
- Capacity Demand Curve Adjustments

Improving Capacity
Market Valuation



Project Background

- **This project seeks to develop enhancements to the current transmission constraint pricing (TCP) logic to better align the graduated transmission demand curve mechanism with the severity of transmission constraints**
 - The NYISO also intends to eliminate most occurrences of constraint relaxation by including pricing values for shortages that exceed the applicable constraint reliability margin (CRM) value as part of the revised graduated transmission demand curve mechanism
- **Project Deliverable: Market Design Complete in Q4 2021**

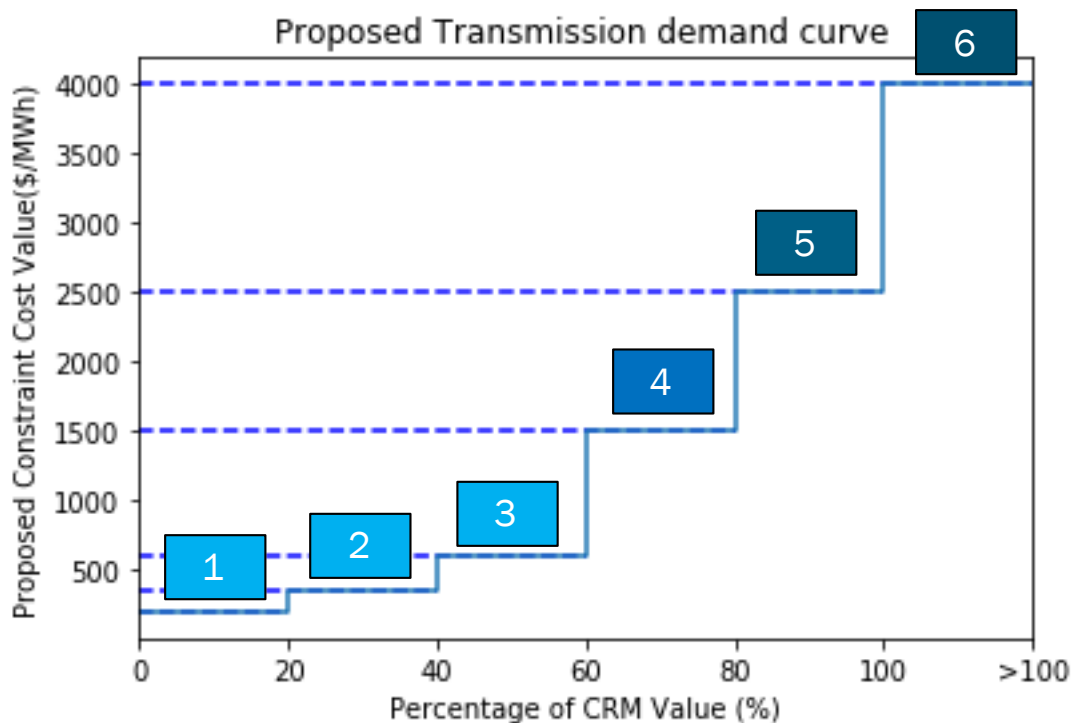
Summary of the Proposal

- The NYISO proposes to implement a revised approach to the current TCP logic consisting of the following components:*
1. Establish a revised six-step transmission shortage pricing mechanism for facilities currently assigned a non-zero CRM value (see the following slide for additional details)
 - Each step corresponds to a specified percentage of the applicable CRM value. The final step will price all shortages in excess of the applicable CRM value
 2. Apply a 5 MW CRM value to internal facilities currently assigned a zero value CRM, with a separate two-step transmission demand curve mechanism for such facilities
 - First step is valued at \$100/MWh. This step would price transmission shortages up to the proposed CRM value.
 - Second step is valued at \$250/MWh. This step would price all shortages in excess of the proposed CRM value.
 3. Maintain the current single value \$4,000/MWh shadow price capping method for external interface facilities (zero value CRM) permitting the continued use of constraint relaxation for external interfaces

**Refer to the presentation at the [June 17, 2021 ICAPWG/MIWG meeting](#) for additional details regarding the NYISO's proposal*

Proposal for Non-Zero CRM Value Facilities

- The NYISO is proposing following transmission demand curve for facilities currently assigned a non-zero value CRM:



1

- Steps 1, 2 & 3 are priced at \$200, \$350 and \$600 per MWh, respectively

2

- These are based on historical constraint cost for these facilities (study period March 2018-March 2021)

3

4

- Step 4 is priced at \$1,500 per MWh
- This step is based on appropriate tradeoff between transmission constraints and reserve products

5

- Step 5 is priced at \$2,500 per MWh
- Provides transition step between Step 4 and 6

6

- Step 6 is priced at \$4,000 per MWh
- Sufficient value to facilitate efficient re-dispatch of higher cost physical resources
- Applies to all shortages in excess of the applicable CRM value

Proposed Tariff Revisions

Proposed Tariff Revisions

- **The NYISO proposes revisions to Market Administration and Control Area Services Tariff (MST) Section 17.1.4 to reflect the proposed enhancements to the current transmission constraint pricing logic**
 - Proposed revisions include describing the new six-step transmission demand curve mechanism applicable to all facilities assigned a non-zero CRM value other than 5 MW
 - Replaces the current two-step, 20 MW transmission demand curve mechanism applicable to all facilities assigned a non-zero CRM value
 - Revisions also include the addition of a description of the new two-step transmission demand curve mechanism that will apply to internal facilities currently assigned a zero value CRM that would, as part of the proposal, be assigned a 5 MW CRM value
 - Replaces the current single value \$4,000/MWh shadow price capping logic that applies to such internal facilities
 - The current language describing the single value \$4,000/MWh shadow pricing capping method that will continue to apply to external interfaces that are assigned a zero value CRM has been retained
 - The NYISO also proposes to revise the current language describing constraint relaxation to limit its application to zero value CRM facilities subject to the single value \$4,000/MWh shadow price capping method

Proposed Tariff Revisions

- **The NYISO also proposes to clarify that the procedures related to real-time market-to-market (M2M) coordination with PJM apply for evaluating a transmission constraint associated with a “Flowgate” in circumstances where the NYISO is the “Non-Monitoring RTO” with respect to that constraint.**
 - In these cases, the M2M procedures specify the use of a single value pricing mechanism to determine whether redispatch by NYISO in real-time is available at a cost lower than the shadow price calculated by PJM for the constraint
 - Please refer to Section 35.23 of Attachment CC of the Open Access Transmission Tariff for additional details regarding the procedures for M2M coordination

Next Steps

Next Steps

- **Q3/Q4 2021**
 - Conduct Consumer Impact Analysis
 - Seek stakeholder approval at BIC and MC

Questions?

Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

