

# Real-Time Market Settlements

## Services Tariff Clarifications

---

**Christopher Brown**  
**Management Committee**

December 19, 2018, Rensselaer NY, Krey Corporate Center



# Agenda:

- Proposed Real-Time Market Settlements Tariff Revisions
- Interaction with Energy Storage Resources (ESRs) and Order No. 841 Compliance Filing
- Next Steps

# Proposed Real-Time Market Settlements Tariff Revisions

# NYISO Proposal Overview

- NYISO is proposing a series of tariff clarifications to MST section 4.5 related to Real-Time Market settlements
  - Reviewed with Stakeholders at 10/18/2018 MIWG
- No changes to the actual calculations are proposed
  - No software modifications are required
  - Tariff changes are intended to clarify existing rules as currently implemented

# NYISO Proposal Overview, continued

- **Revise Services Tariff Section 4.5 to more clearly describe real-time Energy imbalance settlements**
  - Energy imbalance payments and charges account for differences among Actual Energy Injections/Withdrawals, real-time Energy schedules and Day-Ahead Energy schedules
- **Consolidate Services Tariff Sections 4.5.3.1 and 4.5.6 into one section**
  - Revised Services Tariff Section 4.5.2.1 contains real-time settlement formulas for Suppliers
- **Consolidate Services Tariff Sections 4.5.1 and 4.5.4.1 into one section**
  - Revised Services Tariff Section 4.5.3.1 contains real-time settlement formulas for withdrawals
- **Clarify Energy imbalance settlement formulas for Imports and Exports**
- **Update Section cross-references in Services Tariff Section 2.9 and OATT Section 1.9**

# Real-Time Energy Imbalance Payments

## Services Tariff Section 4.5.2.1

- Section will include three formulas for Supplier payments
  1. A formula for RTD intervals with positive RT LBMPs;
    - Supplier Payment =  $(\text{MIN}(\text{AE}_{iu}, \text{RTS}_{iu}) - \text{DAS}_{hu}) * \text{LBMP}_{iu}^{\text{RT}}$
  2. A formula for when: (1) RTD intervals have negative LBMPs, or (2) there is a NYISO large event reserve pickup or maximum generation pickup, or (3) there is a TO reserve pickup in accordance with a Reliability Rule;
    - Supplier Payment =  $(\text{AE}_{iu} - \text{DAS}_{hu}) * \text{LBMP}_{iu}^{\text{RT}}$
  3. A formula for Imports
    - Supplier Payment =  $(\text{RTS}_{iup} - \text{DAS}_{hup}) * \text{LBMP}_{ip}^{\text{RT}}$

# Limitations on Real-Time Settlements

## Services Tariff Section 4.5.2.1

- As is the case today:
  - Suppliers are not settled for Energy in excess of their real-time scheduled Energy injections, except (1) when the LBMP is negative, (2) for Compensible Overgeneration, (3) during a large event reserve pickup or a maximum generation pickup, or (4) when a TO initiates a reserve pickup; and
  - Generators are not compensated for any Energy in excess of their real-time scheduled energy injection when the Generator is not following Base Point Signals and its upper operating limit has been reduced by the NYISO
- Services Tariff Section 4.5.6 will be deleted

# Real-Time Energy Imbalance Charges for Withdrawals

## Services Tariff Section 4.5.3.1

- Section will include two formulas for Customer Charges
  1. A formula for real-time Energy charges to Customers;
    - Customer Charge =  $(AEW_{icz} - DAS_{hcz}) * LBMP_{iz}^{RT}$
  2. A formula for Exports;
    - Customer Charge =  $(RTS_{iup} - DAS_{hup}) * LBMP_{ip}^{RT}$
- Move existing BTM:NG language from Section 4.5.1



# Real-Time Settlements for Imports and Exports

- Proposed revisions clarify the balancing market settlement formulas for Imports (*i.e.*, injections) and Exports (*i.e.*, withdrawals)
- Failed Transactions remain subject to a Financial Impact Charge
  - No software modifications are required

# Interaction with Energy Storage Resources (ESRs) and Order No. 841 Compliance Filing

# Energy Storage Resource Terminology

- Proposed revisions will accommodate ESRs
  - Tariff revisions proposed in these materials include certain defined terms that will be introduced and defined in the NYISO's Order 841 compliance filing
  - The real-time imbalance formulas in section 4.5.2.1 will apply to both injections and withdrawals for Energy Storage Resources
  - Subsequent to the 10/18/2018 MIWG the definition of the term  $RTS_{iu}$  within section 4.5.2.1 has been revised to address instances where an ESR is dispatched to withdraw Energy Out-of-Merit

# Next Steps

- December 2018:
  - Present to BIC for stakeholder vote
  - Present to MC for stakeholder vote
- January 2019
  - NYISO Board of Directors Vote
- Submit Federal Power Act Section 205 Filing to FERC

# Questions?

# The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits 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 policy makers, stakeholders and investors in the power system



[www.nyiso.com](http://www.nyiso.com)