Real-Time Market Settlements

Services Tariff Clarifications

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Agenda:

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

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Proposed Real-Time Market Settlements Tariff Revisions

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NYISO Proposal Overview

- NYISO is proposing a series of tariff clarifications to MST section 4.5 related to Real-Time Market settlements
- 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

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 = $(MIN(AE_{iu}, RTS_{iu}) - DAS_{hu}) * LBMP_{iu}^{RT}$
  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 = $(AE_{iu} - DAS_{hu}) * LBMP_{iu}^{RT}$
  3. A formula for Imports
     - Supplier Payment = $(RTS_{iu} - DAS_{hu}) * LBMP_{i}^{RT}$

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 = $(AEW_{ic} - DAS_{hc}) * LBMP_i^{RT}$
  2. A formula for Exports;
     - Customer Charge = $(RTS_{iu} - DAS_{hu}) * LBMP_i^{RT}$
- 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

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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

Next Steps

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

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Questions?

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