Energy Storage Resources: Revenue Meter Data Reporting

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Background

- **FERC Order No. 841 required NYISO to develop an Energy Storage Resource (ESR) participation model**
  - ESR participation model market design reviewed with stakeholders at MIWG throughout 2018
  - Tariff revisions were filed on December 3, 2018 (pending FERC acceptance)
- **NYISO's proposed participation model will treat ESR withdrawals as negative generation (*i.e.,* not Load)**

Hourly Revenue Meter Data Reporting for ESR

- Hourly injection MWh and withdrawal MWh must be reported as separate fields rather than as a single net MW value for the hour
- Similar to how revenue meter data is reported for Limited Energy Storage Resources (LESR)

Why Separate Injection and Withdrawal MWh Fields?

- Existing meter profiling process does not support resources that transition between injection and withdrawal within in the same hour
- See next slide for example of enhanced meter profiling with independent profiling of injection MWh and withdrawal MWh

Meter Profiling Example with Separate Injection & Withdrawal Adjustments

	RTD Avg Actual Injection MW	RTD Avg Actual Withdrawal MW	RTD Adjusted Injection MW	RTD Adjusted Withdrawal MW	Final Adjusted MW
:00	10	0	10.4854	0.0000	10.4854
:05	10	0	10.4854	0.0000	10.4854
:10	10	0	10.4854	0.0000	10.4854
:15	10	0	10.4854	0.0000	10.4854
:20	10	0	10.4854	0.0000	10.4854
:25	1.5	-2	1.5728	-1.9024	-0.3296
:30	0	-5	0	-4.7561	-4.7561
:35	0	-6	0	-5.7073	-5.7073
:40	0	-7	0	-6.6585	-6.6585
:45	0	-7	0	-6.6585	-6.6585
:50	0	-7	0	-6.6585	-6.6585
:55	0	-7	0	-6.6585	-6.6585
	4.2917	-3.4167	4.5000	-3.2500	1.2500

Revenue Meter MWH	4.5000	-3.2500
Adjustment Ratio	1.0485	0.9512

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Meter Profiling Example with Single Net Meter MWh Adjustment

	RTD Avg Actual MW	RTD Adjusted MW
:00	10	14.2857
:05	10	14.2857
:10	10	14.2857
:15	10	14.2857
:20	10	14.2857
:25	-0.5	-0.7143
:30	-5	-7.1429
:35	-6	-8.5714
:40	-7	-10.0000
:45	-7	-10.0000
:50	-7	-10.0000
:55	-7	-10.0000
	0.8750	1.2500
Revenue Meter MWH	1.2500	
Adjustment Ratio	1.4286	

- On this slide is an example of the results of the meter profiling process using identical meter data represented as a single net meter value.
- Dual channel approach (previous slide) results in significantly less distortion and allows the current meter profiling approach to be extended to generator withdrawals

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