Real Time Metering Impacts to Settlements

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Balancing LMP Settlement for Generators (Metering Task Force 11/13/2015)

- RT MWh for Generators to be used in LMP settlements is reported to PJM via PowerMeter.
- Generator's Balancing LMP settlement for given hour =
  - Unit's RT LMP * (RT PowerMeter MWh minus DA eMKT MWh)
- Accuracy of the solution for a given generator's RT LMP is dependent on the accuracy of that unit's RT telemetry in conjunction with accuracy of RT telemetry in the surrounding area.

- In an hour where the SE solution was “good” …
  - The “correct” amount of Load at these busses will weight accordingly into the RT definition for the related RESID Load location.

Pnode Pnodeid	Pnode Pnodename	GMT Hour Begin	Pnodertvalues Semwh	
1234	SubX 69 KV LOAD1	/2015 03:00:00	2.7	<SE Load solution for use is RESID_AGG defintions
1235	SubX 69 KV LOAD2	/2015 03:00:00	0	<SE Load solution for use is RESID_AGG defintions
1236	SubX 69 KV LOAD3	/2015 03:00:00	-0.4	<SE Load solution for use is RESID_AGG defintions
1237	SubX 69 KV GENA	/2015 03:00:00	2.2	2.537 <PowerMeter reported value

- Versus an hour where telemetry “skewed” the SE Load MWh solution…
  - An incorrect amount of Load at pnode3 will weight itself more heavily into the RT definition for the related RESID Load location. As well as potentially factor more heavily into the RESID location’s DA definition next week.

Pnode Pnodeid	Pnode Pnodename	GMT Hour Begin	Pnodertvalues Semwh	
1234	SubX 69 KV LOAD1	/2015 04:00:00	2.7	<SE Load solution for use is RESID_AGG defintions
1235	SubX 69 KV LOAD2	/2015 04:00:00	-0.6	<SE Load solution for use is RESID_AGG defintions
1236	SubX 69 KV LOAD3	/2015 04:00:00	13.1	<SE Load solution for use is RESID_AGG defintions
1237	SubX 69 KV GENA	/2015 04:00:00	15.3	2.705 <PowerMeter reported value

SE vs Reported in PowerMeter - 5 min and Hourly Gen data

- Interval where SE is in line with Customer Reporting in PowerMeter:
  - Generator reporting 5 min data to PJM via PowerMeter
    - OK - since SE and PowerMeter are similar, RT LMP at the node should be of higher accuracy
  - Generator reporting hourly data to PJM via PowerMeter
    - OK – since 5 min profiling should be an accurate distribution, and RT LMP at the node should be of higher accuracy.
- Interval where SE is not a good match to Customer Reporting in PowerMeter:
  - Generator reporting 5 min data to PJM via PowerMeter
    - Could be OK since PJM uses what they say their 5 min values are.
    - However, the bad SE solution in a given interval would mean RT LMP at the node is less accurate
  - Generator reporting hourly data to PJM via PowerMeter
    - Probably not OK, since 5 min profiling could skew MWh away from 5 min intervals where they really should be. Flat profiling replacement could occur if they are way off from each other, skewing MWh away from 5 min intervals where they really should be. Coupled with bad SE solution in a given interval likely meaning RT LMP at node is less accurate.