Energy Market Uplift Sr. Task Force Update

David Anders, PE
Director, Stakeholder Affairs
Markets & Reliability Committee
January 26, 2017

Current Status

- Phases 1 & 2:
  - Voting December 2016
    - Phase 1 – Lower total uplift and reduce volatility
      - Package A (PJM) – 87.50%
      - Package G (PSEG) – 52.74%
    - Phase 2 – Address perceived issues related to uplift cost allocation
      - No packages received simple majority
      - MRC instructed EMUSTF to perform second vote on only the top five proposals from the December vote
  - Voting January 2017
    - Phase 2 –
      - Package Q (PJM/IMM) – 58.90%
- Phase 3: Eligible nodes for virtual transactions
  - Continuing to implement CBIR

Phase 1 Package A – Main Motion

PJM's package A is intended to make minimal changes to the current calculation of uplift costs in PJM. Design component 4a represents the only proposed change from the status quo. That component addresses what PJM believes to be a problem with the current uplift calculation methodology. The change is to include the day-ahead revenues from the hours the resource operated in real-time in the determination of Balancing Operating Reserve credits. The current method of including all day-ahead revenues can result in resources not being completely made whole for real-time operating costs because day-ahead revenues in hours in which they did not operate in real-time offset their make whole payment.

Phase 1 Package G – Alternate Motion

PSE&G's Package G is based on the basic premise that if a resource is providing the marginal MW, the offer of that unit should be reflected in LMP. PSE&G's Package G proposal is similar to PJM's Package A and Dominion Energy's Package H proposals in preserving much of the status quo, with the following exceptions:

Design Component	Modification
4a - BOR Credit Settlement Calculation	Add an hourly make whole payment for pool scheduled and self-scheduled resources that are dispatched up manually
1 - Energy Cost Components Included in LMP	Allow quick start resources to be able to set LMP based upon their full Commitment Cost: marginal energy, start-up and no loads. Currently not included in marginal energy cost.
1c - Resources Eligible to Set LMP	Currently, block-loaded resources are typically ineligible to establish a clearing price because they are not "dispatchable" to serve the next MW of load. Some RTOs have taken steps to address this issue by relaxing parameters on these types of resources, allowing the Security Constrained Economic Dispatch ("SCED") to evaluate them as if they operate within a dispatchable range. We support the expansion of unit relaxation rules from 10% to 100%, and allowing units that are manually dispatched to set price.

Phase 2 Package Q – Main Motion

Package Q's goal is to make minimal changes to the current uplift cost allocation process. It maintains the status quo for all design components except:

- include the withdrawal end of a UTC in the allocation of Day-ahead Operating Reserve charges identically to the way a cleared DEC is charged,
- include UTCs as a source and sink deviation in the allocation of Balancing Operating Reserves identically to the way an INC and a DEC transaction would be included, and
- remove the ability for Internal Bilateral Transactions to offset deviation charges.

Appendix

Initial Scope and FERC Order – Docket EL14-37

Problem Statement / Issue Charge Approved – May 2013

- Phase 1 – Lower total uplift and reduce volatility
- Phase 2 – Address perceived issues related to uplift cost allocation
  - Consensus Based Issue Resolution process (CBIR) used to perform education and develop proposed solutions
  - Phase 1 limited solution Tariff revisions EMUSTF/MRC/MC/FERC approved
  - PJM actions taken to significantly reduce uplift – no OA/OATT/Manual revisions required

Initial Scope and FERC Order – Docket EL14-37 (cont'd.)

FERC opened EL14-37 on August 29, 2014

- FPA 206 proceeding
  - Treatment of FTR Forfeiture Rule and uplift allocation to virtual transactions
  - Subject to refund
  - Expected FERC order by October 20, 2015
- EMUSTF went into hibernation June 2015
- No FERC action
- Restarted EMUSTF March 2016

PJM Virtual Transactions Whitepaper and Phases 3 & 4

PJM released “Virtual Transactions in the PJM Energy Markets” whitepaper on October 12, 2015

- Recommended changes to nodes at which certain virtual transactions could be made
- January 28, 2016 MRC approved problem statement to address issues
- EMUSTF charter update approved by MRC May 26, 2016
- Added Phases 3 & 4:
  - Phase 3 – Determine nodes at which virtual transactions may be made
    - Continuing to work
  - Phase 4 – any other energy market rule changes related to virtual transaction
    - Scope items suggested, but insufficient support to request MRC approval to pursue
    - Phase 4 closed

Package Sponsors and December 2016 Voting Results

- Phase 1:
  - **A – PJM – 87.50%**
  - E – IMM – 15.94%
  - **G – PSEG – 52.74%**

- Phase 2:
  - C – IMM – 16.28%
  - D* – Apollo – 37.55%
  - I – Red Wolf Energy/XO Energy – 27.95%
  - J – Financial Markets Coalition – 28.23%
  - L – AEP – 16.94%
  - P – Red Wolf Energy – 28.02%
  - Q – PJM/IMM – 45.22%
  - R – Citigroup – 29.36%
  - S – PJM/IMM – 35.02%
  - T – Apollo et al – 31.62%
  - U* – XO Energy – 36.36%

Package Sponsors and December 2016 Voting Results (cont'd.)

- Phase 2 – Adding Package D:
  - C+D – IMM – 1.61%
  - I+D – Red Wolf Energy/XO Energy – 29.25%
  - J+D – Financial Markets Coalition – 26.10%
  - L+D – AEP – 9.31%
  - P+D – Red Wolf Energy – 28.74%
  - Q+D – PJM/IMM – 11.20%
  - R+D – Citigroup – 24.60%
  - S+D – PJM/IMM – 4.15%
  - T+D – Apollo et al – 16.47%
- Phase 2 – Adding Package U:
  - J+U – Financial Markets Coalition – 30.54%
  - L+U – AEP – 13.81%
  - Q+U – PJM/IMM – 9.09%
  - S+U – PJM/IMM –10.30%
  - T+U – Apollo et al – 25.10%

Package Sponsors and January 2017 Voting Results

- Phase 2
  - D – Apollo – 41.38%
  - **Q – PJM/IMM – 58.90%**
  - S – PJM/IMM – 47.72%
  - T – Apollo et al – 36.75%
  - U – XO Energy – 39.04%

* Note that for this vote, packages D and Q were considered “stand-alone” proposals – they were not combined with any other packages

Historical Uplift Data

IMM 2015 State of the Market Report

Table 4-3 Total energy uplift charges: 2001 through 2015

	Total Energy Uplift Charges (Millions)	Annual Change (Millions)	Annual Percent Change	Energy Uplift as a Percent of Total PJM Billing
2001	$284.0	$67.1	30.9%	8.5%
2002	$273.7	($10.3)	(3.6%)	5.8%
2003	$376.5	$102.8	37.5%	5.4%
2004	$537.6	$161.1	42.8%	6.1%
2005	$712.6	$175.0	32.6%	3.1%
2006	$365.6	($347.0)	(48.7%)	1.7%
2007	$503.3	$137.7	37.7%	1.6%
2008	$474.3	($29.0)	(5.8%)	1.4%
2009	$322.7	($151.5)	(31.9%)	1.2%
2010	$623.2	$300.4	93.1%	1.8%
2011	$603.4	($19.8)	(3.2%)	1.7%
2012	$649.9	$46.5	7.7%	2.2%
2013	$842.8	$192.9	29.7%	2.5%
2014	$960.5	$117.7	14.0%	1.9%
2015	$314.2	($646.3)	(67.3%)	0.9%

October 2016 MC Webinar Markets Report