

CSTF Solution Options Poll

Stakeholder Feedback

August 14, 2014

## GROSS CONE

### Updated PJM

- We're awaiting resolution of the differences between the PJM and IMM numbers.
- PJM's Gross CONE update suffers from three overstatements, two of which are overlapping. First, as identified by the IMM, that update has overstated certain equipment acquisition costs, labor rates and local tax and other costs, necessitating a 15% downward adjustment in its proposed, increased value. for all CONE zones Second, for SWMAAC only, that update overstates labor and local tax costs, necessitating a 5% reduction if the IMM deduction is significantly withdrawn as is now under discussion, Third, if nominal levelization costing is retained for capital and other fixed costs, a margin of unnecessary revenue is provided which reduces otherwise necessary capital attraction costs and a 5% lower adjustment to these costs should be adopted.
- We're awaiting resolution of the differences between the PJM and IMM numbers in order to make determination of our position on CONE.
- Hopeful that the IMM and PJM can resolve differences between consultants and both agree to an appropriate CONE value.
- We're awaiting resolution of the differences between PJM and IMM numbers
- PJM/Brattle 8% ATWACC is too low to finance the reference resource. The assumed debt/equity structure and cost of capital assumptions below-market must be consistent with the necessary debt coverage for a risky investment with volatile cash flows, such as a peaking generators.
- will be more definitive after follow-up review with the IMM's #s.
- An increased WACC is appropriate.
- Interested in seeing the differences between IMM and PJM numbers

### Higher WACC

- Capital attraction cost rates are reduced if costing practices such as level nominalization, CWTP, future test year, etc. are adopted in cost and price determination. PJM has historically and improperly adopted level nominalization, thereby mismatching revenues and costs and increasing monies available to capital investment. This reduces capital cost, if continued, from the levels recommended by Brattle (who opposes level nominalization), much less permitting the adoption of even higher attraction cost rates. The proposed higher attraction cost rates are,

moreover, not supported as Brattle's analysis shows that national generation developers (NRG, Calpine) have capital attraction cost levels well below the proposed higher WACC level.

### **PJM - ~15%**

- We're awaiting resolution of the differences between the PJM and IMM numbers.
- The opinion of this state supports this 15% downward adjustment in PJM claimed Gross CONE assuming that the IMM does not withdraw it. If it is significantly withdrawn, the opinion of this state advances a separate 5% downward adjustment as described above to correct for overstatement of labor and local tax costs in SWMAAC.
- Will be more definitive after follow-up review with PJM's #s.
- Documentation for 15% decreases has not been thoroughly supported.

### **PJM/Brattle as adjusted by 7.26% ATWACC**

- As described above and in opinion of this state Position Statements posted to the CSTF website for the last 2-3 meetings, this adjustment is required to partially offset the reduction in capital attraction costs if level nominalization continues to be adopted. As Brattle recommended capital attraction costs overstate generation developer attraction costs even if nominal levelization is rejected, this adjustment (a 5% downward adjustment) should be adopted in part.
- The SMECO ATWACC is too low to finance the reference resource. The assumed debt/equity structure and cost of capital assumptions below-market must be consistent with the necessary debt coverage for a risky investment with volatile cash flows, such as a peaking generator. Further, the assumptions leading to the ATWACC are questionable given incorrect capital cost assumptions for comparables leading to the proposed CONE ATWACC.

### **Status Quo**

- The Status Quo is a Gross CONE which is higher than even the Brattle overstated, newly developed Gross CONE based upon their Triennial Review analyses. The overstatement occurs, as to these figures, because of the use of the Handy-Whitman index to escalate the Gross CONE value from its development in 2011 in the Second Triennial review. Brattle has compared the escalation called for in this private, commercial index with escalation shown to be proper by Government indices and its Third Triennial Review, new costing analysis. All parties, including PJM and Generators, have agreed that the HW index is inaccurate and should be rejected for future use. The Status Quo Gross CONE value, developed from it, must also be rejected (one would hope).

## LEVELIZATION METHOD

### **Level-real**

- Maryland's Position Statement from August 7, posted on the CSTF web site in connection with the August 8 meeting, explain fully the impropriety of level nominal costing, PJM's status quo

approach. Level-nominalization compares fixed capital and other costs after adjustment for inflation twenty years into the future with current revenues, thus creating a mismatch which inflates Gross CONE levels. Brattle has opposed it in several reports to PJM since 2011, and no other RTO employs it. Indeed, so long as level nominalization is used by PJM, it is impossible to accurately develop a Gross CONE estimate that is not overstated and unfair to end users.

#### **Level-nominal for capital costs, level-real for non-capital costs**

- Maryland's Position Statement from August 7, posted on the CSTF web site in connection with the August 8 meeting, explain fully the impropriety of level nominal costing, PJM's status quo approach. Level-nominalization compares fixed capital and other costs after adjustment for inflation twenty years into the future with current revenues, thus creating a mismatch which inflates Gross CONE levels. Brattle has opposed it in several reports to PJM since 2011, and no other RTO employs it. Indeed, so long as level nominalization is used by PJM, it is impossible to accurately develop a Gross CONE estimate that is not overstated and unfair to end users.

#### **Status quo (level-nominal)**

- Would be willing to consider status quo on levelization if shape of VRR curve remained status quo as well.

#### **NET E&AS OFFSET**

#### **Forward-looking**

- We need to see the proposed mechanism and the potential cost impact.
- The opinion of this state supports the concept of a forward looking E & AS Offset, but favors its development upon the basis of neutral and authoritative electricity price projections. The specific mechanics for such an Offset has not yet been developed. PJM has presented a conceptual forward looking mechanism employing electricity price futures from 2-3 years in the future. The opinion of this state is not yet satisfied that such a mechanism cannot be manipulated by those with an interest in reducing this revenue offset, or that it will produce any more accurate future estimates than PJM's current historical method as these futures are also effected by recent cost levels and events. Absent further demonstration and convincing data to overcome these concerns, the opinion of this state is prepared to continue with the PJM historic method. For example, PJM has not presented more than one year's comparative data as to the result of its future and historic methods.
- We really need to see both the proposed mechanism and the potential cost impact.
- Based on forward electric prices
- We need to see both the proposed mechanism and the potential cost impact prior to making a decision.
- Further explanation of this is needed. How are costs calculated? Can we calculate E&AS offset ourselves (replicate it)? Do we assume that the cost side is fixed?

- Any forward offset must be transparent and replicable. It should include a blend of indicies to determine forward heat rates. Any move to a forward EAS for CONE should be implemented consistent with a forward EAS for developing Market Seller Offer Caps.
- Not enough information to determine the data points to be used.
- Cannot support without specific mechanism and language (OATT?)
- Really need the details. Could concept be filed now and details filed later to give stakeholders time to understand and still make the next BRA?
- Conceptually understood; additional and sufficient detail is necessary to support this approach.
- Need to fully understand the proposed mechanism and potential impact.

#### **Historical 5 years, without hi/low years**

- The opinion of this state supports the concept of a forward looking E & AS Offset, but favors its development upon the basis of neutral and authoritative electricity price projections. The specific mechanics for such an Offset has not yet been developed. PJM has presented a conceptual forward looking mechanism employing electricity price futures from 2-3 years in the future. The opinion of this state is not yet satisfied that such a mechanism cannot be manipulated by those with an interest in reducing this revenue offset, or that it will produce any more accurate future estimates than PJM's current historical method as these futures are also effected by recent cost levels and events. Absent further demonstration and convincing data to overcome these concerns, the opinion of this state is prepared to continue with the PJM historic method. For example, PJM has not presented more than one year's comparative data as to the result of its future and historic methods.
- Could smooth out the variability in the EAS/Net CONE values that lead to incorrect investment signals.
- This idea (historical 5 years without hi/low years) needs to be analyzed further and explained in more detail.
- This proposal does not address the disparity between historic EAS offsets and forward development expectations.
- Better than current method

#### **Status quo (backward-looking)**

- The opinion of this state supports the concept of a forward looking E & AS Offset, but favors its development upon the basis of neutral and authoritative electricity price projections. The specific mechanics for such an Offset has not yet been developed. PJM has presented a conceptual forward looking mechanism employing electricity price futures from 2-3 years in the future. The opinion of this state is not yet satisfied that such a mechanism cannot be manipulated by those with an interest in reducing this revenue offset, or that it will produce any more accurate future estimates than PJM's current historical method as these futures are also effected by recent cost levels and events. Absent further demonstration and convincing data to overcome these concerns, the opinion of this state is prepared to continue with the PJM historic

method. For example, PJM has not presented more than one year's comparative data as to the result of its future and historic methods.

- Logically, we struggle with back-ward looking as we believe it can lead to incorrect investment signals.
- The Tariff language needs to be clarified regarding Docket No. EL14-36.
- However, some transition mechanism is needed in changing methodologies and recent years have overstated revenues and that coming overpayment will be lost to long time participants that were previously undercompensated.

#### VRR SHAPE - SYSTEM

##### **Convex, shift right Brattle + 1%**

- PJM simulations of the effect of adoption of the Brattle convex curve with a 1% shift to the right suggests price increases to end users of between \$1 and \$1,7 billion. These simulations are for the past three BRAs (2015 to 2018 delivery years). Brattle's own data suggests that additional generation reserves will be acquired by PJM at a cost of over \$200 million to be paid for by end users if this modified VRR curve is adopted. The opinion of this state is not persuaded by Brattle arguments that reliability improvements justify imposing these additional costs on end users. The American electric system, for over 1/2 century, has been constructed and operated to permit no more than 1 day of outage caused by inadequate generation supply over a 10 year period. This is the accepted reliability standard for electric service which end users have come to expect and to pay for. Brattle's Monte Carlo simulation analyses deliver a much higher reliability standard as acquired reserves are 5-8% (between 35-50% higher) than required to satisfy the 1 in 10 standard. Also, in arguing for its higher reliability levels, Brattle overstates in its Monte Carlo analyses the risks of a supply inadequacy outage and further fails to recognize that, due to the three year period between BRA and delivery year, PJM, generators and Regulators can take action to correct through development of new generation (CTs), delayed retirements or other means many of the shorages and risks that it has overstated. Even greater right-ward shifts of the VRR curve would increase end user costs by a significantly greater amount and result in even more excessive generation development and purchase by PJM.

##### **Convex, shift right Brattle + 2%**

- PJM simulations of the effect of adoption of the Brattle convex curve with a 1% shift to the right suggests price increases to end users of between \$1 and \$1,7 billion. These simulations are for the past three BRAs (2015 to 2018 delivery years). Brattle's own data suggests that additional generation reserves will be acquired by PJM at a cost of over \$200 million to be paid for by end users if this modified VRR curve is adopted. The opinion of this state is not persuaded by Brattle arguments that reliability improvements justify imposing these additional costs on end users. The American electric system, for over 1/2 century, has been constructed and operated to permit no more than 1 day of outage caused by inadequate generation supply over a 10 year period. This is the accepted reliability standard for electric service which end users have come

to expect and to pay for. Brattle's Monte Carlo simulation analyses deliver a much higher reliability standard as acquired reserves are 5-8% (between 35-50% higher) than required to satisfy the 1 in 10 standard. Also, in arguing for its higher reliability levels, Brattle overstates in its Monte Carlo analyses the risks of a supply inadequacy outage and further fails to recognize that, due to the three year period between BRA and delivery year, PJM, generators and Regulators can take action to correct through development of new generation (CTs), delayed retirements or other means many of the shorages and risks that it has overstated. Even greater right-ward shifts of the VRR curve would increase end user costs by a significantly greater amount and result in even more excessive generation development and purchase by PJM.

#### **Convex, shift right Brattle + 2.5%**

- PJM simulations of the effect of adoption of the Brattle convex curve with a 1% shift to the right suggests price increases to end users of between \$1 and \$1,7 billion. These simulations are for the past three BRAs (2015 to 2018 delivery years). Brattle's own data suggests that additional generation reserves will be acquired by PJM at a cost of over \$200 million to be paid for by end users if this modified VRR curve is adopted. The opinion of this state is not persuaded by Brattle arguments that reliability improvements justify imposing these additional costs on end users. The American electric system, for over 1/2 century, has been constructed and operated to permit no more than 1 day of outage caused by inadequate generation supply over a 10 year period. This is the accepted reliability standard for electric service which end users have come to expect and to pay for. Brattle's Monte Carlo simulation analyses deliver a much higher reliability standard as acquired reserves are 5-8% (between 35-50% higher) than required to satisfy the 1 in 10 standard. Also, in arguing for its higher reliability levels, Brattle overstates in its Monte Carlo analyses the risks of a supply inadequacy outage and further fails to recognize that, due to the three year period between BRA and delivery year, PJM, generators and Regulators can take action to correct through development of new generation (CTs), delayed retirements or other means many of the shorages and risks that it has overstated. Even greater right-ward shifts of the VRR curve would increase end user costs by a significantly greater amount and result in even more excessive generation development and purchase by PJM.
- This should have been the PJM staff proposal!

#### **Convex, shift right Brattle + 3.5%**

- PJM simulations of the effect of adoption of the Brattle convex curve with a 1% shift to the right suggests price increases to end users of between \$1 and \$1,7 billion. These simulations are for the past three BRAs (2015 to 2018 delivery years). Brattle's own data suggests that additional generation reserves will be acquired by PJM at a cost of over \$200 million to be paid for by end users if this modified VRR curve is adopted. The opinion of this state is not persuaded by Brattle arguments that reliability improvements justify imposing these additional costs on end users. The American electric system, for over 1/2 century, has been constructed and operated to permit no more than 1 day of outage caused by inadequate generation supply over a 10 year period. This is the accepted reliability standard for electric service which end users have come

to expect and to pay for. Brattle's Monte Carlo simulation analyses deliver a much higher reliability standard as acquired reserves are 5-8% (between 35-50% higher) than required to satisfy the 1 in 10 standard. Also, in arguing for its higher reliability levels, Brattle overstates in its Monte Carlo analyses the risks of a supply inadequacy outage and further fails to recognize that, due to the three year period between BRA and delivery year, PJM, generators and Regulators can take action to correct through development of new generation (CTs), delayed retirements or other means many of the shorages and risks that it has overstated. Even greater right-ward shifts of the VRR curve would increase end user costs by a significantly greater amount and result in even more excessive generation development and purchase by PJM.

### **Something left of status quo**

- At minimum, opinion of this state favors the status quo VRR curve, but may be able to support shifting to the left to reduce the acquisition of generation for reliability reserves purposes above the level required to satisfy the 1 in 10 year standard.
- Depends on what this is, exactly.

### **PJM with a floor of .6 x net CONE**

- Would be willing to entertain a discussion on an appropriate floor level and how such a curve shape would improve LOLE performance but 60% Net CONE is too far a reach to support.
- Floor does not make sense regardless of shift right
- As long as non-8760, non-nodal, and non-metered DR is permitted, a floor is required.

### **Status Quo**

- At minimum, opinion of this state favors the status quo VRR curve, but may be able to support shifting to the left to reduce the acquisition of generation for reliability reserves purposes above the level required to satisfy the 1 in 10 year standard.
- At this time, with so many recent and soon to be proposed changes to the capacity market, we cannot agree with any shift to the VRR curve and the procurement of more of a product that isn't fully defined.
- premature to consider changing the shape of the VRR curve until at the earliest the Enhanced Liaison Committee process is concluded and we better understand what it is that is (or will be) procured in a BRA and the associated obligation for cleared capacity.
- It has put half the market on the verge of bankruptcy.
- Cannot not support a shift in the VRR Curve, a different shape may be supportable though

RTO WIDE GROSS CONE

### **Average**

- No comments

### Lowest

- No comments

### Status Quo

- No comments

## NET CONE METHOD RTO

### Minimum

- Logically, this appears to represent the minimum amount of 'missing money' needed for new capacity entry when location of resource in RTO is not an issue.
- Contributes to systematic under compensation of capacity suppliers

### RTO-wide gross CONE - PJM weighted average LMP for rest of market

- The lack of this adjustment just ensures the suppliers in the lower cost areas of PJM don't receive the appropriate and necessary compensation.

### Status quo (RTO-wide gross CONE - PJM weighted average LMP)

- No comments

## NET CONE METHOD LDA

### Updated PJM

- Flooring of LDA Net CONE to parent LDA goes against market design and should call into question effectiveness of RPM design and locational signals if this component is now required.

### Lowest net CONE

- No comments

### Updated PJM (without flooring to parent LDA)

- No comments

### Zonal load weighted average of net CONE

- I'm actually not clear which design component option this reflects
- Unclear what this is

### Status Quo

- No comments