

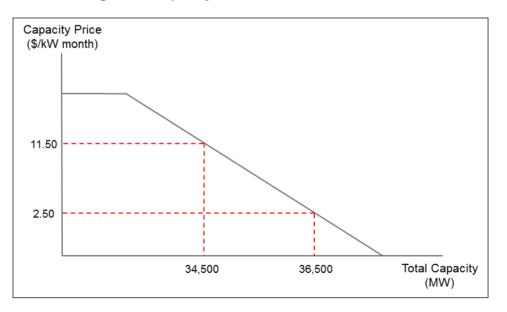
July 29, 2015

To Whom It May Concern,

At the request of Invenergy LLC (Invenergy), PA Consulting Group, Inc. (PA) has prepared this memorandum describing (i) PA's methodology for projecting capacity prices for the upcoming 2019/20 Forward Capacity Auction (i.e. FCA 10); and (ii) how that price projection compares to actual capacity prices from FCA 9. PA's capacity price forecast for FCA 10 was used to develop the cash flow projections of the Clear River natural gas-fired combined cycle power plant, currently under development by Invenergy.

### Methodology

PA's capacity price forecast was based on its forecasts of (i) existing and new capacity (i.e., total capacity); and (ii) FCA 10 demand curve parameters. The demand curve parameters effectively determine the capacity price based on a given amount of capacity. All else equal, the higher the total capacity the lower the capacity price. This mechanism is illustrated in Figure 1 below.





For FCA 10, PA projected existing capacity based on capacity from FCA 9, and new capacity reflecting Clear River bidding approximately MW into FCA 10.<sup>1</sup> This resulted in a projection of total capacity for FCA 10 of MW. (In comparison, the total capacity in FCA 9 was 34,694 MW.) When the total capacity of MW was overlaid against PA's forecast of the FCA 10 demand curve the resulting capacity price was means. The means of the FCA 10.

# FCA 9 Comparison

In FCA 9, new capacity resources located in Rhode Island (i.e., the Medway peaker in Massachusetts) received a capacity price of \$17.73/kW-mo. This extremely high price was due to the Southeastern Massachusetts/Rhode Island (SEMA/RI) capacity zone having less capacity than was needed for reliability; the zone had a deficit of approximately 250 MW. This caused the Forward Capacity Auction's Inadequate Supply rule to be triggered (since the zone had less capacity than needed for reliability). If the Inadequate Supply rule had not been triggered, new capacity resources in Rhode Island would have likely received the Rest-of-Pool (ROP) clearing price of W-mo, instead of the \$17.73/kW-mo. PA does not project the Inadequate Supply rule to be triggered in FCA 10 for several reasons:

- In FCA 10, ISO New England is planning to combine the SEMA/RI zone with the Northeastern Massachusetts/Boston (NEMA/Boston) zone to form a new, larger zone – called the Southeastern New England (SENE) zone.
- In FCA 9, NEMA/Boston had more capacity than was needed for reliability.
- Clear River is projected to participate in FCA 10, bidding approximately MW into the new SENE zone.

With SEMA/RI being combined with NEMA/Boston and Clear River projected to bid approximately MW, PA projects the new SENE zone will have more capacity than is needed for reliability in FCA 10. Consequently, the Inadequate Supply rule that was triggered in FCA 9 is not projected to be triggered in FCA 10.

Additionally, in FCA 9, capacity resources outside of the SEMA/RI zone (i.e., the Towantic combined cycle in Connecticut) received the ROP capacity price of \$9.55/kW-mo. However, as previously mentioned, PA's projection for FCA 10 total capacity is MW – which is approximately MW higher than the total capacity in FCA 9 (34,695 MW). Since capacity prices are inversely correlated to total capacity – as illustrated in Figure 1 – PA's projection for capacity prices in FCA 10 is lower than FCA 9.

## Conclusions

PA projects FCA 10 capacity prices for capacity resources in Rhode Island and across New England to be significantly lower than FCA 9 capacity prices - resulting in significantly lower

<sup>&</sup>lt;sup>1</sup> In addition to Clear River's capacity, PA assumes approximately **MW** of incremental renewable and demand response capacity.

capacity revenues for Clear River than if it had participated in FCA 9. For example, the FCA 10 capacity revenues projected to be earned by Clear River (based on a capacity price of **Clear**) are approximately **Clear** million lower than they would be if Clear River had received Medway's FCA 9 capacity price, and approximately **Clear** million lower than they would be if Clear River had received Towantic's FCA 9 capacity price.

### For any questions, please contact:

*Mark Repsher* Managing Consultant mark.repsher@paconsulting.com 720-566-9923

### Ethan Paterno

Managing Consultant ethan.paterno@paconsulting.com 720-566-9953 Mason Smith

Managing Consultant mason.smith@paconsulting.com 617-252-0216