

Add Back Proposals for Guaranteed Load Drop

MIC

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Concept Introduction

- **Guaranteed Load Drop (GLD) refers to RPM demand side resources that measure their reduction by comparing actual load to an estimate of what load would have been.**
- **This measured reduction is compared to their nominated amount to determine compliance.**
- **Peak Load Contribution (PLC) is a capacity obligation assigned to a customer based on prior year peak usage. Customers can only nominate up to their PLC because that is the amount of capacity procured and allocated to them.**



Concept Introduction

- Incentives for reducing system peak consumption may come in two forms: RPM capacity credits, or capacity savings from reducing or managing PLC independent of RPM.
- For GLD customers, there is a mechanism to add back their reduction to the load forecast so that the following year's PLC reflects peak hour consumption assuming no load reduction.
- Add back is beneficial to customers that prefer credits through RPM. Absent the add back, they would experience savings from reduced PLC



Current Add Back Rules

- **PJM has identified a significant issue with current add back rules which should be resolved before the 2011/2012 DY**
 - **While measured reduction for compliance is unlimited, the add back is limited to the nominated amount**
 - **Over compliance is netted on a portfolio basis, so an opportunity exists for CSPs to register customers with managed PLCs to offset portfolio**
 - **Customer is already saving on capacity costs from lower PLC, and CSP gets benefits of same reduction spread over a portfolio**



Example of Issue

- **Customer with approximately 10 MW peak load demand can reduce 8 MW in Real Time**
 - **In prior summers, customer managed PLC down to 2 MW by reducing load during peak load conditions independent of PJM Programs**
 - **PJM is only procuring 2 MW and they will only be charged for 2 MW for delivery year**
 - **They nominate 1 MW as GLD and in emergency, they show 8 MW reduction.**
 - **Over compliance of 7 MW will offset under performing resources in CSP portfolio**



Example of Issue: Portfolio

	Customer A (MW)	Customer B (MW)
Unrestricted Peak Load	10	10
Load Reduction Capability	8	2
PLC based on Past Summer Experience (Amount they will be charged for capacity)	2	10
Nominated Amount (must be < than PLC)	1	9

Customer A has managed PLC down independent of PJM Program

Event Called: Compliance determination

Baseline in Event (estimate of unrestricted load)	10	10
Actual Load in Event	2	8
Load Reduction	8	2
Compliance	7	-7
Portfolio Compliance	10 MW/ 10 MW or 100%	
Addback for next year PLC	1	2
Next Year PLC	3	10

Customer B can only reduce 2 MW, but CSP nominates more because Customer A will overcomply

Overview

- **The add back to determine PLC must be tied to the load reduction used to determine compliance.**
- **The three proposals before the MIC to address this issue have different impacts:**
 - **PJM proposes compliance as reduction relative to PLC, which leads to lower add backs overall**
 - **Old add back rules favor measured reduction as compliance and lead to high PLC impacts**
 - **Hess proposal has intermediate impacts**



PJM Proposal

- **Define compliance and add back relative to PLC**
 - **Customer with managed PLC can only nominate the amount that can be reduced from PLC**
- **Add back only used when actual load is higher than PLC**
- **Next year PLC will be:**
 - **Same as this year if load < PLC**
 - **Actual load this year if load > PLC**
- **May lead to more efficient RPM results since load reductions are not incorporated in load forecast**



PJM Proposal: Example

- **For Customer A in example, since it nominated 1 MW and has a PLC of 2 MW, even though it reduced load 8 MW in real time, actual load is \geq PLC, so it is under-compliant.**
 - **Actual Load must show reduction to PLC for full compliance (2 MW – 1 MW = 1 MW)**
 - **Redefines product to be a reduction from PLC, similar to an Firm Service Level (FSL) approach**
- **Aligns future PLC with actual usage in emergency**
 - **Favors savings from lower PLC rather than capacity credits through RPM**
 - **Does not incorporate or add back load reduced into future RPM peak load forecasts**



Old Add Back Rules

- **Define compliance and add back relative to observed reduction which is measured by unrestricted baseline less actual load**
 - **Compliance and add back are unlimited regardless of PLC in current delivery year, but all of reduction will be incorporated into next year PLC**
- **Next year PLC will be actual load plus observed reduction:**
 - **Favors RPM credits over savings from PLC reduction**
 - **Load forecast will incorporate estimates of load that would have occurred without reduction**



Old Add Back Rules: Example

- **For Customer A in example, since it reduced load 8 MW in real time, and it nominated 1 MW, it has 7 MW of over-compliance to offset CSP portfolio this year**
- **However, add back is now aligned with reduction of 7 MW, which will increase next year's PLC**
 - **Customer will be obligated to buy this capacity in following delivery year or continue to reduce through the PJM Program**
- **The 7 MW add back is incorporated into the load forecast in for future RPM auction**



Hess Proposal

- **Define compliance and add back relative to observed reduction, but limit to current year PLC**
- **Represents an intermediate position between old add back rules and PJM proposal**
- **Next year PLC will be Actual load plus observed reduction up to current PLC:**
 - **Favors capacity credits through RPM over PLC savings, but cap the amount PLC can increase**
 - **Load forecast will include some of reduction**
 - **PLC can double at most year over year**



Hess Proposal: Example

- **For Customer A in example:**
 - **Nominated 1 MW with a PLC of 2 MW**
 - **Reduced 8 MW in real time**
 - **Cap compliance and add back at current year PLC of 2 MW**
 - **PLC next year= 4 MW (PLC this year+ add back)**
- **PLC next year= 4 MW (PLC this year+ add back):**
 - **Partially higher PLC lends itself to participation in RPM in future delivery years**
 - **Partially lowered PLC leads to savings**



Option Comparison

	PJM Proposal	Old Add Back Rules	Hess Proposal
Compliance	Must show nominated ICAP reduction to both baseline and PLC	Must show nominated ICAP reduction to baseline	Must show nominated ICAP reduction to baseline
Over Compliance/ Addback Cap	Limited to PLC less Actual Load	Unlimited	Limited to PLC
Next Year PLC	Will only increase if actual metered load is greater than PLC, closely tied to actual metered load	Represents what load would have occurred without load reduction, or actual load plus observed reduction	Represents what load would have occurred without load reduction, but capped at current year PLC. Year to year PLC can at most double
Implications for Load Forecast	Base on actual consumption	Based on what consumption would have been if load reduction did not take place	Based on what consumption would have been, but capped at the PLC
Customer Compensation	Favors savings from reduced PLC	Favors RPM credits	Split between savings and credits based on current year PLC



Critical Questions

- **What should PLC represent: actual usage or estimated usage absent load reduction?**
 - **PJM proposes shift towards actual usage, Old Add Back Rules used estimated load, Hess is between the two**
 - **Larger add back incorporated in load forecast implies capacity procured for customers that may reduce load in event**
- **Should the GLD product be redefined?**
 - **In PJM proposal, customer must know reduction that can be achieved from PLC- similar to FSL approach**
- **Is reduced PLC equivalent to capacity credit for end use customer?**



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