



PJM issues with proposed DR/PRD Capacity Compliance for Weather Sensitive Load

DISRS

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- Capacity Load Reduction
 - PLC is used to determine amount of capacity reserved for each customer
 - If customer makes commitment to reduce load and not use capacity then the amount of capacity needed for the customer is reduced.
- Energy Load Reduction
 - Amount of energy that is reduced in real time. This is not tied to capacity amount and can be higher or lower than capacity reduction
 - Industrial customer plant shutdown for holiday week – meet capacity load reduction requirement but may not be eligible for real time energy load reduction
 - Customer that peak shaves and has no capacity commitment/PLC – not eligible to provide capacity load reduction but may be eligible for real time energy load reduction.
- Generation – Capacity amount vs real time energy output may be significantly different

- FPR = 1.1
- 1 customer = total load
 - 1 MW weather normal peak day
 - 1.1 MW hot summer day
 - Commits to curtail to 0
- Capacity need = 1.1 MW
- Options:
 - 1.1 MW of generation or,
 - 1.1 MW of weather sensitive DR that will still consume 0.1 MW of electricity during an event (PLC – weather normal load)
 - There would still be load on the system on every hot day with capacity commitment fulfilled. Any day where load is above 50/50 load forecast we will not have resources to meet the load.

- DR Ucap accredited/escalated by FPR since load will not be there in real time. If load will not be there in real time, no reserves are needed. Majority of reserves are to cover load above the 50/50 load forecast.
 - **Proposal will allow load above the 50/50 load forecast although no reserves have been procured.**
- Reserves on pool wide basis (FPR) vs customer specific weather sensitivity to reduce the required capacity load reduction
 - Not clear if this mismatch could lead to issues
 - Reserves for weather sensitive loads currently spread out across all loads.
- PLC may increase in subsequent DY as a result of DR participation and impact associated LSE's capacity cost.
 - Current rule is load reductions recognized for capacity are also used for "add backs". This was developed through stakeholder process on purpose.
- Need to determine a feasible way to administer which registrations are considered weather sensitive
 - We could have 10,000 plus registrations request weather sensitive treatment since it would only reduce their required load reductions during a PAI.
- Need to determine a feasibility process for CSP/registration specific PAI weather normalization for events and tests
 - Weather normalize up or down?
 - Summer and Winter?

- Terms and concepts

- DR (summer months) and PRD capacity compliance are done the same.
- Capacity Nomination = Ucap value (capacity accreditation) for a customer for the DY. Summer is based on PLC and Winter is based on WPL
 - PLC – (FSL*loss factor).
 - If customer peak shaves PLC to 0 then they cannot nominate any capacity in the summer since the customer is not responsible for any capacity
- Firm Service Level – FSL, load needs to be at or below this value during an event or test.
- Nomination method = Load Reduction method = Add back method. This ensure nomination through addback are aligned and fixes prior issues
- Load Reduction (Capacity) – PLC – (load*loss factor)
- Load Reduction (Energy) – (Forecast Energy (CBL) – load) * loss factor

- Add Back = load reduction used to measure compliance. Load reductions are added back to the load data to develop the unrestricted peak load forecast.
- Load Forecast – 50/50 load forecast
- Unrestricted peak load forecast – RTO/zonal forecasted load assuming no future DR/PRD. This is used to determine the reliability requirement for RPM auction or FRR plan.
- FPR – forecast pool requirement – $(1+IRM)*(1- \text{PJM avg EFORd})$. This is effectively UCAP adjusted reserve requirement converted to a factor that can be applied to the load forecast. IRM is in ICAP, FPR is in UCAP.
- IRM – installed reserve margin – amount of reserves required to cover load increase from weather or generator forced outages. This is derived from 1 n 10 resource adequacy standard.

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**Capacity Compliance Weather Sensitive
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