Capacity Compliance DR and PRD

DRS

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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 customer required capacity 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 escalated by FPR to reduce required reserves but load only responsible to get to normal weather load
- PLC will increase in subsequent DY as a result of DR participation and potentially impact associated LSE
- FPR to share reserves on pool wide basis vs customer specific weather sensitivity to reduce the required capacity load reduction
  - Not clear if this mismatch could lead to issues
- Need to determine a feasible way to administer which registrations are considered weather sensitive
- 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- 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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[Proposal to Consolidate DRS and DIRS into one Subcommittee]

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