



Load Management Dispatch

- In emergency conditions operators transition from economic dispatch to administrative actions
- Load Management is normally called before loading Maximum Emergency Generation resources
 - Called when primary reserves are expected to be low
 - At least one hour and up to two hours lead time required
- Load Management can be issued for the entire PJM Region, specific Control Zone(s) or a subset of a Control Zone if transmission limitations exist for each lead time.

- Decision to dispatch Load Management resources is based on many current and future expected conditions:
 - Both the start and end of unit or transmission outage(s).
 - Load forecast (heavily dependant on weather forecast)
 - Operating conditions of the System
 - Expected amount of load management – how much is available, when it is available and for how long
 - Time (time of day, where we are in summer season, day)
 - Prior events (number, location and lead time)

PJM will not know all future system conditions and must adjust accordingly

Expected load drop available from Load Management

- Current approach
 - Nominated Capacity on emergency registration less economic schedules and any additional information received through Supplemental Status Reports
 - May solicit CSPs directly regarding resource availability prior to dispatch
- Future expected approach (developed within SPWG)
 - CSP responsible to report hourly operational load drop capability to provide better information on availability

PJM concerned that increase in DR will require more emergency declarations in order to dispatch.

PJM dispatch of Load Management

- Ability to dispatch resources by zone by lead time (or subzone if transmission constraints exist)
 - This is very different from true dispatch based on specific nodes, MWs and strike prices.
- Majority of Load Management resources are 2 hour lead time
 - System conditions may rapidly change (think in terms of minutes) during emergency conditions
 - If we need an don't call – may necessitate shedding load
 - If we call and don't need – may cause significant market / price issues

- Uncertainty of when reduction will occur. Lead times are laid out but response time unclear.
- Restriction on number of times can be called and only for specific duration.
 - 2 hour lead time and six hour maximum window makes implementation a tough and very manual analysis and call
- Possibility of being curtailed outside required time PJM might need it, i.e. Baltimore's rider program.
- Once issued – inability to determine exact impact combined with other actions (redispatch, switching, etc.).

- System Projections can be volatile. Volatility includes:
 - load forecast accuracy
 - increase in Intermittent Resources
 - ability to self schedule generation with 20 minutes notice (including Maximum Emergency Generation)
 - 5 minute interchange market.
 - Unit performance and accuracy of bid data can also impact volatility
- PJM Operations needs options that are granular, responsive and automated. Typical Combustion Turbines are between 50 – 150 MW and generally have a start-up of 30 minutes or less.
- PJM Operations cannot rely on manual processes during emergency or near emergency conditions.
 - Note - Wind Power Communications Strawman, which will be included as an attachment to M14D, is an initiative demonstrating a focus on automated communications and streamlined processes to quickly reduce Wind Farms, which are generally the last unit to be reduced just prior to an emergency.