

Winter Peak Load Calculation and Process



DRS Meeting
November 15, 2017

- Consider how to handle WPL calculation when customer load is down due to maintenance outage during Winter Peak day
 - Low WPL will impact DR registration nomination
- Consider winter add back if Load Management dispatched by PJM (so following year WPL does not go down)

- CSP determines Summer and Winter nominated capacity MWs with summer vs winter FSL
- **Annual nomination is the lessor of:**
 - Summer nominated capacity = $PLC - [FSL(\text{summer}) * \text{line loss factor}]$
 - Winter nominated capacity = $\{\text{Winter Peak Load} * \text{Winter Weather Adjustment Factor} - FSL(\text{winter})\} * \text{line loss factor}$

- **Customer Winter Peak Load**
 - PJM publishes winter 5 CP days (Dec/Jan/Feb)
 - CSP calculates Customer Winter Peak Load
 - Identifies customer's peak demand on PJM Winter 5 CP days from 6am through 9pm (CP availability window)
 - calculates the average of the 5 values
 - Customer Winter Peak Load based on Delivery Year minus 2
 - Example: registrations for 18/19 use winter 16/17
 - Exceptions if hourly load does not exist
- **Winter Weather Adjustment Factor by Zone (zonal WWAF)**
 - PJM calculates Zonal Weather Normalized Winter Peak / Zonal Average of 5 CP Loads in Winter
 - PJM applies during capacity nomination on the registration

Winter 5CPs and WWAF by zone - <http://www.pjm.com/-/media/markets-ops/demand-response/2016-2017-dy-winter-peak-for-18-19-wpl-calculation.ashx?la=en>

- **Apr 2017**
 - PJM publishes Winter 2016/2017 (Dec 2016, Jan/Feb 2017) 5 CP days
 - PJM publishes Zonal Winter Weather Adjustment Factor
- **Oct 2017**
 - PJM publishes Summer 2017 5 CP days/hours
- **Jan 2018**
 - EDC distributes PLC for 2018/2019 based on summer load in 2017
 - CSP calculates Customer Winter Peak Load based on Winter 2016/2017 (Dec 2016 and Jan/Feb 2017)
- **Jan – May 2018**
 - CSP registers DR for 2018/2019 DY

Reason for Load Drop		PJM-Initiated Emergency or Pre-Emergency Event or CSP-Initiated Test	Economic Event	EDC- or CSP-Initiated Event
Program Registration	Emergency/Pre-Emergency Full (DR) or Emergency/Pre-Emergency Capacity Only (DR)	Load Drop Estimates must be produced for any interruption that occurs during a product-type registration's required availability window set forth in PJM Manual 18 or any interruption outside the required availability window for which such registration received Bonus MWs in the Performance Assessment Hour .	Load Drop Estimates must be produced for any settled interruptions.	No Load Drop Estimates required.
	Emergency Energy Only	Load Drop Estimates must be produced for any interruptions during Emergency/Pre-Emergency hours .	No Load Drop Estimates required.	No Load Drop Estimates required.
	Economic	No Load Drop Estimates required.	No Load Drop Estimates required.	No Load Drop Estimates required.

FSL calculation

The calculation is represented by:

$$\text{Summer: } PLC - (\text{Load} * LF)$$

$$\text{Non-summer: } (WPL * ZWWAF * LF) - (\text{Load} * LF)$$

- Addback volume will be based on same calculation used to determine the load reduction
 - This is consistent with Summer process

Since M-19 was recently updated for CP, do we need to do anything else for this part of the problem statement?

- M-18 – WPL calculation language

- The Winter Peak Load is determined by the Curtailment Service Provider based on the customer's peak load between hour ending 7:00 EPT through 21:00 EPT on each of the PJM defined five coincident peak (5CP) days from December through February two Delivery Years prior to the Delivery Year for which the registration is submitted. The Winter Peak Load is calculated as the average of the customer's five peak demand values on the PJM defined winter 5 CP days. PJM posts the RTO winter 5 CP days on the pjmc website. If no hourly load data exists for December through February two Delivery Years prior to the Delivery Year, then the CSP may use the most recent December through February hourly load data to calculate the Winter Peak Load. If no hourly load data for the customer exists for the last two December through February periods prior to the Deliver Year, the CSP may provide alternative data to support a Winter Peak Load subject to PJM's review and approval of the use of alternative data.