Questions on 5CPs and Peak Shaving

1) What are the 5CPs?

The 5CPs are the five highest daily unrestricted RTO peak loads for each summer (June 1 through September 30). They are identified and published by PJM, usually in mid-October.

2) What are unrestricted loads?

Unrestricted loads are hourly metered load data supplemented with estimated load drops for: 1) Curtailment of load for customers registered in the PJM emergency or preemergency program either as a Load Management resource (Demand Resource) or an Emergency – Energy Only resource, or customers registered to meet a Price Responsive Demand (PRD) commitment for either the Reliability Pricing Model (RPM) or the FRR Alternative; 2) Voltage Reductions implemented by PJM or an EDC; and 3) Significant losses of load. The table below summarizes requirements for load drop estimates:

Requirements for Production of Load Drop Estimates

Reason for Load Drop		*PJM-Initiated Emergency or Pre-Emergency or CSP-Initiated Test*	*Economic*	*EDC- or CSP-Initiated*
Program Registration	*Emergency/Pre-Emergency Full (DR) or Emergency/Pre-Emergency Capacity Only (DR)*	*Load Drop Estimates must be produced for any interruptions from June 1 through September 30.*	*Load Drop Estimates must be produced for any settled interruptions from June 1 through September 30.*	*No Load Drop Estimates required.*
	Emergency Energy Only	*Load Drop Estimates must be produced for any interruptions during Emergency/Pre-Emergency hours from June 1 through September 30.*	*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.*

3) How does PJM use the 5CPs?

PJM does not use 5CPs for any of its internal processes (load forecasting, weather normalization, etc.). The dates and hours of the 5 CPs are provided solely for the use of PJM EDCs in the production of Peak Load Contributions (PLC).

4) Can peak shaving on the 5CPs lower an end-use customer's PLC?

While the EDCs use differing methods to produce PLCs, peak shaving is usually an effective way to obtain a lower PLC. For purposes of this discussion, peak shaving is defined as a load reduction that does not result in a load drop estimate (addback) being applied to the customer's loads on the 5CP days.

5) Can peak shaving on the 5CPs lower a zone's weather-normalized peak?

A zone's weather-normalized peak has no impact on any capacity allocations or charges. The weather-normalized peaks are provided just to give a sense of the underlying load growth in each zone.

Peak shaving is not an effective way to lower a zone's weather-normalized coincident peak. PJM produces weather-normalized peaks by establishing a relationship between daily peak load and weather conditions over a three year period and then evaluating that relationship at typical peak day weather conditions. Therefore, the 5CPs are only 15 of the more than 250 points used to determine the normalized peak.

6) If peak shaving on the 5CPs could lower a zone's weather-normalized peak, would that have an effect on RPM?

No, because the weather-normalized peak from the previous year is only used as an intermediate step in assigning a portion of a zone's load to individual consumers (the PLC). In RPM those PLC's will be scaled to a separately forecasted peak to determine capacity obligations.

7) Can peak shaving on the 5CPs lower a zone's forecasted coincident peak used in RPM?

Peak shaving is not an effective way to lower a zone's forecasted coincident peak. PJM's load forecasting model uses daily peak loads from all summer days over 18 years to derive seasonal peak loads. To be effective, peak shaving would need to

occur on a sustained basis over many years. (Please see analysis results presented at the May 6, 2016 SCRSTF meeting.)

So, in the end, two factors determine a load customer's share of capacity charges:

1. The CP load forecast for the customer's zone
2. The methodology used by the EDC to allocate the zone's CP forecast to individual load customers. (Most EDCs use a 5 CP approach.)