



PACIFICORP 2021 CPA

Demand Response and Pricing & Rates Draft Program List

INTRODUCTION



The following slides summarize AEG's initial list of recommended Demand Response (DR) and Pricing & Rates (P&R) programs for consideration in the 2021 CPA

- Although we will be utilizing a measure-level approach when developing DR impact estimates, it is helpful to keep the potential program designs in mind
- After all, DR cannot exist without a program to call it

Blue text indicates an addition or revision from the prior CPA

We are considering an expanded list of enabling DR measures and technologies

We are also investigating additional grid

- *Additional details will be provided during the February 18th Public Input meeting*

We appreciate any feedback that you may have prior to the Public Input meeting

- Including input on any measures/programs that you would like to see added, modified, and/or excluded from this list

DEMAND RESPONSE RESOURCES

LOAD CONTROL

Load-Control Resources

Program Option	Eligible Customer Segments	Mechanism / Description	Current Offering
Direct Load Control (DLC) of Central Air Conditioners	Residential, Small C&I, Medium C&I	DLC switch installed on customer's equipment.	Cool Keeper in Utah
DLC of Room Air Conditioners	Residential	Direct load control switch installed on existing customer's equipment.	No
DLC of Smart Thermostats	Residential, Small C&I, Medium C&I	Internet-enabled control of thermostat set points (cooling and electric heating).	Residential
DLC of Space Heating	Residential, Small C&I, Medium C&I	DLC switch installed on customer's equipment.	No
DLC of Domestic Hot Water Heaters (DHW)	Residential, Small C&I, Medium C&I	Native open-communication protocol and "smart" controller installed on customer's. Can also be used for energy storage.	No
DLC of Networked Lighting Systems	Commercial and Industrial	Automated dimming or shutoff of lighting fixtures connected through a networked lighting control system or building energy management system.	No
DLC of Smart Consumer Goods	Residential	Internet-enabled control of operational cycles of white goods appliances, electronics , and lighting . Controlled by a central smart hub or smart speaker.	No
DLC of Connected Electric Vehicle Chargers	Residential, C&I	Automated, level 2 EV chargers that postpone or curtail charging during peak hours. Can potentially be used for energy storage.	No
Irrigation Load Control	Irrigation	Automated pump controllers.	Idaho and Utah Pilot in Oregon

DEMAND RESPONSE RESOURCES ADDITIONAL



Energy Storage Resources

Program Option	Eligible Customer Segments	Mechanism / Description	Current Offering
Customer-Sited Battery Energy Storage	Residential, C&I	Peak shifting of load using stored electrochemical energy. For residential customers, we are considering a lithium ion solution similar to a Tesla Powerwall. For C&I, we are considering an array of lithium-ion batteries sized to meet a portion of customer load.	Pilot in Utah
Thermal Energy Storage	Small and Medium C&I	Peak shifting of space cooling loads using stored ice.	No
Grocery – Refrigerated Case Energy Storage	Commercial grocery stores	Peak shifting of grocery refrigeration loads by adding thermal mass within refrigerated cases, extending the time it takes for a case to lose temperature.	No

Previously Considered Resources Expanded into Other Offerings (no longer modeled individually)

Program Option	Eligible Customer Segments	Mechanism / Description	Current Offering
Third Party Contracts	Medium C&I, Large C&I, Extra-large C&I	Includes Curtailable Agreements for extra-large customers and third-party aggregator-type programs for smaller customers. Will be comprised of various measure-level DR options.	No
Ancillary Services	Residential, C&I	Automated control of various building management systems or end-uses through one of the mechanisms already described	Cool Keeper in Utah

PRICING & RATES RESOURCES



Pricing and Rates Resources

Program Option	Analysis Approach	Current Offering
Time-of-Use Demand Rate	In states without existing TOU rates (WA, WY, CA), analyze impacts associated with new TOU rates.	Optional TOU rates in ID, UT, and OR
Time-of-Use Demand Rate for Electric Vehicle Owners	This rate has the same structure as the TOU Demand Rate listed above but reflects the group of customers who would participate while owning and charging an electric vehicle. These participants would in effect have an “enabling technology” in the form of their EV that would enable them to shift usage and demand off-peak.	Yes Limited pilot in UT
Time-of-Use Demand Rate	Rate that includes a billing component based on a customer’s peak demand in a given month. The “TOU” element means that this billing demand would be measured during a peak period of time. This rate structure has traditionally been used with C&I customers, but better reflects the grid’s evolving underlying cost structure and is being considered here for residential application.	No
Time-of-Use Demand Rate for Electric Vehicle Owners	This rate has the same structure as the TOU Demand Rate listed above but reflects the group of customers who would participate while owning and charging an electric vehicle. These participants would in effect have an “enabling technology” in the form of their EV that would enable them to shift larger amounts of usage and demand off-peak.	No
Critical Peak Pricing Rate	Assess impacts associated with a CPP rate offering to all residential customers. Impacts are estimated with both opt-in and opt-out provisions.	Yes Limited pilot in UT
Behavioral Demand Response	Voluntary demand reductions in response to behavioral messaging. Example programs exist in CA and other states. Requires AMI technology	No