Bedwell, Heidi

From: Strauch, Bradley <bradley.strauch@pse.com>
Sent: Friday, October 26, 2018 4:47 PM
To: Bedwell, Heidi
Subject: RE: Additional Comment Response needed

Follow Up Flag: Follow up
Flag Status: Flagged

Heidi, please see the responses below.

Brad

From: Bedwell, Heidi [mailto:HBedwell@bellevuewa.gov]
Sent: Wednesday, October 10, 2018 11:21 AM
To: Strauch, Bradley
Subject: Additional Comment Response needed

Hi Brad,
This message pertains to your letter dated September 21, 2018 sent in response to the city's request for additional information about your peak loads. On June 8, 2018 PSE sent letters to several Cities on the eastside stating that their peak customer demand projections, which were the basis for determining the need for the Energize Eastside project, had been exceeded in the summer of 2017. In your response to City of Bellevue requests for data showing this growth you indicated that the kind of information requested could not be provided. As we discussed on October 9, 2018, there are some details that would help us better understand the letter and the circumstances that led to the 2017 peak demand.

1. Please indicate which load forecast scenario the June 8 letter refers to when it says "peak demand increased faster than modeled and our actual 2017 summer peak demand exceeded our load forecast for summer 2018". We presume this refers to load forecasts in the 2015 Supplemental Eastside Needs Assessment Report. If this is correct, please indicate which threshold was exceeded.

Yes, PSE was referring to the load forecast utilized in the 2015 Supplemental Eastside Needs Assessment Report. The 2015 Needs Assessment, is based on the 2014 load forecast wherein Table 3-2, Summer Power Flow Summary Comparison, showed a forecasted 2018 summer area load of 3,625 MW with 100% conservation. At this level the table shows that various equipment overloads would occur during certain planning contingencies, which are required to be tested by federal planning standards (TPL-001-4). PSE's planning studies show that area peak summer power demand levels above the 3,625 MW, under certain contingencies, would result in overloads on eastside equipment, which could result in the use of Corrective Action Plans, which includes load shedding.

On August 3, 2017, the PSE area peak demand exceeded PSE's 2014 summer forecast – one year earlier than projected. PSE monitors the area peak in real time. However, it is important to note that the forecasted area peak load-- not actual data from a single year-- is the input used in PSE's planning studies. This is relevant because the federally mandated planning standards, NERC TPL-001-004, require that the system be assessed at forecasted peak load over various system conditions under a range of probable contingencies (e.g., transmission line going offline due to a tree branch). Here, PSE's planning studies showed a violation of the mandatory performance requirements where the forecasted peak load level was 3,625 MW. In the 2015 Needs Assessment, the load causing violations of planning standards was forecasted to occur in 2018. The actual peak area load level exceeded 3,625 MW in 2017; therefore, PSE is assuming additional risk to the reliability of the electrical system, which is what the planning studies are designed to prevent.

Again, PSE's system planning studies comply with federal planning standards and use peak area forecasting as an input for the studies. As the City knows, PSE's planning methodology has been independently verified by the City's technical experts (including an analysis of Eastside-specific electricity demand) and as part of the EIS process – these demonstrate that the Energize Eastside project is needed. Additionally, the Federal Energy Regulatory Commission confirmed that PSE follows the federal transmission planning process.

2. Please provide information on what contributed to this peak load, including high temperatures, duration of the heat wave, and other conditions that led to higher than expected demand. To the extent that it can be determined, please provide information on where the higher than expected demand occurred.

PSE did not perform analysis of the electrical loads around the August 3, 2017 peak; therefore, we cannot draw specific conclusions about that event. However, PSE typically sees summer peak events occurring after consecutive hot days. For example, the 2017 summer peak occurred following three hot (92°F) consecutive week days with associated relatively high (68°F) night temperatures.

With increased temperatures, it is reasonable that increased air conditioning usage was a likely contributor. One of the key findings in the NW Power and Conservation Council's 7th Power Plan, was that increasing air conditioning use is a contributor to increasing summer peak loads. The Northwest Energy Efficiency Alliance's 2011-12 Residential Building Stock Assessment (RSBA) found that 34.4% (+/-3.4%) of single-family homes had mechanical cooling equipment. In comparison, the 2016-17 RSBA found that the number of single family homes with mechanical cooling equipment increased to 52.3% (+/-4.5%) across Washington state.

Additionally, we are seeing an increase in customer count in the service territory each year, which means additional customers using electricity during summer peaks each year.