

**Demand Response Advisory Committee
Northwest Power and Conservation Council
June 30, 2020**

Tina Jayaweera, NWPCC, began the meeting at 10:00. Chad Madron, NWPCC, discussed features of the Go-to-Webinar and explained how committee members can ask questions. Jayaweera called for introductions.

Supply Curve Items to Discuss

Tina Jayaweera, NWPCC

Non-residential Curtailment

Lee Hall, BPA, argued that BPA staff thinks that the curtailment versus CCP allocation should be different [Slide 8.] He said staff also thinks that the overall participation rate for industrial curtailment is a bit low. Hall acknowledged that BPA is currently achieving 5% but cautioned that a utility may record 5% because that's all they needed, targeted or budgeted for and the actual potential may be higher.

Hall then reminded the committee that BPA has signed up 160MW of industrial load in demonstration projects.

Zeecha Van Hoose, Clark PUD, questioned BPA's assumption via the Question feature, writing "that historical industrial load shed present in the past would participate in the future" [Slide 9.] She stated that these loads i.e. pulp and paper, metal and NORPAC are slowly disappearing from Clark's territory. She cautioned that the past does not predict the future.

Fred Heutte, NW Energy Coalition, shared Van Hoose's concern, but also called the limited amount of commercial and industrial availability compared to overall amounts striking. He felt that there is a lot of data about industrial applications that should be included in some way but called into question how to represent the reality of what we know plus the potential which is influenced by program design and implementation.

Heutte felt that the commercial/industrial numbers were way under while the residential sector was over rated. Heutte agreed that the path to high-confidence inputs was to dig through the commercial/industrial numbers to make sure they represent both the present and the future.

Quentin Nesbitt, Idaho Power, discussed his utility's C&I curtailment program which was promoted heavily to all their C&I customers and ended up with 3.5% or 36 MW. Because of this Nesbitt felt that his utility's potential is limited to a fairly low percent, stressing that he does not include irrigation in this number and also acknowledged Idaho Power does not have some of the large industrial pulp and paper or metal facilities, but does include food processing.

Jayaweera responded that eligibility for this program varies by segment [Slide 10.] She then asked Nesbitt if he ever offered a tariff-based program to his customers. Nesbit answered that

he offers general Time of Use pricing for customers and did a pilot for curtailment/CCP and didn't recall getting any participants.

Jayaweera called for other implementors or evaluators to share their experiences. Stuart Schare, Guidehouse, stated that a lot of C&I published reduction results are from one or two large companies. He thought it important to segment out really big customers that can provide 10-20+ MW and then look at the rest for meaningful benchmarking.

Mark Jerome, CLEAResult, echoed that, noting a downward trend due to COVID-19.

Jayaweera suggested that it might be reasonable to increase the curtailable load product for BPA as they house some larger industrial facilities that have already demonstrated a willingness to sign up. She realized the need to be cognizant that some of these customers are shutting down, adding that it can be hard to load forecast for the industrial segment.

Jayaweera thought she would modify relative participation rates for the BPA scenario but not change the regional side. She asked Heutte for his opinion on the overall MW rates for the region.

Heutte explained how he analyzed the numbers, saying he doesn't see anything wrong but finds the numbers unbalanced. He admitted that, aside from Idaho Power and BPA's industrial work, the region does not have much experience with this. He still felt there was a case to adjust the industrial and perhaps commercial numbers to represent more future potential.

Jayaweera noted that most of the pulp and paper companies are in BPA's territory and an updated 8760 load shape may change things. She said she will modify some numbers for the Bonneville scenario and wait for the new load shape before potentially changing to the regional.

Hall pointed to different participation rates, noting that the ability to achieve industrial and some commercial DR in the BPA service territory has been demonstrated. He acknowledged that some industrial resources are going away but still felt that participation rate and potential should be higher. He also asked that Jayaweera consider that there is still opportunity for the rest of the region.

Bring-your-own-Thermostat

Jerome asked if momentum savings track on smart thermostats and if that could be a way to capture results without impacting EE [Slide 14.] Jayaweera answered that happens after the fact and doesn't help with the Plan because it's not data available *a priori*.

Nesbitt did not understand the double counting issue and asked for further explanation. Jayaweera explained using the first bullet of [Slide 13] as an illustration.

Ahlmahz Negash, Tacoma Power, asked where BYOT falls on the supply curve and how likely they are to be cost effective [Slide 15.] Jayaweera answered bin two, meaning they are relatively inexpensive.

Heutte asked how PGE is handling this. Andy Eiden, PGE, pointed to conversations around eligibility to limit crossover and a direct install/direct ship program. He thought using an increase in participation rates made some sense as a workaround and offered to put the right people at PGE in touch with Council staff to share learnings.

Jayaweera added that she assumed \$0 for equipment costs because this is a BYOT program.

Heutte thought there PGE had 20,000+ smart thermostat customers or 3-4% at present adding that 20% is not out of reach. Heutte cautioned against stating what is or isn't economic and wondered if the additional flexibility might lead to an increase in energy consumption. Jayaweera said this has been discussed in the Regional Technical Forum which is why they set the savings as Planning.

Nesbitt addressed "how to acknowledge non-economic adoption..." saying people that buy a thermostat for the cool factor are, in his opinion, less incentivized to participate in a DR program.

Jayaweera asked what the participation number should be increased to if they decide to increase it at all. Hall regretted not having data to share and suggested looking into successful programs like Baltimore Gas & Electric or Kansas City Light and Power.

Jayaweera said she could look there for participation rates and data to support changing the 5%. Hall thought the number should be higher, noting DR-only thermostat programs in other parts of the U.S. Jayaweera said she hasn't explored those because any change in the market is reflected in the EE supply curves regardless of motivation. She then talked about Switch programs which are decreasing while thermostat programs increase.

Eiden said he will send questions to PGE staff working on the test bed but cautioned that there might not be much data on non-economic adoption and asked for help designing questions to get that. Jayaweera noted that there might be time to make changes between Draft and Final but this will have to be wrapped up in two weeks.

Nicholas Garcia, WPUDA, stated that many potential studies come from larger, more urban utilities. He wondered if there was any effort to understand how rural or semi-rural customers behave.

Frank Brown, BPA, couldn't speak to thermostats but stated that in the 90s and early 00s they got the best water heater and space heating participation rates from small, rural utilities. Brown put the number at between 35-50% of all homes in the service area, saying he found it easy to market to and recruit this population.

Brown then addressed smart thermostats versus a switch, saying he could get 25% participation with a five-year ramp but the switch participation has been cut because of a preference for the less-costly thermostat. Brown was okay with having a lower participation rate for the switch but wanted to see a 25% adoption rate across the two products.

Jayaweera explained that right now the switch has a 10% participation rate bringing the total to 15%. She offered to do more benchmarking and possibly increasing the number.

Nesbitt stated that from 2004-12 their heavily marketed program achieved 10% participation rate. Jayaweera asked if the majority of Idaho Power's customers were eligible, meaning they had ducted systems. Nesbitt thought most but not all (380,000 out of 440,000) of the customers were eligible. Jayaweera asked if this means the 15% across the two devices seemed reasonable. Nesbitt thought so, adding that Idaho Power never tried a thermostat on top of a switch.

After the meeting, Jayaweera sent an email to the DRAC indicating the slide indicating 5% participation rate was incorrect – the assumed participation was 20% and 35% of eligible households in summer and winter, respectively.

Sensitivity Study

Tina Jayaweera, NWPCC

John Ollis, NWPCC

Heutte did not offer specific suggestions for [Slide 18] saying there is a lot of gray area due to the region's lack of DR experience. He noted the upside potential if the region needs the resource. He called for a reasonable baseline, acknowledging how much more work Option two requires. Heutte didn't want to assume that the baseline is DR's ceiling. He then addressed other future DR issues.

He called for a sensitivity that is high enough to test substantial system value but is not pushed to a breaking point. Jayaweera called this context important.

Ted Light, Lighthouse Energy, addressed varying cost versus supply, noting that there are only four cost bins with different amounts of supply. He didn't know what increasing the amount in each bin would say and thought putting more variation on cost would give more resolution than four bins.

Ollis called Light's idea interesting and good, saying Option 1 might be the best way to get a high-level result. He added that some of the fidelity required for Option 2 might be missed by the RPM. Ollis thought it might be useful to bump up or down bin costs to see how it effects uptake. Light agreed.

Jayaweera said she thought more about changing supply and not cost and wondered which mattered more. Ollis thought it could be different, depending on why DR was acquired. He recalled that in the Seventh Plan, DR worked as an inexpensive insurance product because it was framed as DR versus a Peaker. He said for the 2021 Plan it's framed more as DR versus a battery.

Ollis thought DR's cost could change things and is worth testing along with potential.

Garcia saw a challenge with uptake, noting that many public utilities don't have a big economic incentive to follow through with DR. He said this is caused by the divergence between what is cost effective for a utility versus the region. Garcia called for a better way to align incentives between public utilities and the larger region, saying until this is done, potential will not be realized as people will make appropriate economic decisions for themselves that don't reflect broader social costs. Jayaweera agreed, pointing to Option 1's plus and minus.

Heutte asked if Option 1 includes the same percent change across all measures and products. Jayaweera answered yes, they are applied at the bin level. Heutte hoped that the aggregate amount of DR will be in this range but was worried that looking at the product level might create misinterpretation, as some products have more upside than others.

Heutte then said supply should get a bit more attention than cost as right now it looks like we have a good handle on costs.

Blake Scherer, Benton PUD, said his utility is watching Council work on DR but hasn't done any programs. Scherer said his main concern is resource adequacy and his utility has relied heavily on market purchases for seasonal peaks. He pointed to future concerns with that option and is looking for a signal that determines if DR is good for the region and could solve adequacy issues.

Jayaweera summarized that the DRAC is comfortable with Option 1 and offered to explore changes in supply. She said a change in cost can be explored if warranted. She asked for members to email thoughts about what that percent change should be.

Heutte noted that the technical potential is 2600MW Winter/3600MW Summer. He suggested taking out the expensive bin four, adding more potential to C&I as discussed earlier and going up another 10-25%. He pointed to a lot of upside potential stating that 50% is too much but 10% is too small. Jayaweera agreed that she was thinking about a number between 10-25%.

Heutte thought a high DR sensitivity may reveal a lot and suggested looking at aggregate MW. He also spoke about the sensitivity between pricing level and resources you get and suggested looking at sectors where technology may have a big impact, pointing to innovation as a hidden driver.

Jayaweera asked about the second question, “Which scenarios should be tested?” Heutte asked where a high DR sensitivity will be run. Jayaweera said she doesn’t see the value of running it for every single scenario and the Council members make the final decision.

Heutte was still a bit unsure about the sequencing thought it important to look at higher DR in the Path to Decarbonization scenario even though it requires an updated curve. Heutte was ultimately concerned with underestimating the potential of DR in the preferred portfolio by not looking at a high sensitivity. Jayaweera agreed that that is the reason for the test along baseline conditions. She said a significant impact may flow through other scenarios but a small difference means it’s probably not worth it. Heutte said that path made sense.

Jayaweera stated that she will share results with the DRAC and the next meeting will be on September 23.

Eiden asked if members should email thoughts about sensitivity testing of if this topic will come up through another formal meeting. Jayaweera asked that comments be emailed.

Heutte thanked the DRAC for doing this second look at the data and the sensitivity approach. Jayaweera thanked the BPA team for going through the workbooks.

Jayaweera adjourned the meeting at 12:15pm.

Attendees via Go-to-Webinar

Tina Jayaweera	NWPCC
John Ollis	NWPCC
Malcom Ainspan	NRG
Jessica Aiona	BPA
Leann Bleakney	NWPCC
Frank Brown	BPA
Aaron Bush	PPC
Tom Eckhart	UCONS
Andy Eiden	PGE
Kyle Frankiewich	WA UTC
Suzanne Frew	SnoPUD
Nicholas Garcia	WPUDA
Leona Haley	Avista
Lee Hall	BPA
Fred Heutte	NW Energy Coalition
Ross Holter	Flathead Electric
Mark Jerome	CLEAResult
Elaine Jordan	WA UTC
Hanna Lee	BPA
Ted Light	Lighthouse Energy
Tomás Morrissey	PNUCC

Quentin Nesbitt	Idaho Power
Elizabeth Osborne	NWPCC
Robert Pratt	PNNL
Elaine Prause	PacifiCorp
Nick Sayen	ODOE
Stuart Schare	Guidehouse
Black Scherer	Benton PUD
Adam Schultz	ODOE
Gurvinder Singh	Puget Sound Energy
Jennifer Snyder	WA UTC
Zeecha Van Hoose	Clark PUD
Sarah Vorpahl	WA Dept of Commerce
Cindy Wright	Seattle City Light
Bryce Yonker	Grid Forward
Brian Dekiep	NWPCC
Ahlmahz Negash	Tacoma Power
Nikita Bankoti	WA UTC
Erik Gilbert	Guidehouse
Josh Keeling	Cadeo Group
Robin Maslowski	Guidehouse