# Northwest Power & Conservation Council Conservation Resources Advisory Committee February 21, 2025

Kevin Smit, NPWCC, began the meeting at 9:30. Christian Douglass, NWPCC, took attendance.

#### Updates to Discount Rates and T&D Deferral Values

Jim Lazar, independent, asked if the numbers on [Slide 2] are real or nominal discount rates. Tomás Morrissey, NWPCC, reported that they are real discount rates.

Jennifer Finnigan, Seattle City Light, asked what the last bullet on the slide means. Smit explained that the 2021 Plan contained an assumption about consumer financing for EE but that has been removed. Smit said that is why there is now more emphasis on the utility discount rate.

Chad Madron, NWPCC, explained how to best interact with the Zoom Webinar platform.

# Scenarios in the Ninth Plan Jennifer Light, NWPCC

Lazar stated that hydro flexibility crosscuts with storage need. [Slide 9]. Lazar asked where that fits into staff work. Jennifer Light, NWPCC, said the modeling will start with hydro flexibility and will include multiple looks at the hydro system. Light said this will yield different looks at needs, and the needs assessment will have a multi-metric approach which will be fed into the scenario models.

Lazar asked when this will happen. Light said scoping will happen over the summer and staff plan to run assessments by the end of summer.

Rich Arneson, Tacoma Power, wrote, Jennifer, I think you mentioned on the flow analysis slide that some resources perform differently during severe weather. Are you referring to the Dark Calm, or something else, in the question pane.

Light said staff do see this in historical wind profiles. Light said staff wants to correlate wind profiles to that shape in extreme (hot and cold) temperatures, adding that the same is true for solar, which becomes less efficient in extreme heat.

Jeff Harris, NEEA, addressed the slower demand side resource availability scenario [Slide 10], asking for more information on why this is one and not two directional. Light answered that when thinking about supply side resource constraints, it is historically about physical constraints and not budgetary ones. Light said the demand side has had both, so this makes for a more parallel analysis. Light pointed to an upcoming section on ramp rates where this will be explored further.

#### BREAK

#### Resilience Values for EE Measures Noah Lieb, Justin Spencer, Apex Analytics

Ted Light, Lighthouse Energy, asked for clarification about the outage hours on the Y axis and on the color scale [Slide 11]. Noah Lieb, Apex Analytic, explained that the colors proportion the outage hours into outage type, so it's the average amount outages occur within an extended time frame and temperature bin.

T. Light confirmed that the Y axis is over the course of multiple years. Lieb answered yes.

Quentin Nesbitt, Idaho Power, pointed to past pushback with using a diesel generator for a proxy [Slide 13] as a small gas/propane generator costs much less which leads to a lower differential.

Lieb said this has been discussed but a diesel system ticks a lot of the boxes needed for a hypothetical for a long-range outages. Lieb added that they could revisit with a different proxy without much effort.

Arneson wrote, Noah, could you walk through Step 3 for us. How did you justify going from a 20kW to a 10kW. For an existing home, I don't think the nameplate of the heating system would have changed if the home was weatherized, in the question pane.

Justin Spencer, Apex Analytics, said this work is trying to capture savings from having a smaller diesel generator. Spencer said you could reduce the draw if there was some weatherization. Arneson asked if you could turn off a couple of breakers on a Forced Air Furnace. Spencer answer yes.

Nesbitt asked if it would better reflect reality if a home with an electric furnace was weatherized so that the kW of the furnace would stay the same but run fewer hours meaning backup capacity would be the same.

Spencer agreed but said that this work is trying the model the resiliency of getting a diesel generator and weatherization that could allow for a smaller generator.

Nesbitt said that based on this, and the cost, resilience appears to be overvalued. Spencer said they could use a different proxy, but a large diesel generator allows for days of power without having to get to a gas station with power. Spencer said you could choose different points, like a 10kW gas generator.

Nesbitt said this comes down to hours of operation and how customers weatherize their home. Spencer talked about traditional avoided cost methodology. Nesbitt understood but said this is a question of what customers are actually doing, changing the hours of

operation and not the capacity. Nesbitt said this could be modeled with the number of hours versus capacity drop.

Tom Eckhart, UCONS, noted that PSE shut down diesel back up years ago. Eckhart asked what the valuation going down from \$45/kWh to \$34/kWh is based upon. Spencer said it's the increasing number of outages per year leading to higher utilization.

Eckhart said this presupposes the backup diesel generating capacity is available or useful in recent years. Spencer said the question is how much smaller a system could you get if you add one plus weatherization. Eckhart called this reasonable if you had the ability to install a diesel system.

T. Light struggled with the size of these systems and the counterfactual reality of it as no one is installing these. T. Light pointed to the bottom rows of the slide, wondering if the results are not being framed in way they would be used. T. Light said an outage may last a long time, but the weatherization benefits would be limited, especially for a limited outage.

Lieb agreed that the benefits only accrue beyond six hours and up to four days.

T. Light said the \$34/kWh is double market prices and should be put into context for weatherization. Lieb said more on that will come later in the presentation.

Arneson observed an assumption of decision-maker affluence [Slide 14], adding that not every homeowner can afford this. Lieb agreed, stressing that this is not an exercise in the ability of a home to have a storage system, but to provide the cost of energy required during an outage. Lieb called this a hypothetical supply question.

Eckhart wondered how this work will be applied in the upcoming Plan [Slide 18-19]. Smit said this will be covered at the end.

### **Questions and Discussion**

Harris asked what the \$/kWh applies to. Smit answered that it's the energy savings of the measure as applied to weatherization. Harris asked if this is an annual O&M stream for the full life of the measure. Lieb confirmed.

Eckhart referenced addressing gas, saying some states and regions are disincentivizing gas. Lieb said this work is just electric and does not account for therm changes.

Nesbitt called the one cent adder for weatherization a big number, which comes from the differential cost of a 10kW versus a 20kW generator. Smit asked Apex staff how long it would take to swap out the generator. Lieb said it is baked into the tool and serves as an input, so it would be fast. Smit said staff will consider this.

Finnigan noted that this work looks at past weather events, wondering if warmer winters plus more frequent outage/extreme weather events would change things. Spencer said the approach is limited by using the last 10 years of outage data, and the biggest worry is a bulk power outage during an extremely cold event. Spencer said the approach doesn't capture that well.

Spencer pointed to possible improvements, adding that extreme weather events are not necessarily correlated with extreme temperature events. Spencer said most outages are not bulk power events but localized issues.

Finnigan was curious about temperature. Smit said these are good things to think about.

T. Light was curious about benchmarking Apex's numbers with another quantified literature review. Lieb said staff looked into that, but it was hard to back numbers out of the studies because of how results were reported. Spencer pointed to an earlier comparison of the outage kWh, noting a Texas study and loss of load studies. Spencer said this work assures him that they got the magnitude right.

T. Light said those numbers would be good to see. T. Light still felt uneasy with the assumptions, methodology, and counterfactual of this work, as not a lot of homes have backup generators. He said this makes the work lose touch with reality, saying you want to quantify based on the service provided by their existing heating system as that is what people actually have.

Harris moved to [Slide 16] clarifying that this work is about finding the value between the green and blue line. Lieb said yes. Harris called the choice of representing that with a backup generator a rational starting point, giving the approach his support.

Harris then talked through the reasoning behind choosing a diesel genset calling it reasonable as it meets the criteria.

Kim Boynton, Avista Corporation, said this looks like an NEI study that finds the additional value of weatherization measures. Boynton was less concerned with the avoided cost approach, as Apex had to pick something. Boynton was more concerned with this work ending up in the RTF by zone, so weatherization in different zones would have different NEI resiliency values. Boynton wondered if weatherization would get an adder in his zone. Smit said this is trying to find a Non-Energy Benefit adder adding that it not intended to be done by zone.

Lieb pointed to future outage uncertainty as a reason to group the data up to a region wide number. Boynton called NEIs a bit of magic and appreciated the Council's region-wide approach.

### BREAK

### **EE Achievability and Ramp Rate Assumptions**

Eckhart pointed to "sticky" assumptions, saying there are residential sectors, like multifamily and manufactured homes, where sticky is neither good nor applicable [Slide 10]. Douglass called this more of a rule of thumb than something that reflects reality

T. Light asked for more information on using more aggressive ramp rates, wondering if that meant bumping each measure up one notch faster than in the 2021 Plan. Smit answered that staff plan on bumping up one or more, saying this will be done measure by measure. Smit said staff may develop new NR rates that start higher in early years and then go down. Smit concluded by saying that ramps will be more aggressive this time to better determine the needs and values of energy efficiency. The primary goal is to reduce unnecessary limitations on conservation in the early years.

T. Light pointed to the Hood River experiment where they got more funding for programs up front resulting in10x their retrofit offerings. T. Light said the hitch is having the funding as EE is paid for upfront and not through financing.

Aquila Velonis, Cadmus Group, asked if staff account for the cost that reoccur in year 10-11, where the customer has to re-install another efficient unit. Smit said year 11 represents the inefficient units from year one. Velonis asked about the population that installed an efficient unit and then has to reinstall. Smit said that is accounted for in ProCost.

Boynton clarified that [Slide 9-10] is not different than what is already occurring in the ramp rates. Smit answered yes. Boynton asked for a better explanation for why ramp rates should be accelerated, wondering if it is a desire thing or based on data.

Douglass said he is using the term "more aggressive" but should really be saying "more realistic," noting that a lot of these measures have been in programs for decades. Douglass said emerging technology or other quirky measures will require more time for uptake.

Boynton liked that, but voiced concern with his utility's need to produce a Conservation Potential Assessment every two years, which is based on Council ramp rates. Boynton said this asks utilities to get more savings faster than before because of an arbitrary decision.

Smit called Boynton's point fair, saying staff is trying to be more realistic pointing to past drop offs. Smit said it's also a question of putting on arbitrary limits, adding that this is what goes in the optimization models. Smit said this can be looked at again later when setting EE targets to address the question on a regional level.

Boynton agreed that this is good for well-established, non-controversial measures. Boynton pointed to other measures that are more capital intensive and restricted by supply chains, like triple-pane windows or a cold-weather HP that could present big problems. J. Light assured Boynton that staff will not arbitrarily change ramps for measures that are physically impossible because of supply limitations. J. Light said the intent is to align this with supply side resources. She said supply side is limited by these physical restraints and the modeling will reveal valuable information. J. Light assured Boynton that this would not be random or arbitrary.

Boynton appreciated the clarification and thought staff should refine terminology as "increasing ramp rates" is fraught. Smit said this will not be arbitrary and looked at measure by measure.

Arneson said his utility was killing 1937 targets but lamented that this is getting harder to do. Arneson said they are barely scraping by in the last year or two, especially now that commercial/industrial lighting is gone.

Nesbitt agreed with past points. Nesbitt referenced T. Light's recollection of Hood River having extra budget, saying Idaho Power has not limited an incentive based on a program budget since the early 2000s.

Lazar called this approach reasonable, saying the region can go faster. He admitted that it is hard and expensive. Lazar called Hood River a special case as it is a small community next to a big city with lots of resources, predicting that it could work region wide.

Lazar said if the expected cost of energy would triple then it would make sense to mobilize faster. But Lazar said if costs stay in line and on pace with load growth using low-cost measures/methods then the region can meet the goals. Lazar said the measure become renewable pointing to advancements in window technology.

Eckhart echoes Arneson's concerns, pointing to contractor concerns. Eckhart said in the past they have found ways to find equipment.

Chris Johnson, Benton PUD, also echoed Arneson's point, saying it is hard to get conservation in recent years as much of the low-hanging fruit has been captured.

### 9<sup>th</sup> Power Plan Draft Measures Out for Review

Lazar thought another committee should be looking into municipal water supply, calling it a fabulous industry for providing flexible load [Slide 19]. Smit thanked him for his input.

Nate Baker, Resource Innovations, reported having a low-cost and a high-cost measure [Slide 20].

Harris pointed to a unique water treatment measure as it captures and converts friction losses in valves by substitution a turbine generator set. Harris called this a possibly significant distributed energy resource.

Finnigan asked if staff are getting robust participation in comments, saying her utility is busy. Smit said BPA has a contractor carefully reviewing these. Smit said staff has been going through these quickly, but future meetings will focus more deeply on the numbers.

Douglass said the deadline has not been hit yet as staff just released them in late January. Finnigan said this approach feels different, more expedient, and more labor-intensive for utilities like hers. Finnigan was okay if Seattle City Light was an outlier but cautioned that staff may want to switch gears if they are not getting what they want.

Smit ended the meeting at 12:40.

#### Attendees via Zoom Webinar

Kevin Smit Christian Douglass Jennifer Light Noah Lieb Justin Spencer Tom Eckhart Frank Brown Jordan Mann Mary Kulas Craig Patterson Elizabeth Daykin Jillian Greene Bonnie Watson Michael Coe Andy Cameron Jim Lazar Elizabeth Osborne Ted Light

NWPCC NWPCC NWPCC Apex Analytics Apex Analytics UCONS BPA **Apex Analytics** consultant independent Resource Innovations **Resource Innovations** BPA Snohomish PUD ODOE independent NWPCC Lighthouse Energy

**Rich Arneson** Sophia Spencer Kyle Morrill Aquila Velonis Jennifer Finnigan Tomás Morrissey Debbie DePetris Jeff Harris Kim Boynton Kasey Curtis Quentin Nesbitt Priyanga Natarajan Juan Carlos Blacker Amanda Welch Chris Johnson Leann Bleakney Nate Baker Joe Walderman

Tacoma Power Nauvoo Solutions Energy Trust of Oregon Cadmus Group Seattle City Light NWPCC Clark PUD NEEA Avista Corp PSE Idaho Power **GD** Associates PGE ODOE Benton PUD NWPCC **Resource Innovations** NWPCC