

**Northwest Power and Conservation Council
Systems Analysis Advisory Committee
October 22, 2020**

John Ollis, NWPCC, opened the meeting at 1:00PM. Chad Madron, NWPCC, covered the best way to engage with the Go-to-Webinar platform. Ollis reviewed the agenda and said minutes from the last few meetings will be available soon.

**Update on Long Term Capacity Expansion for Wholesale Price Forecast
John Ollis, NWPCC**

Ollis reviewed results from the last round of methodology changes and options for moving forward. Ollis explained his attempt to improve AURORA results by determining a more reasonable starting point (better initial peak credit calculations, new thermals for reserves, and tweaking hydro constraints), reducing foregone costs of generation for variable energy resources, and increasing California loads and reducing Arizona loads. Ollis presented the most recent WECC buildout and discussed further drivers and options for continued methodology tweaks or just going with this run.

Fred Heutte, NWPCC, voiced approval for the changes presented on [Slide 26] noting that the PTC is no longer 23\$/MWh. He thought the real issue is what happens beyond 2030, theorizing that all incentive may likely be gone. Ollis clarified his statements, saying he left the \$23 on current resources and used \$8 for new resources.

Ollis then explained other benefits of using a non-0 number, saying that AURORA tends to heavily curtail renewables if they are set at \$0 as dispatch isn't well connected with how the model tries to meet clean constraints. He said this is a way to give the model some signal.

Heutte pointed to interesting dynamics associated with negative prices, including the assumption that midday solar wouldn't have a place to go. He said more storage on the system will give this energy a place to go, ultimately diminishing this effect. Heutte then theorized that present curtailment is probably driven by local constraints and not old, must-run gas plants. He concluded by saying this is a fluid situation and every year is different.

Ollis agreed stating that REC prices vary a lot throughout the NW and CA. Heutte agreed, saying that the REC situation is a mess that makes his head hurt. He added that he didn't think of a REC and clean energy as the same, pointing to WA as example. Ultimately, Heutte voiced approval for the approach.

Heutte called the 440GW of build on [Slide 27] really big but neither scary, nor impossible. He agreed that it is a really big reach and may be expensive but is achievable. He wondered where in the WECC this investment will be going. Ollis said he agreed.

Tomás Morrissey, PNUCC, noted that this buildout is about twice the resource by 2030 as compared to the October 7th results and 1.5 times by 2040 and asked what is driving this

change. Ollis said he revised calculations to reflect starting with an inadequate WECC (down 12-15GW in a bad hydro year) and a change in CA's load forecast. Morrissey said this looks divorced from reality, particularly in the next 5-10 years, but did approve of using the numbers used for adequacy work.

Ollis said he was also shocked by the numbers and places where the WECC is barely scraping by (CA and Alberta) are trying to build. He called for further discussion after he presented where these builds would most likely happen.

Heutte called for more regional coordination especially with CAISO, CEC, CPUC and WestConnect in the SW [Slide 36.] He remained confident that this could be done.

Eric Graessley, BPA, was surprised that [Slide 36] is adequate given retirements and load growth. He called it weird, saying that he expected to see more wind and solar in the NW. Ollis said there would be but for the 4,000aMW of EE predicted by the end of the Seventh Plan.

Morrissey asked if this total NW build meets CETA requirements as there are no renewables present. Ollis said yes, adding that it is a WECC-wide assessment to generate a price forecast and not to precisely reflect the nuances of disparate, regional policy. Ollis said this slide reveals that the rest of the WECC expects more flexibility from the NW.

Heutte said he expects the WECC Resource Adequacy Assessment in early December and posted [a link to a brief summary](#). Ollis stated that the NW may be one of the first regions to try analysis with Climate Change data and policy numbers. Ollis thought the climate change hydro numbers might be pushing the storage numbers but ultimately, he thinks this shows that EE helps meet the NW needs.

Kelli Schermerhorn, Northwestern, asked if a Mid-C price will be finalized soon and if Ollis compares price forecasts over time. [Slide 45.] Ollis said he will have a Mid-C price once the buildout is approved. He also said he has compared forecasts in the past and will do that again if it is deemed useful.

Graessley wondered about [Slide 37] which showed NW loads up to 400,00MW. Ollis thought that graph might include all of Northwestern and part of Wyoming and offered to follow up.

Discussion

Heutte asked if the redeveloped GENESYS is ready. Ollis replied yes, adding that it still needs the information from this AURORA run.

Heutte said that there has been a wave of new policy adoptions throughout the West since the Seventh Plan so of course there has been a significant shift in the resource mix, market prices and everything. Because of this Heutte was okay with this output. He also pointed to a future

need for more transmission and urged the Council to say they will enhance coordination with the planning process going forward in the 2021 Plan.

Tanya Barham, Community Energy Labs, noted that Ollis has the world's least enviable job. She wondered what would actually get built in the NW, as her organization does not support new gas. She also worried that the DR products chosen by the DRAC would not look as compelling as other resources in the models. She concluded by saying she supports using this run to move the Plan forward.

Ollis agreed that EE and DR do compete for the same potential in the model which might limit DR. He added that this is a baseline and AURORA showed a need for batteries and can't pick DR. Ollis felt confident that the DR signal will be fairly shown as it is a less-expensive capacity product.

Ollis stated that the 400,000 MW Graessley pointed out earlier was a mistake and offered to follow up offline.

Ollis ended the meeting at 4:00PM.

Attendees via Go-To-Webinar

John Ollis	NWPCC
John Fazio	NWPCC
Tanya Barham	Community Energy Labs
Leann Bleakney	NWPCC
Frank Brown	BPA
Aaron Bush	PPC
Robert Diffely	BPA
Connor Edwards	BPA
Andrea Goodwin	NWPCC
Eric Graessley	BPA
Fred Heutte	NW Energy Coalition
Elizabeth Hossner	PSE
Charlie Inman	PSE
Massoud Jourabchi	NWPCC
Shirley Lindstrom	NWPCC
Jim Litchfield	independent
Jennifer Magat	PSE
Silvia Melchiorri	PGE
Tomás Morrissey	PNUCC
Paul Nissley	SCL
Elizabeth Osborne	NWPCC
Patrick Oshie	NWPCC
Kathi Scanlan	WA UTC

Kelli Schermerhorn
Tyler Tobin
Marissa Warren
Zhi Chen
Brian Dekiep
Will Price
Dhruv Bhatnager
Josh Keeling
John Lyons

Northwestern
PSE
Idaho OER
PSE
NWPCC
EWEB
PNL
Cadeo Group
Avista