

**Northwest Power and Conservation Committee
Systems Analysis Advisory Committee
November 4, 2020**

John Ollis, NWPCC, began the meeting at 9:30AM. Chad Madron, NWPCC, reviewed best practices on interfacing with the Go-to-Webinar platform. Ollis reviewed the day's agenda.

Update on RPM Enhancements

Ollis presented a high-level look at the RPM enhancements including a look at end effects modification and status of price futures, noting the continued goal of being able to represent distributions that have positive and negative prices.

Draft Results: Continued Discussion on the Baseline WECC Buildout

Ollis presented a continued presentation on the baseline WECC Buildout and preliminary results, reviewing methodology improvements and further tuning of the model. Three methodology changes were discussed: 1.) calculated the REC cost using shadow price and an adequate system in AURORA, which reduced curtailments; 2.) Assigning CA the firm imports ramping up per draft SB100 analysis, which solved the planning reserve margin and price disconnect; and, 3.) attempted a simulation with increased transmission, which did not reduce overall build as anticipated. Ollis discussed draft prices and draft avoided emissions rate, and wrapped up with next steps noting staff will continue analysis for baseline using this latest run but will follow-up with SAAC on expanded results set.

Fred Heutte, NW Energy Coalition, asked if anyone looked an information or talked to sources at [LADWP](#) or NREL about the [LA100 study](#), calling it an extended and elaborate study [Slide 12.] Ollis answered no, saying he did speak to experts as the CEC. Heutte offered two links, adding that LA is dependent on gas and is very interested in a full, renewable buildout, sophisticated grid balancing and transmission issues. Ollis said he will look at the study.

Heutte theorized that system peak, particularly from the South and Southwest, is driving most of the build on [Slide 20.] He wondered if more flexibility and more EE would help bring the build down. Heutte touched on issues around long-duration storage and pointed to good, interim work from organizations like [Renewable Hydrogen Alliance](#). He called for additional thinking around what the resource mix will look like in the 2030s. Heutte agreed that 429GW to 437GW is big but wasn't uncomfortable with the estimate.

Ollis acknowledged hearing concerns around the early buildout and will present slides of his findings later in the morning. He also stated that he is becoming more comfortable with the buildout. Ollis also agreed that some curtailment can be reduced by shifting demand and other creative solutions toward the end of the study.

Nora Xu, PGE, asked if Ollis used a negative of the shadow price as the bid adder for the whole WECC or just California [Slide 25.] Ollis answered that the shadow price is for the entire WECC buildout, smoothed out with a rolling average.

Xu recalled that a few months ago the annual prices were negative. She stated that revising the bid adder still produces negative hourly prices but not negative annual prices. Xu wondered what will happen with price with this update. Ollis had prices to look at, adding that annual prices are still not negative.

Heutte stated that a renewable-heavy system no longer has a big heat rate to help you set a secure, constrained, economic dispatch. He said this creates pricing volatility, adding that we now have a lot of resources with no fuel cost where you know the price. Heutte said this leads to a large block of available resources with a knowable price. He wondered how market prices and system dispatch will be affected, and called this Plan an interim solution until more is known. Ollis agreed that there are new fundamentals on the system.

Tomás Morrissey, PNUCC, called the results on [Slide 29] better than last time and agreed with the overall narrative that there will be more wind, solar and storage in the next ten years. Morrissey cautioned that this is still a lot of resource to expect in the first five years and called for thoughtful restraint when using these numbers in other models. He added that the amount of resource built in the first five to 10 years seems unlikely, even if it is needed.

Ollis said he has heard similar concerns and predicted that putting this into the redeveloped GENESYS will show a highly-stressed hydro system. He added that AURORA tried to relax constraints, even at high penalties.

Morrissey stated that the Council does not usually delve into WECC-wide trends in the Power Plans and this represents a big shift. He added that utility IRPs are seeing something similar and suggested stressing the message more than in the past. Ollis agreed.

Heutte pointed to the 3000MW of transmission buildout saying it raises a bigger question: isn't it time to sit down and talk with other regions in the WECC to get ideas and feedback in a more structured way? Ollis called this a good idea and promised to pass the suggestion along to the Council.

Jeff Harris, NEEA, asked if the thermal output the gray shading on [Slide 38] represents natural gas plants or something else. Ollis said this is the existing system and while the thermal capability goes down the output shrinks just a bit. Harris asked if this includes conversions from coal to natural gas. Ollis did not know for the Pacific Northwest but said it would in Alberta.

Harris voiced surprise in seeing this much thermal on a summer day in 2045. He noted that the demand curve has been modified for EE and asked if that is Seventh Plan EE or if there will be a placeholder for 2021 Plan EE. Ollis said this is not EE we plan to but EE at a targeted price level.

Heutte appreciated the walkthrough, stating that he is comfortable with the price study findings [Slide 51.]

Ollis ended the meeting at 12:15PM.

Attendees via Go-to-Webinar

John Ollis	NWPCC
Chad Madron	NWPCC
Tanya Barham	Community energy Labs
Dhruv Bhatnagar	PNNL
Leann Bleakney	NWPCC
Frank Brown	BPA
Robert Diffely	BPA
Karen Flynn	Idaho Power
Andrea Goodwin	NWPCC
Eric Graessley	BPA
Jeff Harris	NEEA
Fred Heutte	NW Energy Coalition
Mike Hoffman	PNNL
Charlie Inman	PSE
Massoud Jourabchi	NWPCC
Jim Litchfield	Consultant
John Lyons	Avista
Ian McGetrick	Idaho Power
Jennifer Magat	PSE
Tomás Morrissey	PNUCC
Elizabeth Osborne	NWPCC
Patrick Oshie	NWPCC
Sashwat Roy	Renewable NW
Kathi Scanlan	WA UTC
Keli Schermerhorn	Northwestern
Adam Schultz	ODOE
Tim Sheldon	WA state senator
Peter Stiffler	BPA
Tyler Tobin	PSE
Marissa Warren	Idaho OER
Cindy Wright	SCL
Nora Xu	PGE
Zhi Chen	PSE
Brian Dekiep	NWPCC
Will Price	EWEB