

**Northwest Power and Conservation Council
Systems Analysis Advisory Committee
November 30, 2020**

John Ollis, NWPCC, began the meeting at 1:00. He noted that Draft Redeveloped GENESYS Results would not be available today as the model is still running. Chad Madron, NWPCC, instructed attendees on how to best engage with the Go-to-Webinar platform. Ollis asked members to review the minutes from the November 4th meeting and submit any edits or changes.

Update on Wholesale Power Price Forecast and Avoided Emissions Rate Study

Ollis reviewed baseline price forecast and expanded avoided emission rate results for a final time, confirming next steps including use of the WECC-wide buildout to guide GENESYS, use of the baseline price forecast results to develop quarterly and intra-quarterly price information for RPM, use of the avoided emissions rates for RPM for baseline scenario and work on additional AURORA buildouts.

Jim Litchfield, consultant, asked when there will be a better understanding of the role of RPM [Slide 3.] He said the RPM used to develop efficient frontiers with lots of portfolios and the job was picking between risk and cost. Litchfield wondered how RPM would be used now.

Ollis answered that RPM's role will not be very different. Ollis admitted that the term "efficient frontiers" may not be used but the RPM will still test many different futures to understand the tradeoffs between cost and risk. He explained that there was always difficulty drawing a bubble around the region and the proliferation of renewables and shift in market fundamentals makes that work even harder.

To counter this, Ollis explained that staff is using more AURORA and GENESYS runs to help the RPM make better decisions.

Litchfield thanked Ollis for the answer and asked if there were plans to review RPM details at a future SAAC meeting. Ollis said he can bring that information back to the group.

Litchfield noted that the RPM produces two attributes, cost and risk, and requires independent judgement. While he hoped for a dominant portfolio to emerge, he feared that might not be the case in this new environment. Because of this Litchfield was still unsure how the RPM could elucidate the right portfolio for the Plan and how Council members can look at options going forward.

Ollis called the comment insightful and nuanced and said he will pass it along to the Council.

Ahlmahz Negash, Tacoma Power, asked about the three consecutive peaks (2029-2031) on [Slide 10.] Ollis thought that represented a curtailment outside the Northwest adding that the hydro profile changes in 2030.

Negash asked in what month the spikes occur. Ollis said it looks like winter and moved to [Slide 11] to explain how the climate change data was used.

Fred Heutte, NW Energy Coalition, pointed to the 10:00 pm price peak on [Slide 16] and showed interest in seeing the load shape and net load shape minus wind and solar. Ollis thought the net load shape would look similar to the 2021 line. He agreed that the progression of Mid-C prices is why they are examining market fundamentals.

Heutte observed that daily load shapes remain fairly constant but peak pricing changes quite a bit because of the net peak issue [Slide 17.] He noted that the overall cost of the system will tend to go down even if the evening peak is pretty high. Ollis agreed that the overall production costs will go down and net peak will matter more.

Heutte stated that the CAISO shows some 23,000MW of load and half is mostly solar, adding that demand is down because of rooftop solar [Slide 18.] Because of this Heutte agreed that negative pricing will be likely during part of the year.

Ollis thought that low, mid-day prices might lead to economic opportunities and more demand-side management. Heutte commented rate design may be an important topic going forward. Ollis noted that this is discussed to some extent in the Demand Response Advisory Committee.

Heutte wondered what [Slide 21 (Monthly Avoided Emissions Rate)] looks like for just the Northwest. Ollis said the NW has lower emissions to start with but suspected the chart would look similar. Heutte addressed seasonality wondering if the NW will look more like the rest of the west or if the rest of the west will look more like the NW. Heutte thought it would be the latter and Ollis agreed.

Nora Xu, PGE, asked about carbon pricing assumptions for the Northwest [Slide 23.] Ollis said they do not exist in AURORA.

Draft Redeveloped GENESYS Results

Ollis explained that the sample model run, with the WECC-wide buildout, is not quite ready yet but will be explored at the next meeting. Ollis used the time to walk through some sample outputs that might be useful for SAAC validation in the future given the capability of the redeveloped GENESYS model and the fiscal considerations associated with running the model and iterations therein. Ollis asked SAAC members to think about what they would like to see tested.

John Fazio, NWPCC, noted that there was potentially a lot of data and approved of showing the types of output available. He noted that market assumptions will be important and asked if that is labeled as “injections.” Ollis agreed that the terminology is different and “injections” means market bins.

Fazio noted that the model will show shortfalls and an hour/location record and pointed to the model’s ability to limit market supply available to the NW. He said this will help in deciding how much market the region can rely on. Ollis agreed and showed how amounts can be controlled.

Fazio pointed to the difference between what resource might be available on an expected basis and what we might want to choose to rely on, which might be a 95%. Ollis said some market challenges will be explored in scenarios and asked how people wanted the baseline set.

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Ollis stated that this cloud-based model is “Pay for Play” which makes it difficult to run lots of studies. He asked for suggestions around questions the model could answer early so staff can proceed with a thoughtful approach.

Shauna McReynolds, PNUCC, suggested presenting a list of possible outputs to better inform suggestions and questions. Ollis agreed to draft a straw proposal. Rob Diffely, BPA, agreed that a list would be helpful.

Ollis summarized that the SAAC is asking for two lists: 1. Possible outputs and 2. What staff is considering to date. He said he will try to put both lists on one spreadsheet and post it on BOX.

Ollis ended the meeting at 3:30.

Attendees via Go-To-Webinar

John Ollis	NWPCC
Chad Madron	NWPCC
Leann Bleakney	NWPCC
Frank Brown	BPA
Aaron Bush	PPC
Robert Diffely	BPA
Villamor Gamponia	SCL
Sibyl Geiselman	Avangrid
Andrea Goodwin	NWPCC
Eric Graessley	BPA
Jared Hansen	Idaho Power
Bill Henry	
Fred Heutte	NW Energy Coalition
Mike Hoffman	PNNL
Massoud Jourabchi	NWPCC
Torsten Kieper	BPA
Jim Litchfield	
John Lyons	Avista
Ian McGetrick	Idaho Power
Shauna McReynolds	PNUCC
Tomás Morrissey	PNUCC
Sashwat Roy	Renewable NW
Bill Saporito	Umatilla Electric
Kathi Scanlan	WA UTC
Kelli Schermerhorn	Northwestern
Adam Schultz	ODOE

Steven Simmons	NWPCC
Nora Xu	PGE
Zhi Chen	PSE
Brian Dekiep	NPWCC
Ahlmahz Negash	Tacoma Power
Will Price	EWEB
Tanya Barham	Community Energy Labs
Dhruv Bhatnagar	PNNL
Jeff Harris	NEEA
Mike Hoffman	PNNL
Marissa Warren	Idaho OER