**TAG #5 –WUTC TAG Meeting**

**Date & time:** 09/23/2020, 09:00 AM – 11:24 AM

**Location:** Microsoft Teams Meeting

**Presenters:** Brian Robertson, Devin McGreal, Ashton Davis, Monica Cowlishaw & Philip Hensyel

**In attendance**: Mark Sellers-Vaughn, Brian Robertson, Devin McGreal, Ashton Davis, Chris Robbins, Eric Wood, Brian Cunnington. Carolyn Stone, Kary Burin, Abbie Krebsbach, Dan Kirschner, Mike Paruszkiewicz, Mike Parvinen, Scott Madison, Andrew Rector (WUTC), Philip Hensyel, Monica Cowlishaw, Tom Pardee (AVA), Amy Wheeles (NW Energy), Marty Saldivar (NWP), Bruce Folsom, Corey Dahl (Public Counsel)

**Minutes:** Carolyn Stone

Brian introduced the presenters & began the meeting with a “Safety Moment”.

Mark welcomed everyone! He said this should be a very interesting TAG meeting. The team put together this including all pieces from past TAGS towards the conclusion.

Brian then went through the meeting Agenda.

**Presentation #1 - BACKCAST OVERVIEW** (Ashton Davis)

**Slide #4 & #5 – Back casting (Cross-validation)** Ashton said for back casting “cross validation” is a misnomer

**QUESTION**: Andrew asked if what was said was that you are using all the data and validating numerous times?

**ANSWER**: Aston answered “Yes”, we validate the data in “chunks”, then forecast the two slots to actual data. We can then remove chunks and then use the model to forecast that chunk. One thing I would like to do in the future is automate this process, but right now we are doing it by hand. We are focused on the Hold-out validation, but when automated, we can load in excel files and run a script and that will pop up the information. Both methods are strong measures but could be added work to do the K-Fold. We choose City Gate and Rate Class to cross-validate.

**Slide #13 – Suma SPE Loop**

**QUESTION**: Andrew asked about the pipeline data – throughput from pipeline itself and billed right?

**ANSWER**: Ashton said “Yes.” We applied to throughput, looking to improve this!

**Slide #17 – Yakima Loop**

**QUESTION**: Great information, thank you! Do you have any high level take away or changes of methodology for future cycles?

**ANSWER**: 1. After our Sumas homework – looking at summer peaks and summer spikes carrying to residential – Looking at ways to improve.

2. We want to dive into writing script for importing any Citygate, run it, get graph–

much faster results. Right now, it takes an hour or two. We would like to speed

up the process.

**QUESTION**: Lessons from Sumas &Yakima – applicable to other CG’s on the system?

**ANSWER**: Oh yes, back casts focus on CG’s that have similar issues at Sumas. Some bias toward CG’s that have crazy volatility, more beneficial.

 Andrew said, “That was a really good summary, thank you!”

**Presentation #2 - SUMMARY OF ALTERNATIVE RESOURCES** (Ashton Davis)

**Slide #19 & #20 – Additional Potential Resources**

**Presentation #3 – COMPONENTS OF CANDIDATE PORTOLIOS** (Devin McGreal)

**Slide #39 – Summary of SENDOUT® Suggested Resources by Portfolio**

**QUESTION**: Andrew asked, regarding the new resources, are you diving into monitoring NOVA and Spire issues? When writing IRP, spend some time on discussing the Spire issues and why selected or not. On Slide #39, why isn’t there any NWP storage portfolio?

**ANSWER**: Yes, will do. Was not an exclusive pipeline option coming out with an NWP and storage portfolio - less expensive than the “all in” with DSM - this gives good information. It helps us quantify, that it is still cost-effective.

**Slide #40 – Methodology Behind Ranking of Portfolios**

**QUESTION**: Andrew asked who was the other LDC that had the 25/75% weighting?

**ANSWER**: Devin said it was NW Natural. He attended one of their TAG meetings in 2018 – 2019 and thought it was a great idea.

**Presentation #4 – STOCHASTIC METHODOLOGY** (Brian Robertson)

**Slide #46 – CNGC methodology**

**QUESTION**: Andrew asked, from 2018 – none of these things are different?

**ANSWER**: Brian answered that he thinks that is correct, same process from the IRP 2018. He said, we may have made slight changes. Ashton added that there is a difference in pricing. They are taking the historical correlation in basins to show how the other basins react, put using the Cholesky Decomposition and did that for weather but not for price. This is a more realistic simulation on the basins. Brian said they used the Cholesky Decomposition methodology on weather in 2018 but used this method with price for this IRP. Process repeated 10K times. Correlating all weather zones to each to build draws and put that into SENDOUT®.

**QUESTION**: Andrew asked what matrix was used for the 5th percentile?

**ANSWER**: Brian said Cholesky Decomposition correlation weather patterns together. If 95% of cold weather, we put that into SENDOUT® then see what the impact is to the optimization process. We do the same for price. We can run a high/low price scenario. This give us a different type of possible ranges of weather/price that could happen in the future.

**Slide #61 – Refinements to DSM Forecast over TAG #4**

**QUESTION:** Andrew asked about the solar water heat measure and decline from TAG #4, is that attributed to water heat measure?

**ANSWER**: Philip stated that there is a significant amount of solar water heat, 500K Therms that is why decline – measure is realistic capture, but technology is not widely available.

**QUESTION**: Andrew asked how could that one measure be so off?

**ANSWER**: Philip said it is a function of the 2018 CPA – changed a discount rate provided potential in cost measure. Brought in solar water as a cost effective when they are not. Technology not widely available so not cost-effective.

 Monica added that it Is not readily available in our service territory – not viable. We have looked at it. Costs are higher than anticipated. Not impossible, but nowhere near available than what LOADMAP had indicated. LOADMAP indicated erroneously, shows high potential!

**QUESTION**: Andrew asked if this affects residential?

**ANSWER**: Philip answered that it didn’t carry as much potential. Increase here driving - furnaces replaced to higher efficiency units, then drop off in 2023 – change in what efficiency rating standard will be. Efficiency standard moves from 80 to 90%...decrease potential – furnaces have most potential after 2023. Insulation is a driver as well.

 Monica added that residential actually went up between TAG #4 & 5, go to slide #58. This year goal for residential is less - not sure how viable to achieve it. Forecast achieved 120 % of residential goal this year. 70K short of goal – aggressive residential rebate! Even commercial goal is higher this year. We will need to ramp up to meet those!

**Slide #60 – Scenarios & Sensitivities vs Cost Limit** (Devin McGreal)

**QUESTION**: Andrew asked what are RNG #1 & RNG #2, from slide #60?

**ANSWER**: Devin said RNG #1 is “on system” and RNG #2 is “off system. Details on this can be found in the RNG chapter of the IRP.

**Presentation #6 – PROPOSED TWO-YEAR ACTION PLAN** (Brian Robertson)

**Slide #66 – Demand**

**QUESTION**: Andrew asked if wind is being used as a variable in determining demand forecast?

**ANSWER**: Brian answered that wind is a variable like HDD, put into model used stochastically in regular runs.

**Slide #67 – Resource Planning**

**QUESTION:** Andrew asked for an explanation on the JP account.

**ANSWER:** Brian stated that there was a temporary release to Puget Sound Energy (PSE) which gives us JP account 3. We can make this account permanent or give it back to PSE. Mark added that it is 6,700 Dth per day – a temporary release acquired from PSE - for capacity we weren’t utilizing. Expires in 2025. We will decide in 2021 as to whether we want it permanently.

**QUESTION**: Andrew asked if this is a discussion or negotiation with PSE?

**ANSWER**: Mark said both parties have an interest!

**Slide #68 – Avoided Cost** (Brian Robertson)

**QUESTION**: Andrew said it would be useful to do the workshop. Not clear on how this is happening, and I need to be clear!

**ANSWER**: Brian said they are very close, comfortable to move forward, will work on it before meeting with IRP stakeholders.

**QUESTION**: Andrew asked if there will be a writeup or presentation? That would be useful.

**ANSWER**: Brian said, for the conversation, what’s best strategically to move forward with this – a document explaining it? Will keep in mind to make sure everyone is involved.

**Slide #69** – **DSM** (Monica Cowlishaw)

* CPA filed in summer 2021.

**Slide #70 – DSM (Continued)**

**QUESTION**: Andrew commented that he appreciates the long-term thinking, how to handle COVID...how to keep efficiency programs running. You will be thinking through how things look in the future. Interesting to think about!

**ANSWER**: Monica said what is the new norm? What will it look like? Let’s be creative! What do we think it will be like – the unknowns.

**Slide #73 – Remaining Schedule** (Brian Robertson)

* Nov 17 – Draft 2020 IRP distributed
* Dec 23 – Comments are due back
* Jan 27 – TAG #6, if needed
* Feb 26 – IRP filed in Washington

**The Meeting was Adjourned.**