**1st External WUTC Tag Meeting**

**Date & Time**: 3/15/2018, 09:00 AM – 11:30 AM

**Location**: SeaTac Conference Center – Seoul Room

**In attendance**: Mark Sellers-Vaughn, Bruce Folsom, Brian Robertson, Devin McGreal, Ashton Davis, Chris Robbins, Monica Cowlishaw, Marty Saldivar, Karl Frankiewich, & Carolyn Stone.

**Called in**: Bob Morman, Dan Kirschner, Chris Bolton, Jennifer Gross & Garret Senger

**Minutes by**: Carolyn P Stone

Mark started the meeting by welcoming everyone to the 1st WUTC Tag Meeting of 2018. He said he was happy for everyone’s participation! Mark proceeded with introductions both on phone and for those present. Mark thanked everyone for being there and went through the agenda items.

1. Identifying the elements of the IRP – structure
2. Identifying “hot button” issues
3. Best Practices
4. Renewables
5. Distribution System Planning
6. Additional items?
7. Timeline
8. Next Steps

Mark stated that there are a variety of people speaking this morning that will help explain how the IRP gets its “shape”.

Mark asked Garret if he had any opening remarks. Garret stated that this is a step forward from previous filings and he is looking forward to the discussion.

Mark said there will be references to the 2014 IRP, but the focus today is on 2018’s IRP. Mark further stated he does not expect a long meeting today.

***1st Presentation – A Little History Lesson*** (Mark Sellers-Vaughn), Slide 3

* In 1953, CNGC was incorporated
* In July of 2007 CNGC was acquired by MDU
* CNGC serves 282,000 customers in 96 communities, 68 in WA, 28 in OR
* Cascade has a diverse distribution system – non-continuous service territory of 32,000 miles!

***2nd Presentation – Purpose of the IRP Process*** (Bruce Folsom), Slide 5

* IRP provides an understanding of industry and utility practices.
* Bruce said the commitment from CNGC senior management has been outstanding!
* Bruce said CNGC is looking for best practices in regard to the IRP process
* Bruce pointed out that the resources analysts have been around a relatively short time but have really done a great job! Mark said Devin hasn’t been here but 2 years!
* Bruce was hired to help using his years of experience. Bruce brought perspective and joy, encouragement and insight, plus the ability to work with many different types of people.

***3rd Presentation – IRP Guidelines & Content*** (Mark Sellers-Vaughn), Slide 11

**Slide #18 – Impact of U-161024**

* This is the 2016 WUTC docket to amend the IRP process

**Question**: Mark asked what staff’s expectations are for his group regarding this docket about the WUTC IRP?

**Answer**: Kyle said to follow the rules but no expectations, what came out yesterday may not apply today!

**Question**: Mark asked about the “Avoided Cost” discussion? He said Northwest Natural (NWN) is stretching the boundaries!

**Answer**: Kyle said using this TAG process to talk about Avoided Costs should be sufficient. He said retroactive application of guidelines is not in our plan!

* Mark went on to say that conversations are always welcome!
* He stated that the OPUC opened a docket for “Avoided Costs” and will be codified. It discusses distribution systems enhancements.
* Kyle said the WUTC does not have any new changes. The IRP rulemaking is done. They are drafting language for the PURPA and RFP’s and we are trying to get rules finalized for…PURPA, Transmission & Distribution and RFP’s. Kyle said the procedural piece is done “CR 102” and draft language to be released at the end of summer – then starts a 60-day block.
* Kyle stated that they are trying to use the IRP process to hash out proxy costs, then get WUTC input.
* Mark said we are eager to participate in that conversation!
* Kyle then gave those calling in to the meeting his contact information.

**Question:** Bruce said that CNGC is sensitive to what the other LDC’s are doing. Does Staff work with NWN/PSE and is there interaction with Staff on their IRP’s?

**Answer:** Yes, Kyle stated, we work with them. We cover for each other based on the demands on our time. There is a “cross—pollination” of ideas. NWN is doing interesting stuff. There is lots of interaction and then we report back to the team on it.

* Bruce commented that Staff picked one heck of a NEEAA meeting to attend, that was an amazing meeting he said!

**Slide #21 – Context**

* Mark said Cascade’s 2016 IRP was acknowledged but they want to improve and grow.
* Attending the TAG meetings for other LDC’s helps them to learn the IRP Best Practices in the industry. He encourages stakeholders to tell them what other LDC’s do well

***4th Presentation – Load Forecast*** (Ashton Davis) Slide 23

* The methodology used currently is called Autoregressive Integrated Moving Average (ARIMA)
* The model uses Citygate & class and goes through a stepwise regression. Population, employment, seasonality and multiple scenarios are used.
* Devin added that industrial and interruptible customers show seasonality. It doesn’t always make sense, but things come up that may influence seasonality!

**Question**: Was this analysis done on Citygate?

**Answer**: Yes!

* Brian said this is above and beyond a “daily level”, there is a weekend indicator and trend line

**Question**: Kyle said that NWN does a method like this but is trying to improve it. Do other IRP’s use this as a common approach?

**Answer**: Some do

* Devin stated that the disaggregation of service area makes things complicated!
* Devin said sometimes doing the calculation at a “peak level” gives us granularity.

**Slide #26 – Conservation**

* The IRP team participates in CNGC’s Conservation Advisory Group (CAG)
* Information on the CPA in Q1 will go into the IRP.

**Question**: Kyle asked what AEG is doing exactly?

**Answer**: Mark stated that they are writing the Conservation Potential Assessment (CPA) and that gives improved numbers from the 2016 IRP. They will rerun this in 2018. AEG has committed to get us the tools to do that!

**Question**: Kyle then asked if in 2020 will the team be consulting with AEG as needed?

**Answer**: Mark answered “Yes”.

**Slide #27 – Carbon**

* CNGC recognizes that there is a strong regulatory desire to reduce carbon emissions and pays attention to initiatives.
* Cascade is following the example of regional LDC’s and will include an analysis of various carbon reduction scenarios in the IRP.
* Devin said that the TAG process is not a one-way street. Other LDC’s helped us with our stochastic analysis!

**Question:** Mark asked Kyle what Staff wants them to look at, among various stakeholders, regarding carbon analysis?

**Answer:** Kyle stated Commissioners are comparing notes. Closest standard is the “Social Cost of Carbon” At the moment using this for all 3 states!

**Question:** Mark asked Kyle how often do they give input?

**Answer**: In Portland and Seattle once per year, at either monthly or quarterly meetings. The first meeting was in Portland at the 1st half of 2017. This is fairly new for us, we are learning stuff!

* Devin said the team does a lot of scenarios with carbon analysis.
* AEG, he states is working with his group too.
* DSM can give us some inputs that help as well!

**Question**: Kyle asked does the model use low/medium/high carbon prices?

**Answer**: Devin said “Yes”.

**Question**: Mark asked how would you introduce “Cap & Trade” into the model?

**Answer**: Kyle answered, “Shadow Prices”.

* Kyle stated that it is expected by Staff that the base case will have carbon in it.
* Devin said they will look at the “social cost of carbon” to see if we are on the right track

**5*th Presentation – Avoided Cost*** (Devin McGreal), Slide 28

* Devin explained that there is a “revamped” avoided cost formula
* Devin said they will incorporate elements of what other LDC’s are doing.
* They will incorporate the other LDC’s ideas, but they want feedback!

**Slide #29 – Avoided Cost Formula**

* Devin briefly discussed the inputs of the avoided cost formula.
* Commodity Costs = The CNG price forecast for CNG is 20 years
* E adder = Environmental adder is a constant 10%
* At least 2 are new for us, DSC – what the distribution system costs are and RP – Risk Premium (hedge analysis).
* Kyle mentioned “wrap up” slides and mentioned that NWN talked about it in their IRP.

**Slide #30 – Hedging** (Mark Sellers-Vaughn)

* Mark said CNGC has been actively participating in UG-132019 and included it’s “Hedging Plan” with the 2017 PGA.
* Kyle stated that UG-132019 will prevail in Washington so it should be discussed in the IRP. Kyle said there should be more than 1 sentence in the IRP about this.
* Mark said CNGC has selected a consultant and they have been shadowing our process. He is looking forward to hearing feedback.
* We try to keep our system flexible and will do what Washington wants but be sure OPUC understands as well.
* Bruce said that when our policy on hedging comes out, any guidance and suggestions you can provide would help!
* Devin said they would like to see feedback on the length, depth and breadth of hedging section.

**Page 31 – Stochastic Analysis**

* The team is focused on this “holistically”, i.e. what it can tell us about the uncertainty!
* In 2018 we ran a stochastic analysis on multiple portfolios to determine a candidate portfolio. To see what can be uncovered – something we weren’t expecting? Large costs?
* In 2018 we will perform a “Monte Carlo” simulation on all potential portfolios before scenario/sensitivity testing.
* Value at Risk (VaR) is our main metric to quantify a good portfolio!
* We run 200 draws with the Monte Carlo – optimized in Send Out.
* This gives a total system cost and unserved demand – the 95th percentile….
* The candidate portfolio is then put through stochastic analysis, scenario & sensitivity testing so the risk is within tolerance levels.
* This will show the least cost and least risk portfolio!
* Kyle said that the Var is good, and he has seen it used in other IRP’s too!

**Question**: Bruce asked what the amount of computing power and time was?

**Answer**: Devin said 1 draw takes 4 to 10 minutes so 200 takes 4 to 5 hours using each scenario/sensitivity. Then we decide if it worked right. The full process takes at least one month.

**Question**: Devin asked Kyle if there are any other “best practices” that you’ve seen related to stochastic analysis?

**Answer**: Kyle mentioned the 95% percentile and said he’s seen this used by other utilities. He was curious why this was used? Devin said they run through types of data inputs in the stochastic analysis in the IRP. We use both deterministic and stochastic analysis in our model.

* Devin said we present deterministic and stochastic analysis but always looking for input. Our challenge is gas is the only resource!
* Bruce said that the PAC IRP is good. Stochastic analysis is “gold” to us. Keep feeding back to us on this!
* Devin went on to say we are proud of this IRP and hope to inspire other LDC’s. We love the feedback!
* Kyle said on the electric side, PSE’s 2017 IRP had heartburn over resource costs. He said it was contentious on oversight of inputs. There was good reason for confidentiality. It is critical that costs are accurate! They may have more experience for example.
* Kyle advised to make us **comfortable** with why you chose what you did!

**6*th Presentation – Renewables*** (Chris Robbins) Slide 33

* Renewables - Cascade looking at as option for long term supplies!
* How involved in this do we want to get is Cascade’s challenge.
* 3rd party developers want on our system. We have discussed this and developing gas quality standards, but we can’t get past the development stage!
* The utility investment – how to get the value of renewables to our customer!
* The costs and pricing are challenges
* Can consultant advise to make this happen asap?
* Developers - Rural outfits contact us. A landfill relocation to our system has been brought up, but this is not an easy option.

**Question**: Kyle asked what is in the IRP on this?

**Answer**: Is there a “green power” type option for gas?

* Devin said that NWP had an option
* Mike C said that NWN has green power in Linden
* Chris concurs but said what people are interested in could have a huge impact on customers cost-wise.
* Kyle said there is interest in new technology with renewables. Encourages IRP group to cover this topic and what your plans are for renewables.
* Kyle said…. show what you are doing to learn how this impacts your system in 20 years, customer base, service territories…? Stochastic analysis is too complex but a narrative on renewables in your territory would be good. Say what you are doing to say on the curve!
* Devin said they have it as an alternative resource in the IRP…the potential of it is in the IRP.

**Slide #34 – Distribution System Planning (DSP)**

* Mark said there is some level of introduction of system enhancements about growth in the IRP.
* He said there are some concerns with discussing our DSP costs and so will put in a confidential section of the IRP.

**Slide #36 – 2018 IRP Schedule**

* TAG #2, May 23rd at SEATAC including demand forecast
* TAG #3, July 12 – DSP, Alternative resources, Avoided Costs, transport issues
* TAG #4, Aug 16 – Carbon, Conservation
* TAG #5, Sep 18 – Final integrated results
* October 5, 2018 draft distributed
* December 5, 2018 IRP filing
* Mark said this is a high-level schedule! There will be an internal schedule. Everyone needs time to review the draft. We will give 1 month. We want feedback, so that’s why we’re giving you more time.
* Garret said that this is exciting and thanked the team. He said this is good information and provides a strong kick-off!
* Kyle warned the team that they will know he is new to this in seeing his comments and questions!
* Devin said all feedback drives the process!
* Mark said if there is anything we can do to help you, please let us know!

The meeting ended.