Meeting Summary

NorthWestern Energy Electric Technical Advisory Committee

Butte, Montana

June 1, 2017

Attendance

Those participating in or attending the Electric Technical Advisory Committee (ETAC) meeting in person or via the web and by teleconference included:

Name	Organization
Beki Brandborg	ETAC Facilitator
Chuck Magraw	Natural Resources Defense Council (NRDC)
Brian Fadie	Montana Environmental Information Center (MEIC)
Frank Bennett	NorthWestern Energy (NWE)
John Bushnell	NWE
Luke Hansen	NWE
Joe Stimatz	NWE
Diego Rivas	Northwest Energy Coalition (NWEC)
Mike Dalton	Montana Public Service Commission (MPSC) via phone
Jamie Stamatson	Montana Consumer Counsel (MCC)
Mike Babineaux	NWE
Jonathan Pytka	NWE
Bill Thompson	NWE via phone
Jim Williams	NWE
Thomas M. Power	District XI Human Resource Council (HRC)
Patrick Barkey	UM - Bureau of Business and Economic Research (BBER)
Brian Dekiep	Northwest Power and Conservation Council (NWPCC)
Chris Pope	Consumer at Large
Garrett Martin	Montana Department of Environmental Quality (DEQ)

Agenda

1. Update on Flexible Capacity RFP
2. Hydro System Upgrade Study (Deferred to July 19th meeting)
3. Natural Gas & Electricity Price Forecast Methodology
4. Update on Qualifying Facility (QF) Negotiations
5. 2018 Electricity Resource Procurement Plan
6. ETAC Membership
7. Future Meeting Dates
8. Tour of NWE's Butte General Office Building

Meeting

NWE introduced the newest ETAC member, Chris Pope, who will be a representative of the consumer at large.

1. Update on Flexible Capacity RFP

NorthWestern discussed the RFP issues. In May, the Montana Public Service Commission (MPSC or PSC) issued a Notice of Commission Action (NCA) following the passage of Montana House Bill 193 (Docket No. D2017.5.39). NWE subsequently filed a Motion for Reconsideration of the Commission's NCA.

Due to concerns over this NCA, NWE decided to temporarily suspend the RFP process for a period that is currently anticipated to be about one month. NWE will update bidders when we think we can resume the process. NorthWestern did receive 24 bids on the All-Source side and 7 EPC bids. We will refocus on that in a couple of weeks.

Question – What does that mean for the bidders?
Answer – The delivery deadline for the new plant will likely have to soften. We will provide an opportunity for bidders to rescind their bid. We have not heard anything from bidders since they were sent this notice. The letter went out on May 26. Accion has not heard anything either.

2. Hydro System Upgrade Study

NorthWestern mentioned that the presentation on the study was not ready yet. The presentation would therefore be deferred until the July 19th meeting.

HDR is doing the study, which is a detailed analysis of each of the Hydro units in terms of what potential upgrades are possible to increase their power output. Ryan already had some upgrades during maintenance. This increased production at a relatively low cost. Other potential upgrades include replacing a powerhouse in Great Falls and adding generation capability to Hebgen.

HDR has completed phase 1, but without Hydro personnel present we cannot answer specifics. In general, phase 1 is the low hanging fruit, while phase 2 encompasses more involved upgrades. Based on the results of phase 1, phase 2 may be reshaped accordingly.

3. Natural Gas & Electricity Price Forecast Methodology

NorthWestern presented some slides on the history of the forecasts and the methodology used for electricity and natural gas prices.

In 2003, NWE used NWPCC's electricity and natural gas forecast.

In 2005, NWE considered the NWPCC forecast, but did not believe that these forecasts reflected changing market fundamentals and were too low, so we went with forecasts from Cambridge Energy Research Associates (CERA).

In 2007, NWE initially sought to use CERA's forecast but new non-disclosure agreements prevented public sharing of this data. NWPCC's forecast was still outdated, so NWE hired Lands Energy Consulting (Lands) to prepare the forecasts. Lands used NYMEX forward strips, and then prices beyond 2011 escalated at 2.5%.

In 2009, NWE used Lands/NYMEX. The PSC informed NWE that they would prefer EIA over an inflation indicator. So NWE switched to NYMEX futures exchange at MID-C.

In 2011 and 2013, NWE felt that the EIA forecasts were too high and used an inflation rate for the escalation beyond the use of the current market prices. PSC suggested we keep using EIA's escalation.

For the 2015 Plan, NWE followed the PSC's guidance and used forward price curves through 2020 and after 2020 used the EIA's 2015 Annual Energy Outlook escalation rate for Henry Hub natural gas prices. The electricity price was escalated using the same rate as natural gas to preserve the structural relationship. This will be NWE's practice going forward, and each Plan and portfolio model will use the most current market information and current EIA's rate. In terms of evaluating potential QFs, we try to pull price strips as late as possible to be able to get the modeling completed for the task at hand.

There was discussion about the current and historical rates, the performance of these forecasts in terms of accuracy, the assumptions going into the EIA's forecasts, and NWE's lack of resources and expertise to create their own forecast or critique the EIA's forecasts. The impacts of recent changes in natural gas production as well as the EIA's focus on the supply side and lack of focus on the demand side were also discussed.

For NWE resource planning, the period analyzed is 20 years. For QF contracts, the period is 25 years. The PSC has directed NWE to use the EIA forecast for escalation after the forward curves. NWE uses these forecasts for resource planning and long-term investments (QFs). NWE understands challenge of using forecasts for long-term investments and in case of the capacity RFP is not trying to acquire all of these new resources at once, so that timeframe allows for updates. Compared to regional utilities, we have typically been on lower end of these forecasts.

From NWE's perspective, if we acquire a resource, it has been validated by the RFP process. With a small QF, all of the competitive solicitation process is bypassed. For a large QF, there is a very abbreviated proceeding.

Regarding these proceedings, PSC staff has mentioned that it is waiting on post-hearing briefs in MTSUN. Somewhere around June 23, they will probably have a work session on both dockets, and an order would be issued shortly after.

NWE requested that ETAC review EIA's method and make suggestions. NWE would need good cause to change from this methodology.

4. Update on QF Negotiations

A spreadsheet was presented showing the current list of outstanding QF requests for contracts or pricing information. Since the last update, the QF list has increased from 1,300 to 2,200 MW, so we are seeing continued interest. This list does not include facilities that have not requested a contract or avoided cost run. There are around 30 of those.

When we get a request for information, we start tracking the QF. The list contain various stages of contract development but does not include facilities that are already generating.

The queue list for standard offer contracts (3 MW nameplate capacity or less) was discussed. This list, currently totaling about 115 MW of nameplate capacity, consists of almost all solar, with the exception of one hydro project that was actually just terminated.

The list of non-standard offer contracts (greater than 3 MW, not greater than 80 MW nameplate) totaling 2,046 MW was discussed. This includes 1,257 MW of solar, 726 MW of wind, and a few others, including a multiple-fuel project of 50 MW and a waste fuel project for 13 MW. The waste facility is going to burn tires, which PURPA considers as renewable energy. The rates for these are negotiable, but the QF can petition the PSC to set rates. Some are in that process now.

Question - Is there a list of withdrawn projects, to give a sense of how many reached that point?
Answer - We do not have a good feel because this QF influx is relatively new. Some projects resurface, and some go away. Some get information and never act on it. We have to document these requests with the PSC, but we do not track all of these requests internally.

Question - For non-standard solar, what percentage do you expect to get to the negotiating stage?
Answer - We have provided model runs for every facility on this list. Several have said that they are waiting on the results of the MTSUN docket. Out of 42, there are only five that said they would not continue to pursue a project. Since solar is a heavy-load hour-weighted avoided cost, due to solar's generation hours, the rates are higher.

Some solar facilities out there are clipping their peak hour output to show more balanced output. Some of the new solar facilities have under-produced based on their provided generation estimates. We will keep tracking this going forward now that we have actual data to compare.

There was a discussion about an article quoting NWE CEO Bob Rowe's comments on PURPA. NorthWestern will send the article to ETAC.

Question - On the wind side, are they waiting on the results of the MTSUN and QF-1 dockets?

Answer - Yes. We used a carbon cost. The PSC delayed the introduction of this adder which reduced the avoided cost by about $9/MWh. NWE took the position that we do not want to take on this risk. We settled on using the Clean Power Plan (CPP) case as a benchmark for a carbon adder, which is low. They are waiting on the PSC to give direction on what they think the carbon costs should be before they continue pursuing a contract.

Comment – Recently, the Colorado PUC required Xcel to use a social cost of carbon in their resource plan. This might be worth investigating. It was the first time a commission required it, though several companies have been incorporating it into their planning already.

Carbon pricing has to be high enough to differentiate between two different resources. NWE had higher carbon costs in previous plans. When the Hydros were acquired, there was analysis done that included the effects of a carbon cost. If one thought carbon was only worth $3/ton, it would have no effect on the model outputs in terms of resource selection. NWE will increase it to stress the modeling until it has an impact.

Comment - There are two questions to answer regarding using carbon costs in the modeling:

1. How high does the cost of carbon have to be to impact a decision?
2. Is it plausible to be at that price?

You can exercise informed judgment once you see how high it has to be.

The Commission moved their starting calculation of carbon from 2022 out to 2025 for the onset of carbon cost in a recent docket, and this reduced the levelized avoided costs.

The NG forecast from reference case to CPP case is not that much different, based on EIA information before the change in administration. Regulation is now playing a dominant role.

Question - CPP is the triggering mechanism, but should it be going forward?
Answer - We will take this issue up pretty seriously next year to allow things to develop.

Comment - Because we are linked to the West Coast, it may not matter what happens nationally.

Comment - As a customer, I commend the utility for trying to be responsible by actively working on the carbon piece. It may not be the right number, but some may not be addressing this at all.

NWE will have more discussion on these issues as the plan develops. We have the transmission study that will give us some information.

Question - How do you factor in the upward trend of more QFs into supply planning?
Answer - We do not include them in the supply plan until we have a signed contract. We can review if we should include these. The PSC made a comment that we should not assume that these QFs are there, so we did not assume them in the 2015 plan.

NWE showed a Renewable Portfolio Standard (RPS) forecast chart. NWE will be good on meeting its RPS requirements until the 2040s if we get WKN or one of the other large wind facilities. This includes the fact that Judith Gap will drop off in 2026.

On the transmission side, projects must get a transmission study queue position. Any project positioned in the queue after that assumes that all the prior facilities are there. On the other hand, for energy supply, we do not include other projects in our comparisons. We say that if we sign another resource prior to contract signing, we will recalculate the AC. But this takes time too.

NWE has argued that we are meeting all of our needs, with resources at minimums. We should not be a marketer for QF generation. The PSC says no, NWE must give them the market price. So this is a risk-shift onto consumers.

5. 2018 Electricity Resource Procurement Plan

The timeline for plan development was discussed, noting that the plan will not be filed until December 2018 and that there is room built into the timeline for ETAC review. Some chapters may be given to ETAC for review early on.

Changes from the last plan that were mentioned included the extended timeframe, asking HDR to update resource costs, a suggestion about adding a mission statement at the beginning, the potential inclusion of demand response, and other utilities' responses to recent WECC mandates and other PSC/PUC decisions. The new approach will be to shorten Volume I into more of a summary-type document, with a bigger Volume II for extended discussions.

It was proposed that NWE should include a cost of technology forecast. NWE mentioned that as technology matures, the costs decline, settle, and then slowly increase. This is hard to forecast. Our plan has focused on what is known and measurable. We would need a good basis for doing it differently. NWE will look at this for potential inclusion.

Comment - What is important is noting how things affect NWE. There is importance in having greater awareness about what is happening in the WECC.

Answer - Technology studies and impacts on market prices will take this into account.

6. ETAC Membership

An ETAC member had some suggestions about other possible candidates for inclusion in ETAC, which will be forwarded to the group.

7. Future Meeting Dates

On June 15, in Helena (NWE Octagon Building), there will be a PowerSimm continuation meeting with Ascend covering other resource definitions and what ETAC would like to see actually run in the demo in Bozeman.

On July 19, we will have our next regular ETAC meeting in Butte.

There will be a hands-on meeting where we will discuss setting up a model run and then also have it already completed so we can review the results.

On August 24, we will have an ETAC meeting in Butte.