

Meeting Summary

NWE Energy Electric Technical Advisory Committee

Butte, Montana

July 19, 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) via phone
Brian Fadie	Montana Environmental Information Center (MEIC)
Frank Bennett	NorthWestern Energy (NWE)
John Bushnell	NWE
Luke Hansen	NWE
Joe Stimatz	NWE
Diego Rivas	NW Energy Coalition (NWECC)
Mike Dalton	Montana Public Service Commission (MPSC)
Jamie Stamatson	Montana Consumer Counsel (MCC)
Mike Babineaux	NWE
Jonathan Pytka	NWE
Jim Williams	NWE
Tom Power	District XI Human Resource Council (HRC) via phone
Patrick Barkey	UM - Bureau of Business and Economic Research (BBER) via phone
Brian Dekiep	Northwest Power and Conservation Council (NWPPCC)
Chris Pope	Consumer-at-Large via phone
Ella Caillouette	NWE via phone
June Pusich-Lester	NWE via phone
Jeff Blend	Montana Department of Environmental Quality (DEQ)
Carrie Harris	NWE
Deb Mallowney	NWE
Bleau LaFave	NWE via phone
Will Rosquist	MPSC via phone
John Hines	NWE

Agenda

1. Update on Flexible Capacity RFP
2. Update on CREP RFP
3. Update on Variable Energy Resource (VER) integration study
4. Hydroelectric Generation Upgrade Study
5. Discussion of recent Commission actions in QF-1 and MTSUN proceedings
 - Ten year contract length
 - Symmetry
6. Update on QF Activity
7. ETAC Membership
8. Future Meeting Dates

Meeting

1. Update on Flexible Capacity RFP

NWE gave a brief update on the RFP, which was temporarily suspended due to HB193 and the ensuing NCA. NWE issued a notice of temporary suspension on May 26 and a notice of suspension continuance on June 28 to all bidders. NWE's RFP administrator received offers based on a 20-year term specification. NWE is looking for clarification on how these changes and the QF-1 and MTSun docket decisions [concerning 10-year contracts with price review after 5 years] would affect the RFP. NWE has not yet reached a final determination about what to do and is continuing the suspension at this time. In terms of the planned calendar, the process is about 2 months behind. Many unresolved issues remain. Among those is the path forward. The NCA on 10-year terms creates difficulties. Until final resolution, NWE is uncertain what steps to take. NWE has not reviewed the RFP bids but anticipates that it may be possible to access the bids in the future. A suspension of an RFP is not unusual, but circumstances surrounding this one are.

2. Update on CREP RFP

NWE introduced its employee who is coordinating the CREP RFP. It was mentioned that the deadline for proposals was June 28. Sapere Consulting ("Sapere") is acting as NWE's RFP administrator in this process. Sapere received about 9 proposals from 6 bidders, including wind, solar, battery, and small hydro technology packages. Sapere is in the middle of formulating a short list. It is estimated that NWE will have a short list by the end of this week. This will be addressed at the next ETAC meeting. Depending on how the process proceeds, ETAC might receive something ahead of that meeting. Everything is going as scheduled so far.

Question – What were the numbers in previous CREP RFP attempts?

Answer – Bidders have been right around the 10 mark during the last few years.

Question – Is this the first time NWE received a battery project?

Answer – Yes, in a CREP RFP. A battery by itself does not qualify; it has to be charged by a renewable resource to qualify.

3. Update on Variable Energy Resource (VER) integration study

For the VER study that the Transmission Group is conducting, NWE interviewed four candidates and selected Navigant. There are three phases to the study:

1. Identify overall need for NWE's existing system. (October 19, 2017)
2. What additional resources would be needed if NWE were to add additional wind - both with and without geographic diversity. (January 4, 2018)
3. Long-outstanding request from the PSC to determine the allocation of regulation and load-following needs to customer classes and possibly resources. (March 1, 2018)

Question – Does NWE have any information on how Navigant will go about this study?

Answer – NWE will be meeting with Navigant on July 27-28 to help Navigant develop its work plan. We will provide another update at the next ETAC meeting.

Comment – The last time we used GENIVAR and had a public process that took a long time.

Question – Have you used Navigant previously?

Answer – NWE used them for SPP-related work.

Comment – The last process took a while, but the GENIVAR study was considered to be good.

4. Hydroelectric Generation Upgrade Study

NWE's Supervisor of Hydro Engineering gave a Power Point presentation on the potential upgrades to the Hydro assets. Last year, NWE contracted with HDR to refine capacity increase and cost estimates for the Hydro upgrades discussed in the 2015 Plan.

HDR used CHEOPS to model the Hydros, benchmarked against historical actual operations. HDR's study concluded that 88 MW and 269,000 MWh from potential upgrades are available. However, running the units at their peak efficiency consistent with environmental constraints, these numbers were modeled at 81 MW and 278,000 MWh. Approximate cost is about \$200M.

Question – What is the total capacity column? (446 MW)

Answer – That would be the new total capacity. These capacity numbers are more real than nameplate in terms of actual generation.

These proposals will be further evaluated based on cost/benefit analysis, the condition of the existing units, and NWE needs. NWE has already started some Ryan upgrades because those were the lowest hanging fruit. NWE will stagger the upgrade work to minimize lost generation. Typically one per year. Some of these would require amendments to FERC license and studies, so the soonest they could be completed would be 5 years, but it will probably take longer.

Once an upgrade is proposed, the Hydro group runs models, seeks budget approval, issues RFP, and uses vendor performance models to update the CHEOPS operating model. Then the energy numbers feed into a financial model to compare to other non-hydro resources. PowerSimm is also used to compare to the open market and other resources. If a project is approved, then the GIA must be filed as well as FERC, TSR, water rights permits.

NWE will do 1 unit per year at Ryan. This will go from 60 to 72 MW output capacity.

Question – Is NWE replacing generators at the same time as turbines?

Answer – It depends on the condition and operating history of each one.

Question – Does the additional capacity from these count toward NWE's RPS requirement?

Answer – They do qualify. On a federal level, there were some PTCs that sunset.

Question – Do you think any of these upgrades will reduce the need for flexible capacity?

Answer – Not significantly. They are staggered and coming on slowly. NWE is going to need additional flexible resources. We will know more after the VER study is completed.

NWE discussed replacing the Hauser units with more efficient ones. NWE is currently trying to decide the best option to move forward. The Madison plant has small units, and NWE will probably start pursuing upgrades on those units soon.

Question – Do you have a sense of how NWE will model these in PowerSimm for the next plan?

Answer – NWE has not made a decision on this yet but will likely include the cost effective upgrades in the base portfolio in the next plan. Some upgrades are inexpensive, while others are expensive with a lot of due diligence required. They all have to pass the avoided cost hurdle.

Question – On the Ryan upgrade, what is the cost?

Answer – For the first 3 units, about \$1.3M/each turbine. For other turbine upgrades about \$1M. Unit 7 cost would be about \$100M.

Question – When will this process be presented again?

Answer – NWE is thinking about 3-4 units at a pace of one per year over next several years to upgrade from 60 MW to 70 MW.

Question – How are things in terms of replacement schedules?

Answer – NWE is on schedule with maintenance and upgrades. Occasionally, surprises pop up. NWE has very few unscheduled outages and has done a good job of keeping units running well.

Question – What is the cost recovery process?

Answer – These costs would have to be filed in the next general rate case.

Question – Does NWE have the levelized \$/MWh costs modeled for all of these proposals?

Answer – Not yet. To date, cost modeling is only done as needed.

Comment – It would be interesting to see this information for all of them when available.

6. Update on OF Activity

In late June, following PSC work sessions, NWE contacted developers. About six developers (seven projects) asked for 10-year model runs on avoided costs.

Question – Is this normal to not have interest?

Answer – Things have slowed down since spring, as the developers follow the Commission's decisions.

Question – Was there any pushback from QFs?

Answer – No.

7. ETAC Membership

All of the individuals who were identified as potential ETAC members have now been contacted. One of them responded, but two have not. NWE will have discussions with these candidates to determine if there is a good fit. A potential commercial customer representative was contacted, but that person was not interested.

Question – Does NWE plan on filing an update with the PSC on August 1?

Answer – Yes.

8. Future Meeting Dates

NWE is running out of timely content for the next meetings. Load Research will be coming to talk about the load forecast methodology. NWE should have more QF information available to discuss next time. There will likely be RFP topics to discuss as well. After August, ETAC may be good until the first of next year unless there are specific topics that ETAC members request. There will be lots to talk about once ETAC starts considering inputs to the model for the plan.

Comment – It would be nice to hear more about DSM and demand response.

Comment – It might be better to wait until September and cancel the August meeting in light of the QF dockets developments.

September 14 at the NWE Butte GO was proposed for the next meeting. The next PowerSimm training workshop will take place August 17 in Helena at the NWE Octagon Building. We will look at the results of the requested PowerSimm studies.

Question – Did the recent earthquakes affect any hydro operations?

Answer – No. We did inspections and found no damage. Nothing tripped.

5. Discussion of recent Commission actions in QF-1 and MTSUN proceedings

The QF-1 work session last month discussed limiting QF contracts to 10 years. After 5 years, there would be a price re-opener. It was unclear if contracts will be written with 5-year rates or 10-year rates.

Question – Has there been clarification about this at the PSC?

Answer – There will be a rate table. A QF would get a 10-year levelized rate from the rate table for the first 5 years. After 5 years, they would get whatever rate is in the rate table at that time. What you will have is a table of avoided cost rates from 1 year to 10 years. A QF could pick the 10-year levelized rate, and then after 5 years the table would be updated.

Question – Does the MPSC understand that when you are doing levelized rates, you may never reach the cross-over rate before the recalculation time?

Answer – That was discussed but may not have been understood at the time of the decision.

Comment – The Commission made a decision on symmetry, which seems to mean that the PSC will view utility rate-based resources the same as QF resources. If we are only looking at the world in ten-year time increments, this will impact what is expected from the planning process.

Question – What is the vision of symmetry at the MPSC?

Answer – Symmetry is not a staff-driven concept.

Comment – Commissioner Kavulla attended a Credit Suisse meeting prior to this decision and made statements suggesting that utilities should not have assets in rate-base long term.

Comment – This seems to be a big shift from the law.

Comment – PSC staff believes that there will be pushback and does not think that NWE should rush to change the planning process at this time.

Comment – A draft order is now in the works. Currently, the PSC finds that going forward all resources must be held to same standard. Therefore, NWE must justify its resources at 10 years.

Question – Is there any terminal value attributed? NWE does not know of resources that have a 10-year life except perhaps some renewables.

Answer – There is currently no wording concerning terminal value. You would have to justify the acquisition based on alternative resources over a 10-year period. NWE could continue to earn revenue past 10 years. This is a little confusing. There would be a re-evaluation after 10 years.

Question – When do you think the orders will come out?

Answer – The PSC is shooting for Friday July 21 for both QF-1 and MTSUN.

Comment – There is a major due process issue here. The NCA is a fundamental rewrite of HB25. The PSC can implement a state statute but cannot issue a new statute.

Question – How did the MPSC come up with this decision? It seems that this will not play out well for Montana.

Answer – In a contested case like this, the Commission's decision is supposed to be based on the record of evidence provided in the docket. The PSC did ask parties what the contract length should be, so that is in the record. Staff provided a recommendation to reduce the contract length to 15-20 years. The idea for taking it down to 5 or 10 years was something that an individual commissioner started thinking about seriously the morning of the work session. A commissioner stated that if you are going to hold QFs to this standard, you have to hold the utility to the same.

Comment – But there was no information in the record about symmetry.

Answer – Agreed.

Question – Has there been discussion about why NWE should be treated similarly to QFs? Or is this just a decision a commissioner makes and other commissioners happen to go along with it?

Answer – In this case, there was not a whole lot of discussion between commissioners and staff ahead of time about what it would mean.

Comment – Quite a few people have been skeptical about NWE rate-basing CU4 and the Hydros, considering their cost-effectiveness versus market. The “lumpiness” of these resources also presents a challenges because once they are obtained the need for additional long-term resources shrivels dramatically. The same concern can be raised about long-term QF contracts. Typically, the practice has been to cut the avoided costs or contract lengths for QFs. So this issue did not just appear out of the blue. It has been simmering. Nonetheless, I do not support what the commission has done.

Comment – NWE agrees with your points, but NWE models and evaluates different resources the same way, regardless of whether they are lumpy or not.

Comment – The PSC had expressed strong concerns about NWE’s last resource plan, its process, and forging ahead with an RFP that did not solicit all potential resources.

Response – NWE was looking for 50 to 150 MW, which is just a fraction of its total deficiency. NWE is interested in the staff’s view on this, as opposed to the Commission’s view.

Answer – Staff did find some shortcomings in the process. Having gone through a number of acquisitions recently, it is time to do a really tight process before the next resource is acquired. Staff is not convinced that the last resource plan met that standard. And, to clarify, the limitation of the RFP to 20-year PPAs was a little too restrictive.

Comment – NWE is open to suggestions, but if the standard is perfection, we will be unable to act in a timely manner and will still be in the market.

Question – How does this apply to net-metering and DSM?

Comment – NWE just needs to hold tight for now. Technology changes do open up possibilities, but nobody can build on a 10-year pro-forma. Over a ten-year scenario, we would probably be looking at non-generation technologies, like smart grid.

Comment – There is a process that still has to be played out, and neither ETAC nor NWE have all of the answers right now.

Question – Would substantial pushback and lawsuits affect ETAC and/or the planning process?

Answer – NWE does not think so at this point, but potentially it could go there.

Comment – If it ends up being a 2-3 year process, NWE would just stagger short-term contracts. Ultimately, NWE must meet its operational needs. NWE has more wind coming online soon. Relying on lots of short-term market deals will be challenging from an operational standpoint.

Question – How will ETAC be informed about the decisions at the PSC and this process?

Answer – NWE suggests that everyone follow the PSC’s actions, work sessions, and decisions. Some of this goes beyond planning into legal, and we certainly do not discuss legal strategies before moving forward with them.

Comment – There is a process for making motions for reconsideration that can take a while. Government officials have also raised concerns over what this all means. The political sphere is not overly enthusiastic about these recent developments.

Question – Would it help to have an email dialogue before the next meeting?

Answer - Yes, if something can be shared, please share it with everyone on ETAC.

Comment – Although PSC staff did have issues with the last planning process, NWE is doing a much better job so far this time around. They are two different frameworks.

Question – NWE would like to know what is it going to take to provide PSC staff with a satisfactory process? If we go back to the last process, there were limited meetings and not a great deal of feedback. This process has better feedback and more discussions.

Answer – While PSC staffers may have participated in past ETAC meetings, their membership was considered to be “ex officio.” Staff’s recommendations on the 2015 Plan were based on comments from stakeholders, many on them ETAC members. It was their view that the process was not sufficient. While staff has supplied some feedback, it is mainly based on comments from other ETAC members.

Comment – This process is a bit different from PSE and Idaho Power, whose meetings are completely open to the public. The 6-month updates are a good start to open it up to the public, since the public is not able to attend these closed-door meetings.

Response – The 6-month update will not be something completely different, it will talk about process and link to the materials presented in ETAC meetings.

Comment – We heard a lot more from the DSM group previously. I would like regular updates on more than just the targets but also how the programs are running. I would also like more discussion about the economics of DR design and how that would work. During an off year, like now, is the time to discuss these things.

Question – Does NWE plan to do another DR study?

Answer – NWE needs to follow up on this, but there is a timing issue. The DSM group may need to be brought in. There are issues with timing and using the freshest avoided cost information.

Comment – At some point, you just have to pull the trigger on it.

Response – We have more studies coming online, and we are managing the timing of these from a budgetary standpoint.

Comment – In terms of DR, NWE did not provide the companies in the survey with specific numbers. You could still try to determine what companies would participate at varying levels.

Comment/Question – DR was highlighted in the PSC’s comments as a key reason why NWE should not be moving forward with its Flexible Capacity RFP. But that is only about 10-20 MW of potential during one or two super peak periods a year. Why would something like this make the commission deem the entire RFP to be deficient?

Comment – It seems like we are chasing “the perfect” before we can implement anything.

Question – What should NWE be doing now to be helpful in this planning process?

Response – In terms of DSM, we still have not gotten feedback about why NWE is going from a 6 aMW target to a 3 aMW target. Can we get that in a follow-up from the DSM group?

ETAC had a general discussion about demand response and values from NWE’s studies but would appreciate more feedback from the DSM group and believes a whole-portfolio approach with DSM would increase its values on the margin.

Question – With retirements in the region, is it realistic to rely on the market for capacity? ETAC would like to know what is available in the market so that it can help NWE make good decisions.
Answer – There is no capacity market as of yet. NWE has always assumed that it can rely on the market for unlimited purchases, but this may not be a valid assumption anymore.

Comment – If you look at the math, after CU1&2 go away NWE will most likely pay a premium to Mid-C instead of receiving a discount. Montana will become a net-importer of energy instead of a net-exporter. In such a market there would be short periods of time when you make a lot of money, but we do not want to expose our customers to price spikes.

Comment – There are periods longer than a few hours at a time when we are subject to spikes. Lead time is an issue. Price exposure is still there.

Question – NWPPCC has a lot of data, right?

Answer – Yes, but we have not seen NWE present this information specific to ETAC’s needs. What are NWE’s worries and concerns? 1, 2, 3, 5, 10 years out?

Comment – NWE covered the regional market and planned coal plant closures in the 2015 Plan. That analysis was qualitative as opposed to quantitative. DR is the tail on the dog; it is not the whole dog.

There was discussion about daily price curve changes and impacts to the power market.

Question – Can DGGGS provide the 3-hour ramp related to the CAISO “duck curve”?

Answer – Yes. DGGGS, Basin Creek, and some of the Hydros can provide some ramping during these times as a first defense. NWE is not seeing a change in its load curve, like CAISO sees, but NWE is seeing the price effects. DGGGS as well as other facilities help meet these needs but they cannot cover all of the needs that NWE anticipates going forward.

Question – That statement about the loads not changing but the price curves changing suggests that the need for DR is actually the face of the dog. If the issue is price spikes, and NWE had a robust DR program, wouldn’t that help the issue?

Answer – No and let me clarify. NWE’s primary problem is not price spikes; it is the need for intra-hour flexibility. DR is likely part of the solution. However, we are talking about a 500 MW capacity need. DR would be a small part of it.

Comment – Winter stresses NWE’s gas system, so DR could provide more value in the winter.

Question – I have not been to the PowerSimm training sessions, but at an earlier time the Ascend modeler said that solar has zero value. I can understand this for California, but I am not sure this applies to Montana. Regarding pumped hydro storage, he expressed that this was old technology. But I believe that solar has some capacity in Montana, and pumped hydro storage has value, too.

Response – I recall Gary saying that, “too much of a good thing can be a bad thing.” The spillover (from the “duck curve”) affects the Montana market. The capacity of solar does not take this into account. With these spillover effects, there is marginal value in solar here.

Comment – Maybe the value of solar has come way down during the day, but there could be some value with other renewables if storage is included.

ETAC had a discussion about pumped storage hydro. The technology has some value; however, its per MW and per MWh costs are substantial compared to other technologies, so the value is limited at best until costs come more in line with other technologies. Pumped storage hydro has wonderful attributes. But the costs are high, and it must be large to reach economies of scale.

Comment – NWE has had several conversations with that developer. The size has come down from the original proposal, but there still needs to be a tremendous amount of aggregation, and the price also needs to move significantly south. Several groups had the \$1B project cost presented to them. The first one in has to bear significant costs. If multiple owners went in at the same time that would be better.

Question – Has there been any talk between PGE, PSE, or others to go in on this project?

Answer – No.

Comment – When NWE makes a lot of noise at the legislature or the PSC, it can hurt you.

Comment –It would be good to agree on what is the capacity value of solar or wind. It is odd, thinking about customers, to limit contract lengths at the worst possible time (with prices down).

Comment – There is lots of disagreement out there about whether QFs should be treated differently than utility-owned resources or long-term PPAs.

Question – With RPS satisfied for the foreseeable future, should NWE exclude renewables?

Comment – In the short term, we are continuing to expand with Hydro upgrades. We would not exclude renewables down the road.

Question – Can NWE discuss the use of the Hydros?

Answer – NWE is limited with the Hydros due to operational constraints. We have 30 MW of DEC from the Hydros and 32 MW for Spinning Reserves. NWE is extracting as much value out of the Hydros as it can. It is not a static process but rather always evolving.

Comment – For example, today NWE had no ability to increase its hydro output (no INC) when wind dropped by 35 MW in an hour. NWE had to use everything on the system to compensate.

Comment – This side of the story never makes it out to the public. People think more renewables are always better. That is a good example of why not.

Comment – With RBC, things have gotten simpler in some respects. But at the same time it is more complex, since problems are no longer limited to just our own BA. A bad event for our BA may either be covered by the region or caused by the region.

Comment – Wind/solar developers and low-income advocates are part of the wider audience that might be interested to learn these things.

Comment – The challenges to the utility that the public is unaware of might help garner support.

Comment – It would take a lot of effort to educate the public, and to what end?

Comment – Any group is free to share ETAC's work with its members and educate them.

Comment – What keeps NWE executives up at night? Rising costs and stagnant load growth. Also, trying to avoid a second downgrade. Reports show that the investment community is very uncomfortable with Montana right now, dating back to the Colstrip disallowance. The PSC press releases are being quoted. Investment analysts listen to work sessions and take detailed notes. Where will NWE be 4-5 years down the road, with this regulatory model, decoupling, etcetera?

Question – Does NWE see a regulatory risk of moving towards decoupling?

Answer – Yes. The shifting of risk to the utility would be significant, making it very hard to move forward. We have tried to take one of the risks (QFs) off the table. Maybe it would good for someone from NWE's Finance Department to come and talk to ETAC? There are three essential elements: (1) Shareholders must be rewarded; (2) Customers must get good service at affordable rates; and (3) The utility must be compensated appropriately.

Question – What was good today?

Answer – It was good to hear about processes moving forward. VER study progress. QF issues.

NWE wants to hear stakeholder comments now. At the beginning of the process. Not at the end.

Comment – Could NWE please put on the agenda specific questions that need timely responses so that ETAC can think about the questions ahead of time?

Load forecast and loss of load probability discussions will be coming soon.

Question – With ELCC, how are you handling capacity of renewables?

Answer – We have not done this yet. Step one is to get the LOLP down.

Question – Is it worth spending half an hour discussing this before NWE embarks on the study?

Answer – NWE has not bought off on the method yet. We have been working with Ascend and will have internal discussions first. NWE will not bring a method to ETAC that it has not vetted internally.

Question – Can NWE present the method in September for at least an update? And possibly alter the method if ETAC concerns warrant it?

Answer – Yes, NWE wants feedback before it has to make the decision.