Meeting Minutes 10.29.2025 ETAC

Meeting Date: 10/29/2025 9:30 AM – 12:30 PM
Location: *Helena Capital One-Board Rm (235) and Teams
https://events.teams.microsoft.com/event/3cd12856-b87b-495e-ad10-9c27908c302f@c5c3c8b3-5dfc-4d45-9c42-df8a9867c635
Participants
Olson, Megan (Meeting Organizer)
Shafer, Jon (NWE)
Carmody, John (NWE)
Stajcar, Matthew (NWE)
Barnheiser, Quintin (NWE)
Brian Dekiep (NWPCC)
'Chuck Magraw'(NRDC)
Haylee Gobert (MT PSC)
Jamie Stamatson (MCC)
Mike Dalton (MT PSC)
Kelli Schermerhorn (SPP)

Minutes

1) Call to Order

   a) Meeting started at 9:30 AM by Jon Shafer

   b) Purpose of this meeting: NDA information, Current timeline, stakeholder working group update, PowerSIMM finalized ARS results, PowerSIMM preliminary PCM results.

2) Discussion Topics

9:35 - Ann Hill speaks on NDA and confidentiality.

- Contract prices, I.e., Powerex, Colstrip, etc.
- Q: Do you believe an NDA is required to be a part of the meeting going forward?
- A: If getting into PowerSIMM or a copy of the CUBE reports for review, NDA is required, however the ETAC meetings themselves will not require an NDA.

9:40 - Updated IRP Schedule

- Goal for NWE is to have the draft IRP to ETAC and the Stakeholder Working Group to review from Dec 23-30.
- Q: Does final plan complete mean NWE is not planning on revising plan after comments.
- Adjustments can be made based on comments; however, modeling comments will not be able to be reran due to time constraints. A better term would be “Final Draft Plan."

9:43 - Stakeholder Working Group

- Next meeting 11/10/25 to go over what will be presented today in terms of the PowerSIMM finalized ARS, and preliminary PCM results.

9:45 - PowerSIMM Finalized ARS Results

- Scenarios have not changed; there has been a base case change.
  - Puget acquisition was pulled from the base case and modeled as a sensitivity because it is a lot of capacity for our customers.
  - Q: When will the Puget shares be acquired?
  - A: Jan 2026 is when the Puget shares are to be acquired by NWE.
  - Q: Sensitivity P is Avista acquisition, why the difference between Avista and Puget.
  - A: Avista would achieve a capacity sufficient portfolio, where Puget would pull NWE over the capacity need in 2026.
  - Q: Base case includes Avista but not Puget. Instead, NWE is running a sensitivity to include Puget and one to exclude Avista. What is the justification? Under the belief that both respective shares are to be transferred to NWE Jan 2026.
  - A: Avista share acquisition was in the Base Case for 2023 IRP, so no change for including it. In addition, there were sensitivities with no Avista share acquisition in the 2023 IRP. Avista came first, got NWE to capacity sufficient in 2026, the additional share coming next (Puget) where we are already capacity sufficient will take us over and beyond what we need to serve our customers. So, NWE pulled Puget share acquisition out of the Base Case and created a sensitivity around this. Timing issue when they are expecting to take these shares and asking whether they are being included or not, NWE is asking for the shares between two separate times. Note, NWE cannot comment further on this question at this time.
  - C: Seems one share is more solid than the other.
  - C: Avista is on the PCCAM, while Puget is not.
  - Q: Who made this decision (talking specifically about the removal of Puget shares of Colstrip in the Base Case)?
  - A: Executives of NWE made decision not to include Puget in the Base Case and instead include it into a sensitivity. NWE will get a more formal answer to the Puget Share after this meeting.
- Summer Capacity Forecast and Retirements:
  - Winter, without Powerex contract, starting in 2027 we will be deficient.
- Base Case and Main Scenarios:

- Changes include fuel infrastructure, LDES was constrained, and Overbuild constraint was implemented.
- Q: Can NWE talk about how network upgrade costs estimated Candidate resources.
- A: Network upgrade costs are difficult to estimate cost, dependent on projects in the pipeline. Went to OASIS pulled system impact results to estimate network upgrade costs per MW of requested interconnection. That rate $/MW was applied for all candidate resources. If candidate resource with lower accreditation. When trying to connect X MW of capacity need, overbuilding will be required to meet capacity need. This caused lower accredited candidate resources to build more nameplate capacity to meet interconnection requirements.
- Q: Around Colstrip shares around firm transmission.
- A:
    - Avista has firm transmission.
    - Puget has firm transmission from 2026 through 2029. Starting in 2030, Puget still has firm transmission until either Colstrip retires, or the NPC starts commercial operation. Starting in 2030, the firm transmission can be reduced by 190 MW if Puget needs firm transmission from Colstrip to Broadview.
- A: Synapse energy, 50 best practices. One of the topics, interconnection costs should be included in PCM. Industry recognizes the importance of having this in PCM.
- Q: How are these costs estimated in the inclusion?
- A: Estimated by interconnection group. Identify, design, substation, high level detailed construction estimates on what the total costs estimates would be. 3-yr average of $/MW for interconnection queue to use for our candidate resources.
- Overbuild Constraint:
- Q: Building slightly less resources but waiting ~2 years to build the same thing. What are the revenue requirements to wait 2 years?
- A: If an overbuild happens, it would not be as feasible.
- Q: The 150MW constraint is somewhat arbitrary, is this a fair characterization?
- A: Fits some of our candidate resource builds (i.e. 300MW wind, 300MW SMR, etc.)
- Q: How does this overbuild constraint work?
- A: ARS must meet the load plus PRM. ARS can select resources in excess of the load plus PRM by 150 MW. Any additional capacity will incur and overbuild penalty to discourage overbuilding by more than 150 MW above the target.
- Q: Based off the soft constraint, is there a hard constraint to not build resources before 2030?

- A: Yes, there is a hard constraint to not allow resources to be built before 2030.
- Q: How about acquiring capacity?
- A: Difficult to model in capacity expansion model because you would have to decide what is available or priced in the RFP. If a realization comes to NWE that we are capacity deficient, NWE would have to address this by going out to acquire a contract or generation resource.
- These models include Cost of building generation, pipeline costs, and firm fuel.
- The 50 MW Aero does not include interconnection and upgrade costs. However, SMRs do include interconnection and upgrade costs as a general input.
- C: If the SMR is built at Colstrip, then you would not need interconnection and upgrade costs.
- A: Correct
- Q: About the RICE, in the 2019 plan NWE differentiated between 9MW engine and 18MW engine, and DF, is this true in the 2026 plan?
- A: NWE received quotes for the RICE engines, NWE did not consider differing engine sizes, NWE used 9MW RICE engines as the only build type. As for the overnight and general operating costs, these were all provided by Aion.

- Scenario B - Colstrip Retires to Comply with MATS
  - More capacity built up front due to early retirement of Colstrip.
  - Q: Alternative fuels modeled?
  - A: NWE did not model alternative fuel engines.
- Scenario C - Colstrip Complies with MATS via Baghouse
  - No different from base case, PCM will include additional baghouse costs.
- Scenario D - Colstrip Retires to Comply with GHG
- Scenario E - Colstrip Retires in 2035
  - Created with collaboration from Stakeholder Working Group (Medium term retirement scenario).
  - Not associated with any environmental rules.
- ARS Summary of Base Case and Main Scenarios
  - Q: More explanation, why choose Puget as a sensitivity vs Puget as a Scenario?
  - A: Calling it a sensitivity because there is no early retirement and no changes to base case.
  - Q: How is NWE accounting for GHG?

    - A: Since Colstrip runs at a high-capacity factor, it will not meet GHG. If CTs will be built in the future, they will have to comply with the GHG capacity factors.

Commodity Sensitivities:

- Sensitivity F - Power Price Forecast Reduced by 50%
- Sensitivity G - Power Price Forecast Increased by 50%
    - Sensitivity F & G are very similar.
- Sensitivity H - Natural Gas Price Forecast Decreased by 50%
- Sensitivity I - Natural Gas Price Forecast Increased by 50%
    - Sensitivity H & I are very similar.
- Summary of Commodity Sensitivities.

Data Center Sensitivities:

- Includes additional load, and additional Puget share.
- C: State the incidence of when NWE has the Puget share coming online for clarity.
- Sensitivity J - Add 150 MW of Data Center Load
- Sensitivity K - Add 650 MW of Data Center Load
- Sensitivity L - Add 1160 MW of Data Center Load
- Summary of Data Center Sensitivity
    - For this IRP analysis, NWE just states what resources and portfolio look like with associated costs in the IRP, not how the resources will be paid for. IRP does not differentiate customers in results.
    - Q: This includes costs associated with interconnection, etc.?
    - A: Correct

Resource Sensitivities:

- Sensitivity M - No Limitation on Carbon Emitting Resources
- Sensitivity N - Carbon Free Candidate Resources Only
- Sensitivity O - PSE Colstrip Share is used for Retail Load
- Sensitivity P - Avista's Colstrip Shares are not Acquired
- Summary for Resource Sensitivities
    - C: The treatment of Puget and Avista are confusing the presentation and the comparisons for the purpose of this exercise.

- A: NWE will make this clearer for the IRP.

Additional Sensitivities:

- Sensitivity Q - Add 300 MW of NPC Capacity
  - The way NWE assumes in modeling does not add capacity, purpose is to quantify energy benefits in the PCM.
- Sensitivity R - Increased DSM and NEW Forecasts
  - Modeled as a load reduction and not a candidate resource. So, there are no costs associated with this, however, could be looked at in the future.
- Summary of Other Sensitivities

11:05 - PowerSIMM PCM Preliminary Results

Scenario A - Base Case

- Energy production for PCM results of Scenario A - Base Case
- Capacity Factor for PCM results of Scenario A - Base Case
  - Q: Reduction in capacity factor is due to the market?
  - A: Correct less dispatching for market sales.
  - Q: Is NWE modeling a declining heat rate with the market?
  - A: Based on MIDC forward curves. The MIDC power forecast is taken until 2032, then Ascend is used to project farther. NWE will have to ask Ascend about how they forecast including heat rate.
- Emissions for PCM results of Scenario A - Base Case
- Transmission Volumes for PCM results of Scenario A - Base Case
- Average Transmission usage for PCM results of Scenario A - Base Case
- Transmission Revenues for PCM results of Scenario A – Base Case
- Total portfolio Costs for PCM results of Scenario A - Base Case

PCM Summary

- The total energy production of the Base Case and the Main Scenarios relative to the forecasted load
- CO_2 emissions from the Base Case and the Main Scenarios
- Transmission imports and exports from the Base Case and the Main Scenarios
- PCM results for the Base Case and the Main Scenarios

    - Summary: The earlier the retirement of Colstrip the more cost that is incurred.
- Remaining book value for candidate resources in the Base Case and the Main Scenarios
    - Summary: Measure to capture the costs/revenues that are not captured in the results.

Base Case & Commodity Sensitivities

- The total energy production of the Base Case and Commodity Sensitivities relative to the forecasted load
- CO_2 emissions from the Base Case and Commodity Sensitivities
- Transmission imports and exports from the Base Case and Commodity Sensitivities
- PCM results for the Base Case and Commodity Sensitivities
- Remaining book value for candidate resources in the Base Case and Commodity Sensitivities

Base Case & Data Center Sensitivities

- The total energy production of the Base Case and Data Center Sensitivities relative to the forecasted load
- CO_2 emissions from the Base Case and Data Center Sensitivities
- Transmission imports and exports from the Base Case and Data Center Sensitivities
- PCM results for the Base Case and Data Center Sensitivities represented as a 20-year NPV total cost per total 20-year total load
    - Q: Is this entire portfolio based?
    - A: Correct, taking Base Case $5.672 B/Total load consumed
- Remaining book value for candidate resources in the Base Case and Data Center Sensitivities

Base Case & Resource Sensitivities

- The total energy production of the Base Case and Resources Sensitivities relative to the forecasted load
- CO_2 emissions from the Base Case and Resource Sensitivities
- Transmission imports and exports from the Base Case and Resource Sensitivities
- PCM results for the Base Case and Resource Sensitivities
    - Note: 20-year NPV, only two years of new SMR costs, so there is not a lot of difference in the 20-year NPV.
- Remaining book value for candidate resources in the Base Case and Resource Sensitivities

Base Case & Other Sensitivities

- The total energy production of the Base Case and Other Sensitivities relative to the forecasted load
- CO_2 emissions from the Base Case and Other Sensitivities
- Transmission imports and exports from the Base Case and Other Sensitivities
- Sensitivity Q transmission imports and exports from and to the WECC interconnection
- Sensitivity Q transmission imports and exports from and to the SPP power market
- Sensitivity Q transmission imports and exports from and to the MISO power market
- PCM results for the Base Case and Other Sensitivities
    - Does not show the capital costs of the NPC, by finalized draft IRP, NWE should have the costs implemented into the results.
    - Q: The capacity cost is the cost of the 300MW partnership.
    - A: For clarity, NWE has signed up to be a partner in the NPC, there is no final contract on ownership. NWE wants to be a partner, does not necessarily mean the ownership happens as of now, correct.
    - C: For DSM and NEM, the costs to implement are not included, just the potential savings from the programs based on the model.
    - Q: How does NWE more adequately reflect on what is coming, maybe project costs forward for long life assets?
    - Q/C: Do not need resources until Colstrip retires, is NWE required to go out 20 years, or can run it out 40 years, 50 years, etc. if requested by ETAC?
    - A/C: A better look would be to increase outlook to 40 years, 50 years, to fully encapsulate the long-term impact.
    - C: Maybe run a sensitivity with a longer outlook.
- Remaining book value for candidate resources in the Base Case and Other Sensitivities

11:55 - Additional Questions/Comments?

- C: Give a robust description of what is described here in the IRP.
- Q: Regarding stakeholder process, how much will the PSC take the comments into account for this? If the stakeholder process drafts a letter, will it be received in a constructive matter? How to make more relevant in the PSC's eyes?
- A: From NWE perspective, the comments and feedback received are taken with the upmost respect and believe it is an asset to NWE that will use become better in optimizing the IRP.
- A: Goal of this stakeholder process for NWE is to help build the extra steps NWE will take in future IRPs.

- Q/C: Regarding Puget and Avista shares. There is no 100% that NWE will receive these shares. However, when there is more certainty, could the 2026 MT IRP be amended?
- A: Correct, NWE could amend the 2026 MT IRP once more surety around these shares is realized.
- Q: Has NWE compared the PCCAM results to the IRP results?
- A: The extent of the comparison that NWE has done, NWE saw the similar price dispatch.
- C: Might want to take a closer look at this comparison. It might be useful to the stakeholders and PSC to analyze.
- Q: About the process - What is the preferred method between meetings of communication?
- A: Carbon Copy via email (i.e., CC) the entire ETAC committee and ETAC@northwestern.com for the most transparent and expedited form of communication to get questions answered.
- Q: Next meeting date?
- A: 23rd-30th review period for the finalized draft IRP, if ETAC wanted to have the next meeting after the draft plan can be reviewed, then the second week January.
- **Reminder: If ETAC wants copies of the results, sign NDA and shoot request over to NWEETAC@northwestern.com.**

12:10 - Meeting adjourned.