

Meeting Minutes 08.28.2025 ETAC

Meeting Date: 08/28/2025 9:30 AM – 1:00 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)

Jeff Blend (MT DEQ)

'Barkey, Patrick' (BBER)

Brian Dekiep (NWPCC)

'Chuck Magraw'(NRDC)

Haylee Gobert (MT PSC)

Jamie Stamatson (MCC)

Kyla Maki (MDEQ)

Mike Dalton (MT PSC)

Kelli Schermerhorn (SPP)

Disha Pansuriya (MT PSC)

Minutes

1) Call to Order

- a) Meeting started at 9:30 AM by Jon Shafer
- b) Purpose of this meeting: Merger information, current timeline, stakeholder working group update, social cost of carbon, scenario and sensitivity updates, PowerSIMM ARS preliminary results.

2) Discussion Points

a) Topic 1: Merger Information

Key Discussion Points:

- Q: Both NWE and BHE SPP merger, how would that impact western operations?
 - A: Connectivity, decision of RTO, in real time and may be made before close, looking independently and how that will affect NWE on a larger scale.
- Q: Will all electricity be only in the Western grid after the merger?
 - A: SD/Colorado will be on the Eastern grid; however, all others will be on the Western side.

- Q: Generation mix for Black Hills Electric, and are they resource adequate?
 - A: They are resource adequately sufficient, their portfolio consists of 1200-1400 MW generation, and they sell almost a 1/3 to other parties. There is strong growth in their territory and are currently looking for ways to meet that growth.
- Q: How will the merger affect the IRP process and supply planning
 - A: The current IRP will not be affected by the merger. For future IRPs, evaluation opportunities between Black Hills Electric and NWE will be undertaken. i.e., interconnection, generation, and future optimizations.
- Q: Is the merger between NWE and Black Hills Electric? Or Black Hills Corporation?
 - A: Subject to approvals, NorthWestern Group and Black Hills Group are planning to merge into one holding company.
- Q: For the new data center acquisition, it is a ~1000MW new load. How are we going to go about these resources? If something goes wrong, for example the data center goes bankrupt, how will we plan accordingly to put up a failsafe?
 - A: The current plan is for data centers to bring portfolio to serve the data center with them. NWE plans to have appropriate securities in place. NWE hopes that the data center's portfolio and NWE's portfolio will work together to bring the best possible outcome from each other.
- Q: Will there be demand response with backup generation?
 - A: This is being discussed as a potential option.
- Note: None of the data center LOIs are in the base portfolio but will be analyzed in the form of the sensitivities.

b) Topic 2: Timeline – 9:45 AM

Key Discussion Points:

- Modeling delayed.
- Draft portfolios.
- Goal is to have a preliminary draft prior to the final submission of Dec 31.
- Time crunch mode from a modeling perspective.
- Started to run resource collection part in the modeling, no cost production as of yet.

c) Topic 3: Stakeholder Working Group – 10:00 AM

Key Discussion Points:

- Last meeting held on July 10th
- Discussion of the meeting:
 - Balanced portfolio meaning?

- There were concerns around the reliability of the portfolio.
- Transmission
 - Transmission should be considered in how it could contribute to capacity through regional load and resource diversity.
 - Q: Any more thoughts on how NWE is thinking about transmission in the plan and how to model adequately?
 - A: In all scenarios there will be limits at a certain amount. Currently, NWE values transmission as energy resource. If there is a remote firm capacity resource, the resource will need firm transmission before NWE can count the resource's accredited capacity to meet our resource need.
 - Sensitivity with the Northern Plains Connector with more availability in the extended market.
 - In terms of WRAP, NWE could not submit transmission for accreditation due to it not meeting the criteria for resource adequacy.
 - Exports and imports are rolled into the Northern Plains Connector sensitivity, so NWE will be able to evaluate market benefits with increased import/export capacity.
 - Q: How does NWE model the MISO market?
 - NWE uses MISO forecasts taken from Ascend Analytics.

d) Topic 4: Social Cost of Carbon – 10:15 AM

Key Discussion Points:

- There is a lot of variability on topic, but currently no regulatory requirements.
- NWE will not add a social cost of carbon to this portfolio at this point.
- Final thoughts from ETAC?
 - A few scenarios where NWE throws tax dollars and see how it affects resource selection.
 - From an economics perspective, the cost of carbon and quantifying those costs is entirely feasible and as reasonable as identifying any other costs. It is established, from an economic perspective, that carbon emissions do impose costs on society, therefore should be considered just like any cost that is analyzed. Displaying those costs will affect how the resources is dispatched, and whether or not resources would or would not be in portfolio.
 - Response: Agree that it will affect dispatch costs. The alternative is to just force resource selection. For example, NWE has proposed no new fossil fuels scenario as well its base case with no new fossil fuels after 2035. Different way to achieve the end result.
 - Counter: Doing this is not testing model for robustness. Policies change with politics, and NWE needs to plan accordingly. Maybe run a sensitivity, just to see how it affects selection.
 - Response: In this scenario are we pairing carbon emissions with the market?

- Counter: How to weather this exercise, to do the job it's supposed to do, which is to identify the optimal portfolio and how it is utilized in the real world across years. If we don't use social cost of carbon, is NWE really maximizing the analysis to its fullest extent?
 - Response: NWE understands the concerns around Social Cost of Carbon and is striving to reach a conclusion on how to better manage.
- Scenarios and Sensitivities:
 - NWE should add an additional mid-term Colstrip retirement scenario.
- Tax Credits:
 - Energy storage costs seem high. Make sure consultants are making appropriate considerations in terms of technological advancements.
 - OBBB

e) Topic 5: Scenario/Sensitivity Update – 10:25 AM

Key Discussion Points:

- Scenarios:
 - Q: Will baghouse costs go to customers or NWE?
 - A: NWE and other owners will take up costs.
 - The scenarios will not be including shut down in costs of Colstrip.
 - Existing resources have a set retirement in the model; there is no dynamic retirement included in the model.
- Sensitivities:
 - Q: On sensitivities J, K, & L, why does NWE need to model additional generation for data centers if they are supposed to be bringing their own portfolio?
 - A: Used on a preliminary worst-case scenario basis.
 - A: Data centers would still use the market if it were cheaper to purchase than run their generation.
 - A: NWE would have to model what data centers are asking for in a portfolio.
 - Q: On the load forecasting side, are you going to increase load demand in NWE's forecast?
 - A: Yes, NWE will increase load demand on the forecast with additional data center load.
 - C: Not a lot of resources to fulfill the needs of data centers. Seems challenging and expensive.
 - C: The region is hurting for additional resources, if not careful, we could exasperate this.
 - Q: What would be the data center's regulatory process to build generation?
 - A: There are multiple ways for this to happen. How this will work, and the best way to work is where NWE and data centers come and are in support of each other instead of against each other.
 - Two ways:
 - Choose the regulated process through MT PSC.

- Choose the regulated process through FERC.
- Q: Is there enough of a supply of natural gas to bring on 1GW datacenter?
 - A: Not sure, but there will need to be additional infrastructure built (Gas lines, transmission lines, or some combination of an energy source). There is not an overabundance of infrastructure anymore.
- C: On the regional planning process, if there is an imbalance that will impact price, there should be some kind of analysis on this.
- A: NWE does this in sensitivities F, G, H, & I
- C: NWE should have an energy storage sensitivity.
 - A: NWE relies on NREL cost curves and NWE consultants to decide costs. NWE updates the IRP every three years with more updated costs.
- C: Utilizing the WECC dataset.
 - A: Aion Energy approach takes the ATB trend; the starting costs are using RFP knowledge that comes from bids. NREL cost curves for future, with Aion's being the starting point.
 - C: This sensitivity is more diverse than multiple Colstrip sensitivities.
- Q: What are you learning with the many scenarios modeling Colstrip?
 - The reason why NorthWestern has so many scenarios modeling Colstrip is due to the size this resource has in the portfolio. A lot of implications happen after Colstrip is retired, and the need for differing retirement scenarios adequately encompass the planning required in order to provide our customers with the clearest plan.

f) Break: 10:45

g) Topic 6: PowerSIMM ARS Preliminary Results – 11:00 AM

Key Discussion Points:

- Resource comparison methodology in ARS
 - Q: Why are the costs all negative, going more positive? Should this not be the opposite?
 - A: All costs are negative because capital required to build, so the least negative is less cost.
- Capacity costs do not include transmission limits, which will be done in the cost production costs.
- Example portfolio for the 2042 retirement with 2035 Net Zero Goal
 - Thoughts?
 - C: Hope that LDES pans out
 - C: No selection of wind/solar hybrid
 - Q: Are these dominant winners? Any close runner ups?

- A: No production cost yet, this is picking the most affordable portfolio to meet capacity needs using regional reliability metrics.
 - C: Highly dependent on the market, will not have enough local resources to manage multi-day winter events.
 - C: Too much storage? Not a lot of firming capability.
- Is this a realistic portfolio from a reliability perspective?
 - Thoughts?
 - C: Only options from a firm standpoint are geothermal or nuclear
 - C: With this scenario, extremely limited variety due to 2035 net zero
 - C: Why not hydrogen?
 - C: Demand side, options are limited with firm supply, is there a way to lower that capacity number with increases in demand response?
 - C: Capacity factor of wind is 40-45% capacity factor. In the winter months especially, we are tied to the hip with the energy market.
- Should there be some kind of locally reliable standard? Should there be a constraint on relying on the market?
 - Thoughts?
 - C: Economically, going to market for reliability is scary.
 - Q: Why don't we look at a hydrogen resource?
 - A: There are not a lot of costs backed by Aion's analysis. Hydrogen, Nuclear, and Geothermal are all in preliminary stages.
 - C: Risks associated with market purchases are high
 - Q: How do you balance WRAP and market, with using WRAP accreditation, and PRM numbers?
 - Answer: How should we be looking at this from a local reliability need vs. WRAP? Get to that balance of market use opportunities besides strictly reliability perspective.
 - C: In a bit of a 'wait and see' standpoint with WRAP if they intend to go binding.
 - The production cost will compare the volume of market purchases and sales, to show which makeup of resources will rely a certain amount on the market.
 - Q: There are concerns with winter/summer events, scarcity events, etc. will this show up in the production cost model?

- Proposal: any reasonable constraint we could implement.
- Q: If one of the Colstrip units retired, does this give us room to select natural gas?
- C: When Colstrip retires, a lot of large customers get their power from Colstrip, meaning when it is gone, the market will drastically increase in prices.
 - A: From an asset management perspective, bringing that much generation in that year is not likely feasible, it will need to be brought in by chunks to meet that capacity by specific year the model picks.
- Why Net Zero 2035? Buying enough time to bring newer resources on portfolio. Maybe change Net Zero Goals?
 - Thoughts?
- Example Portfolio for a 2031 Colstrip retirement with 2035 Net Zero Goal
 - Thoughts?
 - C: If we built something before 2035, we would be able to run it.
 - C: CT would be the closest to replacing Colstrip in capacity
 - C: For resource adequacy, this seems better, however, there is no Net Zero constraint.
 - C: Emphasis on removing Net Zero Goal from case using sensitivity is important.
 - C: If we want emission-based reduction, switching from coal to gas would significantly reduce carbon emissions.
 - Q: Maybe modeling, market preventing you from overbuilding?
 - A: Comes back to reliability, would like to tie something to a physical resource or the contract, to meet this requirement regionally and locally. WRAP defines how the market will play. "Diversity in sharing".
 - Firm service, pricing, etc. if built NG generation?
 - C: How to better realign reality to the planning process is the potential goal in the future.
 - C: In the recent studies, interconnection costs were going to be applied after the ARS. After further discussion, interconnection cost per accredited capacity does affect resource selection, and NorthWestern will be applying the costs of interconnection costs into the candidate resources in its future ARS results/updates.

h) Topic 7: Additional Questions/Comments – 12:00 PM

- PowerSIMM issues with two factor authentication
 - Maybe we can meet over TEAMS with Ascend in the upcoming weeks to answer these issues.

3) Meeting adjourned at 12:15 PM by Jon Shafer