Montana Public Service Commission
Docket No. 2022.07.078
Electric and Natural Gas General Rate Review

PRE-FILED DIRECT TESTIMONY

OF JOHN D. HINES

ON BEHALF OF NORTHWESTERN ENERGY

TABLE OF CONTENTS

Witness Information

Q. Please provide your name, employer, and title.

A. My name is John D. Hines. I am NorthWestern Energy's ("NorthWestern") Vice President – Supply & Montana Government Affairs.

Q. Please provide a description of your relevant employment experience and other professional qualifications.

A. I have over 27 years of experience in the energy sector including working as a consultant to public interest groups on energy issues and as an economist and Montana member of the Northwest Planning and Conservation Council. I have served as NorthWestern's Vice President-Supply since 2011. In this role, my primary responsibilities include overseeing the functional areas of electric and natural gas planning, ensuring adequate electricity and natural gas to meet customers' requirements, and overseeing natural gas supply ownership, electricity, generation, and energy marketing. I am also responsible for the lands and permitting and environmental compliance functions for NorthWestern. Finally, I am responsible for NorthWestern's governmental affairs in Montana. I hold both a Bachelor's and a Master's degree in Economics from the University of Montana.

Purpose and Summary of Testimony

Q. What is the purpose of your testimony in this docket?

A. The purpose of my testimony is to describe NorthWestern's generation portfolio and the critical role it plays in meeting our customers' energy needs. I also describe risks regarding our on-system capacity situation and present our key energy supply initiatives to continue to meet our customers' energy needs.

Q. Please summarize your testimony.

A. My testimony first provides an overview of NorthWestern's Supply situation, describing our current generation portfolio, our customers' energy needs, and the role the market plays in addressing our ability to provide reliable service to our customers. Next, I discuss our energy supply initiatives that seek to ensure our ability to continue to meet our customer needs for reliable energy in the evolving market. In addition, I provide an introduction to NorthWestern's proposal to redesign the existing Power Costs and Credits Adjustment Mechanism ("PCCAM") to better manage customer bills in the current market environment. Finally, I provide an overview of NorthWestern's natural gas production needs.

Overview of NorthWestern's Electric Supply Situation

Q. Please describe NorthWestern's current electric generation portfolio.

A. At NorthWestern, our goal is to provide our customers reliable energy at the lowest long-term cost while meeting all regulations. We do this through a balanced mix of fuel resources and focus on reliable, affordable, and clean energy where it is the lowest cost. NorthWestern continues to have insufficient capacity between NorthWestern's owned generation and generation under long-term contracts to serve the long-term capacity needs of our customers in Montana. While significant intermittent generation is being developed in Montana and the Pacific Northwest, a

capacity shortfall situation is also occurring throughout the Pacific Northwest – a key source for NorthWestern's market purchases.

Our electric portfolio is built on the carbon-free hydro system, along with wind, coal, natural gas, and solar. Wind and solar are variable, rather than dispatchable, energy resources, meaning they do not produce power if the wind is not blowing or the sun is not shining. As a result, while they produce energy, they provide limited capacity to ensure reliable service for our customers. Coal and natural gas generation resources are critical components to our portfolio because they can be turned on, turned up or down, or shut off as needed. Our portfolio's mix of renewable and traditional resources helps keep energy bills as affordable and predictable as possible, while ensuring that capacity is available when needed to serve customers especially during critical weather events.

In 2021, 59% of our Montana electric generation was from carbon-free resources,[1] compared to 39.5%of megawatt hours generated by the U.S. electric power industry.[2] In terms of carbon emissions, NorthWestern's electric portfolio was 43% better than the national average. A more detailed discussion of our generation portfolio is presented in the Pre-filed Direct Testimony of Bleau J. LaFave.

---

[1] *See* NorthWestern 10K at page 9. Inline XBRL Viewer (sec.gov).

[2] https://www.northwesternenergy.com/clean-energy.

Q. Please explain NorthWestern's current portfolio's capacity and energy situation.

A. Since the deregulation era of the early 2000s, NorthWestern has relied upon market purchases to serve a significant percentage of our customers' energy and capacity needs. By 2007, the Montana Legislature passed the Electrical Utility Industry Generation Reintegration Act, which allowed NorthWestern to vertically integrate. Since then NorthWestern has been incrementally acquiring owned generation to manage our portfolio in a way that better offsets the risks of reliability and price volatility for our customers and also creating a model consistent with other investor-owned utilities. Despite these efforts, NorthWestern continues to be reliant on market purchases of various terms for over 40% of our obligation to meet the peak needs of our customers.

Prior to recent execution of numerous capacity contracts, NorthWestern was "capacity short," from being able to physically meet both short and long-term capacity requirements. Unfortunately, even with these additional contracts we still do not own or have long-term control of adequate generating resources to meet customer demand during times of critical need. These times of critical need are often weather driven, making reliability even more necessary to our customers. During those

times we must purchase electricity from the market at whatever price is available in order to meet our customers' needs.

Conversely, there are times when NorthWestern has more supply than is needed (not at peak load) to serve our customers so, for system stability, we must either back down our dispatchable units, sell the excess energy at the market price, or curtail intermittent generation. This issue is further complicated due to generation from intermittent Qualifying Facilities ("QFs"). As noted earlier, generation resources like wind and solar are intermittent and non-dispatchable. These resources can then be difficult and costly to offload for a utility trying to match resources to customer load, including when NorthWestern's customers must still pay the QF for energy.

While NorthWestern is actively working to manage these operational issues, much more work needs to be done. One significant example of our action is the ongoing development of the Yellowstone County Generating Station which was selected through a competitive Request for Proposals ("RFP") process. This generating facility will be a critical capacity resource capable of being dispatched or ramped down effectively and quickly in response to changes in intermittent generation or changes in demand. The Yellowstone County Generating Station is also necessary for NorthWestern to be able to participate in the regional Resource Adequacy Program, which will also require a reserve margin. I will

discuss our resource adequacy efforts later in my testimony with additional details provided in the Pre-filed Direct Testimony of Joseph M. Stimatz.

Q. How does a utility like NorthWestern measure generation capacity contributions for its portfolio?

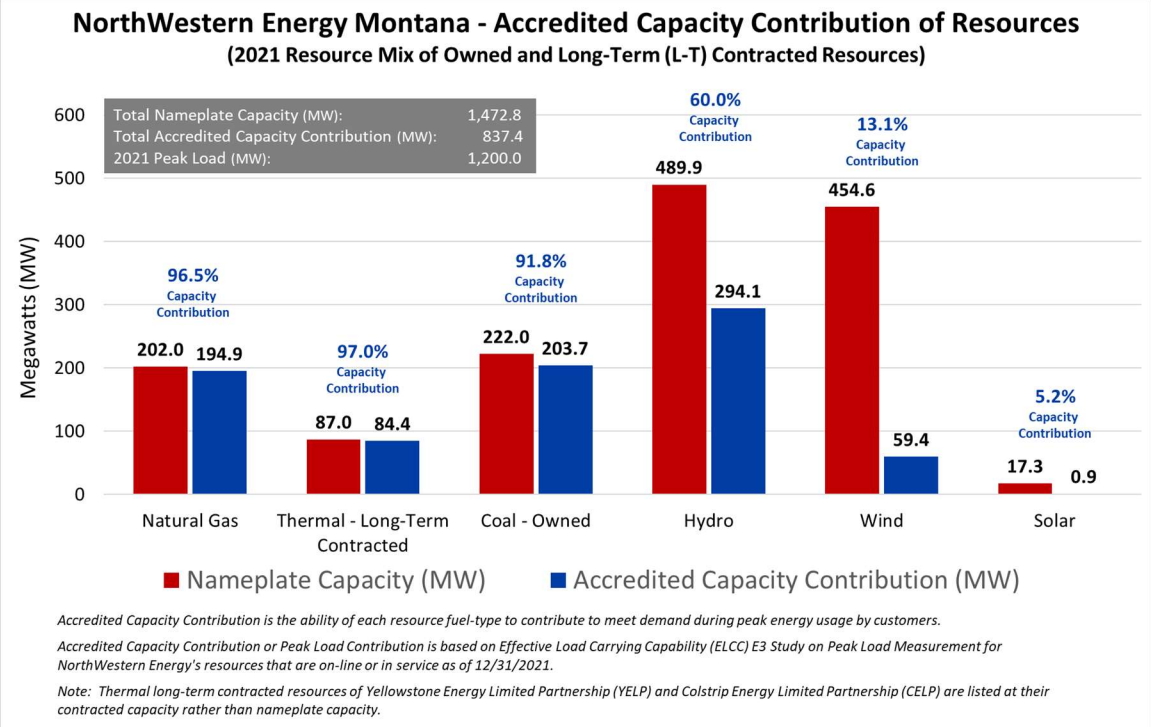
A. Prior to the development of organized markets, individual utilities, as part of the necessity of developing resource plans, developed resource capacity contributions using both empirical and modeling data. This is changing with the advent of organized market participation. In theory, this should lessen the debate in state regulatory proceedings over what capacity value a particular generation asset provides as well as what level of reserve margin is necessary.

For example, in South Dakota, NorthWestern is required to have available generation capacity sufficient to meet our total need plus an additional amount of reserve margin capacity. These numbers are determined by the regional transmission organization, the Southwest Power Pool ("SPP"). The SPP also determines the capacity contribution that each type of generation in NorthWestern's portfolio is allowed to be counted on in meeting our total capacity obligation.

By 2023, the time currently assumed when NorthWestern could join the Western Resource Adequacy Program ("WRAP") for its Montana

operations, we will be using capacity estimates set forth by the WRAP as well as have available some level of reserve margin. The WRAP is currently evaluating regional data to determine appropriate accredited capacity values for different resource types. Until values are available, NorthWestern determines Variable Energy Resource accreditation using the Effective Load Carrying Capability ("ELCC") methodology and forced outage rate to determine thermal accreditation. The chart below provides a snapshot of NorthWestern's portfolio in both nameplate and accredited capacity using estimates from an Energy + Environmental Economics (E3) ELCC study. Note that wind has nearly the same amount of nameplate capacity as the hydro system, but is ranked nearly at the bottom for accredited capacity, a key measurement for a reliable power supply.

Figure 1: Capacity by Resource Type



As NorthWestern acquires additional QF intermittent power, our yearly portfolio has become very long on energy while being short on capacity. That is, NorthWestern's Montana's portfolio generates more energy than our customers need on average. To ensure we are meeting our customers' reliability needs, future procurement of generating resources need to focus on dispatchable and reliable capacity, not generation that provides a large quantity of energy but low capacity values.

Q. What is NorthWestern doing to ensure that it has capacity available to continue to provide safe and reliable service to customers?

A. NorthWestern is continually working to acquire sufficient capacity to ensure safe and reliable services for our customers. In January 2020, NorthWestern issued an RFP for long-term capacity resources identified in its 2019 Electricity Supply Resource Procurement Plan and 2020 Supplement ("2019 Plan and 2020 Supplement"). Reliance on the market to meet our customers' reliability needs results in exposure to extreme price volatility or potential resource unavailability, which can result in higher costs and potentially unreliable service. An approach that includes more NorthWestern-owned generation and long-term contracted resources is expected to provide multiple services including load following, resources integration in support of intermittent renewable resources as well as more stable pricing and greater reliability.

As part of this rate review, NorthWestern asks the Montana Public Service Commission for the approval to recover costs on an interim basis associated with one of the resources identified in this RFP process, natural gas-fired Yellowstone County Generating Station once the plant is in service. This proposal is discussed further in the Pre-filed Direct Testimonies of Crystal D. Lail and Cynthia S. Fang.

Q. What happens if NorthWestern's owned or long-term contracted resources are insufficient to meet customers' peak capacity needs?

A. When this occurs, typically during extreme weather events, it is necessary for NorthWestern to execute market purchases to meet our portfolio's resource shortfall. NorthWestern has no way of knowing whether the market can provide the needed energy or what the price of the energy will be if it is available. In February of 2021, NorthWestern experienced a winter weather event that is not atypical for Montana weather. For nearly three solid days, or 69 hours, NorthWestern had to serve customer demand, in some hours, that was in excess of 1,200 megawatt-hours necessitating a reliance on market purchases. NorthWestern was able to meet customer demand by purchasing energy from other entities who had available energy to sell.

As the market becomes tighter, and more entities withhold capacity for their potential shortfalls, supply will become more scarce and at times may

not be available to serve all the needs of the market. This will result in potentially large cost increases for market capacity and energy and may require black and brown outs.

Q. Should NorthWestern rely on market purchases of capacity to fill its needs?

A. As the 2019 Plan and 2020 Supplement noted, NorthWestern should not rely entirely or even significantly on the capacity market because there is no certainty that excess capacity will continue to be available. However, NorthWestern is focused on reliability and has entered into contracts for capacity and will continue to seek such contracts when they make sense for customers. However, these capacity contracts do come with a cost, and our existing PCCAM mechanism was not designed to address the recovery of the costs for these contracts. Further, the PCCAM design does not adequately consider how volatile energy market prices affect NorthWestern's purchase costs and cost recovery. Market conditions are discussed further by Mr. Stimatz. NorthWestern proposes to redesign the existing PCCAM mechanism in this general rate review, which is discussed further by Ms. Fang.

Q. Does participation in regional efforts like the WRAP help with NorthWestern's capacity deficit?

A. Yes – it helps. Participation in the regional WRAP efforts can lessen the amount of needed reserve margin (the incremental capacity greater than peak load necessary to serve our customers). NorthWestern is still responsible to have adequate capacity available, but participation will allows us to have a higher level of reliability for our customers than otherwise would be possible for the same amount of generation and reserve margin. The importance and impact of participation in regional efforts is discussed in detail by Mr. Stimatz.

Q. Why should NorthWestern participate in regional efforts to ensure reliable service?

A. Participation in these regional efforts can result in a more efficient allocation of resources across the regional footprint. This could allow us to hold a lower reserve margin while continuing to serve our customers reliably.

PCCAM Redesign

Q. Please describe NorthWestern's proposed changes to the PCCAM in this docket.

A. A redesign of the current PCCAM is necessary to better meet customer needs under current market conditions and reflect the reality that forecast

market prices are unable to precisely match actual prices, especially during periods of very high-priced market conditions. The details of NorthWestern's proposal to redesign PCCAM are presented by Ms. Fang and discussed further by Mr. Stimatz and in the Pre-filed Direct Testimony of Andrew D. Durkin.

Q. Why is NorthWestern proposing a change to the PCCAM?

A. As noted above, redesign of the PCCAM is necessary due to changing and volatile market conditions, an increasing need to contract for capacity to meet customer needs, and a need to improve the accuracy of modeling. The drivers behind the need for a redesign are discussed further by Mr. Stimatz.

NorthWestern's Natural Gas Production Needs

Q. How does NorthWestern meet its needs for natural gas to reliably serve customers?

A. NorthWestern owns production assets and purchases natural gas in the market. In order to continue to provide reliable service to customers, NorthWestern purchases additional small volume natural gas production assets as they become available and if it is economic to do so and makes operational sense.

Q. What additional natural gas production assets has NorthWestern considered?

A. The small natural gas assets NorthWestern has acquired and continues to evaluate are located in the Havre production area where NorthWestern has a significant presence and experience. The natural gas produced from these assets flows into the NorthWestern natural gas transmission system currently. This is discussed further by Mr. LaFave.

Q. What natural gas production needs is NorthWestern addressing in this rate review?

A. NorthWestern makes a proposal to address cost recovery and regulatory lag of natural gas production assets. NorthWestern's proposal for a regulatory asset is discussed in the Pre-filed Direct Testimony of Jeffrey B. Berzina.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

This Pre-filed Direct Testimony of John D. Hines is true and accurate to the best of my knowledge, information, and belief.

/s/ John D. Hines
John D. Hines