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

PRE-FILED DIRECT TESTIMONY

OF NATHANIEL P. LINDER

ON BEHALF OF NORTHWESTERN ENERGY

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Witness Information

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

A. My name is Nathaniel P. Linder. I am Manager of Central Maintenance for NorthWestern Energy's ("NorthWestern" or "Company") Transmission and Distribution Operations Department.

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

A. I have worked in the electric and natural gas utility industry for 14 years and have been in my current position with NorthWestern since 2016. In this position, I am responsible for the planning and execution of various operations maintenance activities across all of NorthWestern's operating areas. These maintenance activities include programs related to pole inspection, natural gas pipeline cathodic protection, damage prevention, gas and electric metering, and vegetation management. Prior to my current position, I held positions within the Company responsible for electric and natural gas distribution engineering and construction.

I am a registered Professional Engineer in the State of Montana. I graduated from Montana State University – Bozeman with a Bachelor of Science degree in Mechanical Engineering in 1998 and received my Masters in Business Administration from the University of Phoenix in 2005.

Purpose and Summary of Testimony

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

A. The purpose of my testimony is to provide details related to the vegetation management component of NorthWestern's Enhanced Wildfire Mitigation Plan ("Wildfire Plan"). This will include the proposed investments and benefits in both existing vegetation management maintenance programs as well as the addition of new vegetation management activities to reduce NorthWestern's wildfire risk profile.

In addition to the above, my testimony provides details on the proposed changes to Tariff Rule 9 related to the schedule and testing requirements of electric and gas meters.

Q. Please summarize your testimony.

A. In my testimony, I first describe the basics of NorthWestern's Vegetation Management Program. I then describe the Hazard Tree Program and the role this program plays in mitigating the risk due to the Mountain Pine Beetle ("MPB") epidemic. I next provide details on how the Hazard Tree Program is evolving due to changing conditions and discuss how the next phase of this program is just one activity of the larger vegetation management component of the Wildfire Plan attached to the Pre-filed Direct Testimony of Gregory F. Bailly. I then further describe at a high

level each vegetation-specific component, related benefit, and estimated incremental cost.

Lastly, I describe the proposed changes to Rule 9 of the respective electric, natural gas, and propane tariff language as related to meter testing.

Enhanced Wildfire Mitigation Plan – Vegetation Management

Q. Mr. Bailly discusses NorthWestern's Wildfire Plan noting that it includes vegetation management. Please describe NorthWestern's Vegetation Management Program.

A. NorthWestern's Vegetation Management Program is designed to manage the vegetation in and along our utility corridors in a safe and reliable manner. A utility corridor includes vegetation within the easement (right-of-way) as well as trees along the easement that are identified as needing corrective action. NorthWestern's program design includes proactive circuit maintenance, internal patrols to identify vegetation issues, and customer notifications of tree issues.

Recognizing the difference between our transmission and distribution systems, NorthWestern establishes specific vegetation management protocols to effectively manage the vegetation within each system. For the distribution system, NorthWestern manages proactive circuit pruning using a two-pronged

approach combining a performance-based model with a standard time-based cycle. Distribution line assessments, performed on approximately half the system per year, piggyback on the resource performing the maintenance inspection to capture observable vegetation exceptions. Lastly, NorthWestern investigates and schedules corrective actions as needed for vegetation-based inquiries from customers.

The transmission vegetation management protocol is similar to distribution, but also includes a compliance component as required per the latest version of the North American Electric Reliability Corporation ("NERC") Standard FAC-003. NorthWestern assesses the entire transmission system annually via aerial assessments to identify immediate vegetation exceptions as well as gain situational awareness for prioritizing transmission segments requiring proactive maintenance. NorthWestern performs a second aerial assessment on lines specifically applicable to NERC Standard FAC-003 at the beginning of summer to confirm those paths are free of vegetation issues as required by the standard.

In addition to the activities described above, related vegetation management responsibilities include the management of weeds in our substations, gate stations, material storage locations, and construction sites. Construction sites also often require re-seeding to establish new compatible vegetation as appropriate.

Q. How does the Vegetation Management Program differ from the Hazard Tree Program authorized in NorthWestern's last electric general rate review?

A. The Vegetation Management Program is a maintenance program to manage the vegetation in and along our utility corridors in a safe and reliable manner. The Vegetation Management Program was designed around managing stable and healthy forests. The Hazard Tree Program is a supplemental program established to combat the extreme vegetation die-off due to the MPB infestation. The number of dead and dying trees along our utility corridors went from a couple of trees to hundreds, and even thousands, of trees that needed to be removed to reduce the likelihood of falling into NorthWestern's facilities.

The Vegetation Management Program did not have the necessary funding to manage this huge increase in dead trees, so the Asset Management team developed a specific initiative to successfully manage this natural occurrence. NorthWestern formally titled this initiative "The Hazard Tree Program" and the funding allowed NorthWestern to proactively manage the structurally compromised pine trees due to the MPB infestation.

Q. Are there any planned changes with the Hazard Tree Program for the future?

A. Yes and no. In regards to funding, no changes are currently anticipated in the short term. However, the original data set used to develop the Hazard Tree Program focused on the MPB infestation. In addition, the availability and accessibility of public data issued by the Montana Department of Natural Resources and Conservation was not as common at that time. Due to these limiting factors, the parameters used to develop the Hazard Tree Program resulted in unintended gaps in managing the entirety of all vegetation risk. As a part of the Wildfire Plan, the Hazard Tree Program is evolving to a more comprehensive strategy to mitigate all at-risk vegetation. This revised strategy, now simply titled "Risk Tree Program", encompasses all the previous factors while folding in a broader data model considering additional risk factors such as terrain, accessibility, vegetation density, wildfire history, and prevailing wind direction, and it places greater importance on operations within the Wildland Urban Interface ("WUI").

So, in summary, the original Hazard Tree Program has evolved and is now referred to as the Risk Tree Program due to the introduction of the above enhancements to protect the system against the changing vegetation risks. In that sense – the program is changing. However, from a funding perspective, the Risk Tree Program works in conjunction with the broader Vegetation Management Program, each providing specific benefits toward reducing known risks. Assuming the implementation of the entire Vegetation Management Program set forth in the Wildfire Plan, the Risk Tree Program

appears to be appropriately funded at current levels given current factors and conditions, and thus from that perspective, the Risk Tree Program's funding is not proposed or recommended to change.

Q. Are there additional initiatives or enhancements to other parts of the Vegetation Management Program as part of the overall Wildfire Plan?

A. Yes. In general, managing the risks associated with vegetation is a key part of all utility wildfire planning initiatives. NorthWestern is no exception. In particular, eight key areas are identified to institute new programs or accelerate/enhance existing programs. Collectively, these program changes provide the additional vegetation hardening to lower NorthWestern's overall risk level. NorthWestern's Wildfire Plan contains the detailed information for all applicable vegetation management components.

Q. Why is the expanded Vegetation Management Program necessary?

A. The original best practices related to utility vegetation management put an emphasis on three main components: public safety (climbable trees), compliance (transmission), and service reliability. This strategy has served NorthWestern well for years. However, our operating environment is much different from yesteryear, both from where our communities are being built to the health of both urban and rural forests. These components are adding to the complexity of an already difficult task surrounding the management of a living organism. Due to this changing operating landscape, the vegetation

management scope within the Wildfire Plan strengthens the existing program while increasing the awareness and focus of risk mitigation for vegetation-related faults.

Q. How will the Vegetation Management Program assist NorthWestern in providing safe and reliable service to customers?

A. NorthWestern has always and will continue to invest as necessary to deliver safe, sustainable energy to our customers. Our delivery system has been remarkably reliable for years, especially given the geographically diverse and challenging terrain and conditions in which we operate. Vegetation management, combined with many other operating and maintenance programs, is a key part of NorthWestern's commitment to serve our customers. As such, NorthWestern is committed to a program improvement process, which continually analyzes vegetation-related needs and implements programs that provide the value our customers expect while maintaining safe and reliable system operations.

Q. What were the costs for NorthWestern's Vegetation Management Program during the 2021 test year and expected for 2022?

A. Table 1 below contains both the 2021 actual cost as well as budgeted costs for 2022 for both transmission and distribution systems as indicated for vegetation management.

Table 1: Vegetation Management

System	2021 Actual	2022 Budgeted
Transmission	$ 2,916,696	$ 1,450,000
Distribution	$ 6,628,735	$ 8,789,377

Q. How much additional funding will be necessary to implement and execute the Vegetation Management component of the Wildfire Plan during its first five years?

A. NorthWestern estimates that this component of the Wildfire Plan will be approximately $47.7 million in operating expenses over the first five years. NorthWestern's proposal for cost recovery of the Wildfire Plan is discussed in detail in the Pre-filed Direct Testimony of Cynthia S. Fang.

Q. Please break down those additional costs.

A. The estimated five-year costs for Vegetation Management can be found in NorthWestern Energy's Enhanced Wildfire Mitigation Plan included as Exhibit GFB-1 attached to the Pre-filed Direct Testimony of Gregory F. Bailly.

Q. Please provide a high-level overview of what those costs will cover.

A. A high-level overview of each of the incremental vegetation components is presented above in Table 1. A detailed description of each of the

incremental vegetation components is detailed within the 'Vegetation Management' section of the Wildfire Plan (see Section 3.4).

Q. How did NorthWestern derive these estimates?

A. The total estimated five-year vegetation management cost in the Wildfire Plan is an aggregate of all the individual vegetation-related components of the plan. Each component of the plan uses varying methods in estimating the expected cost, but the basic cost model uses a historical cost per unit extended to the proposed scope moving forward.

Q. How often does NorthWestern evaluate its Vegetation Management Program?

A. There is not a formal evaluation process for the Vegetation Management Program. However, the absence of a specific formal process does not mean the programs associated with vegetation management are void of evaluation. One of the easiest evaluation factors for effectiveness is reliability-based metrics. While this is a lagging indicator of program performance, it does provide critical data on how the program is performing. It is common for NorthWestern subject matter experts to review system reliability, cost, and work completion data on a quarterly basis for overall situational awareness and program effectiveness.

Q. Please describe the evaluation process.

A. As described above, the Vegetation Management Program was established to provide safe, reliable energy delivery. The dedicated staff at NorthWestern is committed to that mission. In fact, on a macro-level, feedback received from NorthWestern's vegetation coordinators instigated the Company's review and analysis related to what eventually became the Hazard Tree Program. They appropriately raised the awareness level of the changing vegetation risk associated with the MPB infestation. In a more generic evaluation scenario, there is a relatively consistent review of work performed versus cost to complete on a circuit-by-circuit level. NorthWestern compares this data to historical averages to gain awareness of changing conditions and impacts to future scope and budgets.

Tariff Rule 9

Q. What proposed tariff changes are you supporting in this docket?

A. I support the changes to Section 9-5 for Tariff Rule 9 for Electric, Natural Gas, and Propane.

Q. Please explain the proposed changes to Electric Tariff Rule 9, including the reason for the proposed changes.

A. NorthWestern proposes to remove most of the details of the testing program that is currently contained in Section 9-5 B and instead refer to NorthWestern's Electric Meter Testing Program. Having this much detail

within the rule hinders the ability to react to changes in industry standards, industry best practices, changes in metering equipment, and program changes that may be in the best interest of all stakeholders, customers, regulators, and NorthWestern. As the rule exists today, even the smallest of change or adjustment by the industry may be out of compliance with the rule. NorthWestern's Electric Meter Testing Program document is available upon request. NorthWestern's proposed redlined changes to Electric Tariff Rule 9 are in Exhibit NPL-1.

Q. Please identify the proposed changes to the Natural Gas Tariff Rule 9, including the reason for the proposed changes.

A. NorthWestern proposes to remove most of the details of the testing program that is currently contained in Section 9-5 B and instead refer to NorthWestern's Gas Meter Testing Program. Similar to the electric tariff rule, having this much detail within the rule hinders the ability to react to changes in industry standards, industry best practices, changes in metering equipment, and program changes that may be in the best interest of all stakeholders, customers, regulators, and NorthWestern. NorthWestern's Gas Meter Testing Program document is available upon request. NorthWestern's proposed redlined changes to Natural Gas Tariff Rule 9 are in Exhibit NPL-2.

Q. Please identify the proposed changes to the Propane Tariff Rule 9, including the reason for the proposed changes.

A. NorthWestern's proposed changes to the Propane Rule 9 are the same as those are articulated for the Natural Gas Rule 9 above. NorthWestern's proposed redlined changes to Propane Tariff Rule 9 are in Exhibit NPL-3.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

This Pre-filed Direct Testimony of Nathaniel P. Linder is true and accurate to the best of my knowledge, information, and belief.

/s/ Nathaniel P. Linder
Nathaniel P. Linder