BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Joint Application of Wisconsin Electric Power Company and Wisconsin Gas LLC for Authority to Adjust Electric, Natural Gas, and Steam Rates — Docket No. 5-UR-111

DIRECT TESTIMONY OF STEVEN A. PECHA

Q. Please state your name, business address and title.

A. My name is Steven A. Pecha. My business address is 333 West Everett Street, Milwaukee, WI 53203. I am employed as the Manager of Electric Distribution, Reliability, Planning and Asset Management at Wisconsin Electric Power Company ("Wisconsin Electric").

Q. Please describe your educational background and professional experience.

A. I have been employed by Wisconsin Electric since June 1991. I graduated from the University of Wisconsin-Madison with a Bachelor of Science Degree in Electrical Engineering and Computer Engineering Option in 1991. During my career with Wisconsin Electric, I have provided engineering services in various capacities, but the majority of my career has been in the distribution planning area. From April 1999 to December 2008, I was a Supervising Engineer of Distribution Planning Development and was responsible for network modeling and load analysis tools, distribution planning work procedures, and engineering support to the Electric Distribution Control Center and Electric System Operations. Since January 2009, my principal responsibilities have included the

development and implementation of strategic electric distribution system infrastructure projects that support reliability and life-cycle replacements of the distribution system. I am a registered Professional Engineer in the State of Wisconsin.

Q. Have you previously testified before the Public Service Commission of Wisconsin ("Commission")?

A. Yes. I testified most recently in Wisconsin Electric's and Wisconsin Gas's test year 2023 rate case and associated limited re-opener for 2024 in Docket No. 5-UR-110. I also testified before the Commission in Docket 5-CE-139, the Joint Application of Wisconsin Electric Power Company, as an Electric Public Utility, for Authority to Construct a New Distribution Substation and Related Electric Distribution Facilities in the City of Wauwatosa and American Transmission Company, LLC, as an Electric Public Utility, for Authority to Construct Related 138 kV Electric Transmission Facilities in the Cities of Milwaukee and Wauwatosa, all in Milwaukee County, Wisconsin (the Western Milwaukee County Electric Reliability Project).

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

A. In my direct testimony for our test year 2023 case and the limited re-opener, I explained how Wisconsin Electric plans to invest over a ten-year period in "hardening" or improving the reliability and resiliency of its distribution system against the impact of severe storms (the "Storm Hardening Program"). At a high level, the Storm Hardening Program consists of undergrounding approximately

600 miles of overhead distribution lines in various areas of Wisconsin Electric's service territory; adding equipment that allows us to isolate outages; and increasing the automation of our distribution system. We anticipate the Storm Hardening Program will significantly reduce outages for Wisconsin Electric's customers, and substantially increase the resiliency of Wisconsin Electric's distribution system.

The purpose of this testimony is to:

- Describe the Storm Hardening Program work planned for test years 2025 and 2026 for which the Company seeks recovery; and
- Update the Commission on the additional funding opportunities the Company has pursued.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes. I am sponsoring the following exhibits:

- Ex.-WEPCO WG-Pecha-1 contains maps of Wisconsin Electric's Storm Hardening Program project areas for 2025. The maps show where the undergrounding projects are located and where the sectionalizing and automation work is located.
- Ex.-WEPCO WG-Pecha-2 is a list of proposed projects for 2025.

I. Background

Q. Why is Wisconsin Electric pursuing the Storm Hardening Program?

A. As indicated in my testimony in Docekt 5-UR-110, more than one quarter of Wisconsin Electric's overhead distribution system is over 50 years old and approaching the end of its design life, making it more susceptible to significant damage during severe weather events. Significant storms have recently increased in their frequency, intensity, and breadth (affecting more areas). The more severe and widespread a storm's damage is, often the more time it takes to restore service to the impacted customers. When severe thunderstorms rolled through Wisconsin Electric's service territory on August 10, 2021, fallen trees and limbs damaged overhead conductors, wood poles, and transformers, and caused 200,000 customer outages which at the time, was the most significant storm event in the Company's modern history. Due to the severity and extent of damage, it took Wisconsin Electric until August 14, 2021 to complete all necessary restoration work (including mutual assistance that aided internal company and contractor crews with storm restoration efforts).

An even more impactful storm occurred on January 12 of this year. Over 233,000 customers experienced a power outage caused by heavy winds, fallen trees, broken tree limbs, ice, and wet snow, which took down power lines and damaged other equipment. These outages were particularly concerning to the Company because they were followed by a drop in temperatures across the Company's service area. It cost approximately $9.5 million and took the

Company four days to restore power to all affected customers, despite non-stop efforts by it, Wisconsin Public Service Corporation, and contract partners across Wisconsin and the Midwest. In the past five years alone (since 2019) Wisconsin Electric has experienced a severe weather event eight times compared to only six severe weather events in the previous 43 years (1976-2019). These severe weather events are impacting customers. As seen in the charts below, the Company's reliability metrics have been regressing from 2013 – 2022 with the trend projected to continue on that path into the future if left unaddressed. The first figure shows the System Average Interruption Frequency Index ("SAIFI"), which measures interruptions per customer. The higher the measure, the more times, on average a customer is interrupted during the reporting period. The second figure shows the System Average Interruption Duration Index ("SAIDI"), which measures total sustained interruption duration for the average customer. The higher the measure, the longer the total duration of sustained outages, on average for a customer during the reporting period.

Figure 1: Wisconsin Electric SAIFI History (2013 – 2022) and Trend to 2025

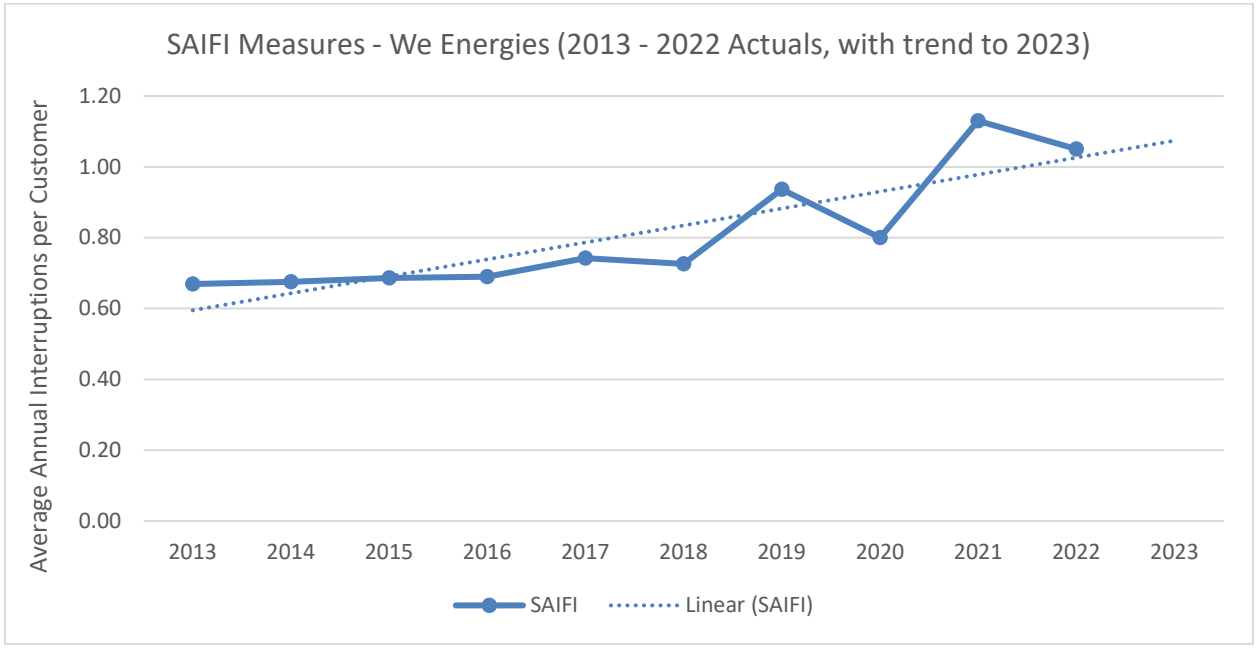
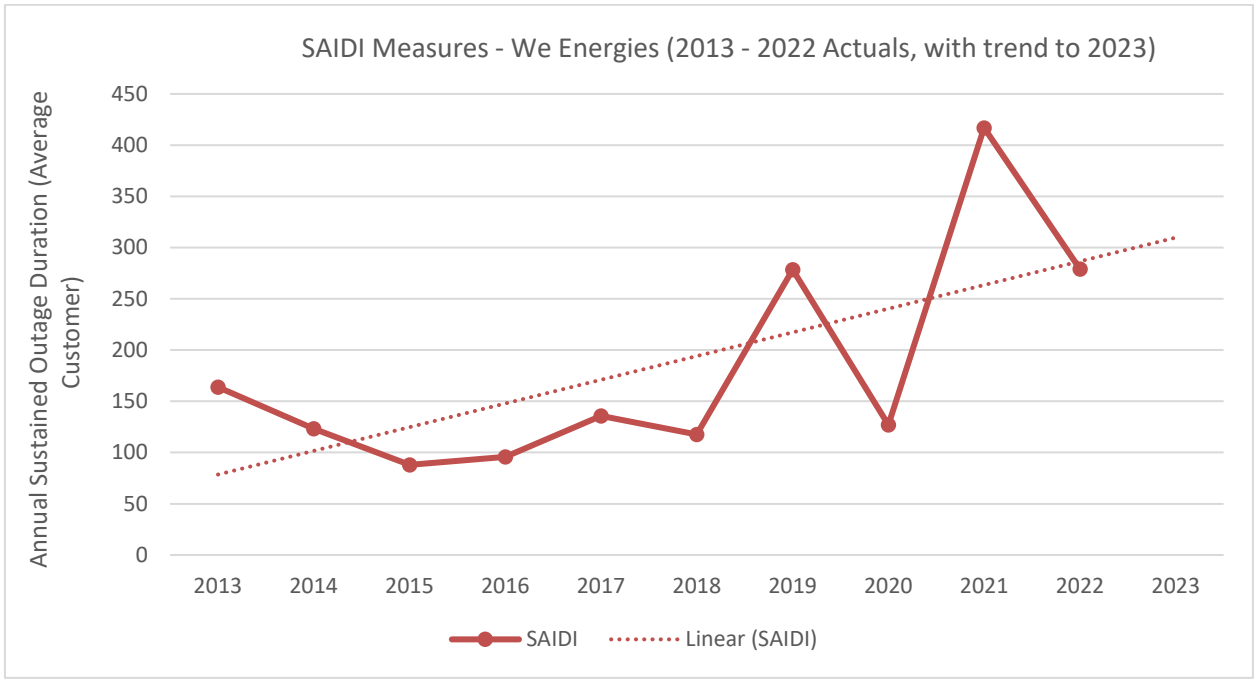


Figure 2: Wisconsin Electric SAIDI History (2013 – 2022) and Trend to 2025



As a reminder, the Storm Hardening Program consists of many projects and three main categories of work: undergrounding, sectionalizing and automation. As each project is completed, Wisconsin Electric's customers should be better protected from experiencing a future event of this magnitude caused by severe weather.

Q. How will the Storm Hardening Program improve Wisconsin Electric's distribution system?

A. The Storm Hardening Program will improve the reliability and resiliency of some of the most vulnerable sections of Wisconsin Electric's distribution system. Undergrounding will help prevent outages due to weather and fallen trees and tree limbs while sectionalizing and automating the system will help mitigate outages by isolating faults, limiting the damage caused by each fault, and reconfiguring the system to quickly restore service following interruptions. Wisconsin Electric expects the Program to reduce:

- Total restoration times due to severe weather by 20-25 percent;
- Minutes of customer interruption by approximately 80 percent in project areas where distribution lines are undergrounded and distribution automation is deployed; and
- Line clearance maintenance costs and outages due to fallen trees and tree limbs.

Q. What Storm Hardening Program work does Wisconsin Electric have planned for 2025?

A. Wisconsin Electric anticipates completing 31 overhead to underground projects in 2025. Wisconsin Electric also anticipates completing 56 sectionalizing and automation projects in 2025. See Ex.-WEPCO_WG-Pecha-1 and Ex.-WEPCO_WG-Pecha-2.

Q. How were these projects selected?

A. The Storm Hardening projects for 2025 were developed and prioritized based on several factors that consider the historical reliability performance of the area served, overhead equipment assessment, impacts to customers, constructability, future plans for the area, short- and long-term alternatives, and budgetary requirements. Projects are ranked using a process in which project specific problem attributes and solutions are compared by a team of system planning engineers under the guidance of engineering supervisors. System planning engineers use the following criteria as part of the process for undergrounding projects: brief description of system needs addressed, number of customers impacted, overhead miles removed, outages per year per mile in the project area, existing asset age and condition, and number of times the feeder has been on the list of worst performing circuits in the last three years. System planning engineers use the following criteria as part of the process for sectionalizing and automation projects: brief description of system needs addressed, number of customers impacted, number of devices installed, and number of times the feeder has been on the list of worst performing circuits in the last three years.

Q. How much does Wisconsin Electric anticipate spending on test year 2025 projects?

A. Wisconsin Electric anticipates spending approximately $50 million in 2025. Approximately $40 million will be invested in overhead to underground projects, and $10 million will be invested in sectionalizing and automation projects.

Q. What work does Wisconsin Electric currently have planned for 2026?

A. Storm Hardening projects for 2026 will be selected in the fourth quarter of 2024. Wisconsin Electric anticipates spending approximately $56 million on the 2026 Storm Hardening Program. Approximately $46 million will be invested in overhead to underground projects, and $10 million will be invested in sectionalizing and automation projects.

Q. What benefits has Wisconsin Electric observed from previous overhead to underground projects?

A. Empirical data from previous overhead to underground projects in the We Energies service territory has shown SAIDI improvements ranging from 85% to 97%. Wisconsin Electric anticipates similar results for the 2025 Storm Hardening overhead to underground projects.

II. *Funding Opportunities*

Q. Is Wisconsin Electric continuing to pursue any funding to reduce customer costs for the Storm Hardening Program?

A. Yes, the company is continuing to pursue funding opportunities. As part of the Bipartisan Infrastructure Law, the Grid Deployment Office is administering the

Grid Resilience and Innovation Partnership (GRIP) Program to enhance grid flexibility and improve the resilience of the power system against growing threats of extreme weather and climate change. In the first round of funding, Wisconsin Electric applied for a grant which would have funded components of its storm hardening program, and cable and wood pole replacements, as well as a related program focused on reducing vegetation related customer outages. Wisconsin Electric was notified in October 2023 that it did not receive an award. In January 2024, Wisconsin Electric submitted a concept paper for another grant under the GRIP Program. Wisconsin Electric's proposal seeks $50 million in matching grant funds to accelerate rebuild and conversion of lower primary voltage distribution facilities in urban communities in its southeast Wisconsin service area. Wisconsin Electric received a letter of encouragement from the Department of Energy (DOE) in February 2024 and is in the process of submitting a full application by April 17, 2024.

Concurrently, Wisconsin Electric, as part of WEC Energy Group, submitted a concept paper seeking $50 million in matching grant funds through the GRIP Program to support implementation of an enterprise Electric Operations Technology Consolidation and Modernization project ("EOT-CM"). The EOT-CM project replaces multiple energy and outage management systems (software) that is over twenty-five years old. The systems included in the EOT-CM project are used by operators of the electri grid/distribution system to ensure reliable service and timely restore customers after outages. The EOT-CM project

includes a Distributed Energy Resource Management System which enables the reliable management of distribution connected solar generation and electric vehicles. The company received encouragement from the DOE in February 2024 to submit a full application for the proposed Smart Grid grant project by May 22, 2024.

Q. Does this conclude your direct testimony?

A. Yes.