

Before the Public Service Commission
of
The State of North Dakota

In the Matter of the Application of
BASIN ELECTRIC POWER COOPERATIVE

for a

Certificate of Site Compatibility
for the
Pioneer Generation Station Phase IV Project

Case No. PU-22-380

Pre-filed Testimony

of

Benjamin Hertz

1 Q. **Please state your name, address, and occupation.**
2 A. My name is Benjamin Hertz. My business address is 1717 East Interstate Avenue,
3 Bismarck, North Dakota. I am employed by Basin Electric Power Cooperative (**Basin**
4 **Electric**) as the Manager of Power Supply Planning.

5
6 Q. **Please state your educational background and professional experience.**
7 A. I earned a Bachelor's of Science degree in Mechanical Engineering from North
8 Dakota State University in 2006. I am a professional engineer, registered in North
9 Dakota. I have worked for Basin Electric since 2014 in engineering roles and currently
10 as the Manager of Power Supply Planning.

11
12 Q. **What are your responsibilities in connection with the Pioneer Generation**
13 **Station Phase IV Project (Project)?**

14 A. I am responsible for identifying the need for additional generation. Through Basin
15 Electric's load forecasting process and subsequent evaluation of the cooperative's
16 ability to meet its load obligations to its members, Basin Electric identified the need for
17 additional generation.

18
19 Q. **What is Basin Electric's commitment to North Dakota consumers regarding**
20 **their electric power supply?**

21 A. Basin Electric is contractually required to meet all of the additional power
22 requirements of its rural electric member cooperatives above their allocation from the
23 Western Area Power Administration (**WAPA**).

24
25 Q. **How did Basin Electric determine the need for the Project?**

26 A. The need for the Project was determined through Basin Electric's load forecasting and
27 power supply planning process.

28
29 Q. **Please describe the results of the most recent load forecast and power supply**
30 **planning process.**

31 A. Basin Electric's 2022 Load Forecast was approved by the Basin Electric Board of
32 Directors in January 2022. The 2022 Load Forecast was developed in conjunction
33 with each of Basin Electric's Class A and Class C members. The subsequent power

1 supply planning process compared the results of the 2022 Load Forecast to Basin
2 Electric's existing generation fleet and power purchase agreements. The difference in
3 the load forecast plus losses and reserves, and existing and committed generating
4 resources define the load and capability of the Basin Electric system. Capacity
5 deficiencies or surpluses are determined on this basis. As a result of the power supply
6 planning process, it became apparent that Basin Electric needed to secure additional
7 resources in the Southwest Power Pool (**SPP**) region to meet the growing demand
8 and provide an adequate supply of electrical power for the membership.

9
10 Q. **Did Basin Electric consider alternative solutions to the increased need for**
11 **generation?**

12 A. Yes.

13
14 Q. **Why did Basin Electric choose the natural gas reciprocating engines and F-**
15 **Class Simple Cycle Combustion Turbines (F-Class Combustion Turbines) to**
16 **serve this need?**

17 A. Basin Electric considered a number of demand-side and supply-side resource
18 alternatives as a means of meeting the needs of the membership. To evaluate power
19 purchase opportunities, Basin Electric released a Requests for Proposal (**RFP**) for
20 resources in the Upper Missouri Zone of SPP in December of 2021. For self-build
21 options, Basin Electric hired an engineering firm to provide a Technology Assessment
22 Study to evaluate updated pricing and performance characteristics of new resource
23 options.

24
25 Through an evaluation of these alternatives, Basin Electric selected the natural gas
26 reciprocating internal combustion engines (**RICE**) which offer a high degree of
27 operational flexibility and F-Class Simple Cycle Combustion Turbines which offer cost-
28 effective installed capacity. Additionally, Basin Electric has entered into a power
29 purchase agreement for 200 MW of wind energy within the Upper Missouri Zone and
30 a number of short term capacity purchases over next three years. Overall, these
31 diversified resource additions will provide capacity and energy necessary to serve
32 member load, and also demonstrates Basin's commitment to an all-of-the-above
33 energy strategy.

34

- 1 Q. **How will this unit be dispatched and what is the time frame for that dispatch?**
- 2 A. These units will be dispatched based on market conditions and local area reliability
3 needed to support the Bakken area. The plant will be notified by the Southwest Power
4 Pool (**SPP**) that the units are needed to operate and provided a time for when they
5 need to be at a specified generation level. These units are capable of being online
6 and generating electricity within about 20 minutes.
7
- 8 Q. **How does this Project support the reliability of the electrical system in this area
9 of northwestern North Dakota and eastern Montana?**
- 10 A. This Project, as well as the Culbertson Generation Station and Lonesome Creek
11 Station, will provide local generation in the event of transmission line outages. This
12 generation is needed to support electric load growth within the Bakken area.
13
- 14 Q. **Besides the Project, what else is Basin Electric doing to meet electrical demand
15 throughout Basin Electric's footprint?**
- 16 A. In addition to the Project, Basin Electric has committed to \$470 million of transmission
17 system upgrades over the next several years to support Bakken area load growth.
18 These projects were approved as part of SPP's Integrated Transmission Plan.
19
- 20 Q. **Will the Project affect Basin Electric's members' rates?**
- 21 A. No, the Project is included in the current financial forecast which does not include a
22 rate increase for Basin Electric's members.
23
- 24 Q. **Does the Project ensure that the capacity and energy needs of the area will be
25 fulfilled in an orderly and timely fashion?**
- 26 A. Yes. The project schedule supports the need to bring online additional generation
27 resources in 2025 and 2026, consistent with the needs identified in the 2022 Load
28 Forecast.
29
- 30 Q. **Will the Project benefit the area through which Basin Electric is proposing to
31 construct?**
- 32 A. Yes. The Project will provide a direct benefit to the area by allowing for reliable service
33 to area consumers. The Project will serve needed capacity to meet Basin Electric's
34 membership obligations.

1 Q. **Are there any plans for expansion of this Project?**

2 A. No but if the need for additional generation were to arise in the future, the site is large
3 enough for further expansion.

4

5 Q. **Does this conclude your direct testimony?**

6 A. Yes.