

Confidential per WAC 480-07-160
Exh. TJH-1CT_r
Docket UE-23—0172
Witness: Timothy J. Hemstreet

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

PACIFICORP dba
PACIFIC POWER & LIGHT COMPANY

Respondent.

Docket UE-23—0172

PACIFICORP

REDACTED DIRECT TESTIMONY OF TIMOTHY J. HEMSTREET

March 2023REVISED April 4, 2023

1 information to model the expected generation from the Repowered Facilities. The
2 wind model also evaluated generation losses resulting from the wake losses at each
3 turbine location. Wake losses are the reduction in generation at turbines downwind of
4 other turbines due to reduced wind speed and increased turbulence in the airflow—or
5 wake—behind a turbine. At Foote Creek II-IV, the estimated annual energy
6 production from the 11 new turbines is expected to be [REDACTED] gigawatt-hours (GWh),
7 resulting in a high net capacity factor of [REDACTED] percent. An additional [REDACTED] GWh per year
8 is expected to be produced as a result of interconnecting a previously constructed 2.0
9 MW turbine at Foote Creek I to the Foote Creek II interconnection as part of the
10 Project. At Rock River I, the estimated annual energy production of the facility is
11 expected to be [REDACTED] GWh after repowering, resulting in a high net capacity factor of
12 [REDACTED] percent. In total, the repowered Projects will produce an amount of energy used by
13 nearly 42,000 homes. The technical analysis documenting the expected generation
14 from the Repowered Facilities is provided in Confidential Exhibit TJH-4C and
15 Confidential Exhibit TJH-5C.

16 **VII. REVIEW OF WIND REPOWERING PROJECTS IN THE 2021 IRP**

17 **Q. Were the Repowered Facilities reviewed as part of the Company's 2021 IRP?**

18 A. Yes. The Repowered Facilities were made available as a potential resource that could
19 meet customer energy and capacity needs in the model used to develop the
20 Company's 2021 IRP.⁵ Because the resources were beneficial to customers, they were
21 included in the Company's least-cost, least-risk preferred portfolio.

⁵ *In re PacifiCorp 2021 Integrated Resource Plan*, at 295 (available [here](https://www.pacificorp.com/energy/integrated-resource-plan.html)
<https://www.pacificorp.com/energy/integrated-resource-plan.html>).

Confidential per WAC 480-07-160
Exh. TJH-1CTr
Docket UE-230172
Witness: Timothy J. Hemstreet

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

PACIFICORP dba
PACIFIC POWER & LIGHT COMPANY

Respondent.

Docket UE-230172

PACIFICORP

REDACTED DIRECT TESTIMONY OF TIMOTHY J. HEMSTREET

REVISED April 4, 2023

1 information to model the expected generation from the Repowered Facilities. The
2 wind model also evaluated generation losses resulting from the wake losses at each
3 turbine location. Wake losses are the reduction in generation at turbines downwind of
4 other turbines due to reduced wind speed and increased turbulence in the airflow—or
5 wake—behind a turbine. At Foote Creek II-IV, the estimated annual energy
6 production from the 11 new turbines is expected to be [REDACTED] gigawatt-hours (GWh),
7 resulting in a high net capacity factor of [REDACTED] percent. An additional [REDACTED] GWh per year
8 is expected to be produced as a result of interconnecting a previously constructed 2.0
9 MW turbine at Foote Creek I to the Foote Creek II interconnection as part of the
10 Project. At Rock River I, the estimated annual energy production of the facility is
11 expected to be [REDACTED] GWh after repowering, resulting in a high net capacity factor of
12 [REDACTED] percent. In total, the repowered Projects will produce an amount of energy used by
13 nearly 42,000 homes. The technical analysis documenting the expected generation
14 from the Repowered Facilities is provided in Confidential Exhibit TJH-4C and
15 Confidential Exhibit TJH-5C.

16 VII. REVIEW OF WIND REPOWERING PROJECTS IN THE 2021 IRP

- 17 **Q. Were the Repowered Facilities reviewed as part of the Company's 2021 IRP?**
- 18 A. Yes. The Repowered Facilities were made available as a potential resource that could
19 meet customer energy and capacity needs in the model used to develop the
20 Company's 2021 IRP.⁵ Because the resources were beneficial to customers, they were
21 included in the Company's least-cost, least-risk preferred portfolio.

⁵ *In re PacifiCorp 2021 Integrated Resource Plan*, at 295 (<https://www.pacificorp.com/energy/integrated-resource-plan.html>).