

Confidential Per WAC 480-07-160
Exh. RDM-1CT_r
Docket UE-23—0172
Witness: Ryan D. McGraw

**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 RYAN D. MCGRAW

~~March 2023~~ REVISED April 4, 2023

TABLE OF CONTENTS

I. QUALIFICATIONS 1

II. PURPOSE OF TESTIMONY..... 1

III. GENERAL DESCRIPTION OF THE ROCK CREEK PROJECTS..... 2

IV. DEVELOPMENT AND STATUS OF THE ROCK CREEK PROJECTS 4

V. COSTS OF THE ROCK CREEK PROJECTS 9

VI. CONCLUSION AND RECOMMENDATION..... 11

ATTACHED EXHIBITS

Exhibit No. RDM-2C Energy Yield Assessment for Rock Creek

Exhibit No. RDM-3HC Rock Creek I and II Build-Transfer Agreement

Exhibit No. RDM-4C Rock Creek I Large Generator Interconnection Agreement

Exhibit No. RDM-5C Rock Creek II Large Generator Interconnection Agreement

1 County at 230-kilovolts (kV) for Rock Creek I, and the existing Aeolus substation in
2 Carbon County at 230-kV for Rock Creek II. Both Rock Creek I and Rock Creek II
3 are in Carbon and Albany counties in southeast Wyoming on a combined total of
4 approximately 47,000 acres of private and state-owned lands.

5 **Q. Have preliminary evaluations of the wind potential been performed for the Rock**
6 **Creek Projects?**

7 A. Yes. Studies completed by Invenenergy indicate that the Rock Creek I and Rock
8 Creek II sites are suitable for wind facilities.¹ Moreover, the sites are adjacent to the
9 Company's existing High Plains/McFadden Ridge and Foote Creek wind facilities.
10 Wind data collected from existing operations and the area of the project indicate that
11 these sites have favorable wind regimes suitable for high performance wind
12 resources.

13 **Q. What are the expected operational lives of the Rock Creek Projects?**

14 A. The Rock Creek Projects have anticipated operational lives of 30 years, which aligns
15 with the Company's currently approved depreciable life for wind resources.

16 **Q. Has the Company received certificates of public convenience and necessity**
17 **(CPCN) for the Rock Creek Projects?**

18 A. Yes. The Company filed a CPCN application with the Wyoming Public Service
19 Commission (Wyoming Commission) in August, and the Wyoming Commission
20 approved the application during public deliberations held on February 28, 2023.²

¹ Exhibit No. RDM-2C Energy Yield Assessment for Rock Creek

² Docket No. 20000-623-EN-22, Record No. 17154. This application was approved during deliberations; the written order is not yet available. The public deliberations can be listened to via <https://psc.wyo.gov/calendar/audio-recordings>.

1 **IV. DEVELOPMENT AND STATUS OF THE ROCK CREEK PROJECTS**

2 **Q. What is the current development status of the Rock Creek Projects?**

3 A. The Rock Creek Projects are in the advanced stages of development. Invenergy, as
4 the project developer, has undertaken multiple years of wind resource analysis and
5 substantial wildlife and environmental analyses. Invenergy also has significant
6 amounts of land under control to host the necessary facilities, signed interconnection
7 agreements, and approved conditional use permits in Carbon and Albany Counties.
8 Invenergy is responsible for the final development and construction of the project in
9 accordance with all permitting and technical requirements.

10 **Q. Has PacifiCorp conducted due diligence to confirm the development status of the**
11 **Rock Creek Projects?**

12 A. Yes. As part of the 2020AS RFP and throughout the subsequent negotiations with
13 Invenergy, PacifiCorp has conducted due diligence to confirm the on-time
14 development of various items including interconnection status, wind resource
15 performance, production tax credit (PTC) eligibility, site control, permitting status,
16 and conformance to technical specifications. This due diligence informed the
17 Company's negotiations with Invenergy on the scope, schedule, cost, and other terms
18 to establish mutually agreeable BTAs.

19 **Q. Has the Company executed BTA's for the Rock Creek Projects?**

20 A. Yes. The Company and Invenergy executed arm's-length binding BTAs for Rock
21 Creek I and Rock Creek II on February 28, 2023, that includes provisions for the
22 supply of WTGs and service for construction of the balance of plant, and managing
23 the complete construction of the Rock Creek Projects. See Exhibit No. RDM-3HC.

1 February 28, 2023. Invenergy has also been collaborating with the U.S. Fish and
2 Wildlife Service in developing and implementing the project. Rock Creek remains
3 on-track for completion and an in-service date of December 2024 and September
4 2025 for Rock Creek I and Rock Creek II, respectively.³

5 **V. COSTS OF THE ROCK CREEK PROJECTS**

6 **Q. What is the estimated capital cost for the Rock Creek Projects?**

7 A. The estimated capital costs for the Rock Creek Projects are [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED].

11 Company witness Sherona L. Cheung’s direct testimony discusses these costs for
12 Washington rates in more detail.

13 **Q. How did the Company estimate construction and operations and maintenance
14 (O&M) costs for the Rock Creek Projects?**

15 A. Project costs are based on negotiations with Invenergy. Interconnection costs were
16 informed by the cost estimates included in each Wind Project’s executed Large
17 Generator Interconnection Agreement (LGIA), the provisional LGIA for Rock
18 Creek II, and the interconnection studies that informed the interconnection

³ See, e.g., *Carbon County Conditional Use Permit – Resolution No. 2021-41, Wyoming County Clerk, Book 1381, p. 50* (November 16th, 2021); *Albany County Conditional Use Permit – WEC-01-21 (January 18th, 2022; to be recorded); Wyoming Department of Environmental Quality, Industrial Siting Council - Industrial Siting Permit - Docket No. DEQ/ISC 21-07* (April 15th, 2022); *Department of the Air Force, Siting and Mitigation Agreement for Rock Creek Wind Project in Rock River, WY* (February 18th, 2021); *Department of Defense, Mitigation Response Team Letter of No Adverse Impact* (February 24th, 2021); *Carbon County Road Use Agreement, approved by Carbon County Board of County Commissioners* (November 28th, 2022); *Albany County Road Use Agreement, approved by the Albany County Board of County Commissioners* (January 3rd, 2023); *Wyoming Department of Transportation Road Use Agreement, approved and executed by the Transportation Commission of Wyoming and the Wyoming Department of Transportation Chief Engineer* (January 10th, 2023).

1 agreements.⁴ The Company’s costs for engineering, legal, internal project
2 management, and allowance for funds used during construction were estimated based
3 on the Company’s experience with development and construction of past wind
4 facilities. O&M cost estimates were developed based on the Company’s experience
5 with wind resource O&M budgets and third-party contracts for the Company’s
6 existing wind facilities.

7 **Q. Will Rock Creek qualify for federal PTCs?**

8 A. Yes. Under the Inflation Reduction Act (IRA), the Company believes that Rock
9 Creek qualify for 100 percent of the PTC available for projects placed into service
10 after 2021. For projects placed in service after 2022, the IRA also provides for an
11 additional 10 percent bonus credit if the project is located in an “energy community.”
12 This definition includes census tracts, or any directly adjoining census tracts, in which
13 (1) after 1999 a coal mine has closed, or (2) after 2009 a coal-fired electric generating
14 unit has been retired. The Company understands that the Rock Creek Projects satisfy
15 this definition.

16 With an expected in-service date of 2024 for Rock Creek I and 2025 for Rock
17 Creek II, the Company expects the Rock Creek Projects to qualify for a PTC equal to
18 110 percent of the full credit available. This credit will be returned to customers in the
19 Company’s annual Power Cost Adjustment Mechanism filing.

20 **Q. Did the Company assess the customer benefits provided by the Rock Creek**
21 **Projects?**

⁴ Exhibit No. RDM-4C Rock Creek I Large Generator Interconnection Agreement; Exhibit No. RDM-5C Rock Creek II Large Generator Interconnection Agreement

1 A. Company witness Burns provides a detailed description of the Company's customer
2 benefits assessment in his testimony. The methodology used to perform the economic
3 analysis of the Rock Creek Projects is consistent with the methodology used to
4 perform the economic analysis from the Wyoming CPCN application. The economic
5 analysis reflects significant benefits from the acquisition of the Rock Creek I and
6 Rock Creek II Wind Projects.

7 **VI. CONCLUSION AND RECOMMENDATION**

8 **Q. Please summarize your testimony.**

9 A. The Company successfully negotiated BTAs with Invenergy that prudently manages
10 risks, mitigates costs, allows effective oversight, and ensures that the Rock Creek
11 Projects remain on schedule. The Rock Creek Projects will provide significant
12 benefits to Washington customers, and I recommend the Commission approve the
13 inclusion of these facilities in the Company's retail rates as prudent.

14 **Q. Does this complete your direct testimony?**

15 A. Yes.

Confidential Per WAC 480-07-160
Exh. RDM-1CTr
Docket UE-230172
Witness: Ryan D. McGraw

**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 RYAN D. MCGRAW

REVISED April 4, 2023

TABLE OF CONTENTS

I. QUALIFICATIONS 1

II. PURPOSE OF TESTIMONY..... 1

III. GENERAL DESCRIPTION OF THE ROCK CREEK PROJECTS..... 2

IV. DEVELOPMENT AND STATUS OF THE ROCK CREEK PROJECTS 4

V. COSTS OF THE ROCK CREEK PROJECTS 9

VI. CONCLUSION AND RECOMMENDATION..... 11

ATTACHED EXHIBITS

- Exhibit No. RDM-2C Energy Yield Assessment for Rock Creek
- Exhibit No. RDM-3HC Rock Creek I and II Build-Transfer Agreement
- Exhibit No. RDM-4C Rock Creek I Large Generator Interconnection Agreement
- Exhibit No. RDM-5C Rock Creek II Large Generator Interconnection Agreement

1 County at 230-kilovolts (kV) for Rock Creek I, and the existing Aeolus substation in
2 Carbon County at 230-kV for Rock Creek II. Both Rock Creek I and Rock Creek II
3 are in Carbon and Albany counties in southeast Wyoming on a combined total of
4 approximately 47,000 acres of private and state-owned lands.

5 **Q. Have preliminary evaluations of the wind potential been performed for the Rock**
6 **Creek Projects?**

7 A. Yes. Studies completed by Invenenergy indicate that the Rock Creek I and Rock
8 Creek II sites are suitable for wind facilities.¹ Moreover, the sites are adjacent to the
9 Company's existing High Plains/McFadden Ridge and Foote Creek wind facilities.
10 Wind data collected from existing operations and the area of the project indicate that
11 these sites have favorable wind regimes suitable for high performance wind
12 resources.

13 **Q. What are the expected operational lives of the Rock Creek Projects?**

14 A. The Rock Creek Projects have anticipated operational lives of 30 years, which aligns
15 with the Company's currently approved depreciable life for wind resources.

16 **Q. Has the Company received certificates of public convenience and necessity**
17 **(CPCN) for the Rock Creek Projects?**

18 A. Yes. The Company filed a CPCN application with the Wyoming Public Service
19 Commission (Wyoming Commission) in August, and the Wyoming Commission
20 approved the application during public deliberations held on February 28, 2023.²

¹ Exhibit No. RDM-2C Energy Yield Assessment for Rock Creek.

² Docket No. 20000-623-EN-22, Record No. 17154. This application was approved during deliberations; the written order is not yet available. The public deliberations can be listened to via <https://psc.wyo.gov/calendar/audio-recordings>.

1 **IV. DEVELOPMENT AND STATUS OF THE ROCK CREEK PROJECTS**

2 **Q. What is the current development status of the Rock Creek Projects?**

3 A. The Rock Creek Projects are in the advanced stages of development. Invenergy, as
4 the project developer, has undertaken multiple years of wind resource analysis and
5 substantial wildlife and environmental analyses. Invenergy also has significant
6 amounts of land under control to host the necessary facilities, signed interconnection
7 agreements, and approved conditional use permits in Carbon and Albany Counties.
8 Invenergy is responsible for the final development and construction of the project in
9 accordance with all permitting and technical requirements.

10 **Q. Has PacifiCorp conducted due diligence to confirm the development status of the**
11 **Rock Creek Projects?**

12 A. Yes. As part of the 2020AS RFP and throughout the subsequent negotiations with
13 Invenergy, PacifiCorp has conducted due diligence to confirm the on-time
14 development of various items including interconnection status, wind resource
15 performance, production tax credit (PTC) eligibility, site control, permitting status,
16 and conformance to technical specifications. This due diligence informed the
17 Company's negotiations with Invenergy on the scope, schedule, cost, and other terms
18 to establish mutually agreeable BTAs.

19 **Q. Has the Company executed BTA's for the Rock Creek Projects?**

20 A. Yes. The Company and Invenergy executed arm's-length binding BTAs for Rock
21 Creek I and Rock Creek II on February 28, 2023, that includes provisions for the
22 supply of WTGs and service for construction of the balance of plant, and managing
23 the complete construction of the Rock Creek Projects. See Exhibit No. RDM-3HC.

1 February 28, 2023. Invenergy has also been collaborating with the U.S. Fish and
2 Wildlife Service in developing and implementing the project. Rock Creek remains
3 on-track for completion and an in-service date of December 2024 and September
4 2025 for Rock Creek I and Rock Creek II, respectively.³

5 **V. COSTS OF THE ROCK CREEK PROJECTS**

6 **Q. What is the estimated capital cost for the Rock Creek Projects?**

7 A. The estimated capital costs for the Rock Creek Projects are [REDACTED]

8 [REDACTED]
9 [REDACTED]
10 [REDACTED]

11 Company witness Sherona L. Cheung’s direct testimony discusses these costs for
12 Washington rates in more detail.

13 **Q. How did the Company estimate construction and operations and maintenance
14 (O&M) costs for the Rock Creek Projects?**

15 A. Project costs are based on negotiations with Invenergy. Interconnection costs were
16 informed by the cost estimates included in each Wind Project’s executed Large
17 Generator Interconnection Agreement (LGIA), the provisional LGIA for Rock
18 Creek II, and the interconnection studies that informed the interconnection

³ See, e.g., *Carbon County Conditional Use Permit – Resolution No. 2021-41, Wyoming County Clerk, Book 1381, p. 50* (November 16th, 2021); *Albany County Conditional Use Permit – WEC-01-21 (January 18th, 2022; to be recorded); Wyoming Department of Environmental Quality, Industrial Siting Council - Industrial Siting Permit - Docket No. DEQ/ISC 21-07* (April 15th, 2022); *Department of the Air Force, Siting and Mitigation Agreement for Rock Creek Wind Project in Rock River, WY* (February 18th, 2021); *Department of Defense, Mitigation Response Team Letter of No Adverse Impact* (February 24th, 2021); *Carbon County Road Use Agreement, approved by Carbon County Board of County Commissioners* (November 28th, 2022); *Albany County Road Use Agreement, approved by the Albany County Board of County Commissioners* (January 3rd, 2023); *Wyoming Department of Transportation Road Use Agreement, approved and executed by the Transportation Commission of Wyoming and the Wyoming Department of Transportation Chief Engineer* (January 10th, 2023).

1 agreements.⁴ The Company’s costs for engineering, legal, internal project
2 management, and allowance for funds used during construction were estimated based
3 on the Company’s experience with development and construction of past wind
4 facilities. O&M cost estimates were developed based on the Company’s experience
5 with wind resource O&M budgets and third-party contracts for the Company’s
6 existing wind facilities.

7 **Q. Will Rock Creek qualify for federal PTCs?**

8 A. Yes. Under the Inflation Reduction Act (IRA), the Company believes that Rock
9 Creek qualify for 100 percent of the PTC available for projects placed into service
10 after 2021. For projects placed in service after 2022, the IRA also provides for an
11 additional 10 percent bonus credit if the project is located in an “energy community.”
12 This definition includes census tracts, or any directly adjoining census tracts, in which
13 (1) after 1999 a coal mine has closed, or (2) after 2009 a coal-fired electric generating
14 unit has been retired. The Company understands that the Rock Creek Projects satisfy
15 this definition.

16 With an expected in-service date of 2024 for Rock Creek I and 2025 for Rock
17 Creek II, the Company expects the Rock Creek Projects to qualify for a PTC equal to
18 110 percent of the full credit available. This credit will be returned to customers in the
19 Company’s annual Power Cost Adjustment Mechanism filing.

20 **Q. Did the Company assess the customer benefits provided by the Rock Creek**
21 **Projects?**

⁴ Exhibit No. RDM-4C Rock Creek I Large Generator Interconnection Agreement; Exhibit No. RDM-5C Rock Creek II Large Generator Interconnection Agreement

1 A. Company witness Burns provides a detailed description of the Company's customer
2 benefits assessment in his testimony. The methodology used to perform the economic
3 analysis of the Rock Creek Projects is consistent with the methodology used to
4 perform the economic analysis from the Wyoming CPCN application. The economic
5 analysis reflects significant benefits from the acquisition of the Rock Creek I and
6 Rock Creek II Wind Projects.

7 **VI. CONCLUSION AND RECOMMENDATION**

8 **Q. Please summarize your testimony.**

9 A. The Company successfully negotiated BTAs with Invenergy that prudently manages
10 risks, mitigates costs, allows effective oversight, and ensures that the Rock Creek
11 Projects remain on schedule. The Rock Creek Projects will provide significant
12 benefits to Washington customers, and I recommend the Commission approve the
13 inclusion of these facilities in the Company's retail rates as prudent.

14 **Q. Does this complete your direct testimony?**

15 A. Yes.

Confidential per WAC 480-07-160
Exh. RDM-2C
Docket UE-230172
Witness: Ryan D. McGraw

**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 EXHIBIT OF RYAN D. MCGRAW

Energy Yield Assessment for Rock Creek

April 2023

UE-230172

April 4, 2023 Filing

CONFIDENTIAL PLACEHOLDER

The following is confidential in its entirety:

230172-PAC-Exh-RDM-2C-4-4-23 (C).pdf

Highly Confidential per WAC 480-07-160
Exh. RDM-3HC
Docket UE-230172
Witness: Ryan D. McGraw

**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 EXHIBIT OF RYAN D. MCGRAW

Rock Creek I and II Build-Transfer Agreement

April 2023

**INFORMATION DESIGNATED AS HIGHLY CONFIDENTIAL PER REQUESTED AMENDED
PROTECTIVE ORDER IN DOCKET UE-230172.
INFORMATION DESIGNATED AS EXEMPT UNDER WAC 480-07-160.**

UE-230172

April 4, 2023 Filing

HIGHLY CONFIDENTIAL PLACEHOLDER

The following are highly confidential in its entirety:

230172-PAC-Exh-RDM-3HC-4-4-23 (HC).pdf

Contact Carla Scarsella for access to highly confidential exhibit.

Carla Scarsella

Deputy General Counsel

503-813-6338

carla.scarsella@pacificorp.com

Confidential per WAC 480-07-160
Exh. RDM-4C
Docket UE-230172
Witness: Ryan D. McGraw

**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 EXHIBIT OF RYAN D. MCGRAW

Rock Creek I Large Generator Interconnection Agreement

April 2023

UE-230172

April 4, 2023 Filing

CONFIDENTIAL PLACEHOLDER

The following is confidential in its entirety:

230172-PAC-Exh-RDM-4C-4-4-23 (C).pdf

Confidential per WAC 480-07-160
Exh. RDM-5C
Docket UE-230172
Witness: Ryan D. McGraw

**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 EXHIBIT OF RYAN D. MCGRAW

Rock Creek II Large Generator Interconnection Agreement

April 2023

UE-230172

April 4, 2023 Filing

CONFIDENTIAL PLACEHOLDER

The following is confidential in its entirety:

230172-PAC-Exh-RDM-5C-4-4-23 (C).pdf