Confidential per WAC 480-07-160
Exh. RV-1TC
Docket UE-21____
Witness: Robert Van Engelenhoven

BEFORE THE WASHINGTON

UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PACIFICORP dba PACIFIC POWER & LIGHT COMPANY Respondent.	Docket UE-21____

PACIFICORP

REDACTED DIRECT TESTIMONY OF ROBERT VAN ENGELENHOVEN

July 2021

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ATTACHED EXHIBITS

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name, business address, and present position with PacifiCorp dba Pacific Power & Light Company (PacifiCorp or the Company).

A. My name is Robert Van Engelenhoven and my business address is 1407 West North Temple, Suite 310, Salt Lake City, Utah 84116. I am currently employed as Resource Development Director. I am testifying on behalf of the Company.

Q. Please describe your education and professional experience.

A. I have a Bachelor of Science in Civil Engineering from Iowa State University and am a licensed structural engineer in Utah and a licensed professional engineer in Wyoming. I have managed major capital projects for the Company for over 20 years.

II. PURPOSE OF TESTIMONY

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

A. The purpose of my testimony is to explain and support the Company's development and implementation of the Pryor Mountain Wind Project and show that the costs are reasonable. The Pryor Mountain Wind Project, located in Carbon County, Montana, was identified as an opportunity to acquire and implement a late-stage renewables development project to capture 100 percent production tax credits (PTC) if acted on expeditiously to deliver the project by year-end 2021. In addition to providing PTCs and net power cost benefits, the project also allows the Company to meet a customer need for incremental renewable energy credits (RECs), the purchase of which under the Company's Oregon Schedule 272 - Renewable Energy Rider Optional Bulk Purchase Option (Schedule 272), further improves the project's economics and associated customer benefits. Mr. Rick T. Link provides the economic analysis

demonstrating the net benefits associated with the acquisition of the Pryor Mountain Wind Project.

Q. Please summarize your direct testimony.

A. My testimony demonstrates that the acquisition and construction of the Pryor Mountain Wind Project is prudent and in the public interest. The Pryor Mountain Wind Project was acquired and developed in 2019, constructed in 2020 and achieved commercial operation on April 1, 2021, delivering significant net power cost and PTC benefits

III. PRYOR MOUNTAIN WIND PROJECT

Q. Please provide an overview of the Pryor Mountain Wind Project.

A. The Pryor Mountain Wind Project has a nameplate capacity of 240 megawatts (MW) and is located in Carbon County, Montana, approximately 60 miles south of Billings, Montana. The project consists of 57 Vestas Model V110-2.0 MW safe harbor, 16 Vestas Model V110-2.2 MW safe harbor, four General Electric Model 116-2.3 MW safe harbor, and 37 Vestas model V110-2.2 MW follow-on wind turbine generators (WTGs). In addition to the wind turbines, there is a 34.5 kilovolt (kV) collector system, a collector substation with two 34.5 kV to 230 kV step-up transformers, an operations and maintenance (O&M) building, and site access roads. A new point of interconnection substation located on the project site in Montana was also be constructed. Based on current regulatory practice, the project has been assessed using a depreciable life of 30 years.

Q. Please provide background on the Company's development of the Pryor Mountain Wind Project.

A. The opportunity to capture customer benefits resulting from the acquisition, development, and implementation of the Pryor Mountain Wind Project was identified and evolved over a compressed timeline beginning in October 2018 and ending with final terms on all material agreements (*i.e.*, the engineer, procure, and construct contract and WTG supply agreements) completed by September 30, 2019. In parallel, negotiation of an Oregon Schedule 272 REC purchase agreement for the sale of all RECs associated with the output of the Pryor Mountain Wind Project to Vitesse, LLC began in December 2018 and final terms were reached in late June 2019. The process from initial discussions to negotiation of final terms of the Schedule 272 REC purchase agreement occurred in under six months.

Q. What are the actual costs included in this proceeding?

A. Included in this proceeding are the actual costs of the Pryor Mountain Wind Project through May 2021, [redacted]. This amount does not represent final project costs as billing for work performed is still being received and there is ongoing capital work at the project site.

Q. What are the updated forecasted costs for the Pryor Mountain Wind Project?

A. The overall cost of the project increased from an original forecasted cost of [redacted], which was included in rates in the Company's last filed rate case, docket UE-191024,[1] to the updated forecasted cost of [redacted]. The increase in

[1] *WUTC v. Pac. Power & Light Co*., Docket Nos. UE-191024, UE-190750, UE-190929, UE-190981, UE-180778 (cons.), Order 09 / 07/ 12 (Dec. 14. 2020).

forecasted costs resulted from delays experienced in construction, which were due to a disruption in the worldwide supply chain caused by the COVID-19 pandemic. Specifically, increase in costs were caused by delayed delivery of the wind turbine components, requiring a shift from rail delivery to the more expensive truck delivery. The delayed component delivery from the turbine supplier delayed the erection of the wind turbines increasing the labor and equipment costs for the Balance of Plant contractor. The delivery and erection delays were compounded by the higher wind speeds experienced during the winter months further delaying construction and increasing costs. During November 2020 there was an onsite COVID-19 outbreak which delayed erection of the wind turbines and the start of commissioning and placing wind turbines in service.

Q. Has the COVID-19 pandemic had a material impact on the Company's construction schedule for the Pryor Mountain Wind Project?

A. As a result of the COVID-19 pandemic, the Company received notices from the turbine supply and balance of plant contractors, in which they generally claim delays due to disruption to the global supply chain caused by the COVID-19 pandemic. The Company has and continues to work with these contractors to resolve these claims strictly according to the terms and conditions of their respective contracts. However, this affected both construction schedule and costs of the project.

With respect to construction, final wind turbine equipment deliveries were made the week of November 9, 2020. This allowed erection of all 114 wind turbines to be completed the week of November 16, 2020, prior to high-wind and severe winter conditions that could have shut down the project for the winter and further

delayed construction until Spring 2021. Completing wind turbine erection ahead of the high wind season also reduced project cost risk. The Company energized both the Bowler Flats (point of interconnection) substation and the Pryor Mountain (collector) substation the week of November 16, 2020. With the Pryor Mountain substation energized, collector circuits 1 through 4 were energized and proving back feed power to the first 40 wind turbines (80 MW) in December 2020, allowing commissioning of the wind turbines to commence. The remaining collector circuits (five through 12) were energized in the first quarter 2021. The project achieved commercial operation on April 1, 2021, 90 days later than the originally scheduled December 2020 completion date.

Q. Please describe the time-sensitive nature of the federal PTCs as it pertains to the Pryor Mountain Wind Project.

A. The time sensitive nature of the federal PTCs for the Pryor Mountain Wind Project is similar to the new wind facilities included in the Energy Vision 2020 Projects, which is discussed by Mr. Timothy J. Hemstreet. The time-sensitive nature of the Pryor Mountain Wind Project is primarily driven by the pending phase-out of the federal PTCs for new wind resources. Originally, under prior Internal Revenue Service (IRS) guidance, PacifiCorp would have captured the full rate (100 percent) of the PTCs if the project's in-service date was before the end of 2020. However, due to the COVID-19 pandemic, in May 2020, the Continuity Safe Harbor was extended to five calendar years for projects that began construction in 2016 or 2017.[2] Pryor Mountain

[2] Internal Revenue Service Notice 2020-41 (May 27, 2020). *See*, https://www.irs.gov/pub/irs-drop/n-20-41.pdf.

has a 2016 start of construction date. Accordingly, the continuity requirement will be met if the project is placed in service by December 31, 2021. With an in-service date of April 1, 2021, the Pryor Mountain Wind Project will capture the full rate (100 percent) of the PTCs. The Pryor Mountain Wind Project deployed safe harbor WTG equipment to achieve PTC eligibility. The Company's acquisition and implementation plan for the Pryor Mountain Wind Project allowed the Company to meet the year-end 2021 in-service schedule and provide customers the full economic benefit of the project.

Q. Does the Pryor Mountain Wind Project meet the IRS start-of-construction criteria?

A. Yes. The Pryor Mountain Wind Project will utilize WTG equipment acquired before December 31, 2016. The WTG equipment acquisition satisfies the safe-harbor requirements under the PTC guidance issued by the IRS.

Q. What approach was taken to secure late-stage development safe harbor WTG equipment and follow-on WTG equipment for the Pryor Mountain Wind Project?

A. The Vestas safe harbor WTG equipment identified above was sourced, acquired, and transferred under an affiliate transaction with Berkshire Hathaway Energy Renewables (BHER). The four General Electric safe harbor WTGs described above were directly procured by the Company in 2016. The Company completed a competitive market solicitation for the follow-on WTG equipment required to complete the nominal 240 MW Pryor Mountain Wind Project. By combining the use of safe harbor equipment, the transferred BHER safe harbor equipment, and competitive market engagement for follow-on WTG equipment, the Company

addressed a couple of key risk points for the project. Specifically, through this combination of procurement strategies, the Company limited its exposure to competitive market constraints and pricing volatility for 2020 delivery of 100 percent PTC projects with the safe harbor equipment already manufactured and awaiting delivery.

Q. What is the current construction status of the Pryor Mountain Wind Project?

A. The Pryor Mountain Wind Project was primarily constructed in 2020, although site activities began in 2019 with completion of geotechnical borings and surveys, other site surveys and detailed engineering, construction of a material laydown area, and installation of approximately five percent of the site access roads before winter weather halted construction. The construction contractor re-mobilized in March 2020 and completed construction in December 2020 with commissioning completed by March 31, 2021. The project was placed in commercial operation on April 1, 2021.

Q. Did the Company perform preliminary evaluations of the wind potential at the Pryor Mountain Wind Project site?

A. Yes. A wind potential study for the Pryor Mountain Wind Project was completed by a third-party wind resource evaluation firm. The wind potential assessments for Pryor Mountain indicate that the site has a favorable wind regime suitable for high performance wind energy generation. The expected capacity factor for the project is [redacted] percent and aligns with the assumptions made in support of the economic evaluation of the project.

Q. Did the Company collaborate with the U.S. Fish and Wildlife Service in developing and implementing the Pryor Mountain Wind Project?

A. Yes. The Company engaged the U.S. Fish and Wildlife Service regarding developing and implementing the Pryor Mountain Wind Project. The Company and the project's previous owner and developers began pre-construction usage surveys for various avian, bat, and wildlife species utilizing recommendations from applicable state and federal guideline documents, including the 2012 Land Based Wind Energy Guidelines. The Company will continue to coordinate with county, state, and federal agencies that have jurisdiction over development, permitting, and operations to ensure appropriate environmental and safety measures are implemented throughout the life of the Pryor Mountain Wind Project. The Company is committed to maintaining development and implementation schedules and protocols that recognize potential environmental impacts and strive to mitigate them.

Q. How did the Company assess the customer benefits provided by the Pryor Mountain Wind Project?

A. Mr. Link provides a detailed description of the Company's customer benefits assessment in his testimony. In general terms, the methodology used to perform the economic analysis of the Pryor Mountain Wind Project is consistent with the methodology used to perform the economic analysis of the Energy Vision 2020 Projects. The Company's economic analysis also reflects the significant benefits from the sale of RECs associated with the Pryor Mountain Wind Project.

Q. How did the Company generate the cost information for construction, operation, and maintenance of the Pryor Mountain Wind Project through its useful life?

A. The Company assessed life cycle costs for the Pryor Mountain Wind Project using information from a variety of sources. For example, initial installation costs and run rate O&M cost projections were developed through competitive market engagements for project construction and WTG supply and long-term O&M contracts. Transmission interconnection costs were confirmed against the Pryor Mountain Wind Project's transmission interconnection studies. The Company's internal project management and administrative costs were estimated based on the Company's experience with construction of past and current wind facilities and other recent generation resource additions. The Company also applied limited funds to the Pryor Mountain Wind Project to account for project uncertainties. O&M cost estimates were developed based on the Company's experience with currently operating wind facility O&M budgets and third-party contracts for the Company's existing wind facilities. Ongoing capital costs were estimated based upon the Company's experience and indicative costs provided by WTG suppliers for critical capital components.

Q. Please describe the exhibit for the 240 MW Pryor Mountain Wind Project.

A. The site plan for the 240 MW Pryor Mountain Wind Project is provided in Exhibit No. RV-2 which accompanies my testimony.

IV. CONCLUSION AND RECOMMENDATION

Q. Please summarize your testimony.

A. The Company requests the costs for the Pryor Mountain wind facility be included in the approved revenue requirement because it is prudent and benefits Washington customers.

Q. Does this conclude your direct testimony?

A. Yes.