BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

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IN THE MATTER OF THE COMPLAINT OF ENERGY OF UTAH, LLC AND FALL RIVER SOLAR, LLC AGAINST BLACK HILLS POWER, INC.	:	
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DIRECT TESTIMONY AND EXHIBITS

OF ROS VRBA

On Behalf of

ENERGY OF UTAH, LLC

AND

FALL RIVER SOLAR, LLC

March 18, 2019

Q: Please state your name and address for the record, please.

A: My name is Ros Vrba. I live in Cottonwood Heights, Utah.

Q: Please tell the Commission your educational history and occupation.

A: I have degrees in mechanical engineering and a masters degree in business administration. I am the owner and chief executive of Energy of Utah, L.L.C., formed in 2012, and its subsidiary Fall River Solar, LLC, the petitioners in this matter. I also am the managing partner in VK Clean Energy Partners LLP.

Q: Please tell the Commission about your employment history.

A: From 2001 to 2007 I was employed as a project engineer and manager by Okland Construction Company, a commercial building and hospital construction contractor headquartered in Salt Lake City, Utah.

From 2007 to 2009 I was employed by PacifiCorp Energy overseeing development and construction of multiple wind energy projects, primarily in the western states. PacifiCorp is a Berkshire-Hathaway investor owned utility operating in Oregon, Washington, California, Utah, Idaho, and Wyoming. PacifiCorp has nearly two million retail customers and 11,000 megawatts of generation from coal, hydro, wind, gas turbine, solar, and geo-thermal generators.

My duties and responsibilities with PacifiCorp included development of wind powered generation, project management, contractor selection, owner's project oversite, scheduling, permitting, accounting and budget control, interconnection assistance, negotiation of turbine supply and purchase agreements, and agreements governing operation of the projects. At various times I managed every phase of wind energy projects, from initial site location through completion and commercial operation.

In 2009 I was hired by Wind Capital Group as the Director of Construction and Project Development, based in Chicago. At the time Wind Capital Group, led by Tom Carnahan, was a major developer of wind energy projects in Missouri, Iowa and Kansas. I joined Wind Capital about the time it entered into a partnership with NTRplc, an Irish company active in the United States and Europe in wind energy development. My primary responsibility was oversight of development and construction of multiple wind energy projects from the Midwest to the eastern states.

I left Wind Capital in 2012 to form Energy of Utah where I have been employed since.

Q: In your years of employment with PacifiCorp and Wind Capital, how many megawatts of wind energy projects were you involved in?

A: I contributed to the successful construction of more than 750 megawatts of wind energy with a total capital investment of more than $2.2 billion.

Q: What business is Energy of Utah in?

A: Energy of Utah develops solar and wind generating facilities. It has developed or is in the process of developing the following solar and wind generating facilities through its subsidiaries:

SD Sun LLC- 20 MW solar generating facility in South Dakota

SDSun II LLC- 20 MW solar generating facility in South Dakota

Skysol LLC- 55 MW solar generating facility in Oregon

Intermountain Solar Plant LLC- 200 MW solar generating facility in Utah

Sweetwater Solar LLC- 80 MW solar generating facility in Wyoming

Fall River Solar LLC- 80 MW solar generating facility in South Dakota

Broadview Solar III LLC- 80 MW solar generating facility in Montana

Big Horn Solar I LLC- 80 MW solar generating facility in Montana

Big Horn Solar II LLC- 80 MW solar generating facility in Montana

Big Horn Solar III LLC- 80 MW solar generating facility in Montana

Lincoln Solar LLC- 80 MW solar generating facility in Wyoming

Lincoln Solar II LLC- 80 MW solar generating facility in Wyoming

Raven Solar LLC- 50 MW solar generating facility in Wyoming

Birch Creek Solar LLC- 80 MW solar generating facility in Utah

Birch Creek Solar II LLC- 80 MW solar generating facility in Utah

Long Ridge Wind LLC-80 MW wind generating facility in Utah

Long Ridge Wind II LLC-80 MW wind generating facility in Utah

Q: What business is VK Clean Energy Partners in?

A: VK Clean Energy Partners develops solar energy generating facilities. Acting through its subsidiaries, it has developed or is in the process of developing the following solar generating facilities:

Broadview Solar LLC- 80 MW solar generating facility in Montana

Broadview Solar II LLC- 300 MW solar generating facility in Montana

MTSun LLC- 80 MW Solar solar generating facility t in Montana

Meadowlark Solar LLC- 20 MW solar generating facility in Montana

Sage Solar I LLC- 20 MW solar generating facility in Wyoming

Sage Solar II LLC- 20 MW solar generating facility in Wyoming

Sage Solar III LLC- 17.5 MW solar generating facility in Wyoming

Q: Are you familiar with the terms *qualified facility*, *avoided cost*, and *legally enforceable obligation* as they are applied by the Public Utilities Regulatory and Policy Act of 1978 and the federal regulations that implement it?

A: Yes.

Q: Have you read Mark Klein's testimony in this case?

A: Yes.

Q: Do you agree with and adopt the definitions of *qualified facilities*, *legally enforceable obligation* and *avoided cos*t in his testimony?

A: Yes.

Q: Has Energy of Utah developed wind or solar generating facilities that are qualified facilities or QFs in South Dakota?

A: Yes. In 2015 and 2016, Energy of Utah's subsidiaries SD Sun and SD Sun II[1] developed QF facilities in Black Hills' service territory near the Minnekahta substation west of Hot Springs in Fall River County. Both were 20-megawatt facilities. To my knowledge, they were the first utility scale solar generating projects proposed for South Dakota, except for a 1-megawatt project developed in Pierre, South Dakota, about the same time.

Q: What role did you play in the development of the South Dakota Sun projects?

A: As president and principal of Energy of Utah and its subsidiaries SD Sun I and II, I was in charge of every aspect of development of both projects.

Q: Did either SD Sun I and II request an indication of avoided cost from Black Hills?

A: Yes. SD Sun I requested an indication of avoided cost in March 2015. In early June 2015 Black Hills provided an incomplete response to SD Sun I's pricing request. SD Sun

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[1] The companies were named SD Sun, LLC and SDSun II, LLC. For ease of reference I will call them SD Sun I and SD Sun II in my testimony.

I requested more information from Black Hills in order to accurately assess Black Hills avoided cost calculations. Black Hills finally produced an avoided cost calculation on August 28, 2015. SD Sun I pointed out multiple factors not considered in Black Hills avoided cost calculation that would affect the rate and proposed direct discussions between Black Hills and SD Sun's expert. Black Hills to refused consider SD Sun I's proposals. At the end of September Black Hills proposed an avoided cost rate for 2017-2038, which was not levelized, which SD Sun I accepted. Following the Commission's direction from *In the Matter of the Complaint by Oak Tree Energy LLC Against Northwestern Energy*, SD Sun I's expert then submitted a levelized rate calculation to Black Hills. In November Black Hills announced that it would not levelize its proposed rate and that it intended to recalculate its avoided cost rate. In mid-November Black Hills submitted a revised avoided cost rate, calculated for the years 2018-2038, substantially lower than the avoided cost rate SD Sun I accepted in October.

Q: Was it difficult to obtain an avoided cost rate from Black Hills?

A: Yes. Black Hills was slow in responding, recalculated the avoided cost rate several times in a manner that was inexplicable. Eventually, I saw no alternative but to hire counsel and to advise Black Hills that SD Sun I would ask the Commission to set avoided cost and determine that Black Hills acted in bad faith. SD Sun I's lawyer sent a draft complaint to Black Hills and to PUC staff attorney Edwards.

Q: Did SD Sun I eventually enter into a Power Purchase Agreement with Black Hills?

A: In the face of the draft complaint, Black Hills finally produced a draft power purchase agreement in December 2015. We began negotiating its terms in late 2015. After an exchange of numerous drafts, on June 20, 2016, SD Sun I and Black Hills entered into a

Power Purchase Agreement, twenty years in length, for energy and capacity produced by the 20-megawatt solar generating facility.

Q: What was the rate agreed on for energy and capacity?

A: Black Hills represented to South Dakota Sun I that $44.54 per megawatt hour was its levelized avoided cost rate. We agreed on a levelized rate of $44.54 per megawatt hour for energy and capacity produced by SD Sun I's 20-megawatt generating facility.

Q: Did SD Sun II obtain an avoided cost rate for energy and capacity from Black Hills?

A: Yes. In December 2016, Black Hills proposed a levelized avoided cost rate over twenty years for SD Sun II at $41.44 per megawatt hour.

Q: Did SD Sun II enter into a Power Purchase Agreement with Black Hills?

A: I began negotiations with Black Hills for a Power Purchase Agreement in November 2016. Shortly thereafter, Energy of Utah sold its interest in the South Dakota Sun I and II companies to 174 Power Global, a U.S. subsidiary of the Hanwha Companies. My understanding is that 174 Power Global completed negotiations with Black Hills and signed a Power Purchase Agreement very similar in form and term to the SD Sun I Power Purchase Agreement, but at an avoided cost in the area of $41 per megawatt hour.

Q: Were interconnection agreements reached with Black Hills and South Dakota Sun I and II?

A: SD Sun I and II were designed to interconnect with Black Hills' transmission and distribution system at the Minnekahta substation. After difficult negotiations, I came to terms with Black Hills on behalf of SD Sun I for interconnection at the substation.

Q: Do you know if SD Sun II entered into an interconnection agreement with Black Hills?

A: As I mentioned, Energy of Utah sold it interests in the SD Sun companies to 174 Power Global. I didn't complete the interconnection process for SD Sun II as it was ongoing at the time of the sale.

Q: Did 174 Power Global expand the scope of the SD Sun I and II projects?

A: To my understanding, 174 Power Global proposed constructing SD Sun III, a 12-megawatt solar generating facility, located in immediate proximity to SD Sun I and II, interconnecting through the Minnekahta substation.

Q: Has South Dakota Sun I, II, or III been constructed?

A: My understanding is that in the spring of 2018, Black Hills purchased 174 Power Global's interest in the SD Sun I, II, and III projects. To my knowledge, construction has not been undertaken and the projects are dormant.

Q: Do you know the terms of the purchase agreement between Black Hills and 174 Power Global?

A: I do not.

Q: Is it important to this proceeding to know the terms of the purchase agreement?

A: Yes. Capacity, as explained by Mr. Klein, is a component of avoided cost. Per Federal Energy Regulatory Commission Order 69, the value of capacity is in part a reflection of capital expense Black Hills will avoid. Black Hills has, at various times, identified SD Sun I, II and III as intended to be built, and has included those projects in its generation mix when calculating avoided cost for Fall River. If the SD Sun projects are a proxy for Fall River, knowing Black Hills avoided capital cost is an important element in evaluating Black Hills proposed overall avoided cost.

Q: When did you begin planning the Fall River facility?

A: I realized the potential for solar generation in Fall River County South Dakota before I started the South Dakota Sun projects. I was already considering another Fall River County project before Energy of Utah sold the South Dakota Sun projects. Shortly after 174 Power Global took over South Dakota Sun projects, I began looking for a new site and settled on the area just west of Oelrichs, South Dakota. In 2017, I identified property owned by Tim and Lori Allen of Oelrichs, South Dakota, as suitable and began negotiations to lease the property. In March of 2018, Fall River leased 585 acres owned by the Allens in Sections 30 and 31, Township 10 South, Range 7 East of the Black Hills Meridian, Fall River County, South Dakota. A memorandum of the lease and associated easement supporting the project is attached hereto and marked Exhibit A for reference. It is recorded in the Fall River County real estate records.

Q: Is Fall River certified as a qualifying small power production facility by the Federal Energy Regulatory Commission?

A: The FERC granted Fall River QF status for its project on February 14, 2018, designating the project QF18-630-000.

Q: Does Fall River have all of the necessary local planning and zoning permits required to construct the project?

A: No planning and zoning permits are required by Fall River County.

Q: Describe the proposed Fall River facility.

A: The facility will generate electricity from solar energy employing state-of-the-art photovoltaic cells that capture the energy of the sun and convert it to electricity. Spread across approximately 550 acres, the project will have the capacity to generate 80 megawatts of electricity. The Fall River facility is located in Black Hills' service territory. It is adjacent to and will interconnect with the Westhill-Stegal 230 kV transmission line. The transmission line is part of the so-called Common User System, which is operated by and partially owned by Black Hills' transmission affiliate. The transmission line is used in part to transmit energy from generating facilities to Black Hills' retail distribution system.

Q: What is the service life of the Fall River project?

A: The design service life of the project is 30 years.

Q: How much do you anticipate that it will cost to complete the project and bring it to commercial operation?

A: I anticipate that the cost of completing the project will be approximately $95 million, including facilities necessary to interconnect to the Westhill-Stegal line. Originally, I planned to complete the project and to commence commercial delivery of electricity in 2020. Because of the delays engendered by having to prosecute this proceeding, I am considering extending the commercial operation date until 2021.

Q: Q: When did Fall River ask Black Hills for an indication of avoided cost pricing?

A: By letter dated February 13, 2018, Fall River requested Black Hills give an indication of the incremental cost of electric energy or capacity which, but for the purchase from Fall River, Black Hills would generate itself or purchase from another source. A copy of the request is marked Exhibit B and attached hereto.

Q: Did Black Hills respond?

A: After an extended chain of email, in late April, anticipating delivery of a proposed avoided cost, Black Hills required Fall River Solar to sign a non-disclosure agreement, a copy of which is attached as Exhibit B. Fall river signed and returned the non-disclosure agreement. A few days later, on April 27, 2018, Black Hills proposed to pay Fall River $17.06 per megawatt hour for capacity and energy produced by Fall River's solar generator, contending that amount to be Black Hills' avoided costs rate levelized over twenty years. The calculations included SD Sun I, SD Sun II and an unnamed 12 megawatt solar generator, presumably SD Sun III, in Black Hills generation fleet.

Q: How did you respond to Black Hills' April 27, 2018, proposed avoided cost rate of $17.06 per megawatt hour?

A: I was shocked by Black Hills proposed rate. I immediately began exchanging correspondence, e-mails, and calls with Black Hills in an effort to understand how it calculated the proposed avoided cost rate. After several efforts to explain to Black Hills that its avoided cost rate was incorrect, on May 18, 2018 I detailed Fall River's position to Black Hills by letter, a copy of which is attached as Exhibit D.

June 1, 2018, I received a letter from Black Hills declining to reconsider the avoided cost calculation.

Q: How did you respond to the June 1 letter?

A: On June 8, 2018, I sent Black Hills a letter enclosing a proposed power purchase agreement based on the December 2016 draft power purchase agreement between SD Sun II and Black Hills, which in turn was based on the June 20, 2016, power purchase agreement Black Hills signed with SD Sun I.

Q: Did you propose a levelized avoided cost rate in the power purchase agreement?

A: The power purchase agreement included Exhibit J, which proposed a rate of $41.69 per megawatt hour for the energy and capacity produced by Fall River, levelized over twenty years.

Q: How did you arrive at $41.69 as the avoided cost rate?

A: To my understanding, $41.69 was the levelized twenty year avoided cost rate Black Hills quoted 174 Power Global in its discussions that led to the SD Sun II power purchase agreement, entered into in mid-2017.

Q: Did Fall River commit to sell its entire generation to Black Hills?

A: In the e-mail enclosing the proposed power purchase agreement, Fall River committed to sell its entire project generation to Black Hills. The covering e-mail is attached hereto marked Exhibit E for reference, my letter of June 7 is attached hereto marked Exhibit F, the draft power purchase agreement is attached hereto marked Exhibit G, and Exhibit J to the draft power purchase agreement with the levelized 20-year price of $41.69 is attached hereto marked Exhibit H.

Q: You've testified you familiar with the term *legally enforceable obligation* as it applies to QFs and as it is defined in PURPA and the FERC regulations relating to PURPA. Do you believe that a legally enforceable obligation was formed between you and Black Hills by the e-mail, letter, power purchase agreement and Exhibit J thereto delivered on June 8, 2018?

A: Yes.

Q: What response did you get from Black Hills to that letter and power purchase agreement?

A: We did not receive a response.

Q: What did you do?

A: Using the same projections Black Hills used to arrive at its $17.06 avoided cost, Mr. Klein prepared an avoided cost estimate excluding SD Sun I, SD Sun II and the unnamed

12-megawatt solar project Black Hills had included in its generation fleet in its earlier avoided cost estimates.

Q: Why did you leave SD Sun I, II, and the unnamed 12-megawatt solar project out of the generation fleet?

A: In public information describing its generation fleet and future plans, Black Hills made only passing mention of the three solar projects. The landowner from whom the SD Sun sites were leased was unaware that Black Hills had acquired an ownership interest in the project. We couldn't find evidence that Black Hills intended to construct any of the three projects, much less by the time Fall River was operational, contrary to its representations in its avoided cost calculations.

Q: What did you do next?

A: I instructed William Taylor, our lawyer, to write to Black Hills' corporate counsel and advise that avoided cost, calculated using Black Hills' data without SD Sun I, II, and the unnamed 12-megawatt project, was $41.66 per megawatt hour levelized over twenty years. The letter was delivered August 14, 2018 and advised that Black Hills had seven business days to answer. A copy of Mr. Taylor's letter and the exhibits to it are marked Exhibit I and attached hereto.

Q: What response did you get from Black Hills?

A: Within a couple of days, Black Hills called and asked for an extension of time until August 29 to respond. I authorized Mr. Taylor to grant Black Hills the extension.

Q: Did Black Hills eventually send a new avoided cost calculation?

A: Yes. On August 30th, Black Hills sent a new recalculated avoided cost. This time it eliminated SD Sun II and the 12-megawatt facility from its generation fleet, but indicated it intended to construct SD Sun I. Black Hills employed different economic data in its modeling, using the Ventex Spring 2018 data set rather than the fall 2017 data as had been used in all previous avoided cost calculation. Black Hills proposed a twenty year levelized avoided cost rate for energy and capacity from the Fall River project of $21.77 per megawatt hour. A copy of Mr. Brink's e-mail of August 29th, eventually delivered August 30, is attached marked Exhibit H.

Q: How did Fall River respond?

A: On September 6, Fall River rejected Black Hills' proposal in a letter from Mr. Taylor. The letter also said that Fall River believed an impasse had been reached and that it was purposeless to continue discussions, but that Fall River remained willing to enter into the previously proposed power purchase agreement at $41.66 per megawatt hour as the twenty year levelized avoided cost rate. A copy of the letter is attached, marked Exhibit K.

Q: Did you receive a response from Black Hills?

A: No. Accordingly, on September 14, 2018 we filed the complaint with the Public Utilities Commission that started this case.

Q: Has Black Hills submitted any further avoided cost calculations since the case began?

A: Yes. Mr. Klein's expert testimony was served on Black Hills on February 12, 2019. On March 1, 2019, Black Hills by letter said that it intended to provide an updated avoided cost that eliminated SD Sun I from the generation mix. A copy of Black Hills letter is attached hereto as Exhibit L. On March 8, 2019, a week later, Black Hills updated its avoided cost calculation to $24.95 per megawatt hour, levelized for a twenty-year term.

SD Sun I was eliminated from the generation mix. A copy of Black Hills' e-mail is attached hereto and marked Exhibit M.

Q: In your opinion, has Black Hills acted in good faith in attempting to negotiate an avoided cost rate with Fall River?

A: No. It now appears to me that Black Hills never intended to build any of the three solar projects, at least on the timelines that it expressed. Rather, it used the continually changing generation mix as a method of obfuscation and delay.

Q: Has Fall River made application for interconnection with Black Hills' transmission system?

A: Fall River applied for a large generation interconnection agreement in February of 2018. Per Black Hills' request, Fall River paid Black Hills $10,000 as a deposit on the interconnection feasibility study in March of 2018. In April of 2018, a scoping meeting was conducted between Fall River and Black Hills. In May 2018, Fall River signed Black Hills' agreement for the production of a feasibility study. The study was to be completed in thirty days. In June, Black Hills asked Fall River to delay completion of the study until the end of July 2018, when it was finally completed. The feasibility study determined that Fall River could be interconnected with Black Hills' transmission system as a network resource without issue. Fall River executed an application for a system impact study in August of 2018 and deposited the $50,000 Black Hills required as the study fee. Black Hills did not timely complete the system impact study. It asked for delays in November, December, and January. The system impact study was received March 6, 2019, and found that interconnection by Fall River could be accomplished without issue.

Q: Is there anything remaining to be done to complete interconnection?

A: Fall River is awaiting a draft of the facility study agreement at this time. Fall River will be obligated to pay $100,000 toward completion of the interconnection analysis studies on the date the agreement is received.

Q: Do you concur in Mr. Klein's calculation of avoided cost for Fall River, as expressed in his testimony?

A: Yes.

Q: Does this conclude your testimony?

A: Yes.

Q: Is this testimony complete?

A: As Mr. Klein noted in his testimony, he may need to supplement his testimony after discovery is completed. I also may need to supplement my testimony as discovery is completed and as the transmission study is finalized.