

T. Aaron Carr Director, Corporate Development Aaron.Carr@blackhillscorp.com

625 Ninth Street Rapid City, SD 57701 P: (605) 721-2368 F: (605) 721-2599

April 8, 2015

VIA ELECTRONIC MAIL

rosvrba@energyofutah.com

Re: Energy of Utah's Request for Indicative Pricing to Black Hills Power

Mr. Vrba,

Ros Vrba

President

Energy of Utah LLC

Thank you for the letter dated 4/1/2015 requesting Qualifying Facility ("QF") pricing for a 20MW PV solar project contemplated to interconnect on a 69kV line in either Custer or Fall River Counties of South Dakota.

As I mentioned when we spoke on the phone, Black Hills Power ("BHP") has not previously calculated an avoided cost rate for QF projects. I appreciate you sending along PacifiCorp's QF tariff as well as the link to the relevant South Dakota docket. I have subsequently met with members of BHP's operating staff, our Regulatory and Legal department. During this meeting we discussed your request and reviewed the information you provided.

Since BHP has not previously established an avoided cost rate (except for generation less than 100kW), we will be undertaking a significant amount of work internally and engaging our external resource planning contractor to conduct this Avoided Cost Study ("Study"). Before undertaking the Study, BHP desires to have all of the pertinent facts related to your project, a determination that your project has physical deliverability to our utility's system and that BHP has a creditworthy counterparty to a proposed PPA. Therefore, BHP is requesting the following additional information, clarifications, and actions:

- 1. A clarification of the SDSky 24/12 matrix provided. It indicates that solar energy production begins as early as 4am and ends at 7pm. Please advise if this matrix should be adjusted.
- 2. Additional design and technology details regarding your 20MW (AC rating) tracker PV system so we can evaluate whether the project could meet the provided production matrix over the life of the proposed contract term. Please provide the proposed panel manufacturer and specifications, inverter manufacturer and specifications, tracking mechanism details, DC to AC design ratio, one-line diagram, and proposed design layout and panel row spacing including site topography.
- 3. Provided the meteorological study or program utilized to create the projected output in the 24/12 matrix; include the underlying source data specifying the proposed site's solar intensity.
- 4. A legal description of the land where the proposed project would be located and interconnected.
- 5. A determination from Energy of Utah LLC that the 69kV line is owned by BHP.
- 6. File an interconnection request for the project under BHP's Small Generator Interconnection Agreement process, have BHP's transmission group conduct a system impact study and determine

the network upgrades necessary to interconnect your proposed project. Please contact Kenna Hagan using the contact information I previously provided you to start this process.

- 7. Financial statements indicating the creditworthiness of Energy of Utah LLC and any other coowners.
- 8. A statement affirming that Energy of Utah LLC and any other co-owners are eligible to obtain QF status.
- 9. A diagram detailing the proposed legal entities, ownership structure and ownership percentages for all entities/owners for the proposed project.

Once adequate responses to the above requests are received, BHP will schedule a meeting with you to discuss the Study protocols, major assumptions, and assignment of costs related to conducting the Study.

As I mentioned above, BHP has a Generation Credit associated with a Cogeneration & Small Power Production Service tariff. While this is not applicable to your proposal, it does provide you with the current amount BHP pays for energy from small co-generators. The current amount is 3.32 cents per kilowatt hour. Additional information on that tariff can be found on page 69 of the attached link to BHP's tariff book. http://www.blackhillspower.com/sites/default/files/bhp-sd-rates.pdf

Please feel free to contact me with any questions you may have regarding this letter or BHP's request for additional information on your project. I look forward to learning more about your project and working with you.

Regards

T. Aaron Carr

rom:	ros vrba <rosvrba@energyofutah.com></rosvrba@energyofutah.com>
Sent:	Thursday, June 04, 2015 9:25 AM
То:	Carr, Aaron
Subject:	Re: Indicative Pricing

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Aaron

Thank you for your email with Indicative pricing. We will review and provide you our feedback shortly sir. Have a great day

Respectfully

Ros Rocco Vrba, MBA- President Energy of Utah LLC

Phone: 801 708 2086 P.O. Box 900083. Sandy, Ut 84090-0083 <u>www.energyofutah.com</u> " Power for People"

From: Carr, Aaron ent: Wednesday, June 3, 2015 1:01 PM fo: ros vrba Subject: Indicative Pricing Mr. Vrba, Please see the attached. T. Aaron Carr Director of Corporate Development <u>aaron.carr@blackhillscorp.com</u> Office: 605-721-2368 Mobile: 605-390-4514

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T. Aaron Carr Director, Corporate Development Aaron.Carr@blackhillscorp.com

625 Ninth Street Rapid City, SD 57701 P: (605) 721-2368 F: (605) 721-2599

June 3, 2015

VIA ELECTRONIC MAIL

rosvrba@energyofutah.com

Ros Vrba President Energy of Utah LLC

Re: Indicative pricing for Energy of Utah LLC's 20MW PV solar project

Mr. Vrba,

As requested, Black Hills Power ("BHP") has undertaken a study to determine what system generation and purchased power costs are avoided by adding your proposed project to our resource portfolio. We utilized our most recent strategic plan load forecast and generation assets as the baseline case for loads and generation capacity. We also updated our fuel and electricity prices with the Ventyx Spring 2015 Reference Case which we rely upon for our resource plan filings. The base case utilizing these assumptions was compared to the second case containing your project and assumed output levels. The difference in costs between these two cases becomes the "avoided costs" provided by adding your proposed project to our system.

The change in total costs was divided by the total megawatt hour generation supplied by the solar facility in that year to arrive at an avoided cost per megawatt hour. The resulting avoided costs are as follows: 2017 \$23.28/mwh; 2018 \$27.96/mwh; 2019 \$34.24/mwh; 2020 \$35.38/mwh; 2021 \$37.75/mwh.

As you can see 2017 and 2018 are significantly lower than the other years. This is due to lower assumed gas and electricity price assumptions. We don't expect significant increases in avoided cost prices in years past the numbers provided above. Also, BHP generally is long capacity until 2024. Only in a few summer months do we entertain purchasing firm blocks of energy. Therefore, there is very little value to the potential capacity of adding the solar plant for capacity and has been excluded from the pricing listed above.

If you wish to see the detailed results of our analysis we are willing to share the file with you. However, we consider generation unit heat rates, operating costs, price assumptions, etcetera that you will see in the model as proprietary. We would require you to sign a Non-disclosure agreement prior to sending you that information. I have attached our standard NDA to this letter if you are interested.

Please feel free to contact me with any questions you may have regarding this letter, I would be happy to set up a meeting with our team to discuss further with you.

Regards. Van la T. Aaron Car

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rom:	ros vrba <rosvrba@energyofutah.com></rosvrba@energyofutah.com>
sent:	Monday, June 08, 2015 9:39 AM
То:	Carr, Aaron
Cc:	Rounds, Brian
Subject:	Re: Indicative Pricing
Attachments:	SD Solar -BHC Re-Indicative response Information Request.pdf; Black Hills Power NDA
	001 signed by REA.jpg; Energy of Utah Avoided Cost pricing letter and NDA 6.3.15.pdf

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Good morning sir

The attached is our response to your indicative pricing. In general, we are asking for more information and clarifications. I am also attaching signature page of the NDA from our consulting expert to gain detail information into your Avoided costs calculations.

I am looking forward to your response.

Respectfully

Ros Rocco Vrba, MBA- President Energy of Utah LLC Phone: 801 708 2086 `.O. Box 900083. Sandy, Ut 84090-0083 www.energyofutah.com " Power for People"

From: Carr, Aaron Sent: Wednesday, June 3, 2015 1:01 PM To: ros vrba Subject: Indicative Pricing Mr. Vrba, Please see the attached. T. Aaron Carr Director of Corporate Development <u>aaron.carr@blackhillscorp.com</u> Office: 605-721-2368 Mobile: 605-390-4514

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Ros Vrba MBA Energy of Utah

June 8, 2015

T. Aaron Carr Director, Corporate Development Black Hills Corporation Aaron.carr@blackhillscorp.com 625 Ninth Street Rapid City, SD 57701 P: 605 721 2368 F: 605 721 2599

Cc; Brian P. Rounds SD Public Utilities Commission

Re: Indicative pricing for SD Solar project developed by Energy of Utah L.L.C

Aaron,

Thank you for your reply to our indicative price request. I am writing to request additional information required for an evaluation of the proposed avoided costs. I appreciate and accept your offer for a copy of the data file used in the calculations for our records. Please provide the data in Excel format. I believe that you already have a signed NDA from me. I've enclosed a second signed NDA from Renewable Energy Advisors (REA), as our consultant-expert.

In addition to the data file, we will need a full 20 year avoided cost schedule, for the years 2017-2037. Separate energy and capacity components for each year will be necessary, even if the capacity values are small.

We will also need a clarification of the company's long capacity situation. For reference, we have copies of the Company's 2011 IRP and the 2014 Ten Year Plan providing different information regarding capacity than your Indicative pricing to us.

I assume that Qualifying Facility "Green Tag" or "REC" values are not included in the calculations as your Avoided costs resource "bland" does not include any renewable generation. Can you please describe the Company's position on their value?

I appreciate your consideration and patience as we work through this process. Please contact me directly if you have any questions or concerns along the way.

Sincerely,

Ros Rocco Vrba, MBA- President Energy of Utah LLC Phone: 801 708 2086 P.O. Box 900083. Sandy, UT 84090-0083 www.energyofutah.com "Power for People"



T. Aaron Carr Director, Corporate Development Aaron.Carr@blackhillscorp.com

625 Ninth Street Rapid City, SD 57701 P: (605) 721-2368 F: (605) 721-2599

June 16, 2015

VIA ELECTRONIC MAIL

rosvrba@energyofutah.com

Ros Vrba President Energy of Utah LLC

Re: Follow up response to June 8 letter

Mr. Vrba,

I am attaching to this correspondence an excel file containing the detailed data used to calculate our avoided costs results that I shared with you in our last correspondence. I have discussed your request with our resource planning group to have a twenty year avoided cost model completed for Black Hills Power. The group feels that they can complete that work no later than August 1 given their current work load.

Perhaps, as a next step, we should set up a conference call to discuss a number of items. We can clarify questions you may have on the attached analysis and hear your expectations on separating energy and capacity prior to starting work on the twenty year model. I believe on this call we can also clear up your confusion on our long capacity situation.

Finally, your assumption is correct on the REC values being excluded in the avoided cost calculation. We do not have a state mandate for renewable energy and thus would place no value on a REC in an avoided cost calculation.

Regards,

T. Aaron Carr

r om:	ros vrba <rosvrba@energyofutah.com></rosvrba@energyofutah.com>
sent:	Friday, June 19, 2015 4:03 PM
То:	Carr, Aaron
Cc:	Rounds, Brian; Robert Millsap
Subject:	Fw: Avoided cost data file and correspondence
Attachments:	Energy of Utah letter 6.16.16.pdf; Energy of Utah Avoided Cost Calc Output r1
	6-16-15.xlsx; Black Hills response from EOU 6.19.15.pdf

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Good afternoon

Attached is our response letter. Thank you for your time and we are looking forward to your up dated 20 years Avoided Cost Study. Have a nice weekend

Respectfully

Ros Rocco Vrba, MBA- President Energy of Utah LLC Phone: 801 708 2086

Phone: 801 708 2086 P.O. Box 900083. Sandy, Ut 84090-0083 <u>www.energyofutah.com</u> Power for People"

From: Carr, Aaron Sent: Tuesday, June 16, 2015 2:55 PM To: ros vrba Subject: Avoided cost data file and correspondence Mr. Vrba, Please find two attachments to this email. Look forward to talking to you soon. Regards, Aaron T. Aaron Carr Director of Corporate Development <u>aaron.carr@blackhillscorp.com</u> Office: 605-721-2368 Mobile: 605-390-4514

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Ros Vrba Energy of Utah

June 19, 2015 T. Aaron Carr Director, Corporate Development Black Hills Corporation

Re: Indicative pricing for Energy of Utah

Aaron,

Thank you for sending us the 2016-2021 avoided cost worksheet, and for your response to our green tag question. Based on your response, I assume that Black Hills would not be interested in owning the green tags associated with a QF. Please let me know if I've misunderstood your position.

The conference call is a great suggestion, but we would need more information in order to make it worthwhile for your team. We should wait for the full 2016-2037 avoided cost schedule. We are accustomed to a 30 day time frame for indicative price requests, and hope that it won't take much longer. We are targeting to have our site fully qualified for PTC/ITC that applies to solar assets until end of 2016. Indicative pricing is very critical component driving many critical development decisions.

Regarding your question about our request for a separation of energy and capacity costs in the schedule:

The current format of the worksheet provides some of this information, but fixed and variable O&M cost outputs in the PaR outputs are recorded as "0", for all but Colstrip, Happy Jack and Silver Sage. We will need these values for the other generators in the 20 year workbook.

We normally expect a separate avoided capacity cost component for capacity deficit years, and we hope that you can provide the same, based on Public Utilities Commission guidelines. Once we have this information, we should be able to begin a meaningful discussion.

Thanks again and please let me know if you have questions. We hope to develop a project that will be a positive for ratepayers and for Black Hills Corporation.

Sincerely,

From:	Carr, Aaron
Sent:	Friday, August 28, 2015 3:57 PM
То:	ros vrba (rosvrba@energyofutah.com)
Cc:	Loomis, Chuck; Seaman, Lisa; Koenig, Amy
Subject:	Energy of Utah 20 MW Solar Project - Production cost modeling results
Attachments:	Black Hills Corp RefCase Disclosure Letter_8_28_2015.pdf; Budget 2016 BHP Solar Avoided Cost Output r2.xlsx; Load and Resource Balance 20 MW Solar Project.xlsx; Ventyx Forecasts used for 20 MW Solar Analysis.xlsx

Mr. Vrba,

Please find attached a 20 year avoided cost study for your proposed solar project. The key data is located on the summary tab of the first excel file. You can see on that tab the calculated avoided cost on an energy only basis and the avoided cost associated with the capacity and energy. The second excel file shows you the load and resource balance of the system and highlights (yellow cells) where we removed capacity we otherwise would have purchased had it not been for the capacity of the proposed solar plant. Also, we have also include the Ventyx forecast for natural gas and power prices utilized in the study. Please also see the ABB disclosure letter referencing the confidentiality of this data.

As a reminder, all of the data shared herein is subject to our own non-disclosure agreement between Black Hills and Energy of Utah and should not be shared with anyone other than your advisors.

I would offer that we can be available at your convenience in the next several days to have a conference call to discuss any questions or concerns you may have regarding this analysis. I trust you will call to arrange a conference call.

Best regards,

Aaron

T. Aaron Carr Director of Corporate Development <u>aaron.carr@blackhillscorp.com</u> Office: 605-721-2368 Mobile: 605-390-4514

vom: Sent: To: Cc: Subject: Carr, Aaron Tuesday, October 27, 2015 2:44 PM robert millsap ros vrba (rosvrba@energyofutah.com); Seaman, Lisa RE: Levelized payment calculation

Robert,

Thanks for sharing. This is helpful.

Aaron

From: robert millsap [mailto:bobmillsap@renewable-energy-advisors.com]
Sent: Tuesday, October 27, 2015 2:31 PM
To: Carr, Aaron
Cc: ros vrba (rosvrba@energyofutah.com); Seaman, Lisa
Subject: Re: Levelized payment calculation

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aron,

I've attached a worksheet, but please let me know if you have any questions. I still hope that you and Ros will end up coming to an agreement that is (from my perspective) more reasonable. Either way, you and Lisa have both been great, and I hope that I'll have the opportunity to cross paths with you again.

thanks, Robert

On Tue, Oct 27, 2015 at 1:10 PM, Carr, Aaron <<u>Aaron.Carr@blackhillscorp.com</u>> wrote:

Robert,

Rocco forwarded me your email regarding the levelized payment for the SD Sun project. Can you send whatever excel spreadsheet you are using to calculate the \$47.69/MWh? We are having a hard time arriving at the same number.

Thanks,

Aaorn

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Robert Millsap, Analyst 801-824-8148 visit us at: <u>Renewable-Energy-Advisors.com</u>

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