

**BEFORE THE PUBLIC UTILITIES COMMISSION OF  
THE STATE OF SOUTH DAKOTA**

In the Matter of the Complaint by Juhl Energy, Inc.	)	
Against Northwestern Corporation DBA	)	Docket EL16-021
Northwestern Energy For Establishing a Purchase	)	
Power Agreement	)	

**DIRECT TESTIMONY AND EXHIBITS OF JON THURBER  
ON BEHALF OF  
THE COMMISSION STAFF**

**January 10, 2017**

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1 I. INTRODUCTION AND QUALIFICATIONS

2  
3 Q. Please state your name and business address.

4 A. Jon Thurber, Public Utilities Commission, State Capitol Building, 500 East Capitol  
5 Avenue, Pierre, South Dakota, 57501.  
6

7 Q. By whom are you employed and in what capacity?

8 A. I am a utility analyst for the South Dakota Public Utilities Commission ("Commission"). I  
9 am responsible for analyzing and presenting recommendations on utility dockets filed  
10 with the Commission that best serves the public interest.  
11

12 Q. Please describe your educational and business background.

13 A. I graduated summa cum laude from the University of Wisconsin – Stevens Point in  
14 December of 2006, with a Bachelors of Science Degree in Managerial Accounting,  
15 Computer Information Systems, Business Administration, and Mathematics. My  
16 regulated utility work experience began in 2008 as a utility analyst for the Commission.  
17 At the Commission, my responsibilities included analyzing and testifying on ratemaking  
18 matters arising in rate proceedings involving electric and natural gas utilities. In 2013, I  
19 joined Black Hills Corporation as Manager of Rates. During my time at Black Hills  
20 Corporation, I held various regulatory management roles and was responsible for the  
21 oversight of electric and natural gas filings in Wyoming, Montana, and South Dakota. In  
22 July of 2016, I returned to the Commission as a utility analyst. I have provided written  
23 and oral testimony on the following topics: the appropriate test year, rate base,  
24 revenues, expenses, taxes, cost allocation, rate design, power cost adjustments, capital  
25 investment trackers, and PURPA standards.  
26

27 II. PURPOSE OF TESTIMONY

28  
29 Q. What is the purpose of your direct testimony?

30 A. The purpose of my direct testimony is to provide and explain Commission Staff's position  
31 regarding the complaint by Juhl against NorthWestern (collectively referred to as the  
32 "Parties") with respect to establishing a proper avoided cost for three purchase power  
33 agreements ("PPA"). Commission Staff will address the following issues presented by

1 the Parties and provide a recommendation to the Commission to resolve this contractual  
2 dispute:

- 3
- 4 • Whether Juhl is currently bound by a legally enforceable obligation (“LEO”), and  
5 if so, when that LEO commenced and what impact that has on the avoided cost  
6 calculation?
  - 7 • What is the appropriate methodology to calculate NorthWestern’s avoided cost  
8 that will determine the basis for the rate NorthWestern must pay Juhl for its  
9 electricity made available from qualifying facilities?
- 10

11 First, I will introduce the other Commission Staff witness, Kavita Maini, and identify the  
12 topics she will discuss. Second, I will discuss the regulatory framework for qualifying  
13 facilities under the Public Utility Regulatory Policy Act of 1978 (“PURPA”). Third, I will  
14 provide an overview of the Parties’ avoided energy cost methodologies within the  
15 context of FERC and Commission policy. Fourth, I will discuss whether Juhl has  
16 established a LEO, and if so, when that LEO commenced. Finally, I will discuss the  
17 proper carbon compliance costs to include in the avoided cost.

18

19 **III. INTRODUCTION OF WITNESSES**

20

21 **Q. Who will be testifying on behalf of Commission Staff in this docket and what will**  
22 **they be discussing?**

23 A. Commission Staff will have Ms. Kavita Maini discuss the appropriate methodology to  
24 calculate NorthWestern’s avoided energy, capacity, and interconnection costs. Ms.  
25 Maini also discusses the incremental wind integration costs the Juhl projects will impose,  
26 and presents an alternative avoided cost methodology for Commission consideration.

27

28 **IV. REGULATORY FRAMEWORK FOR QUALIFIED FACILITIES UNDER PURPA**

29

30 **Q. Please provide some background regarding the relevant Sections of PURPA for**  
31 **this docket.**

32 A. PURPA was passed as part of the legislation known as the National Energy Policy Act.  
33 Under Sections 201 and 210, PURPA encouraged development of certain small power  
34 production and cogeneration facilities known as qualifying facilities (“QF”). Section 210

requires electric utilities to (1) purchase from qualifying facilities any energy and capacity which is made available, (2) to sell to any qualifying facility, and (3) to interconnect with the qualifying facility. The Federal Energy Regulatory Commission ("FERC") issued regulations implementing PURPA Sections 201 and 210, including 18 CFR 292.304 (a) regarding the rates for purchase:

(1) Rates for purchases shall:

(i) Be just and reasonable to the electric consumer of the electric utility and in the public interest; and

(ii) Not discriminate against qualifying cogeneration and small power production facilities.

(2) Nothing in this subpart requires any electric utility to pay more than the avoided costs for purchases. (*emphasis added*)

Avoided costs are defined by the FERC as the incremental costs of electric energy, capacity, or both, which, but for the purchase from the QF, such utility would generate itself or purchase from another source.<sup>1</sup> The primary point of contention in this docket is the determination of the cost NorthWestern can avoid by obtaining energy and capacity from Juhl's projects.

**Q. Which FERC Order adopts regulations that implement Section 210 of PURPA?**

A. FERC Order 69<sup>2</sup> adopts regulations that implement Section 210 of PURPA.

**Q. Does the FERC provide an interpretation of an electric utility's obligation to purchase all electric energy and capacity made available from qualified facilities with which the electric utility is directly or indirectly connected under PURPA in Order 69?**

A. Yes. Except under certain specific circumstances, the FERC reiterates this purchase obligation mandated by PURPA. However, the FERC does provide some clarifying comments on how much utilities should pay for energy and capacity if the power is not required to meet its total system load:

---

<sup>1</sup> 18 CFR 292.101(b)(6)

<sup>2</sup> See Exhibit\_JPT-1 for FERC Order 69.

1 “A qualifying facility may seek to have a utility purchase more energy or capacity  
2 than the utility requires to meet its total system load. In such a case, while the  
3 utility is legally obligated to purchase any energy or capacity provided by a  
4 qualifying facility, the purchase rate should only include payment for energy or  
5 capacity which the utility can use to meet its total system load. These rules  
6 impose no requirement on the purchasing utility to deliver unusable energy or  
7 capacity to another utility for subsequent sale.”<sup>3</sup>  
8

9 I will reference this interpretation by the FERC in other areas of my testimony as I  
10 believe this guidance will help the Commission resolve some areas of contention.  
11

12 **Q. Did the Commission initiate an investigation of the implementation of the FERC’s**  
13 **PURPA rules?**

14 **A.** Yes. While the FERC issued regulations adopting PURPA sections 201 and 210, the  
15 state regulatory commissions are responsible for implementing PURPA QF regulations  
16 consistent with FERC regulations. The FERC rules require state public utility  
17 commissions to set rates for the host utility to purchase power from a QF.  
18

19 In Docket F-3365,<sup>4</sup> the Commission investigated how the FERC rules should be  
20 implemented in South Dakota. I have listed some of the relevant findings that relate to  
21 this docket below:  
22

- 23 • The rates for purchases from a QF with a design capacity of more than 100 KW  
24 should be set by contract negotiated between the QF and the electric utility. The  
25 Commission agrees with the recommendations of all parties that the Commission  
26 should play a minimal role in the negotiation of such contracts, a role limited to  
27 resolving any contract disputes which arise between the parties.  
28
- 29 • Distinguishing between rates for purchases fixed by contract with a duration of  
30 less than 10 years (“short-term contract”) and rates for purchases set by contract  
31 with a duration of 10 years or more (“long-term contract”).  
32
- 33 • The capacity credits included in long-term contracts should be made constant  
34 over the duration of the contract.  
35
- 36 • Both short-term and long-term contracts should include an energy credit based  
37 on the average hourly incremental avoided costs calculated over the hours in the  
38 appropriate on-peak and off-peak hours as defined by the utility.

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<sup>3</sup> Federal Register Vol. 45 No. 38, page 12219.

<sup>4</sup> See Exhibit\_JPT-2 for the Order from Docket F-3365.

- The Commission finds that 18 C.F.R Section 292.306 requires each QF to pay “any interconnection costs which the State regulatory authority ... may assess against the qualifying facility on a non-discriminatory basis with respect to other customers with similar load characteristics”. The Commission finds that an assessment of interconnection costs can only be made on a case by case basis.
- The interconnection costs should be levelized over the life of the facility. To require a QF to pay the entire cost of interconnection up front might present too great a financial obstacle, and tend to discourage development of cogeneration and small power production.
- The capacity credits to be included in any purchase rates, whether contractual or otherwise, should be based on capacity actually avoided, and if the purchase does not enable a utility to avoid capacity costs, capacity credits should not be allowed. (emphasis added)
- The Commission does not read the FERC’s rules to permit a utility to pay capacity costs where none are avoided. To do so would have the effect of requiring the utility to pay twice for the same capacity and would thus impose added and unnecessary costs on the utility’s other customers, contrary to clear congressional and FERC intent.

**Q. Are there any other past Commission decisions that provide guidance on implementing PURPA and determining an appropriate avoided cost?**

A. In Docket EL11-006, In the Matter of the Complaint by Oak Tree Energy, LLC against NorthWestern Energy for Refusing to Enter into a Purchase Power Agreement, the Commission issued findings<sup>5</sup> in 2013 on many of the same PURPA issues that are present in this docket. While the facts and circumstances of this docket may be slightly different than Docket EL11-006, I believe the following rulings are instructive:

- Given NorthWestern’s status as a vertically integrated utility with predominant reliance on its own internal generation at this time, the hybrid method employed by NorthWestern is the proper method to calculate avoided costs for NorthWestern’s South Dakota system.
- The appropriate contract term for the Project is 20 years.
- Levelized avoided cost values are the appropriate values to use because they will produce a stable price that will better enable Oak Tree to finance the project.

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<sup>5</sup> See Exhibit\_JPT-3 for the Amended Final Decision and Order for Docket EL11-006.

- The renewable energy credits associated with the Project should remain with Oak Tree. Oak Tree will have access to the REC markets, and Oak Tree can market its RECs as it deems in its best interest.
- The inclusion of carbon costs in the avoided cost calculations is not justified at this time due to the absence of any legislation that seems likely to pass that would establish such costs and is therefore too speculative to warrant inclusion in the avoided cost.
- The proper natural gas and electric market rates to use in the hybrid method reflect market conditions and projections as of February 25, 2011, the date on which a LEO was created.
- Oak Tree is entitled to a capacity credit for the facility's output commencing with the Project's coming online with the capacity value equal to 20% of the Project's after-losses capacity of 18.915 MW. The 20% value is the appropriate percentage since NorthWestern is a member of the Midwest Reliability Organization (MRO), and as of the LEO date of February 25, 2011, the MRO accredited wind energy facilities at 20% of their rated capacity.

**Q. Why is it difficult for Parties to agree on a proper avoided cost?**

A. The definition of avoided cost is straightforward, but it can be difficult for Parties to agree on the costs an electric utility will avoid over a long period of time because it is an estimate based on forecasts. The estimate of future avoided energy costs over a long-term contract is primarily dependent on underlying assumptions about fuel and electricity market cost forecasts, and there are many different forecasts that stakeholders can use that yield significantly different avoided energy cost forecasts.

**Q. Why is it important to establish a rate for purchase that does not exceed NorthWestern's actual avoided cost?**

A. NorthWestern's customers will ultimately be responsible for paying the rate for purchase ordered by the Commission. A fixed-price, long-term PPA effectively transfers much of the financial risk of the QF project from the developer to NorthWestern's customers. NorthWestern's customers will be harmed by significant and unnecessary costs if the purchase rate exceeds NorthWestern's actual avoided cost.



1                   **V.       OVERVIEW OF AVOIDED ENERGY COST METHODOLOGIES**

2

3   **Q.       Please summarize NorthWestern’s avoided energy cost methodology.**

4   A.       NorthWestern utilizes a production cost modeling approach to estimate its avoided cost.  
5           Using PowerSimm software, Northwestern models its costs of its generation on an  
6           hourly basis over a twenty year period with and without Juhl’s projects to determine their  
7           effect on NorthWestern’s supply portfolio. The avoided cost is evaluated for the three  
8           following dispatch conditions:<sup>6</sup>

- 9
- 10           1. When the portfolio is short energy (i.e. generation is less than load) and is  
11           purchasing from the market, the avoided energy cost is the market purchase  
12           price of electricity that NorthWestern would otherwise have purchased;  
13           2. When the portfolio is long energy (i.e. generation is greater than load) and the  
14           market price is higher than the variable cost of the highest economically  
15           dispatchable resource used to serve load, the avoided energy cost is the  
16           variable cost of the highest dispatchable resource serving load; and  
17           3. When the portfolio is long energy and the market price is lower than the variable  
18           cost of any dispatchable resource, the avoided energy cost is zero because  
19           NorthWestern does not need to purchase from the market and it cannot back  
20           down its must-run generation units.

21

22           I will refer to dispatch condition 3 above as the minimum generation dispatch condition.  
23           Please see the direct testimony of Commission Staff witness Kavita Maini for more  
24           details regarding NorthWestern’s avoided energy cost methodology.

25

26   **Q.       Please summarize Juhl’s avoided cost methodology.**

27   A.       Juhl developed a differential revenue requirement analysis to estimate NorthWestern’s  
28           avoided cost. Juhl used the PROMOD simulation model and Ventyx Advisors data set  
29           to forecast NorthWestern’s system dispatch including and excluding Juhl’s projects.  
30           Market purchase and sales were included as dispatch options in the analysis. According  
31           to Juhl witness Roger Schiffman, during hours when NorthWestern’s system requires  
32           additional energy, the simulation assigns incremental costs for the energy based on  
33           forecasted Southwest Power Pool (“SPP”) market prices. During hours when

1 NorthWestern's system is long on energy, the simulation allows the excess to be sold  
2 into the SPP market based again on forecast hourly SPP market prices.<sup>7</sup> Please see the  
3 direct testimony of Commission Staff witness Kavita Maini for more details regarding  
4 Juhl's avoided energy cost methodology.  
5

6 **Q. What avoided energy cost methodology did the Commission approve in Docket**  
7 **EL11-006?**

8 A. In Docket EL11-006, the Commission approved the hybrid method recommended by  
9 NorthWestern rather than a market price method recommended by Oak Tree Energy,  
10 LLC ("Oak Tree").  
11

12 The hybrid method was described as a combination of the Component/Peak method and  
13 the Market Estimates method. This method estimated avoided energy costs for various  
14 levels of purchases based on multi-year average historical trends of hourly proportional  
15 contributions of baseload generation and wholesale market purchases. The average  
16 proportional contribution factors were combined with forecasted incremental baseload  
17 production costs and forecasted wholesale market prices to develop the estimated  
18 avoided energy costs. As a result, the hybrid method accounted for NorthWestern's  
19 actual generation portfolio and reflected both generation costs and market purchase  
20 costs in the calculation of avoided energy costs.  
21

22 Oak Tree's avoided cost estimate used a long-term market price forecast from Black &  
23 Veatch and applied this forecast to the expected hourly output of its project. The market  
24 approach did not consider when NorthWestern's internal generation was sufficient to  
25 cover its system needs, and assigned market prices to all energy produced by Oak Tree  
26 regardless of whether NorthWestern was long or short energy.  
27

28 **Q. Which of the Parties' method is more similar to the hybrid method?**

29 A. NorthWestern's production cost modeling approach is more similar to the hybrid method  
30 approved by the Commission in Docket EL11-006. NorthWestern has since refined its  
31 method to more precisely analyze hourly dispatch conditions through the use of  
32 PowerSimm, but continues to estimate its avoided energy cost using a combination of

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<sup>6</sup> See the direct testimony of NorthWestern witness Luke Hansen, Pages LPH-10 through LPH-11.

<sup>7</sup> See the direct testimony of Juhl witness Roger Schiffman, Page 36.

1 market purchases and the variable cost of internal generation, depending on its dispatch  
2 position.

3  
4 **Q. Do you agree with how NorthWestern is addressing the minimum generation**  
5 **dispatch condition?**

6 A. Yes, I agree that there should be no avoided energy cost payment assigned to the  
7 minimum generation dispatch condition. NorthWestern's avoided cost methodology  
8 associated with the minimum generation dispatch condition is consistent with the  
9 FERC's purchase obligation implementation in Order 69. Since utilities cannot curtail  
10 purchases of QF energy for general economic reasons, the FERC has indicated that  
11 parties may negotiate avoided costs with light loading periods in mind, and these  
12 conditions often are incorporated into PPAs.<sup>8</sup>

13  
14 **Q. Please provide your analysis of FERC Order 69 as it relates to the minimum**  
15 **generation dispatch condition.**

16 A. See below for FERC's purchase obligation implementation from Order 69, followed by  
17 my analysis:

18  
19 *"A qualifying facility may seek to have a utility purchase more energy or capacity*  
20 *than the utility requires to meet its total system load."*

21  
22 During light loading periods, Juhl is seeking to have NorthWestern purchase  
23 more energy than it needs to meet its total system load. Through the use of the  
24 minimum generation dispatch condition, NorthWestern's avoided cost  
25 methodology limits payment to only the energy that is used to meet its total  
26 system load. Without that condition, NorthWestern's avoided cost methodology  
27 would not include any protections from a QF that seeks to have NorthWestern  
28 purchase more energy than it requires for its total system load.

29  
30 *"In such a case, while the utility is legally obligated to purchase any energy or*  
31 *capacity provided by a qualifying facility, the purchase rate should only include*

---

<sup>8</sup> See *Idaho Wind Partners 1, LLC*, 143 FERC ¶ 61,248 (2013); *Idaho Wind Partners 1, LLC*, 140 FERC ¶ 61,219 (2012); *Entergy Services, Inc.*, 137 FERC ¶ 61,199 (2011).

1 *payment for energy or capacity which the utility can use to meet its total system*  
2 *load.”*

3  
4 As Commission Staff witness Kavita Maini also discusses, NorthWestern is a  
5 relatively small utility with adequate energy resources to serve its total system  
6 load. Specifically, NorthWestern has approximately 125 MWs of nameplate wind  
7 generation resources and approximately 224 MWs of nameplate coal generation  
8 resources through ownership and PPAs. The baseload coal generation  
9 resources have must run provisions that total 81 MWs. NorthWestern’s total  
10 system peak is approximately 305 MWs, average load is approximately 185  
11 MWs, and minimum load is approximately 107 MWs. With Juhl’s projects,  
12 NorthWestern’s wind generation resources would increase to approximately 185  
13 MWs of nameplate capacity, which would be approximately equal to  
14 NorthWestern’s average system load during hours when the wind resources are  
15 generating near maximum capacity.

16  
17 As more wind generation resources are put on NorthWestern’s system, minimum  
18 generation dispatch conditions will occur more frequently when the wind blows  
19 during low load, low market price hours. During these hours, NorthWestern is  
20 not able to use any of Juhl’s energy to meet its total system load, and the energy  
21 has no value to NorthWestern’s system.

22  
23 *“These rules impose no requirement on the purchasing utility to deliver unusable*  
24 *energy or capacity to another utility for subsequent sale.”*

25  
26 NorthWestern is not required to sell Juhl’s unusable energy during the minimum  
27 generation dispatch condition to the market. Juhl modeled its energy output  
28 during the minimum generation dispatch condition as a sale into the SPP market,  
29 and I believe that is not consistent with FERC’s purchase obligation  
30 requirements. In addition, it is not in the public interest to promote policies that  
31 encourage utility’s to obtain energy resources in excess of its system load.  
32 NorthWestern’s customers would ultimately pay this unnecessary, unjustified  
33 cost.

1 **Q. What concerns do you have about Juhl's avoided energy cost methodology?**

2 A. Juhl's differential revenue requirement method assigns market prices to all energy  
3 produced by Juhl regardless of whether NorthWestern was long or short energy. As  
4 previously stated, the FERC definition of avoided cost is the incremental costs of electric  
5 energy, capacity, or both, which, but for the purchase from the QF, such utility would  
6 generate itself or purchase from another source. Juhl's method did not reflect  
7 NorthWestern's cost to generate energy in the hours it is not required to purchase from  
8 another source. By using market price in the hours where NorthWestern's owned  
9 generation has a lower variable cost, Juhl's estimation of avoided energy cost is  
10 overstated.

11  
12 As a vertically integrated utility company, NorthWestern does not rely on the market for  
13 all of its purchases. NorthWestern's customers are currently paying retail rates that  
14 recover significant generation resource investments. These investments in generation  
15 limit NorthWestern's customers' exposure to market price risk by capping the cost of  
16 energy at the variable cost of NorthWestern's owned generation facilities. While Juhl's  
17 avoided cost methodology may be appropriate for a utility in a deregulated electricity  
18 market, it does not properly reflect the avoided energy cost of a vertically integrated  
19 electric utility.

20  
21 In addition, Juhl's avoided energy cost methodology does not limit payment to the  
22 energy that NorthWestern can use to meet its total system load. By including sales as a  
23 dispatch option in Juhl's differential revenue requirement analysis, NorthWestern is  
24 effectively serving as a market broker for Juhl, and NorthWestern's customers are taking  
25 on the market price risk for energy that provides no service value. Under Juhl's  
26 proposed avoided cost methodology, in theory, there could be an unlimited number of  
27 QF developers that could obligate NorthWestern to purchase unlimited amounts of  
28 energy at forecasted SPP market prices that would not be needed to meet  
29 NorthWestern's load. Failing to limit payment to only energy that is used to meet  
30 NorthWestern's total system load is inconsistent with FERC's interpretation of the  
31 PURPA purchase obligation, and would not be just and reasonable to NorthWestern's  
32 customers.

1 **Q. Which of the Parties' avoided energy cost methodology is consistent with FERC**  
2 **and Commission policy?**

3 A. NorthWestern's production cost methodology is consistent with FERC and Commission  
4 policy, and Commission Staff recommends NorthWestern's method for calculating the  
5 avoided energy cost.  
6

7 **VI. LEO ESTABLISHMENT**  
8

9 **Q. Please define LEO.**

10 A. Under 18 CFR 292.304(d), FERC regulations allow each QF to have the option to either:  
11 (1) provide energy as the QF determines such energy to be available for such  
12 purchases, in which case the rates for such purchases shall be based on the  
13 purchasing utility's avoided costs calculated at the time of delivery; or  
14 (2) provide energy or capacity pursuant to a LEO for the delivery of energy or capacity  
15 over a specific term, in which case the rates for such purchases shall, at the option of  
16 the QF exercised prior to the beginning of the specified term, be based on either:  
17 (i) The avoided costs calculated at the time of delivery; or  
18 (ii) The avoided costs calculated at the time the obligation is incurred.  
19

20 According to FERC Order 69, FERC used the term LEO to prevent a utility from  
21 circumventing the requirement that provides capacity credit for an eligible QF merely by  
22 refusing to enter into a contract with the qualifying facility. FERC has not defined what  
23 constitutes a LEO. Instead, FERC has provided state regulatory commissions the  
24 flexibility to define the requirements of a LEO consistent with PURPA and FERC  
25 regulations. The Commission has not defined what constitutes a LEO, but currently has  
26 a rulemaking pending regarding the requirements for establishing a LEO in Docket  
27 RM13-002.  
28

29 **Q. Why is a LEO significant?**

30 A. If a QF elects to sell its power pursuant to a LEO, PURPA requires that rates paid to the  
31 QF be set at the utility's avoided costs at the time the LEO is established. The  
32 underlying assumptions and forecasts to calculate the utility's avoided costs are based  
33 on the date the LEO is established.  
34

1 **Q. What positions have the Parties taken regarding a LEO?**

2 A. Juhl believes the LEO should run from the date negotiations ended, which is April 4,  
3 2016.<sup>9</sup> NorthWestern does not believe a LEO has been created at all.<sup>10</sup>  
4

5 **Q. Has Commission Staff previously taken a position on the requirements for**  
6 **establishing a LEO?**

7 A. Yes. In Docket RM13-002, Commission Staff submitted draft rules<sup>11</sup> for consideration by  
8 interested parties and the Commission. The draft rules were developed by Commission  
9 Staff based on initial comments in the rulemaking, and interested parties were allowed  
10 two rounds of comments on Commission Staff's proposed rules. While parties  
11 requested clarifications and language modifications to the rules, none of the comments  
12 received on the draft rules requested that any of the five requirements proposed be  
13 eliminated.  
14

15 **Q. Did Juhl and NorthWestern submit comments in Docket RM13-002?**

16 A. Yes. Juhl submitted reply comments on March 2, 2016.<sup>12</sup> In the conclusion on Page 12  
17 of Juhl's reply comments, Juhl requested that the Commission allow the rules to stand  
18 as drafted by Commission Staff. NorthWestern submitted comments in the rulemaking  
19 as well, and NorthWestern's position on the requirements of establishing a LEO has not  
20 changed from the rulemaking.  
21

22 **Q. Is Juhl's position on the requirements for establishing a LEO in this docket**  
23 **consistent with its position in Docket RM13-002?**

24 A. No, it is not. The rules that Juhl supported in Docket RM13-002 had five requirements to  
25 meet in order to establish a LEO. Based on responses to discovery in this complaint,  
26 Juhl has asserted that the LEO was established on the date negotiations ended. It is  
27 unclear if Juhl believes there are other requirements a QF would need to meet to  
28 establish a LEO.  
29

---

<sup>9</sup> See Exhibit\_JPT-4 for Juhl's response to Commission Staff Data Request 1-9.

<sup>10</sup> See the direct testimony of NorthWestern witness Bleau LaFave, Pg. 9, line 7, through Pg. 10, line 11.

<sup>11</sup> See Exhibit\_JPT-5 for the draft rules recommended by Commission Staff.

<sup>12</sup> See Exhibit\_JPT-6 for Juhl's reply comments in Docket RM13-002.

1 **Q. Did Commission Staff try to understand why Juhl modified its position on the**  
2 **requirements for establishing a LEO from Docket RM13-002?**

3 A. In Data Request 3-1,<sup>13</sup> Commission Staff asked Juhl to explain whether it continues to  
4 support the LEO rules as drafted in Docket RM13-002. Juhl's witness Corey Juhl  
5 responded that "given the Commission has yet to adopt the proposed rules, it is unclear  
6 why Juhl's support of the proposed rules, or lack thereof, has any bearing on this  
7 proceeding or the Juhl projects at issue in this proceeding."  
8

9 The requirements to establish a LEO is an issue in this proceeding as NorthWestern  
10 disputes Juhl's assertion that it established a LEO on April 4, 2016. Through this  
11 complaint, it appears that Juhl is considering electing to sell its power through a LEO.  
12 The establishment of a LEO has "bearing on this proceeding." Unfortunately, Mr. Juhl's  
13 answer to Commission Staff Data Request 3-1(b), and Juhl's testimony, did not clearly  
14 define its position on what constitutes a LEO.  
15

16 **Q. Are the draft rules proposed by Commission Staff reasonable requirements for**  
17 **establishing a LEO?**

18 A. Yes. When discussing factors affecting rates for purchases in Order 69, the FERC  
19 stated that:  
20

21 "if a qualifying facility offers energy of sufficient reliability and with sufficient  
22 legally enforceable guarantees of deliverability to permit the purchasing electric  
23 utility to avoid the need to construct a generating plant, to enable it to build a  
24 smaller, less expensive plant, or to purchase less firm power from another utility  
25 than it otherwise would have purchased, then the rates for purchases from the  
26 qualifying facility must include the avoided capacity and energy costs."<sup>14</sup>  
27 (emphasis added)  
28

29 The requirements provided in the draft rules are necessary for a QF to guarantee  
30 delivery, and provide sufficient commitments from a QF to obligate itself to sell electricity  
31 to the utility. Since no party in Docket RM13-002 contested any of the five requirements,  
32 Commission Staff believes the draft rules provide reasonable requirements for  
33 establishing a LEO.  
34  
35

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<sup>13</sup> See Exhibit\_JPT-7 for Juhl's response Commission Staff Data Request 3-1.



1 **Q. Did Juhl meet all five requirements in the draft rules by April 4, 2016, to establish a**  
2 **LEO as recommended by Commission Staff in Docket RM13-002?**

3 A. No. I will provide Commission Staff's interpretation of whether Juhl met each of the five  
4 requirements below:

5  
6 *(1) The qualifying facility, if it has a net power production capacity of 500 kW or more,*  
7 *has notified the public utility of its status as a qualifying facility at least 90 days prior,*  
8 *pursuant to 18 C.F.R 292.207(c)(2);*  
9

10 On Page 3 of Juhl's complaint, Juhl asserts that it provided copies of the FERC Form  
11 556 for each of the three wind projects to the Commission and NorthWestern.  
12 NorthWestern admitted that Juhl previously provided these forms in its response to  
13 Juhl's complaint. The Commission received a copy of this certification on October  
14 13, 2015. Commission Staff will submit discovery regarding the specific day Juhl  
15 provided this form to NorthWestern, but it appears Juhl met this requirement in  
16 October 2015.

17  
18 *(2) The qualifying facility has entered into an interconnection agreement or the*  
19 *interconnection process is delayed as a result of a dispute that has been filed with*  
20 *the proper jurisdiction;*  
21

22 According to Juhl's response to Commission Staff Data Request 3-1(a), Juhl had not  
23 entered into an interconnection agreement as of November 15, 2016, and Juhl did  
24 not anticipate completing the interconnection process until January 31, 2017. In  
25 addition, Juhl did not indicate any issues with the interconnection process in the  
26 dispute filed on June 23, 2016. Juhl did state on November 15, 2016, in response to  
27 Commission Staff Data Request 3-1(a), that NorthWestern has been considering  
28 Juhl's interconnection request for 416 days as of the date of that response. In  
29 response to Commission Staff Data Request 3-2(a)<sup>15</sup>, Juhl noted that "SPP has  
30 received all of the required information and data related to the Affected System  
31 Study Agreement and Juhl expects to receive results by or before 1/31/2017." With  
32 the information provided by the Parties, it is difficult to tell if the delay is attributable

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<sup>14</sup> Federal Register Vol. 45 No. 38, page 12226.

<sup>15</sup> See Exhibit\_JPT-8 for Juhl's response to Commission Staff Data Request 3-2.

1 to NorthWestern's interconnection process or the SPP's interconnection process.  
2 Juhl does not have an interconnection agreement, and Juhl has not filed a dispute  
3 with the Commission regarding the interconnection process. Therefore, Juhl has not  
4 met this requirement.

5  
6 *(3) The public utility has failed to provide the avoided cost information required by 18*  
7 *C.F.R. 292.302 or the qualifying facility has filed a dispute of the public utility's*  
8 *avoided cost information with the Commission;*

9  
10 Juhl met this requirement on June 23, 2016, when it filed this complaint against  
11 NorthWestern with respect to establishing a proper avoided cost for three purchase  
12 power agreements.

13  
14 *(4) The qualifying facility has offered a signed power purchase agreement to the public*  
15 *utility that includes the following:*

- 16 *a. A purchase price based on the qualifying facility's estimate of the public*  
17 *utility's avoided cost;*  
18 *b. A reasonable date or range of dates for commencement of delivery of the*  
19 *energy or capacity, or both;*  
20 *c. The length of the contract; and*  
21 *d. Other terms and conditions that would be reasonable in the industry;*

22  
23 While Commission Staff does not have documentation that Juhl specifically offered a  
24 signed purchase agreement, there is agreement by the Parties that Juhl offered a  
25 purchase price based on Juhl's estimate of NorthWestern's avoided cost, provided a  
26 range for the commencement of delivery of power from December 2017 to  
27 December 2018, and offered a 20 year contract. The Parties also noted that they did  
28 not anticipate that the non-rate terms and conditions of the contract will prevent an  
29 agreement. Juhl appears to have met the intent of this requirement no later than  
30 April 4, 2016.

31  
32 *(5) The qualifying facility has shown that it has made significant progress toward*  
33 *bringing the qualifying facility into existence by providing:*

- 1           a. *A list of any permits that are needed for the facility to be operational and*  
2           *documentation that it has completed or started the process to obtain the*  
3           *permits;*  
4           b. *A description of the site of the project and documentation that it has acquired*  
5           *or is in the process of acquiring the land or any necessary easements or*  
6           *options;*  
7           c. *The amount of financing that is needed and documentation that it has*  
8           *acquired financing or its plan for acquiring financing; and*  
9           d. *A description of any owners, employees, or consultants' qualifications to*  
10          *construct and operate the qualifying facility.*  
11

12          Commission Staff's primary concern with Juhl's ability to bring all three of its QFs into  
13          existence is the fact that Juhl was denied a conditional use permit by the Davison  
14          County Commission for the Davison project. In response to Commission Staff Data  
15          Request 2-2,<sup>16</sup> Juhl stated the Davison County Wind Project is still in the process of  
16          completing various development milestones. Juhl also indicated that it would be  
17          resubmitting a permit application after the County has adopted their new "Wind  
18          Energy Ordinance," which is expected to be in place by January 15, 2017. There  
19          have been instances of local opposition to siting wind facilities in South Dakota that  
20          have caused delays in construction. I do not believe it is appropriate to assume  
21          approval of a project without the proper permits from the appropriate local  
22          governments.

23  
24          In Juhl's response to Commission Staff Data Request 2-5,<sup>17</sup> Juhl provided the  
25          current status of each permit needed for the QFs to become operational. Some  
26          progress has been made towards bringing the projects into existence, but it is  
27          questionable whether Juhl could obligate itself to deliver energy and capacity on April  
28          4, 2016, from the Davison and Aurora project when Juhl had been denied a County  
29          conditional use permit for the Davison project, and it had not obtained any of the  
30          necessary permits for the Aurora project.  
31

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<sup>16</sup> See Exhibit\_JPT-9 for Juhl's response to Commission Staff Data Request 2-2.

<sup>17</sup> See Exhibit\_JPT-10 for Juhl's response to Commission Staff Data Request 2-5.

1 **Q. Please summarize Commission Staff's position on whether Juhl established a**  
2 **LEO on April 4, 2016?**

3 A. Based on the five requirements for establishing a LEO as set forth in the draft rules  
4 recommended by Commission Staff and supported by Juhl in Docket RM13-002, Juhl  
5 did not establish a LEO on April 4, 2016. First of all, Juhl did not file a dispute regarding  
6 the avoided cost with the Commission until June 23, 2016. Second, Juhl has not  
7 entered into a transmission interconnection agreement or filed a dispute with the  
8 Commission regarding the interconnection process. Third, while progress has been  
9 made in obtaining some of the permits necessary for the QFs to become operational,  
10 Commission Staff questions whether Juhl could obligate itself to deliver energy and  
11 capacity on April 4, 2016, from the Davison and Aurora project when it had been denied  
12 a County conditional use permit for the Davison project, and it had not obtained any of  
13 the necessary permits for the Aurora project. Commission Staff does not believe a LEO  
14 has been established.

15  
16 **VII. CARBON COMPLIANCE COSTS**  
17

18 **Q. What are carbon costs?**

19 A. Carbon costs are the estimated future costs associated with the regulation of CO<sub>2</sub>  
20 emissions from electric generation facilities.  
21

22 **Q. What are the Parties positions on including carbon costs in the avoided cost**  
23 **estimate?**

24 A. NorthWestern believes it would not be appropriate to arbitrarily include an unknown  
25 carbon cost that NorthWestern customers may or may not avoid in the future.<sup>18</sup>  
26 In the direct testimony of Juhl's witness Roger Schiffman, he stated, "Given the Clean  
27 Power Plan ("CPP") rules developed by the EPA, and given NorthWestern's approach  
28 taken in power supply and resource planning analyses, it is appropriate to reflect a  
29 carbon cost component in the avoided cost."<sup>19</sup> Juhl's wind projects produce carbon-free  
30 energy, and Juhl believes the projects will help NorthWestern in its CPP compliance  
31 activities.  
32

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<sup>18</sup> See the direct testimony of NorthWestern witness Bleau LaFave, Pg. BJL-21, line 17, through BJL-22, line 9.

1 Juhl recommends increasing the levelized avoided cost by \$11.63 per MWh to reflect the  
2 inclusion of CO<sub>2</sub> compliance costs. Juhl asserted that it used the CO<sub>2</sub> price forecast  
3 recently developed by NorthWestern in its Montana Power Supply study, and assumed  
4 that fifty percent of the carbon cost, expressed on a \$/MWh basis, would flow through to  
5 energy prices. Mr. Schiffman stated that fifty percent of the carbon cost “is a very  
6 conservative assumption, as it effectively assumes that efficient natural gas-fueled  
7 resources always set marginal energy prices in SPP, so the carbon pricing component  
8 would be reflective of CO<sub>2</sub> compliance costs for a natural gas-fueled combined-cycle  
9 resource.”  
10

11 **Q. Has the Commission previously ruled on including carbon compliance costs in a**  
12 **utility’s avoided cost?**

13 A. Yes. As previously stated, in Docket EL11-006, the Commission decided that carbon  
14 compliance costs were too speculative to warrant inclusion in the avoided cost.  
15

16 **Q. What is the current status of the CPP?**

17 A. On February 9, 2016, the U.S. Supreme Court stayed implementation of the CPP  
18 pending judicial review. On September 27, 2016, oral arguments were heard on the  
19 CPP before the U.S. Court of Appeal for the District of Columbia Circuit. The loser is  
20 likely to appeal the decision to the U.S. Supreme Court. With the current political  
21 climate, it is unlikely the Supreme Court will uphold the CPP in its entirety. Commission  
22 Staff believes the future of the CPP is uncertain and may never be enforced.  
23

24 **Q. How were carbon costs modeled in NorthWestern’s 2014 Integrated Resource**  
25 **Plan?**

26 A. In response to Commission Staff Data Request 3-1, NorthWestern responded that it  
27 reflected the CPP as a sensitivity analysis in its 2014 Integrated Resource Plan.  
28 NorthWestern stated that “the impact of EPA’s proposed 111(d) CO<sub>2</sub> reductions is still  
29 largely unknown... Because this now relevant uncertainty poses risk to NorthWestern’s  
30 resource fleet, Ascend included CO<sub>2</sub> risk in its analysis.”  
31

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<sup>19</sup> See direct testimony of Juhl witness Roger Schiffman, page 38.

Electric utilities have been modeling CO<sub>2</sub> risk as a sensitivity in resource planning for many decades without an actual carbon cost ever imposed. Unlike risk analysis, PURPA requires that the avoided costs be calculated based on costs actually avoided.

**Q. Should the Commission include carbon costs in the avoided cost?**

A. No, carbon costs are still too speculative to include in the avoided cost. In the absence of known laws or enforceable regulations that impose a cost for carbon, it is difficult to predict the actual impact carbon costs would have on NorthWestern's avoided costs. There has not been a change in facts and circumstances from Docket EL11-006 that would justify a different decision than the Commission previously rendered.

**Q. Does Juhl's QFs produce any other environmental attributes?**

A. Yes, Juhl's wind QFs will generate Renewable Energy Credits ("REC"). RECs represent the environmental attributes of power produced from renewable energy facilities and are sold separate from commodity electricity. A megawatt-hour of renewable electricity generated and delivered is equal to one REC.

**Q. What are the Parties positions on including RECs in the avoided cost calculation?**

A. To the best of my knowledge, Juhl has not stated its position on including RECs in the avoided cost. NorthWestern included RECs in the avoided cost calculation using the current price for Green-e National Wind, and escalated the REC price over the contract period using the same escalation rate as reflected in the natural gas and electric commodity price forecast.<sup>20</sup>

**Q. Did the Commission include RECs in the avoided cost established in Docket EL11-006?**

A. No, the Commission did not include RECs in the avoided cost calculation. The Commission decided that the RECs associated with the QF should remain with the developer, and the developer can market its RECs as it deems in its best interests.

**Q. Do you recommend including RECs in the avoided cost calculation?**

A. No, I do not recommend including RECs in the avoided cost calculation. There are no laws or regulations that require NorthWestern to obtain RECs in South Dakota. With no

1 current requirements, NorthWestern does not actually avoid costs by obtaining RECs. In  
2 addition, NorthWestern had the ability to meet and exceed South Dakota's Renewable,  
3 Recycled, and Conserved Energy Objective<sup>21</sup> in 2015 with the RECs provided through  
4 purchase power agreements and ownership of the Beethoven wind facility.  
5

6 **Q. Does this conclude your testimony?**

7 **A.** Yes.

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<sup>20</sup> See Exhibit\_JPT-11 for NorthWestern's response to Commission Staff Data Request 2-1.

<sup>21</sup> See SDCL 49-34A-101