

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET EL19-007

**IN THE MATTER OF THE APPLICATION OF TRIPLE H WIND PROJECT, LLC FOR
A PERMIT OF A WIND ENERGY FACILITY IN HYDE COUNTY, SOUTH DAKOTA**

**DIRECT TESTIMONY OF JON THURBER
ON BEHALF OF THE COMMISSION STAFF
MAY 29, 2019**

TABLE OF CONTENTS

I.	<u>INTRODUCTION AND QUALIFICATIONS</u>	1
II.	<u>PURPOSE OF TESTIMONY</u>	2
III.	<u>DECOMMISSIONING</u>	2
IV.	<u>ICE THROW</u>	8
V.	<u>COMMISSION STAFF'S PERMIT RECOMMENDATION</u>	12

EXHIBITS

Exhibit_JT-1 Triple H's Responses to Discovery Regarding Ice Throw and Decommissioning

Exhibit_JT-2 Decommissioning Escrow Account Condition

Exhibit_JT-3 2019 Senate Bill 16

Exhibit_JT-4 CONFIDENTIAL General Electric Wind Turbine Generator System Safety Manual

Exhibit_JT-5 General Electric Setback Considerations for Wind Turbine Siting

Exhibit_JT-6 Commission Staff Discovery Set 6

Exhibit_JT-7 General Electric Wind Turbine Siting Email Clarification

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.
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. In addition to cost of
23 service dockets, I work on transmission siting, energy conversion facility siting, wind
24 energy facility siting, and Southwest Power Pool transmission cost allocation issues.
25

26 In my ten years of regulatory experience, I have either reviewed or prepared over 175
27 regulatory filings. These filings include six wind energy facility and three transmission
28 facility siting dockets. I have provided written and oral testimony on the following topics:
29 the appropriate test year, rate base, revenues, expenses, taxes, cost allocation, rate
30 design, power cost adjustments, capital investment trackers, PURPA standards, avoided
31 costs, electric generation resource decisions, and wind energy facility siting dockets.
32

1 **Q. Are you familiar with Triple H Wind Energy LLC’s (“Triple H” or “Company” or**
2 **“Applicant”) application for a permit of a wind energy facility, Docket EL19-007?**

3 A. Yes. I have reviewed the Company’s prefiled testimony, appendixes, figures, and
4 responses to data requests produced by Triple H as it pertains to the issues that I am
5 addressing.

6
7 **II. PURPOSE OF TESTIMONY**

8
9 **Q. What is the purpose of your direct testimony?**

10 A. Commission Staff and Triple H reached a settlement that resolved all issues except for
11 the funding for the decommissioning of the Project and the risks associated with ice
12 throw. The Settlement Stipulation was considered by the Commission on May 28, 2019,
13 and the Commission approved the Settlement Stipulation, with the exceptions of
14 Condition 35 requiring a public liaison and Condition 38 establishing a procedure to
15 minimize impacts to whooping cranes. Commission Staff will work to make Tom
16 Kirschenmann, Deputy Director of the Wildlife Division and Chief of the Terrestrial
17 Resources Section at the Game, Fish, and Parks, available at the evidentiary hearing to
18 testify on the potential impacts to whooping cranes. Mr. Kirschenmann may file
19 supplemental direct testimony in this proceeding. The purpose of my direct testimony is
20 to provide Commission Staff’s recommendation on the funding for the decommissioning
21 of the Project and the appropriate setback to address safety risks associated with ice
22 throw.

23
24 **III. DECOMMISSIONING**

25
26 **Q. Did the South Dakota legislature request that the Commission consider rules for**
27 **the decommissioning of a wind energy facility?**

28 A. Yes. SDCL 49-41B-35(3) states that the Commission may adopt rules to “require bonds,
29 guarantees, insurance, or other requirements to provide funding for the
30 decommissioning and removal of a wind energy facility.” Under that general authority,
31 the Commission promulgated ARSD 20:10:22:33.01:

32
33 ***Decommissioning of wind energy facilities – Funding for removal of***
34 ***facilities. The applicant shall provide a plan regarding the action to be taken***
35 ***upon the decommissioning and removal of the wind energy facilities. Estimates***

1 *of monetary costs and the site condition after decommissioning shall be included*
2 *in the plan. The commission may require a bond, guarantee, insurance, or other*
3 *requirement to provide funding for the decommissioning and removal of a wind*
4 *energy facility. The commission shall consider the size of the facility, the location*
5 *of the facility, and the financial condition of the applicant when determining*
6 *whether to require some type of funding. The same criteria shall used to*
7 *determine the amount of any required funding.*
8

9 **Q. Did the Applicant provide a decommissioning plan, an estimate of monetary**
10 **costs, and a description of the site condition after decommissioning as required**
11 **by ARSD 20:10:22:33:01?**

12 A. Yes. Triple H provided the decommissioning plan in Appendix L of the Application, and
13 the Applicant discusses site condition after decommissioning and the estimate of
14 monetary costs in Sections 5.0 and 6.0, respectively, of the plan.
15

16 **Q. Did Commission Staff have any concerns regarding the decommissioning plan?**

17 A. There was one discrepancy regarding the removal depth committed to in the Application
18 and the decommissioning plan, but Triple H clarified its commitment through discovery.
19 In Section 4.12.11 of the Application, Triple H committed to removing wind facilities and
20 turbine foundations to a depth of four feet below grade. In Section 4.0 of the
21 decommissioning plan, the Applicant states that the decommissioning and restoration
22 process comprises of the removal of below ground structures to a depth of three feet. In
23 response to Commission Staff data request 2-3(c), the Applicant reaffirmed that it plans
24 to remove equipment, structures, and cabling to a depth of four feet, and provided a
25 revised decommissioning plan to reflect this change (Exhibit_JT-1, Pages 6 - 19).
26

27 **Q. What is Triple H's estimate for the current cost of decommissioning?**

28 A. Triple H estimates the current cost of decommissioning is approximately \$75,386 per
29 turbine, or \$6,604,719 for the Project, in 2018 dollars, assuming salvage and no resale
30 of project components. The detailed cost estimate breakdown is provided in Appendixes
31 A and B of the decommissioning plan.
32

33 **Q. Does Commission Staff believe the decommissioning cost estimate is**
34 **reasonable?**

35 A. The estimate of future decommissioning costs is based on a number of assumptions that
36 can lead to a wide range of potential costs. Please see Appendix A of the

1 decommissioning plan for the assumptions incorporated in Triple H's estimate. Based
2 on the decommissioning cost estimates provided to the Commission by other wind
3 energy facilities in the last couple years (Dockets EL17-055, EL18-003, EL18-026, EL18-
4 046, EL18-053), the estimate appears reasonable as a basis to establish the initial
5 funding, with the caveat that the funding is reviewed and updated periodically based on
6 the current cost estimate of decommissioning and restoration for the Project. Triple H
7 committed to the review and update of the cost estimate every five years after Project
8 commissioning on Page 4-11 of the Application.

9
10 **Q. Triple H provided the decommissioning cost estimate in 2018 dollars in the**
11 **Application. Did Triple H provide a decommissioning cost estimate at the time of**
12 **decommissioning through discovery?**

13 A. In its Application, Triple H anticipated the Project life to be approximately 25 years
14 beyond the date of initiating commercial operations. Based on a commercial operation
15 date of 2020, Commission Staff requested Triple H estimate the decommissioning cost
16 in 2045 dollars. In response to Commission Staff data request 2-3(a)(ii), Triple H
17 estimated the cost of decommission per turbine is \$148,430 in 2045 dollars, assuming
18 salvage and no resale.

19
20 **Q. Did Triple H provide any decommissioning cost estimates that assumes no**
21 **salvage and no resale?**

22 A. Yes. In response to Commission Staff data request 2-3(a)(i) and 2-3(a)(iii), Triple H
23 estimates the decommissioning cost per turbine is \$146,440 and \$288,332 in 2018 and
24 2045 dollars, respectively, assuming no salvage and no resale.

25
26 **Q. What is the significance of the decommissioning cost estimate assuming no**
27 **salvage and no resale?**

28 A. Comparing the decommissioning cost estimate assuming no salvage and no resale in
29 current dollars (\$146,440) with the decommissioning cost estimate assuming salvage
30 and no resale in current dollars (\$75,386) shows that almost half of the decommissioning
31 costs are expected to be offset by a salvage credit. The scrap value of steel, aluminum,
32 and copper can be volatile, and using a cost estimate for decommissioning funding that
33 incorporates a salvage credit as the basis for funding could result in inadequate funding
34 for decommissioning. While Commission Staff supports using a decommissioning cost

1 estimate that includes a salvage value credit as the basis for the initial funding of the
2 financial security, Commission Staff will analyze the salvage credit in subsequent
3 reviews to ensure the credit reflected in the estimate is conservative.
4

5 **Q. What type of financial assurance did Triple H propose in its Application for**
6 **decommissioning?**

7 A. Triple H appears to discuss three financial assurance options for decommissioning in the
8 direct testimony of Casey Willis. On page 9, lines 110 – 114 of his direct testimony, Mr.
9 Willis discusses a Restoration Fund for decommissioning that Triple H is contractually
10 committed to in the event a governmental authority does not require Triple H to provide
11 security. See Exhibit A to Mr. Willis testimony for the language included in the
12 easement. Also, on page 9, lines 107 – 109, of his direct testimony, Mr. Willis states
13 “that given the size and scale of Engie, utilizing a parent guarantee or letter of credit
14 would be sufficient to guarantee decommissioning costs over the life of the Triple H
15 Wind Project.”
16

17 **Q. Regarding the Restoration Fund provided in the easements, is Triple H**
18 **recommending that the Commission require no security for decommissioning and**
19 **utilize the Restoration Fund?**

20 A. No. In response to Commission Staff data request 4-6, Triple H clarified that they are
21 proposing that the Commission require a letter of credit to guarantee decommissioning
22 costs.
23

24 **Q. Does Commission Staff believe a letter of credit is a financial assurance that the**
25 **legislature authorized the Commission to consider?**

26 A. Yes. I believe a letter of credit is a type of guarantee as defined in SDCL 49-41B-35(3)
27 and ARSD 20:10:22:33.01, based on the definition of a letter of credit in Merriam-
28 Webster dictionary:
29

30 Letter of credit: a letter addressed by a banker to a person to whom credit is
31 given authorizing drafts on the issuing bank or on a bank in the person’s country
32 up to a certain sum and guaranteeing to accept the drafts if duly made.
33
34
35

1 **Q. What is the Commission’s preferred type of financial assurance for**
2 **decommissioning in recent wind energy facility permits?**

3 A. In Docket EL17-055, the Commission, on its own motion, ordered that the Crocker Wind
4 Farm provide an escrow account as the financial assurance for decommissioning. For
5 each subsequent wind energy facility permit application, Commission Staff has
6 negotiated, and the Commission has approved, settlements including an escrow account
7 to provide financial security for decommissioning. The escrow account condition in
8 Docket EL17-055 was used as a template in all settlements. The Commission has also
9 approved a condition that states the escrow account requirement does not apply if the
10 applicant is purchased by an electric utility which is rate regulated by the Commission.
11 In that case, the financial cost of decommissioning will be reviewed and recovered from
12 customers through utility rates.

13
14 **Q. Please provide a brief description of the decommissioning escrow account.**

15 A. The decommissioning escrow account is a mechanism through which the applicant can
16 gradually accumulate decommissioning funds over time. The applicant regularly sets
17 money aside in a separate custodial account, segregated from the applicant’s assets
18 and outside the applicant’s control, for the exclusive purpose of the payment of costs to
19 fulfill its decommissioning obligation.

20
21 **Q. Does Commission Staff believe the legislature granted the Commission the**
22 **authority to order an escrow account to provide funding for the decommissioning**
23 **and removal of wind energy facility?**

24 A. Yes. I believe an escrow account serves as a guarantee as defined in SDCL 49-41B-
25 35(3) and ARSD 20:10:22:33.01.

26
27 **Q. Has the escrow account condition been a difficult issue to resolve in wind energy**
28 **facility permits for Commission Staff?**

29 A. Yes, the escrow account condition has been one of the most contentious issues to
30 resolve during settlement negotiations. I believe all applicants since the Crocker Wind
31 Farm decision have advocated for an alternative type of financial assurance with
32 Commission Staff before ultimately agreeing to an escrow account.

33

1 **Q. Did the Applicant explain why a letter of credit is a superior financial assurance**
2 **option compared to the escrow agreement previously ordered by the**
3 **Commission?**

4 A. Commission Staff posed this question to Triple H in discovery, and Triple H provided a
5 lengthy response to Commission Staff data request 2-3(d). See Exhibit_JT-1, Pages 3 –
6 4, for the response.

7
8 **Q. Triple H stated that the escrow account method of financial assurance is an**
9 **“inefficient use of capital.” Do you have any response to this assertion?**

10 A. The Applicant has provided no evidence comparing the cost of a letter of credit to an
11 escrow account, so Commission Staff cannot form an opinion on this assertion.

12
13 **Q. Triple H also identifies concerns that the escrow account method “will be**
14 **problematic to maintain and disburse” and “attractive to creditors and litigants.”**
15 **Did the South Dakota legislature pass any recent legislation that may address**
16 **these concerns?**

17 A. While these concerns are more of a legal argument better addressed by Commission
18 Staff attorneys, the South Dakota legislature passed Senate Bill 16 during the 2019
19 session to establish certain provisions regarding financial security for the
20 decommissioning of wind turbines. Senate Bill 16 is provided as Exhibit_JT-3 attached.
21 The Applicant should explain how this law will not alleviate their concerns regarding
22 disbursements and attractiveness to creditors and litigants of an escrow account.

23
24 **Q. Do you have any other comments on Triple H’s letter of credit proposal?**

25 A. The Applicant has not made a comprehensive letter of credit proposal for the
26 Commission to consider. Commission Staff requests that the Applicant provide
27 testimony from an expert in financial assurance with evidence to support their letter of
28 credit proposal.

29
30 **Q. Do you have an opinion on the Applicant’s proposal to utilize a letter of credit to**
31 **guarantee decommissioning costs?**

32 A. I would like to review the Applicant’s rebuttal testimony and evidence supporting a letter
33 of credit proposal before making a recommendation.

34

1 **Q. Do you have a recommended permit condition if the Commission determines an**
2 **escrow account is the appropriate financial assurance to guarantee**
3 **decommissioning costs?**

4 A. Yes, please see Exhibit_JT-2 for Commission Staff's recommended permit condition for
5 an escrow account. Commission Staff modified the escrow account included in the
6 Deuel Harvest Wind Project (Docket EL18-053) conditions to reflect a 25-year useful life
7 for the Project. The funding at a rate of \$5,000 per turbine per year for the first 25 years
8 is supported by the decommissioning cost estimate per turbine of \$148,430 in 2045
9 dollars, assuming salvage and no resale. Although the Applicant offered to review and
10 update the cost estimate every five years after Project commissioning, Commission Staff
11 believes an initial review of decommissioning costs beginning in year ten following
12 commercial operation of the Project and each fifth year thereafter is adequate oversight
13 to ensure that decommissioning cost funding is updated periodically to reflect current
14 estimates.

15
16 **IV. ICE THROW**
17

18 **Q. What is Triple H proposing for a setback to mitigate the potential hazard**
19 **associated with ice throw?**

20 A. It appears that Triple H proposed setbacks consistent with Hyde County and South
21 Dakota laws to address the risks associated with ice throw. According to Table 12-1 of
22 the Application, the Project will be setback at least:

- 23 • 775 feet from any county gravel road, section line roads, highways, and
24 minimum maintenance road consistent with the Hyde County zoning ordinance;
- 25 • 535 feet from nonparticipating landowner property lines consistent with the
26 SDCL 43-13-24; and
- 27 • 256 feet from participating landowner property lines consistent with SDCL 43-13-
28 24.

29
30
31
32
33

1 **Q. How is the setback from participating landowner property lines of 256 feet**
2 **consistent with SDCL 43-13-24?**

3 A. SDCL 43-13-24 states:

4

5 *Large wind energy system set back requirement--Exception. Each wind turbine*
6 *tower of a large wind energy system shall be set back at least five hundred feet*
7 *or 1.1 times the height of the tower, whichever distance is greater, from any*
8 *surrounding property line. However, if the owner of the wind turbine tower has a*
9 *written agreement with an adjacent land owner allowing the placement of the*
10 *tower closer to the property line, the tower may be placed closer to the property*
11 *line shared with that adjacent land owner.*

12

13 Triple H must have obtained written agreements from all participating landowners to
14 place turbines 256 feet from their property lines.

15

16 **Q. How did Triple H determine 256 feet to be an appropriate setback from**
17 **participating landowner property lines?**

18 A. Commission Staff issued discovery to Triple H to better understand the basis of the
19 proposed setback from participating landowner property lines. See Exhibit_JT-6 for the
20 additional discovery requests sent to the Applicant. Commission Staff did not receive
21 responses to these requests prior to drafting testimony.

22

23 **Q. How were the risks associated with ice throw explained to participating**
24 **landowners when Triple H requested a written agreement for a setback of less**
25 **distance than required by state law?**

26 A. Commission Staff also inquired about this through discovery and will have more
27 information at the evidentiary hearing.

28

29

30

31

32

33

1 **Q. Does the proposed turbine manufacturer, General Electric (“GE”), make any**
2 **setback recommendations in its safety manual associated with ice throw?**

3 A. Yes. On Exhibit_JT-4, Page 45, GE provides the following information:
4

5 **[BEGIN CONFIDENTIAL]**

6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]

12 **[END CONFIDENTIAL]**

13
14 **Q. Do the turbines proposed by the Applicant have an ice detector?**

15 A. I do not believe so, but Commission Staff has issued discovery to confirm our
16 understanding.
17

18 **Q. If the Applicant is not utilizing a turbine with an ice detector, does the setback**
19 **suggested in the safety manual apply to this Project?**

20 A. Unless the Applicant can produce documentation from GE that confirms the setback in
21 the safety manual does not apply because of the method Triple H is employing to sense
22 and assess ice build-up on blades, Commission Staff will recommend that the
23 Commission adopt the setback in the safety manual.
24

25 **Q. Does GE make any other statements regarding an ice detector in the safety**
26 **manual?**

27 A. Yes, GE makes the following statements regarding an ice sensor or detector:
28

29 **[BEGIN CONFIDENTIAL]**

30 [REDACTED]
31 [REDACTED]
32 [REDACTED]
33

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]

6 **[END CONFIDENTIAL]**

7
8 Commission Staff interprets these statements to mean that even with an appropriate ice
9 detection system, there is residual risk for the reliable detection of ice build-up on the
10 rotor blades that needs to be mitigated through appropriate setbacks.

11
12 **Q. Does GE offer any setback considerations for wind turbine siting of the proposed**
13 **turbines to minimize the residual risk of ice throw?**

14 A. Yes. On Exhibit_JT-5, Page 6, GE recommends a setback of 1.1 x tip height, with a
15 minimum setback distance of 170 meters (558 ft.), from “objects of concern” to address
16 ice throw. GE listed objects of concern as public use areas, residences, office buildings,
17 public buildings, parking lots, and public roads.

18
19 **Q. Are the setbacks proposed by the Applicant consistent with the turbine**
20 **manufacturer setback recommendations to cover the residual risk of ice throw?**

21 A. While the setbacks from residences and roads proposed by the Applicant were greater
22 than what GE recommended, GE’s recommendations were silent on property lines. If
23 property lines are considered an object of concern, the Project would need to be setback
24 an additional 23 feet (558 ft. vs. 535 ft.) from non-participating landowner property lines.
25 Commission Staff requested that Triple H provide additional information from GE
26 regarding the manufacturer’s recommended setback from property lines to address the
27 risk of ice throw.

28
29 **Q. Did Triple H provide additional information from GE regarding setbacks from**
30 **property lines to protect landowners from ice throw risk?**

31 A. Yes, please see Exhibit_JT-7 for a correspondence from GE to Triple H. GE confirmed
32 that a property line is not considered an object of concern, and the recommended
33 setback on Exhibit_JT-5, Page 6, for ice throw does not apply to property lines.

1 **Q. Please summarize Commission Staff’s position on the appropriate setback to**
2 **address the risks associated with ice throw.**

3 A. Commission Staff requests that Triple H provide evidence to show the setback
4 discussed in Section 8.4.1 of the safety manual does not apply to this Project. Also,
5 Commission Staff requests that Triple H explain the basis for a 256 ft. setback from
6 participating landowner property lines and explain how the risks associated with ice
7 throw are addressed by this setback.

8

9 **V. COMMISSION STAFF’S PERMIT RECOMMENDATION**

10

11 **Q. Does Commission Staff recommend the Application be denied or rejected**
12 **because of Commission Staff’s issues and concerns?**

13 A. Not at this time. Because Triple H still has the opportunity to address outstanding issues
14 on rebuttal and, to an extent, through the evidentiary hearing, Commission Staff
15 reserves any position until such time as we have a complete record upon which to base
16 the position. I would also note that some of the outstanding issues may be addressed
17 through conditions should the Commission grant a permit.

18

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

20 A. Yes, this concludes my written testimony. However, I will supplement my written
21 testimony with oral testimony at the hearing to respond to Triple H’s rebuttal testimony
22 and responses to discovery.