

LAW OFFICES

Lynn, Jackson, Shultz & Lebrun, P.C.

LAWYERS ALSO ADMITTED IN MINNESOTA, IOWA, NORTH DAKOTA, AND WYOMING

110 N. MINNESOTA AVENUE
SUITE 400
SIOUX FALLS, SD 57104
605-332-5999
FAX 605-332-4249

www.lynnjackson.com
Member of Lex Mundi
A Global Association of 125 Independent Law Firms

135 E. COLORADO BOULEVARD
SPEARFISH, SD 57783-2755
605-722-9000
FAX 605-722-9001

909 ST. JOSEPH STREET
SUITE 800
RAPID CITY, SD 57701-3301
605-342-2592
FAX 605-342-5185

REPLY TO: Sioux Falls 605-332-5999

From the office of Miles F. Schumacher

e-mail address: mschumacher@lynnjackson.com

June 3, 2019

Via Electronic Filing

Ms. Patricia Van Gerpen, Executive Director
South Dakota Public Utilities Commission
Capital Building, 1st Floor
500 East Capital Avenue

Re: Docket #EL19-003
Application to the SD PUC for a Facility Permit to Construct
A 300 megawatt Wind Facility

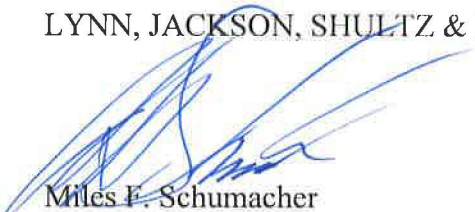
Dear Ms. Van Gerpen:

Attached for filing is Applicant's Witness and Exhibit List, as well as a Certificate of Service.

If there are any questions, please contact me.

Yours very truly,

LYNN, JACKSON, SHULTZ & LEBRUN, P.C.



Miles F. Schumacher

MFS/kab

Enclosures

006536

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

IN THE MATTER OF THE APPLICATION)
BY CROWNED RIDGE WIND, LLC FOR A)
PERMIT OF A WIND ENERGY FACILITY)
IN GRANT AND CODINGTON COUNTIES)

EL19-003

**APPLICANT'S WITNESS AND
EXHIBIT LIST**

COMES NOW, Crowned Ridge Wind, LLC (Applicant) and hereby submits its
Witness List and Exhibit List in preparation for the evidentiary hearing in the above-
captioned docket.

Applicant intends to call the following witness:

Andrew Baker
Sarah Sappington
Tyler Wilhelm
Mark Thompson
Jay Haley
Rich Lampiter
Chris Ollson
Bob McCunney
Sam Massey

Applicant intends to offer the following exhibits:

EXHIBIT NUMBER	DESCRIPTION
A1	Crowned Ridge Wind Farm's Application
A1-A	Appendix A - Figures Figure 1 – Project Area Figure 2 – Public Land and Facilities Figure 3 – Project Map Figure 4a – Typical Wind Turbine Diagram Figure 4b – Typical Wind Turbine Diagram

	Figure 5 – Typical Turbine Construction Site Layout Figure 6 – Environmental Constraints Figure 7 – Constraints Map Figure 8 – Topographic Map Figure 9a – Surficial Geology Figure 9b – Geology Cross Sections Figure 10 – Bedrock Geology Figure 11 – Soil Types Figure 12 – Water Resources Figure 13 – Land Use Figure 14 – Common Sound Levels in the Environment
A1-B	Appendix B – Agency Coordination Dates and Correspondence
A1-C	Appendix C – Dakota Skipper and Powesheik Skipperling Survey Report
A1-D	Appendix D – 2017-2018 Raptor Nest Survey Report
A1-E	Appendix E – Avian Use Survey Report
A1-F	Appendix F – Bat Habitat Assessment Report
A1-G	Appendix G – Bat Acoustic Survey Report
A1-H	Appendix H – Sound Level Modeling Report
A1-I	Appendix I – Shadow Flicker Modeling Report
A1-J	Appendix J – County Conditional Use Permits
A1-K	Appendix K – Property Value Effect Studies
A1-L	Appendix L – Decommissioning Plan
A1-M	Appendix M – Telecommunication Studies
A2	Pre-filed Testimony of Jay Haley
A3	Pre-filed Testimony of Kimberly Wells, PH.D.
A4	Pre-filed Testimony of Mark Thompson
A5	Pre-filed Testimony and Exhibits of Tyler Wilhelm and Sam Massey
A6	Supplemental Figure 3a
A7	Responses to PUC Staff's First Set of Data Requests
A7-1	Attachment to DR 1-1
A7-2	Confidential Attachment 2 to DR 1-7
A7-3	Confidential Attachment 1 to DR 1-13
A7-4	Confidential Attachment 1 to DR 1-7
A7-5	Confidential Attachment 1 to DR 1-9
A7-6	Attachment to DR 1-10
A8	EAPC Wind Energy's Letter and Updated Appendices A through D for Appendix H
A9	EAPC Wind Energy's Letter and Updated Appendices A through D for Appendix I
A10	EAPC Wind Energy's Letter and Updated Landowner Participation Status for Appendix H
A11	EAPC Wind Energy's Letter and Updated Landowner Participation Status

	for Appendix I
A12	US Fish and Wildlife Service's Letter regarding Environmental Comments
A13	US Fish and Wildlife Service's Memo regarding Region 6 Guidance for Minimizing Effects from Power Line Projects Within the Whooping Crane Migration Corridor
A14	U.S. Fish and Wildlife Service, Region 6, Mountain-Prairie Region's Outline for a Bird and Bat Conservation Strategy: Wind Energy Projects
A15	2013 U.S. Fish and Wildlife Service's Revised Voluntary Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning
A16	Responses to PUC Staff's Second Set of Data Requests
A16-1	Confidential Attachment 1 to 2-30
A16-2	Attachment 1 to 2-15
A16-3	Attachment 1 to 2-8
A16-4	Attachment 1 to 2-13
A17	Supplement to 1-11; Appendixes A, B & D
A18	Supplement to 1-12; Appendixes B & D
A19	Responses to PUC Staff's Second Set of Data Requests
A20	Responses to Amber Christenson and Kristi Mogen's First Set of Data Requests
A20-1	Attachment 1 to 1-6
A20-2	Attachment 1 to 1-8
A20-3	Attachment 1 to 1-9
A20-4	Attachment 1 to 1-10
A20-5	Attachment 1 to 1-11
A20-6	Attachment 1 to 1-12
A20-7	Attachment 1 to 1-13
A20-8	Attachment 1 to 1-17
A20-9	Attachment 1 to 1-18
A20-10	Attachment 1 to 1-20
A20-11	Attachment 1 to 1-22
A20-12	Attachment 1 to 1-23
A20-13	Attachment 1 to 1-46
A20-14	Attachment 1 to 1-152 - Applicant's Responses to Staff
A20-15	Attachment 1 to 2-8
A20-16	Attachment 1 to 2-13
A20-17	Attachment 1 to 2-15
A20-18	Supplement to 1-12; Appendix E
A20-19	Supplement to 1-12; Appendix F
A20-20	Supplement to 1-12; Appendix H
A21	Supplemental Testimony of Mark Thompson
A22	Supplemental Testimony of Jay Hayley

A22-1	Exhibit 1 – Supplemental Material That Updates Sound Study to Reflect Landowner Participation Status
A22-2	Exhibit 2 – Tables: Crowned Ridge Sound Level Tabular Results Sorted by Receptor ID
A22-3	Exhibit 3 – Supplemental Material That Updates Shadow/Flicker Study to Reflect Landowner Participation Status
A23	Supplemental Testimony of Tyler Wilhelm and Sam Massey
A24	Supplemental Testimony of Christopher Ollson
A24-1	Exhibit 1 – Christopher Ollson Curriculum Vitae
A24-2	Exhibit 2 – “Health Effects and Wind Turbines: A Review of the Literature,” Knopper & Ollson
A24-3	Exhibit 3 – “Effects of Wind Turbine Noise on Self-Reported and Objective Measures of Sleep,” Michaud et al.
A24-4	Exhibit 4 – “Impact of Wind Turbine Sound on Annoyance, Self-Reported Sleep Disturbance and Psychological Distress,” Bakker et al.
A24-5	Exhibit 5 – “Before-After Field Study of Effects of Wind Turbine Noise on Polysomnographic Sleep Parameters,” Jalai et al.
A24-6	Exhibit 6 – “Health-based Audible Noise Guidelines Account for Infrasound and Low-Frequency Noise Produced by Wind Turbines,” Berger et al.
A24-7	Exhibit 7 – “Measurement and Level of Infrasound From Wind Farms and Other Sources,” Turnbull et al.
A24-8	Exhibit 8 – “Wind Turbines and Health, A Critical Review of the Scientific Literature,” McCunney et al.
A24-9	Exhibit 9 – “Low-frequency Noise Including Infrasound From Wind Turbines and Other Sources,” Baden-Wurtemberg
A24-10	Exhibit 10 – “Wind Turbines and Human Health,” Knopper et al.
A24-11	Exhibit 11 – “Exposure to Wind Turbine Noise: Perceptual Responses and Reported Health Effects,” Michaud et al.
A24-12	Exhibit 12 – “Estimating Annoyance to Calculated Wind Turbine Shadow Flicker is Improved When Variables Associated with Wind Turbine Noise Exposure are Considered,” Voicescu et al.
A24-13	Exhibit 13 – “Notes on the Identification and Evaluation of Optical Emissions from Wind Turbines,” (in German) Landerausschuss für Immissionsschutz
A24-13A	Exhibit 13 – “Notes on the Identification and Evaluation of Optical Emissions from Wind Turbines,” (in English)
A24-14	Exhibit 14 – “Wind Turbines and Photosensitive Epilepsy,” Epilepsy Society
A24-15	Exhibit 15 – “Wind Turbines, Flicker, and Photosensitive Epilepsy: Characterizing the Flashing That May Precipitate Seizures and Optimizing Guidelines to Prevent Them,” Harding et al.
A24-16	Exhibit 16 – “Potential of Wind Turbines to Elicit Seizures Under Various

	Meteorological Conditions,” Smedley et al.
A24-17	Exhibit 17 – “Update of UK Shadow Flicker Evidence Base,” Department of Energy and Climate Change
A25	Direct Testimony of Kimberly Wells, Ph.D. Adopted by Sarah Sappington
A26	Responses to PUC Staff's Third Set of Data Requests
A26-1	Confidential Attachment 1 to 3-2
A26-2	Attachment 1 to 3-5
A26-3	Attachment 1 to 3-10
A27	Responses to PUC Staff's Fourth Set of Data Requests
A28	Letter regarding Allocation of Tax Revenues
A29	Amendment to the Application Crowned Ridge Wind, LLC
A30	Letter regarding Kimberly Wells
A31	Supplemental Responses to PUC Staff's First Set of Data Requests
A31-1	Attachment - Notice of Entry of Findings of Fact
A32	Responses to PUC Staff's Fifth Set of Data Requests
A32-1	Confidential Attachment 1 to Staff 5-1
A32-2	Attachment 1 - Figure 3
A33	Applicant's Responses to Intervenor's Third Set
A34	Applicant's Responses to Intervenor's Second Set
A35	PUC ltr fwd updated maps
A35-1	Revised Figure 2 - Public Land and Facilities
A35-2	Revised Figure 3 - Project Map
A35-3	Revised Figure 3a - Project Map
A35-4	Revised Figure 6 - Environmental Constraints
A35-5	Revised Figure 7 - Constraints Map
A35-6	Revised Figure 8 - Topographic Map
A35-7	Revised Figure 9a - Surficial Geology
A35-8	Revised Figure 9b - Geology Cross Sections
A35-9	Revised Figure 10 - Bedrock Geology
A35-10	Revised Figure 11 - Soil Types
A35-11	Revised Figure 12 - Water Resources
A35-12	Revised Figure 13 - Land Use
A36	Supplemental Responses to PUC Staff's Data Request 2-41
A37	Rebuttal Testimony of Mark Thompson
A37-1	Confidential GE Power and Water - Original - Technical Documentation Wind Turbine Generator Systems 1&2MW Platform - 50/60 Hz
A37-2	Applicant's Response to Staff Data Request 5-2
A37-3	GE Recommendation "Setback Consideration Generic xxHz EN r04"
A38	Rebuttal Testimony of Chris Ollson
A38-1	Noise Annoyance in Canada
A38-2	The UK National Noise Attitude Survey 1999/2000 - Noise Forum Conference 20 May 2002

A38-3	The Association Between Self-Reported and Objective Measures of Health and Aggregate Annoyance Scores Toward Wind Turbine Installations
A38-4	An Assessment of Quality of Life Using the WHOQOL-BREF Among Participants Living in the Vicinity of Wind Turbines
A38-5	The Effects of Environmental and Classroom Noise on the Academic Attainments of Primary School Children
A38-6	Low-frequency Noise Incl. Infrasound From Wind Turbines and Other Sources
A38-7	The Pattern of Complaints about Australian Wind Farms Does Not Match the Establishment and Distribution of Turbines: Support for the Psychogenic, 'Communicated Disease' Hypothesis
A39	Rebuttal Testimony of Andrew
A39-1	Qualifications
A39-2	Valbridge Property Advisors - Value Impact Study Report
A39-3	The Windy City: Property Value Impacts of Wind Turbines in an Urban Setting
A40	Rebuttal Testimony of Dr. Robert McCunney
A40-1	Curriculum Vitae
A40-2	Guidelines for the Diagnosis and Management of Asthma
A40-3	The Scope for Biased Recall of Risk-Factor Exposure in Case-Control Studies: Evidence from a Cohort Study of Scottish Men
A40-4	The Placebo and Nocebo Phenomena: Their Clinical Management and Impact on Treatment Outcomes
A40-5	Nocebo Effect of Informed Consent in Interventional Procedures
A40-6	The Nocebo Effect in the Context of Statin Intolerance
A40-7	Fright Factors About Wind Turbines and Health in Ontario Newspapers Before and After the Green Energy Act
A40-8	The Pattern of Complaints about Australian Wind Farms Does Not Match the Establishment and Distribution of Turbines: Support for the Psychogenic, 'Communicated Disease' Hypothesis
A40-9	Can Road Traffic Mask Sound from Wind Turbines? Response to Wind Turbine Sound at Different Levels of Road Traffic Sound
A41	Rebuttal Testimony of Richard Lampeter
A41-1	Curriculum Vitae
A41-2	Wind Turbine Health Impact Study: Report of Independent Expert Panel - January 2012
A41-3	Assessing Sound Emissions From Proposed Wind Farms & Measuring the Performance of Completed Projects
A41-4	Noise Control Engineering Journal - March-April 2011
A42	Rebuttal Testimony of Sarah Sappington
A42-1	Maps
A43	Rebuttal Testimony of Jay Haley

A43-1	Crowned Ridge Wind Farm Shadow Flicker Iso-Lines Overview Map
A43-2	Crowned Ridge Wind Farm Sound Pressure Iso-Lines Overview Map
A43-3	Crowned Ridge Sound Level Tabular Results Sorted by Sound Level Realistic
A43-4	Crowned Ridge Sound Level Tabular Results Sorted by Sound Level (16 Turbines Removed)
A43-5	Crowned Ridge Sound Level Tabular Results Sorted by Receptor ID Realistic
A44	Rebuttal Testimony of Tyler Wilhelm and Sam Massey
A44-1	Letter From Dennis Schmeling
A44-2	Updated Maps

Applicant reserves the right to file additional exhibits when exhibits and lists are due if necessary.

In addition, Applicant reserves the right to introduce additional exhibits necessary to rebut evidence presented by any other party in this docket or for impeachment and other legally permissible purposes. All Applicant exhibits are or will be available electronically in the docket.

Dated this 3rd day June, 2019.


Miles F. Schumacher
Attorneys for Applicant
Lynn, Jackson, Shultz & Lebrun, PC
110 N. Minnesota Ave., Suite 400
Sioux Falls, SD 57104

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

IN THE MATTER OF THE APPLICATION)	
BY CROWNED RIDGE WIND, LLC FOR A)	EL19-003
PERMIT OF A WIND ENERGY FACILITY)	
IN GRANT AND CODINGTON COUNTIES)	CERTIFICATE OF SERVICE
)	

I hereby certify that true and correct copies of Applicant's Witness and Exhibit
List in this matter were served electronically to the parties listed below on the 3rd day of
June, 2019, addressed to:

Ms. Patricia Van Gerpen
Executive Director
patty.vangerpen@state.sd.us

Ms. Kristen Edwards
Staff Attorney
Kristen.Edwards@state.sd.us

Ms. Amanda Reiss
Staff Attorney
Amanda.reiss@state.sd.us

Mr. Darren Kearney
Staff Analyst
Darren.kearney@state.sd.us

Mr. Jon Thurber
Staff Analyst
Jon.thurber@state.sd.us

Mr. Eric Paulson
Staff Analyst
Eric.paulson@state.sd.us

Mr. Brian J. Murphy
Senior Attorney
NextEra Energy Resources, LLC
Brian.j.murphy@nee.com

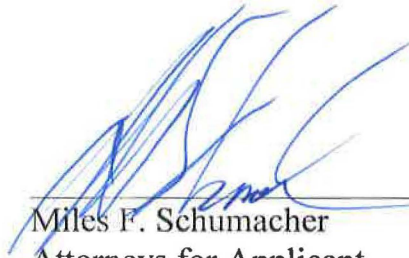
Mr. Tyler Wilhelm
Associate Project Manager
NextEra Energy Resources, LLC
Tyler.Wilhelm@nexteraenergy.com

Mr. Mikal Hanson
Staff Attorney
South Dakota Public Utilities Commission
500 E. Capitol Ave.
Pierre, SD 57501
Mikal.hanson@state.sd.us

Ms. Cindy Brugman
Auditor
Codington County
14 First Ave. SE
Watertown, SD 57201
cbrugman@codington.org

Ms. Karen Layher
Auditor
Grant County
210 E. Fifth Ave.
Milbank, SD 57252
Karen.Layher@state.sd.us

Mr. David Ganje
Representing Intervenors Mr. Allen Robish.
Ms. Amber Christenson, Ms. Kristi Mogen,
Ms. Melissa Lynch and Mr. Patrick Lynch
Ganje Law Offices
davidganje@ganjelaw.com



Miles P. Schumacher
Attorneys for Applicant
Lynn, Jackson, Shultz & Lebrun, PC
110 N. Minnesota Ave., Suite 400
Sioux Falls, SD 57104