STATE OF NORTH DAKOTA

PUBLIC SERVICE COMMISSION

Burke Wind, LLC Case No: PU-18-302

Burke Wind Transmission Line - Burke & Mountrail

Siting Application

Burke Wind, LLC Case No: PU-18-344

Burke County Wind Energy Center - Burke County

Siting Application

T R A N S C R I P T

OF

P R O C E E D I N G S

Morning Session

March 8, 2019

9:00 a.m.

LOCATION: Memorial Hall

100 Main Street Northwest

Bowbells, North Dakota 58721

REPORTER: KAYLA A. RICHMOND

A P P E A R A N C E S

ADMINISTRATIVE LAW JUDGE - TIMOTHY DAWSON

PUBLIC SERVICE COMMISSION:
Commissioner Julie Fedorchak
Commissioner Brian Kroshus

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I N D E X

MR. DAWSON: I am Timothy Dawson, administrative law judge designated by the Office of Administrative Hearings upon the request of the Public Service Commission to serve as hearing officer for this hearing. This is North Dakota Public Service Commission case numbers PU-18-302 and 344.

Before we begin, please silence your phones. There should be an attendance sheet going around. Everyone, I would like you to sign it and if you're going to testify, please note that in the appropriate box.

This is a hearing on the September 14, 2018 application thereafter amended of Burke Wind LLC for a certificate of site compatibility to construct the Burke County Wind Energy Center consisting of up to 76 wind turbine generators and associated facilities with a capacity of up to 200 megawatts in Burke County located approximately 15 miles mainly west of Bowbells, North Dakota. This is also a hearing on the August 9, 2019 application of award for certificate of corridor compatibility and route permit for the construction of a 345 overhead transmission line and associated facilities. The transmission line project is about 37 miles in length and to be constructed from the proposed Burke Wind Energy Center in Burke County to Basin Electric's substation in Mountrail County approximately

four miles east of Tioga. Let the record show that it is March 8, 2019 and a little past 9:00 a.m. at the Memorial Hall in Bowbells, North Dakota. This is the time, date and place set by the notice of filing and notice of hearing issued by the North Dakota Public Service Commission on January 23, 2019. The notice of filing and notice of hearing for this hearing specified the following issues to be considered and determined at this hearing relating to the wind center and the transmission line. Number one, will the location and operation of the proposed facilities produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota. Number two, are the proposed facilities compatible with the environmental preservation and efficient use of resources. Number three, will the proposed facility locations minimize adverse human and environment impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.

We will now have appearances by the parties. Ms. Furey, if you'd introduce yourself and the people with you and tell me how many witnesses you'll be calling today.

MS. FUREY: Good morning, Your Honor and

commissioners. Casey Furey with Crowley Fleck appearing on behalf of Burke Wind, LLC. At the table with me I have my colleague, Wade Mann. Next to Wade Mann is Tracy Davis, senior regulatory attorney with NextEra Energy Resources and to my left I have Ms. Tanya Aman and she is my paralegal. She'll be assisting today with distribution of exhibits.

MR. DAWSON: Mr. Schmidt.

MR. SCHMIDT: Thank you, Your Honor. Brian Schmidt, special assistant attorney general for the Public Service Commission and then with me is Jerry Lien, utility analyst for the Public Service Commission and we will ask that Mr. Lee be allowed to ask questions today.

MR. DAWSON: I'll allow it.

MS. FUREY: No objection.

MR. DAWSON: By show of hands out in the audience today, is there anyone present who may testify today? Just see a show of hands just so I can plan ahead a little bit. And how many of you are for the wind farm and how many are -- for, let's go with for. Okay. And then against? Okay. Your testimony will be taken after the completion of Aurora's presentation. I encourage you to take that opportunity to tell the commissioners anything you think the commission should know about this

matter. I assure you that what you have to say is important and will be considered by the commission. Everyone, again, please sign in the sign in sheet. If you have any questions about testifying or if you have some document that you want to enter into evidence, including photographs, contact me during the break and we can get those numbered and get prepared for you presentation. It is now time for opening comments by the commissioners. Commissioner Fedorchak.

MS. FEDORCHAK: Morning, everybody. It's great to be in Bowbells. This is one of my favorite parts of my job is having an opportunity to get around to all the different corners of North Dakota. We have an amazing state and this is a really cool part of it, so it's great to be up here in Bowbells and looking forward to spending the day here. Even though we pretty much will be inside all day, but, nevertheless, we're here. First I want to mention that our colleague, Randy Christmann is not here. You can see that. He isn't wearing an invisibility cloak. He's actually down in Bismarck at the legislature. We had a couple bills come up for hearing today that were really vital to the agency and so Randy opted to stay back and provide testimony on behalf of the commission to those legislative committees. But he wanted to me to assure

you that he intends to still be active in this case and will listen to the hearing on it's recording in its entirety on his own time so -- and then we do have work sessions after the fact where the conversation continues and he'll be engaged in those, so he's still going to be a part of the decision.

Thank you for organizing so neatly just like a wedding. It's like the bride and the groom's side, for and against. Everyone, like there was no crossover. So really you guys did a good job whoever orchestrated that. Just to give up a little bit of perspective, I don't know if a lot of you have been to a hearing from the PSC or wind farm hearing, but just to prepare you for the day. So the first chunk of the day and it'll probably take at least until after lunch, will be the company providing its testimony. We don't have quite enough materials, I don't think, maybe we should have a little bit more to go through, but we'll deal with what we have. Hopefully it'll be enough and they will be going through all the different criteria that the state lays out for companies in order to receive a permit for an energy conversion facility like this. They will spend, you know, it'll probably be four hours or of testimony by the company and cross examination by our attorneys and the commission. And then after that, there

will be an opportunity for the public and other agencies who might be here to provide testimony. And then, again, the same thing happens, the company and the commission gets an opportunity to cross examine everybody who comes up and offers testimony. Our decision is based on the record, so whatever is in the record provided by the company and what we gathered from the public at today's hearing. If it happens outside of the record, it's not that we cannot have it included, but today's record will provide the bulk of what we use to make our decision. And our decision has to be based on and tied to the record. We consult within our process 27 different state, local and federal agencies. The Public Service Commission, we kind of like gather all this information and we receive it and then we decide, we the commissioners, ultimately decide on if the company meets a criteria, but we don't have biologists, we don't have archeologists. We don't have, you know, run-off experts or water quality experts. We don't have that expertise in the commission itself. That's why we rely on the input from outside agencies. They evaluate what the company is saying and offer their input as to whether what they're saying they think is true or whether there's some gaps in what they were saying or they offer their expertise to supplement what the company is

saying. So that's how the process works and then ultimately we decide what gets the most weight and which arguments win the day and there's a back and forth that occurs in that process as well as the company and the agencies and the other people providing hear each other's arguments. There might be some compromises that is reached between them and then additional information provided to us on that. So that's kind of how the process works. It's a very iterative process. It's intended to be flexible and provide a lot of opportunity for addressing the conditions of each and every project as it exists. Our goal is to get to, as you heard the judge say, minimal impact. Those are kind of the keywords. Does the project have minimal impact on the environment and the citizens in our state. And those are the big kind of overarching goals on every siting project that we seek to get to in order to go forward.

So with that, we really look forward to your input. This is your opportunity to say how this affects you. You're the citizens. You're the agencies. How -- what do you think about this project? That's the reason why we come to the location of the area so we can hear from the people that are impacted the most and others who are interested in -- perhaps in that area. And so that's why we're here and not at the State Capitol and so thank you

for taking your time today to be here. It's going to be a long day, I can assure you of that, but it's also a very, very productive process. The judge will keep everybody on the straight and narrow. You gotta listen to him and we look forward to hearing from you all during the hearing today. Thank you.

MR. DAWSON: Commissioner Kroshus.

MR. KROSHUS: Welcome, everyone and thank you for being here. This is a contrast from me yesterday, unfortunately, and I apologize if anyone is actually from New York, great place to visit for me, but as things would turn out, my flight was cancelled and barely made it back to Denver so I'm only just a tish jet lagged but as we were driving up from Kenmare, just north of Kenmare, I made the comment that talk about different ends of the spectrum and this is certainly the end of the spectrum that I prefer to be in. Makes me anxious to your back out to the ranch. It was not -- the conference I was, it was good and we talked a lot about energy resource. One thing I would -- and Julie did an excellent job as always is framing up what the day will look like. One thing I would stress because I talk about it a lot is when we're looking at these cases, we're fully aware that we're making multigenerational decisions and it's not a tenure. It's not a 20 year.

This is a long-term decision. So it's important for people to be heard, to be a part of the process and that's what we go by in terms of public testimony and, of course, we have to follow the law as well. So it's been said before, but our job is to be energy agnostic to make sure things are being done correctly according to the parameters set forth in the law, but we also want to make sure we're not missing anything. So that's, again, where those of you that will testify come into play and it's just incredibly important that you're involved in part of the process, so look forward to hearing from you later and it's going to be a long day, so I'll quit the chattering at this point and look forward to hearing from all of you. Thank you for being here.

MR. DAWSON: Are there any preliminary matters especially as to exhibits or motions, Mr. Schmidt, Ms. Furey?

MS. FUREY: Yes, Your Honor. Mr. Schmidt and I would like to stipulate to the admission of several exhibits. I'm going to just walk through those initially. On March 6th, I filed an annotated exhibit list and this was in response to some feedback and questions that we had received from PSC staff regarding the filings and so the annotated exhibit list was really

just to provide -- regarding the filings to date. And so the materials that are in the binders before you are all of the various reports, comments and whatnot that are contained in the exhibit list that was submitted and filed on March 6th. So that's exhibits number one through 37. I would note that that exhibit list indicated that exhibits five through 37 would be provided at hearing. Those should be before you. Those are three maps. Exhibit 35 is a map of the wind project boundary. This map is on the display boards here in the room. Exhibit 36 is a map of the transmission line corridor and route. Exhibit 37 is a boundary comparison. This map depicts the original wind project 300 megawatt project boundary as compared to the now amended 200 megawatt project. Exhibits one through 34 were all previously filed, so the bulk of the materials that are in exhibits, it isn't anything new although it looks like a lot of additional material. In addition to exhibits one through 37, we do intend to enter several other exhibits and I will walk through those. We have exhibits ranging from 38 to 47. We have those marks at our table. I would -- I'll go through them here in a minute. I would like to stipulate to enter those now and then we will proceed to just distribute those at the time when they come up in hearing unless you prefer that

we distribute them right now.

MR. SCHMIDT: Could you just distribute them first and then we'll just go through them and stipulate.

MS. FUREY: Okay. That's fine. Exhibits 38 through 40, exhibit 38 is the conditional use permit that Burke Wind obtained from Burke County for the wind project. Exhibit 39 is the conditional use permit that Burke Wind obtained from the county regarding at the transmission line and exhibit 40 is the conditional use permit that Burke Wind obtained from Mountrail County for the transmission line. Exhibits 41 and 42 are comments that were filed by Representative Longmire and Senator Russ. I believe they've been uploaded to the PSC docket as of yesterday. Exhibit 43 is the report and CV of Mr. David Hessler that was filed by Mr. Schmidt with the commission yesterday. We had just gone ahead and provided both the CV and the report as one exhibit together as 43. Exhibits 44 through 47 are various correspondence. Exhibit 44 is correspondence that was received last night from North Dakota Game and Fish dated March 7th. I believe this is uploaded to the PSC docket. 45 is correspondence from the U.S. Fish and Wildlife Service dated March 6th. This was also filed in the commission's docket yesterday. Exhibit 46 is

correspondence dated February 15th. It is from Mr. John Di Donato. He is the vice president of Renewable Development with NextEra Energy Resources, LLC and this is correspondence that he sent to Mr. Terry Steinwand with North Dakota Game and Fish. And then last but not least is exhibit 47. This is a March 5th letter sent by Dr. Kimberly Wells with NextEra Energy Resources to North Dakota Game and Fish. So at this time we would like to stipulate to the entry of the exhibits marked one through 47.

MR. DAWSON: I do have a question. The exhibits 35 through 37 are these big maps on the --

MS. FUREY: You should also have smaller copies in front of you as well.

MR. DAWSON: Okay. I just wanted to make sure I have smaller copies.

MS. FUREY: Yes. And they're exact replicas of the larger ones.

MR. DAWSON: Mr. Schmidt?

MR. SCHMIDT: No objection, Your Honor. I will so mark exhibits one through 47 and admit them.

MS. FUREY: Thank you, Your Honor. At this time it may be helpful to go through the witnesses that we intend to call today?

MR. DAWSON: Yes. You may make any opening

remarks or call a witness.

MS. FUREY: We intend to call four witnesses today. The first witness will be at Daryl Hart. He is the director of Renewable Development with NextEra Energy Resources. He will provide a general project overview including discussion regarding the scope of facilities construction and operation of the facilities. Our second witness is Richard Lampeter with Epsilon Associates. You will be discussing sound and shadow flicker. Our third witness is Dr. Kimberly Wells, senior manager or environmental services with NextEra Energy Resources, LLC. She will be discussing the wildlife and environmental studies conducted for the projects as well as agency and tribal consultation and coordination. Our fourth witness is Mr. Clayton Derby with WEST. He's a senior wildlife biologist. He will be providing context and additional discussion regarding the results of the wildlife studies.

At this time, Your Honor, we would like to call Mr. Daryl Hart.

MR. DAWSON: Mr. Hart, please come to the table. Before you begin, I am required by law to tell you the penalties for perjury in this state. Perjury is a Class C felony, punishable by a fine up to $10,000 or a term of imprisonment up to five years or both. Do you

understand what perjury is and the penalties for it?

MR. HART: I do.

MR. DAWSON: Understanding so, do you promise or swear that the testimony that you're about to give will be the truth, the whole truth and nothing but the truth?

MR. HART: I do.

MR. DAWSON: You may begin. Hold on one second. Commissioner Fedorchak?

MS. FEDORCHAK: Sorry, but I have to backtrack just a little bit, Daryl, to the exhibits just so that I'm understanding. The two binders that we have is comprehensive, the latest information that has been filed on all of the studies and everything; correct?

MS. FUREY: That's correct, yes. There are some studies that have been omitted because they were entirely focused on the 300 megawatt project. Some of that material was still applicable to this project. In some instances there were either completely new reports that were submitted just to really focus in on the 200 megawatt project or there were supplemental addendums to explain how the information contained within the 300 megawatt project now applies to the 200 megawatt project. So before you, in addition to what is contained in the binders, is the most current information that we

have and all the reports that are in the binders have previously been uploaded to the PSC docket. All of the reports, in fact, were submitted by the commission's 30 days pre hearing deadline.

MS. FEDORCHAK: Okay. And then so I could effectively, except for the notes I've written and all the other stuff, I could effectively ignore everything else that's been filed and these two binders are comprehensive of everything, the entire application?

MS. FUREY: Yes, that we submitted. That is correct.

MR. DAWSON: You may continue.

BY MS. FUREY DIRECT EXAMINATION

Q. Please state your name, by whom you are employed and your business address?

A. My name is Daryl Hart. I'm employed by NextEra Energy Resources or NextEra. My business address is 700 Universe Boulevard, Juno Beach, Florida 33408.

Q. What is your position with NextEra?

A. I'm the Director, Renewable Business Development for NextEra. Burke Wind, LLC is an indirect, wholly-owned subsidiary of NextEra Energy Resources. NextEra is the largest generator of wind-powered electricity in North America with over 13,520 megawatts of capacity in 19 states and Canada. In North Dakota

through its affiliates, NextEra owns or operates 14 wind generation facilities with approximately 1,250 megawatts of wind generation.

Q. What is your educational background?

A. I received a Masters of Science in finance from Penn State University in 2015, a Masters of Business Administration from Auburn University in 2003, a Bachelor of Science in Electrical Engineering from Worcester Polytechnic Institute and I'm also a certified Project Management Professional since 2010.

Q. What is your professional experience?

A. I served over 10 years as an officer in the United States Air Force. Since being honorably discharged as a Major in the Air Force, I spent the last 11 years at NextEra in the various roles including wind farm design, utility distribution project management and renewable energy business development. I have developed or overseen the development of wind energy projects in eight states and the most recent wind energy center declaring commercial operations on December 23, 2018.

Q. Thank you. And one point of clarification, Commissioner Fedorchak, the complete materials are in the exhibits binders with the exception of the amended wind project application and then the transmission line application, they're just placeholders for those

documents.

Mr. Hart, are you familiar with the contents of Burke Wind's amended application for certificate of site compatibility for the Burke County Wind Energy Center which is marked as exhibit number four before you and the consolidated application for a certificate of corridor compatibility and route permit for 345 kV transmission line, which is marked as exhibit number one also before you?

A. Yes, I am familiar with the contents of the applications.

Q. Do these applications accurately describe the projects?

A. Yeah, along with the supplemental and supporting information we filed with the commission board.

Q. Please describe the Burke Wind Project and its general location?

A. The Burke Wind Project is a planned wind generation project with a nameplate capacity of up to 200 megawatts proposed to be located in Burke County in northwestern North Dakota, approximately 15 miles west of Bowbells. The project area is primarily rural and agricultural and encompasses 22,933 acres. The wind project consists of up to a maximum of 76 wind turbines and comprised of up to 68 GE, 2.72 megawatt wind

turbines and up to eight GE or General Electric, 1.715 megawatt wind turbines. The eight GE 1.715 megawatt turbines are 2015 vintage safe harbor turbines that qualify for 100 percent of the federal production tax credits. In addition, five alternate turbine locations and one alternate MET tower location have been included in the project layout to provide sighting flexibility. The GE 2.72 megawatt wind turbines have a 295-foot hub height and will measure 485.5 feet from the base of the tower to the tip of the upright blade. The GE 1.715 megawatt wind turbines will have a 262-foot hub height and will measure 431.5 feet from the base of the tower to the tip of the upright blade. The permanent wind project structures will occupy up to 65.7 acres during operation or less than one percent of the total participating land. Each turbine has a permanent impact of approximately 0.06 acres and Dr. Wells will discuss total impacts further in her testimony.

Additional facilities associated with the wind project including access roads, underground electrical collection systems, one collection substation, one operation and maintenance building, one permanent meteorological evaluation tower, one temporary power performance meteorological evaluation tower, a construction laydown yard and a batch plant.

Q. Burke Wind initially filed an application for a 300 megawatt wind energy facility, can you please describe why the wind project application was subsequently amended?

A. Yes. The wind project originally proposed was up to 300 megawatts. The wind project was recently reduced in size from 300 to 200 megawatts. This has resulted in a significantly smaller project area and the elimination of 38 wind turbines. The original 300 megawatt project area encompassed 46,515 acres and the amended 200 megawatt project encompasses 22,933 acres; a reduction of 23,582 acres. The main drivers of the wind project's size reduction included an effort to address environmental concerns with the project's original proximity to the Lostwood National Wildlife Refuge or Lostwood and feedback from landowners and townships. The wind project was originally located one mile from the nearest turbine to Lostwood. With the reduction to 200 megawatts, the nearest turbine to Lostwood is now 7.4 miles.

Q. Please turn to exhibit number 37. Does this map accurately depict the original -- this exhibit, it's going to be one of those separate maps and yes, this is also depicted on the larger maps here in the room. Does exhibit number 37 accurately depict the original 300

megawatt project boundary as compared to the currently amended 200 megawatt project boundary?

A. Yes. This exhibit accurately depicts the updated 200 megawatt project boundary.

Q. Burke Wind filed an addendum to the amended application which is marked as exhibit number five. Can you please explain the purpose of this addendum?

A. After the amended application was filed, we refined the design and the layout of the project in response to landowner feedback and additional engineering. Minor changes to the wind project included the elimination of two junction boxes, changes to the collection corridor width and minor changes to access roads and crane paths. The purpose of the addendum is just to explain these adjustments and to provide the commission with the most current assessment of impacts from the wind project. The most significant adjustment described in the addendum is the widening of the collection corridors from 50 to 150 feet in order to provide flexibility during the construction. While collection corridors have increased in width, disturbance is anticipated to remain it 50 feet.

Q. Is the map that is included within exhibit five which is the addendum, is that the final project map for the Wind Project?

A. Yes. Exhibit five is the final project map book for the wind project.

Q. Did the wind project addendum which is marked as exhibit five change the project boundary?

A. No. The adjustments described in the addendum changed only minor aspects of the site plan but had no impact to the wind project boundary as depicted in the amended application.

Q. Can the wind project boundary be further reduced?

A. Based on the feedback received on previous projects, we proactively evaluated the project boundary and reduced it according to the extent feasible to accommodate setbacks, participating landowners and to maintain design flexibility.

Q. Please describe the associated Burke transmission line project and its general location?

A. In addition to the wind project, Burke Wind is also seeking a certificate of corridor compatibility and route permit for the associated transmission line located in Burke and Mountrail counties. The transmission project is approximately 37 miles-long 345 kilovolts overhead transmission line with a 150-foot to 200-foot corridor. The transmission project corridor is also primarily rural and agriculture and encompasses 729

acres. The transmission project will convey 200 megawatts from the 76 turbines to the interconnection point at the existing Basin Electric Power Cooperative's 345 KV tande substation in Mountrail County.

The transmission project will be constructed using steel monopole structures. The average height of the single pole structure is 130 feet and it will range from 80 to 160 feet depending on final engineering design. Each steel monopole structure will be directly embedded into the ground with an overall foundation diameter of approximately six feet of embedded land of approximately 15-20 feet. The pole locations will be placed 800 feet apart depending on site specific considerations, but depending on -- or ranging from 400 feet to 1200 feet guide structures will be required at 48 locations with between four to eight guys wired required per structure.

Permanent impacts from the transmission project will range from point 02 to point five acres dependent on the monopole being a direct embedded pole for a drill pier foundation. Pole locations comprise about 40 square feet of permanent impacts per monopole structure for directly bedded pole installations and 78 square feet of permanent impacts per monopole structure for drilled pier foundations.

Q. What is the need for the project?

A. Burke Wind has entered into a 200 megawatt 30 year power purchase agreement with Basin Electric for the full output of the wind project to support the power needs in the Bakken.

Q. How did Burke Wind select the location for the projects?

A. In evaluating potential sites for wind facilities, we consider a number of factors, including, the wind resources available, the ability to efficiently and reliably interconnect the facility to the bulk transmission system, proximity to our customer, community support and the ability to minimize any impacts from the project. When Burke Wind decided to pursue the development efforts in Burke County, it coordinated with a variety of community leaders and government officials. As Dr. Wells will testify, the project area was also selected considering the commission's siting criteria.

Q. What are the project's estimated costs?

A. The wind project's estimated costs are 270 million dollars and the transmission project is estimated to cost 19 million dollars.

Q. Please describe the project's interconnection arrangements?

A. The interconnection of the projects will occur

within Basin Electric's transmission system. In particular, the projects generated power will interconnect to the electrical grid via the existing 345 kV tande substation. The project is currently being studied under the Southwest Power Pool's, also known as SPP, Definitive Interconnection System Impact Studies. This consists of a single SPP interconnection request for 200 megawatts into Basin Electric's tande substation. Burke Wind expects to execute the generator interconnection agreement with SPP by July 31, 2019.

Q. Please describe the wind project's electrical collection system and project substation?

A. The power from the wind turbines will be run through an underground to 34.5 kV collection system consisting of various sized cables. Collection lines will be buried 48 inches deep and will not affect farming operations or other surface uses of the land during the project operations. All of the collection system tables will terminate at the proposed project substation. The project substation will also include power transformers to step up the voltage from 34.5 kV to 345 kV.

Q. If the commission issues the requested certificates, what are Burke Wind's plans for the projects?

A. Burke Wind will construct, own and operate the wind and transmission line projects. Burke Wind currently proposes to construct the projects in 2019 and have planned operations by December, 2019.

Q. Can you please provide a brief overview of the project's construction process?

A. Once the commission approves the projects, several activities must be completed prior to the proposed commercial operation date. The majority of the activity relate to equipment ordering lead time, construction of the facility, pre-construction, construction and post construction activities for the proposed projects will likely include ordering of all necessary components including turbine towers, the cells, hubs, blades and transformers, completing the construction surveys, construction of the access roads underground collection lines and the project substation, installing turbine tower foundations and underground and above-ground junction boxes, placing and erecting the wind turbines, delivery, assembly and installing of transmission pole structures, acceptance testing and the commencing of commercial operations.

Construction is expected to begin or scheduled to begin as early as May, 2019 subject to road restrictions, weather and permit. Burke Wind proposes to

complete construction within approximately six months in order to place the wind project in commercial operations by December, 2019

Q. How will Burke Wind handle topsoil removal during construction?

A. Pursuant to the commission's certifications relating to order provisions mark as exhibit three and six, Burke Wind will comply to the commission's requirements regarding topsoil removal and replacement.

Q. What roads are necessary for the construction and operation of the projects?

A. Permanent access roads will be typically 16 feet, will have an aggregate surface as cover and will be adequate to support the size and weight of the maintenance vehicles.

Temporary construction turbine access roads will be typically up to 50 feet wide and adjacent to the turbine towers allowing access to the towers during and after construction. During the construction phase, several types of construction vehicles will travel to and from the site as well as private vehicles used by construction personnel. Burke Wind estimates about 600 additional trips per day in the area during the peak construction periods when the majority of the road, foundation, and turbine tower assembly are taking place.

At the completion of each construction phase, this equipment will be removed from the site and significantly reduce in number.

No temporary permanent access roads will be built to construct or maintain the transmission project. The project route is adjacent to existing public roads or section lines and can be assessed with minimal off-road work.

Q. What is the process for landowner coordination if a landowner has any concerns?

A. Landowners with concerns may contact the construction manager during construction and the operations and maintenance or O&M manager post construction. Prior to construction, all landowners within the project boundary will receive mailers that will include the construction manager's contact information. We will schedule a landowner dinner prior to construction for all participating and nonparticipating landowners within the project boundary to provide construction update and introduce the construction team. During construction, a mailer will be sent out containing the O&M manager's contact information.

Additionally, post-construction reclamation concerns may be directed to the projects O&M manager.

Q. What is the land and easement acquisition status?

A. We have one remaining land easement to obtain. Per correspondence in exhibit 24 the North Dakota Department of Trust Lands will execute their easement agreement upon receipt of the commission's final order.

Q. How many residences are located within the wind project boundary?

A. There are seven occupied residences within the wind projects boundary. Six of those residences are participating and one non-participating residence.

Q. What setbacks will be utilized for the wind project?

A. Burke Wind has complied with the siting criteria of commission, Burke County and with NextEra's internal standards and best practices. Burke Wind has applied the more restrictive of these standards. Table 4-1 on pages 33 and 34 of the amended wind project application which is exhibit four, outlines the setbacks that we applied to the project. The project complies with or exceeds the commission's wind facility setback requirements.

Additionally, from the nearest participating resident to a turbine is 2,714 feet and the distance from the nearest nonparticipating residents to a turbine is 2,734 feet.

Q. How are setbacks measured for the wind project?

A. An American Land Title Association survey or ALTA was conducted for the projects. This survey identified project lines, road rights-of-way and utility rights-of-way. A desktop analysis was performed using the ALTA survey to ensure the turbines and other infrastructure met the most stringent setbacks provided by the commission, Burke County and NextEra internal setbacks. For setbacks involving residences, schools and places of business, the measurement was taken from the approximate center point of the building. For setbacks from property lines, section lines and county lines, the measurement was taken from the proposed center point of the turbine to the surveyed property line, section line or county line.

Wind project setbacks were measured in the field during micrositing and during desktop review to verify all setbacks. Survey grade field data was utilized to verify compliance with setback requirements.

Transmission line setbacks were measured through desktop analysis. Desktop imagery was reviewed to identify all potential residences, schools or places of business.

Q. Are the wind project setbacks sufficient to address noise and shadow flicker at occupied residences?

A. Yes, the wind project complies with the more restrictive on the local and state regulations. Mr. Lampeter will discuss noise and shadow flicker modeling results in more detail during his testimony.

Q. The transmission line application identifies one residence located within 500 feet of the transmission line route which is designated as a commission avoidance area. Can you please identify the location of this landowner?

A. Yes. This residence is located in the transmission lines final map book, exhibit two, page 14 of 14.

MS. FEDORCHAK: Can you hold on while we get that and say again, which one is this?

A. Exhibit two.

MS. FEDORCHAK: Is that the big one that we've got?

Q. That would be volume one. It will be the last of that map set.

MS. FEDORCHAK: What is that supposed to be showing?

Q. That's identifying the one residence that's located about 500 feet of the line. Has a waiver been obtained from this landowner?

A. Yes. The waiver was filed as exhibit 20.

Q. What is the status of local permitting? And would you like us to just pause for a minute while you review those maps, commissioners? And then just to reiterate, a waiver for that landowner was filed with the commission previously and was marked as exhibit 20, which would also be in volume one.

MR. DAWSON: You may continue.

Q. Thank you. What is the status of local permitting?

A. Burke Wind obtained a conditional use permit from Burke County on September 4, 2018 for the wind and transmission projects. It has also obtained a conditional use permit for Mountrail County planning and zoning commission for the transmission project on October 22, 2018. Remaining local agreements include Burke County building and construction permits, road use and utility crossing agreements.

Q. Exhibit numbers 38, 39 and 40 are before you. Are these the reference conditional use permits from Burke and Mountrail counties for the projects?

A. Yes, they are.

Q. Has Burke Wind studied whether there are any possible effects of the wind project on microwave beam pass, telecommunications and weather radar facilities? Those exhibits were entered at the beginning of -- we

are on 35.

A. Gotcha. Sorry. Yes. Existing telephone and fiber optic cables within the project area will be located in the field by the respective utility companies prior to construction and to ensure these impacts to telephone and fiber optic cables will be avoided.

We have received a response from the National Telecommunications and Information Administration on April 18, 2017 stating no harmful interference. Anticipated.

Burke Wind also completed a telecommunication study to identify all published Federal Communications Commission microwave telecommunication systems in the proximity of the project area. No impacts to these systems are anticipated from the project turbines.

Q. Will the wind project comply with Federal Aviation Administration or FAA requirements?

A. Yes. The wind turbines and the MET tower will have lighting and markings that comply with the FAA requirements. The FFA's review included evaluation of any potential interference with air traffic. Burke Wind has received the FAA determinations of no hazard for all alternate project locations. Burke Wind is pursuing the FAA determinations of no hazard on the permanent MET, alternate permanent MET location and the temporary MET

locations with expected approval by May 31, 2019.

Q. How does Burke Wind intend to comply with the Commission's regulations governing installation of a lighting-mitigation system on the wind project?

A. Pursuant to the commission's regulations, Burke Wind will install an FAA-approved advanced lighting detection system, ADLS. We are pursuing the ADLS system with the FAA and we expect to have FAA approval by June, 2019. The ADLS system will be operational at the time of project COD.

Q. Has Burke Wind coordinated with local responders regarding emergency preparedness?

A. We have initiated conversations with the county, but the project's EPC, engineering procurement and construction consultant, Blattner Energy, will coordinate the emergency plan during construction. During operations, the operations and maintenance manager will continue coordination with local emergency responders.

Q. What are Burke Wind's plans regarding decommissioning of the wind project?

A. Burke Wind will develop a decommissioning plan and provide financial assurance in accordance with the commission's rules and regulations. Additionally, Burke Wind has a contractual obligation to the landowners to

remove the wind facilities, including foundations to a depth four feet below ground when the wind easement expires and to restore the area to the same physical condition that existed immediately before the construction of the turbines.

Q. Has Burke Wind analyzed the potential economic benefits of the projects to the region?

A. Yes. The proposed projects will have positive economic impacts for the local population, including lease and royalty payments for participating landowners, new employment and property and sales tax revenue. Burke Wind estimates that the projects will provide approximately 28 million dollars in tax revenue to Burke and Mountrail counties over 30 years. In addition, the projects will create approximately 250 to 300 construction jobs at the peak of construction activities and nine to 12 permanent, full-time operation and maintenance jobs. Burke Wind will execute a contract with Blattner Energy to construct the projects. Blattner will hire local skilled and non-skilled labor, first from Burke and Mountrail Counties and then expand it in North Dakota. Additional goods and services will be sourced locally to the best extent possible.

The projects will also provide approximately 34 million dollars in payments to participating land owners

over the 30 years, which will not only benefit those land owners, but also the local economy as that money is reinvested in local goods and services.

In your opinion, has Burke Wind maximized the benefits that result from the adoption of various practices -- excuse me -- the adoption of various practices and policies contained within the commission's policy criteria?

A. Yes, as demonstrated through with my testimony today.

Q. What outreach to the public and with local political subdivisions has been completed by Burke Wind?

A. Burke Wind has been in contact with the public, land owners and agencies throughout the planning stages of the project. We opened a local office in Bowbells in April 2017 to better coordinate with local officials, landowners, and just general inquiries about the project. Burke Wind held community open houses on March 9, 2017 and June 15, 2017. Landowner events were held in March, 2017, June, 2017, June, 2018 and most recently February 21, 2019 to provide to provide project updates. During the project developments, Burke Wind worked closely with Burke and Mountrail County officials and other stakeholders to address feedback and concerns and to ensure the project were meeting local requirements.

Throughout 2017 to 2018, Burke Wind met with the counties on a monthly basis to discuss the projects. In addition, from 2018 to September 2018 Burke Wind appeared six times before the Burke County Planning and Zoning Commission and/or the Burke County Commission and two times before the Mountrail County Planning and Zoning Board at public meetings and hearings. Burke Wind also met with landowners in and around the project area on various occasions and has worked with landowners to avoid or minimize impacts on their property to the extent practicable.

Q. Before you are what are marked as exhibits 41 and 42. Can you please describe these documents?

A. Yes. Want me to --

Q. Yes.

A. Exhibit 41 is a letter of support from Representative Longmuir. Exhibit 42 is a letter of support from Senator Rust.

Q. Thank you. How has Burke Wind demonstrated its commitment to being involved with the local community?

A. Burke Wind has been been actively contributing to the local community including providing donations to the following community organizations. So starting in 2017 the Bowbells Volunteer Fire Department and Ambulance Service Donation, Burke County Fair

Sponsorship, City of Bowbells public Pool donation, North Dakota State Fair Sponsorship, the NDSU Extension Dakota Cattle Conference Sponsorship and the CHS Harvest for Hunger and that was 2017 and 2018. Following up in 2018, Burke County Boys and Girls Club basketball teams, Burke County Extension Office Weather Station Sponsorship, Burke Central School Post Prom Committee. That's the keeping kids safe after prom program. The Burke County School District Kid Wind Sponsorship, Burke County Fair Kids Rodeo Sponsorship, the Powers Lake Public Schools Football Field Lights donation and the Kenmare Public School District number 28 Book Fair.

Q. Thank you. Do you have any closing remarks?

A. Yes. I want to express our appreciation to the commission and staff for their time and effort on the projects. I am happy to answer any questions that the commission may have. Thank you.

MR. DAWSON: Mr. Schmidt, do you wish to cross examine this witness?

MR. SCHMIDT: Yes, Your Honor. Thank you.

BY MR. SCHMIDT CROSS EXAMINATION

Q. Good morning, Mr. Hart.

A. Good morning.

Q. Your direct testimony you indicated that Burke Wind LLC is a wholly-owned indirect subsidiary of

NextEra Energy Resources LLC; is that correct?

A. That is correct.

Q. So am I correct in assuming that this means Burke Wind is owned by a direct subsidiary of NextEra?

A. Yes. The project is owned by NextEra through various entities.

Q. So which entity directly owns Burke Wind, LLC?

A. We can share that after -- after the hearing, we could share the relationship between NextEra and the LLC.

Q. I guess my question is who is directly responsible for this project?

A. NextEra Energy Resources is.

Q. So if someone needs to contact the owner of this project for some reason, they should contact NextEra?

A. They should contact first the O and M manager onsite and then -- and then they can communicate up to the organization.

Q. But in any event, NextEra is ultimately responsible for this project?

A. That is correct.

Q. Just so we're clear, there's two separate applications that are at issue today, right?

A. Yes, sir.

Q. One for a transmission line and one for the wind

project, correct?

A. Yes, sir.

Q. Are these two applications dependent upon each other?

A. Yes, they are.

Q. So if the wind farm for some reason one way or another was denied, there'd be no reason to seek approval for the transmission line?

A. That is correct, sir.

Q. And, likewise, if the transmission line wasn't approved, there'd be no reason to approve the wind farm?

A. That is also correct, sir.

Q. You indicated that this project will tie into the existing tande substation; is that correct?

A. Yes, sir.

Q. And the tande substation is owned by the Basin Electric Power Cooperative, correct?

A. That is correct.

Q. Is this project being developed at Basin's request?

A. They are the customer of the power being generated from the project.

Q. You indicated that NextEra is requesting interconnection service with SPP, correct?

A. That is correct.

Q. What type of interconnections service are they requesting, is it SPP or Nerus?

A. Nerus.

Q. Do you want to open up the amended application, which is exhibit number four and turn to page 13. I have a couple of questions for you.

A. Page 13?

Q. Yep. And this is related to the project schedule. Now, you are, excuse me -- page 12. Now the schedule indicates that NextEra is requesting the commission issue its certificate by 2018; correct?

A. That was the original request during the final, yes.

Q. So we agree that NextErat submitted a lot of new information in February of 2019; correct?

A. That is correct.

Q. So is it fair to say that the schedule that's in this amended application is really no longer following?

A. That is correct.

Q. A couple of questions with respect to the -- kind of the general environment with what we're dealing with wind energy right now because your application indicates that the Comprehensive State Energy Policy for 2010 to 2025 recommended the capacity of wind generation of up to 5,000 megawatts by 2020, does that sound right

to you?

A. Yes, I do recall that.

Q. What is the current capacity of wind generation in North Dakota?

A. I don't have that figure. I understand -- I know NextEra's. I don't know the overall capacity.

Q. Do you know if it's greater than or less than 5,000?

A. I don't know the capacity.

Q. Okay. That's fair. Where will the energy produced by this project ultimately go, who's going to be the end user?

A. The end user is Basic Electric.

Q. And Basin will distribute it however Basin distributes it?

A. Correct, starting locally.

Q. In the amended application, which is exhibit number four, it states that the need to qualify for a federal production tax credit is an important economic consideration for this project. Why is this a need?

A. Putting financial viability of the project to be built and to translate that into lower PPA prices for the ultimate customer.

Q. And am I correct in understanding that you have to commence construction on this project before December

31, 2019 to be eligible for the tax credit?

A. Yes, for 100% of the production -- federal production tax credit.

Q. If you do not meet that December 31, 2019 deadline, will you still move forward with the construction of this project?

A. Yes, we will.

Q. You already talked about how this was originally a 300 megawatt project and then it was adjusted to become a 200 megawatt project, but 200 megawatts is the maximum capacity that this project could produce; is that correct?

A. That is correct.

Q. You expect this project to produce up to its maximum capacity?

A. There will be times that it will be produced up to 200 megawatts.

Q. What do you believe to be a reasonable expectation as to the average output that we could expect to see from this project?

A. The expected output is approximately 50 percent of the capacity.

Q. That'd be hundred megawatts?

A. Yes.

Q. And I'm assuming that depends on how much wind

there is at different times?

A. Entirely, yes.

Q. What is the anticipated useful life of this project?

A. 30 years.

Q. Is that based on a contract or is that based on how long infrastructure will last?

A. Infrastructure is typically less.

Q. So we move 30 years down the road and you have some information in your application and I'll represent it's on page 45 of exhibit number four and it indicates that NextEra will develop a decommissioning plan in accordance with North Dakota Administrative code. You testified on that on direct testimony, correct?

A. Yes, I did.

Q. Does this mean that NextEra is committed to following PSC's decommissioning rules?

A. Yes, we are.

Q. During your direct testimony, you talked about some of the accessory structures that would be required to build this project and it's my understanding that you need a project substation, an O and M facility, some roads, things like that; correct?

A. That is correct.

Q. And you also indicated that there's going to be

an increase of traffic about 600 vehicles at certain times, is that correct?

A. Correct. At peak construction.

Q. And will that traffic be on paved or gravel road out by the project site?

A. Be both.

Q. So with respect to the traffic on gravel road, does NextEra intend to take any dust mitigation factors?

A. Yes, we will.

Q. And what would those dust mitigation factors be?

A. That'll be water -- water spraying to control the dust.

Q. And if a neighboring landowner has an issue with dust and believes that maybe some more water should be sprayed, could they contact someone and get that done?

A. Yes. The construction manager would be the primary point of contact and we will be sharing that individual's contact information.

Q. I'm assuming that Ms. Wells will be testifying with respect to some of the micrositing issues and environmental issues?

A. That is correct.

Q. If I could have you turn to exhibit number on, which is the transmission line consolidated binder and if you look at page number ten, at the time this was

submitted, indicated that 46 out of 48 easements for the transmission line had been obtained and I believe it was your testimony there's still one easement that needs to be obtained?

A. Actually, the one easement is for the wind turbine farm and that's with North Dakota Trust Lands.

Q. Okay. So with respect to the transmission line, have those easements been obtained?

A. Yes, we are 100 percent.

Q. 48 out of 48?

A. That is correct.

Q. Can I have you turn to figure 4C of exhibit number one?

A. I'm sorry, 4C?

Q. 4C.

Q. Okay. Well maybe you can answer the questions without having to to deal with looking at the map but there's a railroad that goes across where the transmission line is proposed to be sited; correct?

A. Correct.

Q. And it's my understanding from looking at the map that we have that the railroad is a non-participant in this project; is that correct?

A. That is correct.

Q. Did NextEra obtain an easement from the

railroad?

A. We are actually in negotiations for the crossing agreement at this time. We will have it in place prior to construction.

Q. Other than the one farmstead that you indicated you got a waiver for on the transmission line, were there any other waivers that were obtained for the transmission line?

A. No.

Q. Are there any other that you believe are required for the transmission line?

A. No.

Q. If I can have you turn to exhibit number two. Actually, if we just go back to exhibit two and page 14 or 14 which was the map you referenced earlier in your direct testimony. That's really the next question I have, but on this map if you look on the only occupancy structure, there's information in there and some of that information with respect to this particular occupied structure, states not participating and then it states 290.3 from whole structure and it says waiver obtained. What was the significance of the pole structure as opposed to the actual power line with respect to these maps?

A. In this case we measured from the outer most

part of the pole structure, so one of the arms coming off of the nearest point of the arm from the structure versus the center point.

Q. Was consideration given to the actual electricity line?

A. From the center point or?

Q. From the actual line to the occupied structure, was that considered at all when you're determining whether you need to obtain waivers?

A. Yes.

Q. And there was no point along the proposed transmission line where the actual power line, not the power pole, was within 500 feet of the residents; is that correct?

A. Would you mind restating that?

Q. Sure. There was no point along the transmission line route where a residence, business or other structure that would be noteworthy was within 500 feet of the actual line and not just a pole?

A. Well, actually, that's this case here.

Q. Okay. But this map is talking about the distance from the pole?

A. Correct.

Q. I'm asking if NextEra gave consideration from -- to the distance from the actual power line or if all

these numbers are just based off the distance from the poles?

A. Distance from the pole.

Q. Okay.

MS. FUREY: To clarify, the distance of the pole, you mean from the outer most cross arm of the pole?

A. The outer most cross arm of the pole so it's actually closer to the end of the actual line.

Q. I guess my question is if they're -- you indicated that these poles are going to be up to 1200 feet apart, correct?

A. Right.

Q. And if you're just measuring from the poles, wouldn't it be possible to have a house directly underneath the power line but 600 feet away from either pole?

A. That would be an exclusion area.

Q. Okay. That's my question is did you give consideration to the actual power lines when you were considering this 500 foot --

A. Yes, we did. Sorry.

Q. Okay. That was my question. I don't have anything further.

BY MR. LIEN CROSS EXAMINATION

Q. Just one question. When you're measuring from the power line to a residence, are you looking at the edge of the right away of the power line to the residence or from the actual power line to the residence?

A. We utilize the central point of the line to the residence -- to the center point of the residence.

Q. So are there any situations where if you interpreted that from the edge of the right-of-way, then you need another waiver from somebody?

A. There's one additional landowner who is a participating landowner that would be below 500 feet.

Q. That would be fro the edge of the --

A. Edge of the corridor.

Q. Corridor was the right-of-way; right?

A. Right. So yes.

Q. Okay. So I wonder if we should get that waiver?

A. The agreement in place has that statement on it in the easement agreement.

Q. Okay.

A. Has a waiver statement.

Q. So could we file that?

A. Yes, we can.

Q. We can just make another waiver exhibit or you want to put in with the existing waiver?

MS. FUREY: Well, Jerry, as far as it goes as far as waiver is concerned, I don't know that this would be the same type of waiver that is traditionally filed for when a residence is located above 500 feet of the route as Mr. Hart has described. The rule doesn't specifically state whether or not the setback is from the edge of the right-of-way or to the pole structure as Mr. Hart has testified to. So, I guess, just for clarification, you would just like a copy of the existing agreement?

Q. Or else another waiver document or something.

MS. FUREY: We can provide a copy of the existing agreement.

Q. Okay. Thank you. And would that be in with that exhibit 40 -- whatever it is with the waiver agreement?

MR. DAWSON: We'll talk about that at the end of the meeting.

Q. Thank you. That's all I have. Thank you.

MR. DAWSON: Commissioner Fedorchak.

MS. FEDORCHAK: Thank you, judge. Thank you, Daryl. Appreciate your time so far.

BY MS. FEDORCHAK CROSS EXAMINATION

Q. Some follow-up questions to some of the things you've talked about already this morning. Can you characterize the local permitting process? You said you

had six or eight or a number of meetings with the local subdivisions. Tell me about those?

A. Starting in 2017 we reached out -- started reaching out to the local division, specifically the county or county commissioners in pursuit of the commission permit for the wind farm reaching out, getting local support, providing regular updates, bi-monthly updates to the commissioners and the local leadership and also taking into account any feedback we were provided so that we could finalize siting of the project.

Q. What kind of feedback did they have?

A. For the -- from the leadership?

Q. Yep. The planning -- all the planning and zoning groups.

A. So ultimately the Planning and Zoning Commission did not recommend a -- did not recommend the project. At the county that became the commission level, they did approve the conditional use permit.

Q. Now, was there a lot of public input at those meetings?

A. Yes, there was.

Q. Why did the planning and zoning -- what was -- tell me about their recommendation, why did they deny that?

A. Came down to --

Q. Their recommendation denying it.

Q. Just local, local feedback. And -- local feedback and then when it came to the county level, it was that additional local feedback that basically caused the -- or lead to the project being approved.

Q. Okay. So was the local feedback concerned initially from the planning and zoning, was environmental or was it just people didn't want it?

A. At that time the project was still 300 megawatts. So the concern was near the environmental restrictions on the eastern side of the project.

Q. Did you have any additional community meetings after that? Like not just meetings but official public meetings with the leadership after the project was reduced?

A. With the county, yes.

Q. Okay.

A. As far as Burke County, yes.

Q. Okay. Did any of the people that previously opposed it show up and say, we're okay now, at that time?

A. I'm sorry, so once we downsized from 300 to 200 megawatts, we provided an update to the county, but there were no additional public hearings.

Q. I see. Okay. But ultimately, you received the approval from the county. Did they -- one of the things that I noticed in their conditional use permit was a requirement which you work with spray planes to allow for spraying. How does one do that? I haven't heard that.

A. Yes, So if someone is planning on spraying crops, as soon as they know, they're aware, we highly recommend to coordinate with the operation maintenance manager and we will curtail those turbans to accommodate for spraying. And the earlier the better that we know understanding full well that could be a short time.

Q. Okay. So you just shut down the turbines that are near where they're spraying and then turn them back on after they're done?

A. That is correct.

Q. That easy?

A. That is correct. That is the methodology.

Q. All right. Those are great pilots. I'll just say that.

A. It's actually a common practice throughout our fleet.

Q. Is it? Okay. Hadn't picked that up yet. Let's see here. So this is -- the transmission line is pretty long. I mean, 37 miles, you're quite a distance from

your -- is that the nearest entry point or?

A. Yes. That was the recommended location from Basin Electric that had the capacity available for the project.

Q. Okay.

A. Realizing initially that it was 300 megawatts and then downsizing but it would still be in the same location.

Q. There wasn't -- that was their recommendation. Were there closer ones that you initially thought might be more appealing?

A. Not that had capacity.

Q. Okay. So once you figured that out, did you ever consider just looking for a location closer to where you are going to be interconnecting with the grid?

A. That would have negatively impacted the efficiency of the wind resource -- or utilizing the wind resource. We are located on a very high wind area so we are maximizing the efficiency from the wind resource and moving off of that area closer or in any other direction off of this plateau.

Q. So you've got a 50 percent approximately capacity factor here. Any estimate of what the capacity factor would have been --

A. You would have dropped below forty.

Q. Okay. So you did analyze that?

A. Absolutely.

Q. What attracted the company -- how did you find out about this location, what attracted you to it initially?

A. We looked at two factors, we have a customer who approached us and had a need.

Q. So that's Basin?

A. That's Basin and we analyzed the region for the optimal wind resource and then overlay that with the point of interconnection and then taking into account environmental setbacks. And then on top of that, we start reaching out to the community to see if there's an interest in garnering voluntary -- volunteers from the locals to sign up for it.

Q. All right. And it's also a 345 kV. Is that necessary to be that big?

A. Yes, it is because that's the -- that's the size of the existing point of interconnection.

Q. Okay.

A. So we have to interconnect at that.

Q. Okay. So you have quite a lot of additional capacity on those lines?

A. That's correct.

Q. And so are you anticipating trying to expand

down the road? Are you prepared for that? Is that part of the thoughts of the company and making the space in that line?

A. At this time we have no plans to expand the project.

Q. Is it a possibility that you could?

A. There is a possibility at some point in the future that it could be, but those are not in the works at this time.

Q. Sure. Did you look at any -- does NextEra develop solar?

A. Yes, we do.

Q. Did you ever consider a solar resource in this area instead of the wind?

A. No, we did not.

Q. Is there any reasons why you couldn't out in this part where the basin is located?

A. That definitely could be a possibility in the future, but that did not come up in our discussions with the optic. They were focused on doing energy but if the opportunity arises, we could always open up that as a future opportunity.

Q. They were focused on wind energy expressly or renewable energy?

A. Renewable energy but because of the high

capacity factor, wind was the optimal opportunity at the time.

Q. Okay. So they feel that they need 200 megawatts with a 50 percent capacity factor?

A. Yes.

Q. How big -- do you know much about solar?

A. I can try my best.

Q. How big would this -- how large of a solar facility would you need to kind of provide that same amount of energy?

A. I use it as a rule of thumb, six to seven acres per megawatt. So you would have direct impacts of 200 times seven acres, which is -- and that would be continuous land impacts so that would be extensive. That'd be an extensive impact that you're comparing directly to wind.

Q. Okay. I think that's all unless you have any just general company information from company leadership information that you'd like to say kind of in defense of this site and in response to a lot of the concerns that have been expressed?

A. Understood. Dr. Wells will expand on a lot of the mitigation that we took into account, but we -- we had some very deep discussions internally and along with our costumer to take into account the local feedback

that we received when we originally had a 300 megawatt site and to move the site or to basically truncate the eastern side of the project and moving us away by seven -- by seven -- up to seven miles away from Lostwood was a -- took us quite a while to come to fruition and so we -- so formulating that decision was very important from all -- all the way from our leadership all the way down to project -- to the project level. So we took it to heart and we also believe that that was a key part of our mitigation strategy. In addition to that, we also, and Dr. Wells will talk about this, we did move 55 turbines off of unbroken prairie of grasslands keeping five there and Dr. Wells will talk about that some more. So we took a lot of the actions from the highest level to make sure that we mitigated as best as we could.

Q. Okay. Very good. That's it for now. Thank you.

MR. DAWSON: Commissioner Kroshus.

BY MR. KROSHUS CROSS EXAMINATION

Q. Mr. Hart, first of all, thank you for your service.

A. Thank you.

Q. The Game and Fish letter that we received on March 7th, just a few days ago, what's your response to that? It's a very -- it's a pretty strong letter in terms of disappointment in terms of how you went about

securing the PCA without, as they state in the letter, that was signed prior to any wildlife habitat studies being done and I realize that Kimberly Wells will be coming up as well.

A. I would like to state that we do recognize our efforts to work with them for mitigation. The permitting process and the commercial process of the projects run in parallel. I can't time exactly when both will occur. So discussions -- discussions with the agencies and discussions with the customer but we try our best to align the two and it's unfortunate, but that's the way that Game and Fish framed this. But I will say that they do recognize our efforts to have open discussions for voluntary mitigation for offsets.

Q. Okay. I believe it was -- the and I realize that's not a siting requirement or a consideration, if you will, but when I look at -- or think of the fact that you're using 2015 turbines and qualifying safe harbor provision to get (inaudible), assuming the project is constructed by the end of this year, if not, it will go to 80 percent, is that correct, from 100 to 80?

A. Or we can go back and utilize 2016 vintage turbines, safe harbor turbines.

Q. But help me reconcile how turbine, you know,

it's -- it's the part that I struggle with the most and that it's more of a personal thing, I'm sure than actual siting criteria, but no one knew where those turbines were going to go when they were purchased apparently because I can't imagine someone buying them in 2015, they're not thinking that they're going to wind up near Bowbells, North Dakota. Would that be a fair statement?

A. Actually, we have -- we have a strategy for acquiring these turbines and the turbines actually are allocated to the projects as they come to fruition, specifically, as we acquire PPAs and then as we -- as the project matures and receives its permits. I will say that we've purchased these at risk understanding full well that we are trying to predict where these are going to go in 2016, 2017, 2018 and that is all -- that is actually our dedication to moving forward and continuing construction is that we are taking that risk and we're taking that big step into a large capital investment. In this case, it's eight turbines of the 76.

Q. Now going back to the 76 turbines, 22,900 acres, which is approximately 300, 301 acres per turbine. And I've brought this up in the past and the answer I received last -- at the last hearing, a separate hearing was essentially, well, it's okay because the landowners are still getting a per acre payment on the land that's

within the footprint, part of the project area and -- but we're talking about minimal adverse effects to the environment. And when I'm looking at 300 acres per turbine, this is the same question I asked last time. What I've seen similar sized projects in other parts of the country, and, again, assuming we've got the best wind or some of the best wind in the country, you would think we would be more condensed and it's really the opposite and we're running at a three or even four, sometimes five to one ratio compared to projects in other parts of the country. Why so much land? Like why can't these be tightened up and so they're not sprawling over such a wide expanse?

A. Responsible sighting of turbines, we follow all of the criteria to -- we follow state, county and our internal restrictions knowing full well that by following these rules and taking into account all of the environmental restrictions or setbacks that are required as well as additional restrictions that are set within the siting criteria, all of -- all of those restrictions add to the amount of acreage that are required as long as we want to follow the rules to the best of our ability or exceed, so each time we were setting a turbine and we have to be -- we're looking at a map with different setbacks, say, wetlands, or says it's a

residence or something else, each time -- or sound or flicker, each time you're adding more land and moving further apart. I guess I can't say which -- which states you're analyzing, but there are other states that don't have the same zoning restrictions and/or environmental concerns based on wherever that is in the given state and you're right, we can move turbines closer, but in this case, in following the setbacks and looking at all the land you cover up and can utilize after the restrictions are in place, it's a very small footprint in between within the 22,000 acres that we can actually utilize.

Q. That still doesn't seem to make sense to me when I look at the fact that North Dakota is the fourth least populated state in the country in terms of number of acres or residents and then I look at states like New York or Texas, for example, and I realize the metro area and that skews the numbers versus the rural population, but you're talking about 22,900 acre footprint for only seven people that live within that footprint; is that correct?

A. Seven, yes. I will also say that also gives us -- having that large footprint also gives us the ability to optimize and get to that 50 percent capacity factor and if you move the turbines closer, it's higher waking

internally and you're getting to the point where the interaction between the turbines you're extracting the energy and not giving the wind a chance to get back up to full speed or an optimal wind speed.

Q. So it'd be -- assuming the economics -- would the economics pencil out then -- or economic slash knowing you're measuring efficiency, okay, you're going turbines are too close together, it won't be as efficient in terms of output?

A. That is correct.

Q. What's the myriad of -- and I realize that the tighter space, the more concentrated they are, that goes down, but are we talking to a few percentage points or are we talking a turbine that's only a quarter of a mile away? Not even in line with the prevailing wind, is it really going to impact it or within even, let's use a quarter of a mile? Seems like there's adequate space between two turbines.

A. If you're saying to a quarter of a mile, the simple answer is yes. If you put the turbines closer or however you wanted to arrange that, the capacity factor will drop considerably as well as adding additional strain on the turbines because you're putting them in a high turbulent area after the first turbine or second turbine without allowing the pre wind stream to hit the

turbine without having the turbulence.

Q. That's just something I don't know exactly. I'll talk with -- Jerry, I'll talk with you and see if there's a way to frame, you know, a way to frame this up in terms of -- because I think I know -- what I'm trying to -- when I'm looking at an application and, okay, we're talking about minimal impacts, impacts there's always a degree of variability in any type of an energy conversion facility and then leads me to wonder, well, if it's economics and efficiency and ultimately the economics are really driving this or is the larger footprint to create an avenue to expand at some point in time and I realize you have to work that through an agreement to be able to push more power out of the system. But let me ask this. What are the turbine sizes? 1.5 to -- or did I get that number wrong?

A. I'm sorry?

Q. Turbine size?

A. 17 megawatt is the larger one.

Q. Okay.

A. And then 1.715 is the other eight turbines.

Q. How large out of -- how large of turbine could you put?

A. Megawatt wise?

Q. Yeah.

A. We're --we've actually found, for our purposes here, this is the optimal turbine, so optimal available turbine from this manufacturer that compliments both the economics as well as the energy.

Q. Is that looking at it from the standpoint that in 2015 that vintage qualified for -- you know, qualifies for the 100 percent PTC?

A. Right. So they realize that's just the eight turbines, I mean, you still have these 68 other turbines that are -- that are larger.

Q. So how do you explain or how do you present to -- I think this is, you know, I've asked questions that obviously I'm trying to wrap my brain around some of these, for me they're issues, challenges in terms of how I look at a project. How do you explain it to a local zoning authority or county zoning authority or landowners for the first time when they've never gone through a process like this before and you're talking about things like shadow flicker, noise when they've never experienced it before and, of course, I think, you you, to be perfectly honest, I think the agricultural community is a little more vulnerable right now. That might not be the best word. Let me rephrase it. I think would be more amicable to signing an agreement when you got low grain prices and, you know, for some it's a

financial decision as much as in terms of, okay, you got a younger generation coming up, I would keep them on the farm and this helps do that. But right now I would have to -- have to believe that in some ways it's the perfect storm in terms of, okay, the PTCs are expiring, you've got a warehouse full of turbines somewhere that -- and that's a generalization, but you've got these inventory bank somewhere stored somewhere that you're looking to move into various projects across the country, so you're moving as fast as you can to get full PTC, the federal tax dollars. I always call it the invisible utility bill when I'm talking to people that you don't see but it's your second utility bill if you pay federal taxes and then low commodity prices and ag producers are struggling and I'm hoping to explain, I guess, a long way to getting to the final question, but how do you explain the process to them and you said you have -- you bring them in and what type of materials do you provide to them in terms of shadow flicker, noise and what this is going to mean?

A. It's actually a long-term process because we come into the community so it's a landowner or a local leadership and build that trust over time and build that relationship to actually give the experience to the landowners or local county commissions, we will bring

them to one of our 14 operating sites in the state and have them talk to additional landowners, county commissioners in those townships. So that's a first-hand approach to having them listening to the sound and see how actual -- how the operating wind turbine is basically integrated into the -- into the local community. So materials, we have studies and those types of things. But we actually sit down and we describe the sound flicker, we describe the local benefits that occur. As you see here, we make local donations. We actually become partners with the local community and we don't just develop and leave. Our company is dedicated to coming in here and you're here for the long term. We have employees who live in the town, live in the local community, and then become part of the community. Some of the wind technicians actually may be from this county and want to come back and this gives them the opportunity. So we share not just the wind -- what happens with the turbines and how that impacts the local community, but we also talk about the benefits and we come to a holistic approach.

Q. Do you feel the officials at the county level, do you get a feel after you met with them, talked with them, and you've had your meetings that they have a high level of comfort in terms of the process, whether they

agree with it or don't agree with it but they have a full understanding of what's involved or do you think there are lingering questions after -- again, because it's -- there are a lot of firsts in this process?

A. Realize our relationship is over -- so at this point, it's over two to three years, so yes, initially the county commissioner. So yes, initially there are questions and we give them the opportunity to ask those questions and we will come back and speak at the monthly to bi-monthly meetings that we had to follow up and give them the experience of actually bringing them to other counties, bringing them to other places, so we get to the conditional use permit timeframe or we get to those hearings. They should have those answers already in place.

Q. Scratch that question. That's a grouchy question from being on an airplane all day.

A. Thank you.

Q. And I'm convinced the airline I was on, their motto is, we're not happy until you're not happy.

A. Once again, thank you.

Q. Here it is. The adjacent landowners, how far -- nonparticipating landowners adjacent to the project and can you walk me -- you had touched on that. How far out do we go from the edge of -- I would imagine you're

highly engaged with people. I would hope you're highly engaged with the people but is it one mile beyond that, is it two miles, is it five miles, how do you go about -- because these, they're going to be on a plateau, they're going to be be visible for quite a number of miles. How far out do you --

A. Are you talking about outreach basically?

Q. Outreach. Correct.

A. We find that during 2017 we posted in newspapers in -- to basically have to reach out to all the landowners in the general area to come to open houses, so our outreach is how far the newspaper can reach with the local community.

Q. Which papers did you use for this project? The reason I ask you just so I can take a look.

A. Burke Tribune.

Q. The what?

A. The Burke Tribune.

Q. Okay. Any other -- any other means of alerting the public?

A. Well, it comes to the open houses so -- and then -- so within the project boundary we have one approach but outside of that, we found the best way to reach out through the newspaper.

Q. I was privy to a very small town, so word

travels fast. I was often in trouble before I even had the opportunity to get home. I don't believe I have any other questions and I apologize, it gets a little winded bouncing around a little bit because so many of the questions have already been covered questions. No other questions. Maybe it was mentioned or I forgot or I think it's in the app but do these have heater jackets?

A. Yes, they do. These have the cold weather package.

Q. All right. I don't have any other questions at this time. Thank you.

MR. DAWSON: I understand that Commissioner Fedorchak has a few more questions and when she is done, we'll take a 15 minute break and then come back for redirect and cross. Commissioner Fedorchak.

BY MS. FEDORCHAK RECROSS EXAMINATION

Q. Thank you, judge. I don't know about everybody else but I'm really curious about the grouchy question. I'm gonna have to peak at his notes and see what he crossed off. You might have a secondary occupation in writing slogans for airlines. Okay. I know everybody wants to stand up as do I. Quick question I failed to ask. What about about -- tell me about -- there's a fair number of nonparticipating landowners within the footprint. I'm looking at exhibit 35 and all the red

hashed out sections. Are your -- does the company have a policy of paying everybody within the footprint? Every participating landowner within the footprint or how do you deal with the nonparticipating landowners within the footprint?

A. So the nonparticipating landowners do not have agreements and have will not be receiving compensation.

Q. Okay. If they had signed, would they have been paid something even if they didn't have a turbine located on their property?

A. Yes.

Q. And can you characterize the opposition or the reasons why there's a huge number on the east side of this site that did not participate within the footprint?

A. Yeah, there was -- there are various reasons. There is a -- just to categorize. We did not have a large negative feel when we were discussing with these landowners, some of the landowners just decided that they had multiple family members that had to come to agreement with it and just decided that they weren't interested. Another family has a number deployed overseas and we just didn't have enough communication to establish an agreement. There was another family that's -- they're avid hunters and just didn't want turbines on their land.

Q. Okay. I think that's all. Thank you.

MR. DAWSON: We'll take a break here for 15 minutes and then come back and you'll be back in the chair.

(Recess taken.)

MR. DAWSON: Mr. Hart is still under oath. Ms. Fury, any redirect?

MS. FUREY: Just a few follow-up questions Your Honor.

BY MS. FUREY REDIRECT EXAMINATION

Q. Mr. Hart, you testified that Burke Wind me with Burke County Planning and Zoning and the county commission, a total of meetings and hearings six times, was noise and shadow flicker ever discussed at those meetings?

A. Yes, it was.

Q. Did Burke Wind or any environmental health expert come to those meetings to discuss these topics?

A. Yes, we did,

Q. You testified that public outreach consisted of various, newspaper ads and notices that were polished?

A. That's correct. That's correct.

Q. And in addition, you testified that you opened an office locally here in Bowbells?

A. Yes. It's actually just straight across the

street.

Q. Okay. Thank you.

MR. DAWSON: Mr. Schmidt?

MR. SCHMIDT: No questions, Your Honor.

MR. DAWSON: Mr. Lien?

MR. LIEN: No questions.

MR. DAWSON: Commissioner Fedorchak?

MS. FEDORCHAK: No questions.

MR. DAWSON: Commissioner Kroshus?

MR. KROSHUS: I have no other questions.

MR. DAWSON: You may step down. Thank you. Ms. Furey, you may call your next witness.

MS. FUREY: Thank you, Your Honor. We call Mr. Richard Lampeter.

MR. DAWSON: Mr. Lampeter, you were here for the previous warnings on perjury?

MR. LAMPETER: Yeah.

MR. DAWSON: So you know what perjury is and the penalties for it?

MR. LAMPETER: Yes, I do.

MR. DAWSON: Understanding so, do you promise or swear that the testimony that you're about to give will be the truth, the whole truth and nothing but the truth?

MR. LAMPETER: Yes, I do.

MR. DAWSON: You may begin.

BY MS. FUREY DIRECT EXAMINATION

Q. Thank you. Please state your name and business address?

A. My name is Richard Lampeter. My business address is 3 Mill & Main Place, suite 250 Maynard, Massachusetts 01754.

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

A. I'm employed at Epsilon Associates, Inc. I am an associate at the company and manage the acoustics group.

Q. Please summarize your qualification and experience?

A. I have over 15 years of experience in conducting impact assessments for various developments across the United States. Prior to joining Epsilon, I graduated from Lyndon State College in Vermont with a Bachelors of science and environmental science. I'm currently a member of the Institute of Noise Control Engineering. While at Epsilon, I've been involved in approximately 90 wind energy projects evaluating potential impacts from sound and/or shadow flicker. The projects I've worked on range in size from 1.5 megawatts to over 300 megawatts. As part of project evaluations, I assisted in refinements in wind turbine layouts to minimize shadow

flicker and sound of residences. My other areas of expertise include measurement of ambient sound levels, modeling sound levels from proposed developments, evaluation of conceptual mitigation, and compliance sound level measurements. I've conducted impact assessments for power generating facilities, commercial developments, industrial facilities and transfer stations. I presented the results of the analyses at public meetings to county and township boards. Additional detail regarding my education, background and experience is contained in my CV, which is marked as exhibit 13.

Q. What is your role with respect to the Burke Wind project?

A. Epsilon has been retained to conduct sound and shadow flicker analyses for this project.

Q. What is the purpose and scope of your testimony today in this proceeding?

A. The purpose of my testimony is to provide a summary of the sound and shadow flicker analyses conducted for Burke County Wind Energy Sound Project.

Q. Can you please provide an overview of the sound level analysis that you conducted?

A. Epsilon conducted sound level modeling and receptors to evaluate both the state and county

regulatory limits with respect to sound. This modeling was conducted according to an international standard for sound propagation.

Q. Can you please describe the state's sound regulation?

A. The North Dakota Administrative Code sound limit is 50 dBA within a hundred feet of an inhabited residence or community building.

Q. How did you evaluate this limit in the sound model?

A. As Epsilon was provided coordinates for the center point of the home, we also included discrete receptive points 150 feet from the center of the home in four cardinal directions. This was done to account for the 100-foot offset from the exterior while including an additional 50 feet to conservatively account for the distance from the center point to the exterior of the home.

Q. Can you describe the Burke County sound regulation?

A. Burke County zoning regulations, which adopt the sound levels identified in 1974 U.S. EPA guideline document, information on sound levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety. My expert opinion,

these guidelines equate to a 49 dBA sound level, which is applied 90 feet from an occupied structure.

Q. Please describe how you derived the 49 dBA limit from the EPA's 1974 guidance document?

A. The EPA levels document, I'll simplify the name there, guideline limit for outdoor activity interference and annoyance is an ldn 55 dBA. This limit was set for outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is the basis for use. The Ldn is a day -- night average sound level and it's a 24 hour A-weighted equivalent sound level with a 10 decimal adjustment applied to the nighttime levels. It is not the same as the unadjusted state limit of 50 dBA. To make an apple to apple comparison and for purposes of the compliance evaluation, the Ldn needs to be converted to an Leq. To calculate the Ldn it requires an understanding of the sound level from the turbine for each distinct hour over the 24 hour period. It applies a 10 decibel adjustment factor for each nighttime hour between 10:00 PM and 7:00 AM. Therefore, if the wind turbines are operating under worst case conditions, meaning, under what is maximum sound power levels, with a sound level at a receptor of 49 dBA for each hour, over the entire 24 hours, that location will be the

equivalent of the 55 Ldn limit.

Q. Can you provide more detail on the sound modeling methodology for this project?

A. The sound levels associated with the proposed wind turbines were predicted using the Cadna/A sound level calculation software developed by DataKustik. This software uses the ISO 9613-2 international standard for sound propagation. The standard is utilized in the industry for modeling sound propagation for wind turbines and other sound producing equipment. Cadna/A is one of several software packages available to model community sound levels.

The sound level modeling analysis included the proposed collector substation, and 81 wind turbines, which consists of 76 proposed wind turbine locations and five alternate wind turbine locations.

Sound levels were calculated at the center points of the homes and also 150 feet from the center point in the four cardinal directions. This was done to address the requirements of the State and County regulations.

The amended sound level assessment report for the 200 megawatt wind project, dated November 6, 2018 was filed with the Commission and is marked as exhibit 10. Epsilon subsequently updated this report in the addendum to the sound report which is dated February 4, 2019 was

filed with the commission and is marked as exhibit 9.

Q. Please describe the differences between the addendum which is marked as exhibit nine that is in volume one of the exhibit book and the amended sound level assessment report marked as exhibit 10 also in volume one of the exhibit book?

A. The February 4, 2019 addendum updates the earlier report and includes updated modeling results. This addendum was created in order to address updates and changes to the sound level modeling based upon a new receptor dataset, new land use dataset, and feedback on the format of submittals for other recent projects in North Dakota. The project layout and sound level modeling parameters are identical to the ones used for the previous report.

Q. So to be clear, the results in the addendum which is marked as exhibit nine are the current sound results?

A. Just going to confirm it.

Q. And I would actually grab --

A. Yes, that is correct.

Q. And these results were derived through the methodologies described in full sound report which is marked as exhibit 10?

A. Yes, that is correct.

Q. What are the results of this revised analysis?

A. The updated sound model predicted broadband dBA Leq sound levels at the modeling receptors. The sound levels range from 23 to 47 dBA. The highest modeled sound level at a participating modeling receptor is 47 dBA while the highest modeled Leq sound level at a non-participating receptor is 46 dBA. Project sound levels at all revised modeling receptor locations are below the most restrictive county limit of 49 dBA.

Q. Is the modeling analysis conservative?

A. Yes. The sound level modeling conducted is conservative. Sound level modeling assumptions inherent in the ISO 9613-2 calculation methodology, or selected as conditional inputs by Epsilon, were implemented in the Cadna/A model software to ensure conservative results. These include: All modeled sources were assumed to be operating simultaneously and at the design wind speed corresponding to the highest sound level. As per ISO 9613-2, the model assumed favorable conditions for sound propagation, corresponding to a moderate, well-developed ground-based temperature inversion, as might occur on a calm, clear night or equivalently downwind propagation, meaning the receptor is downwind from all wind turbines simultaneously. Meteorological conditions assumed in the model which are a temperature

of 20 degrees Celsius or 50 degrees Fahrenheit and relative humidity at 70 percent were selected to minimize atmospheric attenuation in the 500 Hz and 1 kHz octave bands where the human ear is most sensitive.

Finally, a two decibel uncertainty factor for the wind turbine sound power level was included.

Q. Thank you. Can you please explain the two decibel uncertainty factor?

A. Yes. The wind turbine manufacturer typically provides an uncertainty factor for their sound power levels of a plus or minus two decibels for the wind turbine. In the modeling, we conservatively add two decibels to the sound power assigned to all wind turbines in the model. This has the effect of adding two decibels to otherwise modeled sound level at each modeling receptor.

Q. Have you reviewed the direct testimony of Mr. David Hessler that was filed with the commission yesterday? It is marked as hearing exhibit 43 and that includes his report and also his CV are included together in that?

A. Yes, I have.

Q. What was Mr. Hessler's conclusion on your sound level assessment report?

A. Mr. Hessler states on page three of his

testimony that this study is well done and I completely agree with the modeling methodology and all of the assumptions that went into the sound contour mapping done for all three versions of the report. However, Mr. Hessler then faulted the study for focusing on regulatory compliance and not making any effort to evaluate or assess the potential noise impact of the project on the community.

Q. How would you respond to Mr. Hessler's criticism?

A. I do not agree with Mr. Hessler's characterization of the county sound limit or the need to have conducted a baseline ambient sound level assessment.

Q. Why do you disagree with Mr. Hessler's characterization of the county sound limit?

A. The EPA guideline adopted by the county is clearly a 24 hour-sound limit whereas Mr. Hessler's interpretation assigns a short-term nighttime limit. The EPA considered nighttime sound levels in their adoption of an adjustment factor to be used in a 24-hour average, and elected to not specifically limit sound levels during the night.

Q. Why do you believe that a baseline ambient sound level assessment is not required?

A. The county and state limits are based on sound generated from wind turbines at receptor locations. Collecting the data for baseline ambient level -- noise level would be of minimal value as it is not applicable to these limits. In addition, evaluating an increase over background limit is problematic as there are many factors which impact sound levels making it difficult to assign one number as the background sound level.

Q. Is your analysis complete and does it demonstrate compliance with both the county and state sound regulation?

A. Yes, it does.

Q. What is shadow flicker?

A. Shadow flicker can be defined as intermittent change in the intensity of light in a given area resulting from the operation of a wind turbine due to its interaction with the sun. While indoors, an observer experiences repeated changes in the brightness of the room as shadows cast from the wind turbine blades briefly pass by windows as the blades rotate. In order for this to occur, the wind turbine must be operating, the sun must be shining and the window must be within the shadow region of the wind turbine, otherwise there is no shadow flicker. A stationary wind turbine only generates a stationary shadow similar to any other

structure.

Q. What standards did you apply to evaluate shadow flicker results for this project?

A. Consistent with the North Dakota Public Service Commission precedent, which is a common standard applied across many jurisdictions, a design goal 30 hours per year of expected shadow flicker at inhabited structures and community buildings was established.

Q. What is the difference between the shadow flicker analysis report dated November 6, 2018 which is marked as exhibit 12 that's in volume one of the hearing binders and the shadow flicker addendum dated February 4, 2019 marked as exhibit 11 also in the volume one?

A. The February 4, 2019 letter serves as an addendum to the earlier report and includes updated modeling results. This addendum was created in order to address updates and changes to the shadow flicker modeling based upon a new receptor dataset, new land status dataset and feedback on the format of submittals for other recent projects in North Dakota. The project layout and shadow flicker modeling parameters are identical to the ones used for the original shadow flicker report.

Q. So, again, to confirm, the results in the addendum which is marked as exhibit 11 are the current

shadow flicker result and were derived from the modeling parameters as discussed in exhibit 12?

A. Yes, that is correct.

Q. Can you discuss the methodology used to predict the shadow flicker levels expected from the project?

A. Shadow flicker was modeled using a software package, WindPRO, which was developed by EMD International and is used for assessing potential environmental impacts for wind turbines. Using the shadow module within WindPRO, worst-case shadow flicker in the area surrounding the wind turbines was calculated based on data inputs including the location of the wind turbines, location of discrete receptor points, wind turbine dimensions, shadow flicker calculation limits and terrain data. Based on these data, the model was able to incorporate the appropriate sun angle and maximum daily sunlight for this latitude into the calculations. The worst case calculations assume the sun is always shining during daylight hours and the wind turbine is always operating. WindPRO shadow module can be further refined by incorporating sunshine probabilities and wind turbine operational estimates by wind direction over the course of a year. The values produced by this further refinement are known as the expected shadow flicker and are presented in the

analysis.

Q. What were the results of this revised analysis?

A. The updated shadow flicker model presents predicted expected annual shadow flicker duration at 56 receptors. There's also the modeling range from zero hours, zero minutes per year, 25 hours, 30 minutes per year. Expected annual shadow flicker at all revised modeling receptor locations are below the project design goal of 30 hours per year and, therefore, the project meets the design goal with respect to shadow flicker.

Q. Can I draw your attention to hearing exhibit eight, can you please describe this document?

A. Okay.

Q. Does this chart contain the final results that are included in the final addendums to involve the amended sound and shadow flicker reports which are exhibits 9 and 11?

A. Yes. These are a series of three tables organized by modeling ID. Each table -- first table is for participating landowners and then there are nonparticipating and participating owner and then just nonparticipating landowners and they present both the sound and shadow flicker results that are found in the addendum.

Q. Thank you. Does this conclude your testimony?

A. Yes, it does.

MR. DAWSON: Mr. Schmidt, do you wish to cross examine this witness?

MR. SCHMIDT: Yes. Thank you, Your Honor.

BY MR. SCHMIDT CROSS EXAMINATION

Q. Good morning.

A. Morning. You provided some testimony about the Burke County zoning ordinances as they pertain to sound. Did you ever go and make a presentation to the Burke County Board of Commissioners?

A. I did not.

Q. Do you know if your report was ever submitted to the Burke County Board of Commissioners?

A. I don't. I do not know.

Q. But you are familiar with Burke County's sound ordinance?

A. Yes, I am.

Q. In your opinion, is Burke County's sound standard more or less restrictive than the PSC's?

A. It's more restrictive on the decibel level as it calculates out to the 49 as compared to the 50.

Q. With respect to shadow flicker, you indicated that the project had a design goal of 30 hours per year. Can you just explain to me how that came to be?

A. Generally, shadow flicker regulations were first

developed in Europe as they were -- wind turbines became -- were instituted there first. And that is where development began. From there, various U.S. agencies and really jurisdictions use that as far as -- and also in the development of projects, developers and consultants in a way to try to put shadow flicker into some context relied on some of that -- those regulatory guides documents and from that extracted 30 hours per year from those and that has been applied as a criteria to evaluate whether a project will result in a significant nuisance with respect to shadow flicker.

Q. I'll have you turn to exhibit number 11 and then figure two. You can look at a sheet one of two.

A. Okay.

Q. Now, your report indicated that the maximum amount of shadow flicker predicted per year was 25 hours and 30 minutes; correct?

A. That's the maximum expected.

Q. And do we agree that was -- I'm kind of having trouble reading it because it says that the nearest turbine is turbine eight up here and I'm looking at model receptor number 11, which is the Jay Altinger --

A. Yes.

Q. Property. So I'm wondering if you can explain this to me because we have nearest turbine, turbine

eight and then we have a line to what appears to be a number 11. So can you just explain what that means?

A. Sure. The line is pointing to 11. 11 is the location of the receptor and these results are describing the amount of shadow flicker at that particular location. And then the distances -- it's -- the line is not referring to the particular wind turbine or the distance to that turbine. It's just identifying that receptor.

Q. But we agree that the highest is projected or possible shadow flicker would affect a nonparticipating landowner; correct?

A. That is correct. They are nonparticipating.

Q. Anymore adverse effects to humans from shadow flicker?

A. The simple answer is no. There's some concern at times about causing epileptic seizures but they -- the wind turbines do not spin at a rate fast enough to trigger epileptic seizures.

Q. I have no further questions.

MR. DAWSON: Mr. Lien?

MR. LIEN: I have no questions, Your Honor.

MR. DAWSON: Commissioner Fedorchak.

BY MS. FEDORCHAK CROSS EXAMINATION

Q. Thank you. I just have a -- I think I just have one question on sound and that is on page three of the direct testimony from Mr. Hessler. Let you pull that out. You talked a little bit to Brian about this but I just want to follow up. He recommends that the company do this potential noise project on the community so you have like a baseline study and then design a project -- so the way I'm reading it is that there's a baseline study and then you design the project so that the total increase is five dBA as you can kind of apply that to that sound generated for the project. Am I reading that right? Is that what he's recommending? Five dBA increases an ideal design goal because it limits the provenance and sound liability of the project relative to the background level, so --

A. Yes, your description is accurate.

Q. Okay. So you guys didn't do this. This is not required so it's not a deal breaker, but I'm curious if you agree that that's a good goal and if that's maybe what this is going to be anyway? Could you say what the total impact of the project might be on the -- on the sound level in this area?

A. It's difficult to say because we haven't conducted an ambient sound level measurement program. At the -- what I can say is that the sound levels vary in a

community. So during periods when wind is generally low, you'll have lower sound levels as there would not be a particular sound source, highway or industrial facility. So those -- and rustling vegetation, your sound levels can drop certainly into the 20s. There are times where the wind's blowing and you have rustling vegetation or you have a car pass by and your sound levels will increase. So there's going to be a pretty significant range in the sound levels in the community from twenties to fifties just to --

Q. But could you model it so that the impact on top of whatever the baseline sound is, is 5 dBA?

A. The challenges of saying what that background level is because it's -- it's always varying, so --

Q. If you're doing a baseline study, why do you have to assign it to anything? It's just what it is. And then whatever you add to that is the sound coming from the -- your facility?

A. Well, there's -- there's different metrics and if you collect sound levels over a series of hours, those hourly -- not only will the sound levels vary each hour or each period, they'll also vary depending on what metric you pick, so you may pick the L90 sound level, which is an exceeding sound level. You may pick the Leq sound level, so that's why -- and it'll be different

wind speeds. So the challenge is always, well, what's the appropriate number to pick to say is the ambient. If you were to say ambient range from 25 to 50, you could then say, well, a 47 is within that range of ambient, but that doesn't necessarily put it into full context because there will certainly be periods where at some locations that are closer to the wind turbines the wind turbines will be audible, so there will be a, by definition, a delta or increase over the ambient because you can hear that particular sound over the existing ambient sources.

Q. Well, I'm not gonna pursue this a lot more at this this hearing, but sound is something that the commission is getting more and more engaged in. It's an area that I think the communities are -- it's really difficult for them to anticipate what the impact is going to be on their sound and it's impossible to get it back after the fact. So we want to make sure that everyone's going in with full knowledge of what the impacts are and doing the very best to minimize those and prepare to minimize those so the impact is very little and that everyone's kind of happy with the project when its concluded so. But thank you for your input. Appreciate it.

MR. DAWSON: Commissioner Kroshus?

BY MR. KROSHUS CROSS EXAMINATION

Q. I just have a couple of questions because, you know, for us sitting and listening in on the hearing right now you've heard a lot of technical terms and so I'm going to break it down into something real simple questions or just simple questions because that's how I operate the best anyway. At the end of the day you can throw out a lot of different terms but the 30 hours flicker shadow, that's based on the European model; correct?

A. It goes back to Europe and specifically Germany. Germany had a -- still has a 30 hours per yield worst case limit and as wind energy projects were being developed and built in the U.S., what was applied was instead of a worst case number of 30 hours of expected, and that was then used as an evaluation criteria throughout the U.S. and has been adopted as regulations formally in some communities.

Q. When I look up there and think of a European model, you're talking about society that is further along in terms of renewables. And I think part of that is they, as a whole, seem to be more receptive, if you will, for a variety of reasons. It's a different culture. So you think 30 hours is the right number or is that more a tolerant number based on a culture across

the ocean versus maybe a west modern culture or that type of thing?

A. I think initially certainly the Europeans had a head start, but I think over the time I've been involved in wind energy projects, there -- that 30 hours per years is used quite often, so I would -- I would say that it's always that balance that needs to get struck between sort of zero of anything versus what's an acceptable amount. And I think that's -- that 30 hours has been previously used it enough jurisdictions and has been generally accepted that I would feel that that's an acceptable way to limit shadow flicker from a project.

Q. One of the things that I constantly am reminded of in my current role is the fact that -- and I alluded to it in my opening is that this is a multigenerational facility. It's not just about today or a few years. This is for a long time. So I'm always looking at these particular decisions, I'm looking at the body of evidence and realizing that in ten years, 20 years, 30 years, that's like -- it's like the Nielsen rating of did we do it right? And, you know, I don't want to read about sound being a problem 20 years from now or 15 years from now. I didn't want to read about a pipeline that wasn't, you know, maybe we missed something, which I don't believe we do. I think we're very thorough, but

what if we did and then I'm reading that and we missed it, you know, we should have had, you know, more of this and more of that in terms of the requirements. So how do we really know when you're saying that there is no -- I think you had talked about epileptic seizures and no correlation or no basis to say that, but what about the other concerns that people, you know, whether it's sound or shadow flicker, dizziness, feeling nauseous, that type of feeling, what's your response to that? How do we know?

A. Well, I think to shadow flicker specifically that is pretty well, as far as health effects go, just limited to, I would call a nuisance type of issue where someone -- there's that change in brightness in the room and someone doesn't want to experience that for the -- for the period of time that it's going on. That duration does vary. So it's not as if it's all day and it's not every day. It could be, you know, 10 minutes, 30 minutes, hour and it could be particular months during the year, either in the morning or the evening. It really depends on where that home is located to the particular wind turbines if it's a morning event or an afternoon/evening type of event, so that's limited to a nuisance as far as concern. Sound levels have been studied. There have been various publications that look

into health effects from sound and specifically wind turbines. Familiar with a variety of those studies, although that's not the mindfulness of my employment, but I am aware of and read those and are familiar with them and the weight of the evidence shows that the concerns and specifically low frequency infrasound that those low frequency infrasound, they're present, so if you monitor and measure sound levels from a wind turbine, you'll see that there is contribution of lower frequencies in infrasound. They're not at levels to trigger concerns with respect to health. So cardiovascular disease, the other things, tinnitus, dizziness, other claims that you hear, just not been a relationship established through the peer review journal studies and articles.

Q. Well I'm not going to ask anymore questions, but Commissioner Fedorchak expressed this very accurately and that is we've drilled down in this particular area as well as all siting areas as a part of case review to work sessions after this particular hearing which is about gathering evidence and hearing from the different parties and especially the public as I mentioned earlier. So don't take this as we're just asking a few questions and not going to continue to focus on this if anyone is wondering. It's something we're going to

continue to review extensively as part of the application. And with that, I don't have anymore questions?

MR. DAWSON: Ms. Furey, any redirect?

MS. FUREY: No, Your Honor?

MR. DAWSON: Any further questions?

MR. SCHMIDT: No, Your Honor.

MR. DAWSON: Seeing no further questions --

A. I would just like to make one additional statement to kind of follow up on health effects just to --

MR. DAWSON: I'll allow it.

A. Thank you. I did want to add that I was personally involved in a peer review journal study on both frequency and infrasound for wind turbines and we did look as part of that study a 1.5 megawatt and a 2.3 megawatt wind turbine and compared it to various ANSE criteria and other international standards looking specifically at both frequency and infrasound and found that those levels for those wind turbines had 1,000 feet from them met those various criteria. So just one example just to elaborate on one specific experience in studying those particular issues.

MR. DAWSON: Are there any questions as a

result of what he just said?

MS. FUREY: No, Your Honor.

MR. SCHMIDT: What was the name of the study?

A. It was in -- I actually have it here. So just so I get the name exactly. It's in the Noise Control Engineering Journal dated March, April, 2011. It's Low Frequency Noise and Infrasound with Wind Turbines with three authors and I was one of the authors.

MR. SCHMIDT: I have no further questions.

MR. DAWSON: Any further questions? Seeing none, you may step down.

A. Thank you.

MR. DAWSON: Ms. Furey, how long do you expect your next witness will take, your portion?

MS. FUREY: Quite a bit of time, Your Honor. At least I would estimate -- I would say 30 minutes to 45 minutes.

MR. DAWSON: Any feelings on that?

MS. FEDORCHAK: Were you thinking, Judge, that we would take the witness and then break and then cross?

MR. DAWSON: Correct.

MS. FEDORCHAK: I think that's a good plan.

MR. DAWSON: Okay. We'll go ahead with your witness.

MS. FUREY: Sounds great. Thank you. We would call Dr. Kimberly Wells.

MR. DAWSON: Dr. Wells, you were here for my previous admonition of perjury?

MS. WELLS: Yes.

MR. DAWSON: Do you understand what perjury is and the penalties for it?

MS. WELLS: I do.

MR. DAWSON: Understanding so, do you promise or swear that the testimony that you're about to give will be the truth, the whole truth, and nothing but the truth?

MS. WELLS: I do.

MR. DAWSON: You may begin.

BY MS. FUREY DIRECT EXAMINATION

Q. Thank you. Please state your name, by whom you are employed and your business address?

A. My name is Kimberly Wells. I am employed by NextEra Energy Resources. My business address is 708 Main Street, 10th Floor, Houston Texas 77002.

Q. What is your position with NextEra?

A. I am senior manager of environmental services responsible for the mid continent region that includes

the state of North Dakota. It is my responsibility to provide oversight of environmental permitting, including environmental consulting.

Q. What is your educational background?

A. I received a Bachelor's of science in natural resource management from the University of Arizona and Master of Science in fisheries and wildlife ecology from Oklahoma State University and a PhD in fisheries and wildlife sciences from the University of Missouri-Columbia. I also certified wildlife biologist and wetland delineator.

Q. What is your professional experience?

A. I have over 19 years of environmental permitting experience as both a consultant and then environmental manager in the renewable energy industry. During this time, my primary responsibilities have included permitting and licensing projects on public and private lands in compliance with state and federal environmental laws.

Q. Were you involved in the preparation of the project's application?

A. Yes. My colleague was Carolyn Stewart and I directed and supervised the consultants responsible for preparing the applications and conducting the environmental studies that have been submitted to the

commission. Ms. Stewart directed the cultural resource studies as well as the Tribal outreach. I drafted consultants that conducted the wetland, wildlife, sound and shadow flicker, and natural resource studies and prepared the applications.

Q. Please briefly summarize the purpose of your testimony today?

A. The commission sets forth criteria to evaluate a proposed wind energy and transmission project. The criteria are classified as exclusion areas, as avoidance areas, selection criteria and policy criteria. I will describe the manner in which we had considered the commission's criteria and selection and design of the project. I will also summarize the results of the environmental analyses which demonstrate that the project will have no have long-term irreversible effects on the environment.

Q. With respect the commission's site criteria, can you please describe any exclusion areas that are present within the project area and/or transmission line corridor?

A. Exclusion area present in the wind project area include farmland of statewide importance and archaeological and historical sites which have been avoided by the wind project. Exclusion areas present in

the transmission line corridor include archaeological sites which are being avoided by the transmission line.

Q. What impact will the wind project have to farmland of statewide importance?

A. The farmland of statewide importance is located within the wind project area. The wind project area encompasses approximately 3,225 acres of farmland of statewide importance. Estimated permanent impacts to farmland of statewide importance are approximately 13 acres which is less than .16 percent of the project area.

We coordinated with the participating landowners to find solutions to infrastructure placement that balance avoidance of environmental constraints with landowner farming patterns and desired future land use. In this respect, we believe that the farmland of statewide importance expected to be removed from use is of such a small acreage that it will have a negligible impact on the agricultural production.

Q. Please describe how Burke Wind excluded archaeological and historical sites from the project?

A. Burke Wind identified archaeological and/or historical sites in and near the projects through a Class I literature search. A Class II reconnaissance inventory for architectural resources, a Class III

cultural resources inventory and through Tribal outreach and coordination. All sites that are eligible or potentially eligible for listing on the National Register of historic places are of tribal or cultural significance or unevaluated sites have been avoided by project infrastructure.

Q. Please describe the status of architectural reconnaissance inventory Burke Wind undertook to address potential impacts on historical sites?

A. We conducted a class II and class III architectural history study within two miles of the wind project turbines and submitted the architectural history survey report to the State Historical Society. The report concluded that there are no architectural sites eligible for listing under the National Register of Historic Places, thus no impacts to architectural sites are expected. A summary of the architectural history survey report was filed in the docket and is marked as exhibit 14. The State Historical Society concurred with the report conclusions on December 4, 2018 and that letter was submitted to the Commission on January 15, 2019 which is marked as exhibit 15.

Q. Please describe the status of the class II cultural resources inventory Burke Wind undertook to address the potential impacts on archaeological sites?

A. The class III cultural resources inventory completed by archaeologists from AECOM also included surveys by Tribal surveyors from multiple tribes. The full cultural resource surveys submitted to the State Historical Society covered all aspects of the field surveys and cultural resource evaluation, except for two collection area locations and two existing access road locations, which comprise less than point 02 percent of the wind project. These unsurveyed areas related to two MET towers and a recent landowner request to shift road locations. Once collection activities and surveys for these areas are completed, the results of these efforts will also be submitted to the State Historical Society in an addendum for concurrence. State Historic Society concurrence will also be filed with the commission for these areas prior to starting construction in these specific areas.

The archaeology survey report for the wind project was submitted to the State Historical Society for review and is marked as exhibit 15. Concurrence was received on February 26, 2019. The concurrence letter was submitted to the commission and is marked as exhibit 17.

The archaeology survey report for the transmission line was submitted to the State Historical Society for review and is marked as Exhibit 18. Concurrence was

received on February 26, 2019. The concurrence letter was submitted to the commission and is marked as exhibit 19.

The transmission line cultural resource surveys submitted to the State Historical Society covered all aspects of the field surveys and cultural resource evaluation except for 15 temporary, cable pulling locations which comprises 2.0 percent of the transmission line corridor.

Q. When will Burke Wind survey the remaining unsurveyed areas?

A. All remaining unsurveyed areas will be surveyed in the Spring and submitted to the State Historical Society for concurrence. State Historical Society concurrence on these areas will be filed with the commission and no construction will occur in these areas prior to survey completion and SHPO concurrence filing.

Q. Will the projects impact the identified archaeological and historical sites?

A. No. Burke Wind has designed the projects to avoid impacts to sites eligible or potentially eligible for listing on the National Register of Historic Places, sites that may be deemed culturally sensitive, tribally significant sites and sites that have not been evaluated for National Register eligibility. In addition, Burke

Wind incorporated avoidance buffers recommended by AECOM and Tribal surveyors and approved by the State Historical Society.

Q. Are there any additional exclusion areas located within the projects?

A. No.

Q. With respect to the commission's siting criteria, can you please describe an avoidance areas that are present within the wind project area and/or the transmission line corridor?

A. Yes. Avoidance areas within the wind project area include historical resources that were not otherwise designated as exclusion areas as well as woodlands and wetlands.

Avoidance areas in the transmission line corridor include areas that are geologically unstable, meaning, landslide areas and one reclaimed quarry, and a residence that is located 450 feet from the transmission line centerline and 390 feet from the outer edge of the widest transmission structure, respectively. Pursuant to the commission's regulations, Burke Wind has obtained a written waiver from the owner of this residence which has been filed with the commission and is marked as exhibit 20. This landowner is nonparticipating and has not voiced any objection to the project.

Q. Please explain the wind project' potential impact on historical resources that are not otherwise designated as exclusion areas?

A. With respect to the wind project, sites with potential cultural significance are present within the project area. Burke Wind has avoided all direct impacts to sites with potential cultural significance. As a result, adverse impacts are not anticipated.

Q. Please explain the projects potential impact on wetlands?

A. No USACE jurisdictional wetlands will be temporarily or permanently impacted by the wind project or the transmission line project. Therefore, a Section 404 permit is not required for the projects.

Wetland delineations were conducted between May and November, 2018 or both the original 300 megawatt project and the 200 megawatt project and these reports are provided in exhibits 32 and 33. Within the wind project area, 15 jurisdictional wetland's were delineated. All 15 wetlands cross collection lines and will be bored under, thus avoiding any temporary or permanent impacts to jurisdictional wetlands. Documentation of no impacts is shown in the wetland impact memorandum marked as exhibit 31.

For the transmission line project, seven

potentially jurisdictional wetlands were identified within the transmission line project corridor. The transmission line has been designed to span these even potentially jurisdictional wetlands, thus avoiding temporary and permanent impacts to the wetlands. Wetland delineations for the transmission line are shown in exhibit 34.

We have also voluntarily elected to avoid temporary and permanent impacts to isolated prairie potholes that are not within the jurisdiction of USACE to the maximum extent practicable. There are no impacts to isolated prairie potholes from the transmission line project. T is anticipated that the wind project will temporarily impact approximately five acres and will permanently impact one acre of isolated prairie potholes. All isolated prairie potholes that we determined provided suitable stopover habitat for whooping cranes were completely avoided.

Q. Please explain the projects' potential impact on woodlands?

A. With respect to the wind project, trees and shrubs are sparse and those woodlands that do exist will be avoided by wind project infrastructure to the extent practicable. Field surveys conducted for the transmission line corridor identified a few small

patches of woodland trees along wetlands and drainages associated with White Earth River. No infrastructure will be sited in woodlands and impacts to trees will be avoided to the extent practicable. Trees and shrubs removed during construction will be inventoried and mitigated per the commission's tree and shrub mitigation specifications pursuant to Burke Wind's certifications that were filed with the commission and are marked exhibits three and six. Therefore, adverse impacts to woodlands are not anticipated.

Q. Regarding the commission's selection criteria, would you please identify potential adverse effects?

A. The wind project will permanently impact approximately 66 acres of land for the life of the project. Construction of the wind project will temporarily impact approximately 1,273 acres associated with the construction easement that will be mostly reclaimed after construction.

For the transmission line project, only approximately point 05 acres of land will be permanently impacted during operations as a result of pole and structure placement. Construction of the transmission line projects will temporarily impact approximately 729 acres, primarily associated with temporary access roads or work space within the transmission line project

corridor.

With regard tot eh other selection criteria for the wind project, minimal, if any, adverse impacts are anticipated.

With respect to the commission's selection criteria for the transmission line, the transmission line will be visible to landowners and travelers along roadways but existing transmission lines are already present in the viewshed and the transmission line project will not result in a significant change to the existing visual setting.

Q. Has Burke Wind evaluated wildlife impacts?

A. Yes, as I and Mr. Derby will testify.

Q. What aspects of the wildlife studies will you discuss versus what will Mr. Derby discuss?

A. I will present the results of our wildlife studies and summarize our coordination with the wildlife agencies. Mr. Derby will provide context for interpreting those results in relation to the scientific literature and his 15 years of experience with wind projects in North Dakota and the Great Plains.

Q. Please describe the wildlife studies that Burke Wind conducted?

A. Burke Wine and its consultants completed multiple desktop assessments and field studies to adhere

to U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines, Eagle Conservation Plan Guidance, and Avian Power Line Interaction Committee recommendations. The purpose of these studies was to understand wildlife use of project area so this information could be used to avoid and minimize potential impacts to plant communities, wildlife habitat, and wildlife during project construction and operation.

The studies included desktop reviews to identify potentially sensitive environmental areas including native prairie and suitable habitat for Dakota skipper, whooping crane and northern long-eared bats. In addition, field surveys were conducted to evaluate potentially suitable habitat for the presence of Dakota skipper; document avian use, eagle use and raptor nests; and document Sharp-tailed Grouse leks. Field surveys also included a breeding bird assessment for grassland-associated bird species, waterfowl, and other wetland associated bird species.

Q. Please describe how Burke Wind followed the USFWS Voluntary Land-Based Wind Energy Guidelines (WEGs) during the siting process?

A. We designed our siting process following the three pre-construction tiers described in the 2012 USFWS wind energy guidelines. These three tiers include

progressive levels of decision-making that begin in tier one with desktop landscape-scale data, move to tier two with site visits and end in tier three with site-specific field studies. The WEGS describe decision points after each tier that relate to using data to assess whether potential species of concern are or could be present, the predicted probability of significant adverse impacts and whether any potential impacts can be avoided, minimized or mitigated. Decision outcomes at each tier include choices such as abandoning further development of the site, gathering site-specific data to address uncertainty, and/or modifications of the project to avoid impacts or mitigating any remaining adverse impacts. Burke Wind considered these outcomes at each tier and elected to proceed with development because impacts could be sufficiently avoided, minimized or mitigated.

Q. Did Burke Wind re-evaluate its studies when it reduced the wind project size from 300 megawatts to 200 megawatts?

A. Yes. As discussed earlier by Mr. Hart, we reduced the wind project from 300 megawatts to 200 megawatts primarily to address environmental concerns that were raised by the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department related to

the original project's proximity to Lostwood National Wildlife Refuge in Burke County and feedback from landowners and townships.

Reducing the wind project from 300 megawatts to 200 megawatts moved the wind project significantly further away from Lostwood and significantly shrank the wind project area. The reduction in the project area is shown on the display map that is marked as exhibit 37 which I believe over to my right here and the 300 megawatt design of the project, the closest wind turbine to Lostwood was approximately 1.3 miles away; by reducing the size of the project to 200 megawatts, the closest wind turbine to Lostwood is now over seven miles away.

To address this reduction in project size, we reevaluated our original wildlife surveys and our studies and updated them or revised them as appropriate term of new contracts.

Q. Please briefly describe the results of the wildlife surveys with respect to raptor and avian use in the wind project?

A. General aviation use surveys were conducted in the spring and fall of 2017 and the spring of 2018 in the project area. Eagle use surveys occurred over one year from April, 2017 through March 2018. Six Bald Eagle detections and one Golden Eagle detection were recorded

during standardize use surveys within the project area. The pre-construction eagle and aviation use study report summarizes these results for both the 300 megawatt and a 200 watt projects as shown in exhibit 30.

Q. With regard to the breeding bird assessment and the wind project?

A. A breeding bird assessment was completed for grassland-associated avian species and for wetland-associated avian species including waterfowl in June and July of 2017. Species composition was consistent with avian species composition generally found in mixed agricultural and grassland habitats in North Dakota. Species richness and relative abundance for grassland-associated avian species tended to be highest at survey locations in the eastern half of the original study area. These locations were within the previous 300 megawatt project area and are now avoided and not included in the 200 megawatt project area any longer. These studies are shown in exhibit 29.

Q. With respect to the Grouse Lek surveys and both the wind and transmission projects?

A. Ground-based Sharp-tailed Lek surveys and aerial Sharp-tailed Grouse lek surveys were conducted in April 2017 in the wind project area and in April 2018 for the transmission line project. Six confirmed leks were found

within the wind project area and no leks were detected in a transmission line corridor. Turbines will be sited at least a half mile from confirm leks. The wind project study for both Grouse leks and raptor nests for the 200 megawatt project is shown as exhibit 25; this study replaced the prior analysis submitted with the 300 megawatt project. The transmission line project study is shown in Appendix C of exhibit one which is the transmission line application.

Q. With respect to the aerial raptor nest survey for the wind project?

A. An aerial raptor nest survey for the wind project was conducted in April 2017. No eagle nests or eagle concentration areas were detected during the aerial survey or during subsequent avian surveys. Six red-tailed hawk and five great horned owl nests were observed within the wind project area. No turbines will be sited within a quarter mile of previously documented active raptor nests. As I just mentioned, the aerial raptor nest survey results for the 200 megawatt project are included in the report marked as exhibit 25.

Q. With respect to the aerial raptor nest survey for the transmission line project?

A. An aerial raptor nest survey for the transmission line project was conducted in April 2018

across the proposed transmission line construction corridor. One active great horned owl nest and one probable Ferruginous hawk nest were found within the 0.25 miles of the project corridor. No eagle nests were found during the 2018 aerial survey. No construction activities will occur within a quarter mile from raptor nests from March through July to the extent practicable. This study is shown in Appendix C in exhibit one which is the transmission line application.

Q. What did the wildlife studies show with respect to the likelihood of threatened or endangered species of critical habitat occurring in the projects?

A. No federally threatened or endangered avian species were observed using habitat within the project or a larger study area during use surveys.

Q. With regard to whooping cranes?

A. Three whooping cranes were incidentally observed flying over the project area outside of surveys, well above the rotor swept zone in April 2017.

Whooping cranes were not observed again flying over the projects and were not observed stopping over within the project area during avian use surveys. A whooping crane habitat assessment was originally conducted for the 300 megawatt project and the transmission line corridor, which was reconfirmed through an addendum

which states that the information contained in the original report for the 300 megawatt project is still applicable to the amended 200 megawatt project area. Both the addendum and the original assessment report are marked together as exhibit 27.

The whooping crane habitat suitability assessment was completed following methodology developed by The Watershed Institute. This assessment showed that there are no potentially suitable stopover wetlands or whooping cranes within the wind project construction easement and there are seven along the transmission line corridor that intersect the centerline and will be avoided by spanning over them. No direct impacts to these suitable wetland's will occur from the projects as shown in figure 18 of exhibit four which is the amended application for the 200 megawatt project. As stated in exhibit one and shown on figure three of exhibit one, all wetlands including all suitable stopover habitat for whooping cranes will be spanned by the transmission line.

Finally, I would note that there is no federally designated whooping crane critical habitat within or near the project or in the state of North Dakota. No impacts to whooping cranes are anticipated as project infrastructure has been sited to avoid suitable stopover

habitat, cranes have been documented to avoid wind turbines and a monitoring program will be conducted during the operations whereby wind turbines within one mile of observed whooping cranes will be voluntarily shut down until our operational staff can confirm whooping cranes have left the area. For the transmission line, project infrastructure has been sited to avoid impacts to suitable stopover habitat and bird diverters will be installed on the transmission line following recommendations by the Avian Power Line Interaction Committee suggested practices. Mr. Derby will provide more information on this topic as a part of his testimony.

Q. With regards to the Dakota Skipper?

A. The Dakota skippers are federally listed as a threatened species. Critical habitat has been federally designated in North Dakota but not in Burke or Mountrail Counties where the projects are looking at it. There are three historical records of Dakota Skipper documented in Burke County, but all are outside of the maximum documented dispersal range from the projects. In Mountrail County, there have also been three documented occurrences that were located farther away from the Projects than the maximum documented dispersal range.

Federally permitted Dakota Skipper biologists with

SWCA Environmental Consultants conducted a habitat survey to determine the potential Dakota Skipper habitat occurred within the wind project area and transmission line corridor. The Dakota Skipper habitat assessment report covers both the 200 megawatt project and the transmission line and is marked as exhibit 28. Habitat surveys began with a desktop assessment of the projects followed by field surveys between September 2017 and December 2018. Approximately 98 percent or all but approximately 11 acres were surveyed during the growing season. Ten of the 11 acres surveyed outside of the growing season were hayed substation parcel where the federally permitted biologists documented primarily non-native species indicating habitat is unlikely to be suitable. There are point 87 acres of field verified suitable habitat in the transmission line corridor. All suitable habitat has been avoided by project design either through micrositing, spanning over it in the case of the transmission line or by boring under suitable habitat to avoid surface impacts. Burke Wind will also implement additional mitigation measures to avoid surface impacts to field verified Dakota Skipper habitat as I will discuss in more detail later in my testimony.

Q. With regard to the Northern Long-eared Bat.

A. Burke Wind conducted a desktop analysis of

potential risks for bat species including the federally threatened northern long-eared bat. Based on results that indicate low bat roosting habitat availability, the absence of known hibernacula near the project and statewide acoustic and mist netting surveys, northern long-eared bat occurrence within the project is possible but unlikely and no impacts are anticipated. A bat habitat assessment was conducted on the original 300 megawatt project area which was reconfirmed through an addendum, which states that the information contained in the original report is still applicable to the amended 200 megawatt project area. Both the addendum and the original assessment are marked together as exhibit 26.

Q. Which agencies has Burke Wind coordinated with that may have interest in the projects?

A. Burke Wind sent project notification letters to the 27 agencies and officers designated in North Dakota Administrative Code Section 69-06-01-05. Burke Wind has coordinated with numerous local, state and federal agencies and tribes. These agencies include the North Dakota Department of Trust Lands, North Dakota Department of Game and Fish. The US Army Corps of Engineers and the US Fish and Wildlife Service. Outreach letters were also sent to 24 Native American Tribes of which eight interested tribes engaged in discussing the

project.

Q. Would you please discuss Burke Wind's tribal outreach efforts?

A. Our initial outreach efforts began on July 20, 2017 with an outreach letter sent to 24 tribes in North Dakota, South Dakota, Montana, Wyoming, and Minnesota. Eight tribes including the Cheyenne River, Northern Cheyenne, Rosebud, Sisseton-Wahpeton, Spirit Lake, Standing Tock, Turtle Mountain and Yankton Sioux responded and expressed interest in the project.

Q. What resulted from the meeting with the various tribes?

A. Numerous discussions and meetings have taken place with eight interested tribes to discuss micrositing as well as cultural resource survey report content and format. Standing Rock and Rosebud tribal representatives participated in micrositing the proposed wind turbine locations accounting for sites with cultural and/or religious significance to the tribes. Based on this information, Burke Wind revised the project layout. Tribal surveyors from Rosebud, Turtle Mountain, Northern Cheyenne and Spirit Lake tribes completed joint tribal and AECOM field surveys for cultural resources and sites of cultural and/or religious significance to tribes. AECOM provided the

combined results and avoidance recommendations from the surveys to Burke Wind which were then accounted for in revising the project layout. The results of the surveys were documented in the archeology survey report that was submitted to the State Historical Society. Burke Wind has sited project infrastructure to avoid impacts to all sites of cultural and/or religious significance to tribes.

Q. Please describe the interactions you have had with the North Dakota Game and Fish Department and the U.S. Fish and Wildlife Service?

A. Burke Wind has been coordinating with the wildlife agencies since the fall of 2016. We discussed pre-construction study design with the wildlife agencies, sought their input on study designs and protocols, shared all of our preliminary and final results and reports and have worked to consider and implement as many of their recommendations as possible in the projects. In October of 2018 we met with both agencies and shared that we had voluntarily reduced the project from 300 megawatt to 200 megawatt in large part to address concerns about proximity to Lostwood National Wildlife Refuge. Most recently in 2019 we met with both agencies to identify our impacts, summarize our avoidance, minimization and mitigation measures

including a meeting on February 15, 2019 to propose a voluntary offset package, a conference call to discuss the offset package and follow up on February 26, 2019 and a followup-letter summarizing the proposed offset methodology on March 5, 2019. We continue to engage with both agencies to share information and discuss the voluntary offset package we have provided.

Q. Has any agency raised concern regarding construction of the projects?

A. In regard to the North Dakota Department of Game and Fish and U.S. Fish and Wildlife Service, these agencies have expressed concerns and have provided recommendations to address their concerns with both projects. I will address the most recent recommendations from each. The North Dakota Department of Game and Fish provided a letter most recently dated May 27, 2018 expressing concern about several aspects of the 300 megawatt project location. The Department of Game and Fish was concerned about the project locations, amount of native prairie present, project location within the whooping crane corridor, existing breeding waterfowl density and State Wildlife Action Plan species of concern. The North Dakota Department of Game and Fish also suggested that a voluntary and offset package to be delivered.

Last night we received the most recent correspondence from North Dakota Department of Game and Fish dated March 7, 2019 and I believe that is exhibit 44.

U.S. Fish and Wildlife Service provided a letter regarding the 300 megawatt project dated November 25, 2018. The U.S. Fished and Wildlife Service expressed concerns with the location of the 300 megawatt wind project in relation to the Lostwood National Wildlife Refuge and native prairie and recommended relocating the project to an area that would have less impact to natural resources or voluntary and offset package. Yesterday received a more recent letter dated March 6, 2019 that expressed similar concerns.

Q. Dr. Well,s is that letter marked as exhibit 45?

A. Yes, that's correct.

Q. How has Burke Wind addressed the North Dakota Game and Fish Department and the U.S. Fish and Wildlife Service recommendations for the Project?

A. We incorporated the North Dakota Department of Game and Fish and the Fish and Wildlife Service recommendations which focused on avoiding or minimizing potential impacts to wildlife into siting of the project. For example, in their May 2018 letter, North Dakota Department of Game and Fish raised concerns

around six themes including native prairie, grassland, species of conservation concern, whooping cranes, wetland and waterfowl impacts, eagles and sharp-tailed grouse.

We have addressed these concerns in a number of ways. Consistent with recommendations from U.S. Fish and Wildlife Service and North Dakota Department of Game and Fish, we approached sighting with respect to the hierarchy of avoidance, minimization and then mitigation. We began incorporating avoidance and minimization early in the planning process for both projects with input from the agencies including modification to design and engineering. We also incorporated landowner preferences into each project's layout and design. Our iterative siting process and specific mitigation measures are described in section seven of the wind project application and section five of the transmission line application.

Importantly, by reducing the wind project from 300 megawatts to 200 megawatts, we were able to move the project several miles away from Lostwood, such that the Refuge is now located approximately seven miles from the nearest turbine, which addressed many of the agencies' concerns about potential impacts to wildlife. This reduction allowed us to reduce impacts to native prairie

by siting the project in more fragmented grassland areas. We are seeking to address any remaining agency concerns by proposing a voluntary offset package to the Department of Game and Fish to mitigate residual impacts.

Q. Please describe the specific ways in which Burke Wind has responded to agency concerns to native prairie and grassland species of cerin in more detail?

A. With regard to native prairie, for the Burke Wind project, and in general, native prairie or unbroken grasslands has been defined as grasslands in which tillage or other substantive human impacts have not disturbed the sod. For instance, grasslands that have never been tilled but are grazed by cattle would still be considered native grasslands. Areas that were tilled in past years but are not planted to grasslands would not be native grasslands or unbroken grasslands. Grass species are not specifically used in this definition.

Burke Wind initially avoided and minimized native prairie impacts in the design of its 300 megawatt project by removing 55 turbines from native prairie in early 2018. Then, by reducing the wind project from 300 megawatts to 200 megawatts, Burke Wind also further avoided and minimized native prairie impacts, moving farther away from Lostwood and avoiding all impacts to

field verified Dakota Skipper habitat. Those efforts have resulted in only five of the 76 planned turbines being located on unbroken grassland and an additional two turbines being located on hayland also considered unbroken grassland. Of the 76 planned turbines, 57 of them or 75 percent are located in cropland and 12 or 15 percent are located in broken grassland. Total permanent impacts to unbroken prairie are estimated at 5.8 acres or less, which is less than one percent of the wind project area. These results are further illustrated in the grasslands analysis memo filed with the Commission on February 6, 2019 as exhibit seven.

Burke Wind is also seeking to address any remaining agency concerns regarding native prairie by proposing a voluntary offset package to the North Dakota Department of Game and Fish in February 2019. This voluntary offset package is intended to compensate for residual impacts to native prairie that we were unable to avoid.

Q. With regard to grassland species of concern?

A. Burke Wind avoided, minimized and has mitigated for potential impacts to native prairie that may provide foraging and nesting habitat for grassland bird species of concern. In addition, by reducing the Project from 300 megawatts to 200 megawatts, Burke Wind was able to move the Project further away from Lostwood and into the

more fragmented and agricultural dominated landscapes of the northwest portion of the original 300 megawatt project. This moved the project further away from the areas in which species richness and frequency of detection for grassland bird species of conservation concern was highest, further demonstrating the value of voluntary avoidance and minimization measures.

Q. Please describe the specific ways in which Burke Wind hs responded to agency concerns related to other wildlife impacts?

A. Burke Wind has avoided all impacts to suitable stopover habitat for whooping cranes through micrositing. Burke Wind also will follow USFWS voluntary land-based wind energy guidelines and avian and power line interaction committee suggested practices including buying collection lines underground, marking the transmission line with bird diverters, using pad-mounted transformers, a voluntary curtailment procedure if whooping cranes are observed near turbines during migration, conducting one year of post construction mortality monitoring, and training construction staff to recognize and avoid federally listed species.

With regards to wetland and waterfowl, Burke Wind has avoided all impacts to jurisdictional wetlands and waters of the USACE, avoided all impacts to isolated

prairie potholes determined to be suitable stopover habitat for whooping cranes, and avoided all other impacts to isolated prairie potholes to the maximum extent feasible. Burke Wind worked closely with the NDGFD and the USFWS to design targeted waterfowl and waterbird breeding surveys and used those to inform infrastructure siting. Finally, Burke Wind's proposed voluntary offset package is intended to mitigate potential native habitat impacts to wetlands that will also benefit waterfowl and wetland-associated birds that may use these habitats.

With regard to eagles, Burke Wind avoided and minimized impacts to native habitat such as wetlands and grasslands that may provide foraging or nesting habitats for eagles. However, no eagle nests were detected in the projects or within a ten-mile buffer. In addition, no eagle use concentration areas were detected, so risk is expected to be low.

With regard to sharp-tailed grouse, Burke Wind avoided and minimized potential impacts to native prairie that may provide nesting and feeding habitat for sharp-tailed grouse. In addition, Burke Wind completed lek surveys and implemented half mile buffers around all known leks where no turbines will be constructed during the lekking season. Burke wind will avoid construction

to the extent practicable within a half a mile of known sharp-tailed grouse lek locations during the lekking and breeding season takes place from approximately April to July.

Q. Has Burke Wind committed to any other wildlife mitigation measures for the projects that you would like to mention?

A. Yes. In addition to the efforts I have already described with regard to wetlands, as I discussed, Burke Wind has avoided all impacts to jurisdictional wetlands, minimized potential impacts to isolated prairie potholes and non-jurisdictional waters, to the extent feasible. No impacts to isolated prairie potholes determined to be suitable stopover habitat for whooping cranes are expected due to infrastructure avoidance. By reducing the project size from 300 megawatts to 200 megawatts, we have significantly reduced the number of potentially suitable stopover wetlands for whooping cranes within the project boundary from 277 within the 300 megawatt project to 40 within the 200 project.

With regards to land easements from the U.S. Fish and Wildlife Service, Burke Wind has avoided all impacts to grassland easements or protected basins managed by U.S. Fish and Wildlife Service. We also continue to actively coordinate with the refuge division of the U.S.

Fish and Wildlife Service to confirm all impacts are avoided.

With regard to the birds and other wildlife, Burke Wind is preparing a wildlife conservation strategy and will share it with U.S. Fish and Wildlife Service and another the North Dakota Department of Game and Fish. The WCS is a framework for documenting measures to avoid, minimize and mitigate potential impacts where applicable to wildlife from the construction and operation of the projects. As I noted, Burke Wind has also committed to several measures that adhere to the U.S. Fish and Wildlife Service voluntary land-based wind energy guidelines and the avian power line interaction committee suggested practices.

With regards to the Dakota skipper, I previously testified that Burke Wind has avoided field-verified, suitable Dakota skipper habitat with the design of both the wind and the transmission projects. To mitigate any impacts to the minimal amounts of field verified suitable habitat within the wind project construction easement and the transmission line corridor, Burke Wind will place high visibility fencing, otherwise known as snow fencing around field-verified suitable Dakota skipper habitat that is proximate to construction areas to restrict construction equipment from inadvertently

disturbing these areas. Where not otherwise directly avoided, Burke Wind will bore under and span over field-verified suitable Dakota skipper habitat to avoid all surface impacts to Dakota skipper habitat.

Q. With regard to sharp-tailed grouse and raptors, Burke Wind has site turbines at least a half a mile away from active Sharp-tailed grouse leks and a quarter a mile away from active raptor nests. Burke Wind has committed to avoiding construction within a half mile of known sharp-tailed grouse lek locations during the grouse lekking and breeding season that generally runs from April to July and a 0.25 miles of active raptor nests during the raptor nesting season, which is generally March through July to the extent practicable.

Q. Does Burke Wind plan to conduct post-construction monitoring per the wind energy guidelines?

A. Yes. Burke Wind will complete one year of post-construction bird and bat mortality monitoring in adherence with the 2012 voluntary land-based wind energy guidelines by the U.S. Fish and Wildlife Service. In addition, Burke Wind will implement a wildlife response and reporting system over the operational life of the project. This system includes protocols, regional staff to document and report bird and bat mortalities as part

of routine maintenance activities.

Q. Are you aware of the letter that U.S. Fish and Wildlife Service filed yesterday and that is marked as exhibit 45?

A. Yes, I am.

Q. Despite the late filing, have you had an opportunity to review this letter?

A. Yes.

Q. Does Burke Wind feel they have addressed all the concerns expressed in this letter from U.S. Fish and Wildlife Service?

A. Yes, we do.

Q. Are you aware of the letter that was filed by Mercy Corps Game and Fish yesterday as well? That has now been uploaded to the commission's docket and is marked as hearing exhibit 44?

A. Yes, I am.

Q. Despite the late filing, you got an opportunity to review that letter?

A. Yes.

Q. Does Burke Wind feel they have addressed all the concerns expressed in this letter from USFWS?

A. Yes, we do like.

Q. I'd like to draw your attention to the North Dakota Game and Fish letter that was submitted. This is

exhibit 44. With respect to the second paragraph on page two, North Dakota Game and Fish indicates that various -- the old reports were provided to them on February 13. The departments assert that they have not had an opportunity to review these reports in such a short timeframe. The second paragraph references a whooping crane habitat assessment done -- this is exhibit 27. Can you please turn to that exhibit?

A. That's volume one and I have it open.

Q. Can you please describe the addendum, the addendum, that one page document that exists before the major report that was provided?

A. Yes, it is.

Q. And what is the purpose of that brief addendum?

A. The purpose of this addendum was to reiterate, but it's a subset of the previously submitted reports that went into the 300 megawatt application last September. It clarifies the subset of that information that is not new but specifically applies only to the 200 megawatt boundary.

Q. Thank you. With respect to the habitat assessing that is also referenced in this paragraph and is marked as exhibit 26, can you please explain the addendum if it this thing whole Ph dot located before the complete report? Yes, it is. And what is the purpose of this

identity to the whooping crane and denim? It's not new information. It's a subset of the prior reports that were submitted in September of last year, but our application, however, it just clarifies the subset that specifically applies to the 200 megawatt project foundry hasn't ended in November of last year. There's effects today, revives grouse, Lek and raptor nests survey which is marked as exhibit five.

Q. Can you please describe this document? This document also summarizes the subset of information that was presented previously in the September following with our 300 megawatt application except it brings it current to the 200 megawatt project that was amended and filed in November. So it's not new information. It's merely carving out what applies if the 208 walk down there. Additional comments within this second paragraph. Systemically,
the second paragraph states on a call arranged just last week, Nextera provided the department and the surveys, so the preliminary overview of how their accounting and project impacts and offsets was the ride. However, we are still being very detailed write up of the drip hose. Voluntary offset you.

Q. Is there anything you would like to clarify regarding that statement with Dr. Wells? I would direct

your attention to exhibit 46 and 47?

A. Yes, that is an accurate exhibit. 47 shows the detail methods followup that I submitted to the Department of Game and Fish this past Monday in March.

Q. So to clarify it and kind of taking it a step back, can you please explain exhibit 46, the February 1st one?

A. Yes. As a result of the recommendations from the Department of Game and Fish and efficient model their service on February 15th in exhibit 46 we described the derivation of our offset package that we volunteered to address our residual impacts. It outlined our impacts, how we calculated them at a high level and made an offer based on context of all the other avoidance, minimization and mitigation measures we'd already committed to as well.

Q. Would you agree with the characterization of the North Dakota Game and Fish and U.S. Fish and Wildlife service is a fair description of the interactions and discussions that they had had with you as they're contained within a recent correspondence that has been filed yesterday?

A. No, I would not. I would like to specifically address two points. One, the second paragraph on the second page of this letter, I would seem to have a read

or believe that all of the information that we provided was provided late in September. That is not accurate supported by the record as I just testified, two of the three new materials that were provided at the third grade per year in deadline where simply subsets of information provided last September with the 300 megawatt application and then have them their amended and November. Each time we make a filing like that, I made sure we provide both paper and electronic copies of all wildlife and associated reports including copies to both agencies. So that characterization of the status and information is not correct. I would also take -- I would also take a different interpretation with regard to the overall tone of the letter and acknowledges some of the efforts that we have taken. However, I don't believe that fully acknowledges the whole package of avoidance, minimization and mitigation measures that we have offered. Specifically, the letter seems to point out that they don't believe these followed the wind energy guidelines. A concern with that would be the Department of Game and Fish and formed numerous wind industry companies last year that not only did they not understand the wind energy guidelines, but they were largely irrelevant. So I find that very surprising in this letter. As I've testified, we have followed the

wind energy guidelines.

Q. In your opinion, has Burke Wind sited the project in a matter so that the location and operation of the projects will produce minimal adverse effects?

A. Yes. For the reasons I had previously discussed.

Q. In your opinion, are the projects compatible with the environmental preservation and efficient use of resources?

A. Yes. Commissioners, this concludes my testimony. Thank you for your attention and I welcome any questions at this time.

(Recess taken.)

NOTARY REPORTER'S CERTIFICATE

STATE OF NORTH DAKOTA

COUNTY OF CASS

I, Kayla A. Richmond, a Notary Public within and for the County of Cass and State of North Dakota do hereby certify: That the afore-named witness was by me sworn to testify the truth, the whole truth, and nothing but the truth.

That the foregoing one hundred forty-five (145) pages contain an accurate transcription of my shorthand notes then and there taken.

I further certify that I am neither related to any of the parties of counsel, nor interested in this matter directly or indirectly.

WITNESS my hand and seal this 15th day of April, 2019.

Kayla A. Richmond
Notary Public
Fargo, North Dakota

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