August 4, 2021

Via E-mail

Mr. Greg Link
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, ND 58501-5095
glink@nd.gov

Mr. Steven Kahl
Executive Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 8505-0480
ndpsc@nd.gov

RE: Bowman Wind, LLC
Bowman Wind Project – Bowman County
Siting Application
Case No. PU-21-121

Dear Mr. Link and Mr. Kahl:

Bowman Wind, LLC (Bowman Wind) provides this letter in response to the July 22, 2021 letter from the North Dakota Game and Fish Department (NDGFD) to the North Dakota Public Service Commission (Commission) regarding the Bowman Wind Project (Project). In particular, we will address the four recommendations made by NDGFD on the final page of its letter.

However, as an initial matter, we believe it is important to provide the Commission with a more complete picture of the extensive coordination that has occurred between Bowman Wind and the NDGFD, as well as the United States Fish and Wildlife Service (USFWS). Therefore, we first provide an overview of the extensive engagement with those agencies that has taken place to date.

I. Consultation with USFWS/NDGFD

Consistent with recommendations in the USFWS *Land-based Wind Energy Guidelines* (WEG) and *Eagle Conservation Plan Guidance* (ECPG) for agency consultation, Bowman Wind has coordinated extensively and closely with the USFWS and NDGFD for more than three and one-half years (extending from June 2017 to the present)

c/o Apex Clean Energy, Inc.
310 4th Street NE, Suite 300 | Charlottesville, VA 22902
T 434.220.7595 | F 434.220.3712
apexcleanenergy.com

regarding wildlife survey methods, survey data and results, and siting considerations for the Project (See **Table 1**).

Table 1. Summary of agency consultation history for the Bowman Wind Project, Bowman County, North Dakota.

Date	Subject
June 20, 2017	Bowman Wind met with USFWS and NDGFD to discuss Tiers 1 and 2 of the *Land-based Wind Energy Guidelines* (WEG) and Stage 1 *Eagle Conservation Plan Guidance* (ECPG) risk reviews for the Project and discuss a Tier 3/Stage 2 survey plan.
January 30, 2018	Bowman Wind met with USFWS and NDGFD to provide a Project update on surveys completed to date and agree upon any further needed Tier 3 WEG/Stage 2 ECPG surveys.
July 5, 2018	Bowman Wind discussed bat surveys and northern long-eared bat risk at the Project with USFWS.
October 9, 2018	Bowman Wind met with USFWS to discuss changes to the Project area, review Tier 3 WEG/Stage 2 ECPG survey results and agree on next steps to ensure regulatory compliance.
October 24, 2018	Bowman Wind met with the USFWS to discuss the results of the Stage 2 ECPG surveys and the process to seek a voluntary Eagle Incidental Take permit with the Region 6 Migratory Bird Division.
November 2018	Bowman Wind initiated the first conversation with NDGFD on PLOTS program.
February 7, 2019	Bowman Wind conducted a conference call meeting with NDGFD to discuss the PLOTS program and the ability to place infrastructure associated with the Project on those lands.
February 19, 2019	Bowman Wind met in-person at the Bismarck Office with NDGFD staff to discuss the PLOTS lands program and to gather additional information about the tracts in and around the Project area.
March 14, 2019	Bowman Wind and the NDGFD conducted a joint and local meeting at the Rhame Legion Hall to discuss contractual options with those Bowman Wind landowners who signed wind leases but also had PLOTS signed contracts.

Table 1. Summary of agency consultation history for the Bowman Wind Project, Bowman County, North Dakota.

Date	Subject
April 17, 2019	Bowman Wind conducted an in-person meeting in Bismarck with the NDGFD to discuss the potential to site Project infrastructure on lands under contract for the PLOTS program. Also, during this meeting, the NDGFD recommended the potential application of the Shaffer et al. 2019 (Estimating offsets for avian displacement effects of anthropogenic impacts) model as a tool to calculate voluntary offsets associated with turbines and potential grassland nesting bird displacement. Bowman Wind committed to investigating the use of the offset model as a voluntary offset measure for potential grassland breeding bird displacement. Lastly, Bowman Wind also committed to apply the NDGFD recommended overarching policy of avoidance, minimization, restoration, and mitigation to unbroken grasslands as part of the siting of wind turbines associated with the Project.
May 28, 2020	Bowman Wind met via Zoom with USFWS and NDGFD to discuss results of the Tier 3 WEG, Stage 2 ECPG survey results and discuss the NDPSC permit application process and timeline.
June 19, 2020	Bowman Wind received a letter from NDGFD in response to the May 28, 2020 meeting that expressed their concerns on native habitats and sensitive species, as well as their perceived lack of communications with the Agency.
July 31, 2020	Bowman Wind met via Zoom with the USFWS and NDGFD to discuss the results of a number of design measures that had been incorporated into the updated turbine layout that avoided and minimized potential impacts to unbroken grasslands as compared to the prior layout presented during the May 28, 2020 meeting.
August 6, 2020	Bowman Wind sent the USFWS and NDGFD the narrative / methodology for the proposed Shaffer – Loesch GIS model to estimate offsets for potential breeding grassland bird displacement effects.
September 22, 2020	Bowman Wind received a letter from the USFWS with recommendations for the Bird and Bat Conservation Strategy (BBCS).
December 16, 2020	Bowman Wind met via Zoom with the USFWS and NDGFD to discuss the results of layout 054 and the corresponding use of the Shaffer et al. 2019 model that incorporated the updated unbroken grassland field data to calculate grassland bird displacement impacts and the corresponding voluntary offset mitigation acreage.

Table 1. Summary of agency consultation history for the Bowman Wind Project, Bowman County, North Dakota.

Date	Subject
December 21, 2020	Bowman Wind sent the USFWS and NDGFD the updated layout 054 narrative / methodology for the proposed (Shaffer – Loesch) model and estimate of the voluntary offset acreage for potential breeding grassland bird displacement effects on unbroken native grasslands.
February 16, 2021	Bowman Wind met via Zoom with the NDGFD to present the results of its updated (Shaffer – Loesch) model and estimate of the voluntary offset acreage. During this meeting it was discovered that the NDGFD completed a separate analysis that entailed a desktop review of aerial photography to digitize potential unbroken grasslands and implemented a 300-meter buffer to calculate potential displacement impacts to grassland birds. This was a divergence from the methodology Bowman Wind had previously presented and believed was collectively agreed upon to site turbines at the July 31, 2020 and December 16, 2020 meetings. Based on the prior meeting discussions, Bowman Wind had evaluated potential indirect impacts to WEST-verified unbroken grasslands within the defined C. Loesch "suitable" data layer to calculate potential grassland bird displacement and corresponding mitigation offsets.
March 02, 2021	USFWS emailed comments to Bowman Wind on the Draft BBCS including sending the recently issued USFWS Region 6 guidance document for recommended buffers for wind development.
March 22, 2021	Bowman Wind provided a detailed email communication to three NDGFD comments: 1) placement of five turbines in native grasslands; 2) placement of turbines within the Greater Sage-grouse Priority Conservation Area; and 3) a request for an update on the most recent impact analysis and voluntary offset calculations for the current layout.
April 5, 2021	Email communication to Bowman Wind from E. Mueller of NDGFD declining to meet for additional Project discussions on outstanding issues.
May 14, 2021	Bowman Wind met with the USFWS Bismarck Ecological Services and Denver Region 6 Migratory Bird Division to kick off the voluntary Eagle Incidental Take Permit process.
July 01, 2020	Bowman Wind emailed the Updated Draft BBCS to the USFWS that included the revisions to the offset acreage calculations using Shaffer – Loesch GIS model with the revised and final layout.

Further detail regarding Bowman Wind's meetings and other communications with the USFWS and NDGFD is provided below.

June 20, 2017 Meeting and Resulting Studies

Bowman Wind initiated Project development in January 2016 within an Original Assessment Area (OAA) that included portions of Bowman and Slope Counties, North Dakota and Harding County, South Dakota. In 2017, the OAA was refined based on the results of the WEG Tier 1 review to focus on a smaller 72,310-acre (ac) proposed 2017 Project Boundary. Once the proposed 2017 Project Boundary was defined, Bowman Wind met concurrently with the USFWS and NDGFD on June 20, 2017 to discuss WEG Tiers 1 and 2 and Stage 1 ECPG risk reviews for the Project, and to discuss a WEG Tier 3/ECPG Stage 2 survey plan. The NDGFD and USFWS both provided input on the Tier 3 and Stage 2 studies they recommended be conducted within the proposed 2017 Project Boundary during this initial agency meeting.

Based on that input, Bowman Wind initiated the agency-recommended Tier 3 and Stage 2 studies for the 2017 Project Boundary in August 2017. Those studies were subsequently completed by Western EcoSystems Technology, Inc. (WEST), SWCA Environmental Consultants (SWCA), and Eagle Environmental, Inc. (EEI) throughout the 2017 Project Boundary.

January 20, 2018 Meeting and Resulting Studies

Bowman Wind conducted a second in-person meeting on January 20, 2018 to review the completed Tier 3 and Stage 2 study results. Additional Tier 3 surveys were recommended by the NDGFD at the January 20, 2018 meeting and those studies were completed between 2018 and early 2020. Specifically during the meeting, the NDGFD recommended that Bowman Wind delineate all areas of previously unbroken native grasslands that are larger than 160 acres, using a combination of available data and field verification. With regard to the unbroken grassland mapping, the goal of this survey work was to inform siting of Project facilities to avoid and minimize impacts to these tracts, and to enable quantification of impacts where necessary to inform potential offset strategies. Based on this NDGFD recommendation, Bowman Wind hired SWCA to complete a desktop assessment to map all unbroken grasslands greater than 160 acres within the Project area. Additionally, the NDGFD recommended completing spring prairie grouse lek surveys on known and historic locations, since the NDGFD conducts surveys that overlap the Project area.

April 05, 2018 NDGFD Email Communication

In early 2018, Bowman Wind used the results of the SWCA desktop unbroken grassland mapping survey to inform the revision of the proposed Project boundary. The results of the SWCA survey were used to identify potentially sensitive native grassland tracts within the original proposed 2017 Project Boundary. Based on this information, Bowman Wind expanded the proposed Project boundary to the north to avoid large

tracts of contiguous unbroken native grasslands in the southern portion of the 2017 Project Boundary. The boundary adjustment shifted the Project onto more actively managed agricultural lands, thus avoiding impacts to unbroken grasslands and moving turbines onto previously disturbed lands. The revised Project boundary was shared with the NDGFD on April 05, 2018. The NDGFD provided additional shapefiles of various wildlife data to incorporate into additional planned surveys for those areas of the revised Project boundary.

July 5, 2018 USFWS Meeting

Bowman Wind discussed with the USFWS whether to conduct bat surveys, including specifically for the federally-listed NLEB. The USFWS provided guidance on potential risk at the Project site and the applicability of the Endangered Species Act Section 4d Rule. The USFWS did not recommend that Bowman Wind conduct acoustic or mist netting work to assess risk. Rather, the USFWS recommended that Bowman Wind complete an assessment of potentially suitable NLEB summer habitat to evaluate any potential for summer risk and identify areas that may warrant further management and siting considerations, which Bowman Wind agreed to do.

October 9, 2018 USFWS Meeting

Bowman Wind met with the USFWS Ecological Services in Pierre, SD to update the agency on the changes to the Project boundary since the June 2017 agency meeting, review survey results, and agree on next steps in accordance with the USFWS 2012 Land-Based WEGs and 2013 ECPG. The meeting was held with the Pierre, SD USFWS ecological staff and office due to the retirement of Kevin Shelley from the Bismarck, ND ecological office. Based on the year 1 eagle use data and estimated modeled take, it was discussed that it may be appropriate for the Project to consider pursuing a voluntary Eagle Incidental Take Permit. The USFWS staff also discussed their preference to minimize impacts to unbroken grasslands to potentially reduce fragmentation and indirect effects on grassland birds, but that such avoidance is not required by any local, state, or federal regulation.

October 26, 2018 USFWS Meeting

Bowman Wind initiated agency coordination with the USFWS Region 6 Migratory Bird Division to discuss the ECPG level surveys completed to date and indicate its intent to develop an Eagle Conservation Plan and pursue a voluntary Eagle Incidental Take Permit.

November 2018 – April 2019 PLOTS Discussions and Meetings

Throughout the time the Tier 3 studies were being completed (between November 2018 and April 2019), Bowman Wind had numerous email communications and discussions and three in-person meetings with the NDGFD to discuss the potential for development

on privately owned lands subject to NDGFD Private Lands Open to Sportsman (PLOTS) contractual agreements.

November 2018 Initiated PLOTS Discussion: Bowman Wind initiated the first conversation with NDGFD on PLOTS program (Nate Harling, Private Lands Initiative Field Operations Coordinator).

February 7, 2019 Conference Call Meeting: Bowman Wind completed the first conference call with NDGFD to discuss the PLOTS program and the ability to place infrastructure associated with the Project.

February 19, 2019 In-Person Meeting: Bowman Wind completed the first in-person meeting at the Bismarck NDGFD Office with NDGFD on the PLOTS program to gather additional information around the tracts in and around the Project area.

March 14, 2019 In-person Landowner Meeting in Rhame: Bowman Wind and the NDGFD conducted a joint and local meeting with PLOTS-signed Project landowners at the Rhame Legion Hall.

April 17, 2019 NDGFD PLOTS Agency Meeting: Bowman Wind conducted an in-person NDGFD agency consultation in Bismarck to discuss the potential to site Project infrastructure on lands under contract for the PLOTS program. Also, during this meeting, the NDGFD recommended the potential application of the Shaffer – Loesch (Estimating offsets for avian displacement effects of anthropogenic impacts) GIS model as a tool to calculate voluntary offsets associated with turbines and potential grassland nesting bird displacement. Bowman Wind committed to investigating the use of the Shaffer – Loesch GIS model as a voluntary offset measure for potential grassland breeding bird displacement. Lastly, Bowman Wind also committed to apply the NDGFD recommended overarching policy of avoidance, minimization, restoration, and mitigation to unbroken grasslands as part of the siting of wind turbines associated with the Project.

After this meeting was completed, the NDGFD requested that the Bowman County Commissioners include a turbine setback from any privately-owned lands that were under PLOTS contracts (most of which were previously disturbed) unless a waiver was granted by the NDGFD. This directly resulted in the inability to develop infrastructure on the privately-owned lands that are enrolled in the PLOTS program, as well as those lands that are immediately adjacent to but not enrolled in the PLOTS program, further limiting the ability to use previously disturbed agricultural lands for Project siting.

May 2020 – March 2021 Study, Layout, and Offset Coordination Email Communications, Discussions and Meetings

Upon completion of all Tier 3 WEG and Stage 2 ECPG recommended studies and reporting in early 2020, Bowman Wind met and communicated with the NDGFD and the USFWS from May 2020 through March 2021 to review the additional completed wildlife

and vegetation survey results, and discuss Project boundary and layout adjustments, voluntary mitigation offsets, and the planned NDPSC permit application submittal.

***May 26, 2020 NDGFD and USFWS Email Communication*:** Bowman Wind sent an email to the NDGFD and USFWS to introduce the voluntary mitigation offset concept that was being evaluated and would be a focus for the upcoming May 28, 2020 meeting. Bowman Wind explained that it planned to evaluate voluntary offsets through application of the Shaffer – Loesch GIS model. As part of evaluating the voluntary offsets for potentially displaced grassland nesting birds, Bowman Wind anticipated using a combination of locally collected untilled grassland data and two years of avian use surveys to better inform key parameters within the Shaffer – Loesch GIS model, including species composition, relative bird density, and potential displacement levels. The local data would better inform these model parameters, as the Bowman Wind Project is in a different grassland community type and also has a different mixture of grassland birds when compared to the study sites associated with the Shaffer and Buhl 2016 [Effects of wind-energy facilities on grassland bird distributions] study that helped inform the Shaffer – Loesch GIS model.

***May 28, 2020 NDGFD and USFWS Agency Meeting*:** Bowman Wind met with the USFWS and NDGFD to update both agencies on the planned NDPSC permit application, changes to the Project boundary, review field survey results associated with the 2012 USFWS WEGs and 2013 ECPG, and discuss next steps. The meeting focused on Bowman Wind's analysis of potential impacts to unbroken grasslands and the potential displacement of grassland birds, as documented in Shaffer and Buhl 2016 at other wind project sites.

Bowman Wind explained that it first utilized the data layers provided by C. Loesch, USFWS, related to the Shaffer – Loesch GIS model [Identification of Potential Offset Locations for 6 Species of Grassland Birds] as outlined in Shaffer et al. 2019[1]. Within these layers, defined "suitable" and "unsuitable" areas for grassland nesting birds are identified. Bowman Wind placed turbines and infrastructure, to the extent practicable, in "unsuitable" habitat. In addition, Bowman Wind presented the results of the Shaffer – Loesch GIS model application using 70 turbine locations and considering five different scenarios derived from the Shaffer – Loesch GIS model.

The NDGFD and USFWS raised concerns about the direct placement of primary turbine locations on unbroken grasslands. Bowman Wind indicated it planned to further analyze turbine model and placement options to further avoid and minimize potential impacts. Additionally, Bowman Wind stated that it planned to gather additional site-specific data to better inform the model. The data would include landowner information and a field survey by WEST to identify unbroken native grasslands within the "suitable" habitat layer provided by C. Loesch, USFWS. This data would be shared with the agencies once the field survey effort was completed and would be used for the final estimate of potential breeding bird displacement. Additionally, Bowman Wind committed to following

[1] Shaffer, J. A., C. R. Loesch, and D. A. Buhl. 2019. Estimating Offsets for Avian Displacement Effects of Anthropogenic Impacts. Ecological Applications 29(8): e01983. doi: 10.1002/eap.1983.

one of the key “averted-loss” tenets of Shaffer et al. 2019 peer-reviewed paper, which is to offset indirect displacement of grassland birds by protecting existing native landscapes or other valuable habitat through voluntary easements.

July 31, 2020 NDGFD and USFWS Agency Meeting: Bowman Wind met with the USFWS and NDGFD to discuss a number of design measures that had been incorporated into the turbine layout that avoided and minimized potential impacts to unbroken grasslands as compared to the prior layout (Layout 043) presented during the May 20, 2020 meeting with the agencies. The NDGFD and USFWS had raised concerns at the May 28, 2020 meeting about the direct placement of primary turbine locations on unbroken grasslands. Based on that input, Layout 050 was developed, which significantly reduced impacts, with only two of the proposed 70 turbine locations placed within mapped suitable habitat from the data provided by C. Loesch. Bowman Wind committed to continue to explore layout options that would further reduce potential impacts. In parallel, Bowman Wind detailed that it was in the process of conducting a turbine technology review to see if larger commercially-available or potential future turbine options may be viable for the Project site. Lastly, Bowman Wind committed to providing an update to the voluntary offset model to both agencies upon completion of the final layout, and that it would incorporate the voluntary grassland bird displacement offsets into the Project-specific BBCS.

December 16, 2020 NDGFD and USFWS Agency Meeting: Bowman Wind met with USFWS and NDGFD to provide an update on the NDPSC permit application timeline, the turbine technology review, layout modifications, and grassland bird displacement offset calculations. Bowman Wind had evaluated whether a larger nameplate capacity turbine model (i.e., 5.2 megawatt) may be suitable for the Project. Based on the evaluation, using a larger megawatt turbine model was not an option because technology suitable for the site’s higher wind speeds, topography, wind shear, and turbine spacing needs is not currently available. Therefore, based on the turbine technology currently under consideration, and incorporation of applicable siting criteria and site-specific data, Bowman Wind had developed a layout consisting of 85 proposed turbine locations. Bowman Wind discussed Layout 054, which included proposed locations for up to 74 2.82 megawatt turbines, with the remaining 11 locations to be used as alternates/spares.

As was previously detailed, Bowman Wind had retained WEST to conduct an unbroken grassland desktop and field assessment for the Project. The unbroken grassland assessment included historical aerial photography review, input from landowners, and field surveys to identify unbroken grasslands within a 400-meter radius of 90 proposed primary and alternate turbine locations. Bowman Wind used the results of the WEST unbroken grassland assessment to map unbroken grasslands within the suitable breeding habitats designated in the C. Loesch data set (the same data set used to inform earlier turbine placement to avoid and minimize impacts). Based on the updated unbroken grassland data, five (5) of the 90 turbine locations initially analyzed were located on unbroken grasslands within suitable habitat. As a result, Bowman Wind eliminated those five (5) turbine locations from further consideration, resulting in the 85

proposed turbine locations in Layout 054. Bowman Wind explained that potential displacement to grassland birds had been significantly reduced from the two previous layouts detailed during the May 28, 2020 and July 31, 2020 meetings. Bowman Wind also indicated that it planned to use the WEST mapped unbroken grassland data set within the suitable habitat layer to determine potential voluntary offsets.

December 21, 2020 Bowman Wind Email Communication: Bowman Wind provided the WEST unbroken grassland data assessment and GIS data for 85 primary and spare turbine locations associated with Layout 054 to the USFWS and NDGFD, along with the updated narrative describing the use of the Shaffer – Loesch GIS model that incorporated the WEST updated unbroken grassland field data to calculate potential grassland bird displacement impacts.

February 04, 2021 NDGFD Email Communication: Bowman Wind received an email from the NDGFD asking to set up a meeting to go over the agency's analysis of Layout 054.

February 16, 2021 NDGFD and USFWS Agency Meeting: During the meeting, the NDGFD presented the results of its own desktop analysis. NDGFD explained that it used aerial photography to digitize potential unbroken grasslands and implemented a 300-meter buffer to calculate potential displacement impacts to grassland birds. This was a divergence from the methodology Bowman Wind had previously presented and believed was collectively agreed upon to site turbines (i.e., combining updated site-specific grassland data with the Loesch suitable data layer) at the July 31, 2020 and December 16, 2020 meetings. Based on prior discussions, Bowman Wind had evaluated potential indirect impacts to WEST-verified unbroken grasslands within the defined C. Loesch "suitable" data layer to calculate potential grassland bird displacement and corresponding mitigation offsets. However, the NDGFD indicated its analysis relied on desktop digitized grassland data to identify unbroken grasslands within 300-meters of turbines without regard to the suitable or unsuitable designation associated with the C. Loesch USFWS data as was previously discussed.

March 22, 2021 NDGFD Email Communication: An email was received on March 10, 2021 from the NDGFD requesting additional information on six turbine locations that were potentially sited within unbroken grasslands, turbines sited within the boundary of the Greater Sage-grouse Priority Conservation Area, as well as six turbines sited within four miles of an active lek, and a request for the updated proposed voluntary offset acreage calculations using the final layout 059 (i.e., use of the Shaffer – Loesch GIS model to calculate potential displacement to grassland breeding birds). On March 22, 2021 Bowman Wind responded to the NDGFD's three questions and provided supporting grassland assessment documentation, an analysis of the avoidance and minimization measures implemented for greater sage-grouse along with a review of peer-reviewed studies detailing impacts on greater sage-grouse and other grouse species from energy development, and the voluntary offset acreage update for layout 059 that calculates the potential displacement to grassland breeding birds.

April 5, 2021 NDGFD Email Communication

Email communication from Elisha Mueller of NDGFD to Bowman Wind (via Ryan Henning) declining to meet for additional Project discussions on outstanding issues.

May 14, 2021 USFWS Eagle Incidental Take Permit Kickoff Meeting

Bowman Wind met with the USFWS Bismarck Ecological Services and Region 6 Migratory Bird Division to kick off the voluntary Eagle Incidental Take Permit process.

Alleged Refusal to Meet with NDGFD

In its May 20, 2021 letter, the NDGFD states: "*The Department attempted to contact Apex multiple times to schedule a meeting and discuss concerns and areas of disagreement, but this offer was declined.*" It is important to put this comment into full and complete context, as it is neither an accurate nor fair representation of the actual events (*see also* attached Exhibit 1):

- On March 10, 2021, the NDGFD sent an email requesting additional information specific to three questions and suggested scheduling a meeting to discuss.

- In order to provide complete responses to the questions NDGFD posed, including citations to relevant documentation, Bowman Wind determined the best next step would be to provide a written response. As such, on March 22, 2021, Bowman Wind sent an extensive email response to NDGFD's questions. The email also provided an update on the planned NDPSC application submittal timing.

- On March 24, 2021, the NDGFD sent an email indicating it still had concerns, which would be included in its review letter to the NDPSC, and offered to schedule a meeting to discuss.

- On March 30, 2021, Bowman Wind responded by email asking the NDGFD if it could preview its concerns so that Bowman Wind could appropriately prepare for a meeting with the NDGFD.

- On April 5, 2021, the NDGFD responded with an email stating: "*We see that you have submitted your application to PSC so, at this point, there is no reason to meet again. We will provide you with a copy of our letter to PSC, when we have completed it.*" (Exhibit 1.)

As shown above, Bowman Wind did not decline to meet with the NDGFD. Rather, the NDGFD chose not to meet with Bowman Wind once the Project's Certificate of Site Compatibility application was filed with the NDPSC, despite Bowman Wind's willingness to do so.

Conclusion

As detailed above, after the May 28, 2020 meeting, Bowman Wind conducted three more Zoom meetings with the NDGFD and USFWS on July 31, 2020, December 16, 2020, and February 16, 2021 to specifically discuss layout refinements that reduced impacts to native grasslands and other identified wildlife resource concerns. During each of these three meetings, the NDGFD was shown a new proposed Project layout that reduced impacts to native grasslands, and which had been continually refined based on NDGFD and USFWS input. In addition, from the period between June 2020 through March 2021, there were numerous email communications where Bowman Wind provided specific turbine layouts, grassland data and analysis, GIS and other Project-specific information and studies directly to the NDGFD. Throughout these meetings, NDGFD reiterated that Bowman Wind should try to reach an agreement with the agency on the Project, particularly regarding offset commitments, to avoid negative feedback from the NDGFD to the NDPSC in connection with the Project's siting application. In response, Bowman Wind worked diligently to try and address the NDGFD's concerns and incorporate recommendations consistent with best-available data and science, balanced with other siting constraints that include County and State required setbacks and other environmental resource avoidance and minimization measures.

As the above agency coordination summary demonstrates, in direct contradiction to the NDGFD's assertions, Bowman Wind has engaged in extensive consultation with the USFWS and NDGFD. In fact, a significant portion of that consultation occurred between May 28, 2020 and April 2021. Therefore, it is completely disingenuous for the NDGFD to assert that Bowman Wind made "*little effort*" to communicate with the NDGFD after May 28, 2020. Additionally, the NDGFD's recommendations factored significantly in the development of and modifications to the proposed Project site and final layout, as well as the development of the avoidance, minimization, and mitigation measures Bowman Wind has implemented or committed to implementing.

II. Responses to the NDGFD's Recommendations

At the conclusion of its July 22, 2021 letter, the NDGFD makes four recommendations. Bowman Wind's response to each of these recommendations is provided below.

1. All proposed turbines be removed from within the Greater sage-grouse PCA and at least 4 miles from known sage-grouse leks.

As an initial matter, it is important to note that Bowman Wind has not been able to obtain data from the NDGFD regarding the NDGFD-designated Core Area and Priority Conservation Areas ("PCA") specific to the North Dakota Sage-Grouse Conservation Plan ("Conservation Plan"). As noted in the NDGF's July 22, 2013 letter, the NDGF incorrectly used the USFWS' Priority Areas map in their initial letter. Bowman Wind has made multiple requests for the shapefiles for any of the mapped areas within the

Conservation Plan, but has not received any data from the NDGFD to date. Therefore, we are unable to independently verify which turbines occur within or outside of the PCA.

It also is important to place the NDGFD's recommendation that turbines be sited outside of the PCA and at least 4 miles from known sage-grouse leks in context. First, the NDGFD defined a Greater Sage-Grouse Core Area and PCA in the Conservation Plan, which was issued in 2014. The Conservation Plan designated Core Area and PCA boundaries were not issued or approved through a formal regulatory or other rulemaking process. Rather, the NDGFD states that the conservation strategies and objectives within the Conservation Plan are voluntary in nature. This is primarily a result of the Core Area containing a predominance of privately owned lands (approximately 73.6%; Robinson 2014). Therefore, the NDGFD recommendations do not supersede the individual rights of private landowners to maintain and develop their land as they see fit, including generating a secondary source of income. As discussed below, this is particularly true with respect to the privately owned lands on which the Project proposes to site turbines – lands that are currently in agricultural production, already interspersed with oil and gas development, and not likely to be used by greater sage-grouse. In addition, the greater sage-grouse is not afforded any protections under any local, state or federal law, including the federal Endangered Species Act.

The Core Area, as defined in the Conservation Plan, is the area within a 5.3-mile buffer of greater sage-grouse leks (Robinson 2014). This area represents a mixture of land that is a collection of state, federal and privately-owned land, and includes areas that have undergone extensive historic and ongoing oil and gas development. A portion of the Bowman Wind Project Area overlaps with the eastern edge of the Core Area boundary.

The PCA, as defined in the Conservation Plan, is a spatial layer that combines areas with predicted high nest site selection probability (i.e., nesting potential) with areas of low oil and gas well density (Robinson 2014). For example, areas within the PCA with predicted high nesting potential have less proportion of agriculture and higher proportion of grass cover and sagebrush cover at multiple spatial scales (Robinson 2014). In addition, areas of low oil and gas well density were characterized as <1.5 wells per square mile (Robinson 2014). The combination of nesting potential and oil and gas density on the landscape informed the PCA within the Core Area (Robinson 2014).

According to NDGFD, as outlined in their July 22, 2021 letter, there are two wind turbines located in a PCA and within four miles of an active lek and an additional six wind turbines are located within four miles of an active lek but not within the PCA. Specific to the reference by the NDGFD that two turbines occur in a PCA, Bowman Wind conducted a review of active oil and gas wells within four miles of the lek and there appear to be 89 active oil and gas wells. This is important, as the key metric to define the PCA as outlined in the Conservation Plan is areas that have a density of <1.5 oil and gas wells per sq/mile – a requirement not met in this instance. In addition, the turbines are sited in an area of active agricultural production, which is likewise

inconsistent with the PCA definition in the Conservation Plan. For these reasons, the two turbines are likely sited outside of a PCA.

Lastly, Bowman Wind has sited all eight of the turbines referenced by the NDGFD in previously disturbed lands (e.g., non-native grasslands). The siting of these turbines in previously disturbed agricultural lands/areas was in direct response to NDGFD agency coordination and recommendations to avoid and minimize impacts to native grasslands. Moreover, the fact that these turbines are located on previously disturbed, active agricultural lands in an area with high oil and gas well density suggests these turbines are not located in an area that currently supports sage-grouse seasonal habitat requirements (Robinson 2014).

Conclusion

As stated above, the NDGFD does not acknowledge that the Project's proposed turbine locations within the Core Area/Priority Area of Conservation (July 21, 2021 letter) are sited on the far eastern edge and on previously disturbed, actively used private agricultural lands, and located in an area with extensive and ongoing oil and gas development that provides little to no support for nesting sage-grouse (Robinson 2014). Also, the NDGFD does not provide any detail to support their assertion that the addition of the proposed wind turbines to the existing disturbed local agricultural areas will increase the level of disturbance and will result in further sage-grouse habitat fragmentation. In addition, the NDGFD does not acknowledge the amount of existing disturbance from the previous and ongoing oil gas activity within four miles of the greater sage-grouse lek. More importantly, the indirect effects of these 89 existing oil and gas wells and associated disturbance would mask the indirect effects of wind turbines based on our current understanding of effects of these development types on sage-grouse populations (see LeBeau et al. 2020 and Kirol et al. 2020). Based on best-available science, the addition of turbines two miles or more from an active lek is not likely to impact the sage-grouse population given the previous disturbances to this area and the current scientific understanding of effects of wind energy development on prairie grouse populations (see LeBeau et al. 2020). Lastly, the NDGFD's recommendations do not supersede any of the rights of the individual landowners within the PCA and Core Area, as the strategies and objectives and any recommendations specifically noted by the NDGFD are voluntary in nature, and are stated as such within their Conservation Plan.

Kirol, C.P., K.T. Smith, N.E. Graff, J.B. Dinkins, C.W. LeBeau, T.L. Maechtle, A.L. Sutphin, and J.L. Beck. 2020. Greater sage-grouse response to the physical footprint of energy development. Journal of Wildlife Management 84:989–1001.

LeBeau, C., S. Howlin, A. Tredennick, and K. Kosciuch. 2020. Grouse Behavioral Response to Wind Energy Turbines: A Quantitative Review of Survival, Habitat Selection, and Lek Attendance. Prepared for the National Wind Coordinating Collaborative, Washington, D.C. Prepared by Western EcoSystems Technology, Inc. (WEST).

Robinson, A. C. 2014. Management Plan and Conservation Strategies for Greater Sage-Grouse in North Dakota. North Dakota Game and Fish Department. Bismarck, ND, USA.

2. If voluntary offsets are pursued, the primary strategy should be to re-create grasslands on broken land (e.g. cropland) rather than preserve existing grasslands.

Pursuant to NDCC Sections 49-22-08(6) and 49-22-09.2, a Project does not have to enact mitigation. Therefore, any mitigation via offsets or other funding mechanism is purely voluntary on behalf of Bowman Wind. As was detailed earlier, Bowman Wind consulted extensively with the NDGFD about the voluntary use of the Shaffer – Loesch GIS model to predict impacts to displaced grassland breeding birds and the corresponding model outputs. Following one of the key "averted-loss" tenets of Shaffer et al. 2019 peer reviewed publication (i.e., from which the Shaffer – Loesch GIS model was derived), which is to offset indirect displacement of grassland birds by protecting *existing* native landscapes or other valuable habitat through voluntary agreement, Bowman Wind plans to acquire voluntary unbroken native grassland conservation agreements for the modeled output acreage for the operational life of the Project. To implement this voluntary commitment, Bowman Wind has begun negotiations and is in the process of preparing an agreement to partner with a Non-Governmental Organization who will seek out willing landowners that will enter into voluntary agreements to preserve intact native grasslands for the operational life of the Project. These voluntary agreements will also provide a net benefit to the greater sage-grouse (See Lazenby et al. 2021).

Lazenby, K. D., P. S. Coates, S. T. O'Neil, M. T. Kohl, D. K. Dahlgren. 2021. Nesting, brood rearing, and summer habitat selection by translocated greater sage-grouse in North Dakota, USA. Ecology and Evolution 11 (6): 2741-2760.

3. In the absence of two years pre-construction sharp-tailed grouse surveys, all turbines should be sited off unbroken grasslands to avoid disturbance to any leks which may be present.

To clarify a comment made by the NDGFD, there was no mis-interpretation of the implemented survey methodology for prairie grouse by Bowman Wind. As detailed in the consultation summary above, during the January 20, 2018 meeting, the NDGFD recommended and agreed to the survey methodology whereby historical and known prairie grouse lek locations provided by the agency were to be surveyed over two spring breeding seasons (*see* Exhibit 2). Therefore, Bowman Wind implemented the agency-approved survey methodology, surveying all known and historical leks within the Project boundary and an adjacent one-mile buffer in 2018 and 2019. Also, the NDGFD completed spring lek surveys near the Project in 2019 and 2020 and that data was also provided to Bowman Wind. Lastly, based on the NDGFD data provided to Bowman Wind, there are no known or historical prairie grouse lek locations at or near the five proposed turbine locations.

4. Acknowledge that PLOTS tracts agreements cannot be altered without landowner and Department consent.

The PLOTS contracts are legal agreements between landowners and the NDGFD, and interpreting the terms of the agreements is outside of the scope of the NDPSC Certificate of Site Compatibility permitting process.

Please let me know if you have any questions.

Sincerely,

Ryan Henning
Vice President – Environmental Affairs
Apex Clean Energy, Inc.

EXHIBIT 1

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Monday, April 5, 2021 7:54 AM
To: Ryan Henning <ryan.henning@apexcleanenergy.com>
Cc: Dyke, Steve R. <sdyke@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: Bowman Wind

Hi Ryan,

We see that you have submitted your application to PSC so, at this point, there is no reason to meet again. We will provide you with a copy of our letter to PSC, when we have completed it.

Elisha

From: Ryan Henning <ryan.henning@apexcleanenergy.com>
Sent: Tuesday, March 30, 2021 1:45 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Dyke, Steve R. <sdyke@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: Bowman Wind

Hi Elisha,

Thanks for your email. Could you please preview for us the Department's concerns, or provide a draft of your letter that you plan to submit to the NDPSC? That way, we can ensure that we are prepared to provide you with information, as needed, during another meeting/work session.

Thanks in advance.

Regards,

-Ryan

RYAN HENNING
Apex Clean Energy, Inc.

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, March 24, 2021 12:39 PM
To: Ryan Henning <ryan.henning@apexcleanenergy.com>
Cc: Dyke, Steve R. <sdyke@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: Bowman Wind

Thank you for the email, Ryan. The Department still has concerns, which will be included in our review letter to PSC. If you are interested in discussing these further, our offer to set up a meeting/work session still stands.

Elisha

From: Ryan Henning <ryan.henning@apexcleanenergy.com>
Sent: Monday, March 22, 2021 7:05 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Dyke, Steve R. <sdyke@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: Bowman Wind

Hi Elisha,

Thanks for your email. We thought it would be beneficial to provide detailed written responses to your three comments:

1. Turbines 3, 11, 16, 77, and 37 from layout 59 (no turbine number was attached to that data set, so these are the field IDs… hopefully that makes sense). We have identified these turbines as being on native prairie.

A grassland assessment was conducted to identify unbroken native prairie or previously broken grasslands to help inform siting within the proposed development areas of the Bowman Wind Project (Project). Unbroken native prairie was defined as grassland in its original or natural state showing no evidence of soil disturbance, with a dominance of native plant species present (i.e., western wheatgrass, big bluestem, sideoats grama, purple coneflower, blanket flower, etc.). Previously broken grasslands were identified based on features such as rock piles; presence, amount, and apparent height of trees and shrubs; field edge changes; straight line features indicating plowing, disking, harvesting, or planting; non-native plant species present (i.e., smooth brome, alfalfa, etc.), and any other features indicating human disturbance.

The 2020 native prairie/grassland assessment was a three-step process that included interviewing landowners, a desktop review, and a field assessment of grassland parcels within a 400-meter buffer of proposed turbines (Assessment Area). The desktop review included a review of current publicly available datasets (i.e., aerial photography, landowner input, Crop Data Layer 2019, SWCA data from the 2018 assessment, existing land cover data, etc.) and NDGFD Native Habitat Layer. All grassland parcels were digitized using ESRI software (ArcGIS 10.7). During the field assessment, grasslands within the Assessment Areas were visually evaluated on foot where access was permitted or from public roads to confirm the native prairie state (e.g., broken or previously broken).

Based on the native prairie/grassland assessment, turbines with FIDs 3, 11, 16, 37, and 77 (Figure 1) were located in areas identified as previously broken grasslands for the following reasons:

- Grasslands within the Assessment Area of turbines FID 3, 11, and 37 were identified as broken based on the NDGF Native layer, historic aerial imagery (1957-1962) that showed evidence of tillage, and results of the field assessment which indicated the presence of rock piles, vegetation in straight lines, and dominance of non-native planted species (i.e., smooth brome grass and alfalfa), which all indicate previous tillage.
- Grassland within the Assessment Area of turbine FID 16 were identified as broken based on not occurring within the NDGF Native layer, recent aerial imagery that indicated disturbance and degradation in 2019 and 2020, landowner confirmation, and results of the field assessment which indicated the presence of rock piles, vegetation in straight lines, and dominance of non-native planted species (i.e., smooth brome and Poa spp. grasses), which all indicate past tillage.
- Grassland within the Assessment Area of the turbine FID 77 was identified as broken based on not occurring within the NDGF Native layer and historic aerial imagery that showed evidence of tillage (1957 -1962).

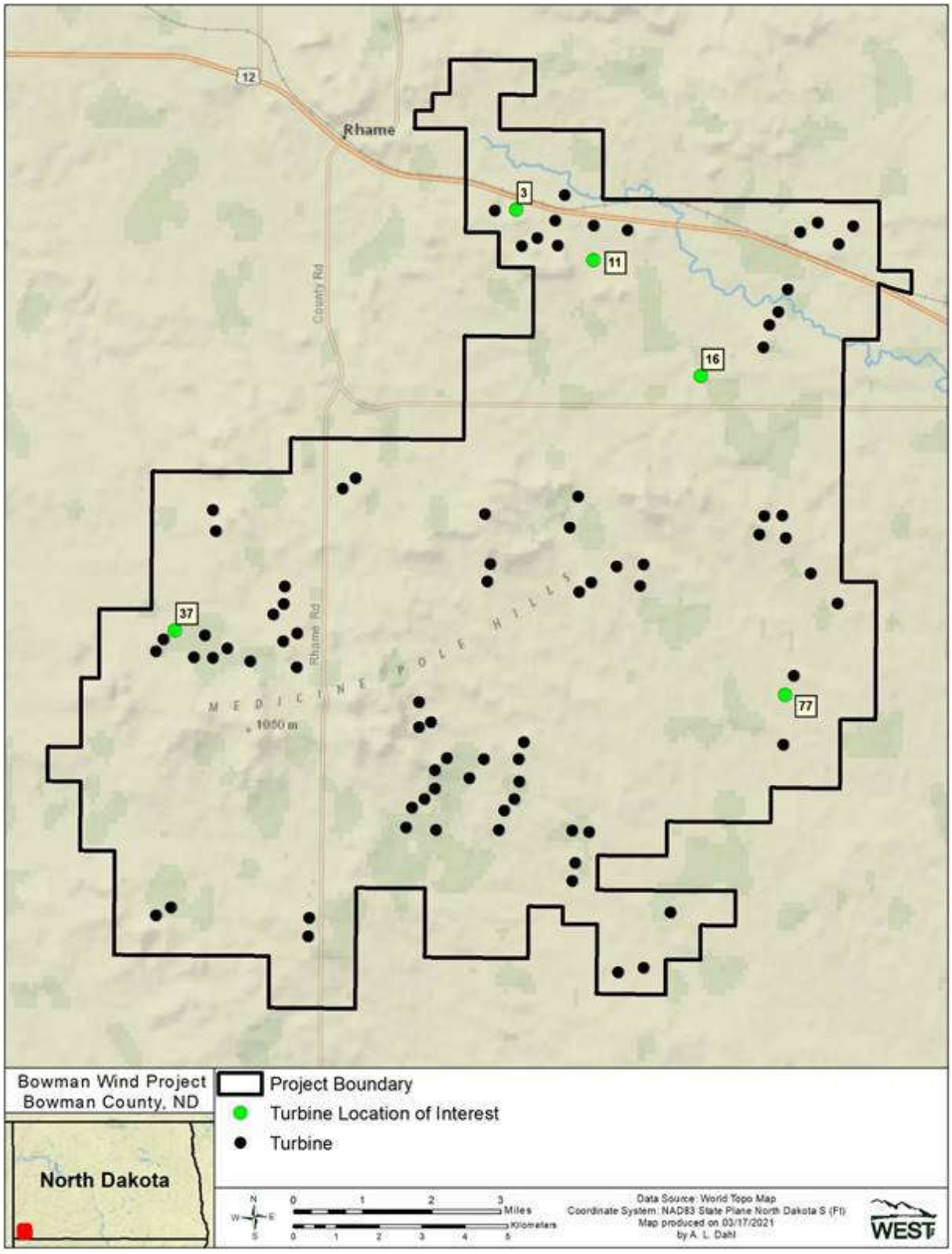

Figure 1 - Turbine locations associated with FIDs 3, 11, 16, 37, and 77

2. Turbines 67, 68, 69, 70, 37, 38, 39, 41, 42, 43, and 44. All of these turbines are within our Greater Sage-grouse Priority Conservation Area and the 6 bolded turbines fall within 4 miles of an active lek. In our early guidance

letter (attached for reference), the Department stated that its first recommendation is to discontinue permitting energy development within this area.

Throughout its development of the Bowman Wind Project (Project), Bowman Wind has been cognizant of the NDGF's concerns regarding potential impacts to greater sage-grouse populations in North Dakota, and has taken those concerns into account in Project siting. Bowman Wind reviewed the North Dakota Sage-Grouse Management Plan (Robinson 2014), which identifies three objectives: 1) conserving sagebrush habitats and habitats important for nesting and brood-rearing within Priority Conservation Areas (PCA), 2) increasing connectivity between available habitats in PCA, and 3) protecting intact PCA from fragmentation (Robinson 2014). The North Dakota Sage-Grouse Management Plan identifies various strategies and conservation actions to minimize impacts of specific anthropogenic structures to sage-grouse and their habitats. However, due to the lack of information available at the time of the publication in 2014, no strategies or conservation actions were presented for wind energy development (Robinson 2014).

As a result, Bowman Wind analyzed other State-specific documentation to identify appropriate measures to avoid and/or minimize potential impacts to sage grouse. The State Wildlife Action Plan states that conservation efforts should focus on leks and areas within 2 mile (mi; 3.2 kilometer [km]) of leks (Dyke et al. 2015). Data on sage-grouse monitoring in North Dakota indicates that areas within 2 miles of a lek are important for breeding and nesting, as 68% of all nests were located within 2 miles of a lek (average 1.7 mi [2. 7 km]; Herman-Brunson 2007, Herman-Brunson et al. 2009).

Bowman Wind also reviewed the limited research available specific to the effects of wind energy on sage-grouse populations. To date, one published study has analyzed the potential effects of wind energy infrastructure on sage-grouse at a single facility/study area. That study indicated that wind energy infrastructure sited within 0.75 mi (1.2 km) of important brood-rearing and late summer habitats could displace sage-grouse that are using those habitats; however, this displacement was found to not negatively affect survival (LeBeau et al. 2017a). In that same study area, trends in males attending leks pre-development compared to post-development of a wind energy facility did not differ, suggesting the presence of the facility did not result in population level declines (LeBeau et al. 2017a, LeBeau et al. 2017b). Leks in that study area where the facility was located ranged from 0.31 mi (0.5 km) to 2.7 mi (4.3 km) to the nearest turbines; however, given the results were associated with one facility/study area, the authors cautioned any avoidance buffers < 0.93 mi (1.5 km; LeBeau et al. 2017b).

Given the limited amount of research of the effects of wind energy on sage-grouse populations, Bowman Wind also considered research on the effects of wind energy development on other grouse populations, given their similar life histories. Based on the 15 published studies that have evaluated the impacts of wind energy on grouse, we understand that wind energy infrastructure has the ability to adversely affect grouse behavior similar to other forms of development, but the magnitude of effects associated with wind energy appears to be less than other forms of energy development (Winder et al. 2014, LeBeau et al. 2017a, 2020a,b). For example, in Idaho, Columbian sharp-tailed grouse (CSTG; Tympanuchus phasianellus columbianus) nest survival and nest site selection were not influenced by proximity to turbines (Proett et al. 2019). Likewise, greater prairie chicken (GRPC; T. cupido) nest and female survival was also reportedly not influenced by proximity to wind turbines in Nebraska or Kansas (Winder et al. 2014, McNew et al. 2014, Harrison et al. 2017, Smith et al. 2017). This is in contrast to the effects of oil and gas development on sage-grouse breeding populations (e.g., Holloran and Anderson 2005, Aldridge and Boyce 2007, Kirol et al. 2020).

A review of North Dakota oil and gas well data shows that ten active wells appear to occur within 2 miles of the previous active sage-grouse lek. Therefore, one of the most disruptive energy developments has already occurred in close proximity to this lek. Comparatively, of the limited Project infrastructure proposed to be located within the PCA, all of the infrastructure is located on the very eastern edge of the PCA boundary, and greater than 2 miles from the active sage-grouse lek. More importantly, the infrastructure was sited in areas with existing disturbances including cultivated croplands and roads, so impacts have previously occurred within these disturbed areas. Further, Project infrastructure located in the PCA is not likely to impact the sage-grouse population given the previous disturbances to this area, active oil and gas wells within 2 miles of the active lek, placement of the proposed infrastructure in previously disturbed areas, and our current understanding of effects of wind energy development on grouse populations. As noted above, grouse monitoring studies in North Dakota suggest placing infrastructure 2 miles away from an active lek will minimize impacts to breeding and nesting sage-grouse (Herman-Brunson 2007, Herman-Brunson et al. 2009). In addition, based on the

best available science for grouse, impacts from wind energy development are not expected to extend beyond one mile from infrastructure. Therefore, Bowman Wind's placement of infrastructure in areas with existing fragmentation and at least 2 miles from leks is not expected to impact the local sage-grouse population (LeBeau et al. 2017a,b; see LeBeau et al. 2020a). Connectivity between habitats is also not expected to be impacted given that the infrastructure located within the PCA is in the eastern-most extent and in areas with existing fragmentation, so affects to the local sage-grouse population and their habitats (if any) have already occurred. Considering all of the information outlined above, Bowman Wind believes it has sited Project infrastructure to avoid and minimize potential impacts to any local, remnant sage-grouse populations.

Aldridge, C. L. and M. S. Boyce. 2007. Linking Occurrence and Fitness to Persistence: A Habitat-Based Approach for Endangered Greater Sage-Grouse. Ecological Applications 17: 508-526.

Dyke, S. R., S. K. Johnson, P. T. Isakson. 2015. North Dakota State Wildlife Action Plan. North Dakota Game and Fish Department, Bismarck, ND.

Harrison J. O., M. B. Brown. L. A. Powell, W. H. Schacht, and J. A. Smith. 2017. Nest site selection and nest survival of greater prairie-chickens near a wind energy facility. The Condor 119:659-672.

Herman-Brunson, M. 2007. Nesting and brood-rearing habitat selection of greater sage-grouse and associated survival of hens and broods at the edge of their historic distribution. Thesis South Dakota State University.

Herman-Brunson K. M, K. C. Jenson, N. W. Kaczor, C. C. Swanson, M. A. Rumble, and R. W. Klaver. 2009. Nesting ecology of greater sage-grouse Centrocercus urophasianus at the eastern edge of their historic distribution. Journal of Wildlife Biology 15: 395-404.

Holloran, M. J. and S. H. Anderson. 2005. Spatial Distribution of Greater Sage-Grouse Nests in Relatively Contiguous Sagebrush Habitats. Condor 107: 742-752.

Kirol, C.P., K.T. Smith, N.E. Graff, J.B. Dinkins, C.W. LeBeau, T.L. Maechtle, A.L. Sutphin, and J.L. Beck. 2020. Greater sage-grouse response to the physical footprint of energy development. Journal of Wildlife Management 84:989–1001.

LeBeau, C. W., G. D. Johnson, M. J. Holloran, J. L. Beck, R. M. Nielson, M. E. Kauffman, E. J. Rodemaker, and T. L. McDonald. 2017a. Greater Sage-Grouse Habitat Selection, Survival, and Wind Energy Infrastructure. Journal of Wildlife Management 81(4): 690-711. doi: 10.1002/jwmg.21231

LeBeau, C. W., J. L. Beck, G. D. Johnson, R. M. Nielson, M. J. Holloran, K. G. Gerow, and T. L. McDonald. 2017b. Greater Sage-Grouse Male Lek Counts Relative to a Wind Energy Development. Wildlife Society Bulletin 41(1): 17-26. doi: 10.1002/wsb.725.

LeBeau, C., S. Howlin, A. Tredennick, and K. Kosciuch. 2020b. Grouse Behavioral Response to Wind Energy Turbines: A Quantitative Review of Survival, Habitat Selection, and Lek Attendance. Prepared for the National Wind Coordinating Collaborative, Washington, D.C. Prepared by Western EcoSystems Technology, Inc. (WEST).

LeBeau, C., K. Smith, S. Howlin, M. Kauffman, A. Tredennick, and K. Kosciuch. 2020b. A quantitative review of grouse responses to conventional and renewable energy infrastructure. Ecosphere. In review.

McNew, J. B., J. M. Hunt, A. J. Gregory, S .M. Wisely, and B .K. Sandercock. 2014. Effects of wind energy development on nesting ecology of greater prairie-chickens in fragmented grasslands. Conservation Biology 28:1089–1099.

Proett, M., S. B. Roberts, J. S. Horne, D. N. Koons, and T. A. Messmer. 2019. Columbian Sharp-Tailed Grouse Nesting Ecology: Wind Energy and Habitat. Journal of Wildlife Management: doi: 10.1002/jwmg.21673.

Robinson A. C. 2014. Management Plan and Conservation Strategies for Greater Sage-Grouse in North Dakota. North Dakota Game and Fish Department. Bismarck, ND, USA.

Smith J. A., M. B. Brown, J. O. Harrison, L. A. Powell. 2017. Predation risk: a potential mechanism for effects of a wind energy facility on greater prairie-chicken survival. Ecosphere 8(6):e01835.

Winder, V., L. B. McNew, L. M. Hunt, A. J. Gregory, S. M. Wisely, and B. K. Sandercock. 2014. Effects of Wind Energy Development on Seasonal Survival of Greater Prairie-Chickens. Journal of Applied Ecology 51: 395-405.

3.The most recent impact analysis and voluntary offset package. We have not seen an updated one and are assuming it is the same as the original, but if this isn't the case, could you provide that prior to our meeting?

Bowman Wind committed to apply the NDGFD's recommended overarching policy of avoidance, minimization, restoration, and mitigation to unbroken grasslands as part of the siting of wind turbines associated with the Project. NDGFD recommended the potential application of the Shaffer et al. 2019 (Estimating offsets for avian displacement effects of anthropogenic impacts) model as a tool to calculate voluntary offsets associated with turbines and potential grassland nesting bird displacement. As previously discussed, Bowman Wind planned to calculate voluntary offsets based on Shaffer et al. 2019 with the WEST grassland data layer (that includes landowner historical knowledge, historical and recent aerial and satellite photography review, and field verification) incorporated as the best-available grassland data. Below are the calculations of voluntary offsets that have been incorporated into the Bird Bat Conservation Strategy (BBCS) for Layout 059, which is the final layout being submitted to the ND PSC for approval.

Final Layout 059 Grassland Mapping Updated Based on WEST Field Assessment Used for the Avian-impact Offset Method to Estimate Offsets for Displaced Breeding Grassland Birds *{RESULTS IN THIS TABLE INCLUDE 85 TOTAL PRIMARY AND SPARE TURBINE LOCATIONS – >THE FINAL PROJECT LAYOUT WILL TOTAL 74, 2.82 MW TURBINE LOCATIONS}

Parameter	Metric	Units	Source
Impact Distance	300	m	Shaffer and Buhl (2016)
Impact Area	537	ha	Derived from WEST Grassland Assessment
Pre-Impact Density	1.9	pairs/ha	Shaffer and Buhl (2016)
Percent Displacement	53	percent	Shaffer et al. (2019)
Offset Density	1.9	pairs/ha	Equal Value Habitat
Number Pairs in Impact Site	1020	pairs	--
Number Pairs Displaced	540	pairs	--
Offset Area	284	ha	--

Note: This table was replicated from Shaffer et al (2019) Appendix S1, Table S3, Example 2 calculation sheet

Bowman Wind committed to following one of the key "averted-loss" tenets of Shaffer et al. 2019 peer-reviewed paper, which is to offset indirect displacement of grassland birds by protecting existing native landscapes or other valuable habitat through voluntary easements. Consistent with this commitment, Bowman Wind plans to acquire unbroken grassland conservation easements for the life of the Project as a voluntary offset for displaced grassland breeding birds by incorporation of the outputs from the framework model calculations in the table above and as detailed in Shaffer et al. 2019.

Shaffer, J. A., and D. A. Buhl. 2016. Effects of wind-energy facilities on grassland bird distributions. Conservation Biology 30:59–71.

Shaffer, J. A., C. R. Loesch, and D. A. Buhl. 2019. Estimating offsets for avian displacement effects of anthropogenic impacts. Ecological Applications.

Thanks for all of your coordination and discussions. As an update, the Project plans to submit its application to the North Dakota Public Service Commission this week.

Regards,

-Ryan

RYAN HENNING
Apex Clean Energy, Inc.

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, March 10, 2021 2:40 PM
To: Ryan Henning <ryan.henning@apexcleanenergy.com>
Cc: Dyke, Steve R. <sdyke@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>
Subject: Bowman Wind

Hi Ryan,

We have discussed internally and think it would be beneficial to set up another meeting/work session with you and your GIS team. Specifically, we would like to discuss the following topics:

1.) Turbines 3, 11, 16, 77, and 37 from layout 59 (no turbine number was attached to that data set, so these are the field IDs… hopefully that makes sense). We have identified these turbines as being on native prairie.
2.) Turbines **67**, 68, **69**, 70, **37**, 38, 39, **41**, **42**, 43, and **44**. All of these turbines are within our Greater Sage-grouse Priority Conservation Area and the 6 bolded turbines fall within 4 miles of an active lek. In our early guidance letter (attached for reference), the Department stated that it's first recommendation is to discontinue permitting energy development within this area.
3.) The most recent impact analysis and voluntary offset package. We have not seen an updated one and are assuming it is the same as the original, but if this isn't the case, could you provide that prior to our meeting?

Let's try to shoot for the weeks of the 22nd or 29th if possible.

Elisha Mueller
Conservation Biologist

701.328.6348 • ekmueller@nd.gov • gf.nd.gov

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EXHIBIT 2

BOWMAN WIND PROJECT - MEETING SUMMARY

Meeting Attendees:	Kevin Shelley, USFWS John Schumacher, NDGFD Elisha Mueller, NDGFD Josh Montgomery, NDGFD Steve Dyke, NDGFD RJ Gross, NDGFD Ryan Henning, Apex Clean Energy Jennie Geiger, Apex Clean Energy (by phone)
Notes Prepared by:	Apex Clean Energy
Date:	February 9, 2018

On June 20, 2017, Apex Clean Energy (Apex) met with the U.S. Fish and Wildlife Service (USFWS), and North Dakota Game and Fish Department (NDGFD) to discuss the Bowman Wind Project (Project) in Bowman County, North Dakota. The purpose of the meeting was to update the agencies on the status of the Project and to agree on specifics for the Tier 3 studies recommended by each agency. The following presents a summary of topics discussed and agreed upon next steps.

Eagles: USFWS confirmed that ECPG-level surveys to evaluate potential eagle use of the Project area and to identify nests within 10 miles were appropriate for the Project. USFWS requested that Apex set up a meeting after nest surveys are complete to discuss findings

Prairie Grouse: NDGFD indicated that they complete lek surveys for greater sage-grouse and sharp-tailed grouse in and around the Project area and are monitoring translocated greater sage-grouse in Bowman County. NDGFD offered to provide the most current historical and active lek location data to inform facility siting. It was agreed that Apex should supplement the annual NDFG lek surveys by surveying known leks (including historic lek sites) in or within 1 mile of the Project area. The lek surveys will occur from 0.5 hours before sunrise to 1 hour after sunrise, with 2 visits to each lek location between April 1 to May 15, where site access is available.

Other: It was agreed that prairie dog colonies should be mapped to inform siting of project features in response to potential prey concentrations. Apex will obtain data on existing prairie dog colonies from NDGFD, confirm boundaries and status of these colonies, and map additional colonies observed within the Project area.

NDFGD recommended that Apex delineate all areas of previously untilled (i.e., native prairie) grassland that are larger than 160 acres, using a combination of available data and field verification. The goal of this work is to inform siting of project facilities to avoid and minimize impacts to these tracts, and to enable quantification of impacts where necessary to inform potential mitigation strategies.

Final Tier 3 Survey Plan: The following surveys were recommended and agreed upon for the project:

- Aerial raptor nest surveys out to 1 mile and eagle nest surveys in suitable habitat out to 10 miles, completed no later than leaf-on in spring 2018
- 1 - 2 years of ECPG-level surveys (approximately 30% of the area evaluated with 800-m plots, 1x/month)
- Check historic and active leks within the Project area and 1-mile buffer. Surveys will occur from 0.5 hours before sunrise to 1 hour after sunrise and from April 1 – May 15.
- Mapping of intact grassland habitats > 160 acres in size

Action Items:

- NDGFD to provide existing lek and prairie dog data for the assessment areas.
- Apex to implement above survey plan and review results with the agencies once complete