

APPENDIX C: TECHNICAL ASSISTANCE LETTERS

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Twin Cities Field Office
4101 American Blvd E.
Bloomington, Minnesota 55425-1665

September 8, 2016

Mr. Jeff Berrington
Xcel Energy
414 Nicollet Mall 2
Minneapolis, Minnesota 55401

Dear Mr. Berrington:

This letter serves to document the communications between the U.S. Fish and Wildlife Service (Service) and the Pleasant Valley Wind Farm (PVW), including the past history of this facility, previous technical assistance provided by the Service, discussion of relative risks of this facility to eagles, acknowledgement of avoidance and minimization measures implemented to date to reduce collision and disturbance risk to eagles, and an outline of plans and recommendations moving forward.

History

Pleasant Valley Wind farm was originally designed and built by Renewable Energy Systems-Americas, Inc (RES). The Service interacted with RES and offered technical assistance regarding risk assessment of the proposed PVW in 2013 and 2014. In January 2014, the Service sent a technical assistance letter with recommendations to minimize wildlife-turbine impacts. In this letter was a recommendation to follow the Service's Eagle Conservation Plan Guidance in order to assess the risk PVW posed to bald and golden eagles. The Service also made recommendations for turbine siting and post-construction monitoring. RES did not conduct additional eagle-use monitoring and RES did not run the existing data through a collision-risk model. PVW was constructed in 2014-2015 and commenced commercial operation in November 2015. Xcel Energy purchased PVW from RES in late 2015, and informed the Service of the change in ownership. In March 2016, Xcel Energy staff observed an active eagle nest within 800 meters of three turbines. This nest was not observed during an April 2014 aerial nest survey, nor was it observed during construction of the turbines. Xcel Energy immediately curtailed turbines 16, 17, and 18 and contacted the Service to request assistance to minimize risk to bald eagles at PVW.

Relative Risks of Pleasant Valley Wind to Bald Eagles

No formal risk assessment of the site was undertaken prior to construction by either the Service or RES. However, the Service noted the presence of six known eagle nests within a ten-mile buffer around the proposed project footprint, and noted one bald eagle territory likely overlapped with the proposed turbine locations. A low-moderate level of eagle use at the site was detected during pre-construction use surveys. Since Xcel Energy has acquired PVW, they have been working with the Service to determine the site's eagle risk. That analysis is ongoing, but the preliminary risk analysis indicates eagles may be at risk of collision at PVW during the life of the facility, and an eagle take permit is warranted and recommended.

Xcel Energy has indicated they wish to apply for an eagle take permit to cover both PVW and the adjacent Grand Meadow (GM) wind facilities (a 67-turbine site which began commercial operation in 2008). There are currently no recorded wind-facility caused eagle fatalities in Dodge or Mower counties. The Service and Xcel Energy are currently engaged in discussions to analyze the specific level of eagle risk at these two sites. These two facilities were built at different times with different types of turbines and have differing levels of data collection (see below). Therefore this will be a time intensive process and projected take numbers are not yet available.

Data Collected to Date

There have been a variety of different types of data collected for PVW and GM wind facilities.

Pleasant Valley: pre-construction eagle use data (1 year), and post-construction eagle use data (on-going since March 2016); eagle nest activity monitoring, post-construction mortality monitoring (on-going since May 2016), and a 10-mile aerial nest survey around the PVW footprint (2014).

Grand Meadow: A 2-year post-construction mortality monitoring study for birds and bats, and post-construction eagle use data (on-going since March 2016); eagle nest activity monitoring, post-construction mortality monitoring (on-going since May 2016). No preconstruction eagle-use data was collected for this site.

Avoidance and Minimization Measures Implemented to Date

Xcel Energy has demonstrated a commitment to determining eagle risk relative to the PV/GM sites and to work with the Service to minimize this risk. Upon discovery of the active eagle nest within the project area, Xcel Energy curtailed three turbines within 800 meters of the nest and began weekly nest monitoring. Xcel Energy has committed to conducting at least one year of both post-construction eagle use and mortality monitoring. Additional details regarding post-construction monitoring will be refined during the development of the Eagle Conservation Plan (ECP). This will help inform both spatial and temporal risk to eagles, help determine where adaptive management will be most effective, and provide feedback to help refine the statistical mortality modeling.

Avoidance, Minimization, and Conservation Measures Going Forward

Xcel Energy has committed to applying for a federal eagle take permit and to that end, is engaged in developing an ECP and will assist the Service with developing an Environmental Assessment for this permit. This permit will include long-term approaches to avoidance and minimization of eagle risk, as well as monitoring and adaptive management to changing circumstances. The Service considers this permit application a priority and will work to expedite this process. Additionally, Xcel Energy and the Service are engaged in discussion regarding the best way to address the eagle nest (discovered spring 2016) within the project boundary, including the feasibility of nest removal (once the nest is inactive), harassment and habitat modification to prevent the eagle from re-nesting, monitoring of the area to determine if and where the pair re-nests, and adaptive management should the pair re-nest in another hazardous spot. The details of a nest removal permit are still being developed between the Service and Xcel Energy. Xcel Energy has also installed an Identi-Flight system (a tower with 360-degree

view placed near Turbine 18 that will capture imagery from Turbines 13, 14, 15, 16, 17, and 18) near the nest in question. This will provide feedback to Xcel Energy regarding eagle use in this area, including whether eagles are attempting to re-nest in this area. The duration of the use of the Identi-Flight system will be assessed during the development of the ECP.

Service's Recommendation on Resuming Operation of Turbines near Eagle Nests

Xcel Energy curtailed Turbines 16, 17, and 18 upon discovery of an active eagle's nest, and has committed to maintaining curtailment until six weeks post-fledging. Adult eagles generally continue to provision chicks until this date, and chicks and adults can be seen in the vicinity of the nest until that time. The chick from the nest in question was first observed in flight June 29, 2016 (six weeks from this time would be August 10, 2016). The Identi-Flight system was installed and operational on August 22, 2016, and Xcel Energy resumed operation of Turbines 16, 17, and 18 on August 23, 2016. The start-up date for these turbines comes almost eight weeks post-fledging for the eagle chick. The Service agrees that the most hazardous time for the chick has passed and the danger of these nesting eagles striking the turbine has decreased. As of September 7, there has been no eagle activity at the nest for four consecutive weeks. Xcel Energy has committed to an initial short-term nest observation of two times/day, as well as periodic review of the Identi-Flight System data and weekly nest observations until September. If eagle use around these turbines increases, Xcel Energy and the Service will reevaluate this plan.

We recognize this is a complex project that will require in-depth analysis. However, we have confidence all parties will strive to meet conservation goals while balancing practicability and scientifically supportable decisions. We look forward to our continued collaboration on this project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Peter Fasbender", written over a horizontal line.

Peter Fasbender
Project Leader

cc (email only):

Rich Davis, Minnesota Department of Commerce, St. Paul, Minnesota

Lori Naumann, Minnesota Department of Natural Resources, St. Paul, Minnesota

Kevin Mixon, Minnesota Department of Natural Resources, New Ulm, Minnesota

Cynthia Warzecha, Minnesota Department of Natural Resources, St. Paul, Minnesota

Mark Martell, Tetra Tech, Inc, Bloomington, Minnesota

Patrick Flowers, Xcel Energy, Minneapolis, Minnesota

Attachment 1

Timeline and Management Record of Eagle Nest at Pleasant Valley Wind Farm.

Location: Pleasant Valley Wind Farm (PVW), Dodge and Mower Counties, MN

Parties: Fish and Wildlife Service (FWS), Minnesota Department of Natural Resources (DNR), Xcel Energy (Xcel), USDA Wildlife Services (USDA), Operations and Maintenance Staff of PVW Facility (O&M), Tetra Tech (Consulting Company).

2014

- April:
 - Aerial nest survey conducted as part of pre-construction survey efforts; no eagle nests observed within project boundary.

2015

- November:
 - Pleasant Valley Wind commenced commercial operation.

2016

- March:
 - New eagle nest observed near Turbine 17. Turbines 16, 17, 18 curtailed.
- June:
 - Bald eagle chick fledged.
- September:
 - Xcel initiated development of Eagle Conservation Plan and Eagle Take Permit Application for PVW and adjacent Grand Meadow Wind Farm (GMW).
 - Issuance of FWS technical assistance letter regarding turbine operation.
 - Turbines 16, 17, 18 resumed operation following chick fledging and no eagle activity around nest for 4 weeks.
 - IdentiFlight(experimental camera-based eagle detection unit) installed as a mitigation measure for nest removal.
- October:
 - State and Federal eagle nest removal permits issued.
- December:
 - Eagle nest removed and destroyed; nest tree trimmed to discourage future nesting attempts. Nest tree not removed per land owner request.
 - Eagle nest removal permits amended to allow for removal of subsequent nesting attempts (partially built nests only).
 - Eagle Depredation Permit obtained; Xcel and USDA entered Cooperative Service Agreement (CSA) for eagle hazing. O&M staff also trained in deterring future nesting attempts.

2017

- Winter-Spring:
 - Five partially built nests removed by USDA Wildlife Services near original nest location.
 - USDA/O&M staff haze eagle pair to try to prevent nesting attempts.
 - Field biologist employed to observe eagles and document nesting attempts.

- July:
 - Xcel Energy submits application for a federal eagle take permit for Pleasant Valley and adjacent Grand Meadow Wind.
- October:
 - Eagle pair observed building new nest in same location.
 - Wildlife Services proposed to trap and relocate pair prior to egg-laying; Xcel, FWS, and DNR agreed.
- December
 - Xcel and USDA entered CSA for relocation effort; USDA monitored bait site near nest.

2018

- February:
 - USDA commenced trapping; ground-based camera monitored nest. All parties agreed trapping would cease if eggs are laid. All parties informed of developments.
 - Eagle pair exhibited nesting behavior; trapping ceased and bait station was removed. No eagles were captured.
- March:
 - Xcel and FWS continued discussions regarding turbine curtailment. Turbines not curtailed at this time, as the highest risk to eagles would likely occur around the time of fledging of young birds from the nest.
- April:
 - Xcel installed nest camera on nearest turbine to monitor nest activity.
 - Xcel confirmed one eaglet present in nest.
 - Xcel and FWS agreed to curtail Turbine 17 during daylight hours (from one hour before sunrise to one hour after sunset) once pre-fledging behavior was seen (branching) until September 1.
 - Turbines 16 and 18 may be curtailed based on results of flight path monitoring.
- May:
 - Xcel, FWS and licensed banding biologist from Tetra Tech attempted to band chick; nest was not accessible and banding was not completed.
- June:
 - Daily nest monitoring on-going.
 - Turbines 16 and 17 curtailed; operation will resume September 2018.



United States Department of the Interior
FISH AND WILDLIFE SERVICE
Ecological Services
Minnesota-Wisconsin Field Office
4101 American Boulevard East
Bloomington, Minnesota 55425-1665



July 2, 2018

Ms. Kate Schindler
Xcel Energy
414 Nicollet Mall 2
Minneapolis, Minnesota 55401

Dear Ms. Schindler,

This letter serves to memorialize the coordination between the US Fish and Wildlife Service (Service) and the Xcel Energy Pleasant Valley Wind Farm (PVW) regarding Xcel Energy's response to a nesting eagle pair at the facility since 2016. The Service previously provided a technical assistance letter on September 8, 2016 detailing the past history of PVW and acknowledging avoidance and minimization measures implemented to reduce collision and disturbance risk to eagles. A summary of all avoidance, minimization, and mitigation measures regarding this nest (including risk management and nest removal) is attached.

Following issuance of the 2016 technical assistance letter, Xcel Energy restarted operation of three curtailed wind turbines within 800 meters of a bald eagle nest at PVW. At that time, the nest was inactive, with no young or adult birds present. The turbines resumed operation eight weeks after the chick had fledged, and after four weeks during which no eagle activity was observed near the nest.

Xcel Energy and the Service discussed avoidance and minimization of impacts to this nest post-fledging, and decided nest removal was the efficacious option. The original nest and five subsequent nesting attempts were removed, and hazing was employed to prevent further nesting attempts. Ultimately, the landowner refused further nest removal attempts, and the nest was rebuilt became occupied in winter/spring 2018.

Xcel Energy completed one year of consultant-led bird and bat post-construction mortality monitoring at PVW in May 2017. This monitoring was in compliance with the state-issued site permit, and is being used to support the federal eagle take permit application. All 100 turbines were included in the study. Standardized carcass searches were conducted weekly in spring, summer, and fall, and monthly in winter. Sixty-three fatalities (12 birds and 51 bats) were found during these searches. Eagle and other large bird-specific fatality monitoring also occurred monthly at all 100 turbines, and was conducted concurrently with standardized carcass searches. There were 1,138 searches conducted between May 2016 and April 2017 for eagle and other large-birds. No eagle or other large bird fatalities were detected during or incidental to these

surveys. Correction estimates have been completed for all birds and bats, however, the Service has not completed an eagle-specific fatality estimate based on these post-construction fatality estimates. This will be conducted as part of the permit application process.

Although no eagle fatalities have been documented to date at PVW, Xcel Energy and the Service understand that eagles are at risk of collision mortality at PVW. Xcel Energy submitted an application for a federal eagle take permit on July 12, 2017 and has developed a draft Eagle Conservation Plan (ECP) in coordination with the Service for PVW and Xcel Energy's adjacent Grand Meadow Wind Farm. Xcel Energy is currently assisting the Service with developing an Environmental Assessment (EA) for this permit. The permit will include long-term approaches to avoidance and minimization of eagle risk, as well as fatality monitoring and adaptive management to changing circumstances. A long-term management plan for this resident pair and their nest will be included as a supporting document to this EA. The Service will make a final decision on permit issuance after completion of the EA and analysis of public comment.

The Service recognizes this is a complex project that will require in-depth and ongoing analysis. However, we have confidence all parties will strive to meet conservation goals while balancing practicability and scientifically supportable decisions within the framework of the Eagle Act. We look forward to our continued collaboration on this project.

Sincerely,

Acting for

Peter Fasbender
Project Leader

Attachment

cc: (email only):

Rich Davis, MN Department of Commerce
Lori Naumann, MN Department of Natural Resources
Kevin Mixon, MN Department of Natural Resources
Cynthia Warzecha, MN Department of Natural Resources
Patrick Flowers, Xcel Energy
Jeff Berrington, Xcel Energy
Chris Hogg, Xcel Energy
Kim Gorman, Tetra Tech, Inc.
Mark Martell, Tetra Tech, Inc.

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