

U.S. Department of Interior, Fish and Wildlife Service

Record of Decision

**Proposed Issuance of an Incidental Take Permit and Implementation of a
Habitat Conservation Plan for the R-Project Transmission Line, Authorizing
Incidental Take of the Endangered American Burying Beetle in Central
Nebraska**

RESPONSIBLE OFFICIAL:

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The final Record of Decision and all associated supporting documents, including the Draft and Final Environmental Impact Statement, Endangered Species Act Section 7 Biological Opinion, Findings and Recommendations on Issuance of an Incidental Take Permit, and Analysis of Public Comments will be available on the Service's Nebraska Field Office website at: <https://www.fws.gov/nebraskaes/R-Project.php>

1 INTRODUCTION

We, the U.S. Fish and Wildlife Service (Service), developed this Record of Decision (ROD) in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Department of the Interior's NEPA regulations (43 CFR 46). The purpose of this ROD is to document our decision for the selection of an alternative responding to the Nebraska Public Power District (NPPD) application for an incidental take permit (Permit) for the American burying beetle (beetle) under the Endangered Species Act of 1973, as amended (ESA), which includes implementation of the R-Project Habitat Conservation Plan (HCP).

2 ALTERNATIVES

Alternative A: Tubular Steel Monopoles and Steel Lattice Towers (Proposed Action)

Alternative A would involve constructing a 225-mile-long, 345 kV transmission line in two segments. The 100-mile north/south segment would begin at the Gerald Gentleman Station Substation located south of Sutherland, Nebraska, and would extend north of Sutherland then east to U.S. Highway 83. The R-Project Transmission Line (R-Project) would then travel north following U.S. Highway 83 to connect to NPPD's existing substation east of Thedford, Nebraska, which would be expanded. The 125-mile east/west segment would begin at the Thedford Substation, then proceed east connecting to a new substation in Holt County, where it would connect to the Western Area Power Administration's Fort Thompson to Grand Island transmission line. The width of the ROW would be 200 feet (100 feet each side of centerline) for the entire transmission line, unless otherwise specified.

Two types of structures would be used for the R-Project—tubular steel monopoles and steel lattice towers. Tubular steel monopoles require large equipment for installation and would be used along NPPD's final route where there is relatively good access and where established roads exist (e.g., along U.S. Highway 83 or in cultivated fields). Tubular steel monopole structures would be placed approximately 1,350 feet apart (average ruling span) and have an average height of 150 feet. Steel lattice towers would be used in areas of the Sandhills where existing access routes are limited or do not exist. Lattice towers can be constructed with less overall effect on the surrounding area because smaller equipment and helicopters can be used during construction. Span lengths between lattice towers would be the same as monopoles, and the towers would have an average height of 130 feet.

The Gerald Gentlemen Station Substation, located in Lincoln County, just south of Sutherland Reservoir State Recreation Area and north of West Power Road, would be expanded within its existing footprint and would include installation of a 345 kV breaker, 345 kV reactor, and 345 kV dead-end structure. The Thedford Substation expansion site is located in Thomas County, east of Thedford, east of the existing Thedford 115 kV Substation, and north of State Highway 2. The new Holt County Substation would be located in Holt County on the northwest corner of the intersection of 846th Road and 510th Avenue.

Following construction, temporary work areas and access routes would be removed and the area restored to original condition. NPPD would stabilize and revegetate all temporarily disturbed areas. NPPD would also develop a Restoration Management Plan, which would be finalized and submitted to the Service prior to the start of construction. The Restoration Management Plan would include stipulations for successful restoration criteria and steps that would be taken in the event restoration does not meet these stipulations.

Under Alternative A, NPPD would provide at least 500 acres of mitigation lands to conserve beetle habitat and offset temporary and permanent impacts.

Alternative B: Tubular Steel Monopole Construction Only

Alternative B would involve the use of tubular steel monopole structures along the entire length of the R-Project unlike the Proposed Action (Alternative A), which would use both steel lattice towers and monopole structures. Tubular steel monopoles require concrete foundations and temporary access routes because erecting the monopoles does not include use of helicopters. Access routes must support the heavy equipment (e.g., concrete trucks and cranes) necessary to pour concrete foundations and erect the structures. Where roads do not exist, temporary access routes must be constructed to access each structure. The area with temporary and emergency disturbances in Alternative B is approximately 486 acres more than the area with temporary and emergency disturbances in Alternative A. The area with permanent disturbances in Alternative B is approximately 25 acres more than the area with permanent disturbances in Alternative A. Because of the increased area of ground disturbance in Alternative B, more acres of beetle habitat would be affected (area with temporary and emergency impacts to beetle habitat is approximately 401 acres more than Alternative A and area with permanent impacts to beetle habitat is approximately 22 acres more than Alternative A) resulting in a greater level of take of the beetle. Under Alternative B, NPPD would provide 660 acres of mitigation lands to conserve beetle habitat and offset temporary and permanent impacts.

No Action Alternative

Under the No-action Alternative, a permit would not be issued and NPPD would not construct the R-Project as proposed. Under the No-action Alternative, the need for the R-Project (i.e., enhancing reliability, relieving congestion, and providing opportunities for renewable energy projects) would remain unmet, and reliability issues and congestion may become exacerbated over the next 50 years. Identifying another solution to meet the Project need would require NPPD or another electrical utility to initiate a new project planning process; however, future projects that do not include construction of an R-Project are too speculative to predict and adequately describe for a no-action condition; therefore, the No-action Alternative assumes that no Project would be constructed.

3 DECISION AND RATIONALE

We, the Service, intend to issue a permit to authorize incidental take of the beetle to NPPD caused by the R-Project, as described in Alternative A, based on a thorough review of the

alternatives and their environmental consequences as described in the FEIS. The primary criterion used to select a preferred alternative for the FEIS was to minimize the amount of ground disturbance and thus take of the American burying beetle. Because NPPD would use a combination of steel lattice towers and tubular monopole structures under Alternative A, less ground disturbance would occur and consequently less take of beetle would occur than under Alternative B. Tubular steel monopoles, which are typically used on most NPPD projects, require large equipment to install and would be used along the transmission line route where there is available access, along established roads or in cultivated fields. Steel lattice towers would be used in areas of the Sandhills where existing access roads are limited or do not exist. Lattice towers can be constructed with less overall effect on the surrounding area because smaller equipment and helicopter construction can be used for construction. Under either alternative, take of the beetle is anticipated in the form of harm. Significant modification of habitat will significantly impair breeding, foraging, and sheltering of the beetle, which is likely to result in killing or injury to individuals. Alternative A would permanently remove 33 acres of beetle habitat and temporarily impact 1,042 acres of beetle habitat. Alternative B would permanently remove 55 acres of beetle habitat and temporarily impact 1,367 acres of beetle habitat. Alternative A is consistent with NPPD's expressed need for the R-Project and complies with applicable laws and regulations. Through our NEPA analyses, ESA section 7 biological opinion (USFWS 2018b), and set of findings and recommendations on amending the permit (USFWS 2018c), we determined, and summarize below in Section 4, that all the following permit issuance criteria under Section 10(a)(2)(B) of the ESA would be met:

1) the taking will be incidental; 2) NPPD will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) NPPD will ensure that adequate funding for the HCP will be provided; 4) the taking will not appreciably reduce the likelihood of the survival and recovery of the covered species in the wild; and 5) no other measures are necessary or appropriate for purposes of the HCP. Section 10(a)(1)(B) also states that the Service shall issue an incidental take permit if the permit application, including the HCP, meets all the permit issuance criteria. Therefore, we are legally required to issue a permit to NPPD.

In consideration of the nature and magnitude of impacts to the factors of the natural and human environment analyzed in the FEIS, Alternative A provides protection and management of habitat for the beetle and the Service's need to respond to NPPD's application for a permit.

4 PROJECT EFFECTS AND REQUIRED MITIGATION

The Service's issuance of a permit to NPPD for take of the beetle and implementation of Alternative A would result in short- and long-term, moderate-intensity, adverse effects on the beetle. Construction of the R-Project is expected to permanently disturb 33 acres of beetle habitat within the permit area and temporarily disturb an additional 1,042 acres of beetle habitat. Emergency repairs after various types of storms are anticipated to temporarily disturb an additional 208 acres of beetle habitat. In addition to the implementation of the avoidance and minimization measures described in the FEIS and HCP, NPPD would secure sufficient mitigation lands to offset the R-Project's impacts as a condition of the permit. To meet this requirement, NPPD has secured an Option to Purchase approximately 600 acres of mitigation lands in fee title in Blaine County, Nebraska. This parcel is a continuous tract of land that has

documented beetle presence along the entire tract. Protection of this already-occupied beetle tract of land would ensure that it remains undeveloped in perpetuity.

To ensure restoration of disturbed beetle habitat, NPPD would also establish an escrow account to ensure the implementation and success of restoration efforts. NPPD prepared and submitted to the Service an escrow agreement for review that would be finalized prior to the start of construction activities. The escrow agreement is a financial assurances contract that ensures that funding is available in the event that restoration of beetle habitat is unsuccessful and NPPD is not taking active steps to achieve successful restoration, including adaptive management.

Alternative A would result in the permanent conversion of 52 acres of land to support the transmission line, of which 33 acres are beetle habitat. This permanent conversion would affect soil, vegetation, wetlands, wildlife habitat (including special status species habitat), and land use. Long-term, adverse impacts would also occur to wildlife, special status species, recreation and tourism, cultural resources, visual resources and aesthetics, air quality, noise, and health and safety. Approximately 1,759 acres of land would be temporarily disturbed under Alternative A, of which 1,042 acres are beetle habitat. Transportation would be affected in the short term from construction-related closures that interfere with regular traffic flow and local emergency response activities. Businesses and surrounding communities would enjoy beneficial economic impacts, both in the long term and short term. No disproportionate and adverse impacts are anticipated to occur on environmental justice populations.

Potentially adverse direct and indirect effects are anticipated from implementing the R-Project on visual and cultural resources. The visual resources adverse effects on aesthetic resources are because of the introduction of a new element to the Sandhills landscape, particularly for permanent residents along the transmission route. The cultural resources adverse effects are due to diminishing the location, setting, feeling and association by introducing adverse effects to visual, auditory, and atmospheric integrity on historic sites and trails along NPPD's final route. Potential measures to mitigate and minimize impacts to cultural resources may include shifting the installation of ground-disturbing features such as transmission poles, rerouting access routes, excavating archaeological sites, or pursuing creative mitigation measures to offset unavoidable impacts.

5 MONITORING AND REPORTING

NPPD will conduct compliance monitoring to verify that estimated take of the beetle is not exceeded and to ensure that all avoidance, minimization, and mitigation measures are implemented as described in the HCP. NPPD will also conduct effectiveness monitoring to evaluate post-construction restoration and inform the adaptive management program where additional restoration is needed.

Annual reports will serve as the primary tracking method for measuring performance and progress towards achieving the HCP's goals and objectives.

6 PUBLIC INVOLVEMENT AND COORDINATION

On October 30, 2014, the Service published a Notice of Intent (NOI) in the *Federal Register* to

inform the public of its intent to prepare an EIS that assesses the impacts on the human environment from the proposed issuance of a permit to authorize the take of the federally endangered beetle and implementation of an HCP (79 FR 64,619). The NOI initiated a 60-day comment period for public review and comment on any of the topics to be addressed in the FEIS. The NOI also announced that the Service would hold three public scoping meetings on November 18, 19, and 20, 2014, in Burwell, Sutherland, and Thedford, Nebraska, respectively. On May 12, 2017, the Service released to the public the draft EIS (DEIS) and companion documents (draft HCP, draft Migratory Bird Conservation Plan [MBCP], and draft Restoration Management Plan for the R-Project Transmission Line) for public review and comment. A Notice of Availability of the DEIS and companion documents was published in the *Federal Register* on May 12, 2017 (82 FR 42561).

The release of the DEIS and companion documents and publication of the Notice of Availability initiated a 60-day public comment period that ended on July 11, 2017. The DEIS, draft HCP, draft MBCP, and draft Restoration Management Plan were available at the Federal eRulemaking Portal (www.regulations.gov) in Docket No. FWS-R6-ES-2014-0048. In addition, the documents were available at nine Nebraska public libraries and by appointment during normal business hours at the U.S. Fish and Wildlife Service, Nebraska Ecological Services Field Office.

During the comment period in June 2017, public meetings were held at three locations (Burwell, Sutherland, and Thedford) in Nebraska. These meetings included an overview of the draft documents and the public comment process and provided the public an opportunity to comment on the draft documents verbally or in writing. Following an overview presentation, the Service invited the public to submit comments verbally via court reporter or in writing via comments forms provided at the meetings. A court reporter recorded all comments and statements made at the public meetings and prepared official transcripts. The public was also encouraged to submit comments on the DEIS and companion documents via the internet or by U.S. mail.

During the public comment period, the Service received a number of requests for extension of the public comment period. In response to these requests, the Service re-opened the comment period for an additional 60 days. The reopening of the public comment period was announced in the *Federal Register* on September 8, 2017 (82 FR 42561). During the second comment period, the Service hosted an informal question and answer session to provide a forum for the public to ask questions and seek clarification about the content of the DEIS and companion documents prior to the close of the second public comment period on November 7, 2017. The informal question and answer session was held on October 25, 2017, at the Thomas County Fairgrounds, 8386 Hwy 83, Thedford, Nebraska, 69166. Prior to the question and answer session, a press release was sent to 16 media outlets (newspaper, television, and radio) throughout the region.

The Service also sent coordination letters to 30 Tribal governments on October 17, 2014, and one response was received from the Northern Arapaho Tribe from St. Stephens, Wyoming, on December 1, 2014. The tribe requested to be contacted if there are any inadvertent discoveries, such as human remains, found during ground-disturbing activities related to the Project. Additional letters were sent to the tribes on February 24, 2016. One response was received from the Ponca Tribe of Nebraska. The response, received on February 29, 2016, requested that the

Service keep the Tribe informed of work being done in Knox, Antelope, Holt, and Garfield counties. The Cherokee Nation contacted the Service on April 26, 2018, with interest in potential impacts to tribal graves. A final round of consultation letters was sent to involved tribes on October 26, 2018.

7 SUMMARY OF CHANGES BETWEEN DRAFT AND FINAL ENVIRONMENTAL IMPACT STATEMENT

The majority of changes between the DEIS and FEIS were related to 1) additional survey results for special status species and cultural resources, 2) clarifications in response to public comments, 3) additional review of data and technical information related to the collision risk of whooping crane. Additionally, technical edits for clarity were made throughout the FEIS. Generally, the following sections have been revised in the FEIS since the release of the DEIS:

- Added *Project Need Date* (Section 1.6.3) discussion to update the timeline of the project, explain the “need date” for the project, and the consequences of not meeting this date.
- Updated *Alternatives* (Section 2) discussion to provide additional description and information received from NPPD about the Central Route.
- Updated *Special Status Species* (Section 3.7) information with results of species surveys conducted since the draft EIS.
- Updated *Whooping Crane* (Section 3.7.7) with descriptions of new information and risk analyses.
- Updated *Cultural Resources* (Section 3.10) with results of new cultural resource surveys and update on consultation with the Nebraska SHPO.
- Updated and re-organized *Cumulative Impacts* (Section 4) for clarity and to reduce redundancy.

RECOMMENDATION OF PERMIT ISSUANCE

Based on the foregoing ROD and the Findings for the HCP, I recommend approval and issuance of an Incidental Take Permit to NPPD for incidental take of the American burying beetle in accordance with the HCP.



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JUN 12 2019

Date

8 REFERENCES

USFWS 2018a. Final Environmental Impact Statement on the Issuance of an Incidental Take Permit and Implementation of a Habitat Conservation Plan for the R-Project Transmission Line. U.S. Fish and Wildlife Service and Louis Berger Group.

USFWS. 2018b. Biological opinion for the Proposed Issuance of a Section 10(a)(1)(B) Incidental Take Permit to the Nebraska Public Power District for the R-Project Habitat Conservation Plan. U.S. Fish and Wildlife Service, Mountain Prairie Regional Office, Lakewood, CO.

USFWS 2018c. Findings and Recommendations on Issuance of an Incidental Take Permit to Nebraska Public Power District for their R-Project Habitat Conservation Plan. U.S. Fish and Wildlife Service, Mountain Prairie Regional Office, Lakewood, CO.

Responses to Public Comments on the
Final Environmental Impact Statement
on Issuance of an Incidental Take Permit
and Implementation of a Habitat
Conservation Plan for the
R-Project Transmission Line

May 2019

CONCERN STATEMENTS AND RESPONSES

ON100: NEPA Issues: General Comments

Concern Statement 1-1: Commenters request that the U.S. Department of the Interior, Fish and Wildlife Service (Service) prepare a supplemental environmental impact statement (SEIS) to: 1) address apparent insufficient analysis of potential impacts on the whooping crane; 2) address the apparent lack of meaningful analysis of indirect effects from future wind energy development, including on cultural resources; 3) survey and consider all affected cultural and historical properties; 4) assess the adequacy of the Programmatic Agreement for managing impacts on historic and cultural resources because it was not finalized and made available for public review with publication of the *Final Environmental Impact Statement on Issuance of an Incidental Take Permit and Implementation of a Habitat Conservation Plan for the R-Project Transmission Line* (FEIS); 5) incorporate new information about Cherokee remains; 6) address the Service's recent change in interpreting incidental take in the Migratory Bird Treaty Act (MBTA); and 7) allow for formal consideration of comments on an SEIS.

Response: Following publication of the draft environmental impact statement (DEIS) for the R-Project in September 2017, the Service received "petitions" to prepare an SEIS. The petitioners argue that significant new information had come to light regarding three categories: 1) R-Project's direct impacts on the whooping crane, 2) the indirect or cumulative effects from wind energy development that may be associated with the Project, and 3) impacts on historic and cultural resources. In response, the Service prepared the *Evaluation of Need for a Supplemental Environmental Impact Statement for the Application for an Incidental Take Permit for the R-Project Transmission Line*, which was published along with the FEIS and other documents for public inspection. In this document, the Service explains that after careful consideration of the arguments and information presented by the petitioners, it determined that none of the areas of information triggered the need for supplementing the DEIS under 40 CFR 1502.9(c)(1) or Question 29b of the Council on Environmental Quality's (CEQ) Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act (NEPA) Regulations, March 23, 1981.

The regulations direct that an agency must prepare a supplement to a DEIS or FEIS if, after circulation of a DEIS or FEIS but prior to implementation of the federal action:

- the agency makes substantial changes to the proposed action that are relevant to environmental concerns (40 CFR 1502.9(c)(1)(i));
- significant new circumstances or information is relevant to environmental concerns and bearing on the proposed action or its effects (40 CFR 1502.9(c)(1)(ii)); or
- the agency adds a new alternative that is outside the spectrum of alternatives already analyzed.

The requests for an SEIS that commenters submitted during public inspection of the FEIS do not provide any new or substantive information that met the CEQ requirements for supplementing an EIS. While the seven issues outlined in the concern statement above do not represent new or

substantive information sufficient to trigger an SEIS, the Service addresses each of these concerns directly in the responses to comment in the FEIS or in other responses in this document. Specifically, the Service addresses:

1. Issues related to the whooping crane in Concern Statements 6-1 through 6-10,
2. The issue of analyzing cumulative effects from wind in Concern Statements 9-1 through 9-3,
3. The issue of surveying additional cultural and historic properties in Concern Statement 7-1,
4. The issue of analysis of the Programmatic Agreement in Concern Statement 7-2,
5. The Cherokee remains in Concern Statement 7-3,
6. The Service's recent changes in interpretation of the MBTA in Concern Statement 4-1, and
7. The concern of having the opportunity to comment on an SEIS in the concern statement and response below (Concern Statement 1-2).

Concern Statement 1-2: A commenter notes that the Service specifically stated that it was not requesting comments during the public review period for the FEIS, although it said it would welcome any submitted. The commenter is concerned that the Service will not consider submitted comments. For that reason, the commenter believes the Service must prepare an SEIS to solicit and respond to comments. Another commenter is concerned that her previous comments, letters, and emails regarding impacts on the Sandhills were not considered. Commenters did not identify specific issues that were raised but were not considered.

Response: The implementing regulations for NEPA state that federal agencies may request comments on a FEIS, but they do not require it (40 CFR 1503.1(b)). The Service considered and is responding to new and substantive comments on the FEIS in this document. For those comments on the FEIS that are not new, the Service also explains where it previously addressed those issues in the FEIS or in the Service's report on responses to comments on the DEIS. The Service also provides a brief summary for each of those previous responses.

The Service considered every comment, regardless of format, that was submitted during and shortly after the end of the public comment period for the DEIS. It responded to concerns regarding potential impacts on the Sandhills from the R-Project throughout all sections of Chapter 3, *Affected Environment*, and Section 4.4, *Cumulative Impacts Analysis*, in the FEIS and throughout the Analysis of Public Comments, specifically: Section AE100, *Affected Environment: All Resource Categories*; Section EC100: *Environmental Consequences: Soils and Geology*; EC200: *Environmental Consequences: Vegetation*; EC500: *Environmental Consequences: Wildlife*; EC600: *Environmental Consequences: Special Status Species*; EC700: *Environmental Consequences: Cultural Resources*; EC800: *Environmental Consequences: Visual Resources*; EC900: *Environmental Consequences: Recreation and Tourism*; CI100: *Cumulative Impacts: General*; CI200: *Cumulative Impacts: Future Renewable Energy Projects*; and EC1300: *Environmental Consequences: Noise*.

EC100: Environmental Consequences: Soils and Geology

Concern Statement 2-1: A commenter expresses concern about impacts on soils, including blowouts, as a result of constructing the R-Project.

Response: The Service previously addressed concerns about impacts on soils under Concern Statement 5.2-1 in Section EC100: *Environmental Consequences: Soils and Geology*, of the Analysis of Public Comments Report. The Service previously addressed concerns regarding blowouts under Concern Statements 5.2-3 and 5.2-7 in in Section EC100: *Environmental Consequences: Soils and Geology*, of the Analysis of Public Comments Report.

In numerous locations, the FEIS (e.g., Section 3.2.1.4, *Geology and Soils, Soils*) acknowledges the fragile nature of the Sandhills ecosystem and discusses potential impacts and conservation measures in Sections 3.7.12.2, *Blowout Penstemon, Affected Environment*, and Section 3.7.12.3, *Blowout Penstemon, Avoidance, Minimization, and Mitigation Measures*. The FEIS presents a detailed evaluation of the soil characteristics within the Project area, including erosion potential, restoration potential, and the effects of soil disturbance on vegetation composition and succession. NPPD would implement avoidance, minimization, and mitigation measures for soils and vegetation as described in the FEIS. Additionally, NPPD would restore all temporary work areas and access routes to original conditions to the greatest extent feasible. If initial restoration efforts are unsuccessful, NPPD would continue to implement restoration measures until restoration goals are met as specified in the Restoration Management Plan, which is a companion document to the FEIS.

EC200: Environmental Consequences: Water Resources

Concern Statement 3-1: A commenter expresses concern about potential contamination of the Ogallala Aquifer during construction of the R-Project. A commenter asked what studies have been done regarding potential impacts on the aquifer.

Response: The Service previously addressed the issue of potential contamination of the Ogallala Aquifer under Concern Statement 5.3-2 in Section EC200: *Environmental Consequences: Water Resources*, of the Analysis of Public Comments Report.

Section 3.3.2.2, *Water Resources, Direct and Indirect Effects, Alternative A: Tubular Steel Monopole and Steel Lattice Tower Structures*, of the FEIS acknowledges that the Ogallala Aquifer is generally shallow in the Project area, so the shallow water depth and presence of sandy soils make groundwater susceptible to contamination. Section 3.3.3, *Water Resources, Avoidance, Minimization, and Mitigation Measures*, describes the avoidance, minimization, and mitigation measures that NPPD would implement to minimize the risk of groundwater contamination. These measures include preparing a Spill Prevention, Control, and Countermeasures Plan prior to start of construction. The plan would describe the measures that NPPD would implement during construction to prevent, respond to, and control spills of hazardous materials and the measures to minimize a spill's effect on the environment.

EC500: Environmental Consequences: Wildlife

Concern Statement 4-1: A commenter claims that the Service should prepare an SEIS because it did not analyze impacts on migratory birds that would result from the Department of the Interior's change in policy interpreting that the MBTA does not prohibit incidental take of migratory birds. The commenter argues that with the new interpretation of the MBTA, NPPD would no longer be required to implement its Migratory Bird Conservation Plan (MBCP). The commenter also argues that the new interpretation would not allow the Service to rely on the Wind Energy Guidelines regarding impacts on migratory birds.

Response: The Principal Deputy Director of the Service issued a memorandum on April 11, 2018, titled *Guidance on the Recent M-Opinion Affecting the Migratory Bird Treaty Act (M-Opinion)*. The memorandum acknowledges the Department of the Interior M-Opinion's new interpretation that the MBTA does not prohibit take of migratory birds from an activity when the underlying purpose of that activity is not to take migratory birds. While this change in policy regarding MBTA prohibitions of take was issued between the publications of the DEIS and FEIS, it does not compel the Service to re-examine effects from NPPD's MBCP. The commenter's premise for a re-examination of effects is that NPPD would no longer be required to implement the MBCP under the change in MBTA policy. NPPD will be implementing the MBCP as part of its HCP. Implementation of the MBCP is essential for NPPD to avoid take of Endangered Species Act (ESA) listed migratory bird species that may occur in the Project area. The MBCP measures to avoid take of the listed species would also benefit non-listed migratory birds. Furthermore, the terms and conditions of the Section 10(a)(1)(B) incidental take permit would include a requirement to fully implement the Habitat Conservation Plan (HCP) and its associated documents, which includes the MBCP and the Restoration Management Plan. Therefore, the Service does not expect the M-Opinion to result in any changes to the effects on migratory bird species that would require preparing an SEIS.

Neither the Service nor the HCP relies on the Wind Energy Guidelines as a means for avoiding or minimizing impacts on migratory birds because wind energy projects are not covered under the HCP. Rather, the Service analyzed wind energy development as reasonably foreseeable in the cumulative effects section of the FEIS because not enough specific information exists about the configuration and number of turbines, locations, size of project area, and other parameters of any wind project to allow for an adequate analysis of indirect effects. The Service refers to the Wind Energy Guidelines as being available as guidance for wind energy companies to use to help avoid and minimize impacts from future wind energy development.

EC600: Environmental Consequences: Special Status Species

EC600 Special Status Species

Concern Statement 5-1: A commenter expresses concern that construction and operation of the R-Project would result in substantial adverse impacts on special status species including the American burying beetle, whooping crane, and other wildlife (including migratory birds).

Response: The Service previously addressed impacts of the R-Project on wildlife, including special status species, in Section EC500: *Environmental Consequences: Wildlife*; Section EC600: *Environmental Consequences: Special Status Species*; and Section EC650: *Environmental Consequences: Whooping Cranes*; of the Analysis of Public Comments Report.

Section 3.6.2, *Wildlife, Direct and Indirect Effects*, of the FEIS presents a detailed discussion of potential impacts of the R-Project on wildlife, including migratory birds. Section 3.6.3, *Wildlife, Avoidance, Minimization, and Mitigation Measures*, of the FEIS and the MBCP explain the measures that NPPD would implement to avoid, minimize, and mitigate impacts on wildlife, including migratory bird species.

Section 3.7, *Special Status Species*, of the FEIS describes potential impacts of the R-Project on special status species including the American burying beetle and whooping crane. Additional discussion of potential impacts on whooping cranes is included in the Service's (2019), *A Review and Critique of Risk Assessments Considered by the U.S. Fish and Wildlife Service Regarding the Collision Risk for Whooping Cranes with NPPD's R-Project, January 30, 2019* (Review).

Section 3.7.7.3, *American Burying Beetle, Avoidance, Minimization, and Mitigation Measures*, of the FEIS describes measures that NPPD would implement to minimize impacts on the American burying beetle, and Section 3.7.7.3, *Whooping Crane, Avoidance, Minimization, and Mitigation Measures*, of the FEIS describes measures that NPPD would implement to minimize impacts on the whooping crane. Additional discussion of avoidance, minimization, and mitigation measures that NPPD would implement to minimize impacts on wildlife, including the American burying beetle and whooping crane, are described in the HCP.

Additionally, the Service conducted an intra-Service consultation under section 7(a)(2) of the ESA that analyzes the effects of issuing the permit on listed species.

Concern Statement 5-2: A commenter suggests that NPPD should include other federally protected species, including the bald eagle, as covered species in its incidental take permit application.

Response: The Service has addressed potential for take of bald eagles under Concern Statement 5.7-1 in Section EC600: *Environmental Consequences: Special Status Species*, of the Analysis of Public Comments Report.

Section 3.7.2.3, *Special Status Species, Bald Eagle, Avoidance, Minimization, and Mitigation Measures*, and Section 3.7.3.3, *Special Status Species, Golden Eagle, Avoidance, Minimization, and Mitigation Measures*, of the FEIS present the avoidance, minimization and mitigation measures that NPPD would implement to reduce effects on the bald eagle and golden eagle under the action alternatives. The HCP and MBCP discuss the additional measures that would be taken to protect these species. The Service believes that these measures are sufficient to avoid the take of eagles for construction and operation of the R-Project. If incidental take of eagles is not reasonably certain to occur from a landowner or a project proponent's activities, an eagle take permit is not needed or appropriate.

Section 3.7, *Special Status Species*, of the FEIS presents the avoidance, minimization, and mitigation measures that NPPD would implement to reduce effects on other federally protected species. The HCP and MBCP discuss the additional measures that would be taken to protect these species.

EC650: Environmental Consequences: Whooping Cranes

Concern Statement 6-1: Commenters suggest that NPPD should include whooping crane as a covered species in its incidental take permit application.

Response: The Service previously addressed whether the whooping crane should be a covered species under the incidental take permit in Concern Statement 5.8-1 in Section EC650: *Environmental Consequences: Whooping Cranes*, of the Analysis of Public Comments Report. The Service previously analyzed impacts associated with construction and operation of the R-Project in Section 3.7.7, *Special Status Species, Whooping Crane*, of the FEIS. It also summarized various risk assessments in its document titled, *A Review and Critique of Risk Assessments Considered by the U.S. Fish and Wildlife Service Regarding the Collision Risk for Whooping Cranes with NPPD's R-Project* (Review), which was made available for public inspection along with the FEIS.

The Service concludes in the FEIS that with the implementation of avoidance and minimization measures prescribed in the HCP, the Project would result in short-term, low-intensity effects on the whooping crane and would not be likely to adversely affect the whooping crane or cause the take of the whooping crane during the permit term. As stated in the Service's *Habitat Conservation Plan Handbook*, the standard for determining whether activities are likely to result in incidental take is whether take is reasonably certain to occur. If incidental take of ESA-listed species is not reasonably certain to occur from a landowner or a project proponent's activities, an incidental take permit is not needed or appropriate.

If new or additional information emerges suggesting that risk of whooping crane take is reasonably certain to occur, NPPD agrees to seek to amend the HCP and permit for the R-Project to include the whooping crane as a covered species, as described in Section 6.5.3, *Whooping Crane Adaptive Management*, of the HCP and noted in the response to Concern Statement 5.8-1 in Section EC650: *Environmental Consequences: Whooping Cranes*, of the Analysis of Public Comments Report.

Concern Statement 6-2: A commenter asks what studies the Service has done to evaluate the effects of the R-Project on the whooping crane. The commenter asked whether best available science and telemetry data were considered.

Response: The Service previously analyzed impacts associated with construction and operation of the R-Project in Section 3.7.7, *Special Status Species, Whooping Crane*, of the FEIS, and summarizes the various risk assessments in its Review. The Service incorporated telemetry data in its own whooping crane risk assessment, and several of the other risk assessments summarized in the Service's Review also included telemetry data. The Service also previously addressed

numerous concerns regarding impacts on the whooping crane in Section EC650: *Environmental Consequences: Whooping Cranes*, of the Analysis of Public Comments Report.

Concern Statement 6-3: Ecosystem Advisors state continued support for the findings of its whooping crane risk assessment and maintain that the R-Project would result in collision mortality for whooping cranes, potentially jeopardizing the continued existence of the species.

Response: The Service previously described various risk assessments, including the assessment prepared by Ecosystem Advisors, in its Review. As noted in the Service's Review, the amount of data available to inform an assessment of whooping crane collision risk is limited and this lack of data introduces substantial uncertainty into any analysis. However, after careful review of outside analyses and multiple internal assessments, including Ecosystem Advisors' assessment, the Service ultimately concluded that incidental take of the whooping crane is not reasonably certain to occur from collisions with the R-Project power line.

Concern Statement 6-4: The Service released the Review, which included whooping crane collision risk analyses completed by the Service (2018a, 2018b). A commenter states that the whooping crane collision risk analysis done in Method 1 of Service (2018a) used a correction factor from Murphy et al. (2016) to account for whooping crane mortality that could not be determined from whooping crane carcass censuses. Because the review done in Service (2018b) did not include the same correction factor, the commenter states that the two dissimilar whooping crane strike rates should not be compared.

Response: Both Service (2018a) and Service (2018b) estimate the same parameter, strikes per crossing, but Service (2018a) estimates it from carcass counts while Service (2018b) estimates it using observations of strikes. The Method 1 in Service (2018a) used carcass counts of whooping cranes from Brown et al. (1987) and applied the 3.25 correction factor for carcass counts from Murphy et al. (2016). The Service (2018b) calculation only used reported data of direct observations of crossover strikes (Brown et al. 1987; Morkill and Anderson 1990; Ward and Anderson 1992; and Brown and Drewien 1995), rather than carcass counts. Therefore, no correction factor for carcass counts is needed in Service (2018b) because it did not use carcass counts to calculate strikes per crossing. See further explanation on page 4 in Service (2018b).

Concern Statement 6-5: A commenter states that the Service (2018b) whooping crane analysis has several rounding errors that diminish the whooping crane collision risk estimates, including 1) rounding whooping crane mortality over 50 years to 0.46 in Method I, 2) rounding the annual migratory mortality rate to 1.0 percent in Method II, 3) rounding the total mortalities down to "about 5 birds per year," in Method II, and 4) rounding transmission line mortalities in Nebraska down to 0.0825 in Method II.

Response: The Service believes that all of the above calculations were appropriately rounded in Service (2018b), given the precision of the input data used to calculate the result. When multiplying or dividing, the least number of significant figures in any number of the calculation determines the number of significant figures in the answer. Including more significant digits in the results would imply a higher precision than appropriate.

For issue 3, while the precise size of the current whooping crane population is unknown, it was most recently estimated at 505 birds with a 95 percent confidence interval that extends as low as 439 birds and as high as 577 birds (both rounded to the nearest whole number; see Butler and Harrell 2018). The calculations in Service (2018b) were based on an assumed current population size of roughly 500 birds. One percent of 500 is 5.

Concern Statement 6-6: A commenter states that the Service (2018b) analysis inappropriately assumed that bird flight diverters reduced whooping crane collision risk by 50 percent because bird flight diverter effectiveness is estimated to range from 9 to 80 percent. Additionally, the 50 percent effectiveness for bird flight diverters is inappropriate because the figure was from a study of sandhill cranes. Whooping cranes have reduced mobility compared to sandhill cranes because of a 1.5-fold difference in wingspan.

Response: The Service (2018b) analysis used a bird flight diverter effectiveness of 50 percent as an example but stated that any agreed upon effectiveness rate could be substituted for the 50 percent value. The Service (2018b) analysis anticipated that the precise effectiveness measurement would hinge on the exact specifications of the line marking that NPPD ultimately implements.

The most relevant information to determine effectiveness of bird flight diverters comes from crane-specific studies in the United States, all using the sandhill crane as the primary study species. Those studies have found a 50 to 65 percent reduction in strike rates compared to unmarked lines (Morkill and Anderson 1991; Brown and Drewien 1995; Yee 2008; and Murphy et al. 2016).

However, even a zero percent effectiveness rate for line marking does not produce a result consistent with “reasonable certainty” of at least 1 crane strike over the life of the proposed project. Therefore, regardless of differences of bird flight diverter effectiveness between whooping cranes and sandhill cranes, the overall conclusion on reasonable certainty of take would remain the same.

Concern Statement 6-7: A commenter states that the whooping crane collision risk analysis in Method II of Service (2018b) estimates the percentage increase of transmission mileage incorrectly. The commenter suggests that transmission lines within city limits should be eliminated and only locations within 3.35 miles of telemetry and historical data locations within the whooping crane 95th percentile migratory corridor should be included. Therefore, rather than a 4.7 percent increase in transmission lines, the corrected estimate would be 7.76 percent. Additionally, the entire 225-mile segment should be included in analyses, not just the 188 miles used in Service (2018b).

Response: The statement that every transmission line within urban centers was included in the Service’s analysis is accurate; however, removing urban areas decreased the number of linear miles of transmission lines by less than 100 miles.

The Service’s analysis included all transmission lines within the 95th percentile migratory corridor, rather than just those within 3.35 miles of historical data locations. Historical whooping

crane sightings have been opportunistic. The telemetry study monitored only a small proportion of the total whooping crane population, thus locations for the vast majority of cranes in the population were not recorded during the telemetry study. For these reasons, only including areas within 3.35 miles of a recorded whooping crane sighting may underestimate the true number of miles of transmission lines to which whooping cranes are exposed.

The Service has access to different Geographic Information System transmission line data through subscription. The publicly available data (Homeland Infrastructure Foundation-Level Data) has nearly half as many transmission lines as the subscription data and therefore cannot be considered complete. The most reasonable estimate of increase in transmission lines is likely somewhere in between the commenter's and the Service's.

The statement that the entire 225-mile segment of the R-Project is now within the 95 percent corridor is correct, as the author used corridors from Pearse et al. (2018). The Service did not use this information because the adjusted 95 percent corridor in Pearse et al. (2018) was not yet available at the time of the Service's analysis. However, because the transmission line data used by the commenter is incomplete, the commenter's estimate of increase in transmission line mileage is likely too high.

The overall purpose of calculating the percent increase in transmission line mileage from the R-Project in Service (2018b) was to determine the plausibility of the whooping crane collision risk estimated in Service (2018a). The conclusion in Service (2018b), that the whooping crane collision estimate in Service (2018a) (189 to 2,116 percent increase in Nebraska's transmission line strikes by whooping cranes), is disproportionate to the increase in transmission line mileage from the R-Project, remains accurate, regardless of whether the R-project would increase transmission mileage by 4.7 percent, 7.76 percent, or somewhere in between.

Concern Statement 6-8: A commenter states that the conclusion in Service (2018b) (namely that it is implausible that a "4.7 percent increase in Nebraska's total migratory corridor transmission line mileage" would cause a significant increase in whooping crane strikes) is incorrect without also considering the fact that the R-Project would affect a significant amount of suitable whooping crane habitat.

Response: NPPD found that there is currently no defensible method for correlating habitat quality and collision risk (NPPD 2018). The Service agrees that information relevant to assess risk for a particular power line have substantive uncertainty (Service 2018b). Therefore, when evaluating the plausibility of the whooping crane risk calculated in Service 2018a, the Service used reasonably certain knowledge about transmission line mileage in the Aransas Wood- Buffalo whooping crane (AWBP) migratory corridor (migratory corridor) in Nebraska and whooping crane biology (Service 2018b). This included 1) an estimate of existing transmission lines in the migratory corridor; 2) the percent increase in mileage from the R-Project; 3) the total annual post-fledging mortality average of the AWBP population; 4) the annual post-fledging mortality during migration; 5) the daily mortality rates; 6) the percent of AWBP use days during migration in the United States; 7) the percent of AWBP known mortality caused by power-line strikes plus "physical trauma;" 8) the percent of AWBP power-line strikes occurring in Nebraska; and 9) the percent of power lines that are transmission lines and the percent of AWBP

power-line strikes that have been strikes of transmission lines. The Service determined that the whooping crane collision risk estimated in Service (2018a), a 189–2,116 percent increase in Nebraska’s transmission line strikes by whooping cranes, is implausible given the above reasonably certain knowledge, including the percent increase of transmission mileage from the R-project within the migratory corridor in Nebraska (Service 2018b).

Concern Statement 6-9: A commenter states that the whooping crane collision risk analysis in Method II of Service (2018b) underestimates the total statewide mortalities within Nebraska by incorrectly calculating 25 percent of 8 mortalities as 1.25 statewide strikes, rather than 2 statewide strikes.

Response: Across an approximately 70-year record, 8 known whooping crane power line strikes have been documented in the United States portion of the migratory corridor. Two of those 8 strikes, or 25 percent, were documented to have occurred in Nebraska. At the current whooping crane population size of about 500 birds, we estimated that total annual migratory mortality in the United States would be about 5 birds (1 percent of 500; see bullets 3-6 of the Service (2018b) "reasonably certain information" based analysis). Of those 5 total deaths, an estimated 25 percent, or 1.25 deaths (i.e., 5×0.25) can be expected to occur in Nebraska. Therefore, the figures used in the Service (2018b) Method II calculation are correct.

Concern Statement 6-10: A commenter submitted a new collision risk analysis for whooping crane using mortality and estimated crossover data from two studies on the Gray’s Lake population, which is an experimental whooping crane population that is no longer extant. Additionally, the commenter submitted an analysis of cumulative impacts from additional transmission lines and industrial renewable energy facilities on the whooping crane.

Response: The Service considers any calculations based on the experimental Gray’s Lake whooping crane population to be unreliable for comparison to the Aransas-Wood Buffalo whooping crane population.

The Gray’s Lake population was created by cross-fostering whooping crane eggs to sandhill crane parents (French et al. 2018), causing an unusually high amount of hatch-year whooping cranes (47.5 percent of the Gray’s Lake population). Hatch-year whooping cranes compose approximately 13 percent of the Aransas-Wood Buffalo whooping crane population. This difference in hatch-year percentage is a significant source of bias when comparing whooping crane strike rates because hatch-year whooping cranes have a higher likelihood of striking power lines. These young birds are more naïve than older birds, as they have less flight experience, are less agile, and are less familiar with the area and potential collision hazards (Brown et al. 1987). A more detailed discussion of this issue is found in Service (2018b, pp. 1–2).

Because the commenter’s overall collision risk analysis and cumulative impacts analysis relies on the Gray’s Lake population strike information, the Service does not find it to be a reliable method of estimating collision risk for the R-Project, which occurs within the range of the Aransas-Wood Buffalo whooping crane population and does not have such an unusually high proportion of naïve hatch-year birds.

EC700: Environmental Consequences: Cultural Resources

Concern Statement 7-1: A commenter expresses concern that NPPD did not give adequate consideration to alternative routes for the R-Project to avoid or minimize impacts to cultural resources including Oregon Trail Ruts, Mormon Trail Ruts, and the Birdwood ancient indigenous camping grounds. The commenter suggests that the NHPA Section 106 process should be reevaluated.

Response: The Service previously addressed impacts of the R-Project on the Oregon Trail and Mormon Trail ruts under Concern Statement 5.9-1 in Section EC700: *Environmental Consequences: Cultural Resources*, of the Analysis of Public Comments Report. Similarly, the Service previously addressed impacts of the R-Project on archaeological sites in the Birdwood Valley under Concern Statement 5.9-3 of the same section.

Section 3.10.6, *Cultural Resources, Affected Environment*, of the FEIS discusses the historical importance of the Mormon and Oregon Trail remnants. Section 3.10.7, *Cultural Resources, Direct and Indirect Effects*, of the FEIS describes the results of the effects analysis of constructing the R-Project on cultural resources and, specifically, the historical trail remnants. In addition, Section 3.10.8, *Cultural Resources, Avoidance, Minimization, and Mitigation Measures*, of the FEIS presents NPPD's avoidance, minimization, and mitigation measures to reduce potential effects on these trail remnants.

Section 2.2, *NPPD Process for Selecting Its Final Route*, of the FEIS describes the process used by NPPD to select its final route for the R-Project. This section also describes alternative route alignments that NPPD considered and their rationale for dismissal.

Section 3.10.3, *Cultural Resources, R-Project Section 106 Consultation*, of the FEIS, describes the Section 106 consultation process. As described in Section 3.10.3, *Cultural Resources, Government-to-Government Tribal Consultation*, of the FEIS, the Service has contacted the Native American tribes with interests in the Project area and invited formal government-to-government consultation about resources that may be of concern to them as described in Executive Order 13175, *Consultation and Coordination with Indian Tribe Governments*.

As noted in the Analysis of Public Comments Report, a Programmatic Agreement between the Service, the Advisory Council on Historic Preservation, the Nebraska State Historic Preservation Office (Nebraska SHPO), and other consulting parties, as identified, will be finalized and signed prior to the issuance of the incidental take permit and will guide the implementation of the Section 106 process beyond the duration of the EIS process. The Programmatic Agreement will also guide the development of avoidance, minimization, and mitigation measures that NPPD would implement to reduce and offset potential effects on cultural resources.

Concern Statement 7-2: A commenter expresses concern that because not all affected properties were surveyed for cultural and historic resources, the Service did not properly analyze all potential impacts. The commenter also states that the Service could not take a "hard look" at all the potential adverse impacts and how NPPD would address them because the Programmatic Agreement for addressing cultural and historic resource impacts was not completed and made

available for public inspection of the FEIS. This concern was one of the reasons the commenter feels the Service should prepare an SEIS.

Response: The Service previously described extensive efforts to identify cultural and historic resources, including consulting with the Nebraska SHPO, researching previous records, and conducting numerous surveys in Concern Statement 5.9-10 in Section EC700: *Environmental Consequences: Cultural Resources*, of the Analysis of Public Comments Report and in Section 3.10.6.3, *Cultural Resource Investigations*, of the FEIS. The Service analyzed potential effects to cultural and historic resources identified from surveys representing 93 percent of the Area of Potential Effects in Section 3.10.7, *Cultural Resources, Direct and Indirect Effects*, of the FEIS. NPPD was unable to gain permission to access to the remaining private properties to complete field surveys prior to publication of the FEIS.

The Service previously described the Programmatic Agreement process in Section 3.10.5 *Programmatic Agreement*, of the FEIS. The Programmatic Agreement contains provisions to conduct further surveys to identify any additional cultural resources as NPPD is able to gain access to remaining private lands. It also describes processes for NPPD to address potential effects to any additional cultural and historic resources discovered before construction begins. Consultation regarding the identification and evaluation of historic properties and the resolution of potential adverse effects, including public involvement, would continue throughout Project planning and construction, as described in Section 3.10.5, *Cultural Resources, Programmatic Agreement*, of the FEIS.

An SEIS could not provide any additional analysis of effects to cultural and historic resources because the landowners who denied property access are not any more likely to allow NPPD to conduct surveys before it may need to invoke eminent domain on those properties. The avoidance, minimization, and mitigation measures in the Programmatic Agreement have only minor differences from those in Section 3.10.8, *Cultural Resources, Avoidance, Minimization, and Mitigation Measures*, of the FEIS. These changes were specifically requested by the consulting parties (Nebraska SHPO), Advisory Council on Historic Preservation, and National Park Service) to further minimize any potential impacts on cultural and historic resources. As indicated in the FEIS, these measures apply to any cultural historic properties, whether identified from previous surveys or discovered in future surveys on the remaining 7 percent. Thus, an SEIS would not provide any substantively new analyses for the public to review.

Concern Statement 7-3: One commenter reiterates a concern previously expressed about the DEIS that the Service must supplement the EIS to address potential impacts to Cherokee remains that may occur in the Project area.

Response: The Service previously addressed the potential that Cherokee graves exist in the area, and the provisions to avoid impacts in Section 1.8.3, *Public and Agency Involvement, Agency Coordination*; Section 3.10.3, *Cultural Resources, Government-to-Government Tribal*; and Section 3.10.8, *Cultural Resources, Avoidance, Minimization, and Mitigation*, of the FEIS. The Service continues to coordinate closely with the Cherokee Nation, NPPD, Nebraska SHPO, and National Park Service to locate and avoid impacts to the graves.

The Programmatic Agreement for the R-Project, titled *Programmatic Agreement Among the U.S. Fish and Wildlife Service – Mountain Prairie Region, the Nebraska State Historic Preservation Officer, Nebraska Public Power District, and the Advisory Council on Historic Preservation Regarding the Construction, Maintenance, and Operation of the R-Project 345 Kilovolt Transmission Line Blaine, Garfield, Holt, Lincoln, Logan, Loup, Thomas, and Wheeler Counties, Nebraska*, provides specific steps to respond to unanticipated discovery of human remains. These steps will ensure the Service and NPPD will comply with the Unmarked Human Burial Sites and Skeletal Remains Protection Act (Neb. Rev. Stat. §§ 12-1201 to 12-1212).

Regarding the Cherokee remains, the commenter did not provide any new information or issue that would meet the criteria for supplementing the EIS under 40 CFR 1502.9(c)(1). Specifically, no substantial changes to the proposed action were made (40 CFR 1502.9(c)(1)(i)) and no further information that has bearing on the proposed action and its impacts described in the DEIS or FEIS was provided (40 CFR 1502.9(c)(1)(ii)). The combination of efforts for tribal consultation with the Cherokee Nation, the procedures for implementing the Programmatic Agreement, and NPPD's goal to avoid impacting the remains are anticipated to result in no additional or different impacts than those analyzed in the DEIS and FEIS.

EC1100: Environmental Consequence: Climate Change

Concern Statement 8-1: A commenter expresses concern that the FEIS did not adequately analyze greenhouse gas emission and climate change impacts associated with the R-Project, including the increased lifespan for the Gerald Gentleman Station.

Response: The Service previously estimated, assessed, and discussed greenhouse gas emissions associated with the R-Project in Section 3.13, *Air Quality and Greenhouse Gas Emissions*, of the FEIS. Greenhouse gas emissions associated with expansion of Gerald Gentleman Station substation were considered in the analysis (see Table 3.13-4, *Estimated Equipment for Construction, Operation, Maintenance*). However, impacts associated with the operation of Gerald Gentleman Station were not analyzed in the FEIS because it is not a covered activity in the ITP application.

Climate change was not carried forward for detailed analysis in the FEIS. As noted in Section 3.1.1, *Approach to Characterizing Baseline Conditions and Conducting Effects Evaluation, Affected Environment*, of the FEIS, while the climate change trends may contribute to the adverse impacts on natural resources expected from the R-Project, the effects of these trends are not expected to increase the intensity of the Project's impacts. The impacts from climate change would also be similar across the two action alternatives. For these reasons, this topic was dismissed from further consideration in the FEIS.

Additionally, the Service addressed climate change in the intra-Service consultation under section 7(a)(2) of the ESA.

CI200: Cumulative Impacts: Future Renewable Energy Projects

Concern Statement 9-1: A commenter expresses concern that the R-Project and future wind and solar farms would destroy the Sandhills.

Response: The Service previously discussed the cumulative impacts on resources in the Sandhills from past, present, and reasonably foreseeable future actions, including potential renewable energy development, in several sections of Chapter 4, *Cumulative Impacts*, of the FEIS (e.g., Section 4.4.1, *Wetlands*; Section 4.4.2, *Vegetation*; Section 4.4.3, *Wildlife*; and Section 4.4.4, *Special Status Species*). The Service also previously addressed concerns about future renewable energy development in Section CI200: *Cumulative Impacts: Future Renewable Energy Projects*, of the Analysis of Public Comments Report.

The FEIS presents detailed information about the uniqueness of the Sandhills in several resource sections (e.g., Section 3.2.1, *Geology and Soils, Affected Environment*; Section 3.3.1, *Water Resources, Affected Environment*; Section 3.4.1, *Wetlands, Affected Environment*; and Section 3.5.1, *Vegetation, Affected Environment*). The Service also previously addressed the uniqueness of the Sandhills in Concern Statement 5.1-1 in Section AE100: *Affected Environment: All Resource Categories*, of the Analysis of Public Comments Report.

Concern Statement 9-2: A commenter expresses concern that construction and operation of the R-Project, and of associated potential future wind energy development, would impact cultural resources and wildlife, including the whooping crane.

Response: The Service previously addressed concerns about impacts of the R-Project on wildlife, including those from potential future wind energy development, in Section EC500: *Environmental Consequences: Wildlife*; Section EC600: *Environmental Consequences: Special Status Species*; and Section CI200: *Cumulative Impacts: Future Renewable Energy Projects*, of the Analysis of Public Comments Report. The Service previously addressed concerns about wind development impacts on whooping cranes in Section EC500: *Environmental Consequences: Wildlife*; Section EC600: *Environmental Consequences: Special Status Species*; Section EC650: *Environmental Consequences: Whooping Cranes*; and Section CI200: *Cumulative Impacts: Future Renewable Energy Projects* of the Analysis of Public Comments Report. The Service previously addressed concerns about wind development impacts on cultural resources in Section EC700: *Environmental Consequences: Cultural Resources*, and Section CI200: *Cumulative Impacts: Future Renewable Energy Projects*, of the Analysis of Public Comments Report.

The FEIS discusses the cumulative impacts on wildlife, whooping cranes, and cultural resources from past, present, and reasonably foreseeable future actions, including potential wind energy development in Chapter 4, *Cumulative Impacts*; Section 4.4.3, *Wildlife*; Section 4.4.4, *Special Status Species*; and Section 4.4.7 *Cultural Resources*.

Concern Statement 9-3: A commenter expresses concern that the Service did not properly investigate and analyze foreseeable wind energy projects. Generator interconnection requests and Federal Aviation Administration (FAA) wind turbine information should have been obtained and analyzed by the Service to determine indirect effects from the R-Project.

Response: As the Service previously explained under Concern Statement 5.16-3 in Section CI200: *Cumulative Impacts: Future Renewable Energy Projects*, of the Analysis of Public Comments Report, if future wind projects are proposed, which may include proposal of the need for additional transmission facilities, federal agencies would determine whether a NEPA analysis would be required if federal authorization were involved with the project. The Service cannot speculate as to what may be required for future wind development beyond what is reasonably foreseeable at the time the FEIS is prepared. While wind as a type of action may be reasonably foreseeable, insufficient information is available about the number and configuration of projects on the landscape, number and configuration of turbines, funding, progress of environmental reviews, and status of permits or power purchase agreements to provide a detailed analysis of impacts in Chapter 4, *Cumulative Impacts*, of the FEIS.

As stated in Section 4.3, *Cumulative Impacts, Reasonably Foreseeable Future Actions*, of the FEIS, the development of wind power projects involves numerous steps, each of which takes considerable time, before such projects can be constructed. Steps that must be taken prior to construction of a wind project include siting studies, land acquisition, development of interconnection agreements, regulatory approval, and development of power purchase agreements, among others. Generator interconnection requests and FAA wind turbine proposals are steps within wind project development, but they do not provide sufficient information as to the status of development. While wind as a type of action may be reasonably foreseeable, and some information is available during the development process, insufficient information currently is available to provide a detailed analysis of impacts for any potential future projects other than the Thunderhead Wind Energy Center.

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