

FINDINGS AND RECOMMENDATIONS
for the
ISSUANCE OF AN ENDANGERED SPECIES ACT SECTION 10(A)(1)(B)
INCIDENTAL TAKE PERMIT
for the
R-PROJECT TRANSMISSION LINE REVISED
HABITAT CONSERVATION PLAN

U.S. FISH AND WILDLIFE SERVICE
MOUNTAIN-PRAIRIE REGION
ECOLOGICAL SERVICES

Denver, Colorado

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INTRODUCTION

Authorities

We, the U.S. Fish and Wildlife Service (Service), received an application for an incidental take permit (ITP or permit) for the federally threatened American burying beetle (*Nicrophorus americanus*; ABB or beetle), which is listed as endangered under the Endangered Species Act of 1973, as amended (16 USC 1531 *et seq.*) (ESA). The permit would authorize take associated with the Nebraska Public Power District's (NPPD) proposed R-Project transmission line (R-Project) in Nebraska for 50 years.

In June 2019, the Service issued permit #TE72710C-0 to NPPD for the R-Project. The Federal Register notice of availability for the ITP and associated Habitat Conservation Plan (HCP) and Final Environmental Impact Statement (EIS) was published on February 8, 2019 (84 FR 2900). Between June 12, 2019, and June 17, 2020, NPPD completed certain construction activities on the R-Project under ITP #TE72710C-0 and the Joint Stipulation Agreement. Actions agreed upon in the Joint Stipulation Agreement that NPPD undertook during that time included right-of-way acquisition, relocation of distribution lines, transmission line and access staking, development of material delivery yards and fly yards as well as storage of materials in those yards, installation of fences and gates as necessary, tree clearing, and substation work and construction at GGS Substation, Thedford Substation, and Holt County Substation. In 2019, NPPD purchased 594 acres of mitigation lands in fee to offset the impacts of all anticipated ABB take under the prior version of the HCP; that mitigation land remains in place and is being managed for ABB conservation purposes.

In July 2019, a group of R-Project opponents filed a lawsuit challenging the Service's decision to issue the permit under the ESA, the National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). On June 17, 2020, the U.S. District Court for the District of Colorado (court) issued a decision. While the court found in favor of the Service on several counts, it found certain discrete errors in the Service's decision-making process. In its ruling, the court vacated and remanded the permit to the Service for further proceedings consistent with the court's order (*Oregon-California Trails Association v. Walsh*, 1:19-cv-01945-WJM, D. Colo 2020). In response to the court decision, NPPD has developed a revised HCP (NPPD 2025) and resubmitted a permit application.

We reviewed NPPD's current application for a permit under section 10(a)(1)(B) of the ESA and its implementing regulations for incidental take permits (50 CFR 17.32). We also conducted an intra-Service consultation under section 7(a)(2) of the ESA, analyzing effects to listed species from the implementation of the revised HCP and issuance of an ITP for the R-Project. We complied with the NEPA (42 USC 4321 *et seq.*) and its implementing regulations (43 CFR 46) for the proposed federal action of issuing an ITP by preparing draft and final EIS, associated with the 2019 permit application, and draft and final supplemental impact statements

(supplemental EIS), for the current permit application. We also analyzed and found our action to be in compliance with the Migratory Birds Treaty Act (16 USC 703-712), Bald and Golden Eagle Protection Act (16 USC 668), and National Historic Preservation Act (54 USC 470).

This set of findings addresses whether NPPD's application, including the revised habitat conservation plan (HCP), meets the permit issuance criteria under section 10(a)(1)(B) of the ESA for take of the ABB. Throughout the HCP development process, NPPD and the Service examined potential impacts to all federally listed species in the project area. The standard for determining whether activities are likely to result in incidental take is whether take is "reasonably certain" to occur in considering both the direct and indirect impacts of the activities. The intra-Service biological and conference opinion under section 7 of the ESA analyzes effects to the ABB, the federally endangered whooping crane (*Grus americana*), and the federally proposed monarch butterfly (*Danaus plexippus*) and western regal fritillary (*Argynnis idalia occidentalis*). Although NPPD's permit application requests incidental take of only the ABB, the proposed action of permit issuance is likely to adversely affect the whooping crane, monarch butterfly, and western regal fritillary. For whooping crane, the Service determined that incidental take was not reasonably certain to occur. The Service determined the proposed action is not likely to jeopardize the continued existence of the monarch butterfly and western regal fritillary.

Additionally, the Service determined that the issuance of an ITP to NPPD may affect, but is not likely to adversely affect the endangered northern long-eared bat (*Myotis septentrionalis*), blowout penstemon (*Penstemon haydenii*), and the federally threatened piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), and western prairie fringed orchid (*Platanthera praeclara*). We determined that the proposed action will have no effect on the federally endangered Topeka shiner (*Notropis topeka*). The Service also determined that the project may affect but is not likely to adversely affect/not likely to jeopardize the continued existence of the federally proposed endangered tricolored bat (*Perimyotis subflavus*) and proposed endangered Suckley's cuckoo bumble bee (*Bombus occidentalis*). The biological and conference opinion and memorandum provide the rationale supporting these determinations and are herein incorporated by reference.

Project Description

NPPD is proposing to construct, operate, and maintain a new 345-kilovolt transmission line, approximately 226 miles long, located primarily in the Sandhills of Nebraska. NPPD's stated purpose for this project is to 1) improve power transmission reliability, 2) reduce generation congestion, and 3) support future renewable energy development. The north/south segment is 101 miles long and starts at the GGS Substation near Sutherland, proceeds north across the South Platte and North Platte rivers, continues north for approximately eight miles before turning east for 30 miles, crosses Birdwood Creek, and extends eastward to meet with U.S. Highway 83.

The north/south segment then parallels U.S. Highway 83 and connects to a new expansion of NPPD's existing substation east of Thedford. The east/west segment is 125 miles long and starts at the Thedford Substation expansion and proceeds east to State Highway 7 north of Brewster. The east/west segment then proceeds north along State Highway 7 for approximately five miles then turns east to its terminus at Western's Fort Thompson to Grand Island transmission line at the Holt County Substation located in the southeast corner of Holt County.

The width of the right-of-way would be 200 feet, 100 feet each side of the centerline for the entire transmission line, unless otherwise specified.

Tubular steel monopole structures and steel lattice towers would be placed approximately 1,350 feet apart. 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. Further detailed description of the project and related activities can be found in sections 2.0 - 2.7 of the HCP, section 2.4 of the final EIS, and section 2.4 of the supplemental EIS, which are herein incorporated by reference.

Incidental take permits may be sought when a non-federal entity believes their activities may result in take of endangered or threatened animal species that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Certain activities associated with construction and emergency repairs (considered non-routine operations and maintenance) for the transmission line are likely to incidentally take the beetle. The permit would authorize take resulting from such activities, which are referred to as covered activities. Table 2-1 of the HCP provides details on all R-project activities and indicate which are likely to result in take of the beetle and be covered by the permit. The general types of covered activities are construction or modification of temporary and permanent access routes; right-of-way preparation; installation or modification of temporary work areas, including fly yards, assembly areas, construction yards, staging areas, borrow areas, and batch plants; installation of lattice towers and steel monopoles, including foundations; stringing, pulling, and tensioning; distribution power line relocation; well relocation; and emergency repairs. Take is not expected from routine operations and maintenance activities.

Permit Area and Duration

The permit area is a subset of the entire R-Project area and encompasses only where take of the beetle is anticipated to occur. The permit area includes 1 mile on each side of the R-Project centerline from Stapleton, Nebraska, to the Thedford Substation and 4 miles on each side of the centerline from this point to the eastern terminus at the Holt County Substation. The HCP assumes beetle presence throughout all portions of the permit area. A more detailed description

and map of the permit area is in section 1.4 of the HCP, which is herein incorporated by reference.

The proposed permit duration is 50 years to provide coverage for take of the beetle that may occur over the estimated 50-year life of the R-Project transmission line. Emergency repairs, which are anticipated to result in take, may be necessary at any point throughout the life of the project. If the transmission line remains in operation at the end of the permit duration, NPPD will coordinate with the Service to renew or amend the permit as needed.

Anticipated Forms of Take of the American Burying Beetle

Incidental take of ABB may occur in the form of harm and harassment from covered activities in the HCP¹. Incidental take of beetles is anticipated from R-Project activities during construction and emergency repairs and is summarized below. Further details on the types and sources of take are described in section 5.1 of the HCP, section 3.7.11 of the final EIS, section 3.7.2.1 of the supplemental EIS, and in the Effects of the Action section of our Biological Opinion, which are herein incorporated by reference.

During construction and emergency repairs, adult beetles, larvae, and eggs may be crushed or subject to desiccation when exposed by soil disturbance. Covered activities occurring at night with the use of artificial lighting may attract beetles, which may result in take by disrupting normal foraging behavior and increasing the risk of predation. Increased human activity, vehicle traffic, and noise associated with covered activities may temporarily prevent beetles from using habitat where these activities occur.

Covered activities associated with construction and emergency repairs would temporarily disturb 1,500 acres and permanently disturb 20 acres of beetle habitat over the life of the permit. All adult beetles, larvae, and eggs present in temporarily and permanently disturbed habitat are likely to be killed by crushing from equipment and desiccation through exposure from disturbed soils. The disturbed habitats would not be available for foraging, breeding, or sheltering by beetles from nearby habitats. NPPD would restore temporarily disturbed habitat to suitable beetle habitat conditions based on methods and success criteria in the R-Project's Restoration Management Plan. NPPD would initiate restoration about 2 years after R-Project construction begins. Success criteria could be met within 1 to 5 years after restoration activities are completed. Beetles are expected to recolonize these areas and resume normal foraging, breeding, and sheltering behavior when habitat restoration success criteria are met, approximately 3 to 7 years after initial project disturbance.

¹ The HCP only contemplates take in the form of harm. The Service has concluded that take in the form of harm and harassment may occur and will be covered by the permit. Both forms of take (harm and harass) affect the same individuals in the same geographic area (covered area); therefore, the avoidance, minimization, and mitigation measures in the HCP remain appropriate for minimizing and mitigating both harm and harassment to the maximum extent practicable.

Temporary access routes created for R-Project construction or emergency repairs may result in short-term fragmentation of beetle habitat. Vertebrate scavengers may use these temporary access routes as travel corridors into grassland habitat, thus increasing competition with beetles for carrion which could diminish food availability. After NPPD restores the temporary access routes to previous conditions, they will no longer provide a travel corridor for vertebrate scavengers into grassland habitats which should reduce food competition back to baseline levels.

Anticipated Level of Take Covered by the Permit

The number of beetles anticipated to be taken by covered activities was calculated based on the number of acres that would be temporarily and permanently disturbed and the estimated density of beetles in those habitats. A full explanation of the methods used and specific calculations can be found in section 5.2.2 of the HCP, section 3.7.11.2 of the final EIS, section 3.7.2.1 of the supplemental EIS, and section 8.1 of the Biological Opinion, which are herein incorporated by reference.

NPPD was not able to access all potential beetle habitat in the R-Project area to conduct surveys and is, therefore, assuming for the purposes of take calculation that all habitat is suitable, high-quality, and occupied by beetles. Construction activities would cause temporary disturbance of 1,250 acres and permanent loss of 20 acres of beetle habitat. Emergency repairs would cause temporary loss of 250 acres of beetle habitat. Take of beetles was calculated by multiplying beetle density (0.116 beetle per acre based on data collected in the Sandhills between 2016 through 2022) by the total number of acres (1,520) of beetle habitat that would be temporarily and permanently disturbed. Thus, we anticipate that 147 beetles are likely to be taken during construction and 29 beetles during emergency repairs for a total of 176 beetles that would be taken throughout the life of the R-Project. Therefore, the permit would specify the authorized take limit to be:

- No more than 1,520 acres of American burying beetle habitat, of which no more than:
 - 1,250 acres of temporary loss from construction activities,
 - 20 acres of permanent loss from construction activities, and
 - 250 acres of temporary loss from emergency repairs

- No more than 176 American burying beetles, of which no more than:
 - 147 beetles from construction activities, and
 - 29 from emergency repairs.

Conservation Measures

Sections 6.0 – 6.2.2 of HCP provides several measures to avoid, minimize, and mitigate the impacts of anticipated take of the beetle. These measures are addressed in detail below in the section on *HCP Specifies Steps to Minimize and Mitigate Impacts of the Take* of this Findings document.

Monitoring, Adaptive Management, and Reporting

Section 6.3 and appendices E and F of the HCP provide details on the plans for compliance and effectiveness monitoring. Compliance monitoring will entail annual beetle surveys to determine whether the permit's take limit may be exceeded. It includes on-site compliance monitors to ensure that the HCP's avoidance and minimization measures are properly implemented. It also has provisions for reporting any activities found to be out of compliance and rectifying them. NPPD will also conduct effectiveness monitoring to evaluate effectiveness of post-construction habitat restoration and inform the adaptive management program as needed.

Adaptive management addresses uncertainties regarding species biology and the effectiveness of the HCP's conservation strategy for the beetle. The process, including monitoring, allows newly acquired information and experience to inform adjustment of management plans as needed. Sections 6.5.1 and 6.5.2 of the HCP provide the adaptive management frameworks for habitat restoration and the mitigation parcel, respectively.

NPPD will provide an annual report following each late-summer monitoring session, which will include results from the effectiveness monitoring (further detailed in section 6.6 of the HCP). The reports will document progress toward achieving the restoration performance standards. If performance standards are met, the fifth annual report will be the final report on restoration effectiveness. If performance standards are not met within the initial five-year monitoring period, adaptive management measures will be implemented (further detailed in section 6.5.1 of the HCP), and post-construction restoration effectiveness monitoring will be extended until the standards are met. All reports and memos will be submitted to the Service.

PUBLIC INVOLVEMENT

In accordance with NEPA, we announced public scoping to prepare an EIS on October 30, 2014 (79 FR 64619). The Service also held three public scoping meetings in November 2014, in three Nebraska cities. We published a notice of availability of the draft EIS and draft HCP on May 12, 2017 (82 FR 22153) and requested public comments on those draft documents. We published the final EIS, our responses to comments on the draft EIS, and final HCP and associated documents for public inspection from February 8, 2019 (84 FR 2900), until March 11, 2019. For the supplemental EIS and revised HCP, we announced public scoping to prepare a supplemental EIS on November 18, 2022 (87 FR 69294) and held two virtual public meetings in December 2022. We published a notice of availability of the draft supplemental EIS and draft revised HCP on February 9, 2024 (89 FR 9171), for a 90-day public comment period that included a 30-day extension (89 FR 24025). The Service also held two in-person public meetings in two Nebraska cities and a virtual public meeting. We published the final supplemental EIS, our responses to comments on the draft supplemental EIS, and final HCP and associated documents for public inspection on January 30, 2026 (91 FR 4080).

SECTION 10(a)(2)(A) HABITAT CONSERVATION PLAN REQUIREMENTS – ANALYSIS AND FINDINGS

Section 10(a)(2)(A) of the ESA specifically mandates that no permit may be issued by the Secretary of the Interior, through the Service, authorizing any taking referred to in paragraph (1)(B) unless the applicant submits to the Secretary a conservation plan that specifies: (i) the impact which will likely result from such taking; (ii) the steps the applicant will take to minimize and mitigate such impacts; (iii) what alternative actions to such taking were considered and the reasons why such alternatives are not being utilized; and (iv) such other measures as the Secretary may require as being necessary or appropriate for the purposes of the HCP. We find the HCP to be complete and in accordance with ESA section 10(a)(2)(A) application requirements as supported below.

HCP Specifies the Impacts from the Taking

Sections 5.1 – 5.2 of the HCP specifies the potential effects from covered activities, types of anticipated take, quantifies temporary and permanent habitat disturbance, and calculates the amount of take anticipated for each type of covered activity in both numbers of habitat acres and beetles. Section 5.3 describes the impacts anticipated from the estimated take of beetles. Table 5-1 of the HCP provides figures of disturbed acres for each covered activity.

Section 5.3 of the HCP considers two different approaches for estimating beetle population numbers and assessing the impact that will likely result from the anticipated take of beetles. One method relies on the Jorgensen et al. (2014) model that assumes beetles are expected to be present where the calculated probability of beetle occurrence is 60 per cent or higher. The Permit Area contains 503,963 acres of ABB habitat with a probability of occurrence greater than or equal to 60% as identified in Jorgensen et al. (2014). The median ABB density in the Sandhills is 0.03 ABB/acre based on the same ABB survey data used to calculate take. Using a density of 0.03 ABB/acre, it is estimated that 15,118 ABB may be present within the Permit Area in a year with a median ABB population. Thus, the HCP estimates that the total take of 175 beetles over the life of the permit amounts to 1.1 percent of the estimated median ABB population occurring at any given time with the Permit Area.

The Service's 2019 SSA for ABB (USFWS 2019) identified 8,633,685 acres of the Sandhills Analysis Area as either favorable or conditional habitat. Using the simplified comparison of acres disturbed versus available acres of habitat, the disturbance of 1,497 acres of ABB habitat represents approximately 0.017% of favorable or conditional habitat available to ABB in the Sandhills Analysis Area.

The second approach in the HCP relies on annual beetle surveys to estimate the beetle population within the permit area to look at potential impacts to that local population from R-Project take. The HCP estimates beetle population size in the permit area to be a low of 9,071 to a high of

16,125 beetles, based on results from mark/recapture data in the permit area for the years 2016 – 2020.

The population viability analysis in Amaral et al. (2005) indicates that a population of 1,000 or more beetles would be viable in the long-term absent severe catastrophic events or reduction in carrying capacity and that a population of 10,000 or more can persist through catastrophic events. Citing the above, NPPD concludes in the HCP that the anticipated level of take from the R-Project would have little impact on the population of 9,071 to 16,125 beetles in the permit area. Given little or no impact to the viability of the local population in the permit area, the HCP also concludes that the take would not impact the greater Sandhills population.

HCP Specifies Steps to Minimize and Mitigate Impacts of the Take

Section 6.0 – 6.1 of the HCP provides a conservation plan with two overarching biological goals and the objectives to achieve those goals. The HCP’s conservation plan further stipulates several measures to avoid, minimize, and mitigate the impacts of the anticipated take of beetles.

Measures to Avoid and Minimize the Impacts of the Take

The avoidance and minimization measures to be implemented by NPPD were designed to meet the objectives for Goal 2 of the HCP’s conservation plan (section 6.1 of the HCP), which is to maintain or restore beetle habitat within the permit area to support a sustainable beetle population. The identified objectives to achieve this goal are: 1) during Project construction, ensure permanent disturbance of ABB habitat does not exceed 20 acres and temporary disturbance of beetle habitat does not exceed 1,250 acres from R-Project covered activities, and 2) within 5 years post-construction, establish vegetation on disturbed sites with basal ground cover at least 80 per cent of adjacent reference plots, thus restoring beetle habitat. The avoidance and minimization measures are listed below, and details of each measure are described in section 6.2.1 of the HCP, which is herein incorporated by reference.

- Consideration of ABB during route selection.
- Avoidance of sub-irrigated wet meadows and mesic grasslands.
- Use of existing roads and two-tracks for access.
- Use of temporary improvements for access.
- Siting temporary work areas in areas unsuitable for ABB use.
- Use of helical pier foundations in Sandhills.
- Helicopter construction.
- Winter construction.
- Conducting limited nighttime construction during periods when ABB are active.

- Using downshielded and low-temperature LED lighting.
- Restoration of ABB habitat.
- Worker Environmental Awareness Program.

Measures to Mitigate the Impact of the Take

Goal 2 of the HCP's Conservation Plan in section 6.1 is to protect habitat that supports individuals of the Sandhills beetle population. The objective identified to achieve this goal is to protect, in perpetuity, an amount of occupied beetle habitat based on mitigation ratios described in section 6.2.2 of the HCP. This measure is intended to offset the impacts of take from the R-Project, including temporary and permanent loss and degradation of beetle habitat. The mitigation ratio for the number of acres of habitat conserved to the number of acres permanently impacted acres is 3:1. The mitigation ratio for the number of acres of habitat conserved to the number of temporarily impact is 3:1 with a 10% multiplier based on the temporary impact timescale of the life of the R-Project. The calculated total mitigation acres based on this ratio is 509.83. Table 6-2 of the HCP details the number of impacted and mitigation acres for each category and is herein incorporated by reference. NPPD has purchased 594 acres of mitigation lands in fee title in Blaine County, Nebraska, to be protected in perpetuity by a deed restriction. This parcel is a continuous tract of land that has documented ABB presence along the entire tract. NPPD has completed five years of ABB surveys along public roads adjacent to these mitigation lands. ABB densities on portions of the property are within the upper 10% of densities documented in the Service ABB database. NPPD, in conjunction with the Service and NGPC, has developed a management plan for the mitigation parcel that addresses land uses, such as grazing, haying, controlled burning, etc., that will be utilized to maximize ABB density on the parcel. NPPD will implement this plan and maintain the property in its current grassland land cover that provides habitat for ABB in perpetuity. This mitigation parcel management plan is provided in Appendix F of the HCP.

Beetle habitat temporarily disturbed in the R-Project permit area will be restored to its previous vegetation condition after construction is complete as described in the R-Project Restoration Management Plan, herein incorporated by reference. The goal of the Restoration Management Plan is to meet the success criteria for restoration of beetle habitat within 5 years post-construction. To ensure restoration is successful, NPPD has established an escrow account with a banking association to serve as a financial guarantee that money is available to restore temporary disturbance areas if NPPD is unable to take the appropriate steps to do so.

Alternatives to the Take and Reasons Not Used

Section 2.10 of the HCP describes five alternatives to the take anticipated under NPPD's proposed R-Project and HCP.

No-take Alternative

This alternative would be to complete the R-Project in a manner that would completely avoid take of beetles. NPPD determined that this alternative is not feasible to meet the R-Project purpose and need, which are to increase reliability of the electric transmission system, relieve congestion from existing lines, and provide opportunities for renewable energy projects. Due to the prevalence of beetle habitat in the location where the R-Project is necessary to meet the purpose and need, the R-Project would not be able to avoid take. Section 2.10.1 of the HCP, herein incorporated by reference, provides further details on necessary route location and interconnections.

Alternative Using Only Steel Monopole Structures

Rather than using a mix of steel monopoles and lattice towers as in the proposed alternative, this alternative would use only steel monopoles along the entire R-Project route. Because steel monopoles require concrete foundations, NPPD would need to develop or expand more access roads for heavy equipment to construct foundations. This alternative was not selected because it would result in greater temporary habitat disturbance, greater restoration requirements, and increased construction costs. Furthermore, it would result in greater impacts to beetles and their habitat. Section 2.10.2 of the HCP, herein incorporated by reference, provides further details on this alternative.

Alternative Using Only Lattice Tower Structures

This alternative would involve construction of only lattice towers along the entire R-Project route. Lattice towers result in less ground disturbance to beetle habitat because they can be installed onto helical pier foundations and by helicopter. However, NPPD did not select this alternative because the public objects to the visual impact of lattice towers, the larger base footprints of lattice towers would have a higher impact on some agricultural operations, and these structures are more costly. NPPD determined that this alternative would not result in a difference in the level of estimated ABB take because lattice tower structures would still require similar work areas for crane operation or fly yards. Section 2.10.23 of the HCP, herein incorporated by reference, provides further details on this alternative.

Alternative for Construction during Winter Only

This alternative would consist of NPPD restricting all construction activities for the lattice towers and monopoles that are in the proposed alternative only during the winter when the beetle is inactive below the frost line from October through April. This alternative would reduce direct take of beetles to a very low level. NPPD did not select this alternative because the lack of schedule flexibility and allowance for contingencies makes it infeasible. Completing the project would take much longer and be more costly because less work could be completed during the shorter daylight hours and lower temperatures of winter. Furthermore, because structure

erection, stringing, pulling, and tensioning cannot be completed within the beetle inactive period, this work would need to extend into when beetles become active, thereby negating benefits avoiding direct beetle take in winter. Section 2.10.4 of the HCP, herein incorporated by reference, provides further details on this alternative.

SECTION 10(a)(1)(B) INCIDENTAL TAKE PERMIT ISSUANCE CRITERIA – ANALYSIS AND FINDINGS

Section 10(a)(2)(B) of the ESA requires the following criteria to be met before the Service may issue an incidental take permit. If these criteria are met and there are no disqualifying factors, we must issue the incidental take permit (ESA section 10(a)(2)(B)(v)). The Service’s findings and recommendations document must provide the rationale and results of the analyses used to determine if the applicant and HCP meet all permit issuance criteria.

The taking will be incidental

Take of beetles will be incidental to the otherwise lawful activities associated with the construction, operations and maintenance, including emergency repairs, for the R-Project. As described above in *Anticipated Forms of Take of the American Burying Beetle* of this Findings document, all anticipated forms of take are unintentional and not the purpose of the covered activities, which are to construct, operate, and maintain the R-Project transmission line.

The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking

The statutory standard of minimizing and mitigating the impacts of the take “to the maximum extent practicable” under ESA section 10(a)(2)(B)(ii) will always be met if it is demonstrated that the impacts of the taking will be fully offset by implementation of the measures in the HCP (USFWS and NMFS 2016). The Service has determined that the HCP’s conservation strategy and NPPD’s fulfillment of protection of mitigation habitat will, to the maximum extent practicable, minimize and mitigate the impacts of the anticipated take of beetles from the R-Project in the form of harm and harass². We anticipate that construction of the R-line will result in the temporary loss of 1,250 acres of beetle habitat and permanent loss of 20 acres of beetle habitat from destruction or degradation. Emergency repairs over the life of the permit would result in the temporary loss of 250 acres (Table 1). To keep direct take of beetles as low as possible, NPPD would implement several avoidance and minimization measures, as described above and in detail in sections 6.0 - 6.2.1 of the HCP. Similar to most HCPs, NPPD’s mitigation strategy is based on habitat rather than the number of beetles taken. Because NPPD was unable to access private lands and assign habitat quality ratings along the entire route, NPPD conservatively assumed that all disturbed acres are beetle habitat and provide equal high-quality

² See footnote 1. The HCP’s conservation strategy minimizes and mitigates to the maximum extent practicable all anticipated take of beetles, including in the form of both harm and harass.

value to beetles. To offset the impacts of the take from loss of permanent habitat, the HCP commits to a 3:1 ratio of conserved acres of high-quality habitat occupied by beetles to impacted acres of habitat.

Table 1. R-Project HCP Mitigation Calculations for Beetle Take

Type of Impact	Impacted Acres	Mitigation Ratio (Conserved: Impacted)	Temporal Impact Timescale Multiplier	Mitigation Acres
Temporary Construction	1,250	3:1	10%	375
Permanent	20	3:1	--	60
Temporary Emergency Repairs	250	3:1	10%	75
Total	1,520	--	--	510

Temporarily disturbed beetle habitat will be restored to its previous vegetation condition after construction is complete as described in the R-Project Restoration Management Plan. Beetles would not be able to forage and breed on temporarily disturbed habitat until restoration success criteria are achieved, and habitat becomes suitable again. The R-Project estimates that restoration of vegetation cover will occur in the first 5 years of the 50-year life of the project, which is 10 per cent of the life of the project. Corresponding to this timescale, mitigation acres for temporary construction impacts were multiplied by 10 per cent to mitigate for 5 years of beetle habitat loss. Thus, the effective mitigation ratio for temporary impacts is 0.3:1.

The calculations for mitigation acres using these ratios results in 374.9 acres for temporary impacts from construction, 59.58 acres for permanent impacts, and 75 acres for temporary impacts from emergency repairs, for a total of 509.83 acres to fully offset all beetle impacts from the R-Project (Table 1).

The mitigation calculations for the R-project is generally consistent with other projects in Nebraska, which is in the northern portion of the beetle range, but varies slightly from the mitigation ratios used in HCPs in Oklahoma, Texas, and Arkansas in the southern portion of the beetle range. Both mitigation strategies use a hierarchical process that increases mitigation correspondingly to the quality of beetle habitat or high-use areas in relation to the duration of impact. The mitigation strategies differ between the northern and southern portions of the beetle range due to differences in 1) beetle habitat use and 2) dominant land cover types.

In the northern portion of the beetle range, research of beetle habitat allowed the categorization of habitat quality as prime, good, fair, marginal, or poor for the beetle (Hoback 2011, USFWS 2013). The Service determined that this habitat quality rating method (Hoback 2011) remains

the best available science to evaluate the quality of beetle habitat in Nebraska and used the quality categories as the basis for the determination of mitigation to offset impacts to beetle habitat.

In the southern portion of the beetle range, beetles have been successfully live-captured in several vegetation types, including native grasslands, grazed pasture, riparian zones, coniferous forests, mature forest, oak-hickory forest (USFWS 1991, pp.14-17, 2008, pp.8-11; Creighton et al. 1993, entire; Lomolino et al. 1995, entire; Lomolino & Creighton 1996, entire; Jurzenski 2012, pp.47-72). Rather than delineating habitat suitability across the diverse ecosystems used by the beetle in the southern portion of the range, the Service instead developed mitigation ratios based on location within Conservation Priority Areas (CPAs), outside CPAs, or on beetle mitigation lands. The Service delineated CPAs in the southern portion of the range using documented beetle presence within the last 10 years.

Available land cover differs between the northern and southern portions of the range (Leasure and Hoback 2017). In the northern portion of the range, beetles can be found throughout the Nebraska Sandhills Ecoregion in mesic areas such as wet meadows and wetlands, semi-arid sandhills, loam grasslands, and tree-lined shelterbelts. The dominant land cover in beetle habitat in the northern portion of the range is native grassland and almost no forests (Leasure and Hoback 2017). Trees located in narrow riparian areas and planted windrows and shelterbelts generally do not provide large contiguous blocks of forested habitat in the northern portion of their range.

In the southern portion of the range, beetle habitat includes larger amounts of deciduous and evergreen forests (Leasure and Hoback 2017). These forested areas may be fragmented, impacting the beetle even if converted to usable grassland habitat (USFWS 2016). Therefore, the Service's mitigation strategy in the southern part of the range includes a higher mitigation ratio for impacts causing "permanent cover change," while the northern portion, including the mitigation calculations for the R-project, does not.

NPPD has purchased 594 acres of mitigation lands that include portions of Sections 15 and 22 in T24N, R22W in Blaine County, Nebraska. This parcel is a continuous tract of land that has documented ABB presence along the entire tract. NPPD has completed five years of ABB surveys along public roads adjacent to these mitigation lands. ABB densities on portions of the property are within the upper 10% of densities documented in the Service's ABB database. NPPD, in conjunction with the Service and NGPC, has developed a management plan for the mitigation parcel that addresses land uses, such as grazing, haying, controlled burning, etc., that will be utilized to maximize ABB density on the parcel. NPPD will implement this plan and maintain the property in its current grassland land cover that provides habitat for ABB in perpetuity. This mitigation parcel management plan is provided in Appendix F of the HCP. For these reasons and because the number of acres exceeds by nearly 15 per cent the amount calculated based on the Service mitigation strategy for the beetle in the northern range, the

Service determines that this mitigation will more than fully offset the impacts of take from the R-Project.

The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided

The Service has determined that adequate funding is ensured for NPPD to fully implement the HCP and procedures are in place to deal with unforeseen circumstances. Section 8.0 of the HCP provides details on the funding mechanisms NPPD will use to ensure adequate funding for costs related to the implementation of the HCP, R-Project Restoration Management Plan, and R-Project Final Migratory Bird Conservation Plan, herein incorporated by reference. NPPD's financial processes are the (1) Southern Power Pool (SPP) load-sharing cost methodology, (2) General Bonds issued for the R-Project, and (3) annual rate-setting budgets of NPPD.

NPPD is a public corporation and political subdivision of the State of Nebraska and is authorized by Nebraska state statutes to engage in the generation and transmission of electrical energy and to sell electrical energy. Pursuant to Nebraska State statute section 70-655, NPPD also has the power and is required to fix, establish, and collect adequate rates, tolls, rents, and other charges for electrical energy, water service, water storage, or for any other commodities sold, furnished, or supplied by NPPD. NPPD will fund implementation of the HCP using its operating budgets and its ability to fix, establish, and collect adequate rates and other charges to operate its business. NPPD has been able to produce revenues each fiscal year sufficient to fund annual operating expenses and debts during the fiscal year, as detailed in section 8.0 of the HCP.

NPPD is a member of the SPP, which issued a Notice to Construct for the R-Project. The Federal Energy Regulatory Commission approves the SPP's transmission cost allocation. The R-Project, as an SPP Notice to Construct project, is expected to be financed from General Bonds with a substantial amount of the debt service to be reimbursed by SPP based on SPP's load-sharing cost methodologies. Costs that are not covered by the SPP load-sharing cost methodology and costs for the ongoing mitigation and maintenance for right-of-way areas obtained for the R-Project that are incurred over the life of the permit will be included in the annual rate setting budgets of NPPD.

NPPD intends to issue General Revenue Bonds for the R-project that will cover the costs of construction. The funds from the General Revenue Bonds will also pay for the costs necessary to acquire mitigation acres. Maintenance for the mitigation acres will be covered from collections through rates, with required amounts determined as part of NPPD's annual rate-setting and budgeting process. Additionally, NPPD has established an escrow account to sufficiently fund procedures necessary to address any issues that may affect successful habitat restoration the HCP required to be achieved within 3 to 5 years after construction of the R-Project.

NPPD would promptly notify the Service of any material change in NPPD's financial ability to fulfill its obligations and commitments required under the implementation of the HCP. In addition to providing any such notice, NPPD offered to provide the Service with a copy of its annual report for each year of the permit or other reasonably available financial information that would provide adequate evidence of NPPD's ability to fulfill its obligations under the implementation of the HCP.

Unforeseen circumstances are changes in circumstances that affect a species or geographic area covered by an HCP, were not or could not be anticipated, and result in a substantial and adverse change in the status of a covered species (50 CFR 17.3). Changed circumstances are changes that affect a species or geographical area covered by an HCP, the applicant and Service can reasonably anticipate and can be planned for during development of the HCP (50 CFR 17.3). To the extent these changed circumstances are provided for in the HCP's operating program, the permittee is required to implement the appropriate measures identified in the HCP to respond to the changed circumstances. The "No Surprises" rule, codified at 50 CFR 17.22(b)(5), provides assurances to permittees that, as long as a permittee is properly implementing the HCP and the permit, the Service will not require any additional commitment of land, water, or financial compensation for species that are adequately covered, nor will it impose additional restrictions on the use of land, water, or other natural resources beyond those specified in the HCP without the consent of the permittee. The "No Surprises" assurances apply to only species adequately covered in the HCP and when changed or unforeseen circumstances occur.

Section 7.2 of the R-Project HCP identifies several changed circumstances, including but not limited to drought, wildfire, severe storms, and changes in status or distribution of the beetle. The HCP describes provisions to address the identified changed circumstances and also relies on specific measures in the adaptive management framework in section 6.5 of the R-Project Habitat Restoration Plan, which are herein incorporated by reference.

Changes in circumstances not identified as a changed circumstance in Section 7.2 of the HCP and that substantially alter the status of the beetle are considered unforeseen circumstances. In the event that unforeseen circumstances occur, the Service would notify NPPD to coordinate potential procedures to address them. The Service may require additional measures of NPPD where the HCP is being properly implemented only if such measures are limited to modifications of the HCP and maintain the original terms of the HCP to the maximum extent possible.

The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild

The Service finds that the taking to be authorized under the proposed permit will not appreciably reduce the likelihood of the survival and recovery of the beetle in the wild. The ESA's legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of "no jeopardy" pursuant to section 7(a)(2) of the ESA and its implementing regulations

(50 CFR 402.02). Consequently, the Service reviewed the HCP in accordance with ESA section 7 procedures and determined in its Biological Opinion, herein incorporated by reference, that the beetle would not be jeopardized by the issuance of the permit and implementation of the HCP. The Service further found that critical habitat would not be adversely modified because no critical habitat for the beetle is designated in the action area.

We estimate that 176 ABBs will be taken in the permit area for the duration of the ITP as a result of the Covered Activities. NPPD provided two estimates of ABB population numbers. One method relies on the Jorgensen et.al. (2014) model that assumes beetles are expected to be present where the calculated probability of beetle occurrence is 60% or higher. The Permit Area contains 503,963 acres of ABB habitat with a probability of occurrence greater than or equal to 60% as identified in Jorgensen et.al. (2014). The median ABB density in the Sandhills is 0.03 ABB/acre based on the same ABB survey data used to calculate take. Using a density of 0.03 ABB/acre, it is estimated that 15,118 ABB may be present within the Permit Area in a year with a median ABB population.

The second approach relies on annual beetle surveys to estimate the beetle population within the Permit Area to look at potential impacts to that local population from R-Project take. Based on mark and recapture data from 2016 to 2020, the Permit Area contains approximately 4,000 to 16,000 ABBs. The population viability analysis by Amaral et al. (2005) concluded that ABB populations of 1,000 or more individuals are viable long-term in the absence of severe catastrophic events or reduction in carrying capacity through a reduction in carcass availability, habitat loss, or fragmentation. Amaral et al. (2005) indicates that populations of greater than 10,000 ABB can persist even through catastrophic events. Amaral et al. (2005) also estimated that the Sandhills beetle population to be about 10,000 beetles.

The Service's 2019 SSA for ABB (USFWS 2019) identified 8,633,685 acres of Sandhills analysis area as either favorable or conditional habitat. The Service used the ratio of positive to negative ABB surveys to determine ABB relative abundance in population analysis areas (USFWS 2019). The ratio of positive to negative ABB surveys in the Sandhills analysis area was defined as the highest condition category of "good," with the highest ratio of positive to negative surveys compared to other analysis areas (USFWS 2019). Using the simplified comparison of acres disturbed versus available acres of habitat, the disturbance of 1,500 acres of ABB habitat represents approximately 0.017% of favorable or conditional habitat available in the Sandhills analysis area. The R-Project will not impact the long-term persistence of the Sandhills ABB population because the 176 individuals we expect the project to take within the Permit Area represent only a small percentage of the estimated Sandhills population under either population scenario; this level of population loss does not represent a catastrophic event or a reduction in carrying capacity. With little to no impact on the Sandhills population, we do not expect there would be any effect on the rangewide population estimated by Amaral (2005) to be approximately 50,000 individuals.

We anticipate that habitat disturbances from the R-Project activities during the construction period (approximately 21 to 24 months) would prevent ABB reproduction. Reproduction is not likely to resume until the disturbed habitat is successfully restored. When construction begins, all ABBs present would be killed, and ABBs would not colonize the area until restored habitat is suitable. Therefore, no reproduction would occur for 3 to 7 years in each area disturbed by construction. Once habitat is restored and prey re-inhabit the area, ABBs in nearby habitat would likely recolonize and begin reproducing. Areas temporarily disturbed by construction activities will be used more than one time by NPPD for various activities throughout the construction process and will not be restored until construction is complete. We do not expect ABBs to inhabit the disturbed areas during construction due to the lack of habitat and prey species. NPPD will stabilize, revegetate, and restore temporarily disturbed areas within 3 to 5 years after construction and have established an escrow account to ensure successful restoration. The ABB and other disturbed wildlife species, including prey species, are likely to return to the area following construction when personnel and equipment are no longer present and suitable habitat has been restored (within 3 to 7 years after initial disturbance).

The ABB is distributed throughout the Permit Area and much of the surrounding Sandhills. The majority of the impacts to habitat will be temporary (1,500 acres), while permanent loss of habitat will be 20 acres. Those temporary impacts represent approximately 0.017 percent of the estimated Sandhills analysis area. As discussed above, the temporarily impacted habitat would not be occupied by ABBs until the habitat is successfully restored 3 to 7 years later. Once restored habitat reaches suitability criteria, ABBs and their prey from nearby areas are likely to recolonize. Thus, distribution would change slightly due to this temporary disturbance until recolonization occurs; these aspects of the range would not be permanently affected. However, ABBs would not recolonize the permanently lost habitat areas. But those 20 acres are scattered throughout the permit area and, even in totality, represent a small fraction of the occupied range of the ABB (i.e. 0.017-0.223% of the available ABB habitat in the Sandhills). Therefore, we do not anticipate any meaningful impacts to ABB rangewide distribution. Based on the analyses and rationale in the Biological Opinion, the Service determined that the described change to the beetle's reproduction, abundance, or distribution from issuance of the permit is not likely to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild.

Other measures, required by the Director of the Service, have been met and the Service has received necessary assurances that the HCP will be implemented. The Service finds that the HCP, R-Project Restoration Management Plan, and R-Project Migratory Bird Conservation Plan incorporate all the elements we determined necessary for its approval and issuance of the permit. No other measures are necessary for the issuance of the permit under the HCP. The Service finds that the HCP, combined with the permit conditions, provide the necessary assurances the HCP will be implemented.

GENERAL CRITERIA AND DISQUALIFYING FACTORS – ANALYSIS AND FINDINGS

We have no evidence that NPPD’s permit application should be denied on the basis of the criteria and conditions set forth in the regulations for General Permit Requirements (50 CFR 13.21 (b) –(c)). The applicant has met all the criteria for issuance of the permit and does not have any disqualifying factors that would prevent the permit from being issued under current regulations.

RECOMMENDATIONS ON PERMIT ISSUANCE

Based on the foregoing findings with respect to the proposed action, I recommend approval of the issuance of the permit to NPPD, in accordance with the HCP.

Matt Hogan
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Denver, CO

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