

## **Draft COMPATIBILITY DETERMINATION**

**Use:** Realignment of a utility right-of-way (ITC Midwest LLC and Dairyland Power Cooperative, Cardinal to Hickory Creek transmission line, Clayton County, Iowa).

**Refuge Name:** Upper Mississippi River National Wildlife and Fish Refuge.

**Establishing and Acquisition Authorities:** The Upper Mississippi River National Wildlife and Fish Refuge (Refuge) was established by Public Law No. 268, 68<sup>th</sup> Congress on June 7, 1924. This act authorized acquisition of lands for Refuge purposes. Additional lands acquired in fee title by the U.S. Army Corps of Engineers (Corps) are managed as part of the Refuge under a 1963 Cooperative Agreement between the Department of the Army and the Department of the Interior.

**Refuge Purpose(s):** The Refuge shall be established and maintained (a) as a refuge and breeding place for migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, and (b) to such extent as the Secretary of the Interior by regulations, prescribes, as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and (c) to such extent as the Secretary of the Interior may, by regulations, prescribe a refuge and breeding place for fish and other aquatic animal life.

**National Wildlife Refuge System Mission:** The mission of the National Wildlife Refuge System (System) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

### **Description of Use:**

*What is the use?* ITC Midwest and Dairyland Power Cooperative, jointly referred to as “the Applicants” have submitted a joint Application for Transportation and Utility Systems and Facilities on Federal Lands. The Applicants propose to construct an above-ground double-circuit 345 kilovolt transmission line with one circuit initially being operated at 161 kilovolt between Iowa and Wisconsin. The project is called the Cardinal-Hickory Creek Transmission Line Project (Project). The Project would also include two optical ground wire shield wires for lightning protection and protective relay communications. The Project must cross the Mississippi River. The route proposed by the Applicants would cross Refuge lands owned by the Corps and the United States Fish and Wildlife Service (Service). Corps lands involved with this proposal are cooperatively managed as part of the Refuge through a cooperative agreement between Service and Corps. While the Corps retains the underlying real estate and realty responsibilities for their fee-owned lands, Refuge regulations, including compatibility are applicable.

*Where is the use conducted?* The proposed 345 kilovolt line would cross the Refuge on the floodplains of the Turkey and Mississippi Rivers in Clayton County, Iowa. The Applicants provided an overview map of the proposed route which is attached as Figure 1. The Service and Corps owned parcels within the proposed right-of-way in the Refuge are identified in Figure 1.

The Applicants propose to realign, abandon and restore existing 161 kilovolt and 69 kilovolt transmission line rights-of-way which currently cross the Refuge on the Turkey River bottoms. The existing rights-of-way cross the Mississippi River and enter a substation, known as the Stoneman substation in the town of Cassville, Wisconsin. The Applicants propose to realign the existing transmission line rights-of-way to a location north of the existing rights-of-way and cross the Mississippi River north of the town of Cassville. The proposed realigned right-of-way is called the Nelson Dewey crossing in reference to an abandoned power generation facility which previously existed, but has been demolished, north of Cassville. The realigned 345 kilovolt/161 kilovolt transmission line would join an existing substation near the footprint of the demolished Nelson Dewey power generating plant. The Nelson Dewey crossing would parallel railroad tracks and an existing gravel road (Oak Road) before crossing the Mississippi River.

*When is the use conducted?* The issuance of rights-of-way across units of the System is governed by the provisions of 50 Code of Federal Regulations §29.21. Right-of-way permits of this nature are issued for terms of 50 years, or so long as it is used for the purpose granted, or for a lesser term when considered appropriate.

This use would be conducted continually under specific terms and conditions referenced in **50 Code of Federal Regulations §29.21-4(b)**:

(a) Any right-of-way easement or permit granted will be subject to outstanding rights, if any, in third parties.

(b) An applicant, by accepting an easement or permit agrees to such terms and conditions as may be prescribed by the Regional Director in the granting document. Such terms and conditions shall include the following, unless waived in part by the Regional Director, and may include additional special stipulations at his discretion. See §29.21-8 for special requirements for electric transmission lines and §29.21-9 for special requirements for oil and gas pipelines:

(1) To comply with State and Federal laws applicable to the project within which the easement or permit is granted, and to the lands which are included in the right-of-way and lawful existing regulations there under.

(2) To clear and keep clear the lands within the easement or permit area to the extent and in the manner directed by the project manager in charge; and to dispose of all vegetative and other material cut, uprooted, or otherwise accumulated during the construction and maintenance of the project in such a manner as to

decrease the fire hazard and also in accordance with such instructions as the project manager may specify.

(3) To prevent the disturbance or removal of any public land survey monument or project boundary monument unless and until the applicant has requested and received from the Regional Director approval of measures the applicant will take to perpetuate the location of aforesaid monument.

(4) To take such soil and resource conservation and protection measures, including weed control on the land covered by the easement or permit as the project manager in charge may request.

(5) To do everything reasonably within his power, both independently and on request of any duly authorized representative of the United States, to prevent and suppress fires on or near, lands to be occupied under the easement or permit area, including making available such construction and maintenance forces as may be reasonably obtainable for the suppression of such fires.

(6) To rebuild and repair such roads, fences, structures, and trails as may be destroyed or injured by construction work and upon request by the Regional Director, to build and maintain necessary and suitable crossings for all roads and trails that intersect the works constructed, maintained, or operated under the right-of-way.

(7) To pay the United States the full value for all damages to the lands or other property of the United States caused by him or by his employees, contractors, or employees of the contractors, and to indemnify the United States against any liability for damages to life, person or property arising from the occupancy or use of the lands under the easement or permit, except where the easement or permit is granted hereunder to a State or other governmental agency which has no legal power to assume such a liability with respect to damages caused by it to lands or property, such agency in lieu thereof agrees to repair all such damages. Where the easement or permit involves lands which are under the exclusive jurisdiction of the United States, the holder or his employees, contractors, or agents of the contractors, shall be liable to third parties for injuries incurred in connection with the easement or permit area. Grants of easements or permits involving special hazards will impose liability without fault for injury and damage to the land and property of the United States up to a specified maximum limit commensurate with the foreseeable risks or hazards presented. The amount of no-fault liability for each occurrence is hereby limited to no more than \$1,000,000.

(8) To notify promptly the project manager in charge of the amount of merchantable timber, if any, which will be cut, removed, or destroyed in the construction and maintenance of the project, and to pay the United States in advance of construction such sum of money as the project manager may

determine to be the full stumpage value of the timber to be so cut, removed, or destroyed.

(9) That all or any part of the easement or permit granted may be terminated by the Regional Director, for failure to comply with any or all of the terms or conditions of the grant, or for abandonment. A rebuttable presumption of abandonment is raised by deliberate failure of the holder to use for any continuous 2-year period the easement or permit for which it was granted or renewed. In the event of noncompliance or abandonment, the Regional Director will notify in writing the holder of the easement or permit of his intention to suspend or terminate such grant 60 days from the date of the notice, stating the reasons therefore, unless prior to that time the holder completes such corrective actions as are specified in the notice. The Regional Director may grant an extension of time within which to complete corrective actions when, in his judgment, extenuating circumstances not within the holder's control such as adverse weather conditions, disturbance to wildlife during breeding periods or periods of peak concentration, or other compelling reasons warrant. Should the holder of a right-of-way issued under authority of the Mineral Leasing Act, as amended, fail to take corrective action within the 60-day period, the Regional Director will provide for an administrative proceeding pursuant to 5 U.S.C. 554, prior to a final Departmental decision to suspend or terminate the easement or permit. In the case of all other right-of-way holders, failure to take corrective action within the 60-day period will result in a determination by the Regional Director to suspend or terminate the easement or permit. No administrative proceeding shall be required where the easement or permit terminates under its terms.

(10) To restore the land to its original condition to the satisfaction of the Regional Director so far as it is reasonably possible to do so upon revocation and/or termination of the easement or permit, unless this requirement is waived in writing by the Regional Director. Termination also includes permits or easements that terminate under the terms of the grant.

(11) To keep the project manager informed at all times of his address, and, in case of corporations, of the address of its principal place of business and the names and addresses of its principal officers.

(12) That in the construction, operation, and maintenance of the project, he shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin and shall require an identical provision to be included in all subcontracts.

(13) That the grant of the easement or permit shall be subject to the express condition that the exercise thereof will not unduly interfere with the management, administration, or disposal by the United States of the land affected thereby. The applicant agrees and consents to the occupancy and use by the United States, its grantees, permittees, or lessees of any part of the easement or permit area not

actually occupied for the purpose of the granted rights to the extent that it does not interfere with the full and safe utilization thereof by the holder. The holder of an easement or permit also agrees that authorized representatives of the United States shall have the right of access to the easement or permit area for the purpose of making inspections and monitoring the construction, operation and maintenance of facilities.

(14) That the easement or permit herein granted shall be subject to the express covenant that any facility constructed thereon will be modified or adapted, if such is found by the Regional Director to be necessary, without liability or expense to the United States, so that such facility will not conflict with the use and occupancy of the land for any authorized works which may hereafter be constructed thereon under the authority of the United States. Any such modification will be planned and scheduled so as not to interfere unduly with or to have minimal effect upon continuity of energy and delivery requirements.

(15) That the easement or permit herein granted shall be for the specific use described and may not be construed to include the further right to authorize any other use within the easement or permit area unless approved in writing by the Regional Director.

Additionally, per 50 Code of Federal Regulations § 29.21-8 electric power transmission line rights-of-way, the following terms and conditions apply:

By accepting a right-of-way for a power transmission line, the applicant thereby agrees and consents to comply with and be bound by the following terms and conditions, except those which the Secretary may waive in a particular case, in addition to those specified in § 29.21-4(b) (items 1-15 above):

(a) To protect in a workman like manner, at crossings and at places in proximity to his transmission lines on the right-of-way authorized, in accordance with the rules prescribed in the National Electric Safety Code, all Government and other telephone, telegraph and power transmission lines from contact and all highways and railroads from obstruction and to maintain his transmission lines in such manner as not to menace life or property.

(b) Neither the privilege nor the right to occupy or use the lands for the purpose authorized shall relieve him of any legal liability for causing inductive or conductive interference between any project transmission line or other project works constructed, operated, or maintained by him on the servient lands, and any radio installation, telephone line, or other communication facilities now or hereafter constructed and operated by the United States or any agency thereof.

**Special terms and conditions:**

Any cultural and/or paleontological resources (historic or prehistoric sites or objects including burials or skeletal material) discovered by the easement holder, or any person working on its behalf, on public or Federal land shall be immediately reported to the authorized officer, District Manager, McGregor District, Upper Mississippi River National Wildlife and Fish Refuge (608-326-0515). Permit holder, or its representative shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer or a Service approved archeologist to determine the appropriate actions to take pursuant to the provisions of law and 36 Code of Federal Regulations 800.7 (resources discovered during construction) to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of the evaluation. Any decision as to proper mitigation measures will be made by the authorized officer after consulting the holder.

The Applicants provided a tentative schedule for construction activities with their right-of-way application (see below).

<b>Activity</b>	<b>Start Date</b>	<b>End Date</b>
Pre-construction activities (soil borings)	9/1/2020	4/2/2021
Construction (Hickory Creek-Turkey River 345kilovolt)	4/5/2021	11/5/2021
Construction in Refuge (Turkey River-Nelson Dewey 345/161kilovolt) <i>Start with right-of-way clearing, lay construction mats along right-of-way centerline and access routes, excavate and install foundations, set structures, and then string in new conductor.</i>	11/8/2021	2/4/2022
Restoration for Refuge portion of the project <i>Includes restoration of construction related impacts, restoration/revegetation of Stoneman right-of-way and restoration/transfer of habitat replacement property (currently in private ownership)</i>	2/7/2022	8/1/2023

*How is the use conducted?* The use of this right-of-way for a power transmission line is not a wildlife-dependent public use.

Specific Project activities include the construction, operation and maintenance of two aerial transmission lines constructed to be capable of operation at 345 kilovolt and with initial operating voltages of 161 kilovolt and 345 kilovolt, respectively, utilizing optical ground wire shield wires that will also be used for communications on each circuit.

Applicants propose a right-of-way width of 260 feet within the Refuge. A right-of-way width of 260 feet is required due to the low-profile design of the Project in the

Refuge. A lower (but wider) pole/line arrangement would place the lines in a horizontal alignment which is less detrimental to birds than a vertical arrangement as recommended by the Avian Power Line Interaction Committee. Pole heights through the Refuge would be 75 feet except at the Mississippi River crossing where pole heights would increase to 195 feet to span the channel with adequate clearance for navigational traffic. Design height approximately matches the existing tree cover within the Refuge to reduce the potential of avian collisions. Maintaining poles at a height of less than 200 feet is preferred to preclude Federal Aviation Administration lighting requirements for objects over 200 feet. The exclusion of lighting has been shown to reduce the probability of bird/tower strikes and is therefore a desirable option on the Refuge.

The Applicants propose to replace and realign existing 161 kilovolt and 69 kilovolt lines with a new 345 kilovolt/161 kilovolt line on a single set of structures at the proposed location. The existing 69 kilovolt line would be removed from service. Applicants will, with Service and Corps approval, remove the existing 161 kilovolt and 69 kilovolt transmission line structures at the Stoneman crossing after the new lines are in service. The Applicants will work under the direction of the Service and Corps staff to restore native vegetation on the abandoned right-of-way through supplemental plantings of species approved by the Service and Corps and vegetation management practices agreed upon by these agencies.

Per Title 50 Code of Federal Regulations 26.41, the Applicants will provide for no net loss of habitat quantity and quality by replacing the acreage required for the realigned right-of-way with an acreage of equal value which will be afforded permanent protection as part of the Refuge. If the replacement property requires restoration, this shall be completed by the Applicants prior to transfer to the Refuge. The replacement property and, if needed, restoration plan for this property must be approved by the refuge manager.

Ten power poles or structures would be located on Service lands. Four power poles or structures would be located on Corps lands managed as part of the Refuge. A total of fourteen structures would be located on Refuge managed lands. Each structure would have two steel poles with foundations at each structure location. Foundations would be poured concrete requiring excavation at each foundation location. Specific foundation dimensions would be determined when soil conditions are studied and design engineering is completed. The estimated total permanent ground disturbance (steel pole foundations) on Service land is 2,523 square feet (0.06 acres). The estimated total permanent ground disturbance (steel pole foundations) on Corps land managed as Refuge is 1,414 square feet (0.03 acres). The estimated total permanent ground disturbance on Refuge managed lands is 0.09 acres.

The total linear centerline length (feet) on Service lands would be approximately 4,990 feet. The total linear centerline length (feet) on Corp lands would be approximately 1,744 feet. At the request of the Refuge, the Applicants completed an analysis of the acreages affected by the project (see Figure 2). The total acreage of land within the proposed realigned right-of-way on lands managed by the Refuge would be approximately 39.0 acres. However, 2.9 acres of the total acreage affected (39.0 acres)

are acres which are currently included in the Stoneman right-of-way. These acres would also be included in the proposed Nelson Dewey right-of-way. Additionally, approximately 5.5 acres of the proposed Nelson Dewey right-of-way would overlap Oak Road. The habitat conditions on these 2.9 acres and 5.5 acres, respectively would not change as a result of the project. Habitat conditions on the remaining 30.6 acres of the proposed Nelson Dewey right-of-way would be affected by the project.

The Applicants would use temporary construction matting along the entire centerline length and for temporary access roads. The width of the construction and access matting would be approximately 30 feet. As shown in Figure 1, two temporary access roads are also planned within the Refuge. A temporary access road on Service fee-title owned lands is proposed to be approximately 554 feet in length. A temporary access road on Corps fee-title owned lands is proposed to be 650 feet in length. The estimated total temporary ground disturbance (construction matting and access matting) on Service land within the Refuge is 376,700 square feet (8.65 acres). The estimated total temporary ground disturbance (construction and access matting) on Corps land within the Refuge is 151,820 square feet (3.49 acres). A total acreage of 12.14 acres would be temporarily disturbed by construction and access matting on Refuge managed lands.

*Why is this use being proposed?* In their application, the Applicants state that the Project is needed to achieve the following benefits: 1) Address reliability issues on the regional bulk transmission system; 2) Cost-effectively increase transfer capacity to enable additional renewable generation needed to meet state renewable portfolio standards and support the nation's changing energy mix; 3) Alleviate congestion on the transmission grid to reduce the overall cost of delivering energy; and 4) Respond to public policy objectives aimed at enhancing the nation's transmission system and reducing carbon dioxide emissions.

At the request of the Refuge, the Applicants completed an Alternatives Crossing Analysis (Analysis) of potential Mississippi River crossings, including crossings which did not involve Refuge managed lands. A copy of the Analysis can be obtained at: <https://www.cardinal-hickorycreek.com/>. Seven potential crossings of the Mississippi River were evaluated in the Analysis, four outside the Refuge and three within the Refuge. The Applicants gathered data and information to assess the technical and economic feasibility and potential engineering, environmental, and social impacts of all seven Analysis routes. This evaluation included consultation with, and assessments by, federal, state, and local authorities with permitting authority for the Project.

The Applicants concluded that none of the non-Refuge crossings were feasible and one of the Refuge options was not feasible, leaving two remaining options, both within the Refuge. The Analysis demonstrates that the non-Refuge alternatives would have greater overall environmental and human impacts compared to the two feasible Refuge crossing locations. The Applicants also provided information to and sought analyses from, federal, state, and local entities with permitting authority over the relevant crossing locations. The non-Refuge Analysis routes (as well as the Lock and Dam 10 crossing location within the Refuge) presented human and environmental impacts and technical engineering conflicts



with existing infrastructure. None of the non-Refuge crossings analyzed in the Analysis were feasible. The remaining crossing locations, Stoneman and Nelson Dewey, cross Refuge lands owned by the Service and Corps. The Nelson Dewey crossing was modified from the route presented in the Analysis to parallel an existing active rail line and Oak Road. An application for a right-of-way using the modified Nelson Dewey crossing was received from the Applicants on September 13, 2019 and is the subject of this compatibility determination.

Two existing high voltage electric transmission lines cross the Refuge on the Turkey River bottoms. The Stoneman crossing currently has 161 kilovolt transmission capacity. A second, slightly longer line has 69 kilovolt capacity. The rights-of-way for both these existing lines would be in part abandoned and an upgraded line capable of carrying both 161 kilovolt and 345 kilovolt would be constructed/realigned to the proposed right-of-way. The upgraded transmission line would be capable of carrying 345 kilovolts on both sets of conductors and would provide additional transmission capacity. Realignment of the existing transmission lines would move these lines to a location which parallels active railroad tracks and an existing gravel road, Oak Road, which pass adjacent to and through the Refuge, respectively. The Applicants are proposing to realign and upgrade the Stoneman transmission line as part of the larger Project.

The Project is estimated to cost approximately \$492 million along the proposed route. Annual operations and maintenance costs are estimated to be approximately \$150,000.

**Availability of Resources:** Current administrative costs incurred by the Refuge are minimal, and generally limited to a site visit to monitor for pole/line maintenance activities annually. An increase in administrative costs are expected to oversee the clearing of the realigned right-of-way, removal of existing poles, installation of new poles and restoration activities of abandoned rights-of-way and at any parcels proposed for restoration of lost habitat quantity and quality resulting from project impacts. There would also be costs associated with preparation and issuance of the realigned right-of-way permit. It is determined that adequate resources exist to properly manage this Refuge use.

**Anticipated Impacts of the Use:** Congressional intent in applying compatibility reviews to existing rights-of-way (at the time of the National Wildlife Refuge System Administration Act 1997 amendments) dictates that no new interpretation of compatibility requirements established by the Act should be interpreted as finding existing long-term permitted uses of refuges not compatible, presuming no significant changes have occurred to when they were initially permitted (and determined to be compatible). Regulations (50 Code of Federal Regulations §25.21 (h)) prescribe that when evaluating compatibility in the re-authorization of these historic rights-of-way, that the analysis of impacts will be based on existing conditions with the use in place, not from a pre-use perspective. In other words, only modifications from the historic permitted use are to be analyzed for impacts. In this case, acres of habitat previously unaffected by a right-of-way would be impacted by realignment of the right-of-way from

the existing Stoneman right-of-way to the proposed Nelson Dewey right-of-way through the Refuge. Approximately 31.0 acres of habitat have been previously affected within the Stoneman right-of-way (see Figure 2). However, 2.9 acres of this total would continue to be impacted as part of the proposed Nelson Dewey right-of-way. The Applicant has committed to revegetating/restoring habitat on 28.1 acres of the existing Stoneman right-of-way. These acres would be revegetated by the Applicants to a condition deemed acceptable by the Refuge.

Approximately 39.0 acres of habitat would be, or continue to be (2.9 acres of this total is currently affected as part of the existing Stoneman right-of-way and 5.5 acres would overlap with Oak Road), affected in the proposed Nelson Dewey right-of-way. Over the long term, 28.1 acres of habitat would be restored in the former Stoneman right-of-way, while 30.6 acres of previously unaffected habitat would be affected in the proposed Nelson Dewey right-of-way. A larger acreage (2.5 acres) of habitat would be affected in the Nelson Dewey right-of-way than would have been affected in the Stoneman right-of-way. The Applicants have committed to replacing an equal or greater quantity (in this case 30.6 acres) and quality of habitat on a parcel currently in private ownership. At the direction of the Refuge, the Applicants will complete any required habitat restoration or enhancement work on this privately owned parcel and then transfer ownership of that parcel to the Service resulting in no net loss of habitat quantity or quality.

A draft Environmental Impact Statement for the overall Project was completed in December 2018. Project impacts, including those to biological resources are evaluated in the draft Environmental Impact State and summarized here. The draft Environmental Impact Statement can be viewed at <https://www.cardinal-hickorycreek.com/>.

*Short and Long-term Impacts:*

a) **Air quality** - The Project's construction emissions would be temporary and transient in nature. Minor negative impacts on Refuge air quality are anticipated during project construction. Greenhouse gas emissions from the construction, operation, and maintenance of the project would result in a minor (relative to local, national, and/or global greenhouse gas emissions) long-term increase in greenhouse gases. Overall, net carbon dioxide emissions in the region are projected to decrease as a result of the Project. The Project will facilitate additional renewable energy generation, with corresponding reductions in greenhouse gas emissions.

b) **Visual impact** - Impacts to visual quality and aesthetics on the Refuge would result from construction of transmission line structures and conductors, and the realignment of the right-of-way from the Stoneman crossing to the Nelson Dewey crossing location. Within the Refuge, low-profile (75-foot) H-frame structures with a typical span length of 500 feet would be constructed within the main part of the Refuge with taller (approximately 195 feet), tubular steel, H-frame support structures at the Mississippi River crossings to allow the transmission line to span the channel and still provide adequate clearance for river-going vessels. These structures would create additional lines and forms within the viewshed and would be readily noticeable from Oak Road, the

primary road which connects the Cassville Ferry to Iowa. When compared to the existing Stoneman right-of-way, transmission line infrastructure within the Nelson Dewey right-of-way will be significantly more visible to Refuge visitors. Negative impacts to the visual qualities of the Refuge, when viewed from Oak Road would occur as a result of realigning the existing right-of-way.

c) ***Surface and ground water quality and quantity*** - No work would be conducted in areas below the ordinary high water mark of the Mississippi River. The lines will span the Mississippi River. No structures would be located on the banks of the river. Applicants will separately apply for permits under the Clean Water Act, Sections 401/404 with appropriate federal and state authorities. A majority of the Refuge in the proposed Nelson Dewey right-of-way is wetland or floodplain. The current construction schedule for the proposed Nelson Dewey right-of-way is to conduct construction activities when wetland soils and water are frozen or stable and vegetation is dormant. Construction matting would be used off-road in the Refuge wherever vehicles/equipment may travel. Helicopters may be used depending on depth of flooding during construction. There may be minor discharges into wetlands and/or the Mississippi River from dewatering during drilling of the structure holes. Dewatering would be conducted using a filtered screening or removal by container prior to discharge. The Iowa Department of Natural Resources water division will be consulted prior to any discharge into the Mississippi River.

d) ***Existing noise levels*** - Increased noise associated with construction of the transmission line would be temporary. Total construction duration for the overall Project would occur over a 2-year period. During this time, construction activities would occur along discrete portions of the transmission line; therefore, noise impacts would occur over a short time frame at any given location. Construction activities would comply with all applicable local noise ordinances. Noise impacts during operation and maintenance activities within the proposed Nelson Dewey right-of-way are expected to be negligible. Maintenance activities for the proposed right-of-way would include driving the length of the right-of-way, inspecting the transmission line within the right-of-way aurally via helicopter, and making any necessary repairs which may involve construction equipment. The noise impacts due to maintenance activities would be temporary and would have less of an impact than construction of the transmission line.

The operation of the proposed transmission line would result primarily in corona generated noise, occurring in the atmosphere near the conductor. Changes to local atmospheric pressure may result in a hissing or cracking sound that may be heard directly under the transmission line or within a few feet of the right-of-way depending on weather, altitude, and system voltage, with the level of corona noise receding with distance. Maximum noise levels associated with corona noise typically do not exceed 50 decibels, as heard from the edge of the right-of-way, during extreme weather events. Noise levels typically do not exceed 25 decibels during fair weather events.

Noise levels are not expected to be above normal or average decibel levels found within urban settings. However, the type of noise is very different from the natural sounds (birds, rustling leaves, etc.) typically heard and associated with a national wildlife refuge.

Realignment of the existing right-of-way from the Stoneman crossing to the Nelson Dewey crossing would move the right-of-way closer to a railroad line and Oak Road, both of which are frequented by train and vehicle traffic, respectively. The noise created by train and vehicle traffic is also not typically associated with natural sounds. In this location, the “new” noise associated with the transmission line would likely be indistinguishable from the ambient noise associated with the railroad and Oak Road.

**e) *Surface of the land, including vegetation, soil, and soil stability*** - The Applicants propose to clear all woody vegetation from within the 260-foot Nelson Dewey right-of-way through the Refuge. The Applicants provided an analysis of the land cover types in the Nelson Dewey right-of-way. That analysis identified the following land cover types: <0.01 acre of cropland; 1.4 acres of developed/urban; 36.4 acres of non-forested wetlands; and 0.1 acre of forested wetlands.

With a goal of reducing habitat fragmentation, the Refuge completed reforestation and habitat management activities on the floodplain of the Turkey River beginning in 2008. Sites which were previously farmed as part of the Refuge’s cooperative farming program were aggressively planted with a variety of advanced native tree seedlings well adapted to floodplain conditions. An early successional forest community and/or "young" forest has developed on the Turkey River floodplain where Refuge restoration actions have occurred. The proposed Nelson Dewey right-of-way passes through the area where reforestation efforts have been conducted. Natural succession of trees planted by the Refuge in the proposed right-of-way would cease. Clearing and maintenance suppression of woody vegetation by the Applicants within the right-of-way footprint would alter the forest succession patterns permanently. Natural forest successional processes would occur in areas adjacent to the proposed right-of-way over the next 30 to 50 years, resulting in habitat gaps and forest fragmentation. However, both the railroad line and Oak Road fragment the forest and wetland/floodplain habitats on the Turkey River bottoms. Because of this pre-existing habitat fragmentation, additional habitat fragmentation created by the proposed Nelson Dewey right-of-way would have minor additional impacts.

Revegetation of the existing Stoneman right-of-way (approximately 28.1 acres) within the Refuge would be conducted in cooperation with the Service and Corps. The Applicants would work closely with the Service and Corps to identify the location, type, and overall revegetation plan that would be appropriate. Areas adjacent to the Stoneman right-of-way consist of mature floodplain forest with scattered wet meadow openings. Restoration of the Stoneman right-of-way would likely include tree plantings to fill in the habitat gap between adjacent mature forest and invasive species control to reduce the extent and coverage of reed canarygrass in wet meadow openings. Habitat fragmentation caused by maintenance of the right-of-way to suppress woody vegetation would be reduced over the next 30 to 50 years as vegetation is reestablished and natural successional patterns are allowed to proceed.

**f) *Populations of fish, plant life, wildlife, including threatened and endangered species*** - Potential construction-related impacts from the project would include the loss,

degradation, and/or fragmentation of breeding, rearing, foraging, and dispersal habitats; and increased noise/vibration levels. These construction related impacts would be moderate and short-term. Although some wildlife species would be temporarily displaced during construction of the transmission line, permanent displacement of these species is not anticipated, except potentially in cleared forest areas that may provide habitat for forest-obligate species. Forest habitat would be available in other areas near or adjacent to the right-of-way with adjacent forested areas still available during construction and as habitat during project operation.

Potential impacts from maintenance activities would be similar in nature to those discussed for construction activities. However, the scope of maintenance impacts would be lower in magnitude than those for construction as there would be less equipment and fewer people working. Maintenance impacts would be temporary and would occur sporadically over the 50-year life of the project. After construction, a mid-year cycle application of herbicide in the right-of-way within the Refuge will be conducted in two to three years. Thereafter, the vegetation management cycle would occur every five years.

Eastern Whooping Cranes have infrequently visited the Turkey River floodplain during migration. The use of the floodplain by Whooping Cranes is transient in nature and would likely continue despite the location of the transmission lines. Moving the transmission lines from the Stoneman right-of-way to the proposed Nelson Dewey right-of-way would place the lines closer to an active rail line and Oak Road, both of which are sources of disturbance to wildlife. During construction, the presence of equipment, people and noise could also disturb wildlife, including transient Whooping Cranes, however the impacts would be of short duration and cranes and other wildlife would move to adjacent habitats where disturbance would be minimal. While moving the right-of-way from Stoneman to Nelson Dewey could affect Whooping Cranes, the impacts are unlikely to adversely affect this species. No other threatened or endangered species is known to inhabit or utilize the proposed Nelson Dewey right-of-way or adjacent areas.

***g) Measures to avoid, minimize and mitigate impacts*** - The Project would be constructed using best management practices. Refuge specific best management practices are described here. For the portion of the Project within the Refuge, low profile structures are proposed with a design height to match the existing tree canopy within the Refuge (approximately 75 feet) to reduce the potential of avian collisions. The structures would be horizontal-symmetrical H-frame structures on concrete foundations with a typical span length of approximately 500 feet and would consist primarily of tubular steel H frame structures. All conductors on these low-profile structures would be placed on one horizontal plane and the shield wire would be marked with avian flight diverters. Construction on the Refuge would occur outside the eagle nesting season (typically January 15 to June 15) or outside a 660-foot exclusion zone to avoid disturbance to nesting adult, chick, and fledgling eagles. The Applicants propose to mitigate adverse impacts to forest resources in the Refuge through restoration and enhancement of forest resources both within and off Refuge lands. A restoration plan would be developed in consultation with the Service and Corps. The restoration plan would supplement existing Service efforts to restore bottomland hardwood forest within the Refuge, specifically on

the floodplain of the Turkey River. Measures to reduce or mitigate the impacts to forest resources may also include the reestablishment and/or expansion of mature woodlands near the Nelson Dewey substation and/or other non-Refuge locations adjacent to Refuge lands. These restoration efforts would mitigate adverse impacts on public lands. Revegetation of the Nelson Dewey right-of-way within the Refuge would be conducted in cooperation with the Service and Corps and in compliance with applicable North American Electric Reliability Corporation regulated vegetation standards. The Applicants would work closely with the Service and Corps to identify the location, type, and overall revegetation plan that would be appropriate at this specific location of the Refuge. In addition to the environmental commitments outlined above and other mitigation to be developed with the Service and Corps, as part of the Service and Corps permit application processes, the Applicants would develop vegetation management terms and conditions for the Refuge. This plan would need to be deemed acceptable by Service and Corps prior to the issuance of easements.

The Applicants will use industry best practices in constructing the new transmission line facilities and will coordinate with the Service, Corps, and state agencies to identify means to avoid impacts where practicable and minimize unavoidable impacts.

*Indirect and Cumulative Impacts:*

Realignment of the existing right-of-way from the Stoneman crossing to the proposed Nelson Dewey crossing would have an indirect positive effects on the town of Cassville, Wisconsin. Moving the Mississippi River crossing to the proposed Nelson Dewey right-of-way would avoid construction and transmission line related impacts through the town of Cassville. Safety concerns associated with a transmission line running near schools, churches and other public gathering places would be reduced.

A long-term tradeoff of the location of habitat fragmentation would occur as a result of realigning the right-of-way from Stoneman to Nelson Dewey. Restoration of the Stoneman right-of-way would result in reduced habitat fragmentation and restoration of larger contiguous blocks of habitat. Both forested and non-forested wetlands would benefit. Clearing and suppression of woody vegetation in the proposed Nelson Dewey right-of-way would fragment habitats which have been restored or are in the process of being restored and are in early successional stages of development. However, the proposed Nelson Dewey right-of-way parallels an active railroad and Oak Road, both of which are existing sources of habitat fragmentation. Realigning the right-of-way to the proposed Nelson Dewey corridor would result in a minor increase in habitat fragmentation in that location. Over the long-term (30 to 50 years), a net reduction in habitat fragmentation would occur on the floodplain of the Turkey River. A more contiguous array of habitats would exist on the floodplain as a result of realigning the right-of-way.

**Public Review and Comment:** This draft compatibility determination is included as an appendix to the Final Federal Environmental Impact Statement prepared for the Project. The draft determination is also available for review by contacting the Refuge office in

Prairie du Chien, Wisconsin or the Refuge Headquarters in Winona, Minnesota. The draft compatibility determination is posted on the Refuge's website. Comments on the draft compatibility determination will be accepted until November 26, 2019. Comments may be e-mailed or sent via regular mail at the following addresses.

E-mail comments to: [comments@CardinalHickoryCreekEIS.us](mailto:comments@CardinalHickoryCreekEIS.us).

Mail comments to: SWCA Environmental Consultants  
Attn: Cardinal-Hickory Creek EIS  
80 Emerson Lane, Suite 1306  
Bridgeville, PA 15017

**Determination:**

Use is Not Compatible

Use is Compatible with Following Stipulations

**Stipulations Necessary to Ensure Compatibility:** All vegetation removal and/or future vegetation maintenance along the proposed right-of-way will be performed as required by a vegetation management plan approved by the refuge manager, Upper Mississippi River National Wildlife and Fish Refuge.

The Applicants will restore the abandoned Stoneman right-of-way in accordance with a vegetation restoration plan approved by the refuge manager. The Applicants will consult with the Service and Corps staff on best management practices to facilitate revegetation of the abandoned right of way and will supplement with additional plantings and vegetation management practices agreed upon with these agencies.

Per 50 Code of Federal Regulations §26.41 (c), the Applicants will provide for no net loss of habitat quantity and quality by replacing the acreage affected by the realigned right-of-way with a property of equal value which will be afforded permanent protection as part of the Refuge. The acreage of the replacement property shall be determined upon completion of a survey following installation of the 345 kilovolt poles/lines. The survey is necessary to determine the right-of-way boundaries and the final acreage of the realigned right-of-way. If the replacement property requires restoration, this shall be completed by the Applicants prior to fee-title transfer to the Refuge. The replacement property, restoration plan, and subsequent restoration must meet the satisfaction of the refuge manager. All restoration work will be completed by the applicant to the specifications of the refuge manager prior to title transfer and recording of the right-of-way.

The Applicants will install line marking devices (bird diverters) to minimize bird collision risk following a project specific Avian Protection Plan.







