FINDING OF NO SIGNIFICANT IMPACT (FONSI)

For Issuance of Endangered Species Act Section 10(a)(1)(B) Incidental Take Permit

(Associated with implementing the Habitat Conservation Plan for High Prairie Wind Energy Center, in Adair and Schuyler Counties, Missouri)

I. Introduction

This Finding of No Significant Impact (FONSI) addresses the issuance of an incidental take permit (ITP) pursuant to the Endangered Species Act of 1973, as amended (ESA; 16 United States Code [USC] §§1531-1544) and its regulations pertinent to incidental take permitting (50 Code of Federal Regulations [CFR] §22.26) for the High Prairie Wind Energy Center (Project), located in Adair and Schuyler Counties, Missouri. The Project is owned and operated by Union Electric dba Ameren Missouri (the Applicant, previously TG High Prairie, LLC[1]).

In accordance with the National Environmental Policy Act of 1969 (NEPA; 42 USC §4321 et seq.) and its implementing regulations[2] (40 CFR §§1500-1508 [1978]) and the Department of the Interior's regulations for implementing NEPA (43 CFR §§46.300-325), the U.S. Fish and Wildlife Service (Service) has completed an Environmental Assessment (EA) analyzing the effects on the human environment of issuing an Incidental Take Permit (ITP), pursuant to section 10(a)(1)(B) of the ESA. The ITP would authorize take of the Covered Species resulting from facility operations while implementing the associated Habitat Conservation Plan (HCP). Covered Species include the federally endangered Indiana bat (*Myotis sodalis*), federally threatened northern long-eared bat (*Myotis septentrionalis*), and the little brown bat (*Myotis lucifugus*). The anticipated issuance date of the ITP is May 10, 2021.

The EA evaluated a range of reasonable alternatives, based on their ability to meet our purpose and need, and the associated impacts to the human environment. Upon review of the Final EA, the Service concludes that a finding of no significant impact is appropriate. Following review and analysis, and considering public comments, the Service has chosen to issue an ITP as described under Alternative 2 of the EA. The Final EA accompanies this finding and details the analysis of impacts for the Proposed Action.

Background

The Project is an existing wind energy facility located in Adair and Schuyler Counties of northern Missouri. The Project's nameplate capacity is 400-megawatts (MW) and comprises 175 wind turbine generators, turbine pads, an operations and maintenance building, access roads, an

[1] As explained in Section 1.1 of the Draft and Final HCP, TG High Prairie, LLC was merged into Ameren Missouri on December 22, 2020 and no longer exists. Ameren Missouri, by operation of law, assumed all rights and obligations of TG High Prairie, LLC.

[2] The Council on Environmental Quality (CEQ) issued a final rule to update its NEPA implementing regulations, which went into effect on September 14, 2020. Because the Applicant's permit application was sufficiently complete prior to the effective date of the new NEPA regulations, the Service conducted the NEPA analysis under the regulations in effect prior to September 14, 2020.

underground collector line system, overhead transmission lines, laydown yards, switchyard, temporary batch plants, temporary crane paths, meteorological towers, and substations.

The USFWS issued a Technical Assistance Letter (TAL; dated June 2, 2020), prior to testing and commissioning, and operating turbines. The Service's TAL specifies operating parameters where take of listed bat species is unlikely. These operating parameters have changed as two bat fatalities indicated the initial 50ºF temperature and average 6.9 m/s wind speed thresholds were not effective at avoiding impacts to listed bats. A male Indiana bat was detected October 2020 and a female Indiana bat was detected April 2021. In response to these fatalities the Applicant has updated the HCP with additional protective measures, explained in the Final EA Sections 2.2.1 and 2.2.2. The Project is currently curtailing turbine operations from 45 minutes before sunrise to 45 minutes after sunset to avoid take until obtaining an ITP.

In order to operate turbines during periods of risk for listed bats, and thereby increase the renewable energy output of the Project, the Applicant has requested an ITP for take of the Covered Species that may occur as a result of the operation of the High Prairie Wind Facility over the next 6 years.

Alternatives Considered

Federal agencies are to develop, study, and briefly describe alternatives to any proposed action with the potential to result in unresolved resource conflicts (NEPA 102[2][E]). The EA describes the potential effects of the Applicant's proposed project (Proposed Action), a no-action alternative, and an action alternative including more restrictive operations. For a complete description of these alternatives and other alternatives that were considered but not evaluated further, see Chapter 2 of the EA.

The alternatives vary by the operational adjustments and the extent of mitigation needed for offsetting the take of Covered Species. Because operational adjustments are assumed to affect the level of take of Covered Species, they also affect the amount of mitigation needed to compensate for the impact of the taking.

Alternative 1: No-Action Alternative – The Service would not issue an ITP to the Applicant and the HCP would not be implemented. The Project would operate in a manner where take of listed species is unlikely for the life of the Facility or until a different HCP and ITP Application were prepared, submitted, and approved. The Service would provide an updated TAL that describes methods for further avoiding take (explained further in Final EA Section 2.2.2). To verify anticipated avoidance of take, the Applicant would conduct post-construction monitoring as specified in the TAL. Under the No-Action Alternative, the Service would update conservation measures in the TAL, as necessary, if additional new information at the site indicates current measures are not sufficiently protective of the Covered Species or if new information (e.g., results from ongoing research on bat activity under specific meteorological parameters) provides alternative parameters to avoid impacts.

Alternative 2: Applicant's Proposed Project – The Service would issue an ITP to authorize incidental take of Covered Species associated with operations as described in the HCP including: feathering all turbines at wind speeds below 5.0 m/s from 45 minutes before sunset to 45 minutes after sunrise, when temperatures are above 40ºF from April 1 through October 31, annually;

implementing a mitigation plan that more than fully offsets the impact of take through preservation of occupied forested habitat[3]; post-construction monitoring (and reporting results of these activities to the Service); implementing an adaptive management plan; and responding to changed circumstances. Funding assurances would be provided to implement the HCP including all mitigation and monitoring. The Service would issue an ITP for a 6-year permit term to authorize incidental take of 72 Indiana bats, 18 northern long-eared bats, and 96 little brown bats.

Alternative 3: More Restrictive Operations Alternative – The Service would issue an ITP to authorize incidental take of Covered Species associated with an HCP that includes: feathering all turbines at wind speeds below 6.5 m/s from 45 minutes before sunset to 45 minutes after sunrise, when temperatures are above 40ºF from April 1 through October 31, annually; implementing a mitigation plan that fully offsets the impact of take through preservation of occupied forested habitat (less mitigation would be provided than for Alternative 2); conducting post-construction monitoring (and reporting results of these activities to the Service); implementing an adaptive management plan; and responding to changed circumstances. Funding assurances would be provided to implement the HCP including all mitigation and monitoring. The Service would issue an ITP for a 6-year permit term to authorize incidental take of 48 Indiana bats, 12 northern long-eared bats, and 60 little brown bats.

II. Impact of HCP Implementation

The EA evaluated potential impacts that could result from the issuance of the ITP and implementation of an associated HCP (Proposed Action). The EA assisted us in evaluating effects on the human environment and in assessing the significance of the impacts that could result from the alternatives. "Significant'" under NEPA (40 CFR §§1500-1508 [1978])) requires consideration of both the context and intensity of short- and long-term effects of the proposal (40 CFR § 1508.27).

The Project is an existing facility (already constructed) and the potential effects associated with the Proposed Action (i.e., issuance of an ITP contingent on implementation of the HCP) would be the result of future Project operations.

Under the HCP, the Applicant commits to avoid, minimize, and fully offset take of Covered Species through the implementation of avoidance and minimization measures and protecting occupied habitat. These measures include, but are not limited to:

- Conducting any tree removal only during the inactive season for listed species of bats (November 1 through March 31) and avoiding any impacts to (not removing) known roost trees;

- Feathering turbine blades below 5.0 m/s from 45 minutes before sunset to 45 minutes after sunrise from April 1 through October 31 when air temperatures are above 40°F; and

- Adjusting turbine operations to curtail at higher wind speeds if any short-term adaptive management triggers are met. Short-term adaptive management thresholds are based on the annual take rate of 12 Indiana bats, or 16 little brown bats, or 3 northern long-eared

[3] The Applicant proposed mitigating through Chariton Hills Conservation Bank, which the Service authorized pursuant to a Conservation Bank Enabling Instrument (dated July 11, 2018; USFWS 2018)

bats. Additional short-term adaptive management thresholds are based on the number of detected fatalities and include the detection of 3 Indiana bat fatalities within a year, or 4 little brown bat fatalities within a year.

- Adjusting turbine operations to avoid take if long-term adaptive management triggers are met. Long-term adaptive management thresholds are based on the cumulative calculated take of 72 Indiana bats, or 18 northern long-eared bats, or 96 little brown bats. Additional long-term adaptive management thresholds are based on the cumulative number of detected fatalities and include the detection of 15 Indiana bats, or 4 northern long-eared bats, or 20 little brown bats.

- Adjusting turbine operations to avoid take if any maternity colony adaptive management triggers are met. Adaptive management thresholds are based on the cumulative calculated take of female bats from the same maternity colony. Thresholds include 21 Indiana bats, or 6 northern long-eared bats, or 21 little brown bats. Additional maternity colony adaptive management thresholds are based on the cumulative number of detected female fatalities from the same maternity colony and include the detection of 4 Indiana bats, or 1 northern long-eared bat, or 4 little brown bats.

- Avoiding impacts to Covered Species by adjusting operations (e.g., increasing cut-in speeds), as a result of adaptive management, up to the point of ceasing all turbine operations at night[4], from 45 minutes before sunset to 45 minutes after sunrise from April 1 through October 31

- Purchasing 217 acres/credits through Chariton Hills Conservation Bank[5]. To fully offset the proposed level of take, Chariton Hills Conservation Bank requires 162.2 acres of credit. The Applicant has voluntarily reserved 217 acres, which is 33.8% more mitigation than required to fully offset impacts to the species (54.8 additional acres)

While impacts to wildlife resources will be minimized through measures specified in the Applicant's HCP, project operations are anticipated to have adverse effects to Indiana bats, northern long-eared bats, little brown bats, non-listed bats, and some birds. However, implementing Alternative 2, the Proposed Action, would not result in significant impacts on any of the environmental resources identified in the EA.

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[4] The response to adaptive management exceeds typical avoidance measures at permitted wind facilities because the amount of suitable habitat may alter bat behavior such that traditional avoidance parameters are less effective than demonstrated at other facilities. This hypothesis is supported by the late September fatality of a male Indiana bat at High Prairie Wind Energy Center, while turbines were operating in a manner where take was unlikely (i.e., at a wind cut-in speed of 6.9 m/s, when temperatures are above 50ºF); and by the April fatality of a female Indiana bat, while turbines were curtailed at temperatures above 50 ºF.

[5] The Applicant will use Chariton Hills Conservation Bank, which the Service authorized pursuant to a Conservation Bank Enabling Instrument (dated July 11, 2018; USFWS 2018). Based on the outputs from the Resource Equivalency Analysis Models (REA Model) for Wind Energy Projects (USFWS 2016 *a, b, c*), TG High Prairie is required to purchase 162.2 acres of summer habitat mitigation to fully offset the taking.

III. Determination of Significance

The Council on Environmental Quality's regulations provide that the significance of impacts must be determined in terms of both context and intensity (40 CFR §1508.27). The Service used these criteria and considered public input to assess whether the impacts of the Proposed Action are significant. An evaluation of the context and the intensity of the effects of the Proposed Action (Alternative 2), as described in the Final EA, is provided below.

A. Context

In accordance with the CEQ regulations at 40 CFR §1508.27(a), the significance of an action "must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality." Under the regulation, what qualifies as significant varies with the setting of the Proposed Action. For instance, "in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short and long-term effects are relevant."

The Affected Environment explained in the Final EA (Section 3.1) provides the context in which the Proposed Action and associated impacts occur. The Proposed Action is the issuance of an ITP to authorize take caused by the operation of industrial turbines as described in the 6-year HCP. The Proposed Action does not include the construction or location of the Facility, only the seasonal timing and wind speeds at which the turbines operate and the associated mitigation. The turbine operational strategies in the evaluated alternatives involve changing cut-in speeds at night, for various seasons throughout the year. The Final EA includes an assessment of potential impacts to the biological environment (bats and birds), and the physical environment (noise). The impacts of the evaluated alternatives were analyzed in relevant temporal and geographic contexts.

Temporally, we analyzed potential impacts that could occur within the context of the 6-year proposed permit period, as well as potential impacts throughout the life of the Project (beyond the proposed 6-year permit term). We also assessed the long-term effects of the Project, beyond the term of the ITP (Project years 7–30; further explained in Final EA Section 1.2).

Geographically, we considered potential impacts in the context of Bird Conservation Region 22 (BCR 22; for birds), the Ozark Central Recovery Unit (OCRU; for Indiana bats), and the Service's Midwest Region 3 (all other bat species). We also analyzed effects at the maternity colony population-level for Covered Species, because there are multiple known and potential maternity colonies that may be impacted as a result of the Proposed Action.

B. Intensity

In addition to considering context, the Service considered the "intensity" of the Federal Action, which relates to "the severity of impact" 40 CFR §1508.27(b). We evaluated the Proposed Action under ten intensity factors:

1. 40 CFR 1508.27(b) (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on a balance the effect will be beneficial.

As discussed in Chapter 1 of the Final EA, the Proposed Action is the authorization of take for Covered Species resulting from the otherwise legal operation of the Project and implementation of the HCP. The Proposed Action does not authorize siting, construction, repowering, or operations of the Project. Because the Project is already operating, impacts to biological and physical environments resulting from the aforementioned activities are part of the baseline condition of the Proposed Action. The Proposed Action only influences the specified wind speeds at which turbine blades begin spinning at night, during times of year when bats are active.

As explained by the Final EA Environmental Consequences sections associated with each resource (section 3.3, for avian resources, 3.4. for bats, 3.5 for noise), the effects of the Proposed Action do not differ in nature or magnitude when compared to the No-Action Alternative, except for impacts to bats. Therefore, the analyses in the Final EA (Chapter 3) focus on impacts to bats, specifically Covered Species and migratory tree bats.

Regarding Covered Species, we analyzed the impact to resident maternity colonies under the worst-case scenario allowed by the maternity colony adaptive management strategy (i.e., the most intense impact in the shortest amount of time, before an adaptive management threshold is reached and further take is avoided). The maternity colony adaptive management strategy (explained in Final HCP Appendix B and Final EA Section 2.2.2 and summarized here) relies on detected bat mortalities to indicate where a colony could be and is protective of those potential colonies by triggering turbines within the area of fatalities to operate at avoidance (thereby ceasing any future impacts to a resident maternity colony).

We assessed the worst-case scenario-level impact of the Proposed Action to Covered Species at two population levels: 1) maternity colony level; and, 2) winter hibernacula level for Indiana bat, and the Missouri population level for the northern long-eared bat and little brown bat. The analyses also include the underlying impacts of White Nose Syndrome.

Analyses are fully explained in Section 3.4.2.1 of the Final EA, and Section 4 of the Service's Biological Opinion, and briefly summarized here. Under the worst-case scenario (i.e., highest amount of impact in the shortest amount of time) the modeled probability of extinction of a single resident maternity colony was 8.8% greater for Indiana bats, 2.2% greater for northern long-eared bats, and 27.5% greater for little brown bats when compared to the no action alternative. If there was an appreciable difference (e.g. loosely defined as greater than 5%, following the Buckeye Wind HCP Biological Opinion analysis) in the results between the baseline (i.e., no action alternative) and any of the take scenarios for any of the population units, we also analyzed how population-level impacts could impact the larger population level (i.e., hibernaculum and state-wide populations). Although there is no biological basis for the 5% threshold, this is a consistent threshold used indicate when a more in-depth analysis may be warranted – it is not a threshold that indicates significant effects. Analyses at the maternity colony-level demonstrate the potential for appreciable impacts to a single Indiana bat or little brown bat maternity colony. There are approximately eight Indiana bat, and four little brown bat maternity colonies onsite, and many more that contribute to the larger population (for example, Sodalis Nature Preserve hibernaculum supports at least 1000 colonies). Even if a single Indiana bat or little brown bat maternity colony was lost as a result of the Action, this would not be significant because of the number of colonies on the landscape. This is supported by the results of the analyses at the hibernaculum and state-level explained below.

WNS is causing declines in all the populations analyzed; however, our analyses demonstrate that even under the modeled worst-case scenario, impacts to the Missouri population of little brown bats and northern long-eared bats, and impacts to the Sodalis Nature Preserve (SNP) population of Indiana bats, are not meaningfully different from the No Action Alternative (≤0.001 difference from the No-Action Alternative throughout life of Project [where all modeled alternatives included impacts of WNS]). This is important because there are ongoing impacts resulting from WNS, but the Proposed Action does not add to these impacts in a biologically meaningful way. The results of the analyses demonstrate the impacts of taking Covered Species does not significantly affect the Covered Species' populations in Missouri and the OCRU, and these analyses do not include the positive impacts of mitigation, which is also part of the Proposed Action as explained below.

The impact analyses for Covered Species considered the maximum impact possible given the parameters of the HCP (e.g., adaptive management, take thresholds, permit-term) in advance of the proposed mitigation, which exceeds fully offsetting the impact of the taking. The Applicant has reserved 217 acres/credits at Chariton Hills Conservation Bank, which is 54.8 (33.8%) more acres than what is required to fully offset the impact of the take. Therefore, the Proposed Action does not have any meaningful negative impacts to Covered Species and may have minor beneficial effects.

Migratory tree bats make up most of the bat fatalities at wind energy facilities (Final EA Section 3.4.2.1.2). The Service used an all-bat fatality rate, derived from Service-compiled post-construction monitoring studies at wind energy facilities to estimate all-bat fatalities resulting from the Proposed Action. As a result of the Proposed Action, 1,543 individuals are estimated to be killed annually (9,261 estimated in total over 6 years). Several recent genetic analyses of migratory tree bats (*Lasiurus borealis* and *L. cinereus*) killed at wind facilities in Texas, Ohio, and Minnesota suggest individuals of each species are from a single range-wide panmictic population (i.e., mating is random with equal probability regardless of geographical location or genotype) (Korstian et al. 2015, Vonhof and Russell 2015, Sovic et al. 2016). We considered the impact of the Proposed Action to the species as a whole because there is no evidence of population structure that would indicate the need to protect different populations within the range. Korstian et al. (2015) found no recent evidence of population declines in either species, and both species exhibit high-levels of gene flow, connectivity, and effective population sizes (varies across species, but consistently large on the order of 10^5–10^6; Sovic et al. 2016). In light of these studies, we do not expect the Proposed Action to significantly affect migratory tree bats.

2. *The degree to which the Proposed Action will affect public health or safety (40 CFR 1508.27(b) (2)).*

There will be no significant adverse or beneficial change in the level or frequency of sound produced during turbine operations.

The vast majority of research indicates there is no direct human health impact from industrial wind turbines (Bakker et al. 2012, Knopper 2014, ICBEN 2017). However, industrial wind turbines may produce sound that is perceived to be more of a nuisance than other sources of sound. According to the noise production modeled by the Applicant, the maximum noise level at any residential receptor would be 49 dBA. Otherwise, most residential receptors in the Permit

Area would be exposed to 45.5 dBA or less. This noise level is comparable to a typical dishwasher in the next room or a quiet urban area (FAA 2020).

As explained in the Final EA Section 3.5, noise levels and the rate of occurrence of noise within and surrounding the Facility during daylight hours are not influenced by the Proposed Action. Nighttime noise levels will not change. However, the rate of occurrence of noise associated with operations at night may increase depending on the frequency and duration that wind speeds are above 5.0 m/s versus or above 6.9 m/s (i.e., under the No-Action alternative). The modeled annual average wind speeds in and proximal to the Project area range from 6 to 8 m/s (NREL mapper). Based on these data, the decrease in cut-in speed under the Proposed Action at night would not increase the time during which turbines operate to a point where impacts to public health or safety are meaningful.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (40 CFR 1508.27(b) (3)).*

Authorizing take under the Proposed Action does not alter characteristics of the geographic area, or significantly affect any park lands, wild and scenic rivers, wetlands, or ecologically critical areas. In addition, no known hibernacula or designated critical habitat are in or adjacent to the Project area. The Proposed Action occurs in an area with large amounts of suitable habitat and may impact more Covered Species summer maternity populations (i.e. colonies) than other permitted wind projects. Maternity colonies are important (and can be ecologically critical) because they are the reproductive unit driving species recovery. However, the Proposed Action does not significantly affect maternity colonies because it includes an adaptive management strategy that reduces the likelihood of a colony being lost. In addition, the Proposed Action offsets all impacts through mitigation (explained above). The Proposed Action will also result in Indiana bat fatalities that impact the SNP hibernacula population of Indiana bats. The SNP population is the largest hibernacula population of Indiana bats (180,000 individuals). However, impacts to this population are negligible because the Proposed Action has the potential to impact less than 1% of that population (as analyzed and reported in the Final EA Section 3.4.2.1.2). In addition, the hibernacula is more than 65 miles away, which is further than the typical 20-mile buffer to hibernacula that we recommend to minimize the potential for impacts on major concentrations of bats; and the radius of dispersal from SNP is extensive (based on the Service's and MDC's band return data).

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial (40 CFR 1508.27(b) (4)).*

The Selected Alternative would not result in effects on the quality of the human environment that are likely to be highly controversial. The intensity factor relating to controversy does not refer to the amount of public opposition or support for a project, but to a substantial dispute as to the size, nature, or effect of the action. Courts generally interpret controversy to mean disagreement within the scientific community about the nature of the effects. Authorizing take under the Proposed Action would mean that the operation of the Facility would commence as prescribed in the HCP. The HCP prescribes the wind speeds and timing at which turbines generate power, and

the mitigation required to offset the impacts to Covered Species. The level of authorized take, short permit term, monitoring protocol, and adaptive management plan provide certainty regarding the level of potential impact that could result from the Proposed Alternative. The maximum level of potential impact that could occur was analyzed and disclosed in the draft EA and public comments were considered and incorporated as appropriate in the Final HCP and Final EA. There is no significant controversy or dispute regarding the analysis of impacts.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b) (5)).*

The Proposed Action will not result in highly uncertain or unique or unknown risks. The Midwest Region 3 of the Service has worked with many operators of wind energy facilities since 2010 to modify facility operations under Section 10 of the ESA to avoid, minimize, and mitigate the impacts to listed bats. The Proposed Action is not unusual or unique to the Region or this Field Office and authorizing the requested take in the context of the HCP does not introduce uncertainty or unknown risks.

The Project is sited in an area with suitable summer habitat and multiple maternity colonies for Covered Species and has the potential to take more individuals than similar-sized projects; however, the proposed action (as detailed in the HCP) includes a structured monitoring protocol and adaptive management for containing risk to these populations. As explained in the Final EA (Section 2.2.2) and Appendix B of the HCP, the Proposed Action includes an adaptive management strategy specific to maternity colonies. The strategy ensures a limit to impacts on individual colonies by altering (adapting) turbine operations in response to specific monitoring triggers. This includes, if necessary, complete avoidance by ceasing turbine operation at night (when bats are active) in areas adjacent to colonies. The Final EA analyzed the effects under a worst-case scenario (i.e. highest possible impact in the shortest amount of time allowed by adaptive management sideboards). Should adaptive management measures be triggered, the applicant will adjust operations to ensure impacts remain within known parameters for which impacts have been analyzed, and keep the potential impact of the proposed action within known limits. Therefore, there are no highly uncertain or unique or unknown risks to Covered Species.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration (40 CFR 1508.27(b) (6)).*

The proposed action does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration; in fact, the proposed action is designed specifically to avoid significant effects from current and future actions. The length of the permit is not precedential, since the Service has already developed a short term wind HCP template based on a six year time period and issued the first ITP using this template on 3/8/21.

The Proposed Action involves the issuance of a 6-year ITP authorizing the Project to take Covered Species, as described in the Final HCP (Section 1.1) and Final EA (Section 1.3.1). The ITP would cover the first 6 years of turbine operation for a wind facility that is expected to have an overall lifespan of 30-years. Results from post-construction monitoring and site-specific

monitoring for maternity colonies in this first six years will inform current and future management decisions (and any future permit decisions) over the life of the Project. The results from these structured monitoring protocols were designed to study and better understand wind impacts to maternity colonies and inform future operations strategies that protect Covered Species at this Project site and throughout the region.

The 6-year term of the permit and associated monitoring study is intended to inform, rather than set precedent for, future actions, while minimizing impacts. By limiting the term of the permit and also implementing adaptive management that adjusts operations in response to pre-determined monitoring data triggers, potential impacts to Covered Species will be controlled (and significant impacts avoided) while data is collected.

Approval of the HCP and issuance of the ITP informed by this EA will not be determinative for future permit decisions because if the Applicant decides to pursue a subsequent ITP, the Service will evaluate that ITP application and comply with NEPA accordingly[6].

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b) (7)).*

The impacts of the Action on Covered Species were analyzed cumulatively with the impacts of White Nose Syndrome (WNS) and with estimated impacts at other wind energy facilities (i.e., impacts from turbine collisions). Impacts to migratory tree bats were evaluated cumulatively with impacts at other wind energy facilities, but WNS was not considered as these species are not affected by the disease. The cumulative effects are summarized below.

<u>Cumulative White-nose Syndrome Impacts</u>
The baseline impacts of WNS to Covered Species populations are causing population declines and the baseline probability of extinction for modeled populations (i.e. No-action alternative) is relatively high for all Covered Species (Final EA Section 3.4.2.3); however, the impacts from the proposed action when added to the impact of WNS does not change the overall trend of Covered Species populations. We evaluated the potential impacts of the facility to Covered Species' populations, cumulatively with the impacts of WNS, using the Bat Tool (Erickson et al. 2014; explained in Final EA Section 3.4.2.1.2). The results of the analyses demonstrate the cumulative impacts of WNS and the Action to the Missouri population of little brown bats and northern long-eared bats, and impacts to the SNP population of Indiana bats, are not meaningfully different (≤0.001 difference from No-Action Alternative throughout life of Project). In addition, the impact of the taking from the Proposed Action is more than fully offset through mitigation of occupied forested habitat. The cumulative effects of the Proposed Action and WNS to Covered Species are not meaningfully different from the No-Action Alternative, as evidenced from the results of the Bat Tool analysis, and the impacts to Covered Species are fully offset through mitigation.

[6] Although a longer-term ITP would constitute a separate action, the impacts of the Federal Action in question (Project years 1-6) would be analyzed as part of the baseline condition and included in the analyses associated with any future action.

Cumulative Wind Energy Facility Impacts to Indiana Bats

The incremental impact of the proposed action when considered with other past, present, and reasonably foreseeable future actions will not have a significant impact on Indiana bats. Estimated impacts from wind energy facilities in the Indiana bat Ozark Central Recovery Unit (OCRU) were analyzed cumulatively with the impacts of the Action. Annual mortality from other past, present, and reasonably foreseeable wind energy projects is unlikely to affect the OCRU because these impacts would affect less than 1% of the population annually. Further, lawful impacts to federally listed species at wind energy facilities are mitigated through compliance with ESA Section 10. Incidental take resulting from the Proposed Action could contribute up to 2.18% of the annual projected wind energy fatalities in the OCRU (2.18% of the less than 1% of the population indicated above). In addition, the Proposed Action's contribution to cumulative wind energy fatalities is not expected to change the trend in the OCRU population because the Proposed Action provides more mitigation than required to offset the full impact of the taking and, therefore, would have no impact (or a minor positive impact) to the OCRU population.

Cumulative Wind Facility Impacts to Northern long-eared bats

The incremental impact of the proposed action when considered with other past, present, and reasonably foreseeable future actions will not have a significant impact on Northern long-eared bats. Estimated impacts of wind energy facilities to northern long-eared bats in the Service's Midwest Region (Region 3) were analyzed cumulatively with impacts of the Action. Annual mortality from past, present, and reasonably foreseeable future wind energy projects is estimated to be less than 0.01% of the Region 3 population. Incidental take resulting from the Proposed Action could contribute up to 1.5% of the projected wind energy fatalities in Region 3 annually (1.5% of less than 0.01% of the population indicated above). However, the Proposed Action provides more mitigation than required to offset the full impact of the taking and, therefore, would have no impact (or a minor positive impact) to the Region 3 population of northern long-eared bats.

Cumulative Wind Facility Impacts to Little Brown Bats

The incremental impact of the proposed action when considered with other past, present, and reasonably foreseeable future actions will not have a significant impact on little brown bats. Estimated impacts of wind energy facilities to little brown bats in the Service's Midwest Region (Region 3) were analyzed cumulatively with impacts of the Action. Annual mortality from past, present, and reasonably foreseeable future wind energy projects may affect up to 0.25% of the little brown bat population in Region 3 annually. Take resulting from the Proposed Action could contribute up to 1.34% of the annual projected wind energy fatalities in Region 3 (1.34% of the 0.25% population indicated above). This small contribution is unlikely to affect trends in little brown bat fatalities at wind energy facilities or the population in Region 3. In addition, the Proposed Action provides more mitigation than required to offset the full impact of the taking and, therefore, would have no impact (or a minor positive impact) to the Region 3 population of little brown bats.

Cumulative Wind Facility Impacts to Migratory Tree Bats

The incremental impact of the proposed action when considered with other past, present, and reasonably foreseeable future actions will not have a significant impact on migratory tree bats.

As explained in the Final EA (Section 3.4.2.1.2), most bat mortality at wind energy facilities is attributed to migratory tree bats. Using a projected build-out of wind energy facilities in Region 3 (Final EA Section 3.2.1.1), and assuming the same baseline fatality rate for projected wind energy facilities, the annual baseline mortality in Region 3 could range from 230,249 to 424,111 bats per year. Migratory tree bats have shorter life spans than other bats, and females can produce multiple pups per year. Each of the covered species typically produce only a single pup each year. Given this higher potential for reproduction, migratory tree bat species may be capable of tolerating greater mortality than other species. Frick et al. (2017) explores various scenarios of hoary bat (*Lasiurus cinereus*) mortality in North America under several potential population sizes. The paper demonstrates that the magnitude of the impact of migratory tree bat mortality is very dependent upon the population size and growth rates. Range wide population estimates have not yet been estimated with precision, but recent research (explained above) has shown that eastern red bat (*Lasiurus borealis*)and hoary bat populations have large, well-connected populations and have not yet started to show genetic evidence of population declines (Korstian et al. 2015, Vonhof and Russell 2015, Sovic et al. 2016).

Impacts from the Proposed Action could contribute up to 0.85% of the projected Region 3 fatality rate for all bats, annually. This small contribution of the Proposed Action to the cumulative impact of migratory tree bats is unlikely to change the trajectory of bat fatalities in the Region or markedly impact populations of these species. Given the large well-connected populations of migratory tree bats, we do not expect the Proposed Action to disproportionally affect any one population of migratory tree bat nor have species-level impacts.

In summary, the impacts from the Proposed Action are unlikely to influence the current population trajectories of affected species because impacts to Covered Species are fully offset through mitigation, and because literature demonstrates large, well-connected populations of migratory tree bats. The cumulative impact of the Action and these effects are not significant.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources (40 CFR 1508.27(b) (8)).*

Authorizing incidental take under the Proposed Action, as explained in the Final EA (Section 1.3), specifically modifies how the Facility's wind turbines operate (i.e., the timing and wind speeds at which turbines generate power). The Proposed Action does not include construction or ground disturbance and would not impact districts, sites, highways, structures, or any objects that have potential to be listed in the National Register of Historic Places. There is no potential to cause the loss or destruction of any significant scientific, cultural, or historical resources.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973 (40 CFR 1508.27(b) (9)).*

Section 1.4 of the Final EA explains the need for the Action is prompted by the expected impacts of the Facility on Federally endangered and threatened bat species. As discussed under intensity

factors 1 and 7 (above), the Proposed Action will not result in significant adverse effects to endangered or threatened species and their habitats because 1) this action affects a relatively small percentage of each species' population; 2) the required monitoring and adaptive management strategy in the HCP will minimize impacts to individuals and onsite maternity colonies; and 3) the Proposed Action includes more mitigation—through protection of occupied forest habitat—than what is required to fully offset the impact of the incidental take.

For these reasons the Proposed Action will not significantly impact an endangered or threatened species or its critical habitat.

10. *Whether the action threatens to violate Federal, State, or local law requirements imposed for the protection of the environment (40 CFR 1508.27(b) (10)).*

Section 1.6 of the Final EA explains the environmental laws and policies that directly relate to the Federal Action, and we worked with the Applicant to maintain compliance with these requirements while providing technical assistance on the development of the HCP. The proposed HCP does not violate these laws, and, if issued, the ITP is conditioned on the continued compliance with all Federal, State, or local laws. The ITP authorizes incidental take for the otherwise lawful operations of the Facility; therefore, the Proposed Action would not threaten to violate Federal, State, or local law requirements imposed for the protection of the environment.

Public Involvement and Release of Draft EA and Draft HCP

The Service involved the public by making the draft EA and HCP available for review and comment. A Notice of Availability (NOA) for the draft documents was published in the Federal Register on December 1, 2020(85 FR 77234–77236). Public comments were accepted during a 30-day period following publication of the NOA. Both documents were available through the Regulations.gov website, and paper copies were available upon request. Four comments were received during the comment period. One commenter remained anonymous, one comment was from a private party, one set of comments was provided by Missouri Department of Conservation, and a comment was received from Terra-Gen Operating Company. Responses to comments on the Draft EA and Draft HCP can be found in Appendix G of the Final EA and are incorporated herein by reference. Substantive updates to the HCP and EA are summarized below.

Summary of Updates to the Final EA and Final HCP

After the public comment period closed, the Service and MDC coordinated with the Applicant to consider relevant information and recommendations received during the comment period and update the HCP accordingly. Several sections were updated for clarification and to strengthen the components of the conservation plan. Substantive updates to the conservation plan, in response to public comments include:

- A more protective maternity colony adaptive management strategy for little brown bats. The final maternity colony adaptive management thresholds are tiered and more protective than those published in the draft HCP and draft EA (further explained in Appendix B of the final HCP, and Section 2.2.2 of the final EA).

- Ten additional mitigation acres to provide additional benefits to Covered Species. As a result, 217 acres of forested habitat will be protected, monitored, and managed at Chariton Hills Conservation Bank in perpetuity. The final mitigation includes 54.8 more acres (33% more mitigation) than required to fully offset the taking.

The Service also considered relevant information and recommendations pertaining to the draft EA and updated the EA accordingly. Several sections were updated for clarification and minor corrections. Substantive updates to the draft EA, in response to public comments include:

- Updating the impact analysis to Covered Species to consider updates to the HCP, and report modeling results at year 50 to conform with methods established in Thogmartin et al. 2013.

On April 15th a female Indiana bat fatality was detected at High Prairie Wind Energy Facility. In response to this fatality the Applicant, in coordination with the Service and MDC, updated the conservation program to bolster the minimization and adaptive management strategies, and to include the fatality as part of the impact analyzed in the HCP. Specifically,

- Standard minimization protocol was updated to include a more protective temperature threshold (40ºF versus 50ºF) and a longer duration when turbines adjust operations before sunset and after sunrise (45 minutes before sunset and after sunrise versus at sunset and sunrise).
- Additional short and long-term adaptive management thresholds were updated to respond to the number of detected fatalities within a year and cumulatively. The detected fatality triggers add a back-stop that ensures turbines are responsive to adaptive management prior to the end of the year when cumulative annual take rate is calculated and assessed.
- The HCP was updated to consider the fatality as a take that occurred during HCP implementation and is "counted" towards the adaptive management thresholds that limit the extent of the impact that could occur during HCP implementation. Therefore, when the ITP is issued one bat will already be counted for the annual take limit adaptive management threshold (1 of 3 Indiana bats detected); the annual take rate threshold (evaluated annually); the projected total take threshold (evaluated annually); and the maternity colony adaptive management strategy (1 of 4 bats detected, and as part of the calculated take threshold).

In addition, the Service updated the EA to reflect the updates to the final HCP, however no updates were required to analysis because the HCP was modified to ensure the impacts of the April fatality are considered during HCP implementation such that the project stays within the sideboards of the impact of the taking analyzed in the HCP, the Service's EA, and the Service's Biological and Conference Opinion.

V. Service Finding

Following a comprehensive review and analysis of the HCP and consideration of the findings presented in the EA and summarized above, the Service has decided to issue an ITP for Alternative 2. Alternative 2 best meets the agency purpose and need to conserve listed bats and respond to an ITP application, while fulfilling our statutory mission and responsibilities and considering economic, environmental, technical, and other factors. We base this decision on the review of information taken from:

1. Public comments on the draft EA and draft HCP.
2. Alternatives and their environmental consequences analyzed in the draft EA and final EA.
3. Draft HCP and final HCP.
4. Memo from Stantec dated 4.14.2021.
5. Service's Biological Opinion.
6. Service's Statement of Findings.

VI. Conclusion

Based on review and evaluation of the information contained in the EA and supporting information listed above, I have determined that issuing an ITP for Alternative 2 is not a major Federal action that would significantly affect the quality of the human environment, within the meaning of section 102(2)(c) of the NEPA. Accordingly, the Service is not required to prepare an environmental impact statement for this action. Furthermore, I have determined that issuing an ITP for Alternative 2 will have no significant impact on any of the environmental resources identified in the EA.

CHARLES TRAXLER

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U.S. Fish & Wildlife Service

Date

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