Version Date: August 5, 2024

Directions: The language in red is meant as directions for the Field Office and should be deleted in the final draft of the TAL. Language highlighted in blue should be selected as appropriate and included pertinent project-specific information.

Please insert letterhead for FO

[Insert Date]

[First and Last Name]
[Title, Agency]
[Street Address]
[City, State Zip]

Subject: [Name of Project, County, State]
Technical Assistance Letter for Operational Avoidance for Tricolored Bats (TCB) under Option 2 (Effective for [enter year(s)])

Dear [Title and Last Name]:

The U.S. Fish and Wildlife Service (Service) has been coordinating with [company name] on behalf of the [specific wind project company name (i.e., normally an LLC)] (Project) regarding their development of the [project name](Project), an approximately [size of facility in MW] wind energy facility in [location county(ies), state]. On [insert date], the Project requested the Service provide them with a technical assistance letter (TAL) documenting their compliance with the Endangered Species Act of 1973 (ESA; as amended) for the federally endangered tricolored bat (*Perimyotis subflavus*; TCB) following the Service's *Land-based Wind Energy Avoidance Guidance for the Tricolored Bat* (Guidance) (dated [insert guidance date]) using an algorithm-based informed curtailment (ABIC) approach (Option 2).

Section 9(a)(1)(B) of the ESA, 16 U.S.C.§ 1538 (a)(1)(B), makes it unlawful for any person to "take" an endangered species. "Take" is defined by the ESA as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" 16 U.S.C. § 1532(19).

Note: Pre-construction surveys or post-construction bat summer surveys are optional in the following cases:

1) Project falls outside the current range of TCB found on the Species Profile for Tricolored bat(Perimyotis subflavus) (fws.gov). These projects do not need to complete summer surveys and we assume that TCB are not on the landscape during the summer. The Service does assume migratory risk for these projects if they fall within the wind range of TCB found here: Land-based Wind Energy Voluntary Avoidance Guidance for the Tricolored Bat | U.S. Fish & Wildlife Service (fws.gov),
2) Project is within a known summer occurrence record buffer and will assume presence for the project, or

3) Project will assume presence without any current occurrence records.

Use for projects with no summer risk because outside of the current range AOI.
No pre-construction surveys were completed of the project area because [insert project name] falls outside the current range of tricolored bat as found on the Species Profile for Tricolored bat(Perimyotis subflavus) (fws.gov). We therefore assume that tricolored bats are not on the landscape during the summer at this facility. In addition, the Service is not aware of any tricolored bat maternity colonies within 3-miles of the project area outlined in the Guidance and can operate during the summer risk periods [insert summer risk dates e.g., May 15- July 14)] feathered below the Project's turbine(s) manufacturer's cut-in speeds.

Use for projects that assume summer risk without completing summer surveys:
No pre-construction surveys were completed of the project area because [insert project name] is within a known summer occurrence record buffer for tricolored bat. We therefore assume summer presence of tricolored bat and will implement the summer risk curtailment strategies in the Guidance. OR
No pre-construction surveys were completed of the project area because [insert project name] assumes that the facility has summer risk to tricolored bat and therefore will implement the summer risk curtailment strategies in the Guidance.

Use for projects with possible summer risk and that conducted pre-construction surveys. Survey results showed TCB presence:
The [insert project name] wind facility has summer risk to tricolored bat and therefore will implement the summer risk curtailment strategies in the Guidance (feather turbines below 11.2 mph (5.0 m/s) from [insert correct dates based on location].

Use for projects with possible summer risk and that conducted pre-construction surveys. Survey results showed TCB probable absence (negative survey results):
Pre-construction surveys[1] of the [insert project name] wind facility [insert year(s)] indicated no summer presence of the tricolored bat. In addition, the Service is not aware of any tricolored bat maternity colonies within 3 miles of the project area outlined in the Guidance. The [insert project name] can operate project turbines during the summer risk periods [insert summer risk dates (e.g., May 15- July 14)] feathered below the Project's turbine(s) manufacturer's cut-in speeds.

To ensure that take of tricolored bat is not reasonably certain to occur, the [insert company name] commits to the following operating procedures (Table 1) ["in Year 1" or "designed using an ABIC approach"], monitoring, and reporting for their [insert project name] project. Additionally, [insert company name] has followed Appendix B *Sideboards for Smart Technology Strategies to Achieve Avoidance for Tricolored Bat* and commits to follow the sideboards, program development, program structure and implementation, and reporting procedures specific

[1] Surveys were conducted according to the Service's [insert year(s)] ["Range-wide Indiana Bat Survey Guidelines" or "Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines"]

to Option 2 of the Guidance.

Specifically, in Year 1, [insert company name] will install [insert number and name of acoustic units used (I.e., make and model)] on [insert number of turbines] to collect acoustic data to understand tricolored bat risk at the project. Each unit will be fitted with a [insert microphone model] with an anticipated detection distance of [insert distance]. Microphones will be placed [insert placement details]. Acoustic detectors will record daily bat activity from 30 minutes before sunset to 30 minutes after sunrise. At the end of Year 1, [insert company name] will develop an ABIC strategy based on site-specific tricolored bat risk at [insert project name] wind facility in [insert county, state]. The ABIC strategy for the project must include all identified TCB acoustic call files from Year 1 (determined by Service-approved auto-ID programs[2] and manually vetted[3]) and must be as equally protective as Option 1 (i.e., demonstrate that turbines were feathered during all periods when tricolored bat calls (or >40 kHz calls) were detected, at a minimum, under the conditions [season, temperature, wind speed, etc.] specified in Option 1).

This table should be modified for Year 1 (i.e., operating under Option 1, while collecting data to develop the ABIC approach) under Option 2. Note a streamlined approach is an option for projects that want to reduce the number of curtailment threshold modifications over a given year. The streamlined approach would require projects to feather turbines below 11.2 mph (5.0 m/s) from March 15 to July 14, 15.4 mph (6.9 m/s) from July 15 to September 30, and 5.0 m/s from October 1 to November 15. The specific timing of curtailment will be dependent on the project location (see Appendix A). If a project does not have summer risk, it can operate at manufacturers cut-in speeds from May 15 to July 14. Year-round active zones will need to use a curtailment speed of 11.2 mph (5.0 m/s) from November 16 to March 14. Note, there may be alternative curtailment strategies that may be accepted on a project-by-project basis for projects with data indicating lower risk to TCB. These project(s) should provide the justification and data to the local Field Office which will coordinate with the Regional Office for consistency. The TAL for the following years will insert the ABIC cut-in speeds that have been designed based on the results of the project-specific ABIC model. Note, that the ABIC cut-in speeds need to be equally protective as Option 1 (i.e., blanket curtailment), which means reducing the risk to all bats and/or TCB by 90%, the threshold that we believe take is not reasonably certain to occur for most projects.

Note that the active period dates may be modified if site-specific data suggest that risk to TCB is not reasonably certain to occur after a certain date in areas with hibernating populations. For example, in Missouri, a project has shown that TCB activity is greatly reduced after October 31

[2] Automated Acoustic Bat ID Software Programs | FWS.gov. Note, that all auto-ID programs are considered candidates in portions of ND, SD, MT, NE, and KS. In these areas, two auto-ID programs should be used and the results cross-referenced. This process and a depiction of these areas are available in the Service's Range-Wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines (page 8, step 6).

[3] Currently approved programs have some bias in correctly identifying tricolored bat calls to the 0.05 MLE value typically used for Indiana and northern long-eared bats. We recommend that all call files identified as TCB be vetted even if the MLE is below 0.05 to mitigate this bias.

annually so this project would not need to feather turbines below 11.2 mph (5.0 m/s) from November 1 to November 15th annually.

**Table 1. Operational measures (cut-in speed) displayed in miles per hour (mph) and meters per second (m/s) by date, for tricolored bats at the [Insert project name] wind facility in [insert County, State]. At minimum, turbines should be feathered below the curtailment wind speeds starting ½ hour before sunset to ½ hour after sunrise when temperatures are above 40°F[4].**

| Dates | Cut-in Speed in mph (m/s) |
|---|---|
| January 1 – March 14 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (i.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |
| March 15 – 31 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (i.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |
| April 1 - 14 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (I.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |
| April 15 – 30 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (I.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |

[4] Temperatures should be measured at the nacelle and can be specific to individual turbines on a project. We based this temperature threshold on data collected at a wind facility in Missouri and Jordan (2020).

| | |
|---|---|
| May 1 – 14 | ["11.2 mph (5.0 m/s)" for Year 1 (I.e., Option 1) or insert the project-specific ABIC cut-in speed] |
| May 15 – 31 | ["11.2 mph (5.0 m/s)" or insert the manufacturer's cut-in speed for the Company's turbine model depending on if there is summer TCB risk for Year 1 or insert the project-specific ABIC cut-in speed] |
| June 1 – July 14 | ["11.2 mph (5.0 m/s)" or insert the manufacturer's cut-in speed for the Company's turbine model depending on if there is summer TCB risk for Year 1 or insert the project-specific ABIC cut-in speed] |
| July 15 – 31 | ["13.4 mph (6.0 m/s)" or insert the project-specific ABIC cut-in speed] |
| August 1 – September 30 | ["19 mph (6.9 m/s)" or insert the project-specific ABIC cut-in speed] |
| October 1 - 31 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (I.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |
| November 1 - 15 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (I.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |
| November 16 – December 31 | [insert the recommended cut-in speed or delete this row if "N/A", use data from Appendix A of the Guidance for Year 1. In subsequent years insert the project-specific ABIC cut-in speeds, if applicable (I.e., no cut-in speeds are needed if Appendix A has a "N/A" for the project state and/or zone] |

[1] Project should feather turbines below these cut-in speeds. Feathering occurs when turbine blades are pitched parallel with the prevailing wind direction to slow rotation speeds (generally less than 1 rotation per minute).

In addition to implementing the operational measures specified in Table 1, [insert company name] will develop and implement a detailed post construction mortality monitoring (PCMM) plan in coordination with the Service's [insert field office name] that will include specifics on the numbers of turbines searched, size of plots, frequency of searches, details on bias correction

trials, and statistical analyses. By January 31, of each year that this TAL is implemented, [insert project company name] will provide an annual report to the Service's [insert field office name] that describes the operational measures implemented that year, along with any results of the monitoring as prescribed in the detailed PCMM plan created in coordination with the Service. The framework for the monitoring program is as follows:

- The Project will develop and implement a detailed PCMM plan in consultation with the Service and will use [insert either: "EoA to design a PCMM plan" or describe the alternative sampling design method] to achieve [insert either "a minimum cumulative detection probability (g) of 0.08 in Year 1 or 0.2 in Year 2" or an alternative approach to achieve similar detection certainty]. The plan will specify data to be collected, searcher efficiency trials, carcass persistence trials, area correction, and other appropriate measures. The Project may periodically consult with the Service regarding cost-effective and logistically feasible changes to the monitoring approach and implementation of applicable new methods or regulatory changes.

- Efficacy monitoring protocol will consist of two components[5] while this TAL is in effect: (1) PCMM for two years designed to achieve ["a minimum detection probability (g) of 0.08 in Year 1" or "0.2 in Year 2" or the agreed upon alternative approach] during the entire active season for bats [insert dates for your FO]; and (2) PCMM every 7 years afterward designed to achieve [insert either "a g of 0.08" or the agreed upon alternative approach] during the entire active season for bats [insert dates for FO].

- If any tricolored bat carcasses are found during PCMM, [insert company name] will report the fatality within 24 hours of discovery to the [insert local Field Office and contact information] and the Service's Office of Law Enforcement (OLE) [insert local OLE information]. If bat identification of a found carcass is not possible, genetic testing will occur, while waiting for results the project will continue to operate under the TAL. In addition, the Project will immediately work with the Field Office to determine and modify operations to ensure operational avoidance for tricolored bats (e.g., modifying the ABIC protocol for the single turbine or a group of turbines, modifying the ABIC protocol for the project; not operating at night, during the period of risk for ½ hour before sunset to ½ after sunrise; etc.).

Annual reports will be sent to the Field Office by January 31st[6]. Annual reports will reaffirm that operational commitments were implemented (i.e., operating at cut-in wind speeds and if PCMM was implemented as designed[7]). Annual reports with PCMM will include compiled bat fatality

[5] The Service is currently developing a monitoring framework for wind facilities with low risk of taking listed bat species. We intend to use the new framework in place of these monitoring requirements when completed.
[6] Projects may request an extension if needed by contacting the local Field Office.
[7] The Service will accept the monitoring results if the report demonstrates that post-construction mortality monitoring was implemented as designed (i.e., resulting g-value may fall short of 0.2 as long as monitoring was implemented as designed).

data for all bat species using this reporting form [(Region 3 Wind Post-Construction Monitoring Bat Reporting Form | FWS.gov) or insert another reporting form that your FO would like to use]. Projects should provide the auto-identification output Excel spreadsheets with the following information amended for each bat call file, columns that 1) verify that every tricolored bat call has been vetted8, 2) the name of the person who vetted the acoustic call, and 3) columns with the corresponding 10-minute rolling average temperature and wind speed for each tricolored bat call file9. All bat species acoustic calls should be included in the file Once the report is submitted, the Project should continue to operate under the TAL and the Service will provide email confirmation that the TAL is still valid within 90 days after a report is received.

As of the date of this letter, the [insert field office name] concludes that the Project is not reasonably certain to result in take of tricolored bats. The Service reached this conclusion through coordination and ongoing discussions with [insert project company name], including [insert project company name]'s commitment, in writing to the Service, that the above measures will be implemented as long as the TAL is in effect. If applicable, we recommend that [insert project company name] further coordinate these plans with the [insert state agency name], as the tricolored bat is a [insert either: state-listed species, species of conservation concern, or the specific language used by the state agency]. Please contact [insert state name and contact information].

This office is not authorized to provide guidance in regard to the Service's Office of Law Enforcement (OLE) investigative priorities involving federally listed species. However, we understand that OLE carries out its mission to protect ESA-listed species through investigation and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to minimize the likelihood of take such that it is not reasonably certain to occur for tricolored bats. It is not possible to absolve individuals or companies from liability for unpermitted take of listed species, even if such take occurs despite the implementation of appropriate minimization strategies to which the likelihood of take is not reasonably certain to occur, such as described in the Guidance. However, the OLE focuses its enforcement resources on individuals and companies that take listed species without identifying and implementing all reasonable, prudent, and effective measures to minimize the likelihood of take such that take is not reasonably certain to occur. To be in compliance with the take prohibitions of the ESA, the facility must work with the Field Office to implement additional avoidance measures (e.g., not operating at night during the period of risk, etc.) and consider applying for an incidental take permit under 10(a)(1)(B) or initiate consultation through 7(a)(2) of the ESA. This office concludes that, if [insert project company name] follows the measures above, the [insert project name] project is not reasonably certain to take ESA listed species.

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[8] [8] If a project is proposing to use high-frequency bat acoustic calls (>40 kHz) or all bat calls individual tricolored bat acoustic call files do not need to be vetted.

[9] If a project is proposing to use high-frequency bat acoustic calls (>40 kHz) or all bat calls the 10-minute rolling average data should be provided for these calls, respectively.

Thank you for your continuing coordination on project development. Should you have questions regarding this TAL, please contact [Insert FO contact name and contact information], at our office.

Sincerely,

[insert Field Supervisor name]
Field Supervisor

cc: [insert state agency contact for bats and wind projects, if applicable]