



# Animal Welfare Institute

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**BY ELECTRONIC (via [www.regulations.gov](http://www.regulations.gov)) AND REGULAR MAIL**

Attn: Public Comments Processing  
Attn: FWS-R5-ES-2012-0059  
Division of Policy and Directives Management  
U.S. Fish and Wildlife Service  
4401 N. Fairfax Drive  
MS 2042-PDM  
Arlington, VA 22203

RE: Application for an Incidental Take Permit (ITP) and associated Habitat Conservation Plan (HCP) from Beech Ridge Energy, LLC; Service's associated draft Environmental Impact Statement (EIS)

To Whom It May Concern:

On behalf of the Animal Welfare Institute (AWI), please accept the following comments on the Draft Environmental Impact Statement (DEIS), Habitat Conservation Plan (HCP), and Application for Incidental Take Permit (hereafter ITP application) for Beech Ridge Energy, LLC (BRE). This comment letter focuses on the HCP and DEIS but is also based on evidence obtained from a variety of other sources including scientific studies, case law, Federal Register notices, and legal briefs and affidavits submitted in past litigation on this subject.

This HCP, ITP, and DEIS are of significant importance to the endangered Indiana bat and Virginia big-eared bat (VBEB), as well as other sensitive species such as the northern bat and eastern small footed bat, and species covered under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA). As federally protected endangered species, the Endangered Species Act (ESA) requires that these species be afforded the highest of priorities, that their protection and recovery be paramount for all with management responsibility, and that their take be prohibited unless allowed by the U.S. Fish and Wildlife Service (FWS) through, for example, an ITP. The protections afforded to species under the ESA are mandatory and not subject to agency discretion, concern about convenience or inconvenience to user groups, or to inherent biases in support of or opposition to wind energy.

Considering the deficiencies identified in the DEIS and Draft HCP by AWI and others who have participated in this decision making process,<sup>1</sup> BRE and the FWS should correct the HCP and amend the DEIS and republish both for public review and comment. Alternatively, given the complexity of the issues addressed in the DEIS and Draft HCP, the FWS should consider reopening the comment period to solicit additional informed comment on the documents in order to make a more informed decision.

AWI notes that the FWS did not identify a particular alternative as its proposed action. Alternative 2 is currently identified as the proposed action as that is the alternative preferred by BRE. AWI supports the development of renewable energy projects, including wind energy, though it believes that such facilities must be sited and operated in a manner that minimizes impacts to wildlife, including protected species, and humans. Consequently, AWI's preference in regard to the alternatives subject to serious consideration in the DEIS would be, in order, Alternative 4, Alternative 1, Alternative 3, and Alternative 2.<sup>2</sup>

Prior to addressing the analysis in the DEIS, there are several substantive concerns and comments in regard to the content and analysis contained in the HCP. They are:

- **Presence of Bald and Golden Eagles:** In discussing the presence of bald or golden eagles on the project site on page 7, the draft HCP concludes that “potential to take a bald or golden eagle at the site is low to none, and thus, eagles are not included as covered species in this HCP” It is unclear what evidence is available to substantiate this conclusion. Though the project area may not be ideal habitat for bald and/or golden eagles it is very near a major raptor migration corridor and, therefore, given the protections afforded by the MBTA and BGEPA, it should be assumed that one or both eagle species may use or transit the project area and that, therefore, the HCP should include them as covered species. Indeed, the FWS has determined that an EIS is an appropriate level of review for this Project given the potential for significant cumulative effects to bats and birds (*see* DEIS, 14 (emphasis added)) and that “the Service assumes that Golden eagles winter and migrate through the project area.”<sup>3</sup>

Furthermore, there is considerable evidence in the scientific literature indicating that birds, and particularly eagles and other raptors, are killed and otherwise harmed by wind turbines. If surveys or historical FWS or West Virginia Division of Natural Resources (WVDNR) records indicate presence of such bird species on this project site, the species should be covered by the HCP and the direct and indirect impacts implicated by the project must be analyzed in the Service's NEPA documentation. In addition, though the existing avian surveys likely underestimated the number of eagles in the project area, the Avian Protection Plan still reports 16 sitings of golden eagles in the project area. Given this information, the FWS must reassess the potential impacts of the project on eagles and

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<sup>1</sup> AWI is aware that the American Bird Conservation (ABC) and the Conservation Law Center (CLC) submitted comments in response to the DEIS and Draft HCP. AWI incorporates by reference the comments submitted by these two organizations. AWI's comment letter identifies some of the same concerns as identified by ABC and CLC but it also identifies other relevant concerns.

<sup>2</sup> However, the specifics of Alternative 3 are used for the sake of example below

<sup>3</sup> DEIS, p. 107

must reevaluate such impacts within the DEIS. Furthermore, considering that no take of a bald or golden eagle is allowed without an eagle take permit, the FWS must either direct BRE to apply for said permit or must explain why a permit is not necessary in this case. If it elects to do the former, it won't be able to issue a permit since the 2009 eagle take permit rules indicates that permits for the take of golden eagles will not be issued east of the 100<sup>th</sup> meridian except under emergency circumstances. If the FWS expects to allow golden eagles take to be permitted under a multi-species HCP, this was not evaluated in the 2007 eagle take rule and, therefore, would need to be evaluated in a separate NEPA process before the current planning process could be completed. Considering that only an estimated 1,000 to 2,500 individual golden eagles are believed to survive,<sup>4</sup> this is not an issue that can be ignored.

- **Impact to Critical Habitat:** Not only should direct impacts to all bat (and bird) species residing in this area be considered and analyzed in a DEIS, but so too should the impacts to their habitat that is critical to proper ecosystem functioning and species survival by avoiding disruption of essential biological behaviors. Within the project footprint, for example, many acres of forested habitat were cleared to make way for the project's turbines, roads, and related infrastructure – activities that likely impacted (and still impact) bats and birds in the area through adverse modification and fragmentation. For example, page 36 of the HCP states that:

“[T]he construction of the 33 additional turbines could result in take of Indiana bat or Virginia big-eared bat if such construction involves destruction of a tree with roosting Indiana bats or Virginia big-eared bats. Conversion of 124 acres of forested lands to grass/shrublands could also reduce available Indiana bat and Virginia big-eared bat foraging habitat. Available information indicates that neither of these actions is likely to result in take of covered species (analysis provided in Section 4.0).”

These two statements are contradictory. Either the construction of the turbines and associated activities will result in a take of these species or it won't. While conducting such clearing during the hibernation season may reduce or eliminate direct take, the permittees has inexplicably requested permission to clear 15 acres of land outside of the hibernation season in order to have the flexibility needed in case clearing activities are disrupted by inclement weather during the hibernation season. Under no circumstances should the permittee be able to clear any land or trees except during the hibernation season and, for maintenance work (i.e., trimming of tree limbs) that may be necessary during the non-hibernation period, the permittee must be required to inspect the tree for any evidence of bat use prior to clearing/cutting.

- **Length of Term:** The proposed term of the ITP - is 25 years – this is a long time, particularly given that this is a relatively new activity for which there are many

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<sup>4</sup> Todd Katszner, et al. 2012. Status, Biology, and Conservation Priorities for North America's Eastern Golden Eagle Population. *The Auk*, 129(1):168-176.

uncertainties and unknowns in regard to environmental impacts. Indeed, the project's minimum estimated life span (20 years) is less than the duration of the permit. Nevertheless, the FWS dismissed from consideration an alternative that would have granted a 10 year permit with the potential for renewal. This seems to have been done mainly for the convenience of the permittee and the FWS. However, considering the potential impacts that this project poses to federally protected species (and species that may soon receive federal protections), consideration of a 10 year permit would be advisable.

- **Night-Time Turbine Operation:** The permittee has proposed an experimental process intended to assess the impact of variable turbine operational parameters on Indiana and other bats and birds. Yet, instead of designing the experiment to maximize protections and then, if the data permits, reducing such protective restrictions the permittee is assuming that take will be low and will only impose additional restrictions on turbine operations depending on the amount of take detected. Notwithstanding the fact that detecting take of birds and bats, particularly smaller species, is imprecise, this proposed experimental strategy ignores the mandate to minimize take to the extent practicable as the first step toward potentially obtaining an ITP. Higher cut-in speeds and limits on night-time operations should be the standard for turbine operations with the potential to reduce such restrictions only if documented take is sufficiently low to justify such alterations.
- **2010 Mist Net Survey:** Because Indiana bats are virtually certain to be on this site, the surveying/mist netting approach taken here in 2010 makes little scientific sense. As in 2005-2006, the 2010 survey appears to be trying to answer *whether* Indiana bats and Virginia Big-eared Bats (VBEBs) are on and/or fly through this site. Since we know definitively that they are and do, the 2010 survey should have instead answered a different question – *where* and in *what numbers* will these species occur. The best methods for this would be radiotracking from nearby hibernacula, employing acoustic monitor, or alternatively starting at the site where Indiana bat calls came from in 2005 and conducting intensive mist netting on and around that site to look for relative abundance of the species in that general area, and then fan outward utilizing netting and acoustic detection. At bare minimum, a highly targeted mist netting and acoustic detection survey could have pinpointed the locations on the site that bats generally, and Indiana bats specifically, use more frequently as compared to other locations on the project site. Since those types of targeted surveys were not conducted, we and the FWS are left with a survey that has at best limited value to the important questions that exist *now*. The placement of acoustic detectors is also difficult to understand; most field researchers with expertise place acoustic detectors at *every* mist net site during the mist netting period. That was not done in the 2010 survey; in that case, acoustic detectors were placed in locations different from the mist nets and often during different times. This makes little sense because the two methods are meant to *supplement* each other to reduce the uncertainties inherent in each method, not to be used in isolation.

Furthermore, though the 2010 survey was conducted and, again, based on the analysis of an independent bat expert, revealed the presence of Indiana bats within the project area, it

still is only a single year worth of research. More research must be conducted – by independent biologists – to adequately determine Indiana and VBEB use of the project area.

- **Selective Use of Data to Reach Unfounded Conclusions:** In discussing presence of Indiana bats on the project site: The draft HCP concludes that “the occurrence . . . of Indiana bats in the Project area is probably quite low.” See HCP at 49 and 61. However, this conclusion is in direct contradiction of exhaustive trial testimony provided by several of the nation’s leading bat biologists that Indiana bats are present on the project site in spring, summer, and fall – not to mention that the conclusion flies in the face of a federal judge’s factual determination that Indiana bats will be on the project site in spring, summer, and fall. *Beech Ridge Energy*, 675 F. Supp. 2d at 575 (“conclud[ing] by a preponderance of the evidence that there is a virtual certainty that Indiana bats are present at the Beech Ridge Project site during the spring, summer, and fall”). In addition, the conclusion is scientifically baseless in light of confirmed Indiana bat presence on the site as a result of previous, albeit very limited, acoustic surveying conducted in summer 2005.<sup>5</sup>

There is selective use of data in order to reach unfounded conclusions in numerous instances in the HCP. For example, on page 61, the HCP uses the fact that “[o]nly three Indiana bats have been documented as wind turbine fatalities despite over 3,000 bat fatalities reported by wind project monitoring studies in Indiana bat range” to somehow purportedly justify the conclusion that “the likelihood of Indiana bat take at the Project is low.” The fact that three members of an extremely rare species have been confirmed dead *is* relevant because it refutes any notion that Indiana bats are less susceptible to turbine collisions and/or barotrauma than other myotis species, and further 3 out of 3,000 is significant considering the rarity of the Indiana bat compared to other bat species.

Moreover, FWS has explained that the Fowler Ridge site (where two of the confirmed Indiana bat deaths occurred) was a site with a *very low likelihood* of Indiana bat take – far lower than Beech Ridge – because the Fowler Ridge site is more than 100 miles from the nearest known hibernacula or maternity colony. As such, the available evidence indicates that the risk here is *higher* than at a site like Fowler Ridge, and that comparison should be accounted for in reaching conclusions, if BRE intends for those conclusions to be biologically defensible. Also relevant on this point is the fact that very few operating wind facilities have in fact conducted sound post-construction monitoring, and even those that have done so have poor identification measures in place (as seen at the trial where a

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<sup>5</sup> The draft HCP also fails to account for the expected increase in Indiana bats and other bats that will be attracted to the project site during spring, summer, and fall once the full turbine array is erected. As explained in extensive trial testimony by leading bat ecologist Tom Kunz, the best available scientific evidence indicates that the clearing of turbine corridors (which creates forest edge), in conjunction with large wind turbines that tower over trees in the vicinity (which leads to curiosity particularly during the fall mating season), results in an increased presence of bats on wind project sites known as a “sink effect.” *Beech Ridge Energy*, 675 F. Supp. 2d at 569. Therefore, because Beech Ridge Energy’s activities can be expected to attract more bats to the project site – particularly during migratory stopovers when high mortality rates are known to occur – that evidence should be incorporated into the discussion of presence and the take estimate should be adjusted accordingly.

fork lift operator was in charge of identifying bats at one facility). Thus, we know that 3 Indiana bat deaths have occurred, but it is widely expected in the independent scientific community and within the FWS that far more Indiana bats have been killed and either not observed by the extremely limited monitoring occurring or mislabeled by untrained identifiers.

- **Presence of Indiana Bats:** Although the draft HCP attempts to minimize the import of the “very low number of potential recorded calls relative to the overall number of recorded calls (6 out of 12,431, or 0.04%; *see* HCP at 51), plaintiffs’ experts – and particularly Dr. Lynn Robbins who is widely considered one of the world’s leading researchers using the AnaBat acoustic monitoring system – testified that the existence of approximately eight calls in such a limited temporal and geographical scope of the project site indicated a very significant presence of Indiana bats on the project site that would have likely been confirmed had acoustic monitoring been properly undertaken and analyzed across the project site. Thus, the acoustic data collected to date supports the scientific conclusion that Indiana bats will be present in significant numbers on the project site in summer, as well as during spring and fall.<sup>6</sup>

Dr. Robbins’ extensive analysis not only confirms what West’s acoustic analysis found – that Indiana bats were present on the project site yet again in 2010 – but also identifies certain turbine locations and mist netting locations as receiving particularly high concentrations of Indiana bat calls, suggesting that these locations might be unsuitable for wind energy production on a micro-siting level. Moreover, in light of the fact that the 2010 acoustic calls reinforce that Indiana bats have used the project site in both 2005 and 2010, and will continue to do so, we believe that additional mist netting and acoustic monitoring is needed under the circumstances to identify other locations of heavy Indiana bat use on the project site in order to better inform micro-siting decision-making before any additional turbines are constructed. Especially considering that plaintiffs have recently agreed to limited nighttime operation in 2012, the 2012 season (spring, summer, and fall) would have provided a seemingly perfect window of opportunity for such surveys but it is unclear if this was done.

- **Presence of Female and Juvenile Indiana Bats:** On page 53, the draft HCP dismisses the possibility of female and juvenile Indiana bats being present on the project site, despite the many female and juvenile little brown bats – which is used in the analysis as a surrogate species for Indiana bats – caught in mist nets on the project site. This discrepancy needs to be accounted for in the HCP. If the little brown bat is to be used as a surrogate for the Indiana bat then the documented presence of female and juvenile little brown bats in the project area must be assumed to suggest that female and juvenile Indiana bats are also in the project area. On page 54 of the draft HCP, in the third paragraph on that page, the last sentence should be modified since presence of male Indiana bats is not only “possible,” but is in fact likely since Indiana bat presence has now been documented by acoustic testing on the project site in 2005 and 2010. This is

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<sup>6</sup> We would also request that the AnaBat data be analyzed by one of the leading experts recognized in that field by the Service as capable of identifying species by calls (*e.g.*, Dr. Lynn Robbins or Dr. Eric Britzke).

not a discussion about male Indiana bat mortality, which might aptly be described as “possible,” but rather is about presence which is certain, or at bare minimum, highly likely.

- **Likelihood of Take:** In addition to the deficiencies identified above that apply both to presence evaluation as well as impact/take assessment, there is no sound basis for concluding that the “likelihood of Indiana bat take is low.” *See* HCP at 62. Additionally, on page 92, the draft HCP indicates that Indiana bats may “infrequently” occur on the project site. However, two separate years of acoustic data confirms that Indiana bats are present on the site in different years, indicating that there is a high likelihood, if not certainty, that Indiana bats are routinely present on the site.

Even well before the Fowler Ridge Indiana bat fatality in fall 2009, the consensus in the independent scientific community, and the view of the Service, resoundingly rejected any notion that Indiana bats are in some way less susceptible to turbine collision and/or barotrauma affecting other *Myotis* species – a proposition wholly adopted by Judge Titus in the federal trial. *See Beech Ridge Energy*, 675 F. Supp. 2d at 577-79. Rather, as rare species and as a result of various factors (lack of post-construction monitoring at most wind facilities, poor searcher efficiency even where monitoring does occur, and scavenger removal), the Fowler Ridge mortality finally put to rest any notion that Indiana are not impacted by wind turbines, and supported the conclusion that many other Indiana bat mortalities have likely gone undocumented. Indeed, at the Beech Ridge trial, evidence was provided concerning Indiana bat mortality at another West Virginia wind project. Judge Titus did not rely on that evidence of such a limited take to discount the potential impact of wind facilities on Indiana bats since, at that facility, as at many operating wind power plants, there is no reliable system in place for determining how many, or which, species of bats have been killed or injured by turbines. Accordingly, under the circumstances, reliance on the dearth of more confirmed deaths of Indiana bats (or other listed bats) makes no sense.

Another erroneous use of data in the HCP concerns the analysis of only two caves – Snedegars’ Cave and Martha’s Cave – in evaluating Indiana bat presence (and consequent risk) during spring and fall migration. *See* HCP at 51-52. However, in light of well-documented Indiana bat migration distances, in addition to a federal judge’s recognition of the migration risk at Beech Ridge from caves such as Hellhole Cave, (*See Beech Ridge Energy*, 675 F. Supp. 2d at 568), there is no objective rationale for limiting a species presence inquiry to caves within 12.6 miles of the project site. Therefore, based on the best available science, all potential migration risks – including impacts to bats migrating to/from Hellhole and other caves distributed throughout the region – must be considered in assessing the level of presence, as well as the level of expected take.

There is a serious scientific disconnect between the purported conclusion that the likelihood of Indiana bat take is “low” and the conclusion that the project will take 125 Indiana bats in the absence of minimization measures (see page 78, for example). Given the rarity of the Indiana bats and the cumulative threats the species faces, 125 bats is not

commensurate with the description of a “low” amount of take. Either the low likelihood language should be eliminated or a lesser take number should be sought, because the two cannot be reconciled as currently written.

- **Monitoring Take:** There are some additional issues with how BRE intends to accurately measure take of listed species. For example, on page 12 of Appendix C of the draft HCP, if only 30 of 100 turbines are being searched on a daily basis, it is not clear how BRE intends to accurately measure take of listed species. For example, if two Indiana bats are found in Year 1, but only 30 turbines are searched daily, will BRE consider it to be only 2 takes or 6.67 takes of Indiana bats ( $\frac{\text{\# of confirmed take (2)}}{\text{\# turbines searched (30)}} * \text{total \# turbines (100)}$ )? The latter is the only approach that would make scientific sense under the monitoring framework, but it is not clearly articulated if that is actually how BRE intends to calculate take. In addition, on page 5 of Appendix C, the use of only 30 turbines (10 of each treatment) is unlikely to result in a strong sample size. Experts consulted by AWI believe that the use of at least 45 turbines (with treatments of 15/15/15) would be more appropriate.
- **Surveying Take:** On pages 23 and 25 of Appendix C, the draft HCP indicates that BRE employees will be trained to search for bat and bird carcasses. AWI is opposed to this option. Instead, it insists that any searchers utilized by BRE be entirely independent (*i.e.*, not employed by BRE or a hired consultant) to avoid any concerns with conflicts of interest. We believe that state biologists and/or equivalent personnel have the requisite training and skill to independently perform such searches and identifications, and are preferable to BRE employees for the reasons previously identified. We would also encourage BRE to engage in additional carcass survey studies utilizing trained dogs to compare and contrast the ability of dogs to find carcasses compared to human searches, given the particular search difficulties (terrain, etc.) at this project site.
- **Minimizing Take:** On page 79, 81, and 91, the Draft HCP concludes that it is consistent with the ESA to minimize takes by 44% from baseline (assuming that 70 Indiana bats will be killed, as opposed to 125 that would be killed without minimization measures). There should be some discussion concerning why minimization measures are only legally required to reduce mortality by 44%, as opposed to a more restrictive, and thus more species-protective, threshold when dealing with an endangered species, and particularly one with facing additional serious threats (*e.g.*, White Nose Syndrome or WNS) to which turbine-related mortality is additive. Indeed, if BRE were to utilize a 6.5 m/s cut in speed as the trigger for turbine operations, the available evidence suggests that this would reduce potential bat mortality by 76 percent – a far more protective amount compared to the 44 percent level offered by BRE.
- **Long-Term Mortality Loss:** On page 88, we are particularly concerned with the summary dismissal of the impacts of losing up to 70 Indiana bats. Contrary to Beech Ridge’s attempts to downplay the significance of such a long-term mortality loss, the loss of 70 bats over time could entirely devastate a hibernaculum or local population, especially considering that each loss of a female *also* constitutes the loss of an additional pup each year for what would otherwise have constituted the remainder of the female’s

reproductive lifespan. This loss of replacement bats linked to adult female mortality is an impact that was required to have been addressed – but wasn't -- in the HCP or in the DEIS. Furthermore, considering the various threats to Indiana bats throughout their range – including other wind facilities – at some point the cumulative loss of Indiana bats must be deleterious to the species. There is no question that the take of 70 Indiana bats alone may have a critical impact on local populations. In combination with existing and future threats, including the possibility of significant mortality linked to WNS, such cumulative take may devastate the species. The Draft HCP and DEIS should address such a 'worst case' scenario.

- **Background Mortality:** In chapter 3 and on page 89, additional information is needed on background mortality. Without explanation, this section assumes that the bats killed by wind turbines are the same bats that would naturally die anyway from WNS or some other threat. But that assumption is not clearly articulated or explained in any meaningful way. Indeed, it is very possible that the bats being killed by turbines are the healthiest bats that might have survived for many years absent turbine related mortality. Therefore, in such a scenario, what would the effects be if all mortality was additive to the background rate? The background mortality discussed needs more detail to be scientifically defensible.
- **Maternity Colonies:** There has been little to no surveying for maternity colonies in the project area, and we know from past studies that maternity colonies in the Appalachian corridor are being found in higher altitude locations than previously expected. Further, juveniles of *every* species caught in the fall 2010 mist netting survey – including of myotis species – were captured, meaning that juveniles (and likely adult females) of all species are very active on this site. Thus, it is scientifically indefensible to make the substantial leap to which kinds of bats (male, female, or juvenile) are likely to be on the site on the basis of the available science (in fact, the best available science compels the opposite conclusion that juveniles and females are likely to be present in light of the active juvenile bat populations on site of similar species) – indeed, doing so fails to afford the species the benefit of the doubt under the ESA, which requires an “institutionalization of caution . . . that affords endangered species the highest of priorities.”

Indeed, the draft HCP also concludes that Indiana bat maternity colonies are not likely on or near the project site (*see* HCP at 113). However, while there is no definitive proof of a maternity colony in the vicinity of the project, the sole reason is because adequate surveys have not been conducted to determine the presence or absence of nearby maternity colonies. According to bat experts in the region including Craig Stihler, most of the ridgetops near Beech Ridge have never been surveyed for Indiana bat presence, much less maternity colony presence, which is highlighted by the fact that more and more maternity colonies in West Virginia and the Appalachian region are being discovered each year. For example, it is now virtually certain that an Indiana bat maternity colony exists on Shaffer Mountain in Pennsylvania, which is not significantly different from the Beech Ridge project site in terms of physiogeography, elevation, and habitat. Thus, until a nearby maternity colony is conclusively ruled out as a result of sufficient survey effort, there is no valid scientific basis for concluding that no such colony exists.

In light of the draft HCP's acknowledgment that other bat species are being considered for listing, and in light of the fact that BRE's survey data suggests that maternity colonies of various species that are candidates for listing occur on or near the project site (*see* Appendix B) the HCP should address what measures will be taken if any of these species are listed to ensure that the project does not inflict significant adverse impacts on any of those species or their sensitive maternity colonies. Most importantly, since the draft HCP wrongly concludes that no Indiana bat maternity colonies will be impacted, much more restrictive adaptive management measures are required for Indiana bat maternity colonies and for maternity colonies of any other listed species (or species that may be listed in the future) if found in the project area. For example, at the Shaffer Mountain site in Pennsylvania – where a maternity colony for a listed species does exist – the FWS is requiring that, at minimum, the turbines closest to the maternity colony entirely shut down during critical periods, and it could also require significant microsite changes depending on the maternity colony locations. These types of concerns – particularly in light of the heavy concentration of juveniles and females of candidate species captured in BRE's 2010 mist net survey – compels the need for these issues to be thoroughly analyzed in the HCP.

- **Post-Construction Monitoring Effort:** In chapter 4 of the HCP, it would be helpful to briefly describe the difference in the first three years and the following years of monitoring in more detail than simply saying years 4-25 will be less intensive. How will they be less intensive? This is described in an appendix (at C-6 to C-7), but it would be useful here where it is mentioned to explain to FWS and the public what the major differences will be. Does less intensive mean every other day searching, or once a week, or fewer searchers, etc.? Also, how will this change the way take is approached or exceeded? Will there be extrapolations since less searching will likely be employed?
- **Species Comparisons:** The Draft HCP and DEIS specify that the little brown bat will be used as a surrogate for the Indiana bat (*see* HCP starting at 67), yet, as the Draft HCP concedes (citing pers. comm. with Dr. Kurta) there may be differences between little brown bats and Indiana bats that may not make the former a good surrogate for the latter. This is a significant issue that deserves more careful review and consideration in the Draft HCP and DEIS. Indeed, as described by Dr. Kurta, Indiana bats may be more likely to be exposed to turbines than little brown bats. Nevertheless, BRE, FWS, and the WVDNR have approved using little brown bats as a surrogate for the Indiana bat. Therefore, other approaches should be considered and evaluated to determine if a more impartial system can be adopted whereby characteristic Indiana bat habitat within the state (*i.e.*, prime habitat for the species) is not automatically excluded from the equation, resulting in a more unbiased and accurate take calculation.<sup>7</sup>

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<sup>7</sup> It is not clear to what geographical extent the ratio of little brown bats to Indiana bats is being explored. However, because it is well-documented that Indiana bats from other regional locations (*e.g.*, Maryland, Pennsylvania, and Virginia) have been captured routinely in West Virginia (and thus are potentially subject to harm from the Beech Ridge project), the ratios in those locations should also be considered as part of the equation.

Dr. Kurta's observation that "Indiana bats are more likely exposed to turbines than little brown bats"<sup>8</sup> comports with literature on the topic which indicates that Indiana bats fly closer to the rotor-swept area than little brown bats. However, despite the draft HCP's acknowledgment of such differences, the draft reaches the opposite conclusion that should flow from that important distinction by determining that using little brown bats as a surrogate would lead to a more conservative take estimate for Indiana bats. If the take estimate was indeed conservative, it would over-estimate the amount of predicted take. However, here, by basing the take estimate on a species likely to have less interactions with turbines (little brown bats) than Indiana bats – but *not* factoring that crucial physiological difference into the surrogacy comparison and take estimate adjustment – the HCP has effectively underestimated the expected level of Indiana bat take by basing it on little brown bat take numbers. Because of this key distinction between the two species which will almost invariably lead to a higher proportional amount of take of Indiana bats as compared to little brown bats, the surrogacy ratio must consider and address this difference in calculating the take estimate for Indiana bats – something which it does not do in the current draft.

- **Ridgetops Geography:** On page 62 of the HCP, there is focus on deciduous forests and the level of risk to bats from wind turbines. The most statistically significant mortality of bats, however, occurs on forested mountain ridgetops in the east so that should be emphasized since Beech Ridge is situated in such an area. Also to this point, searcher efficiency is almost always lower on ridgetop sites because of the features involved, therefore this should be explicitly discussed and accounted for in the HCP. Therefore, there is a need for more information on ridgetops geography.
- **Surrogacy Ratio Data:** On page 74 of the draft HCP, it would be very helpful for independent reviews, the FWS, and the public if BRE explained more about the protocol and methodologies used for the netting survey to determine the little brown bat to Indiana bat ratio. For example, understanding where those locations are relative to hibernacula and maternity colonies would be helpful for comparison since we know that *this* site is frequented by Indiana bats (confirmed in 2005) and there are many nearby hibernacula. Said differently, if the surveys for ratio purposes weren't conducted in areas similar enough to this project to draw viable comparisons, the ratio found elsewhere might be of extremely limited value *here*.
- **Cut-In Speeds:** On page 78, the draft HCP proposes a 4.8 m/s cut-in speed from mid-July to mid-October. We very much support having cut-in speed limitations in place during migratory periods. However, there are several questions – (1) is this also being considered for spring migration (when mortality is less than in fall but still significant) as should be the case, (2) how was 4.8 m/s arrived at considering that the best available science indicates that 5.0 m/s and above is the most effective for eliminating mortality (and your own appendix – page C-9 - states that 5.0 m/s is the "most cost-effective way to reduce bat mortalities"), (3) why cut-in speed restrictions are not initiated immediately

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<sup>8</sup> DHCP, p. 68.

upon hibernacula emergence by bats in the spring instead of mid-July, (4) why cut-in speeds are not extended into November to ensure that Indiana and VBEB are hibernating before reducing such restrictions, and (5) why the 6.5 m/s cut-in speed which has been identified as more protective of bats than other tested speeds is not the cut-in speed being used?

The HCP notes that for the term of the ITP, BRE will adjust the turbine cut-in speed from 7.8 mph (3.5 m/s) to 10.7 mph (4.8 m/s) for a 12-week period from mid-July to mid-October and for the time of night from 0.5 hour before sunset for a period of five hours (*see* BRE's Curtailment Plan). If BRE's research and monitoring results (*see* RMAMP, Appendix C) demonstrate that more restrictive operational protocols are needed to achieve Biological Goals 1 and 2, the Curtailment Plan/turbine operational protocols will be modified per the project's adaptive management plan. On the other hand, if BRE's Curtailment Plan successfully reduces bat mortality to levels that exceed expectations, BRE agrees to maintain the 10.7 mph (4.8 m/s) cut-in speed and partial-night curtailment for the duration of the ITP. *See* HCP at 93. Such cut-in speeds, however, ignore available scientific evidence that documents that higher cut-in speeds further minimize impacts to bats compared to lower cut-in speeds. Indeed, even the use of a 5.0 m/s cut-in speed ignores the best available scientific evidence which indicates that a 6.5 m/s cut-in speed reduced bat mortality by 76 percent compared to only 50 percent using a 5.0 m/s cut-in speed. Again, considering the requirements of an ITP, not utilizing the most protective cut-in speed would violate the "minimization" mandate of the ITP process and, if not changed, would warrant rejection of the ITP application.

- **Monitoring and Mitigation Measures:** HCP needs more robust monitoring and mitigation measures. To comply with the requirements of an ITP, all efforts must first be made to minimize impacts to listed species and then, if impacts remain, they must be subject to mitigation. This responsibility falls on both BRE and the FWS and the FWS has a legal duty to not issue the ITP unless the applicant has minimized impacts to the extent practicable, explained what prevents further minimization of impacts, and then offered sufficient mitigation measures. BRE believes that its HCP minimizes such impacts to the extent practicable. This is not the case. Not only can it do more by, for example, increasing the cut-in speed to 6.5 m/s year-round as, at a minimum, the initial starting point but it could limit or restrict night-time turbine operations during the non-hibernation season. If such restrictions – which would enhance protections for the Indiana bat – are not acceptable to BRE, it must justify its decision.

As part of the minimization package, BRE is proposing to alter operational procedures for select turbines for years 1-3 post ITP to ostensibly collect baseline data which will inform operational guidelines for the remainder of the ITP term. Not only are the procedures backwards – starting with less restrictive parameters and only imposing more restrictions if necessary – but the monitoring effort to be made both during the 1-3 years post ITP issuance and in subsequent years is not entirely clear. While monitoring turbines for bat and bird mortalities will occur, the intensity of the effort will apparently vary. This needs to be better explained in the HCP so that the efficacy of the monitoring effort can be adequately evaluated.

Furthermore, since it has been proven that trained dogs can better detect bat and bird carcasses compared to humans, the use of such dogs as part of the monitoring effort should have been discussed or considered in the HCP. Finally, in terms of mitigation, it would appear that BRE is offering a handful of possible options including a conservation fund to be used to fund research, to acquire habitat through direct purchase or purchase of a conservation easement, and/or to use to minimize threats to hibernacula (e.g., constructing gates on caves to prevent human access and harassment of bats). While such offers may benefit imperiled bats, what's not clear is which mitigation measures will be implemented as several of the measures depend on other factors not under the control of BRE or FWS. It would be helpful if the mitigation plans in the HCP were more concrete.

- **Cumulative Effects:** In the cumulative effects section, the draft HCP makes an illogical leap to a conclusion not supported by the emerging data concerning WNS and its impact on Indiana bats. While the HCP correctly states that “with impacts such as WNS occurring, this trend (referring to an increase in the Indiana bat population) is likely to change over time to a population decrease,” *see* HCP at 88, it then states “triggers have been developed for the HCP that will allow appropriate response in the event of substantial population declines that would ensure that the authorized level of take does not appreciably reduce the likelihood of recovery and survival of the species in the wild and that the proper type and amount of mitigation is being provided.” It is unclear what population triggers are being referenced or how population size will be appropriately monitored.

What's critical here is that actions taken if such triggers are met must be immediate and substantive to avoid significant damage to the surviving population of Indiana bats. This is because the impact of WNS will make each and every additive take from wind power or other non-WNS sources – including from the Beech Ridge project – more acute in regard to the impact on the species' continued existence and recovery. Therefore, it is extremely important that each source of additive mortality be carefully analyzed against a declining baseline to ensure that extirpation of local, regional, and overall populations will not result from the combination of WNS (over which we have little control) and other, mortality sources such as wind projects that are under human control.

- **WNS Effects:** WNS and its devastating effects must be thoroughly considered in evaluating the level of acceptable take for any listed bat species affected by the disease to ensure that species jeopardy is not likely to occur under the emergency WNS circumstances. This is of particular concern because WNS-affected bats are much more susceptible to turbine collisions and barotrauma due to compromised flying ability and increased fatigue. The effects of WNS, in conjunction with an array of wind turbines throughout the region, could have devastating effects on local and regional bat populations, and thus effective mitigation of these impacts is crucial. The confounding effects of WNS must be considered when analyzing and interpreting bat mortality attributable to wind turbines.

In addition, special emphasis should be placed on the Beech Ridge project's effects on cave-dwelling species, including Indiana bats and little brown bats, because of the precipitous decline in their population numbers due to WNS.<sup>9</sup> It should also be noted that a petition has been submitted to list the Eastern small-footed bat and the Northern long-eared bat under the ESA, which might have some impact on the Service's analysis of bat impacts here.<sup>10</sup>

On page 112 of the draft HCP, there is discussion of declining Indiana bat and VBEB populations due to WNS and exacerbating factors such as wind energy proliferation. However, there should be significantly more discussion about how BRE will re-analyze the data in the event that WNS begins to decimate local VBEB and Indiana bat colonies to account for the fact that each take will then become more acute as a result of local, regional and perhaps national decline in the afflicted species. Said differently, while the death of one Indiana bat in 2011 might be "negligible" to the overall population's survival – the word used by the HCP – that same death might have population-wide impacts (i.e., jeopardy) in 2014 after WNS has ravaged populations. Effort must be taken to provide specific strategies that will be taken to revisit this when certain trigger levels of Indiana bat and VBEB population sizes are reached.

- **Larger Turbine Blades:** As discussed on page 1, Beech Ridge is now proposing to construct up to 33 turbines with much larger turbine blades in order to obtain the same 186MW output that it originally sought to obtain through 124 1.5MW turbines. However, when the parties entered into their January 2010 Stipulation, the understanding was that Beech Ridge could build no more than 100 turbines (total capacity of 150MW at 1.5MW apiece). This is the first time that Beech Ridge has ever proposed constructing larger turbines to obtain the same level of energy output sought *before* the Stipulation was entered, which is problematic from a biological standpoint because of scientific literature indicating that a larger turbine rotorswept area correlates with significantly increased bat mortality. Accordingly, from both a legal and scientific standpoint, AWI does not believe that the use of larger turbine blades is appropriate under the circumstances as a backdoor attempt to obtain what Beech Ridge bargained away in exchange for other benefits in settling the ESA lawsuit.
- **Discussions with the FWS:** On page 84, the draft HCP identifies two situations in which further discussions with the Service will be triggered. AWI believes that a third important situation that should trigger discussions with the Service is if the number of little brown bat mortalities equivalent to five Indiana bat mortalities occur in one year, per the ratio established by the company as the appropriate little brown bat to Indiana bat ratio. This

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<sup>9</sup> See, e.g., Frick, et al., *An Emerging Disease Causes Regional Population Collapse of a Common North American Bat Species*, SCIENCE, Vol. 329, pp. 679-82 (Aug. 6, 2010).

<sup>10</sup> See Center for Biological Diversity (Jan. 21, 2010), [http://www.biologicaldiversity.org/campaigns/bat\\_crisis\\_white-nose\\_syndrome/pdfs/petition-Myotisleibii-Myotisseptentrionalis.pdf](http://www.biologicaldiversity.org/campaigns/bat_crisis_white-nose_syndrome/pdfs/petition-Myotisleibii-Myotisseptentrionalis.pdf). Even a conservative estimate by the developer's own environmental consultant projected approximately 6,746 annual bat deaths from the Beech Ridge wind project, and leading bat biologists expect the actual bat mortality rate to be approximately double that amount (assuming no effective adaptive management and other mitigation measures are in place). 675 F. Supp. 2d at 550 n.12.

accounts for scenarios in which rare Indiana bats are not all accounted for in carcass searches, but where the more common little brown bat, as a surrogate to the Indiana bat, would serve to identify the concern despite the missing Indiana bat data.

- **Changed Circumstances:** On page 111 of the draft HCP, there is discussion about changed circumstances triggering certain actions, but it is not clear how BRE intends to measure the effects of WNS in order to assess what actions must be taken. Will it depend on local hibernacula impacts, regional impacts, or some other metric? This needs to be more clearly articulated and a sound basis provided for that reasoning.
- **Climate Change:** On page 111, the draft HCP discusses climate change and emphasizes that the project will not contribute to climate change. It is not clear whether this is being mentioned solely for baseline purposes, or whether the project's limited contribution to climate change (GHGs only from construction and maintenance activities, but not from operation) is being advanced to lessen the mitigation requirement of section 10. In either case, we believe it is inappropriate under section 10 for any project, including renewable energy projects, to receive mitigation or conservation credit because one aspect of the project, by its nature, might have a smaller impact on GHG emissions than another project. There is simply no basis in the ESA to hold this project to any different standard than that which would be applied to any other activity that will take a listed species.
- **Phase II Turbine Locations:** On pages 34-35, the draft HCP suggests that all or some of the 33 not yet built turbines will be constructed outside the geographical area originally approved by the West Virginia Public Service Commission (WVPSC) in 2006. However, the Court-ordered Stipulation prohibits construction of turbines in areas other than those already approved by the WVPSC as of the date of the Stipulation. *See* Stipulation ¶ 6 (explaining that “Defendants may construct and operate up to 33 additional turbines *within the area approved by the West Virginia Public Service Commission . . . [and] [t]he delineation of where such turbines may be built (subject to the FWS’s authorization) is set forth in [a map agreed to by the parties]*” (emphasis added)). Indeed, the parties agreed to a map (which was attached to the Stipulation) that depicted boundaries of an area approved by the WVPSC in 2006 to which all turbines of the Beech Ridge project would ultimately be contained. In reviewing the 2010 mist net survey results and other information, it appears that the “expansion areas” for the 33 new turbines depart significantly from the agreed-upon boundaries from the original Stipulation. Accordingly, the Stipulation would have to be modified through agreement of the parties and approval of the Court if this aspect of the draft HCP were to be implemented.
- **Acoustic Monitoring:** It is imperative that additional acoustic monitoring be done within the project area. This should be a large-scale effort with acoustic detectors established at or near as many of the turbine locations as possible. In addition, prior to any new construction of the 33 additional turbines, more acoustic monitoring should be done to further assess the potential presence of Indiana and VBE bats. The analysis of such data should be done by experts in acoustical analysis of bat calls like Dr. Robbins and Dr. Gannon – both of whom were deemed by a federal judge as leading experts in the

field of acoustic monitoring and identification. While Dr. Kurta is a skilled and experienced scientist, his expertise is not in acoustic monitoring. Consequently, Dr. Robbins and Dr. Gannon are in a much better position to assist BRE and West, Inc. in determining the accuracy and scope of acoustic monitoring necessary within the project area. Studies relevant to this issue that should have been cited in the HCP include:

- Murray, K. L., E. R. Britzke, B. M. Hadley, and L. W. Robbins. 1999. Surveying Bat Communities: A Comparison between Mist Nets and the Anabat II Detector System. *Acta Chiropterologica*. 1(1):105-112.
- Britzke, E. R., K. L. Murray, J. E. Heywood, and L. W. Robbins. 2002. Acoustic Identification. In *The Indiana Bat: Biology and Management of an Endangered Species* (A. Kurta and J. Kennedy, eds.) Bat Conservation International, Austin, TX.
- Britzke, E.R., J. Duchamp, R.S. Swhiart, K.M. Murray, and L.W. Robbins. In Press (2011). Acoustic identification of bats in the eastern United States: A comparison of parametric and nonparametric methods. *J. Wildlife Management*.

Indeed, as explained at trial in 2009, it is precisely because of the expertise that Dr. Robbins and Dr. Gannon possess with respect to acoustic monitoring and species identification that federal agencies (FWS, USFS, and USGS) and state agencies have hired them to conduct bat surveys, which *always* include extensive acoustic monitoring and species identification – including for multiple HCPs for wind projects in the Midwest that are nearing issuance.

## **HCP and DEIS Deficiencies, ITP Issuance Criteria & Suggestions**

### **I. The HCP's proposed operational measures do not satisfy the "minimize to the maximum extent practicable" permit issuance criterion of the ESA**

#### **A. Issuance Criteria:**

FWS's 2011 Wind Energy Projects Guidance provides guidance regarding what it means to minimize and mitigate to the maximum extent practicable. Issuance criterion requires the FWS to focus solely on measures to be undertaken to reduce the likelihood and extent of the impact of take resulting from the project and appropriate compensatory measures.<sup>11</sup> FWS interprets this to mean that the impacts of the proposed project, including the HCP, must be minimized to the maximum extent practicable and those remaining impacts that cannot be further minimized must be mitigated to the maximum extent practicable.<sup>12</sup> These standards are based on a biological determination of the impacts of the project as proposed; if applicants provide biologically based minimization and mitigation measures that are fully commensurate with the level of impacts, they are considered to have minimized and mitigated to the maximum extent practicable.<sup>13</sup>

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<sup>11</sup> FWS, *Wind Energy Project Guidance*, p. 47.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

Consequently, in order to obtain an ITP, an applicant must first minimize to the maximum extent practicable the impacts of the action on the listed species. Factors to be considered in the practicability analysis may include constraints based on the site itself, availability of mitigation habitat, timing and nature of the project, the financial means of the applicant, costs and time associated with redesign and going through local and state permitting and zoning processes, etc.<sup>14</sup> In this case, the FWS must determine if the proposed siting of some or all of the turbines will cause impacts to the species and, if so, has the applicant minimized those impacts by moving the turbines to more suitable locations. If an applicant is unwilling to move the turbines to further minimize the impacts due to economic reasons, the Service should require them to provide justification why they are unable to do so. An independent analysis or third party should review the information provided by the applicant to verify they have sited the turbines to the maximum extent practicable.<sup>15</sup>

**B. The HCP's proposed operational measures for avoidance and minimization are not sufficient:**

BRE proposes to adjust turbine cut-in speed to 4.8 m/s one half hour before sunset, for a period of 5 hours, from July 22 through October 13. BRE estimates that this curtailment plan will reduce potential take of Indiana and VBEB's by 50%.<sup>16</sup> According to the BRE, this proposed plan translates to take of up to 5 Indiana bats per year during years 1-3, 2.5 Indiana bats per year during years 4-25, and up to 70 Indiana bats during the permit term. The plan also translates into up to 1 VBEB per year during years 1-3, up to .5 VBEBs per year during years 4-25, and up to 14 VBEBs during the permit term.<sup>17</sup>

In addition, BRE's proposed curtailment plan for avoidance and minimization of take is most likely inconsistent with the ESA because the plan does not employ the set of measures that the best available science reasonably indicates can minimize take of covered bats to the maximum extent practicable. The HCP, in particular, does not show that an alternative curtailment plan with 6.5 m/s cut-in speed for the entire nightly active period is impracticable despite evidence that such a plan is indeed practicable. In addition, BRE cannot rely on adaptive management to satisfy the "minimize to the maximum extent practicable" standard, particularly since measures reasonably expected to minimize take are immediately available. Each of these claims is further discussed below.

**Minimizing take:**

The HCP's proposed curtailment plan is not supported by the best available science, as demonstrated by the DEIS. FWS has found that a more complete set of curtailment measures, which includes a cut-in speed of 6.5 m/s for the entire nightly active period, especially when combined with feathering, will further minimize take of covered bats by 26% over the proposed plan.<sup>18</sup> Under the DEIS' Alternative 3, the turbine cut-in speed on all project turbines would be set to 6.5 m/s, one half hour before sunset through 15 minutes after sunrise from April 1 to October 15.<sup>19</sup> FWS estimates that this strategy may reduce potential take of Indiana bats and VBEB by an average of 76%.<sup>20</sup> On the

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<sup>14</sup> *Id.*

<sup>15</sup> FWS, *Wind Energy Project Guidance*, pp. 47-48.

<sup>16</sup> See DHCP, p. 78; DEIS, p. 56.

<sup>17</sup> DEIS, p. 54.

<sup>18</sup> DEIS, p. 244.

<sup>19</sup> These periods are the presumed periods during which Indiana bats are active. DEIS, p. 64.

<sup>20</sup> Relative to normally operating turbines. *Id.*

contrary, the draft HCP predicts a reduction in potential take of Indiana and VBE bats by 50%, thus the curtailment plan in Alternative 3 provides for a more effective minimization strategy.<sup>21</sup>

In addition, the project operation with the proposed curtailment plan has the potential to harm or kill 70 Indiana bats over the span of the permit, whereas the project operation with the more complete curtailment plan, as described in Alternative 3, has the potential to harm or kill 30 Indiana bats. Thus, the Alternative 3 curtailment plan is predicted to cut take by more than half the level expected in the HCP's proposed minimization plan.<sup>22</sup> These differences can be explained, in part, due to FWS's inclusion of the results of the curtailment studies at Fowler Ridge and the longer nightly and seasonally active period of curtailment in Alternative 3. Best available science supports the FWS' estimate that the Alternative 3 curtailment plan is likely to be significantly more effective for minimizing take of bats than the HCP's plan.

The draft HCP also concludes that raising cut-in speed any higher than 4.8-5.0 m/s would cost more without producing further reduction in take of bats, which is contrary to the Fowler Ridge study conclusions.<sup>23</sup> The draft HCP's rejection of the Fowler Ridge study results, which describe a possible outcome for Beech Ridge, and exclusive focus on the Casselman study results, is not based on a reasonable interpretation of the best available science. A curtailment plan with a cut-in speed of 6.5 m/s over the entire nightly active period is more likely to minimize the take of Indiana bats and VBEs than a cut-in speed of 4.8 m/s for only the first 5 hours of the night. Therefore, the proposed curtailment plan is not likely to satisfy the ESA's ITP issuance criteria; The draft HCP is clearly proposing a minimization plan that is likely to be less effective at reducing take than Alternative 3, as described in the DEIS. This is not legally permissible (unless FWS finds that the Alternative 3 curtailment plan the implementation of a cut-in speed of 6.5 m/s and are impracticable).<sup>24</sup>

Yet the draft HCP has not shown that further curtailment, the Alternative 3 plan, or a cut-in speed 6.5 m/s over the full night is impracticable.<sup>25</sup>

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<sup>21</sup> See DHCP, p. 78 ("To avoid and minimize take of covered species, BRE proposes to adjust the turbine cut-in speed on all project turbines from 7.8 mph (3.5 m/s) to 10.7 mph (4.8 m/s) for a 12-week period between mid-July and mid-October each year and for the time of night commencing one-half hour before sunset for a period of five hours (BRE's Curtailment Plan). BRE estimates that this avoidance and minimization strategy will reduce potential take by 50%[.]"; see also DEIS, p. 56; see also DEIS, p. 64.

<sup>22</sup> Further, the DEIS anticipates that the curtailment to 6.9m/s cut-in speed under the modified stipulation approved by the District Court will reduce mortality of all bats by at least 76%. See DEIS, p. 4.

<sup>23</sup> As described in the CLC comments, the fact that in the 2010 study at Fowler Ridge the turbine blades were not feathered does not support rejection of the Fowler Ridge results. The 2011 follow-up to the 2010 Fowler Ridge study indicates that feathering could increase the effectiveness of all cut-in speed treatments. The 2011 follow-up study, as discussed above, also suggests that feathering may have the potential to increase the reduction in mortality for cut-in speed 6.5 m/s even further than the 78.6% found in 2010. There is simply no reason to believe that had feathering been used in the 2010 Fowler Ridge study the statistically significant difference between the 5.0 m/s and 6.5 m/s treatments would have disappeared.

<sup>24</sup> See FWS, *HCP/ITP Handbook*, pp. 7-3 to 7-4.

<sup>25</sup> As described by CLC, a sequence of considerations that would be more likely than the method used in the draft HCP to lead to an operational plan that minimizes the impacts of take to the maximum extent practicable is as follows: (1) Determine the set of measures that the best available science reasonably indicates can avoid and minimize take to the maximum extent (for this Project the set of measures that satisfy this step are a cut-in speed of 6.5 m/s with turbine feathering below that wind speed, from 30 minutes before sunset through 15 minutes after sunrise, during the period from April 1 through October 15); (2) Determine whether those measures are practicable, and justify the decision based on FWS's guidance; and (3) If and only if that set of measures is shown to be

BRE also attempts to justify its curtailment plan in the HCP by claiming that it is the most “cost-effective” measures that target periods of peak bat activity.<sup>26</sup> However, this analysis is unlikely to minimize the impact of take to the maximum extent practicable because it does not rely on best available science. FWS has clearly stated that an applicant must first minimize to the maximum extent practicable prior to mitigation.<sup>27</sup>

### **E. Adaptive management:**

Although adaptive management may be implemented as part of an HCP to determine the effectiveness of minimization and mitigation measures, to resolve uncertainty, to determine the potential effects of an activity on a species, and to test hypotheses concerning the effectiveness of measures that are not planned, it cannot serve as a substitute for reasonable certainty that substantive criteria will be met or for withholding measures that are reasonably indicated by the best available science to minimize and mitigate the impact of take to the maximum extent practicable.<sup>28</sup>

The RMAMP in the HCP, by relying on the Arnett et al. Casselman study alone, it relies on assumptions that do not comport with the best available science and minimize the impact of take to the maximum extent practicable. The solution is implementation of the curtailment plan described in the DEIS’s Alternative 3: a 6.5 m/s cut-in speed with blade feathering, from 30 minutes before sunset through 15 minutes after sunrise, during the entire active seasons. In addition, the adaptive management plan should contain specific modifications to the curtailment regime if roosting or maternity sites are newly identified.

## **Alternatives Studied in the DEIS**

### **A. The DEIS’s alternatives do not allow for informed decision making:**

The DEIS arguably omits reasonable and feasible alternatives that best available science indicates can better protect Indiana bats, VBEs, migratory birds and their habitats. Because each alternative incorporates different seasonal, nightly, mechanical, and numerical modifications, it is difficult to assess the impact of each alternative relative to the others and thus provide a full range of reasonable alternatives that can lead to a reasoned decision.

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impracticable, select and analyze another alternative that is most likely to produce similar reductions in take but that is practicable (e.g., cut-in speed of 6.5 m/s with feathering for the summer and fall seasons only).

<sup>26</sup> See, e.g., DHCP, App. C at C-11 (referring to targeting periods of peak bat activity in justifying an abbreviated nightly active period for curtailment).

<sup>27</sup> FWS, *Wind Energy Project Guidance*, p. 47 (emphasis added): [T]he impacts of the proposed project, including the HCP, which were not eliminated through informal negotiation *must be minimized to the maximum extent practicable and those remaining impacts that cannot be further minimized must be mitigated to the maximum extent practicable*. These standards are based in a biological determination of the impacts of the project as proposed, *what would further minimize those impacts, and then what would biologically mitigate or compensate for those remaining biological impacts*.

<sup>28</sup> 65 Fed. Reg. 35242, 35252, *Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting Process* (June 1, 2000) (“HCP/ITP Handbook Addendum”); see also Ruhl & Fischman, *Adaptive Management in the Courts*, 95 Minn. L.Rev. 424, 472 (2010); see also *Greater Yellowstone Coalition, Inc. v. Servheen*, 665 F.3d 1015, 1028–29 (9th Cir. 2011).

At a minimum, as described by the CLC, there are two alternatives that should be added to the EIS because they comport with best available science for minimizing impacts to Indiana bats and VBEs. First, the EIS should study an alternative that reflects the terms of the modified stipulation agreement. Second, the EIS should incorporate an alternative that mirrors Alternative 3, but only for Indiana bats and VBEs. As discussed above, the curtailment regime in Alternative 3 is more in line with the best available science and the ITP issuance criteria than is the proposed plan (Alternative 2), and the curtailment regime in Alternative 3 does not require the addition of three covered species to justify its selection.

### **C. The DEIS should have analyzed a shorter ITP Term:**

The DEIS should investigate the possibility of a shorter ITP term because it is agreeable with the “No Surprises” policy<sup>29</sup> and due to the shortcomings of the draft HCP. Issuance of a long-term ITP, as proposed here, relies on the assumption that adaptive management and changed circumstances will ensure that the appropriate level of minimization and mitigation will be maintained over the term of the permit. A shorter duration permit is appropriate in these circumstances because the draft HCP does not properly commit to adequate conservation measures. FWS is unlikely to have an opportunity to mitigate the effects of any changed circumstances by imposing additional conservation measures in the context of changed circumstances and adaptive management plans.<sup>30</sup>

The potential to provide for the protection of Indiana bats and VBEs and their habitats would predictably be substantially different under a short ITP term versus a long ITP term. The DEIS should have explored this possibility.

### **D. The HCP omits cut-in speed alternatives:**

Alternative cut-in speeds are not presented in section 7 of the draft HCP as having been eliminated even though more restrictive operational measures were considered during the HCP planning process. Best available science on cut-in speeds indicates that more restrictive speeds reduce the threat to bats. The DHCP should describe this alternative in section 7 with an explanation of why the alternative was not selected.

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<sup>29</sup> In its explanation of the policy, the HCP Handbook states that “[i]f additional mitigation measures are subsequently deemed necessary to provide for the conservation of a species that was otherwise adequately covered under the terms of a properly functioning HCP, the obligation for such measures shall not rest with the HCP . FWS, *HCP/ITP Handbook*, p. 3-29.

<sup>30</sup> As described by CLC, the proposed changed circumstances and adaptive management plans set forth in the DHCP will be unlikely to provide this opportunity, for two reasons. First, as stated in the ESA regulations, to expect BRE to implement measures specified in the changed circumstances plan, “additional conservation and mitigation measures [that] are deemed necessary to respond to changed circumstances [must be] provided for in the plan’s operating conservation. 50 C.F.R. § 17.22(b)(5)(i)-(ii). For example, if WNS were to reduce the bat population such that the changed circumstances plan is triggered, BRE simply commits to being notified by FWS or “conferring” about potential changes to the HCP. DHCP, pp. 111–112 (emphasis added).

## **Section 7 Consultation**

### **A. The HCP should delineate an action area:**

ESA regulations define the term “action area” as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.”<sup>31</sup> The draft HCP is noticeably missing a separate section titled “Action Area” that is based on potential impacts to Indiana bats and VBEs. Given that section 7 standards include an analysis of direct and indirect effects, effects on critical habitat, and cumulative effects on species, the draft HCP is not in compliance with section 7 consultation requirements.

### **C. The HCP must assess cumulative effects & impacts:**

The draft HCP fails to assess cumulative effects of future non-federal activities within the action area on the covered species. Without this analysis, the Service cannot reach a biological opinion and engage in appropriate section 7 consultation.

## **Changed Circumstances – Other Federally Listed Species & WNS**

### **A. Other species that could be listed under the ESA in the future must be discussed:**

The draft HCP is unclear re: how unlisted species will be affected. Species that are of concern the northern long-eared bat, the eastern small-footed bat, and the little brown bat. The DEIS notes that BRE will simply confer with FWS over the need to amend the ITP should additional species become listed, which does not satisfy section 10(a)(2)(B) of the ESA.<sup>32</sup>

### **C. The DEIS and HCP do not adequately address WNS as a changed circumstance:**

Neither the DEIS or draft HCP address what the trigger threshold and specific protocols will be in the case of changed or unforeseen circumstances. In particular, re: WNS, the draft HCP shortsightedly discounts the possibility that the Project could jeopardize and/or reduce appreciably the likelihood of the survival and recovery of Indiana bats. This logic is inconsistent with ESA regulations.

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<sup>31</sup> 50 C.F.R. § 402.02. Section 7 of the ESA applies to the USFWS issuance of an ITP. See USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996), pp. 6-12 to 6-14.

<sup>32</sup> DEIS, p. 61. As described by CLC, the only discussion about the impacts of taking these three species appears in an Appendix to the HCP. The Appendix offers only brief descriptions about the bat species and contains no quantification of take. The HCP does not show that taking of those species will be minimized and mitigated to the maximum extent practicable and that adequate funding will be provided for those species. Also, the HCP does not delineate the action area or analyze cumulative impacts in relation to those species. If BRE and FWS are assuming that any conservation plan that satisfies the permit issuance criteria for the listed species will also satisfy the criteria for the unlisted but covered species, that case has not been made. Adding to the confusion, it is unclear how the potential future listing of the three bat species active in the Project area will be determined. Based on the DEIS, it will be treated as a minor amendment to the HCP, but based on the DHCP, FWS will determine the process at a later time “in coordination with BRE.”

## **Impacts on Migratory Birds**

Although the DEIS predicts moderate to high take of birds over the lifetime of the permit, the project does not possess a permit under the MBTA, nor does it provide for mitigation for take, thus effectively authorizing take without a permit.

AWI is also concerned about the potential impacts of the project on eagles. Under BGEPA, it is a violation to kill an eagle with the appropriate permit, which has not been addressed here. If eagles are killed in any quantities, regardless of whether the quantities are “significant,” the project will be violating BGEPA unless it has an eagle take permit. AWI also supports FWS’ recommendation that bird diverters be used in adherence with voluntary wind guidelines.

While difficult to summarize documents of this length and detail, the bottom line is that BRE has failed to meet its legal mandate under the ESA. In addition, the DEIS is inadequate and not compliant with NEPA. Admittedly, the deficiencies in the DEIS are, in part, due to the inadequacies inherent to the ITP application/draft HCP, but BRE’s failings do not obviate the responsibility of the FWS to comply with NEPA.

AWI appreciates the opportunity to submit this comment letter and to participate in this decision-making process. Should you have any questions, please contact Tara Zuardo at tara@awionline.org or, via telephone, at 202-446-2148. In addition, if there is any future correspondence on this matter, please send to Ms. Zuardo electronically or by mail to 900 Pennsylvania Ave SE, Washington, DC 20003.

Sincerely,



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And on behalf of:

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