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STATE OF HAWAII

IN THE MATTER OF

A Contested Case Hearing Re Final Habitat  
Conservation Plan and Incidental Take License  
for the Na Pua Makani Wind Energy Project  
by Applicant Na Pua Makani Power Partners,  
LLC; Tax Map Key Nos. (1) 5-6-008:006 and  
(1) 5-6-006:018, Ko'olaupia District, Island of  
O'ahu, Hawai'i

Case No. BLNR-CC-17-001

APPLICANT NA PUA MAKANI POWER  
PARTNERS, LLC'S **REPLY BRIEF**;  
CERTIFICATE OF SERVICE

HEARING DATE: AUGUST 7, 2017  
TIME: 9:00 A.M.  
HEARING OFFICER: YVONNE Y. IZU,  
ESQ.

**APPLICANT NA PUA MAKANI POWER PARTNERS, LLC'S REPLY BRIEF**

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## **I. INTRODUCTION**

Applicant NA PUA MAKANI POWER PARTNERS, LLC ("**Applicant**") submits this Reply Brief ("**Reply**") pursuant to Minute Order No. 5.

On July 17, 2017, petitioners Keep the North Shore Country ("**KNSC**") and Elizabeth Rago ("**Rago**") (collectively referred to as the "**Petitioners**") filed separate opposing briefs, Written Direct Testimony ("**WDT**") and exhibits.

The only testimony in the form of a WDT from KNSC was from its President, Mr. Gil Riviere. No specific evidence in his testimony establishes how Applicant's proposed Habitat Conservation Plan ("**HCP**") and Incidental Take License ("**ITL**") for its proposed wind generating facility (the "**Project**") fails to meet the criteria of Hawai'i Revised Statutes ("**HRS**") Chapter 195D or the issues set forth in Minute Order No. 6 ("**MO6**"). The only specific challenge to the HCP or ITL is at paragraph 38 of Mr. Riviere's WDT that contains a vague unsupported reference to not using the best science, but there is no citation to any specific study or science that he presumably considers to be better than what was used. At paragraph 39 of Mr. Riviere's WDT, he also states that the size of the Project was not analyzed or explained, but again he provides no citation to any documentation to counteract the plain contrary evidence set forth in Applicant's WDTs and exhibits. As such, KNSC has presented no material, credible, or admissible evidence to support its brief's arguments that approval of the HCP or ITL should be rejected by the Board of Land and Natural Resources ("**Board**") under HRS Chapter 195D.

Similarly, Rago's Responsive Brief, exhibits, and WDT provide no substantive or supported evidence that the HCP does not meet the criteria of HRS Chapter 195D, as stated in MO6. Instead, Rago's WDT, as summarized in paragraph 16, is mainly concerned with the Project's proximity to her, the noise generated by the Project, and cultural concerns. While these are important considerations, they have (1) already been assessed through the Project's

environmental review process under HRS Chapter 343, which was previously completed; and (2) are issues that are not part of an HCP and ITL review and approval process. *See* MO6. Rago broadly states, without supporting scientific study or credible admissible evidence, that the HCP and ITL for the Project should be denied "because it violates Hawai'i Revised Statutes § 195D." Rago Responsive Brief.

The WDT of Tevita Ka'ili similarly points to "environmental and cultural" concerns in paragraph 20, but contains no specific statement of how the HCP or ITL fail to satisfy any of the specified criteria in MO6 or HRS Chapter 195D. Separately, their concerns are part of the environmental review process under HRS Chapter 343, which was previously completed and approved, notably with Ka'ili's consultation and participation in that process. *See* Ex. A-20. The broad environmental and cultural concerns raised by Rago do not implicate the specific approval process and criteria for the HCP and ITL here. To the extent the Hearing Officer admits that information here, those concerns were considered and are incorporated in the background information from the approved Final Environmental Impact Statement ("FEIS") and its accompanying environmental and cultural studies. This hearing is not an opportunity to get a second bite at the apple for opponents of the project concerned about EIS issues. Without any substantive analysis on point rebutting Applicant's WDTs and exhibit evidence, and no direct opposition to the Applicant's Opening Brief, Rago's opposition on the written submissions should be deemed to have waived any material and substantive objection to the HCP and ITL.

Rago's failure to provide support for her claims indicates that her request for this proceeding is primarily based on a personal dislike for the noise aspect of a wind energy farm in the Kahuku area and not the underlying approval criteria and benefits to the community that support the legally compliant submission of the HCP and ITL here. Other than opposition to the

noise or cultural impacts – which are not involved in this contested case under HRS Chapter 195D and MO6 – there is no credible, material evidence from Rago to assist the Hearing Officer about her recommendation regarding the HCP and ITL to the Board. If this was a court case reviewing a motion for summary judgment based on admissible evidence under Haw. R. Civ. P 56(e), she would have failed to meet her burden to maintain this challenge.

For the reasons set forth herein, both KNSC and Rago have not provided sufficient credible and reliable evidence to rebut the evidence provided by Applicant with respect to each of the issues set forth in MO6 and under HRS Chapter 195D.

## **II. BURDEN OF PROOF**

Applicant has the initial burden of proof in showing that the HCP has met the criteria set forth in HRS §§ 195D-21 and 195D-4(g). As set forth in Applicant's Opening Brief and discussed below, Applicant's evidence submitted through WDTs and exhibits meets the threshold burden of proof for each of the criteria in MO6 by a preponderance of the evidence.

Once Applicant's *prima facie* case is met, the burden then shifts to persons contesting the action to rebut Applicant's *prima facie* case. See *Mauna Kea Power Co., Inc. v. Bd. of Land and Natural Res.*, 76 Hawai'i 259, 265, 974 P.2d 1084, 1090 (1994) (acknowledging that an applicant for a conservation district use permit before the Board has the initial burden of proving its *prima facie* case meeting the criteria for a CDUP and that substantial evidence must be presented to rebut a *prima facie* case). Conclusory statements that are not supported by reliable and credible evidence are insufficient to rebut a *prima facie* case. See generally *Thornton v. City of St. Helens*, 425 F.3d 1158, 1167 (9th Cir. 2005) (holding that "conclusory statements of bias do not carry the nonmoving party's burden in opposition to a motion for summary judgment"); *Lucas v. Chicago Transit Auth.*, 367 F.3d 714, 726 (7th Cir. 2004) (holding "that conclusory statements, not grounded in specific facts, are not sufficient to avoid summary judgment");

*Hansen v. United States*, 7 F.3d 137, 138 (9th Cir. 1993) ("When the nonmoving party relies only on its own affidavits to oppose summary judgment, it cannot rely on conclusory allegations unsupported by factual data to create an issue of material fact.").

### III. LEGAL ANALYSIS

#### A. THE HCP HAS ADEQUATELY DEMONSTRATED, TO THE MAXIMUM EXTENT PRACTICABLE, THAT THE HCP WILL INCREASE THE LIKELIHOOD AND SURVIVAL OF AND PROVIDE A NET BENEFIT TO THE COVERED SPECIES

KNSC first argues in its brief that the HCP does not adequately demonstrate the increased likelihood of survival and recovery of the Covered Species;<sup>1</sup> that the HCP proposes mitigation measures that are neither measurable nor likely to provide a net benefit to the Covered Species; and that there is no nexus between the chosen mitigation measures. KNSC's Responsive Brief at 5. KNSC further argues that implementation of the HCP will likely leave the Covered Species populations worse off and that KNSC's evidence *will* show that the HCP mitigation commitments will not increase the likelihood that the Covered Species will recover. *Id.* at 6. However, KNSC has offered *no* actual evidence to support those statements even though it claims "there is a plethora of evidence that the impacts of the project are unmitigable." *Id.*

Applicant worked closely with the agency officials with expertise in the Department of Land and Natural Resources ("DLNR") Division of Forestry and Wildlife ("DOFAW") and U.S. Fish and Wildlife Service ("USFWS") field staff to develop the HCP. The HCP certainly

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<sup>1</sup> The following eight (8) Federal and State-listed threatened or endangered species have the potential to occur or pass through at the Project site and be incidentally impacted by the Project: 'a'o (Newell's shearwater – *Puffinus newelli*), ae'o (Hawaiian black-necked stilt – *Himantopus mexicanus knudseni*), 'alae ke'oke'o (Hawaiian coot – *Fulica alai*), 'alae 'ula (Hawaiian moorhen – *Gallinula chloropus sandvicensis*), koloa maoli (Hawaiian duck – *Anas wyvilliana*), nēnē (Hawaiian goose – *Branta sandvicensis*), pueo (Hawaiian short-eared owl – *Asio flammeus sandwichensis*), and the 'ōpe'ape'a (Hawaiian hoary bat – *Lasiurus cinereus semotus*) (collectively referred to as the "Covered Species"). Ex. A-1 at 1.

includes a mitigation plan that meets both the requirements of HRS Chapter 195D and USFWS standards, including the provision to provide a net benefit to the Covered Species. Applicant, through its expert consultant Tetra Tech, Inc.,<sup>2</sup> has worked for years to develop an appropriate HCP that incorporated the guidance and requirements and considered the concerns and sensitivities of the very agencies charged with handling endangered species and establishing take requirements at both the state and federal levels. *See* Applicant's Opening Brief at 6; Ex. A-29 (A.Oller WDT) at ¶¶ 5-7.

Mitigation for each of the Covered Species is described in Section 6 of the HCP. Ex. A-1 at 56-77; Ex. A-29 (A.Oller WDT) at ¶ 66. Mitigation plans for each Covered Species rely on the best available science and are consistent with recovery plans and agency recommendations, including the Endangered Species Recovery Committee ("ESRC") guidance on Hawaiian hoary bat mitigation, measures of success, and checks to ensure that measures are achieved. Ex. A-1 at 46-77; Applicant's Opening Brief at 35; Ex. A-29 (A.Oller WDT) at ¶ 57; Ex. A-44.

For example, bat mitigation efforts are targeted at preventing the on-going degradation of occupied Hawaiian hoary bat habitat. *See* Ex. A-1 at 59; Ex. A-53 [T.Snetsinger Written Reply Testimony ("WRT")] at ¶ 8. The efforts detailed in the HCP are certainly designed to achieve a net benefit for the species due to the requirements set forth in the HCP. Applicant's Opening Brief at 19-25, 36-37; Ex. A-29 (A.Oller WDT) at ¶¶ 28-32, 95-97. In addition, the bat mitigation plan includes support for research targeted at improving our knowledge of the

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<sup>2</sup> Tetra Tech, Inc., the consultant who prepared the HCP and ITL with Applicant, is an international consulting firm with an office for its local consulting work established in Hawai'i 27 years ago in 1990. Principal staff involved in the development of the HCP individually each have more than a decade of experience working on projects in Hawai'i and significantly more time evaluating impacts to species covered by the Endangered Species Act, mitigating such impacts, and permitting for a variety of renewable energy and other projects. *See* Ex. A-53 (T.Snetsinger WRT) at ¶ 2; Ex. A-28 (T.Snetsinger CV), Ex. A-30 (A.Oller CV).

Hawaiian hoary bat so that future mitigation projects can leverage results to improve the efficacy of those efforts. Ex. A-27 (T.Snetsinger WDT) at ¶ 29. Similarly, based on agency recommendations, funding for Newell's shearwater and Hawaiian short-eared owl mitigation efforts supports specific management and research to benefit those individual species. Because impacts to these species, if they occur at all, are expected to be minimal, supporting existing research and management efforts for these species was determined to maximize the value of the mitigation funding. Ex. A-53 (T.Snetsinger WRT) at ¶ 9.

Because the mitigation is designed to compensate for an inherently conservative estimate of take (an 80% upper credible limit estimate), the effective implementation of those mitigation efforts are expected to compensate for more take than what is estimated, should take actually occur. *See* Ex. A-29 (Oller WDT) at ¶ 41; Ex. A-12 at 4-109 to 4-122; Ex. B-12 at 5, 9, 13, 16, 19; Ex. A-53 (T.Snetsinger WRT) at ¶ 10. There is always inherent uncertainty in any future event, but the risk assessment and mitigation efforts proposed and approved here by the agencies, based on the best available science, is a reasonable and realistic projection to achieve a net benefit for the species that may be involved. Ex. A-53 (T.Snetsinger WRT) at ¶ 10. To require absolute crystal ball precision for any future take event would essentially prohibit any wind farm development if it has the potential to impact the Hawaiian hoary bat or other threatened or endangered species. This is contrary to the one of the purposes of HRS Chapter 195D, which permits the take of such species so long as the take is incidental to an otherwise lawful permitted use. The best one can do is conservatively estimate the take based on a reasonable assessment of the conditions and best available scientific study assessments. That approach was certainly done here.

An inherent limitation to all HCPs in Hawai'i that include the Hawaiian hoary bat is that



there are many information gaps on the biology of the Hawaiian hoary bat, its limiting factors, and the effectiveness of certain mitigation measures. Ex. A-27 (T.Snetsinger WDT) at ¶ 28. Project applicants, the agencies, and the ESRC necessarily rely on assumptions based on the best scientific information available. However, in recognition of these uncertainties and in an effort to increase the effectiveness of HCP mitigation strategies, DOFAW recently prepared a guidance document for developing Hawaiian hoary bat mitigation strategies that was also approved by USFWS. See Ex. A-44. This guidance directs project applicants to incorporate elements of habitat restoration (including habitat protection and/or enhancement) and research designed to increase the knowledge of the species, at an amount of \$50,000 per bat. See Ex. 44 at PDF pages 19-20; Ex. A-27 (T.Snetsinger WDT) at ¶ 29; Ex. A-29 (Oller WDT) at ¶ 92-93.

As described in the DOFAW guidance, this funding amount is based in part on costs of conducting restoration at a mitigation ratio of approximately 40 acres per pair of bats. Ex. A-44 at PDF page 16. However, in recognizing the importance of a balanced mitigation strategy, DOFAW, USFWS, and the ESRC have recommended and agreed to a mitigation strategy that includes funding for both research and restoration based on a recommended financial commitment of approximately \$50,000 per bat. *Id.* at PDF pages 19-20. The restoration actions identified in the HCP are expected to persist longer than the wind farm operation and will benefit the entire watershed as well as support the life history requirements of the Hawaiian hoary bat. These expected short-term and long-term benefits of the restoration actions support the conclusion that the mitigation actions provide a net benefit to the species. Ex. A-1 at 65; Ex. A-27 (T.Snetsinger WDT) at ¶ 30.

Regarding the success criteria for the restoration component of the mitigation, techniques are not available to measure the increase in bat population in the Poamoho Ridge mitigation area

with any degree of certainty. Therefore, as supported by DOFAW, USFWS, and the ESRC, measures of habitat quality were identified to act as appropriate surrogate measures to track and demonstrate improvements to habitat expected to benefit the Hawaiian hoary bat. For the research component of mitigation, success criteria include design and implementation of an approved study and various reporting requirements. Over the course of the HCP term, DOFAW, USFWS, and the ESRC will have regular input through annual review and will also have approval authority over implementation of all key elements of the HCP. Ex. A-1 at 65-66; Ex. A-27 (T.Snetsinger WDT) at ¶ 31.

The HCP is also set up to provide opportunities for adaptive management throughout the permit term. The key elements of HCP implementation are *not* discretionary, including fulfillment of obligations under avoidance and minimization measures, monitoring, reporting, mitigation, funding, and adaptive management. Ex. A-1 at 85-86; Ex. A-21 (M.Cutbirth WDT) at ¶¶ 22-23. Furthermore, the Board, if it approves the HCP and ITL, may impose explicit conditions to ensure that the HCP is implemented.

The HCP has identified and commits Applicant to fulfill measures that would reduce take of the Hawaiian hoary bat to the maximum extent practicable. Ex. A-27 (T.Snetsinger WDT) at ¶¶ 10, 33. These measures include avoiding clearing of potential roost trees when young bats could be killed or injured because they are unable to fly and the implementation of seasonal low wind speed curtailment ("LWSC") at the agency recommended cut-in speed of 5 meters/second. This measure has been found to be effective in reducing hoary bat fatalities on the U.S. mainland and is assumed to have a similar effect in Hawai'i. *Id.* ¶ 15. Nevertheless, the HCP does contemplate adaptively managing the HCP if additional measures prove warranted based on new technologies or information. *See id.* at ¶ 34; Ex. A-1 at 86-87. For instance, the HCP includes

provisions for determining whether commercial bat deterrents may reduce take and expanding the period of seasonal LWSC should Hawaiian hoary bat take be observed during periods when bat activity is expected to be very low based on acoustic monitoring results at the Project and neighboring Kahuku wind facility, as well as fatality patterns at the Kahuku wind facility. Ex. A-1 at 86-87.

The HCP provides a methodology and the biological information necessary to account for impacts to the Hawaiian hoary bat. This includes accounting for impacts to bats potentially killed by the turbines and dependent offspring. Ex. A-1 at 41-45 & Table 6, § 7.1.2 at 78, and App. A at 12. The HCP provides a robust monitoring plan for the life of the Project that will account for Project impacts including breeding individuals and dependent offspring. *See* Ex. A-1, App. A. All estimated take will be mitigated for using the mitigation framework provided in the HCP. Ex. A-1 at 57-66. Accordingly, contrary to KNSC's claims, the HCP includes elements designed to minimize impacts and provide a net benefit to the Hawaiian hoary bat through appropriate mitigation efforts.

B. THE HCP CONSIDERED THE IMPACTS OF THE BLADE HEIGHT AND ROTOR DIAMETER CURRENTLY PROPOSED

KNSC argues in its brief that Applicant failed to consider the impacts of a project that is taller than first proposed. KNSC Responsive Brief at 6-7. As reflected in the Project's FEIS, this is not true. The Project certainly did consider the impacts of the proposed maximum turbine height and rotor diameter. *See* Ex. A-12 at 2-12 to 2-13; Ex. A-10 at 1364. KNSC also argues that Applicant ignored studies that more bats are killed when turbines are taller and rotor diameter is larger. KNSC Responsive Brief at 6. However, KNSC provided no citation to any evidence supporting this conclusory statement.

If KNSC is referring to its Exhibit B-7, that study is outdated and fails to consider

additional studies. Therefore, it is not based on the best available and more recent scientific information. *See, e.g.*, Ex. A-10 (Zimmerling & Francis 2016). Furthermore, Exhibit B-7 does not include turbines as tall as the maximum included in Ex. A-10. Ex. A-53 (T.Snetsinger WRT) at ¶ 11. Among studies on the effects of turbine size on bat fatality rates, the Zimmerling & Francis study evaluated the most comprehensive number of studies encompassing the largest range of turbine size that Tetra Tech has been able to find. Results from that study suggest that earlier studies limited to smaller turbines were missing data points from larger turbines and would result in erroneous conclusions if their results were extrapolated outside of the scope of inference for their study. Although there are no studies to understand potential differences in risk to bats between turbines 127 – 200 meters tall, based on Zimmerling & Francis (2016), there is no evidence to conclude that turbines 100 – 135 meters tall would vary in the amount of bat take. *See* Ex. A-10 at 1364; Ex. A-53 (T.Snetsinger WRT) at ¶ 12.

The HCP adapted the analysis presented in its Appendix B. Exhibit A-1 at App. B. Tetra Tech used methodology presented in this study to estimate risk, but updated the analysis based on an array of 9 wind turbine generators ("WTGs") with a maximum blade tip height of 656 feet (200 meters) and a rotor diameter of 427 feet (130 meters). *See* Ex. A-1 at 40-57. Tetra Tech also used radar data for shearwater-like targets (which likely included species that were not Newell's shearwaters), assumed 99% avoidance, and used the mean of the frontal and size approach risks. This is fully described and the results presented in Table 8, Section 5.2.1 of the HCP. Ex. A-1 at 45; Ex. A-53 (T.Snetsinger WRT) at ¶ 13.

C. THE HCP CONSIDERED THE CUMULATIVE EFFECTS OF THE PROJECT ON THE HAWAIIAN HOARY BAT ON O'AHU

KNSC argues in its brief that the HCP does not consider the cumulative effects of the take of the Hawaiian hoary bat at existing wind farms in Hawai'i. KNSC Responsive Brief at 7.

Cumulative impacts to the Hawaiian hoary bat are in fact discussed in the HCP with a more complete evaluation of potential impacts presented in the referenced FEIS. *See* Ex. A-1 § 5.6; Ex. A-12 at -106 to 4-112. Population level impacts are discussed in Section 5.1.4 of the HCP. Cumulative impacts on the Hawaiian hoary bat are assessed on a population basis. The populations of the Hawaiian hoary bat on each island are assessed on an island-specific basis. *See* HRS § 195D-21(b)(2)(C). Accordingly, it was appropriate for Applicant's HCP to consider and focus on the cumulative impacts to the Hawaiian hoary bat population on the island of O'ahu. *See* Ex. A-12 at 4-106 to 4-112; Ex. A-1 at 55-56; *see also* Ex. A-12 at 4-5 to 4-6 & Table 4.2-1; Ex. A-53 (T.Snetsinger WRT) at ¶ 14.

While the ability to definitively evaluate cumulative impacts of the Hawaiian hoary bat on O'ahu are based on available island-wide information, recent studies performed by or for O'ahu based wind farms have confirmed the Hawaiian hoary bat has a larger and more widespread population on O'ahu than previously thought. Ex. A-1 at 18, 56; Ex. A-53 (T.Snetsinger WRT) at ¶ 15.

Three of the five major wind farms to which KNSC refers are located on the island of Maui—the other two, the Kahuku Wind Power and Kawaihoa Wind Power projects, are located on O'ahu. The HCP references the background information and data used to support the cumulative impact conclusions with additional detail provided in the FEIS cumulative impacts analysis. *See* Ex. A-1 at 55-56; Ex. A-12 at -106 to 4-112. The "analysis area" for bats consisted of the island of O'ahu and to capture other operating wind farms on O'ahu which could impact the same populations of species that are the focus of the HCP. *Id.*; Ex. A-53 (T.Snetsinger WRT) at ¶ 16.

Table 4.2-2 in the FEIS lists past, present, and reasonably foreseeable actions that overlap

in space and time with the anticipated impacts of the Project. Ex. A-12 at 4-8 to 4-10. For bats, relevant actions include other operational wind farms on O‘ahu, as well as ongoing and future actions, such as wildfires and development which have the potential to result in habitat loss. Table 4.2-2 indicates the authorized take limits for each species under the other O‘ahu wind farm HCPs. The analysis also acknowledges the potential additional impacts to bats and other listed species from wind farms on other islands. Ex. A-1 at 40-56; Ex. A-12 at 4-5 to 4-6, 4-106 to 4-112; Ex. A-53 (T.Snetsinger WRT) at ¶ 17.

The cumulative impacts analysis acknowledges the uncertainty related to the distribution, abundance, and range-wide trends of the Hawaiian hoary bat, however all projects with HCPs are expected to incorporate mitigation, resulting in a net benefit to the species; therefore the cumulative impacts analysis concludes that significant adverse cumulative effects to bats are not anticipated. Ex. A-12 at 4-106 to 4-112; Ex. A-53 (T.Snetsinger WRT) at ¶ 18.

As discussed in Applicant's Opening Brief, the HCP had the benefit of and did consider and use the data of the HCPs for all existing wind farms in Hawai‘i, including the information related to the existing take at those facilities. *See* Ex. A-1 at 55-56; Ex. A-12 at 4-106 to 4-112. Based on the best available information, Applicant's HCP is the most comprehensive HCP in Hawai‘i to date. Ex. A-29 (A.Oller WDT) at ¶ 140-41.

D. THE HCP ADEQUATELY STUDIED THE PRESENCE OF THE HAWAIIAN HOARY BAT ON THE PROJECT SITE

KNSC argues in its brief that Applicant did not adequately study the presence of Hawaiian hoary bats on site, pointing to the use of two acoustic bat detectors which KNSC feels was inadequate to assess presence of the species. KNSC Responsive Brief at 7. KNSC further asserts that acoustic monitoring data were improperly used to justify the assumption that bat presence is expected to be low in this area. *Id.*

On January 22, 2013, Applicant met with DOFAW and USFWS field staff to discuss the collection of baseline data. The agencies recommended survey protocols that included up to one year of acoustic monitoring. In accordance with agency recommendations, bat acoustic monitoring was conducted to confirm bat presence and understand seasonal patterns of bat activity on and around the proposed Project site. Project-specific acoustic monitoring data (quantified as bat passes per detector night) in combination with other available data from the adjacent Kahuku Wind Farm, indicated similar, low levels of bat use. *See* Ex. A-1 at 19; Ex. A-27 (T.Snetsinger WDT) at ¶ 23; Ex. A-53 (T.Snetsinger WRT) at ¶ 19.

As recognized by DOFAW and USFWS, peer-reviewed research has shown that pre-construction bat acoustic monitoring data are poor predictors of post-construction bat mortality risk. *See* Ex. A-52; Ex. A-54 at 11-15 (Hein et al. 2013); Ex. A-27 (T.Snetsinger WDT) at ¶¶ 18-19, 24; Ex. A-53 (T.Snetsinger WRT) at 20. As such, these data were not used to quantify mortality risk or estimate Hawaiian hoary bat take associated with Project operation. Ex. A-1 at 41. Given that DOFAW and USFWS agreed that the best available science indicates baseline acoustic data should not be used to estimate take, a more extensive acoustic monitoring effort was not warranted. DOFAW and USFWS recommended that bat acoustic activity at the Project be monitored to determine the seasonality of bat activity at the Project. Ex. A-53 (T.Snetsinger WRT) at ¶ 20. The study designed to gather data on the seasonality of bat activity at the Project was determined to be appropriate by the agencies. Therefore, the use of two acoustic monitors was an appropriate level of effort to assess seasonal patterns when combined with information from post-construction mortality monitoring at the Kahuku Wind project and results from their acoustic monitoring data. Ex. A-53 (T.Snetsinger WRT) at ¶ 21.

E. THE HCP CONSIDERED THE IMPACTS TO ENDANGERED SPECIES FOUND AT THE JAMES CAMPBELL NATIONAL WILDLIFE REFUGE

KNSC also argues that the HCP fails to consider the Project's impacts to endangered species found at the James Campbell National Wildlife Refuge. The HCP did consider impacts to species found at James Campbell National Wildlife Refuge that were viewed as potentially at risk from the Project. Although habitat for the Hawaiian coot, Hawaiian moorhen, Hawaiian stilt, Hawaiian duck, and Hawaiian goose do not currently exist in the Project area, these species are present (or may be in the future) at James Campbell National Wildlife Refuge. As such, it was determined, in consultation with DOFAW and USFWS, that these species had the *potential* to be negatively impacted by the Project and they are therefore included in the Covered Species of the HCP. *See supra* note 1; Applicant's Opening Brief at 10, 28, 45; Ex. A-1 at 41-56; Ex. A-4. The analysis of the potential impacts to these species and mitigation measures are discussed in the HCP. *See* Ex. A-1 at 41-56; Applicant's Opening Brief at 22; Ex. A-53 (T.Snetsinger WRT) at ¶ 22.

Applicant wanted to be conservative in covering and mitigating impacts to the Covered Species, including those threatened or endangered species at the James Campbell Wildlife Refuge. Thus, contrary to KNSC's assertions, take for each of these species is not highly likely, but rather *could* occur over the 21 year permit term. As a result, Applicant may well mitigate for impacts to Covered Species that might never occur. Ex. A-53 (T.Snetsinger WRT) at ¶ 23.

F. THE HCP USES THE BEST AVAILABLE SCIENCE

KNSC baldly posits in its brief that the HCP does not use the best available science. KNSC Responsive Brief at 10. Without identifying any specific documents, KNSC argues that because there are more recent studies, those studies are better than what was used in the HCP. *See id.* At the time that the HCP was finalized, the studies used to support the HCP were



considered to be and remain the best available science. Applicant and Tetra Tech are not aware of any new evidence (none provided in Petitioners' exhibits or otherwise) that would suggest that different conclusions than those presented in the HCP should be drawn. Ex. A-53 (T.Snetsinger WRT) at ¶ 24.

KNSC does not like the incorporation of certain mitigation measures, such as the potential benefits of LWSC, into the Hawaiian hoary bat take estimate. *See* KNSC Responsive Brief at 10. KNSC also argues that Hawaiian hoary bat take is likely to be higher than estimated in the final HCP because the turbine models proposed for the Project are taller than those operating at the Kahuku Wind Farm, and because Hawaiian hoary bat take at the existing wind farm projects, is higher than anticipated in their HCPs. *Id.* at 7.

When preparing an HCP, it is entirely appropriate to develop conservative estimates of potential take to account for uncertainty related to species biology, potential impacts, and the effectiveness of avoidance and minimization measures. This ensures that take levels authorized under the ITL are adequate to sufficiently cover the Applicant's proposed actions and provides confidence that any major amendments to the HCP would not be needed during the permit term. However, it is also an applicant's obligation to take actions to avoid and minimize take to the maximum extent practicable. Applicant relied on the best available information and science to derive Hawaiian hoary bat take estimates and incorporated several layers of conservative assumptions to develop the requested take limit, resulting in an estimate of take that uses the best available scientific information and accounts for uncertainty in the ability to predict the future. Applicant used higher than expected estimates of unobserved take in deriving the estimated take value and based the requested take limit on 150 percent of the estimated take value. Ex. A-1 at 44; Ex. A-27 (T.Snetsinger WDT) at ¶¶ 17, 21.

The Kahuku Wind Farm provides the best available data for estimating potential Project-related take of Hawaiian hoary bats because it is located immediately adjacent to the proposed Project. Thus, the Kahuku Wind Farm possesses topographical and vegetative characteristics that make it most similar in habitat and probable use by Hawaiian hoary bats to the adjacent proposed Project. Moreover, Applicant is not aware of any peer-reviewed studies supporting KNSC's assertions, and none were provided by KNSC as potential evidence here. Furthermore, evidence from the island of Hawai'i supports that patterns of use and occupancy of the Hawaiian hoary bat are associated with elevation and the amount of mature forest. Ex. A-1 at 17-18, 41; Ex. A-27 (T.Snetsinger WDT) at ¶ 12.

The Kahuku Wind Farm also has the longest operational history of the existing wind farms on O'ahu, and therefore provides the most comprehensive dataset for these estimates, contrary to assertions that the Kawailoa Wind Farm provides more extensive data. The Kahuku Wind Farm became commercially operational in March 2011, and although the project was idle for 1 year, it has been operational for 8 months more than the Kawailoa Wind Farm which began commercial operation in November 2012. Ex. A-1 at 41; Ex. A-27 (T.Snetsinger WDT) at ¶13.

The Hawaiian hoary bat take estimate in the HCP was calculated using the per turbine fatality rate observed at the Kahuku Wind Farm and a conservatively high assumed value for unobserved take (based on Kahuku Wind Farm data), and adjusted for the potential effectiveness of LWSC in reducing collision risk. The level of effectiveness of LWSC used here was based on the estimated effectiveness of LWSC from mainland studies. To account for the uncertainty associated with the effectiveness of this measure in Hawai'i, a very conservative 150 percent of the estimated take was used to develop the total requested take limit. When combined with the

conservative assumption associated with unobserved take,<sup>3</sup> effectiveness of LWSC may be as low as 36 percent for the Project to remain below the requested authorized take limit. Ex. A-27 (T.Snetsinger WDT) at ¶ 17.

An analysis incorporating LWSC effectiveness at the Kawaihoa Wind Farm could not have been included in the HCP because there is no data available from the Kawaihoa Wind Farm, nor any other operational wind farm in Hawai'i, to accurately estimate the effect of LWSC on Hawaiian hoary bat fatality rates. The relatively few bat fatalities that occur in Hawai'i, along with the fact that the agencies are now making a consistent recommendation that all wind farms implement LWSC, make it impossible to conduct a controlled experiment to evaluate LWSC effectiveness in Hawai'i or draw conclusions as to its effectiveness based on current data. Ex. A-27 (T.Snetsinger WDT) at ¶ 18. Moreover, the Kawaihoa Wind Farm has implemented LWSC since it began commercial operation; therefore, there is no way to compare fatality rates before and after LWSC implementation at that facility. *Id.* ¶ 19. The methodology used to estimate take at Kawaihoa relied on the use of baseline acoustic activity data (*see* Ex. B-35), which is now recognized as an inappropriate way to predict Project fatalities. *See supra* Part III.D; Ex. A-54 at 11-15 (Hein et al. 2013). Therefore, the difference between estimated take in the Kawaihoa Wind Farm HCP and that observed is unrelated to the effectiveness of LWSC in Hawai'i. Ex. A-1 at 43-44; Ex. A-53 (T.Snetsinger WRT) at ¶ 25.

The best available science regarding the potential benefits of LWSC exists in the experimental studies conducted at wind farms on the mainland that are estimated to experience

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<sup>3</sup> Data from the Kahuku Wind Farm suggest that using full-sized search plots, one can expect approximately 1.5 unobserved fatalities per observed fatality. *See* Ex. A-55 (Kahuku Wind Power, LLC HCP Annual Report FY 2015). By assuming 2 unobserved fatalities per observed fatality in developing the estimate, estimated take is approximately 20 percent higher than would be calculated using the actual Kahuku Wind Farm data.

hundreds of bat fatalities per year. These studies, as cited in the HCP, have found LWSC to be effective at reducing the take of hoary bats. See Exs. A-5 & A-6; Ex. A-27 (T.Snetsinger WDT) at ¶ 20. The inclusion of conservative assumptions in the estimate accounts for any inherent uncertainty in its actual effectiveness. The LWSC analysis presented in the HCP was based on the best available science and the conclusions and rationale were supported by the ESRC, DOFAW, and the USFWS. Ex. A-1 at 43-44.

Applicant acknowledges that the 12 Kahuku Wind Farm turbines are shorter than the 8 to 9 turbines proposed for the Project. Current best evidence does not suggest that the operation of the larger turbines at the Project would increase bat collision risk over the risk level at the Kahuku Wind Project. The Zimmerling & Francis 2016 study, which was unavailable at the time of the publication of the Final HCP, found no relationship between turbine height and bat fatalities.<sup>4</sup> Ex. A-10 (Zimmerling & Francis 2016) at 1364; Ex. A-27 (T.Snetsinger WDT) at ¶¶ 14, 21; Ex. A-53 (T.Snetsinger WRT) at ¶ 27. Again, however, to account for any uncertainty associated with risk to the Hawaiian hoary bat, the requested take authorization for this species under the HCP was adjusted to 150 percent of a conservative estimated level of take. Ex. A-1 at 44; Ex. A-27 (T.Snetsinger WDT) at ¶ 21.

Although most previously approved wind HCPs that include the Hawaiian hoary bat are currently being amended to address those facilities' experience with higher bat take than those projects initially predicted in their HCPs, this was based, at least in part, on prior information and lack of data to accurately predict take when those original HCPs were developed. Applicant's HCP cannot be faulted for data gaps in HCPs developed prior to Applicant's. More recent HCPs,

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<sup>4</sup> To the extent that KNSC intended for Exs. B-7 and B-11 to offer contrary evidence on this point, these studies are older, include fewer studies (21 and 9, respectively) versus the 47 used in the analysis presented in Zimmerling & Francis (2016). Thus, they are not the best available science.

including Applicant's HCP here, have the advantage of more data, including post-construction mortality monitoring data from the existing wind farms, to more reasonably assess predicted take and therefore can provide a better and conservative estimate of take with less uncertainty than the earlier HCPs. *See* Ex. A-27 (T.Snetsinger WDT) at ¶¶ 22, 26.

G. KNSC'S ALLEGATION THAT THE NEWELL'S SHEARWATER ARE KNOWN TO COLLIDE WITH SEDENTARY OBJECTS IS NOT SUPPORTED BY THE BEST AVAILABLE SCIENCE

KNSC argues in its brief that the HCP is incorrect in its conclusion that the Newell's Shearwater will avoid the Project facilities and that Newell's Shearwaters are particularly susceptible to collisions with sedentary objects such as power lines. KNSC Responsive Brief at 8. KNSC cites to a study of the Newell's Shearwater that was based on data collected only from the island of Kaua'i. *See* Ex. B-22.

The HCP describes the basis for the assumption about high avoidance rates. Ex. A-1 § 5.2.1 at 45-48 & App. B. As described in Appendix B to the HCP, studies that have documented interactions of Hawaiian petrels and Newell's shearwaters at stationary objects such as communications towers and transmission lines suggests they avoid these objects at nearly 100 percent. Likely causes for collision fatalities on Kaua'i, where the Newell's shearwater breeding population is concentrated, are the large population of breeding birds in combination with the parallel orientation of power lines relative to the coastline and the presence of power lines that are in strong relief relative to the surrounding topography and vegetation. *See* Ex. A-56 (Griesemer & Holmes 2011) at 14, 25, 41; Ex. A-53 (T.Snetsinger WRT) at ¶ 28. These conditions are not expected at the Project site as Project powerlines are approximately perpendicular to the coast (parallel to expected flight paths of Newell's shearwaters flying to and from potential breeding colonies in the Ko'olau Mountains) and existing tree lines should minimize relief of any above ground powerlines. All potential Newell's shearwaters detected

during radar surveys were flying more than 25 meters above the ground, well above the maximum height of the Project transmission line (15 meters). Ex. A-1 at 47; Ex. A-53 (T.Snetsinger WRT) at ¶ 29. Finally, Applicant has three avoidance and minimization measures targeted at minimizing risk to Newell's shearwaters colliding with stationary objects: 1) lower construction cranes at night, when practicable, to minimize the risk of bird collisions; 2) collection lines will be placed below ground to the maximum extent practicable and above ground portions of power lines associated with the Project will use line marking devices to improve visibility to birds; and 3) the Project met tower will be free-standing. See Ex. A-1 § 4.2 at 38-40; Ex. A-53 (T.Snetsinger WRT) at ¶ 30.

H. KNSC INCORRECTLY STATES THAT DOFAW, USFWS, AND THE ESRC HAVE NOT DETERMINED THAT THE HCP IS ACCEPTABLE

KNSC tries to discredit the extensive work and lengthy consultation that Applicant performed to develop the HCP, in conjunction with DOFAW, USFWS, and the ESRC, over the last few years by stating that no formal determination was made by these agencies as to the acceptability of the HCP. KNSC Responsive Brief at 8-9. Despite KNSC's semantic briefing efforts, Applicant has in fact submitted evidence that it took the necessary steps to secure the required approvals, be they formal or informal, from the governing agencies prior to submitting the HCP for final review by the Board. The ESRC did in fact recommend approval of the HCP to the Board. Ex. A- 36 at 6; Ex. A-2 at 4; Ex. A-29 (A.Oller WDT) at ¶ 23; Ex. A-53 (T.Snetsinger WRT) at ¶ 31. Likewise, DOFAW field staff reviewed and supported approval of the HCP to the ESRC. Ex. A-2 at 4; Ex. A-57 (DOFAW Staff Report to ESRC Feb. 2016)<sup>5</sup>; Ex. A-53 (T.Snetsinger WRT) at ¶ 32. DOFAW's February 25, 2016 staff report to the ESRC stated

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<sup>5</sup> The DOFAW Staff Report to the ESRC is mistakenly dated February 25, 2015, however, this meeting took place on February 25, 2016. See ESRC Meeting Notices and Archives, <http://dlnr.hawaii.gov/wildlife/esrc/meeting-archives/> (last visited July 24, 2017).

that "DOFAW staff has worked closely with Na Pua Makani through several rounds of revisions of the draft HCP. The resulting document reflects amendments based on the comments received by the ESRC" and that "DOFAW staff has reviewed the amendments to the HCP and has no additional concerns." Ex. A-57 at 2, 3; Ex. A-53 (T.Snetsinger WRT) at ¶ 32

As a practical matter, Applicant would not have presented its HCP to the Board without first receiving some form of concurrence from DOFAW and USFWS and the ESRC's recommendation for approval to the Board. *See* HRS § 195D-25, 195D-21. The ESRC is the expert consultant to the Board, specifically established by statute to review HCPs and ITLs and to provide a recommendation to the Board. HRS § 195D-25. As discussed in Applicant's Opening Brief, the ESRC's recommendation for approval was secured and is owed due consideration as the approving body within the agency responsible for oversight of HCPs, and its conclusions should be given deference and a presumption of validity. *See* Ex. A-36; Ex. A-29 (A.Oller WDT) at ¶ 23.

#### I. ARGUMENTS CONTAINED IN RAGO'S EXHIBITS

Although Rago makes no clear argument in her Responsive Brief, her WDT as well as that of her listed witness, Tēvita O Kaʻili, state that her primary concerns are with the potential noise from the Project and the impact on a culturally significant species. *See* Rago WDT at 5-7; Kaʻili WDT. Rago argues that the noise impacts and cultural impacts from the Project were not analyzed. While these impacts are not part of the analysis required for a take license in HRS Chapter 195D, those concerns were fully addressed as part of the entirely separate environmental review process under HRS Chapter 343. Ex. A-53 (T.Snetsinger WRT) at ¶ 33. That separate process was fully completed and the time to challenge has long passed for this State-approved FEIS. *See* Ex. A-13. The challenges that Rago asserts here are not properly a part of this proceeding and should be stricken.

While not material for purposes of the issues in MO6 here, for the record, Sections 3.4 and 4.6, as well as Appendix D, of the FEIS address and consider the potential noise impacts of the Project. *See* Ex. A-12; Ex. A-17. The Noise Impact Assessment for the Project concluded that there will be temporary varying noise impacts during construction of the Project. Ex. A-12 at 4-53 to 4-54. Noise impacts during the operation phase of the Project will be minimal. *Id.*; Ex. A-53 (T.Snetsinger WRT) at ¶ 34.

With respect to cultural impacts of the Project, they have been considered as part of the HCP process. One of the members of the ESRC has background in this area and was present for the consideration and deliberation of the HCP. *See* Ex. A-35; Ex. A-36. Furthermore, a Cultural Impact Assessment ("CIA") was fully completed as part of the FEIS. *See* Ex. A-20; Ex. A-53 (T.Snetsinger WRT) at ¶ 35. Mr. Ka'ili was consulted and interviewed as part of the CIA consultation process. Ex. A-20 at Table 3 (PDF page 76), § 6.1.3 (PDF page 79). The CIA notes that little mention of the specific Project site was made through consulting research. Ex. A-20 at PDF page 85. Based on this consideration and evidence that the parcel was heavily disturbed during the sugar cane plantation era, the CIA concluded that there will be minimal impacts to traditional and customary practices. As a result of Mr. Ka'ili's participation in the CIA, the CIA consultant recommended that the Applicant incorporate measures that minimize or mitigate any impacts to culturally important species. *Id.* As discussed above, Applicant, to the maximum extent practicable, has done so. Accordingly, while these issues are not relevant for purposes of the HCP and ITL approval process here under HRS Chapter 195D and MO6, Rago and Ka'ili's stated concerns were given a full opportunity for consideration during the separate environmental review process and were addressed as part of the FEIS. As discussed in Applicant's Opening Brief, the FEIS was published on August 8, 2016 and was subject to a 60-day challenge period.




Applicant's Opening Brief at 8; HRS § 343-7. No timely legal challenges to the FEIS were made.

Rago's WDT also states that she, as an elected officer of Kahuku Community Association ("KCA"), was not given notice of a May 25, 2016 meeting on the HCP. Rago WDT at 3-4. The May 25, 2016 meeting that Rago refers to was a public information meeting on the Second Draft EIS for the HCP, not the HCP itself. Notice of the meeting was published in the Star Advertiser on May 12 and 19, 2016. *See* Ex. A-58. Notice of the Second Draft EIS and the associated comment period was also published in the *Environmental Notice* on April 23, 2016. Ex. A-53 (T.Snetsinger WRT) at ¶ 36.

#### IV. CONCLUSION

For the reasons explained above, Applicant should be adjudged to have met its burden of proof by a preponderance of the evidence as its HCP and ITL are fully supported by admissible, credible and reliable evidence to satisfy the criteria of HRS Chapter 195D. Accordingly, the HCP and ITL should be recommended for approval by the Board.

DATED: Honolulu, Hawai'i, July 25, 2017.



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BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAI'I

IN THE MATTER OF

A Contested Case Hearing Re Final Habitat  
Conservation Plan and Incidental Take License  
for the Na Pua Makani Wind Energy Project  
by Applicant Na Pua Makani Power Partners,  
LLC; Tax Map Key Nos. (1) 5-6-008:006 and  
(1) 5-6-006:018, Ko'olauloa District, Island of  
O'ahu, Hawai'i

Case No. BLNR-CC-17-001

CERTIFICATE OF SERVICE

**CERTIFICATE OF SERVICE**

The undersigned certifies that the above-referenced document was served upon the  
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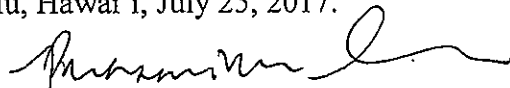
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