

OFFICE OF PLANNING STATE OF HAWAII

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Ref. No. P- 14992

January 5, 2016

MEMORANDUM

To: Daniel Orodener, Executive Officer
Land Use Commission

From: Leo R. Asuncion, Director 

Subject: Special Permit Application No. SP15-407
SolarCity Corporation
TMK: (4) 3-8-002: 002 Por.
Kapaia, Hanamalu, Lihue, Kauai

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LAND USE COMMISSION
STATE OF HAWAII

The Office of Planning (OP) recommends approval of the Special Permit Application, SP15-407, SolarCity Corporation, with additional and/or amended conditions consistent with the Land Use Commission's ("LUC") decision in SP15-406, Kawailoa Solar, LLC.

A. Relevant Statutory Provisions

The use of good agricultural lands for solar energy facilities presents a difficult question on how to balance conflicting goals. Solar generation facilities provide an important source of renewable clean energy. There is a strong demand for the agricultural lands by solar companies because they are relatively cheap, generally located away from most residential centers, and are often on relatively flat terrain. Furthermore, the process for approval of a special permit is significantly shorter, easier, and less rigorous than the process for approval of a district boundary amendment petition. The availability of agricultural land for solar energy generation, however, also has the effect of making good agricultural land more expensive and less available for farming.

The conflicting goals of renewable energy and agriculture are balanced in the provisions of sections 205-2(d)(6), and 205-4.5(a)(20) and (21), HRS. Solar facilities are generally prohibited on A-rated lands, with a small exception under very rigorous conditions. HRS § 205-4.5(a)(20). Solar facilities on D or E rated lands are generally allowed. HRS § 205-2(d)(6). Solar facilities on B or C rated lands are allowed if they do not occupy more than 10% of the parcel and are less than twenty (20) acres in size, or with a special permit. HRS § 205-2(d)(6) and 4.5(a)(21). A special permit on B or C rated lands is only given subject to certain restrictions. HRS § 205-4.5(a)(21).

HRS § 205-4.5(a)(21) allows solar energy facilities on lands with B or C rated soils pursuant to a special permit, provided that (1) the area occupied by the solar energy facility is also made available for compatible agricultural activities at a lease rate that is at least fifty per cent below the fair market rent for comparable properties; (2) proof of financial security to decommission the facility is provided to the satisfaction of the appropriate county planning department prior to commencement of commercial power generation; and (3) the solar energy facility is decommissioned at the owner's expense within twelve months of the conclusion of operations or the facility's useful life and the area is restored to its pre-development condition.

B. Factual and Procedural Background

On December 7, 2015, the Kauai Planning Commission sent a letter to the Land Use Commission ("LUC") recommending approval with conditions. The application proposes to construct a 17 megawatt solar generation facility on approximately 50 acres with a 13-megawatt battery storage system and related ancillary facilities. See page 1 of the Planning Director's Report. The entire area is composed of B-rated soils. See page 1 of the Department of Agriculture Letter attached hereto as Exhibit 1.

The Kauai Planning Department ("PD") concluded that "[t]he useable portions of the site will be leased for pasture purposes at a rate or rates that are fifty percent (50%) below the fair market rental value." See page 4 of the Planning Director's Report. The Kauai PD also concluded that "[f]ollowing the anticipated twenty-five (25) to thirty (30) year life and operation of the solar facility, all equipment will either be retrofitted with new equipment or will be removed from the site, and the site will be restored to its preconstruction condition."

C. Issues of Concern

1. Flora and Fauna

The applicant submitted a flora and fauna survey dated October 2015. During the survey, the consultant observed the endangered Nene and the Pacific Golden Plover on site. The study also noted that the endangered Hawaiian Petrel, and threatened endemic Newell's Shearwater has been recorded flying over the project area. The study recommended certain mitigation measures. The County, however, only listed the mitigation measure relating to lighting among its conditions. OP recommends that all mitigation measures recommended by the applicant's consultant be required as a condition.

While the U.S. Fish and Wildlife Service (USFWS) was only recently contacted on December 30, 2015 to review this application, we note that USFWS has commented in other

Mr. Daniel Orodenker
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State Special Permit applications for solar farms, e.g., SP15-406 Kawaihoa Solar, LLC. In that case, the USFWS commented as follows:

Birds have been inadvertently attracted to these sites due to solar panels' resemblance to water ... Once attracted, collisions with the solar arrays have resulted in injuries and mortalities; once grounded birds are also subject to predation (Kagan et.al. 2014). While attraction to solar arrays has not yet been documented in Hawaii, the State harbors a significant diversity of waterbird and shorebird species. We recommend that personnel at the solar site be educated about the potential for birds to be attracted and inadvertently harmed. If monitoring indicates that species are occurring at the photovoltaic system, or additional information about the facility's impacts to native Hawaiian species becomes available, please contact us so we may assist you in avoiding and minimizing impacts.

See Exhibit 2.

The flora and fauna study indicates that the Hawaiian hoary bat likely overflies the project area. Adverse impacts to roosting bats during the roosting and pupping season, between June 1 and September 15, can be avoided or minimized by not clearing and grubbing vegetation that are suitable for roosting bats. The study indicates that there are no suitable roosting trees within the proposed project site; however, since the entire project is within a large vegetated area, OP would still recommend that clearing and grubbing be avoided and/or minimized during the Hawaiian hoary bat's roosting and pupping season. Both the USFWS and the applicant's consultants have recommended that barbed wire not be used to protect the Hawaiian hoary bat. OP's recommendations on conditions relating to flora and fauna (including the County's existing condition) are set forth in the OP's proposed Conditions 3(a) and 5.

2. Agriculture

On December 17, 2015, the Department of Agriculture (DOA) submitted a memorandum to OP which expressed concern regarding the sufficiency of information relating to the feasibility and likelihood of compatible agricultural activities on site for local food production.

The DOA also noted that, "B" rated agricultural lands are a scarce and valuable resource with good capacity to contribute substantially to food self-sufficiency. The 100-year history of agricultural activities on the project site and adjacent area is evidence of the productive capacity of the project area. (Application, page 15) The project site also possesses some of the characteristics that may qualify it as potential Important Agricultural Lands, pursuant to Part III

of Chapter 205, HRS.” In fact the remainder of this Tax Map Key parcel was granted IAL approval under DR12-48 Grove Farm Company Incorporated.

Based upon these concerns and the value of the site for agricultural production, the DOA recommended that the LUC specifically require the applicant and its successors and/or assigns to establish a goat and/or sheep pasture operation or other agricultural enterprise on the property for the duration of the operation of the solar energy generation facility. See Exhibit 2.

The condition relating to the establishment and maintenance of compatible agricultural activities within six months after operation is set forth in OP Conditions 1 and 2. The condition relating to proof of financial security is set forth in OP Condition 4 which also incorporates Kauai County’s proposed condition 3.

D. Recommendation

OP recommends approval of this Special Permit, subject to a set of conditions which are consistent with the Kawailoa Solar SUP (Docket No. SP15-406, June 29, 2015) and which incorporate the conditions recommended by the Kauai Planning Commission, and the comments and recommendations from the DOA and the USFWS.

Accordingly, OP recommends approval of the Special Permit subject to the following conditions (Kauai Planning Commission conditions are noted in italics):

1. Usable lands of the Petition Area, including areas under PV panels, shall be made available for compatible agricultural use at a lease rate that is at least 50 percent below the fair market rent for comparable properties, as long as the Project is in operation. Compatible agricultural operations shall be established by the Applicant and its successors and/or assigns within 6 months of the start of commercial power generation. Extensions to this deadline may be granted by the Director of the County of Kauai Planning Department (PD) for unforeseen extenuating circumstances. Additional consideration may be given if the Applicant is actively seeking to have such operations established.
2. If at any time during the term of the Special Permit (SP) no compatible agricultural operations exist on the usable lands of the Petition Area for 6 months, the Applicant shall notify the Director of the Kauai PD in writing within 30 days of the end of the 6-month period. If requested by the Planning Director, the Applicant shall attend a meeting of the Planning Commission and submit a report to the Planning Commission detailing the

Applicant's actual and reasonable efforts to establish compatible agricultural operations on the usable lands of the Petition Area. The Planning Commission may determine whether probable cause exists to re-evaluate the SP and to hold a hearing pursuant to the Rules of the Planning Commission. Extensions to the 6-month deadline may be granted by the Planning Director for unforeseen extenuating circumstances.

3. The Applicant shall submit for review and obtain the approval of the following from the Director of the Kauai PD, prior to the issuance of a grading or building permit:
 - a. Applicant shall minimize or avoid clearing and grading activities from June 1 through September 15.
 - b. A survey map accompanied by a metes and bounds description of the approved Petition Area.
 - c. A site plan showing the area required under Condition 1, above, relating to the minimum land area to be made available for compatible agricultural use.

4. Prior to the closing of the building permit for the facility, the Applicant shall submit to the Kauai PD proof of financial security, such as a letter of credit or similar assurance, from a creditworthy financial institution satisfactory to Kauai PD. The security shall remain in place for the duration of the operation of the Project, with evidence of same provided to the Director of the Kauai PD on an annual basis, in an amount approved by the Kauai PD as sufficient to decommission the Project and restore the Petition Area to substantially the same physical condition as existed prior to the development of the facility.

The applicant shall decommission the facility, including the removal of all equipment related to the facility, within twelve (12) months following the termination of operations of the facility. A change in project ownership or a change in ownership of the land subject to the SP, which warrants a new proof of financial security to decommission the project, shall be submitted to the Kauai DP, within three (3) months of the ownership change.

The Applicant shall incorporate this condition in the license and/or lease agreement with the land owner, and said license and/or lease agreement

shall be reviewed for approval by the Kauai PD. (*Portion of condition 3 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.*)

5. The Applicant shall mitigate impacts to fauna on site as follows:
 - a. Applicant shall develop an endangered species awareness training module, which shall include all potential endangered species that may frequent the Petition area.
 - b. All construction workers and solar facility employees shall undergo endangered species awareness training prior to starting work.
 - c. In order to minimize adverse impacts on the Federally Listed Threatened Species, Newell's Shearwater and other seabirds, external lighting shall be only of the following types: shielded lights, cut-off luminaries, or indirect lighting. Spotlights aimed upward or spotlighting of structures, landscaping or the ocean shall be prohibited. (*Condition 7 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.*)
 - d. Barbed wire shall not be used on the top of any fencing.
 - e. Applicant shall monitor avian injuries occurring at the photovoltaic system, and report occurrences to the USFWS.
6. The Applicant shall establish the Project within two (2) years of the date of the LUC's Decision and Order approving the SP. Requests for extension of this deadline shall be submitted to the Director of the Kauai PD prior to the expiration of the deadline. The LUC may grant an extension to the deadline to establish the Project due to unforeseen circumstances that were beyond the control of the Applicant. This SP shall be valid for a period of thirty-five (35) years from the date of the LUC's Decision and Order approving the SP, subject to further extensions upon a timely request for extension filed with the Planning Commission at least one hundred twenty (120) days prior to the SP's expiration. Approval of time extensions shall not be required from the LUC.
7. On or before December 31 of each year that the SP is in effect, the Applicant or its successor shall file an annual report to the LUC, OP, and

the Kauai PD that demonstrates the Applicant's compliance with conditions of the SP.

8. Major modifications to: (1) the Project plans, including but not limited to significant increases in the number of PV panels; (2) amendments to the conditions of approval; (3) significant expansions of the approved area; or (4) change in uses stated herein, shall be subject to the review and approval of the Planning Commission and the LUC. Minor modifications including minor additions to accessory uses and structures, and new incidental uses and structures in the approved area are subject to review and approval by the Director of Kauai PD.
9. The Applicant and/or landowner shall notify the Director of Kauai PD of:
 - a. Any change or transfer of licensee on the Petition Area.
 - b. Any change in uses on the Petition Area.
 - c. Termination of any uses on the Petition Area; and/or
 - d. Transfer in ownership of the Petition Area.
10. Enforcement of the conditions of the SP shall be pursuant to the Rules of the Planning Commission, including the issuance of an order to show cause as to the reason the SP should not be revoked if the Planning Commission has reason to believe that there has been a failure to perform the conditions herein.
11. If the PV array creates a hazardous condition for pilots or motorists, the facility operator shall immediately mitigate the hazard upon notification by the DOT, Airports Division, or the FAA.
12. In the event that historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes, are identified during demolition and/or construction activities, all work shall cease in the immediate vicinity of the find, the find shall be protected from additional disturbance, and the SHPD and Kauai Island Burial Council, as applicable, shall be contacted immediately. Without any limitation to any other condition found herein, if any burials or archaeological or historic sites are discovered during the course of

construction of the facility, all construction activity in the vicinity of the discovery shall stop until the issuance of an archaeological clearance from the SHPD that mitigation measures have been implemented to its satisfaction.

13. The Applicant shall comply with the requirements of the State Department of Health, the County's Fire Department, the Department of Water, and the Department of Public Works, as well as any other applicable government agencies. *(Condition 4 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*
14. The Applicant shall develop and utilize Best Management Practices (BMP's) during all phases of development in order to minimize erosion, dust, and sedimentation impacts of the project to abutting properties. *(Condition 5 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*
15. The Applicant shall develop and operate the facility, including the implementation of measures to mitigate potential impacts of the Project, in substantial compliance with the representations made to the Planning Commission and the LUC as reflected in this Decision and Order. Such mitigation measures include, but are not limited to, the use of temporary and permanent BMPs to ensure that the development and operation of the facility do not result in an increase in stormwater runoff that adversely impacts downstream properties. Failure to so develop the Petition Area may result in revocation of the SP. *(Condition 1 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*
16. To the extent possible within the confines of union requirements and applicable prohibitions against discrimination in employment, the Applicant shall seek to hire Kauai contractors, and shall seek to employ residents of Kauai in temporary construction and permanent jobs. It is recognized that the applicant may have to employ non-Kauai residents for particular skilled jobs where no qualified Kauai resident possesses such skills. For the purpose of this condition, the Commission shall relieve the applicant of this requirement if the applicant is subjected to anti-competitive restraints on trade or other monopolistic practice. *(Condition 8 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*

17. The Applicant shall implement to the extent possible sustainable building techniques and operational methods for the project, such as Leadership in Energy and Environmental Design (LEED) standards or another comparable state approved, nationally recognized, and consensus-based guideline, standard, or system, and strategies, which may include but is not limited to recycling, natural lighting, extensive landscaping, solar panels, low-energy fixtures, low energy lighting and other similar methods and techniques. All such proposals shall be reflected on the plans submitted for building permit review. *(Condition 9 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*
18. The Planning Commission reserves the right to revise, add, or delete conditions of approval in order to address or mitigate unforeseen impacts the project may create, or to revoke the permits through the proper procedures should conditions of approval not be complied with or be violated. *(Condition 10 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*
19. The Applicant is advised that additional government agency conditions may be imposed. It shall be the applicant's responsibility to resolve those conditions with the respective agencies. *(Condition 11 of the Kauai Planning Commission Approval letter dated, November 6, 2015, to the Land Use Commission.)*

If you should have any questions, please contact Rodney Funakoshi or Lorene Maki of our Land Use Division at 587-2888.

c: Kauai Planning Department
Department of Agriculture
Curtis Tabata

DAVID Y. IGE
Governor

SHAN S. TSUTSUI
Lt. Governor



State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
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Phone: (808) 973-9600 FAX: (808) 973-9613

SCOTT E. ENRIGHT
Chairperson, Board of Agriculture
PHYLLIS SHIMABUKURO-GEISER
Deputy to the Chairperson

December 17, 2015

Mr. Leo R. Asuncion, Jr.
Acting Director
Office of Planning
State of Hawaii
P. O. Box 2359
Honolulu, Hawaii 96804-2359

Dear Mr. Asuncion:

Subject: Application for Special Use Permit
Kapaia Solar Project
SolarCity Corporation
TMK: 3-8-02: portion 2 (Waipio, Oahu)
Area: 46.5 of 5,341 total acres

The Department of Agriculture has reviewed the subject application and other documentation sent to us by your staff and offers the following comments and recommendations.

Background

The 46.5-acre project site is owned by Grove Farm Company and is within the State Agricultural District, is designated as Agriculture in the Kauai General Plan, is within an area meant for agricultural activities and open space preservation according to the Lihue Development Plan, and is within Kauai County's Agriculture District zone. The solar energy facility consists of 54,265 photovoltaic panels and a battery energy storage system. The total ground area to be disturbed is less than 2 acres. (Application, page 8) The panels will be about 6.5 feet in height at its highest point. (Application, page 9) No information is provided on the height of the panels at their lowest point.

The project site appears to be entirely comprised of "B" rated soils according to the "Detailed Land Classification – Island of Kauai" (Land Study Bureau, December 1967, map 92). As such, solar energy facilities with a compatible agricultural activity may be permitted by special permit, pursuant to Section 205-4.5(a)(21), Hawaii Revised Statutes. The applicant "...will lease the usable portions of the Subject Property for the pasturing of sheep and/or goats at rates which are at least 50% below the fair market value. (Application, page 23)



At the end of the solar energy facility's operational life, the facility may be retrofitted with new equipment, or removed and the land area returned to its pre-construction condition. (Application, page 11)

The property appears to be currently unused. (Application, page 14) Earlier uses include seed corn, livestock pasture, and sugarcane. (Application, page 15). Existing and former uses of the surrounding lands include agricultural uses and a skeet shooting facility. (Application, page 15) The Kauai Island Utility Cooperative (KIUC) operates the Kapaia powerplant to the east of the project site. (Application, page 8)

Irrigation water is available from Grove Farm Company's irrigation system on and adjacent to the property. It is stated that potable water is not needed for the project. (Application, page 18) No well facilities will be developed and no water will be withdrawn from any streams. (Application, page 15) A perimeter fence will be built. (Flora and Fauna Surveys Conducted for the Kapaia Solar Photovoltaic and Battery Energy Storage Project; Reginald E. David and Maya LeGrande; October 15, 2015, page 17)

Description of the proposed compatible agricultural use on the subject property

The applicant "...will lease the usable portions of the Subject Property for the pasturing of sheep and/or goats at rates which are at least 50% below the fair market value." (Application, page 23) There is no information on how many acres of the project site is considered "usable portions", whether these portions are contiguous or fragmented, what is the animal carrying capacity of the "usable portions", what the land rental rate would be, and how long will the lease term be.

Further, the Department of Agriculture questions whether the act of pasturing sheep and/or goats meets the purpose and intent of Section 205-4.5(a)(21), HRS as expressed in Section 1 of Act 55, Session Laws of Hawaii 2014, which is to "...enable the complementary uses of utility scale solar energy generation and local food production..." on "B" and "C" rated agricultural land. (emphasis added). The Department scrutinized all the documentation sent to us by the Office of Planning and found no information indicating that the sheep and/or goats were for local food production.

The application contains no information on the market demand for sheep and goats on Kauai. Statistics on goats and sheep populations, number of farms, on-island sales versus statewide, and so forth are found in the Census of Agriculture (National Agricultural Statistics Service, U.S. Department of Agriculture) See <http://www.agcensus.usda.gov/index.php>

The application provides no information on what other infrastructure will be required to operate an animal grazing facility, how the animals will be provided drinking water, or alternative compatible agricultural uses should goats and/or sheep not be successful.

Recommendation

The Department of Agriculture strongly supports existing farming operations and those seeking to start new farming enterprises. The Department also supports solar energy operations in combination with compatible local food production on "B" and "C" rated agricultural land as provided for in Chapter 205, HRS. "B" rated agricultural lands are a scarce and valuable resource with good capacity to contribute substantially to food self-sufficiency. The 100-year history of agricultural activities on the project site and adjacent area is evidence of the productive capacity of the project area. (Application, page 15) The project site also possesses some of the characteristics that may qualify it as potential Important Agricultural Lands, pursuant to Part III of Chapter 205, HRS.

We believe this large-scale project should comply fully with the purpose and intent of Section 205-4.5(a)(21) as stated in Section 1 of Act 55, Session Laws of Hawaii 2014 which is to "...enable the complementary uses of utility scale solar energy generation and local food production..." on "B" and "C" rated agricultural land (emphasis added).

Based on the absence of information on the compatible agricultural use proposed for the project site, we recommend the Land Use Commission impose a condition that the applicant and its successors and/or assigns shall have established a goat and/or sheep pasture operation or other agricultural enterprise on the property in compliance with Act 55, 2014 Session Laws of Hawaii for the duration of the operation of the solar energy generation facility.

Thank you for the opportunity to provide our input. Should you have any questions, please contact Earl Yamamoto at 973-9466 or email at earl.j.yamamoto@hawaii.gov.

Sincerely,

Scott E. Enright
Chairperson, Board of Agriculture

c: Michael A. Dahilig, Director
Planning Department, County of Kauai



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850



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DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

In Reply Refer To:
2015-TA-0154

Mr. George I. Atta
FAICP, Director
Department of Planning and Permitting
City and County of Hawai'i
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

FEB 17 2015

Subject: Technical Assistance for the Special Use Permit for the Kawaihoa Solar Farm Project, O'ahu

Dear Mr. Atta:

The U.S. Fish and Wildlife Service received your letter on January 22, 2015, requesting our comments on the Application for a Special Use Permit for First Wind's (d.b.a. Kawaihoa Solar, LLC) proposed development of the Kawaihoa Solar Farm Project, a 55 megawatt (MW) solar energy facility on approximately 384.1 acres² on the north shore of O'ahu (TMK: (1) 6-1-005:001 (por.) and 6-1-006:001 (por.)). The proposed solar farm would be co-located with the existing Kawaihoa wind farm. By interconnecting to the same electrical switchyards and transmission lines as the existing wind farm, the proposed solar project builds on work that was done to support the wind farm and enables connection to Hawaiian Electric Company, Inc.'s electrical grid without the need for new interconnection infrastructure.

The solar farm would be comprised of a horizontal single-axis tracking, ground-mounted photovoltaic system, designed to maximize the use of the terrain, with the panels facing approximately due south. Each panel would generate power at 1,000 volts and on average, are expected to extend approximately 4 feet 6 inches to 9 feet 6 inches off the ground. Electrical equipment including combiner boxes, collector lines, inverters, weather monitoring stations, and switch gear would be installed in the vicinity of the panels, as needed to increase the electrical voltage and aggregate the generated electricity for transmittal via the collector system. The proposed Kawaihoa Solar Farm would produce clean, low-cost renewable energy for the island of O'ahu.

The area was historically part of a large sugar plantation, and is comprised of agricultural fields located atop a series of tablelands interspersed with gulches formed by intermittent drainages. First Wind intends to lease the proposed site for sheep ranching. Except for the transformers,

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IN AMERICA

Mr. George I. Atta

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most of the fenced area would be available to support 100-200 head of sheep on a year-round basis.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it pertains to listed species and designated critical habitat in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). Our data indicate that the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*) (collectively referred to as Hawaiian waterbirds), endangered Hawaiian goose (*Branta sandvicensis*), threatened Newell's shearwater (*Puffinus auricularis newelli*), and federally endangered Hawaiian petrel (*Pterodroma sandwichtensis*) could transit the area and be impacted by components of your project. The federally endangered Hawaii hoary bat (*Lasiurus cinereus semotus*) may forage and roost in the project area. There is no proposed or designated critical habitat located in the vicinity of the proposed project area. We offer the following comments to assist the Planning Commission and First Wind.

The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to Hawaiian hoary bats in the project area. Additionally, Hawaiian hoary bats have been snagged on barbed wire fencing while flying. We recommend that the solar facility fence design be designed to avoid the use of barbed wire.

Please note that some photovoltaic systems on the continental United States are resulting in impacts to migratory waterfowl and shorebirds. This source of mortality has been described previously (McCrary et. al. 1986), and recent impacts are being observed at solar facilities in California, including the Desert Sunlight Solar Farm and Genesis Solar Energy Project. Birds have been inadvertently attracted to these sites due to solar panels' resemblance to water and their proximity to important migratory flyways (Donnelly-Shores 2013 and Clarke 2013). Once attracted, collisions with the solar arrays have resulted in injuries and mortalities; once grounded, birds are also subject to predation (Kagan et. al. 2014). While attraction to solar arrays has not yet been documented in Hawai'i, the State harbors a significant diversity of waterbird and shorebird species. We recommend that personnel at the solar site be educated about the potential for birds to be attracted and inadvertently harmed. If monitoring indicates that species are occurring at the photovoltaic system, or additional information about the facility's impacts to native Hawaiian species becomes available, please contact us so we may assist you in avoiding and minimizing impacts.


We hope this information assists the Planning Commission with their approval process. We appreciate your efforts to conserve listed species. If you have questions about our comments,

Mr. George I. Atta

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please contact Jiny Kim, Island Team Biologist; O'ahu, Kaua'i, North Western Hawaiian Islands, and American Samoa Geographic Team (phone: 808-792-9400; fax: 808-792-9581).

Sincerely,



Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, North Western Hawaiian Islands,
and American Samoa