| Of Counsel: ASHFORD & WRISTON A Limited Liability Law Partnership LLP | THE JUN 20 PH 2: 01 |
|--|---|
| BENJAMIN A. KUDO 2262-0 SARAH M. SIMMONS 10228-0 999 Bishop Street, Suite 1400 Honolulu, Hawaii 96813 Telephone: (808) 539-0400 | BIRTY & COUNTY OF HOMOLAND |
| Attorneys for Applicant KAWAILOA SOLAR, LLC | |
| BEFORE THE PLAN OF THE CITY AND CO STATE O | |
| In the Matter of the Application of | FILE NO. 2014/SUP-6(RY) |
| KAWAILOA SOLAR, LLC | |
| For a New Special Use Permit to Allow Development of a 50-megawatt photovoltaic (PV) Energy Generation Facility and Accessory Uses and Structures on Lands Rated Class A, B and C by the Land Study Bureau, Ashley Road, Kawailoa Ahupua'a, Wailua District, Oahu, Hawai'i, Portions of Tax Map Key Nos.: (1) 6-1-005:001 and (1) 6-1-006:001, Part of Kamehameha School's Kawailoa Plantation | APPLICANT'S FIRST SUPPLEMENTAL LIST OF EXHIBITS; EXHIBIT "12"; CERTIFICATE OF SERVICE |

APPLICANT'S FIRST SUPPLEMENTAL LIST OF EXHIBITS

Applicant KAWAILOA SOLAR, LLC ("Kawailoa Solar" or "Applicant"), by and through its attorneys Ashford & Wriston, LLLP, hereby submits its First Supplemental List of Exhibits; Exhibit "12", in support of the State Special Use Permit modification prepared and submitted and to be heard by the Planning Commission of the City and

Exhibit 10

County of Honolulu on June 21, 2017. Exhibit "12" contains corrected page 3 and Exhibit "C" of the Application for Modification of Special Use Permit Materials, dated May 5, 2017, previously submitted as Applicant's Exhibit "5". Hereinafter, Exhibit "12" supersedes Exhibit "5".

These exhibits may be used in support of Applicant's request to modify the existing State Special Use Permit. Applicant reserves all rights to identify additional exhibits, and hereby incorporates all previous submittals and filings in this matter.

| Exhibit No. | DESCRIPTION |
|-------------|---|
| 1 | Resume of Aarty Joshi |
| 2 | NRG Energy Financial Summary |
| 3 | Resume of Wren Wescoatt |
| 4 | Resume of Jeff Overton |
| 5 | Application for Modification of Special Use Permit Materials, dated May 5, 2017 |
| 6 | Information Addendum to Application for Modification of Special Use Permit Materials, dated May 10, 2017 |
| 7 | Aerial Map |
| 8 | Overall Site Plan |
| 9 | Project Plan Overlay |
| 10 | Letter from Kualoa Ranch, dated June 16, 2017 |
| 11 | Letter from NRG Energy, dated June 16, 2017 |
| 12 | Corrected Application for Modification of Special Use Permit Materials, dated May 5, 2017 |

LIST OF EXHIBITS

DATED: Honolulu, Hawaii, June 20, 2017.

 \overline{D} 10

BENJAMIN A. KODO SARAH M. SIMMONS Attorneys for Applicant KAWAILOA SOLAR, LLC

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Ms. Kathy Sokugawa, Acting Director Department of Planning and Permitting City and County of Honolulu 650 S. King Street, 7th Floor Honolulu, HI 96813

Re: Modification of Kawailoa Solar Project (2014/SUP-6; SP15-406)

Dear Acting Director Sokugawa:

On behalf of Kawailoa Solar, LLC ("Permittee"), we are submitting a request for modification of the Special Use Permit granted for the Kawailoa Solar Project (2014/SUP-6, SP-15-406) ("Project"), to accommodate certain updates, time extensions, and minor technical changes to the Project. This application explains the planned changes in reference to the existing permit and identifies, for the Department's consideration, suggested revisions to the previous Findings of Fact and Decision and Order. Updated exhibits are provided on the Project which include updated drawings of the Solar Energy Facility ("SEF"). None of the proposed changes are expected to materially affect the potential impacts of the Project as evaluated and described in the existing SUP.

This request for modification includes the following proposed changes:

1. Change of Ownership, Change of Property Owner

In March of 2015, the Permittee's ultimate parent company, SunEdison filed for bankruptcy. NRG Renew LLC ("NRG") purchased three of the subsidiary companies that were developing solar projects on Oahu: Waipio PV, LLC, Kawailoa Solar, LLC and Lanikuhana Solar, LLC, through a court-approved acquisition in October 2016. The Permittee for this project remains Kawailoa Solar, LLC, though it is now owned by NRG. Permittee provided notice of this change in ownership in an Annual Compliance Report, which was submitted in February 2017 to DPP with copies to the State Land Use Commission and State Office of Planning. This may require updating the Findings of Fact to document this change in ownership.

2. Extension of Time to Establish Project, Term of Permit

1

Previously, the Project had executed a Power Purchase Agreement ("PPA") with Hawaiian Electric Company ("HECO") which was approved by the Public Utilities Commission ("PUC") and was scheduled to start construction in 2015, with completion planned in late 2016. The SUP required that the SEF be established no later than July 29, 2017 (2014/SUP-06, condition #6; SP15-405, condition #6), two years after the permit approval date. Construction on the Project was halted in February 2015, as a result of the termination of the Power Purchase Agreement ("PPA") by Hawaiian Electric Company ("HECO") and the subsequent bankruptcy of SunEdison, which were circumstances beyond the control of the Permittee.

The Permittee has resumed work on the development of substantially the same Project, but requires the previous deadline to be extended in order to complete the SEF. NRG is in the process of re-negotiating the PPA with HECO and will proceed with engineering, permitting and financing, to be followed by construction in 2018 and completion in 2019. To enable NRG to pick up where the previous developer left off, and complete essentially the same Project that was previously approved, and provide the same benefit of Hawaii residents, the Permittee is requesting a modification of the time to establish the SEF, from July 31, 2015 to December 31, 2019.

The term of the SUP was previously 35 years from the date of approval. Modern solar photovoltaic projects are typically designed to operate for a period of 35 years. In conjunction with this request to extend the time to construct the Project, the Permittee is also seeking to maintain the SUP's term of 35 years, to begin at the approval date of this modification. Since the Project will begin operation 2-3 years later than previously anticipated, updating the start date of the SUP would maintain the same 35-year period that was authorized in the existing permit and would not alter the potential impacts of the Project that were previously considered. Both of these extensions would require updating the Findings of Fact and condition #6 of the Decision and Order. For convenience, a redline of the previous Decision and Order is attached with proposed revisions for your consideration.

3. Project Technical Changes

The Permittee also plans to make the following minor technical changes to the design of the Project, none of which materially alters the description or potential impacts that were previously considered.

- A. <u>Change in the number of solar panels</u>. Previously, the Project planned to utilize solar panels or "modules" manufactured by SunEdison. Since the bankruptcy of SunEdison, those modules are no longer available or financeable, and the Permittee is evaluating alternative solar modules from other manufacturers and will not make a final determination for several months. Modules vary in size, and while the aggregate energy generated and area covered by the panels would be approximately the same, the number of modules will vary depending on the final module selected. For example, a larger-dimension 370w QCells panel would require approximately 169,000 modules and cover approximately 89 acres to produce the same amount of energy as a smaller 122w First Solar panel which would require 525,000 modules and cover approximately 100 acres. Specifications of these two potential module types are included in this application. The following table illustrates the number of modules planned in 2015 in the previous design and indicates the range in number of modules planned in the proposed modification. While the number of modules would vary depending on the size of the panel selected, the aggregate area covered and potential impacts of the project would be approximately the same as was previously evaluated in 2015.
- B. <u>Change in perimeter fencing material</u>. Previously, the Solar arrays were to be enclosed by a perimeter fence approximately 4 feet high composed of steel "hog wire" mesh. In order to conform to industry standards for safety, the project now will use steel chain-link mash approximately 6 feet high. Chain-link is commonly used in ground mounted solar projects to restrict access to the medium-voltage electrical equipment. This change in Fencing will improve

the safety of the project but will not otherwise alter the footprint or potential impacts previously considered. As specified previously, the perimeter fence will not include barbed wire.

The table below illustrates the project specifications approved in 2015, and as proposed in 2017, including the changes listed above to module count and perimeter fencing:

| Kawailoa Solar Project Specifications | | | | | |
|---------------------------------------|-------------|---------------------|-----------------------------|--|--|
| | 2015 | 2017 | Net Change | | |
| Gross Capacity | 50 MW | 50 MW | No change | | |
| Module Count | 196,160 | *169,000 525,000 | -27,000 to +329,000 modules | | |
| Covered Area (acres) | 95 | *90-100 | +/- 5 acres | | |
| Lot Coverage | < 1% | *< 1% | No change | | |
| Permitted Area (acres) | 382.2 | 382.2 | No change | | |
| Racks | Tracking | Tracking | No change | | |
| Max Module Height (ft) | 9.5 | 9.5 | No change | | |
| Latest Completion Date | 7/29/17 | 12/31/19 | 2.5 years | | |
| Perimeter Fencing | 4' hog-wire | 6' chain link | Up to 2' | | |

* Module count, covered area and lot coverage will vary slightly depending on final module selected.

To facilitate the Department's review of this application, the following exhibits are included:

- Exhibit A: DPP Master Application Form
- Exhibit B: Overall Site Layout Drawing (E200)
- Exhibit C: Tracker Detail Drawing (E300)
- Exhibit D: Module Specifications (QCells, First Solar)
- Exhibit E: Letter of Intent for Sheep Grazing
- Exhibit F: Suggested revisions to the Findings of Fact and Decision and Order

Since the original permit fee (\$15,000) was paid based on a permitted area of 384 acres, the Permittee requests that the permit fee for this modification be based on the additional acreage being requested. This modification contemplates no additional acreage in permit area. Also, given the relatively minor scope of changes, Permittee respectfully requests that this SUP modification be accepted and processed as expeditiously as possible. During prior meetings with the Department of Planning and Permitting, the parties discussed and agreed to an expedited timeline within the parameters of the rules and the simultaneous review of both the Kawailoa Solar and Waipio Solar SUPs by the Planning Commission. NRG must have the modifications approved in order to meet financing deadlines.

For questions or further information about this application, please contact Aarty Joshi at NRG (<u>aarty.joshi@nrg.com</u>; 415-627-4656) or Wren Wescoatt (<u>wren.wescoatt@nrg.com</u>; 808-780-1000).

Best regards,

 $\sim _{\pi}$

Aarty Joshi Senior Manager, Environmental Permitting

CC:

Wren Wescoatt, Director of Project Development Raymond Young, Planning Division Ben Kudo, Ashford & Wriston, LLC

Attached Exhibits:

- A DPP Master Application Form
- B Overall Site Plan
- C Tracker Detail Drawing (E300)
- D Module Specifications (QCells, First Solar)
- E Letter of Intent for Sheep Grazing
- F Suggested Revisions to the Findings of Fact and Decision and Order

EXHIBIT A

DPP MASTER APPLICATION FORM

City and County of Honolulu DEPARTMENT OF PLANNING AND PERMITTING 650 South King Street, 7th Floor Honolulu, Hawaii 96813 2017 MAY -8 PM 3:47

PLANNING DIVISION MASTER APPLICATION FORM PLANNING

CITY & COULTY OF HONOLULU

Additional data, drawings/plans, and fee requirements are listed on a separate sheet title "Instructions for Filing". PLEASE ASK FOR THESE INSTRUCTIONS.

All specified materials described in the "instructions for Filing" and required fees must accompany this form; incomplete applications will delay processing. You are encouraged to consult with Planning Division staff in completing the application. Please call appropriate phone number given in the "instructions for Filing".

Please print legibly or type the required information.

\$15,000 SUBMITTED FEE: \$____

| PERMIT/APPROVAL REQUESTED (Check one or more as appr | opriate): (2014/SUP-6; SP15-406) |
|---|---|
| | SPECIAL USE PERMIT New _X_ Modify Existing |
| STATE LAND USE BOUNDARY AMENDMENT (<15 acres) From | ZONING DISTRICT BOUNDARY ADJUSTMENT, ADMINISTRATIVE |
| DEVELOPMENT PLAN (DP)/SUSTAINABLE COMMUNITIES PLAN (SCP) AMENDMENT Indicate DP/SCP area | ZONE CHANGE From(District) To(District) |
| | AMEND UNILATERAL AGREEMENT TO ORDINANCE NO |
| DUBLIC INFRASTRUCTURE MAP REVISION (Indicate Map Syr | mbol Request): Corporation Yard) DSP (Desalination Plant) |
| D (Drainage Way (Open Channel) TS (Transit Station) FS (Fire Station | a) GB (Government Bulkling) GC (Golf Course) |
| P (Parks) PS (Police Station) PKG (Parking Facility/Transit Center) | RES (Water Reservcir) SP8 (Sewage Pump Station) |
| STP (Sewage Treatment Plant) SW (Solid Waste Fecility) | |
| (Project/Parcel specific information should be provided for General | |
| OF THE North Shore | approx |
| ZONING DISTRICT(S): AG-1 | STATE LAND USE DISTRICT: Agriculture |
| RECORDED FEE OWNER: Name (& title, if any) Keith Chang, Land Assets Manager Organization Kamehameha Schools Mailing Address 567 S.King St, Suite 200 Honolulu, HI 96813 | APPLICANT: Name Craig Cornelius, President Organization Kawailoa Solar LLC Mailing Address 100 California St., #400 |
| Phone Number | San Francisco, CA 94111 Phone Number 415-627-1646 |
| Signature Kurk Kak | Signature |
| PRESENT USE(S) OF PROPERTY BUILDING: Cattle ranching | AUTHORIZED AGENT/CONTACT PERSON: Name Wren Wescoatt |
| | Mailing Address 3662 Woodlawn Terrace Pl. Honolulu, HI. 96822 |
| PROJECT NAME (If any): Kawailoa Solar Project | Phone Number 808-780-1000 |
| | Signature Hullilla |
| | 1010. |

Modification of permit #2014/SUP-6; SP15-406 project dates and minor changes to equipment.

Kawailoa Solar, LLC 100 California St, Suite 400 San Francisco, CA 94111

May 2, 2017

Department of Planning and Permitting City and County of Honolulu 650 S. King Street, 7th Floor Honolulu, Hawaii 96813

Re: Kawailoa Solar, LLC (2014/SUP-06; SP15-406) Applicant Authorization for Consultant

To Whom It May Concern:

Kawailoa Solar, LLC is the applicant and permittee involved in the abovereferenced Special Use Permit (SUP). Kawailoa Solar, LLC now seeks to modify the SUP. Accordingly, Kawailoa Solar, LLC hereby authorizes its consultant, Group 70 International, Inc., to act as its agent on this application to modify the above-referenced SUP.

Kawailoa Solar, LLC hereby acknowledges that Kawailoa Solar, LLC and its successors shall be bound and subject to the SUP and its conditions.

If you have any questions or concerns, please do not hesitate to contact me.

Best regards,

Craig Cornelius, President Kawailoa Solar, LLC

EXHIBIT B

OVERALL SITE LAYOUT DRAWING (E200)



EXHIBIT C

TRACKER DETAIL DRAWING (E300)



EXHIBIT D

MODULE SPECIFICATIONS (QCELLS, FIRST SOLAR)

Q.PEAK L-G4.2 365-370

State Party

Q.ANTUM SOLAR MODULE

powered by

Q.ANTUM

The new solar module Q.PEAK L-G4.2 with power classes up to 370 Wp is the strongest module of its type on the market globally. Powered by 72 Q.ANTUM solar cells Q.PEAK L-G4.2 was specially designed for large solar power plants to reduce BOS costs. Only Q CELLS offers German engineering quality with our unique Q CELLS Yield Security.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area and lower BOS costs thanks to higher power classes and an efficiency rate of up to 18.8%.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q[™].



EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee².

THE IDEAL SOLUTION FOR:



Ground-mounted solar power plants







- ¹ APT test conditions: Cells at -1500 V against grounded, with conductive metal foil covered module surface, 25 °C, 168 h
- ² See data sheet on rear for further information.



Engineered in Germany

MECHANICAL SPECIFICATION

| Format | 78.5 in \times 39.4 in \times 1.38 in (including frame) (1994 mm \times 1000 mm \times 35 mm) |
|-------------------|--|
| Weight | 52.9 lbs (24 kg) |
| Front Cover | 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology |
| Back Cover | Composite film |
| Frame | Anodized aluminum |
| Cell | 6 x 12 monocrystalline Q.ANTUM solar cells |
| Junction box | $3.35\text{-}4.37$ in \times $2.36\text{-}3.15$ in \times $0.59\text{-}0.75$ in (85-111 \times 60-80 \times 15-19 mm), Protection class IP67, with bypass diodes |
| Cable | 4 mm^2 Solar cable; (+) $\ge 47.24 \text{ in } (1200 \text{ mm})$, (-) $\ge 47.24 \text{ in } (1200 \text{ mm})$ |
| Connector | Amphenol UTX, IP68 |
| | |



ELECTRICAL CHARACTERISTICS

| ER CLASS | | | 365 | 370 |
|---------------------------------|---|---|--|--|
| IMUM PERFORMANCE AT STANDARD TE | ST CONDITIONS, STC ¹ | (POWER TOLERANCE +5 W / -0 W) | | |
| Power at MPP ² | PMPP | [W] | 365 | 370 |
| Short Circuit Current* | I _{sc} | [A] | 9.83 | 9.89 |
| Open Circuit Voltage* | Vec | [V] | 48.00 | 48.28 |
| Current at MPP* | IMPP | [A] | 9.33 | 9.41 |
| Voltage at MPP* | VMPP | [V] | 39.10 | 39.32 |
| Efficiency ² | η | [%] | ≥18.3 | ≥18.6 |
| MUM PERFORMANCE AT NORMAL OPER | ATING CONDITIONS, N | 10C ³ | | |
| Power at MPP ² | PMPP | [W] | 269.8 | 273.5 |
| Short Circuit Current* | l _{sc} | [A] | 7.93 | 7.97 |
| Open Circuit Voltage* | Voc | [V] | 44.90 | 45.17 |
| Current at MPP* | IMPP | [A] | 7.34 | 7.40 |
| Voltage at MPP* | V | [V] | 36.77 | 36.94 |
| | Power at MPP ² Short Circuit Current* Open Circuit Voltage* Current at MPP* Voltage at MPP* Efficiency ² IMUM PERFORMANCE AT NORMAL OPER Power at MPP ² Short Circuit Current* Open Circuit Voltage* Current at MPP* | MUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ Power at MPP ² PMPP Short Circuit Current* Isc Open Circuit Voltage* Vgc Current at MPP* ImpP Voltage at MPP* VmpP Efficiency ² ŋ IMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, N Power at MPP ² PmPP Short Circuit Current* Isc Open Circuit Voltage* Vgc Current at MPP* ImpP | MUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC' (POWER TOLERANCE +5 W / -O W) Power at MPP* PMPP [W] Short Circuit Current* Isc [A] Open Circuit Voltage* Vec [V] Current at MPP* Impe [A] Voltage at MPP* Impe [A] Voltage at MPP* Impe [V] Efficiency* n [%] IMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC3 Impe Power at MPP* Pmpe [W] Short Circuit Current* Isc [A] Open Circuit Voltage* Vec [V] Current at MPP* Impe [A] | IMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC' (POWER TOLERANCE $+5W / -0W$)Power at MPP*P_MPP[W]365Short Circuit Current*Isc[A]9.83Open Circuit Voltage*Vec[V]48.00Current at MPP*Isupp[A]9.33Voltage at MPP*Vmp[V]39.10Efficiency*ŋ[%] ≥ 18.3 INUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC3Voltage at MPP*[W]269.8Short Circuit Current*Isc[A]7.93Open Circuit Voltage*Voc[V]44.90Current at MPP*Isoe[A]7.34 |

1000W/m2, 25°C, spectrum AM 1,5G ² Measurement tolerances STC ± 3%; NOC ± 5% 3800W/m², NOCT, spectrum AM 1.5G

Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.6% degradation per year. At least 92.6% of nominal power up to 10 years.

At least 83.6% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

RELATIVE EFFICIENCY 100

PERFORMANCE AT LOW IRRADIANCE

[%]

IRRADIANCE [W/m²]

1000

* typical values, actual values may differ

Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

| TEMPERATURE COEFFICIENTS | | | | | | | |
|---|-----------|--------------|---------------|--|---|-----------------|--------------------------|
| Temperature Coefficient of Isc | α | [%/K] | +0.04 | Temperature Coefficient of Voc | β | [%/K] | -0.28 |
| Temperature Coefficient of P_{MPP} | Y | [%/K] | -0.39 | Normal Operating Cell Temperature | NOCT | [°F] | 113 ± 5.4 (45 ± 3 °C) |
| PROPERTIES FOR SYSTEM D | ESIGN | | | | | | |
| Maximum System Voltage V _{sys} | [V] | 1500 (IEC) |) / 1500 (UL) | Safety Class | | 11 | |
| Maximum Series Fuse Rating | [A DC] | | 15 | 5 Fire Rating C (IEC) / Th | |) / TYPE 1 (UL) | |
| Design load, push (UL) ² | [lbs/ft²] | 75 (3600 Pa) | | Permitted module temperature on continuous duty | -40°F up to +185°F (-40°C up to +85°C) | | · 말 같이 있는 것은 것은 것을 것 같아. |
| Design load, pull (UL) ² | [lbs/ft²] | | 33 (1600 Pa) |) ² see installation manual | | | |
| QUALIFICATIONS AND CERTI | FICATES | | 13.7.1.3 | PACKAGING INFORMATION | | Ser Ch | |
| IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), | | A | | Number of Modules per Pallet | | | 29 |

IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A This data sheet complies with DIN EN 50380,



Pallet Weight

Number of Patlets per 40' Container

Number of Pallets per 53' Container

Pallet Dimensions (L × W × H)

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us 22

26

81.3 × 45.3 × 46.9 in (2065 × 1150 × 1190 mm)

1671 lbs (758 kg)





Firct Solar Series 4™ PV Module

ADVANCED THIN FILM SOLAR TECHNOLOGY





122.5 WATT MODULE EFFICIENCY OF 17.0%

INDUSTRY BENCHMARK SOLAR MODULES

As a global leader in PV energy, First Solar's advanced thin film solar modules have set the industry benchmark with over 10 gigawatts (GW) installed worldwide and a proven performance advantage over conventional crystalline silicon solar modules. Generating more energy than competing modules with the same power rating, First Solar's Series 4[™] and Series 4A[™] PV Modules deliver superior performance and reliability to our customers.



PROVEN ENERGY YIELD ADVANTAGE

- Generates more energy than conventional crystalline silicon solar modules with the same power due to superior temperature coefficient and superior spectral response
- Anti-reflective coated glass (Series 4A[™]) enhances energy production

ADVANCED PERFORMANCE & RELIABILITY

- Compatible with advanced 1500V plant architectures
- Highly predictable energy in all climates and applications
- Independently certified for reliable performance in high temperature, high humidity, extreme desert and coastal environments



CERTIFICATIONS & TESTS

- PID-Free, Thresher Test¹, Long-Term Sequential Test¹, and ATLAS 25+¹
- IEC 61646 1500V, IEC 61730 1500V, CE
- IEC 61701 Salt Mist Corrosion, IEC 60068-2-68 Dust and Sand Resistance
- ISO 9001:2008 and ISO 14001:2004
- UL 1703 Listed Fire Performance PV Module Type 10²
- CSI Eligible, FSEC, MCS, CEC Listed (Australia), Sll¹, InMetro





END-OF-LIFE RECYCLING

 Recycling services available through First Solar's industry-leading recycling program or customer-selected third party.



MODULE WARRANTY³



FIRST SOLAR SERIES 4[™] PV MODULE

| MECHARICALD | SCRIPTION | MODULE NUMBERS AND RATINGS AT ST | ANDARD IES | T CONDITIONS (| 1000W/m ² , AM 1 | .5, 25°C) ⁵ | | | |
|-----------------------------------|----------------------------------|---|------------------------------------|---|------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Length Width | 1200mm 600mm | NOMINAL VALUES | | FS-4110-3 FS-4110A-3 | FS-4112-3 FS-4112A-3 | FS-4115-3 FS-4115A-3 | FS-4117-3 FS-4117A-3 | FS-4120-3 FS-4120A-3 | FS-4122-3 FS-4122A-3 |
| Weight | 12kg | Nominal Power ⁶ (-0/+5W) | P _{MPP} (W) | 110.0 | 112.5 | 115.0 | 117.5 | 120.0 | 122.5 |
| Thickness | 6.8mm | Voltage at PMAX | VMPP (V) | 67.8 | 68.5 | 69.3 | 70,1 | 70.8 | 71.5 |
| Area | 0.72m ² | Current at PMAX | IMPP (A) | 1.62 | 1.64 | 1.66 | 1.68 | 1.70 | 1.71 |
| Leadwire | 2,5mm ² , 610mm | Open Circuit Voltage | Voc (V) | 86.4 | 87.0 | 87.6 | 88.1 | 88.7 | 88.7 |
| Connectors | MC4 ⁹ | Short Circuit Current | I _{SC} (A) | 1.82 | 1.83 | 1.83 | 1.83 | 1.84 | 1.85 |
| Bypass Diode | None | Module Efficiency | % | 15.3 | 15.6 | 16.0 | 16.3 | 16.7 | 17.0 |
| Cell Type | Thin-film CdTe | Maximum System Voltage | V _{SYS} (V) | | 1500 7.8 | | | | |
| semiconductor, up to 216 cells | Limiting Reverse Current | I _R (A) | 4.0 | | | | | | |
| Frame Material | None | Maximum Series Fuse I _{CF} (A) 4.0 | | | | | | | |
| Front Glass 3.2mm heat | | RADINGS AF NOMINAL OPERALING CELL | HEMPERATU | RE DE 45°C (800 |)W/m [°] , 20°C air | temperature, AM | 1.5, 1m/s and | speed) | |
| | strengthened | Nominal Power | P _{MPP} (W) | 83.2 | 85.1 | 87.0 | 89.0 | 90.8 | 92.7 |
| | Series 4A TM includes | Voltage at PMAX | V _{MPP} (V) | 63.5 | 64.5 | 64.9 | 65.9 | 66.3 | 67.2 |
| | anti-reflective coating | Current at PMAX | IMPP (A) | 1.31 | 1.32 | 1.34 | 1.35 | 1.37 | 1.38 |
| Back Glass | 3.2mm tempered | Open Circuit Voltage | V _{OC} (V) | 81.6 | 82.1 | 82.7 | 83.2 | 83.7 | 83.7 |
| Encapsulation | Laminate material | Short Circuit Current | I _{SC} (A) | 1.47 | 1.47 | 1.48 | 1.48 | 1.48 | 1.49 |
| | with edge seal | TEMPERATURE CHARACTERISTICS | | | | | | | |
| Load Rating | 2400Pa ¹⁰ | Module Operating Temperature Range | (°C) | -40 to +85 | | | | | |
| | | Temperature Coefficient of P _{MPP} | T _K (P _{MPP}) | -0.28%/°C [Temperature Range: 25°C to 75°C] | | | | | |
| | | Temperature Coefficient of V_{OC} | T _K (V _{OC}) | | | -0.28 | 3%/°C | | |
| | | Temperature Coefficient of Isc | T _K (I _{SC}) | +0.04%/°C | | | | | |

SUPERIOR SPECTRAL RESPONSE



1 Testing Certifications/Listings pending

- 2 Class A Spread of Flame / Class B Burning Brand. Roof mounted fire rating is
- established by assessing rack and solar module as a unit
- 3 Limited power output and product warranties subject to warranty terms and conditions
- 4 Ensures 98% rated power in first year, -0.5%/year through year 25
- 5 All ratings ± 10%, unless specified otherwise. Specifications are subject to change
- 6 Measurement uncertainty applies
- 7 UL 1703 1500V Listed / ULC 1703 1000V Listed
- 8 Application Class A for 1000V (class II), Application Class B for 1500V (class 0)
- 9 Multi-Contact MC4 (PV-KST4/PV-KBT4)
- 10 Higher load ratings can be met with additional clips or wider clips, subject to testing

Disclaimer

The information included in this Module Datasheet is subject to change without notice and is provided for informational purposes only. No contractual rights are established or should be inferred because of user's reliance on the information contained in this Module Datasheet. Please refer to the appropriate Module User Guide and Module Product Specification document for more detailed technical information regarding module performance, installation and use.

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SUPERIOR TEMPERATURE COEFFICIENT



MECHANICAL DRAWING



LETTER OF INTENT FOR SHEEP GRAZING



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NRG Renew LLC 100 California St, Ste 400 San Francisco, CA 94111

April 17, 2017

John Morgan Kualoa Ranch Hawaii, Inc. P.O. Box 650 Kaaawa, Hawaii 96730

Re: Letter of Intent for Pasture License

Dear Mr. Morgan:

Introduction. Kawailoa Solar, LLC, a Delaware limited liability company ("Licensor"), an affiliate of NRG Renew LLC, is pleased to provide this letter of intent ("Letter of Intent") to confirm its agreement to negotiate the terms of a definitive license agreement with Kualoa Ranch Hawaii, Inc. ("Licensee," Licensor and Licensee each referred to herein as a "Party" and collectively referred to herein as, the "Parties") for a license to use land in Kawailoa, Hawaii, collectively, the "Property"), which is currently being leased by the Licensor.

License. From the date of this Letter of Intent until December 31, 2018 (the "LOI Term"), Licensor and Licensee shall negotiate in good faith regarding the terms and provisions of a license to pasture sheep on the Property (the "License"), at a rate of \$10 per acre per year, not to exceed \$2,000 per year in the aggregate, and which shall also contain such other reasonable terms and provisions as the Parties may agree. The Parties recognize that successful negotiation of the License will also entail substantial definition and refinement of the concepts expressed in this LOI and final mutual agreement on all of the terms and conditions set forth herein. The LOI Term may be extended by mutual agreement of the Parties in writing.

<u>Negotiation In Good Faith; Exclusivity</u>. During the LOI Term, the Parties agree to negotiate exclusively with each other and in good faith to develop mutually acceptable terms and documentation for the transactions described above. Upon expiration of the LOI Term (as it may be extended by mutual agreement), these commitments of exclusivity and good faith negotiations shall terminate.

<u>Non-Binding Letter of Intent.</u> The above terms and conditions are provided for discussion purposes and are not intended to represent a commitment. Except with respect to the paragraphs entitled "Negotiation in Good Faith; Exclusivity" and "Non-Binding Letter of Intent," this Letter of Intent does not constitute a legally binding obligation of either Party and will not give rise to any right or obligation based on any legal or equitable theory (including any right to continue negotiations beyond the LOI Term). The terms and conditions set forth herein are intended to be an outline of terms that may be incorporated into the License. No binding obligation will be created unless, and until, the Parties execute the License.

Kawailoa Solar, LLC

Cici By: ____

Name: Craig Cornelius Title: President Acknowledged and accepted this 17th day of April, 2017.

We agree to the terms of the foregoing Letter of Intent, and wish to proceed with the negotiation of the License as provided therein.

Kualoa Ranch Hawaii, Inc.

By: John Morgan President Name: Title:

EXHIBIT F

SUGGESTED REVISIONS TO THE FINDINGS OF FACT AND DECISION AND ORDER

As part of the request for modification of the Special Use Permit (SP15-406) for the Kawailoa Solar Project ("Project") and the associated Solar Energy Facility ("SEF"), below for consideration are suggested revisions to the existing Planning Commission Findings of Fact, Conclusions of Law and Decision and Order issued April 1, 2015:

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER

This matter came before the Planning Commission of the City and County of Honolulu (hereinafter the "Commission"), for public hearing on April 1, 2015 which was continued to April 15, 2015, at the Mission Memorial Conference Room in Honolulu, Hawaii. Based on the record in this matter, the Commission hereby finds as follows:

FINDINGS OF FACT

- This matter involves Kawailoa Solar, LLC's ("Applicant") Special Use Permit ("SUP") modification application to the Department of Planning and Permitting ("DPP") for the establishment of a solar energy facility ("SEF") within the State Land Use Agricultural District on Land Study Bureau Overall Master Productivity rating Class "A", "B", "C", and "E" lands. In March of 2015, the Applicant's parent company SunEdison filed for bankruptcy, and Applicant was subsequently purchased by NRG Renew LLC. The Applicant has applied for a modification of the SUP to extend the time to establish the SEF and make minor technical changes to the SEF.
- The site of the proposed SEF ("Project") is located in Kawailoa, North Shore, Oahu, in the vicinity of Ashley Road, approximately 6,000 feet south of Waimea Beach Park and 4 miles northeast of Haleiwa Town. It consists of 8 separate sites totaling approximately 382.2 acres and include portions of Tax Map Keys 6-1-005: Parcel 1 and 6-1-006: Parcel 1 ("Petition Area").
- 3. The Petition Area is owned by Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools.

¹ A ninth site was included in the SUP application and contained subsurface improvements. The Director of the Department of Planning and Permitting has determined that the 1.9-acre ninth site which would contain underground cables located in Class A and B rated lands, and along Ashley Road, does not constitute a use requiring Special Use Permit review and is thus permitted. Therefore, the Planning Commission's Decision and Order pertains to the remaining 8 sites totaling approximately 382.2 acres.

- 4. The Applicant seeks ato modify the existing SUP to establish an approximately 5051megawatt SEF. Sites 1 through 7 of the proposed SEF will primarily contain horizontal single-axis tracking, ground-mounted photovoltaic (PV) panels, generally facing south. Site 8 contains one of two proposed substations with the second substation proposed to be located in Site 1. Other accessory uses and structures consist of electrical equipment such as combiner boxes, below surface collector lines, inverters, transformers, weather monitoring stations, and switch gear, and chain-link perimeter fencing.
- 5. The Applicant proposes to lease a portion of the Petition Area to a local ranch to raise hair sheep in compliance with Section 205-4.5(a)(21), Hawaii Revised Statutes

("HRS") which was adopted under Act 55, 2014 Session Laws of Hawaii ("Act 55"). The sheep ranching will serve as on-site vegetation control and as a food source in compliance with the intent of Act 55 which required that the area occupied by solar energy facilities be made available for compatible agricultural activities.

- 6. The Petition Area is presently fallow. It was formerly in sugar cane cultivation. The Kawailoa wind energy generation system (wind turbines) is located between and around the Petition Area. Surrounding lands to the east, west, north, and south are owned by Bernice Pauahi Bishop Trust Estate and are either fallow or in diversified agriculture. Beyond these lands to the north is Waimea Valley, managed by Hiipaka, LLC, and to the east is land used for military training.
- Access to the site is via Ashley Road, a gated, private roadway which is maintained for the existing wind farm, and connects to Kamehameha Highway.
- 8. By Decision and Order dated March 5, 2015, the State Land Use Commission ("LUC") designated the Petition Area and surrounding lands as Important Agricultural Land ("IAL") pursuant to Section 205-44, HRS. The North Shore Sustainable Communities Plan designates the Petition area as Agriculture. The zoning is AG-1 Restricted Agricultural District.
- The Petition Area comprises of Class B, C, and E soils, according to the Land Study Bureau overall master productivity rating system. The Petition Area consists of Prime Agricultural Lands pursuant to the Agricultural Lands of Importance to the State of Hawaii Classification System.
- 10. The Project's solar panels will be constructed about 4 1/2 to 9 1/2 feet above existing grade. Power generated by the western portion of the SEF would be connected to the Hawaiian Electric Company ("HECO") electrical grid via the existing Makai Switchyard which connects to the existing overhead Waialua-Kahuku 46 kilovolt ("kV") sub-transmission line. Power generated by the eastern portion of the SEF would be connected to the grid via the existing Mauka Switchyard which connects to the Waialua-Kahuku 46 kilovolt ("kV") sub-transmission line. Power generated by the eastern portion of the SEF would be connected to the grid via the existing Mauka Switchyard which connects to the Waialua-Kuilima 46 kV sub-transmission line.
- 11. The energy generated by the SEF will be sold to HECO.
- 12. The North Shore Neighborhood Board No. 27 considered the Project at its January 27, 2014 meeting but did not take a vote on the Project.
- The Project is subject to obtaining a Conditional Use Permit, Minor, and grading and building permits. The Project is not subject to environmental disclosure requirements of Chapter 343, HRS.
- 14. The Commission received a report from the Director of the DPP dated March 13, 2015. The report provides an analysis of the request and a recommendation for approval of the Application subject to conditions.
- 15. At the public hearing of April 1, 2014, the Commission did not receive any public testimony. The Applicant provided testimony from its staff and consultants on the Project. The Commission received into record, Applicant's Exhibits 1 through 22.
- 16. Due to the recent designation of the Petition Area as IAL, the Commission requested that Applicant submit an agricultural plan for the proposed sheep ranching component

and possible alternative agricultural activities and therefore, continued the public hearing to April 15, 2015.

- 17. On April 13, 2015, the Applicant submitted a Preliminary Agricultural Plan (Applicant's Exhibit 23 and hereafter referred to as the "PAP"). The PAP presents preliminary plans for the co-location of sheep pasturage and in the event that arrangement is not successful, other agriculture use options including Lowline cattle, free-range poultry, and beekeeping for the Petition Area.
- 18. At its continued public hearing of April 15, 2015, the Commission accepted the PAP into the record.

CONCLUSIONS OF LAW

The Commission hereby concludes as follows:

- 1. The Commission has jurisdiction to permit unusual and reasonable uses within the agricultural districts, pursuant to Section 205-6, HRS.
- The Project is an "unusual and reasonable" use as set forth in Section 205-6, HRS, and the five guidelines established by the Commission, pursuant to Section 2-45 of the Rules of the Commission.
- 3. The Project would make available portions of the site for compatible agriculture in accordance with Section 205-4.5(a)(21)(A), HRS.
- The Project complies with relevant sections of Chapter 205, Part III, the IAL Law as follows:
- The use does not conflict with any part of Chapter 205, HRS;
- b. The public benefit to be derived from the Project is justified by a need for additional lands for non-agricultural purposes,
- c. The proposed action will have no significant impact upon the viability of agricultural operations on adjacent agricultural lands.
- 1. The Project would not be contrary to the objectives sought to be accomplished by the State Land Use Law.

DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Conclusions of Law, the Commission hereby **APPROVES** the Application for a <u>modification of</u> State Special Use Permit, File No. 2014/SUP-6, for approximately 382.2 acres, Tax Map Keys 6-1-005: Portion of 001 and 6-1-006: Portion of 001, for the establishment of a SEF, as shown on Exhibit A, subject to the following conditions:

 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, or Applicant shall be actively seeking to have such operations established, within 6 months of the start of commercial power generation. Extensions to this deadline may be granted by the Director of the DPP for unforeseen extenuating circumstances.

- 2. If at any time during the term of the SUP no compatible agricultural operations exist on the usable lands of the Petition Area for 6 months, the Applicant shall notify the Commission and the Director of the DPP in writing within 30 days of the end of the 6-month period. If requested by the Commission, the Applicant shall attend a meeting of the Commission and submit a report to the Commission detailing the Applicant's actual and reasonable efforts to actively seek the establishment of compatible agricultural operations on the usable lands of the Petition Area. The Commission shall determine whether probable cause exists to re-evaluate the SUP and to hold a hearing pursuant to Section 2-49 of the Rules of the Commission. Extensions to the 6-month deadline may be granted by the Commission for unforeseen extenuating circumstances.
- 3. The Applicant shall submit for review and obtain the approval of the following from the Director of the DPP, prior to the issuance of a grading or building permit:
 - a. A survey map accompanied by a metes and bounds description of the approved Petition Area.
 - b. 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 SEF, the Applicant shall submit to the DPP proof of financial security, such as a posted letter of credit or similar mechanism from a creditworthy financial institution, in favor of the owner of the land subject to the SUP, in the <u>approximate</u> amount of four million dollars (\$4,000,000.00), which security shall remain in place for the duration of the operation of the Project, with evidence of same provided to the Director of the DPP on an annual basis, to decommission the Project and restore the Petition area to substantially the same physical condition as existed prior to the development of the SEF.
 - a. The Applicant shall decommission the SEF within twelve (12) months following the termination of operations of the SEF. A change in Project ownership or a change in ownership of the land subject to the SUP, which warrants a new proof of financial security to decommission the Project, shall be submitted to the DPP for processing through the Commission, within three (3) months of the ownership change.
- The Applicant shall comply with the recommendations of the U. S. Fish & Wildlife Service regarding the protection of endangered or migratory bird activity at the Petition Area.
- 6. The Applicant shall establish the Project within two (2) years thirty (30) months of the date of the LUC's Decision and Order approving the SUP modification of the SUP, or within such extended time if approved as follows. Requests for extension of this deadline shall be submitted to the Director of the DPP 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 SUP shall be valid for a period of thirty-five (35) years from the date of the LUC's Decision and Order approving the modification of the SUP, 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 SUP's expiration.
- On or before December 31 of each year that the SUP is in effect, the Applicant or its successor shall file an annual report to the DPP that demonstrates the Applicant's compliance with conditions of the SUP.

- 8. Major modifications to: (1) the Project plans, including but not limited to significant increases in the number of area covered by 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 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 the DPP.
- 9. The Applicant and/or landowner shall notify the Director of the DPP of:
- a. Any change or transfer of licensee on the property;
- b. Any change in uses on the property;
- c. Termination of any uses on the property; and/or
- d. Transfer in ownership of the property.

The Commission, in consultation with the Director of the DPP, shall determine the disposition of this SUP, and the facilities permitted herein.

BEFORE THE PLANNING COMMISSION OF THE CITY AND COUNTY OF HONOLULU STATE OF HAWAII

| In the Matter of the Application of | FILE NO. 2014/SUP-6(RY) |
|--|-------------------------|
| KAWAILOA SOLAR, LLC | |
| For a New Special Use Permit to Allow Development of a 50-megawatt photovoltaic (PV) Energy Generation Facility and Accessory Uses and Structures on Lands Rated Class A, B and C by the Land Study Bureau, Ashley Road, Kawailoa Ahupua'a, Wailua District, Oahu, Hawai'i, Portions of Tax Map Key Nos.: (1) 6-1-005:001 and (1) 6-1-006:001, Part of Kamehameha School's Kawailoa Plantation | CERTIFICATE OF SERVICE |
| | |

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct file-marked copy of the

foregoing shall be duly served upon the following person(s) by hand delivery:

PLANNING COMMISSION Department of Planning and Permitting City and County of Honolulu 650 S. King Street, 7th Floor Honolulu, Hawaii 96813

DATED: Honolulu, Hawaii, June 20, 2017.

BENJAMIN A. KUDO SARAH M. SIMMONS Attorneys for Applicant KAWAILOA SOLAR, LLC