clearwayenergygroup.com



July 22, 2019

Captain Scott King
Joint Base Pearl Harbor-Hickam (JBPHH) Public Works Officer
Naval Facilities Engineering Command, Hawaii
Public Works Department JBPHH (PRJ)
400 Marshall Road
JBPHH, HI 96860-3139

Waiawa Solar Farm Project – Clearway Energy Group LLC Land Use Commission Docket A87-610, TMK Nos. (1) 9-4-006: 034, 035, 036, 037; 9-6-004:024, 025, 026; 9-6-005: 003, Waiawa, Waipio, Ewa, Oʻahu

Dear Captain King,

Re:

Thank you to your staff for meeting with us and the Department of Health staff on March 5, 2019 to discuss the 36 MW solar farm project (the "Project") proposed by renewable energy developer Clearway Energy Group LLC and its wholly-owned indirect subsidiary, Waiawa Solar Power, LLC (collectively, "Clearway"), to be located in a portion of the above-referenced 1,395 acre Urban District property (the "KS Property") owned by the Trustees of the Estate of Bernice Pauahi Bishop, dba Kamehameha Schools ("KS"). As discussed at the March 5th meeting, the proposed location of the Project is within a portion of the area referred to as the Zone of Contribution ("ZOC"). Due to the Project's proposed location within the ZOC, KS and Clearway sought and received the State Department of Health's ("DOH") input. In a March 28, 2019 letter ("DOH 2019 Letter"), DOH stated (i) that the Project should have minimal or no impact on ground water and (ii) that DOH's Environmental Management Division and Hazard Evaluation and Emergency Response Office consents to the Project. For your reference, enclosed as Exhibit A is a copy of the DOH 2019 Letter. While the DOH Safe Drinking Water Branch saw no increased contamination risk from the proposed Project within the ZOC, DOH also requested that the owner of the Waiawa Shaft, i.e., the Department of the Navy ("Navy"), approve the Project, specifically the proposed contamination mitigation measures. As such, we are writing to request such approval from the Navy. This Project is substantially similar to the solar farm project the Navy approved in 2014 for the KS Property (see KS/Navy correspondence from 2013 and 2014 enclosed as Exhibit B), but is smaller and includes certain electrical transmission and storage facilities within the ZOC.

About Clearway Energy. Clearway is one of the largest national renewable energy developers in the U.S. with assets across 28 states and more than 500 employees. Its portfolio includes 2.8 gigawatts ("<u>GW</u>") of wind, 1.1 GW of utility-scale solar and over 300 megawatts ("<u>MW</u>") of distributed and community solar. In addition, Clearway provides operations and maintenance and asset management services to 4.1 GW of renewable assets. It is currently developing four other renewable energy projects on the Island of Oahu. These five Clearway projects will generate 185 MW of low-cost, renewable energy – enough to power approximately 62,000 Oahu homes each year.

Prior Solar Farm Project Proposed by SunEdison (2014). KS, together with SunEdison (a prior proposed renewable energy developer) approached the Navy in 2013 to discuss a previously proposed two-phased solar farm development. The Navy consented to the proposed SunEdison project by letter dated May 28, 2014. See <u>Exhibit B</u>.

In November 2014, the State Land Use Commission ("<u>Commission</u>") approved KS's request to allow the two-phased solar farm project proposed by SunEdison to go forward on the KS Property. Phase 1 consisted of approximately 387 acres for a 50 MW project to be located in the north/west portion of the KS Property. Phase 2 consisted of approximately 268 acres for a 65 MW project to be located in the eastern portion of the KS Property, within the ZOC. Unfortunately, after the Commission's approval, the Public Utilities Commission did not approve the Power Purchase Agreement and SunEdison went bankrupt. As such, neither phase of the proposed solar farm was ever constructed.

Current Project Proposed by Clearway Energy (2019). In September 2018, through a competitive bidding process, Clearway was selected by Hawaiian Electric Company, Inc. to develop the Project. The Project will generate 36 MW of power with four hours (144 MW hours) of battery storage. It is part of the largest and lowest cost portfolio of new renewable energy resources in Hawaii, and the entire portfolio has the potential to nearly double the reduction on fossil fuel use.

A site plan of the proposed Project is enclosed as <u>Exhibit C</u>. Below are details of the solar farm components and materials to be used. (Please note that we have also highlighted below some key differences between the 2014 solar farm previously proposed by SunEdison and approved by the Navy, and the current Project as proposed by Clearway):

• Single-axis trackers will be installed rather than a fixed-tilt system. No lubricants will be used in this system.

- The total footprint of the currently proposed solar farm will be located on approximately 200 acres within the ZOC portion of the KS Property (with the maximum solar footprint at approximately 180 acres). This footprint is substantially less than the 268-acre ZOC footprint approved by the Navy in 2014. This configuration is due in part to the need to accommodate KS's draft Waiawa Master Plan for the entirety of the KS Property. Additionally, the location is beneficial for solar energy production because the slope is generally south-facing, which is advantageous since south-facing panels typically provide the most direct sunlight in the U.S.
- The current Project proposes to site a substation, transformers, and a battery storage system within the ZOC (SunEdison had planned those improvements outside of the ZOC and within the Phase 1 north/west portion of the KS Property).
 - We note that the exact location for these improvements within the ZOC has not been identified. The location will be determined in part by the civil engineers, and will take into account the topography and the overall electrical layout, which are to be designed later, during the development of the Project.
- Solar panels will be cleaned with water only (no chemicals) about once or twice a year, depending on rainfall.
- The Project area will be landscaped with easily controlled grasses. If the Navy can identify appropriate and acceptable herbicides for grass control, we desire to incorporate the use of such products into site maintenance. Otherwise, no chemicals are proposed to be used to control grasses within the ZOC. Clearway will instead have the grass/vegetation mowed regularly. Animals will not be used for grass control.
- The Project batteries will be lithium-ion batteries from a Tier 1 supplier. The batteries do not contain any liquid that can spill or leak. Instead, the cells use dry-cell technology and are comprised of chemicals in powder form. Batteries will be kept in steel enclosures, most likely shipping containers (approximately 40 containers), within an area of roughly ½ acre of land. The containers will be outfitted with HVAC to keep the battery system at the correct temperature.

The Project's fire and contamination mitigation measures are as follows, with supporting materials provided from our prior meeting held with DOH and the Navy:

- The Project will be monitored by SCADA integrated with the fire suppression system, including pre-alarm triggers.
- Fire suppression for this Project will not involve water. The proposed fire suppressant is the FM 200 NOVEC 1230, or similar product, which is stored as a lightly pressurized liquid but turns into a gas immediately upon contact with the air. The fire suppressant

is not a firefighting foam. The technical information relating to the fire suppression agent used in the battery containers (Novec) is attached hereto as Exhibit D.

- Within the array of PV panels, there will be inverters and medium-voltage transformers. No lubricants, coolant fluids, or other liquid chemicals will be used in the maintenance and operation of the inverters or medium-voltage transformers. The medium voltage transformers throughout the PV field are dry-type transformers, hence no oil is required.
- The Project will also contain high-voltage solar power transformers that we anticipate will utilize a soy-based vegetable oil coolant (ester dielectric fluid) by the trade name of Envirotemp FR3. The technical information on the oil coolant used in the high voltage transformer (Envirotemp) is attached hereto as Exhibit E. The oil is not composed of any known hazardous material, and consequently, we would not expect that it would contaminate groundwater should a leak occur.
- All transformers will be designed and managed in accordance with state and federal hazardous material and waste regulations. The transformers would be equipped with spill containment areas, in accordance with a site-specific Spill Prevention, Control and Countermeasure Plan that would be prepared prior to the start of operations. Therefore, we believe that the potential for leakage is very low.
 - The Project will use the same spill containment solution for the transformers implemented in our existing 14.7 MW Mililani II solar project. We have detailed design drawings in Exhibit F illustrating this containment approach. The containment system is designed to temporarily contain discharge until the appropriate actions are taken to abate the source of the discharge and remove oil from areas where it has accumulated.
- As noted above, the Project incorporates battery storage. A representative battery technology that is under consideration for the Project is the Samsung SDI Power Platform battery. See Exhibit G for technical information on the Samsung battery. As a mitigation measure, we plan to construct concrete pads under each of the estimated 40 battery containers. The concrete pads are designed to prevent the contact of any powder form chemicals from contact with the ground in the event of a battery fire.

Please note that the technical information contained in <u>Exhibits D, E</u> and <u>G</u> was presented to the Navy at the March 5th meeting and also emailed to the Navy on March 5, 2019 and April 24, 2019 to Brian Yamada <<u>brian.m.yamada@navy.mil</u>>, Aaron Poentis <<u>aaron.poentis@navy.mil</u>>, Cori Waki <u>cory.waki@navy.mil</u> and Andy Huang <andy.huang@navy.mil>. We also provided this same technical information to DOH in mid-February.

DOH Review. DOH, as well as the Navy, reviewed the enclosed technical materials. After reviewing the materials, DOH confirmed it saw no increased contamination risk from the Project relative to current zoned use. However, due to the location of the Project over the ZOC, we respectfully seek the Navy's approval of the above proposed Project features and mitigation measures. Written confirmation from the Navy is expected to be important for the Commission's consideration of the Clearway Project. Therefore, we respectfully request that the Navy expedite its determination so that we may seek the additional required state and county approvals in order to have this renewable energy project developed within the required timeframe.

We thank you for your time and trust that the information provided in this letter is sufficient to allow the Navy to provide its written confirmation that the proposed solar farm within the ZOC is acceptable.

Please contact me at (949) 439-3349 or at <u>Nicola.Park@clearwayenergy.com</u> should you have any questions about this request. We greatly appreciate your quick attention to this matter.

Very truly yours,

Nicola Park

Origination Consulting Manager, Clearway Energy Group

cc: Joanna L. Seto, Department of Health, State of Hawaii - *via email*R. Kalani Fronda, Kamehameha Schools - *via email*Jeremy Mitchell, Deputy Public Works Officer, Naval Facilities Engineering Command, Hawaii – *via U.S. mail*

Exhibit A DOH Approval Letter

DAVID Y. IGE



STATE OF HAWAII DEPARTMENT OF HEALTH P. O. BOX 3378 HONOLULU, HI 96801-3378 BRUCE 8. ANDERSON, Ph.D. DIRECTOR OF HEALTH

> In reply, please refer to File: SDWB FrondsD1.clock

March 28, 2019

Mr. R. Kalani Fronda Senior Land Assets Manager, CCIM Kamehameha Schools 567 South King Street, Suite 200 Honolulu, Hawaii 96813 [via kafronda@ksbe.edu only]

Dear Mr. Fronda:

SUBJECT: KAMEHAMEHA SCHOOLS WAIAWA PROPERTY

CLEARWAY ENERGY GROUP LLC

LAND USE COMMISSION CONDITION DOCKET NO. A87-610 TMKS: (1) 9-4-006: 034, 035, 036, & 037; (1) 9-6-004: 024, 025, & 026;

AND (1) 9-6-005: 003

WAIAWA, WAIPIO, EWA, O'AHU, HAWAII

The Department of Health (DOH), Environmental Management Division (EMD) and Hazard Evaluation and Emergency Response (HEER) Office have reviewed the March 20, 2019 Kamehameha Schools (KS) letter which included the May 16, 2014 DOH-EMD letter commenting on the April 9, 2014 KS letter, Solar farm site plan, and technical information.

Based on the reviews by the EMD Branches and HEER Office and the understanding that Clearway will comply with all applicable regulations, the proposed solar farm should have minimal or no impact on ground water. The operation and construction of the proposed solar farm is acceptable to the DOH-EMD and HEER Office, subject to the standard conditions for each program (available online) and specific conditions as listed below and as identified for the solar farm construction and/or operation.

Safe Drinking Water Branch (SDWB)

SDWB reviewed the materials provided by Clearway and saw no increased contamination risk relative to currently zoned use. However, the proposed project is over the zone of contribution to a drinking water source that draws water from an infiltration gallery excavated along the water table. This type of drinking water source is more susceptible to contamination than traditional wells. Clearway shall install and operate the proposed solar farm within the Waiawa Shaft zone of contribution with

Mr. R. Kalani Fronda March 28, 2019 Page 2

sufficient mitigation measures that will prevent the introduction of contamination to the source water shaft. Clearway shall obtain approval of the proposed contamination mitigation measures from the owner of the Waiawa Shaft and continue consultation with the SDWB.

Clean Water Branch (CWB)

Clearway shall obtain the necessary National Pollutant Discharge Elimination System (NPDES) permits for potential discharges of pollutants due to construction activities and Section 401 Water Quality Certifications (WQC), as applicable, during the construction of the proposed solar farm.

Wastewater Branch (WWB)

The WWB has no objection to the construction and operation of the proposed solar farm

Clean Air Branch (CAB)

Please see the CAB standard comments for land use reviews at: https://health.hawaii.gov/cab/files/2018/12/Standard-Comments-Clean-Air-Branch-2018-c.pdf. While the comments provide guidance, it is the responsibility of the contractor to comply will all air regulations for the duration of the construction and operation of the solar farm.

Solid and Hazardous Waste Branch (SHWB)

Clearway shall properly manage the wastes from the construction and operation of the solar farm

Hazard Evaluation & Emergency Response (HEER) Office

The Clearway solar farm facility may be subject to Tier II reporting and therefore may need an emergency response plan. Please contact Ms. Liz Galvez of the HEER Office at 586-4249 for more information.

If there are any questions, please call Ms. Joanna L. Seto, P.E., SDWB Chief, at 586-4258

Sincerely.

stitle Newson

KEITH E. KAWAOKA, D.Env.

Deputy Director for Environmental Health

JS:mc

Mr. R. Kalani Fronda March 28, 2019 Page 3

c: Mr. Larry Sumida, KS [via lsumida@ksbe.edu only]

Ms. Michelle Swartman, KS [via miswartm@ksbe.edu only]

Ms. Nicola Park, Clearway Energy Group LLC [via Nicola.Park@clearwayenergy.com only]

Ms. Naomi Kuwaye, Esq., Ashford & Wriston [via nkuwaye@awlaw.com only]

Ms. Jennifer A. Lim, Esq., Carlsmith Ball LLP [via jlim@carlsmith.com only]

CAB [via Cab.General@doh.hawaii.gov only]

CWB [via leen.ichinotsubo@doh.hawaii.gov only]

WWB [via DOH.wwb@doh.hawaii.gov only]

HEER Office [via MaeRose.Bento@doh.hawaii.gov only]

End of Exhibit A

Exhibit B KS/Navy Letters from 2013 and 2014



November 26, 2013

Commander Joint Base Pearl Harbor-Hickam 850 Ticonderoga St. Suite 100 JBPHH, HI 96860

Dear Captain Jeffrey W. James:

I hope this letter finds you well. I was informed by Mr. Greg Hayashi, P.E., Water Commodity Manager, NAVFAC HI, to forward this request for a written confirmation to your attention.

Kamehameha Schools (KS) owns 1,395 acres of land in Waiawa, which were reclassified from the State Agricultural District to the State Urban District by the Land Use Commission in 1988 (LUC Docket A87-610). The reclassified land is near the H-2 Freeway and Mililani Town, and adjacent to the Navy's Waiawa Valley lands. A portion of the KS land lies over the "zone of contribution for the Waiawa Shaft" ("ZOC"). The approximate location of the ZOC, as determined by the State Department of Health ("DOH"), and approved by the Navy, is shown on the enclosed Exhibit A. The determination of the location of the ZOC was set forth in that certain "Study to Delineate the Zone of Contribution of the Waiawa Shaft by the Department of Health Safe Drinking Branch" prepared in 1990, and approved by the Navy in December 1990 (the "ZOC Study").

KS understands that prior to the Land Use Commission's 1988 decision to approve the reclassification of the 1,395 acres of KS Waiawa land, the Navy had concerns about the potential for urban development within the KS property to negatively impact the ZOC. To address that concern, the Land Use Commission included as a condition of its reclassification a requirement for additional DOH review and approval of certain types of development within the KS property. Although the DOH is officially the agency with which KS must engage in review and approval for certain types of development, KS believes it is appropriate to inform the Navy of its proposed development plans prior to seeking DOH review and approval. To that end, we wish to inform you that KS is exploring a potential solar farm development on various portions of the KS Waiawa land. This letter is to provide some details about the proposed solar farm development, and to request your confirmation that the solar farm development would be a compatible land use in the designated ZOC.

This proposed solar farm is not intended to replace the earlier proposed Waiawa project, but will serve as an interim land use, likely spanning 20 years. One area of the proposed solar farm is planned to be located over a portion of the ZOC within the KS property, comprised of an area of approximately 182 acres (See Exhibit A, enclosed). SunEdison, the likely solar farm developer, will operate the solar farm under an easement agreement from KS. Some details about the SunEdison team are enclosed. The proposed solar farm will produce enough power to service roughly 9,800 homes annually for 20 years thereby substantially lowering Oahu's reliance on imported fossil fuels.

567 SOUTH KING STREET, HONOLULU, HAWAI'T 96813 TELEPHONE (808)523-6200 FAX (808)523-6374

Founded and Endowed by the Legacy of Princess Bernice Payahi Bishop

We acknowledge that the concerns expressed by the Navy and DOH in 1988 regarding development on the KS Waiawa lands arose in the context of a proposed residential, commercial/industrial, and leisure village project. In contrast, KS's current, interim, development proposal is for a solar farm, which is clearly less intensive than the development plan that was reviewed by the Land Use Commission. Nevertheless, KS appreciates the opportunities that Navy official, Mr. Greg Hayashl, gave us to describe the proposed solar farm and the activities that will take place there. Attached for your review are:

- Diagram of the proposed solar farm areas with a ZOC overlay. (Exhibit A)
- Zoom-in of the proposed solar farm areas, ZOC overlay and Navy Waiawa Wells and Infiltration tunnel. (Exhibit B)
- A preliminary overview of the solar project, prepared by KS.
- A brief description of the key members of the SunEdison Hawaii team.

In addition, some details that may be of interest to the Navy regarding the proposed solar farm development are as follows:

Supervision.

- Material delivery, site preparation and solar array installation will take place under the supervision of a highly experienced construction management team.
- Quality assurance checks will be conducted daily by construction management team managers during the entire construction process.
- After construction, SunEdison, the project operator, will have its technicians monitor the system's performance 24 hours per day, seven days per week from its Renewable Operations Center (ROC).
- SunEdison will also perform regular cleaning and maintenance of the solar farm components and will continually monitor system performance.

Construction / Installation / Decommissioning.

- SunEdison proposes to use mono-crystalline photovoltaic modules, utility-scale solar inverters
 and fixed-tilt racking structures with wind loading to 105 mph. Using fixed-tilt racking means
 that the project will not include bearings that require lubricant, or any oil filled transformers.
- · A standard barbed wire fence will be installed to surround the solar farm.
- The project will connect to an adjacent existing 46kV transmission line that runs along the H2 highway.
- The foundations of the ground mount rack systems that hold the solar panels will be pile driven
 metal piers. These piers will be constructed of either concrete or steel. Prior to installing the
 foundations, geotechical studies will be performed to ensure the appropriate depth of the piers.
 No piers will be installed at a depth that reaches the highest historical levels of groundwater.
- The project substation, battery storage devices and transformers will be sited closer to H2 and outside of the ZOC.
- Site preparation will be relatively minor. Cut and fill of the site will only result in surface level
 impacts to soils. No run-off is anticipated, and in any event run-off will be managed under
 stormwater management and hydrology mitigation plans. These plans are required by the City
 and County of Honolulu before a grading permit can be issued.
- At the end of the easement term, SunEdison will remove all equipment from the site, and return
 it to its current state. That includes the removal of foundational piers and modules, as well as
 electrical infrastructure.

Maintenance.

- During the construction phase of the project, SunEdison will have a monitoring program to address oil and fuel spills. After construction, no fuel, oil or chemical sources will be utilized on the site.
- Modules will be cleaned once or twice a year, depending on rainfall. The modules will be cleaned with water, which will be trucked to the site. No additives will be added to the water.
- Within the ZOC, ground cover and vegetation will be maintained through mechanical means, by utilizing zero-turn mowers and weed trimmers.
- In addition to mechanical vegetation removal, SunEdison will pursue the use of preemptive seeding of the site with easily controlled grasses.
- Outside of the ZOC, SunEdision proposes to use an EPA certified herbicide to help control the growth of the vegetation. These chemicals are widely used by landscapers and other horticulture specialists.
- The site will be secured by fencing, and will be manned by security personnel to protect the solar farm assets. This should also reduce the risks of any illegal dumping that could take place on the Waiawa land.

Other Impacts.

- During construction, and throughout the life of the project, care will be taken to minimize disruptions to all local operations and environments.
- Traffic impacts from the solar farm will be limited to the construction period. Once the project
 is built, it will generate little to no traffic. Traffic will be limited to on-going maintenance at the
 site, and the annual, or semi-annual, module cleaning.

KS hopes that this letter provides the Navy with sufficient information to determine that the proposed solar farm development will be a beneficial interim land use of the Waiawa lands, and provides the Navy assurance that the proposed project will have no impact on groundwater or the ZOC. KS requests a written response from Joint Base Pearl Harbor-Hickam confirming that a solar farm development would be a compatible land use in the designated ZOC. We are asking for this confirmation in the interest of being a good neighbor, and also with an intention of sharing the Navy's determination with the DOH. At this time, other than the solar farm, KS does not have any specific development plans for the ZOC. Please be assured that if any future developments plans for the ZOC other than the proposed solar farm do arise, all necessary processes, permits and regulatory approvals would be sought and followed.

I would like to acknowledge the positive support of those staff that I have encountered to date. I look forward to hearing Joint Base Pearl Harbor Hickam's positive response. Should you or your staff need any clarification, please do not hesitate to contact me directly at (808) 523-6346.

Mahalo.

Keith K.A. Chang

Land Asset Manager Kamehameha Schools

Endowment Group - Land Assets Division

(808) 523 - 6346

kichang@ksbe.edu

KAMEHAMEHA SCHOOLS - PRELIMINARY SOLAR PROJECT OVERVIEW

On July 27, 2011, Kamehameha Schools (KS) issued a request for proposal (the RFP) to a group of experienced solar developers, soliciting proposals to develop a utility-scale solar energy project to be located on KS property in the area of Waiawa, on O'ahu (the Project), and enter into a Solar Energy Development and Site Land Use Agreement with KS. The RFP was conducted in support of KS' goals of securing an economically attractive, yet environmentally low-impact, land use for the Waiawa land, and supporting the development of a culturally sensitive, environmentally responsible and ecologically sustainable land use. A large scale solar farm that could provide enough energy to support 9,800 homes for the life of the project meets KS' stated goals. Other than reducing Hawaii's reliance on non-sustainable energy sources, the environmental impacts of a solar farm are negligible.

TRENCHING

Generally, solar facilities do not require trenching. Conduits can typically be run above ground. Therefore, the solar farm developer will only trench on the property if the City and County of Honolulu dictates that the collection lines within the property must run underground.

WATER REQUIREMENTS

Solar photovoltaic systems do not require water in order to produce electricity. The only water requirement the facility would have, if any, would be for the cleaning of the solar panels which, depending on climate, is sometimes not necessary. Since Oahu receives consistent rainfall, water requirements would be less than negligible. Maintenance and cleaning of the solar panels requires water; no harsh chemicals are needed.

GLARE

Glare is cause by light reflecting off of a surface. Solar photovoltaic panels are designed to absorb light rather than reflect light. Solar glass reflects much less light than standard glass used on homes and businesses. In fact, ocean water will reflect more light than solar PV panels. In order mitigate further reflection and to increase the absorption of light an antireflective coating is a standard finish on solar PV panels. Numerous solar energy projects have been developed near areas that are highly sensitive to glare, such as airport runways (FAA and U.S. Air Force approved):

- FedEx operations solar panels at its runway-adjacent facility at Oakland International Airport in California.
- Denver International Airport (Colorado) has installed a large solar farm
- Edwards Air Force Base (California) is planning a 500MW solar project on 3,200 acres
- Nellis Air Force Base (Nevada) has built a 14MW system

SUNEDISON HAWAII TEAM MEMBERS

Dozens of dedicated SunEdison staff will be involved in the proposed project(s). Below are some of the individuals whose efforts will be indispensable in project completion.

Tim Lasocki, Vice President US Project Development, SunEdison

Tim Lasocki is the Vice President of Project Development for SunEdison's North America Solar Development team, which is advancing over 1,000MW of projects in early, mid, and late stage development. Solar projects which Mr. Lasocki has led through full permitting and the commencement of construction include Colorado State University (5.3MWac), Austin Energy (30MWac), Tucson Electric Power (20MWac), and Bryan Texas Utilities (10MWac), with a collective value of close to \$300MM.

Mr. Lasocki joined SunEdison in September 2011 following the SunEdison acquisition of Fotowatio Renewable Ventures' USA assets and team. Prior to FRV, LLC, Mr. Lasocki was the Director of Commercial Transactions at Clipper Windpower where he negotiated multi-year turbine sale contracts valued at over \$4BN. Mr. Lasocki also previously worked for GE Wind Energy where he held roles in sales, development, and strategic marketing and negotiated \$1BN worth of wind turbine and wind project purchases.

Mr. Lasocki holds a Master of Business Administration and Master of Environmental Management from Yale University and a Bachelor of Arts in economics from Carleton College.

Kiran Gill, Managing Director of Power Origination, SunEdison Kiran Gill is the Managing Director of Power Origination for SunEdison where she leads the North American Utility team on originating and structuring asset transactions as well as strategic partnerships for new business on the internal greenfield project pipeline. Kiran previously worked for Bright Source Energy where she was the Director of Origination & Marketing responsible for negotiating off-taker CSP thermal asset transactions including CSP projects, Enhanced Oil Recovery (EOR) applications, Integrated Solar Combined Cycles hybrid projects. In particular Kiran led the management of several hundred MWs of Power Purchase Agreements with two major California IOUs as flagship project commissioned in 2013. Prior to BrightSource Energy Kiran spent over ten years in the North American Power Origination and Trading Markets as a Director of Finance & Origination at Gestamp Wind, as a Vice President of West Origination at Morgan Stanley, and Structurer at PG&E NEG.

Nicola Doss, Manager Power Marketing - US Utility Team

Nicola will be HECO's main liaison during the procurement process and PPA negotiations. Nicola Doss is a Manager of Power Marketing for SunEdison, based in Honolulu, and leading business development and project development efforts for utility scale solar projects across emerging markets, mainly Hawaii. Nicola has been in the solar industry for 5 years including her previous role in business development at solar development company Axio Power, acquired by SunEdison in June 2011. Nicola has past experience in project management and environmental consulting for government and property development clients and has worked for local government doing urban and environmental planning.

Nicola received her MBA in General Management and Sustainability from the Australian Graduate School of Management in Sydney, Australia and her Master's of Applied Science degree in Natural Resource Management from James Cook University in Townsville, Australia.

Ricardo Graf, Senior Development Manager

Ricardo's background includes real estate acquisitions and permitting of utility-scale (large scale) ground mounted solar projects throughout the United States. Ricardo's primary markets include Hawai'i, Puerto Rico and California. He will typically be the first person of the SunEdison team to engage on a project and is responsible for managing and facilitating the underwriting of new solar assets. Recently he successfully negotiated a real estate transaction to secure 34.7 acres for a 5MW facility in the Mililani Solar Park on the Island of Oahu. Since June of 2011 Ricardo has surveyed, analyzed and acquired seven project sites (Mililani, Kamehameha Schools and five bilateral projects) for SunEdison which are all now currently in discussions with HECO.

Bhaskar Ray, Senior Director of Engineering and Design

Bhaskar Ray is currently employed as a Senior Director of Engineering & Design at SunEdison. In his current leadership role, Bhaskar manages interconnection efforts and T&D engineering activities for all SunEdison renewable projects (utility scale and DG projects) in the North America pipeline (including Hawaii and Puerto Rico). Most recently Bhaskar was with Solar Trust of America where he was the Senior Director of Transmission. In this role he managed all transmission and interconnection related activities of their utility-scale solar projects and provided necessary regulatory support. As an electric transmission Subject Matter Expert, Bhaskar has over 22 years of electric utility experience in transmission system planning, grid interconnection contracts, renewable energy, power procurement, operations, dynamics & control area of power industry.

Prior to joining Solar Trust, Bhaskar was with Southern California Edison (SCE) for several years where his recent work assignment included working with Senior Energy Advisors from California Governor's Office as the SCE Project Leader during 2010 to lead a cross functional stakeholder team for supporting large scale renewable projects in California seeking American Reinvestment & Recovery Act (ARRA) funding. He has also worked in Pacific Gas & Electric Company (PG&E) and Xcel Energy for over fifteen years. Bhaskar received his Master of Science in Electrical Engineering from Iowa State University. He has numerous power industry publications and is currently a Senior Member of Institute of Electrical & Electronics Engineers (IEEE).

Dan Ryan, Utility Development Engineer

Dan will provide technical support to the SunEdison team during all stages of project development in Hawaii. Dan has experience in utility scale solar development, project design, and energy production simulations. He works closely with utilities, manufacturers, and independent engineers to identify, develop, and construct solar projects for SunEdison. Prior to SunEdison, he was a Senior Engineer at AWS Truepower, LLC and provided engineering consulting services to various players in the solar industry. Dan holds a BS in Mechanical Engineering and a Masters of Engineering Management from Cornell University.

Curtis Seymour, Director of Government Affairs

Curtis Seymour is Director of Government Affairs for SunEdison where he leads state-level regulatory and legislative efforts on the West Coast, including Hawaii. SunEdison develops, finances, owns and operates solar power plants across the United States and the world. Curtis previously worked for Q-Cells in Berlin, Germany where he focused on utility scale project development. Curtis also spent several

years at the California Public Utilities Commission where he was responsible for California's distributed generation policies and programs including the California Solar Initiative, net energy metering, the small renewable feed-in tariff and the Renewable Auction Mechanism. Curtis is currently serving as the state committee Chair for the Solar Energy Industries Association (SEIA) in California.

S&B Energy, LLC

SunEdison has engaged S&B Energy, which is based in Hawaii, to provide local Hawaii entitlement and permitting assistance for this opportunity. S&B Energy provides development consulting services for utility-scale renewable power generation facilities in Hawaii. The principals bring 40 years combined development and engineering experience on large capital projects. S&B has led or assisted in the entitlement, permits, and coordination of HECO interconnection for over 7 MW of PV projects on Oahu that have signed Power Purchase Agreements and are in construction or late development phases. Additionally, S&B is assisting in the development of a 2.7 MW biogas facility in the outer islands that recently secured land.

Karl Bossert, Principal

Karl brings more than 27 years of experience to S&B Energy. Throughout his career he has worked on the design, engineering and construction of numerous projects. His background includes knowledge of various business sectors, including power generation and transmission, petrochemicals, infrastructure, land development and environmental restoration. These endeavors have included a number of high-temperature process plants with large steam-generation systems, and co-generation steam plants of over 40 megawatts. Most recently, Karl was responsible for all forward planning of Maui Land & Pineapple Company Inc's Community Development Division. In this capacity he took the lead in master planning and entitling a number of residential housing developments with a constructed value of over \$2 billion. Prior to this Karl, has been employed with such companies as Parsons, Brown & Root Braun and KTI Corp. Karl holds a B.S. degree in Business Administration from California State University at Chico where he graduated cum laude.