Initial Environmental Examination

Project Number: 49339-001
August 2017

SAM: Solar Power Development Project

Prepared by Sun Pacific Energy Ltd

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ANNEXES

I. INTRODUCTION

Sun Pacific Energy Ltd (SPEL) is an Independent Power Producer (IPP) and developer of the Faleolo Solar Power Project in Samoa. The solar power project site is located next to Faleolo International Airport, North-West District, Upolu Island. The Faleolo Solar Power Project ('the Project' herein) has an existing production capacity of 2.2 megawatts (MW) which is sold to the Electricity Power Corporation (EPC) under a 20-year Power Producer Agreement (PPA) with SPEL. SPEL will expand the solar power project with an additional 1.8 MW to meet the capacity under the PPA.

SPEL is wholly owned by Harelec Services[1], an Australia solar power company based in Port Macquarie, New South Wales. Harelec Services is a small business with 20 years of experience in the electricity and solar business in Australia SPEL is responsible for construction of the solar plant and substation connecting to the existing electricity grid at Faleolo.

EPC, the sole offtaker of the project, is a Samoan government-owned entity and the main producer and supplier of electricity throughout the country and a key member of the National Energy Coordination Committee. EPC is responsible for managing the national electricity grid, as well as securing the lease of government land from Samoa Airport Authority (SAA) on behalf of private developers including SPEL and the project site.

The country then is heavily dependent on imported fossil fuel to meet the demand of a 98% electrification rate. The only other power source in Samoa is the 11 MW run-of-river hydropower project, which is exposed to seasonal variability. It was adversely affected by cyclone Evan in 2012 and only meets 19% of the power demand during dry season. Solar power is best suited for the dry season, when hydro resources are low, and the weather is least rainy and cloudy. In addition, the proposed project is envisaged to reduce the country's dependence on imported fossil fuel.

The important environmental and social aspects which the project may impact on has been assessed to determine the classification of this project in accordance with ADB SPS and the scope of the study. The Project has been classified as Category B under ADB classification criteria and this IEE has been developed to meet the environmental assessment requirements aligned to ADB Safeguard Policy Statement (SPS). The report assesses potential impacts likely to occur throughout the life of project, and mitigation measures to minimize adverse impacts on the local environment and nearby communities. The environmental and social audit of the existing facility was undertaken and has been annexed in this IEE report. A corrective action plan(CAP) was prepared for non-compliance identified during the audit.

II. POLICY AND LEGAL FRAMEWORK

This section provides a summary of Samoa's relevant national environmental legislation. The Ministry of Natural Resource and Environment's (MNRE) Planning and Urban Management Agency (PUMA) regulate the national legislation on environmental and social impact assessment (ESIA) in country. PUMA administers the *EIA Regulations 2007* under the *Planning and Urban Management Act 2004* (PUM Act 2004). The PUM Act provides the legal basis for development consents (DC) for new development. The EIA Regulations set out what level of ESIA is required, consultation and the review and approval process. Under the EIA Regulations, any project that triggers the qualifying criteria require an ESIA. The qualifying criteria relate to potential negative impacts on people, property, places, habitats etc. From this basis, it is determined whether a Preliminary Environmental Assessment Report (PEAR) or Comprehensive Environmental Assessment Report (CEAR) is required. Being a small-scale development, the Project requires a PEAR and land lease agreement under national regulations.

[1] Jarcon Proprietary Limited (Jarcon) is ADB's co-borrower for the project, together with SPEL. Jarcon is a family owned Australian company that trades in Australia as Harelec Services.

In compliance with the Samoan environmental regulations, the Preliminary Environmental Assessment Report (PEAR) was prepared by Kramer Ausenco in August 2014 to secure development consent for the existing 2.2 MW Project from Samoa's Planning and Urban Management Agency (PUMA). The PEAR was updated for MNRE's approval in 2016 to cover the 1.8MW expansion of the project, and was approved by MNRE in the same year.

In 2007, PUMA developed a Code of Environmental Practice (COEP) for Samoa, which presents methods and procedures to be followed by project developers and contractors to avoid or mitigate adverse environmental impacts. Those that apply to the Project include: COEP 3 Consultation, COEP 11 Drainage, COEP 12 Traffic Control During Construction, and COEP 13 Earthworks.

The Lands, Survey and Environment Act 1989 (LSE Act) provides a process for the alienation of Government land, land administration and other matters such as environmental protection, conservation and coastal zones. Under Section 37, the Minister may approve the lease of government land for up to 20 years. Government land is a subclass of public land that is not set aside for any public purpose and includes land which has become the property of the Government as ownerless property. There are a variety of controls under this Act on both leases and sales of Government land. Leases have to be in the approved form and subject to the covenants and conditions imposed by the Land Board not exceeding 20 years. Under Section 49, all conditions of the lease shall be in accordance with the plan approved under the PUM Act 2004.

Other legislation that the project will abide by includes:

- Electricity Act 2010.
- Waste Management Act 2010 - by implementing waste management measures for all phases of the project.
- Noise Policy (2011) – to comply with permitted noise levels during construction and operations phases (particularly earthworks and installing equipment with heavy machinery).
- Occupational Safety and Health Act 2002 (MCIL) – the safety, health and welfare of all staff, contractors and onsite visitors will be ensured at all times.

Apart from the above, the proposed project followed ADB's safeguard policy statement 2009 (SPS), which consists of three operational policies on the environment, Indigenous Peoples and involuntary resettlement. All three safeguard policies involve a structured process of impact assessment, planning and mitigation to address adverse effects of projects throughout the project cycle. The SPS promotes international good practices, as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines with the aim to ensure that the implementation of all ADB-supported projects' activities will not cause significant environmental, health, social and safety hazards.

III. PROJECT DESCRIPTION

A. Project Significance

The Samoa Energy Sector Plan outlines the vision for Samoa's energy sector and the goal of reducing imported fossil fuels by 10%. The 2.2MW facility completed its construction in September 2015, but started selling to the grid since April 2015. The plant was officially opened on 16 October 2015 and the PPA commenced on April 2016. The solar power plant is located within the Faleolo International Airport (APW) land that was leased by the Samoa Airport Authority (SAA) to Electrical Power Corporation (EPC). The existing SPEL solar plant supplies solar electricity to the existing EPC grid, saving approximately 900,000 litres of diesel fuel per year. The proposed expansion will increase these diesel savings to approximately 1.6million litres of diesel per year.

B. Site Description

The Project is located inside the boundaries of Faleolo International Airport Authority land boundaries (385 ha), North-West District, Upolu Island (**Figure 1**). The site coordinates are roughly Latitude 13.83° South Longitude 171.99° West. The site sits between the abandoned runway and the West Coast Road, approximately 200m from the coastline. It is 35 kilometers west of Apia city. The project site (Lot 1, 4.645 ha) sits between Samoa Solar Project on the eastern boundary (Lot 2, 4.33 ha), and GreenPower's Solar Project on the western boundary (Lot 3, 4 ha) (**Figure 2**). The northern fence line and property boundary is located to the east of, and 90m from, the centerline of the airport runaway.

The land was leased by the SAA to EPC for the development of solar power projects, one of which is the SPEL solar farm. There is no risk of restriction of access, disturbance to culturally important sites or resettlement impacts to any persons as this was previously unused land in a secure complex within international airport boundary. There are no communities, ethnic groups or indigenous people residing in the project area as it is government land that was acquired in 1942 to build Faleolo International Airport. No alternative site on Upolu was proposed for the Project since the government designated the land for solar power development.

Figure 1. SPEL Project Site

Figure 2. Aerial photo of existing solar plant, with expansion area outlined in red (not to scale)

C. Project Schedule

The existing facility Construction phase started in November 2014 until September 2016, which included three phases: (a) vegetation clearance, earthworks and security fencing; (b) constructing photovoltaic (PV) solar array and facilities including PV modules 18 lines with 314 frames of 24 panels each, ground screw piers supporting galvanized steel frames, shipping container, communication line, drainage for surface run off and IP65 rated inverters; and (c) constructing substation, transformers, mound/brick fence buffer, solar radiation monitor, future office.

Operations phase partially started from April 2015 and will run until April 2036. SPEL began selling electricity to the grid from April 2015. Orders of solar panels and inverters to reach the expected 4MW have been placed and cargos are scheduled to reach Samoa by the end of July 2017.It is anticipated that the expansion stage will commence in July 2017 until January 2018.

D. Project Components

Solar Panels

The 2.2 megawatt (MW) alternating (AC) solar array includes 28 rows of 264 panels, and 2 rows of 176 panels, equating to a total of 7,744 panels. Each panel is rated for 305 watts (W) at a size of 1956mm x 990mm with an expected design life of 20 years. Each has a landscape orientation spaced 7m apart, 2m above mean sea level and 200m setback from the coastline. The spacing for shade is 23 degrees to ensure maximum density whilst ensuring future access for maintenance. The proposed expansion will comprise of an additional 6,500 x 315W panels, 66 inverters (**Table 1**). This will be in an extension of 28 existing rows, in the same format, with the addition of 17 rows of varying lengths as indicated in **Figure 3.**

Table 1. Project Summary

Details	Existing Facility	Project Expansion
Project Site	Lot 1, Faleolo International Airport	Lot 1, Faleolo International Airport
Village Name	Faleolo / Satapuala village	Faleolo / Satapuala village
District Name	North-West Upolu (NWU)	North-West Upolu (NWU)
Electoral Constituency (*faipule*)	A'ana Alofi III	A'ana Alofi III
Land available	2.6 ha out of 4.645 ha used	2.0 ha out of 4.645 ha used
Type of PV module	ReneSola polycrystalline photovoltaic panels	ReneSola polycrystalline photovoltaic panels
Size of PV module	1956mm x 990mm	1956mm x 990mm
Capacity of each module (W)	305 watts	315 watts
Proposed capacity (MW)	2MW AC (2.36MW DC)	1.8MW AC (2.0 MW DC)
Total number of PV modules	7,744 panels	6,500 panels
Life of PV modules	20 year (guaranteed), 25 years (expected)	20 year (guaranteed), 25 years (expected)
Inverter model	IP65 rated inverters manufactured by SMA (25kW)	IP65 rated inverters manufactured by SMA (25kW)
Total number of inverters	88	66
Annual electricity supplied to grid (MWh)	3,500,000kWh	2,500,000kWh
Project cost (AUD)	$4,200,000	$4,000,000

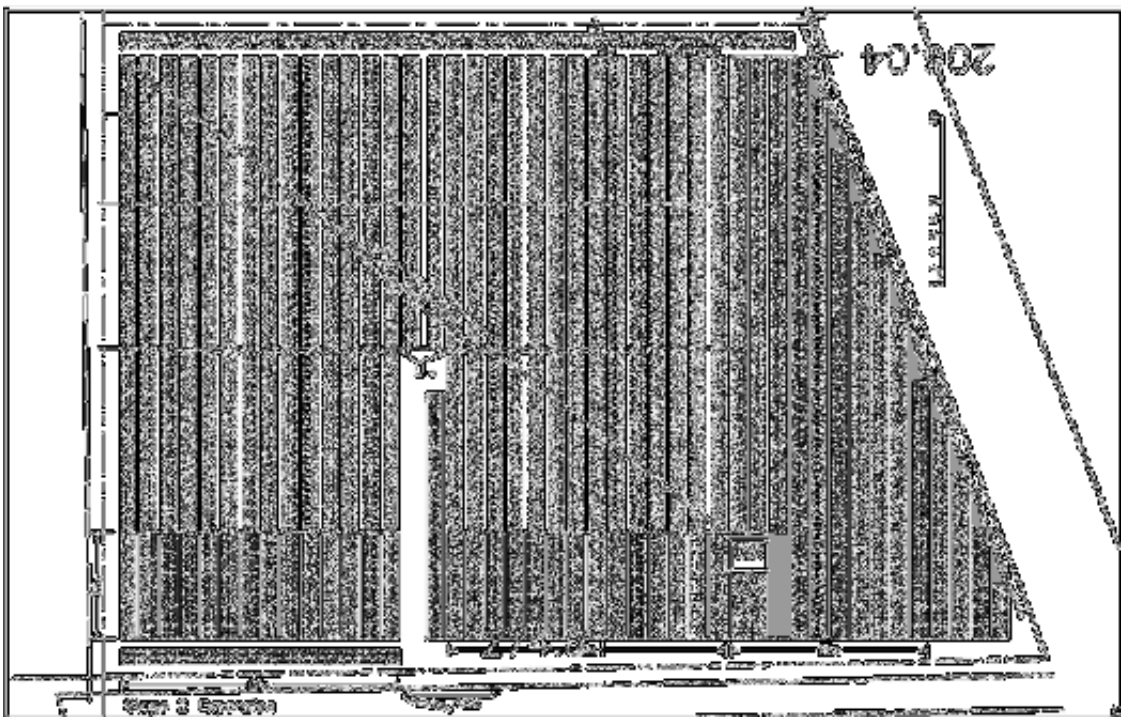
The arrays consist of galvanized ground screw piers supporting anodised aluminum frames, mounting assemblies, cabling, substation, high voltage metering cubicle and communications. The total capacity of the system is 4MW AC and the technical components are listed in **Annex 1**. The solar manufacturer is ReneSola and the inverter manufacturer is SMA[2]. The solar array is a series of free standing structures sitting less than 2m off the ground, buffered by an earth embankment on the southern edge and brick wall for protection from wind gusts on the eastern boundary. The technical design adhered to AS/NZS 1170.2 – Structural Design Actions Part 2[3]; Wind Actions ISO 4354 Wind actions on structures, and AS 4040.3 Resistance to wind pressures for cyclone regions (1992) to minimize impact to the solar array during severe storms and cyclones. This ensures durability for either wind speeds of 80 metres per second, wind gusts of 288 kilometer per hour (km/h), or a pressure of 3.8kPa.

Harelec have an agreement with the manufacturer SMA for them to receive redundant inverters at the end of cycle life (25 years).

[2] http://www.sma-australia.com.au/

[3] Source: http://infostore.saiglobal.com/store/details.aspx?ProductID=1458609, and http://www.iso.org/iso/catalogue_detail?csnumber=38882

Figure 3. Proposed Expansion Area



Facility Building

In addition to the solar arrays, Sun Pacific Energy proposes to install a workshop/ amenities/ office facility. This will be a concrete block building with concrete floor and sloped iron roof. It will consist of areas for storage of equipment, work tasks, staff meals and rest breaks, administration, first aid, meetings, showers and toilets. Grey water and sewerage will be connected to a septic tank which will be emptied by a contractor when necessary.

The sloped roof of the building will be used to mount similar solar panels, with anodized aluminum and stainless steel roof brackets and railings. The installation of these roof-mounted panels will also be compliant to AS/NZS 1170.2 – Structural Design Actions Part 23; Wind Actions ISO 4354 Wind actions on structures, and AS 4040.3 Resistance to wind pressures for cyclone regions (1992).

Sun Pacific Energy also proposes to install two 10,000 litre water tanks, alongside the workshop building, as part of the expansion project. These will collect rainwater run-off from the rooftop during rainfall events. This water will then be used for cleaning the solar modules, and for toilets and showers in the amenities building. With the installation of these tanks, Sun Pacific Energy site will become entirely water self-sufficient, and there will be no further need to collect water from Satapuala Village.

Road Access

The facility is situated directly on the Main West Coast Road, which is the primary transport route for all purposes between the city, Apia, and facilities, community and industry across the western parts of the island. The road from Apia is sealed (bitumen) and adequate for transport of solar farm components. The site entry point is immediately off the main road, and level. There are no formed site roads or tracks on the site. All movements across the site are over a firm, grassed surface. Road access is generally fit for purpose.

Transmission Lines

Upolu has an overhead 22kV network for power distribution throughout the island. A single circuit three-phase 22kV line runs along the road immediately across from the site entrance. A T-connection has been installed crossing the road near the entrance point. A manual disconnector on the pole is available for manual isolation of the facility. A single, three-core 22kV cable runs down the pole and underground to the main transformer. Access to the connection point is level, clear and well maintained.

Water Supply

The site currently has no on-site water supply infrastructure. There are only two small water tanks on site (500 and 1000 litres respectively) which were filled by hand by site maintenance staff. A reticulated water supply is believed to be available to the village across the road. SPEL plans for the construction of Phase 2 includes installation of 2 x 10,000L water tanks.

IV. BASELINE CONDITIONS

A. Physical Environment

Topography: The project site is located on low-lying coastal area about nine (9) meters above mean sea level, with the highest elevation on the West Coast Road boundary. Being low-lying and close to the coastal line, the area may be susceptible to flooding, although water dissipates quickly from the site into a large swale on the northern fence line parallel to the old runway.

Geology: The project site is situated on Mulifanua volcanics primarily comprised of olivine basalt soil weather to a depth of 10-20m. It is characterized by thin soil cover and boulders.

Seismic data: Samoa is subject to undersea earthquakes due to its proximity to the Tonga Trench. The country suffered a tsunami in 2009 which struck the south and east coasts of Upolu, resulting in loss of life and property.

Land Use: The site is on unused, pre-disturbed land within the boundary of Faleolo International Airport under the control of Samoa Airport Authority (SAA) (**Figure 4**). The airport site is 850 acres or 385 hectares in total, and the project site comprises 4.645 ha. It is a highly disturbed area that was partially cleared by the SAA to meet airport standards prior to the decision about the Project being made. There are agricultural, public facilities and residential areas to the south, east and west of the site in surrounding areas.

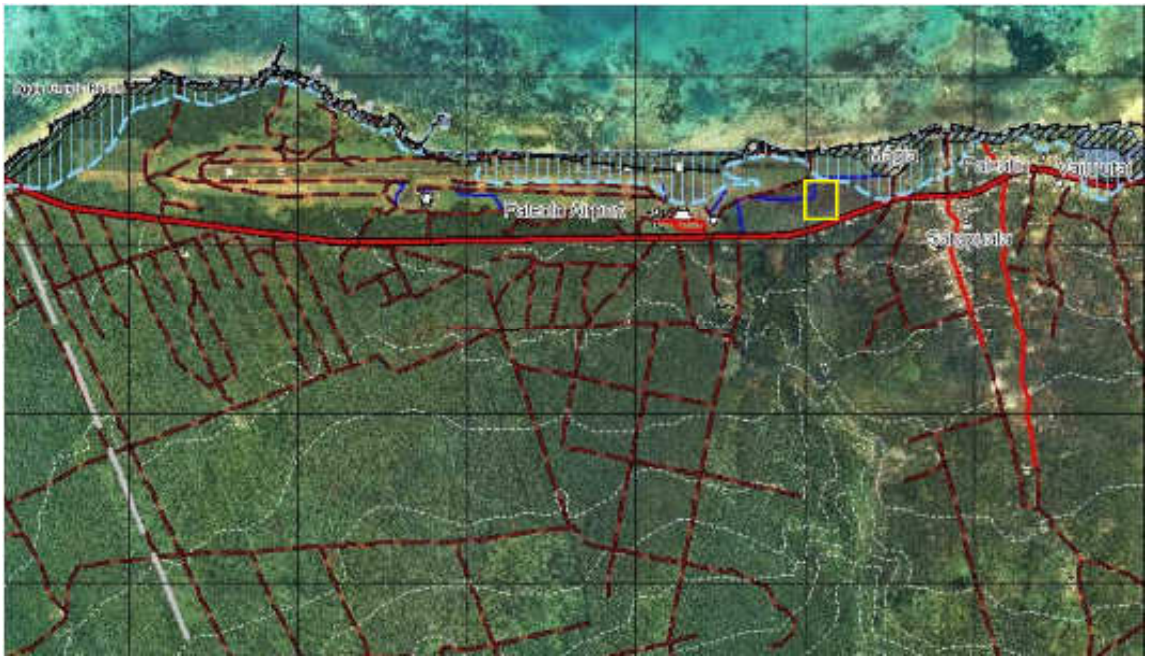
Meteorology and Climate: Samoa has two seasons - a wet season from October to March with maximum precipitation levels of 672.7mm, and a dry season extending from April to September with minimum precipitation levels of 22.2m. The annual mean rainfall ranges between 3000mm to 6000mm[4] varying considerably depending on location. Humidity is generally very high and above 80%. The Faleolo climate station recorded an average temperature of 22.7-30.9 ^{o}C and 2437.1mm annual rainfall for 2011. Between 1969 and 2010, 53 tropical cyclones passed within 400km of Apia with an average of one cyclone per wet season[5].

Vulnerability to Flood: The Coastal Infrastructure Management (CIM) Plan (2007) identifies that the project site is situated next to the Coastal Erosion Hazard and Coastal Flood Hazard Zones **(Figure 5)**, which are known to flood during heavy rain and coastal inundation. Although the CIM Plan is outdated these are being revised with new data, and the Project could still be considered located in an area vulnerable to future hazards (e.g. cyclones, flooding, drought, severe storms, tsunami). These were considered and reflected in the design specifications chosen for the project. Elevation of the site is about nine (9) meters above mean sea level and the site is setback 200m from the coastline.

[4] Source: http://www.samet.gov.ws/index.php/mean-rainfallmaps
[5] Source: http://www.pacificclimatechangescience.org/wp-content/uploads/2013/06/3_PCCSP_Samoa_8pp.pdf

Figure 4. Site prior to land clearance (circa 2013)

Figure 5. Hazard Zones identified in 2007 CIM Plan in relation to project site



Noise and Air Quality: Noise and fumes from aircrafts are common in the area due to proximity to the international airport. It is likely that volatile organic compounds (VOC), carbon dioxide (CO_2), nitrogen oxides (NO_x), sulphur dioxide (SO_2), carbon monoxide (CO) and particulate matter (PM) are present in the project area due to regular aircraft activity. No secondary data for noise levels or ambient air quality was available. Impact from the solar plant construction is only short-term and limited within the project site.

Water Quality, Groundwater and Water Sources: Samoa Water Authority has installed production boreholes close to Mt .Olo quarry and Mauga about 7km southwest of the airport. (**Figure 6**). The SAA maintain their own water for operational purposes and this will be expanded by two 10,000 litres tanks in the near future. There are several streams and catchment areas in the district, which supply three local water systems. Two

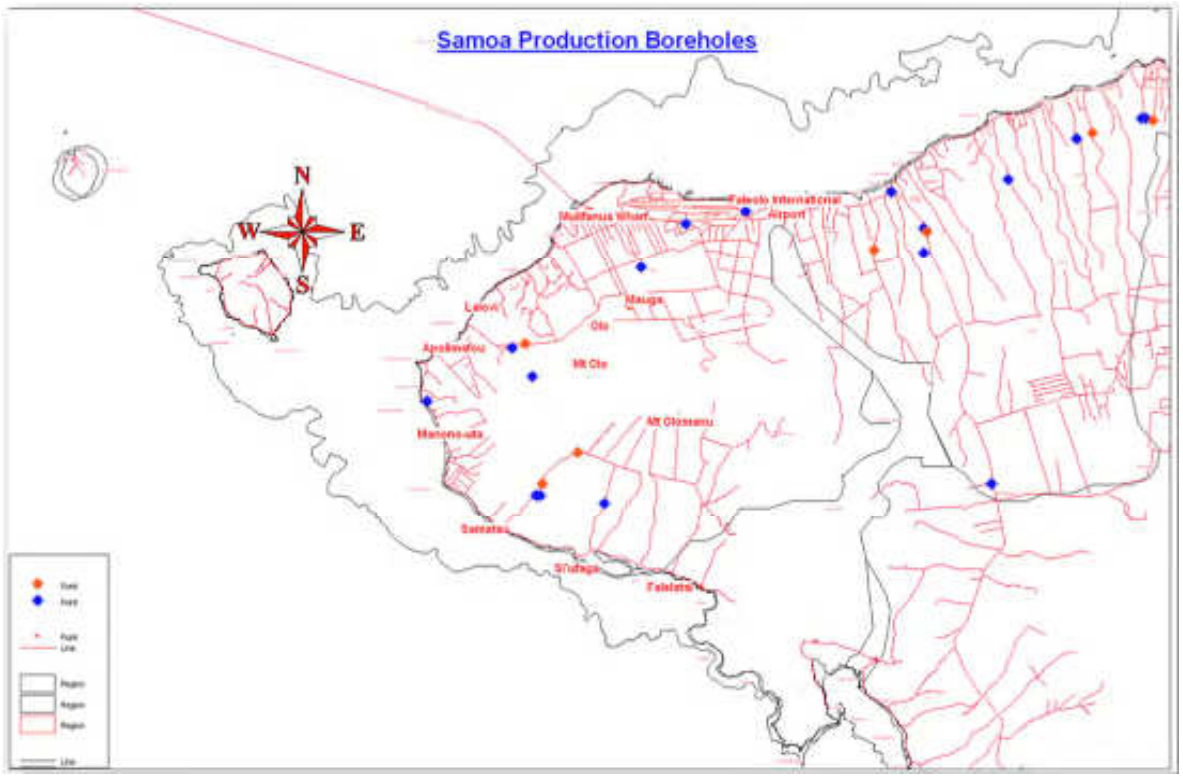
are sourced from springs inland of Satapuala and Faleatiu and the main source for reticulated water comes from Leulumoega in the adjoining A'ana Alofi II district (CIM Plan 2007, p3).

The existing facility has no sewerage or greywater generated on site or discharged by the project. Surface water runoff from stormwater and rainfall events is captured in drainage and turf has been laid between panel rows to slow the runoff rate. Water is currently consumed from local sources for cleaning and rainwater. SPEL have installed additional tanks to this point and once works have been completed on the workshop the larger 2 x 10,000L tanks will be utilized for this purpose and therefore no water will be drawn from local water sources

Hydrology and Surface Water: The airport has five drainage outfalls that discharge stormwater runoff into the sea. SAA maintain the drainage system by removing excess foliage on a regular basis. The West Coast Road has insufficient drainage during heavy rain events but is unlikely to cause issues to the project site, or be exacerbated by the Project. Some drainage has been installed onsite, and drainage along the West Coast Road is expected to be upgraded by the Land Transport Authority (LTA) in the very near future (mid-2016).

Waste: All waste in Upolu is deposited at the Tafa'igata landfill on the outskirts of Apia near Tafa'igata Prison (approximately 27km from project site). Since there are no batteries in the design, there will not be any disposal of batteries.

Figure 6. Samoa Water Authority Borehole locations in north-west Upolu (August 2013)



B. Biological Environment

Sensitive habitats: The closest natural habitat is the coral reef located to the north of the project site (approximately 2km) and mangrove wetland between Fasito'o Tai and Vailu'utai villages (at least 3km to the east). The coastal lagoon is especially sensitive and supports abundant marine biodiversity including turtles. A marine conservation zone was established offshore by a local village with the help of an international NGO in 2009, however this is not in proximity to the project site (>3km) or expected to be impacted in anyway. The mangrove system substantially adds to the biodiversity of the area and has the historic site of *Liua le*

vai o Sina within it but is not in close proximity to the project site and will not face up or downstream impacts.

Flora and fauna: Bird species identified in the area include the Pacific Golden Plover (Tule, *pluvialis fulva*) Wandering Tattler (Tuli Alomamala, *heteroscelus incanus*) and Pacific Grey Duck (Toloa, *ana superciliosa*). The Toloa is a land bird identified as medium extinction risk and high cultural significance. Bird population numbers of the other species peak September to April.

C. Projected Climate Change and Impact[6]

Scientists from the Pacific Climate Change Science Program (PCCSP) have evaluated 24 models from around the world and found that 18 best represent the climate of the western tropical Pacific region. These 18 models have been used to develop climate projections for Samoa. The climate projections for Samoa are based on three IPCC emissions scenarios: low (B1), medium (A1B) and high (A2), for time periods around 2030, 2055 and 2090. This includes estimates of annual average air temperature, sea surface temperature and sea level rise. Sea level rise until the end of project life (2036) is expected to continue, with estimates range from 15cm (2030) to 29 cm (2055), under very high emission scenario. The projections generally suggest a decrease in dry season rainfall; an increase in wet season rainfall over the course of the 21st century; and a decrease in the frequency of tropical cyclones by the late 21st century but an increase in the proportion of the more intense storms.

Table 2: Sea Level rise projections for Samoa for three emissions scenarios and three time periods. (Values represent 90% of the range of the models and changes are relative to the average of the period 1980-1999).

Emissions Scenarios	Time Periods		
	2030(cm)	2055(cm)	2090(cm)
Low Emissions Scenario	5-15	10-26	17-45
Medium Emissions Scenario	6–14	11–30	20–57
High Emissions Scenario	5–15	10–29	21– 59

D. Socio-economic Baseline

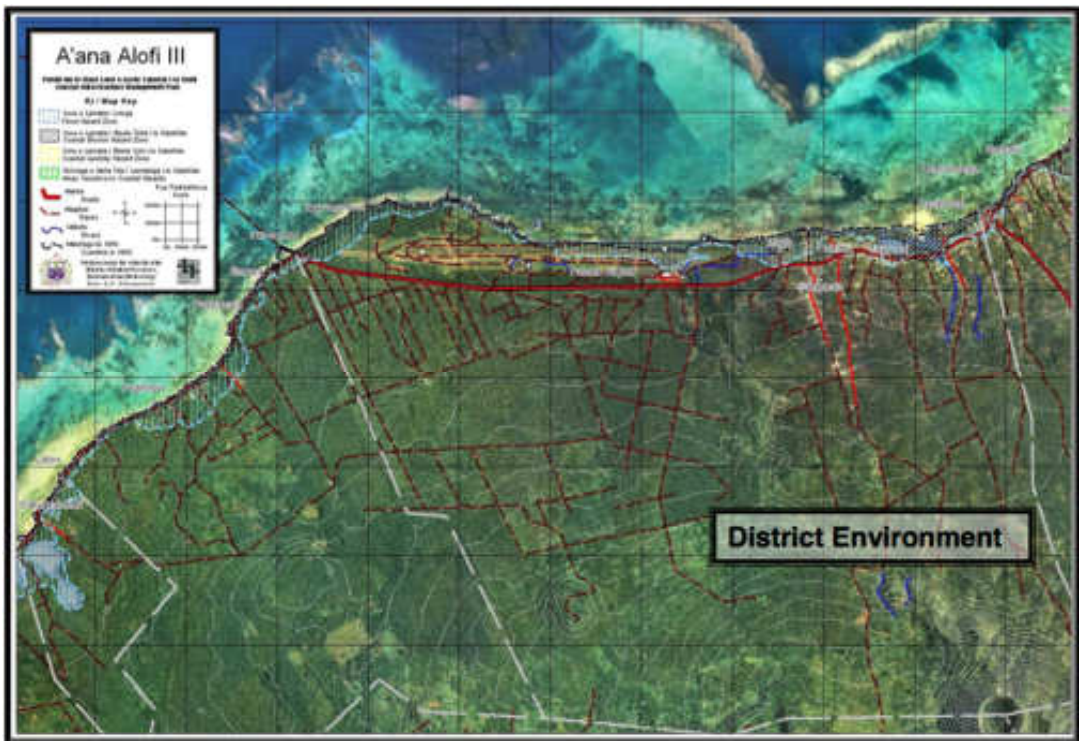
The project site is in an area with a mix of commercial and residential buildings and agricultural land. Four coastal villages are located on the eastern corner of the district next to Fale'olo airport - Fasito'o Tai, Vailu'utai, Faleatiu, and Satapuala. Satapuala village is the nearest residential area to the project site which is a linear settlement to the south and eastern edges of the SAA boundary located in the A'ana Alofi III electoral constituency (*faipule*) of the North-West Upolu (NWU) District **(Figure 7)**. The village is separated into two sections: Satapuala-I-Tai (*tai* means coastal) near to the coast and Satapuala-I-Uta (*uta* means inland) where most of the people reside. The population makes up 2.9% of Samoa's total population count, which was recorded at 168 households or 1,395 persons in the 2011 census (696 females, 699 males) and the demographic profile is young with almost half of the population under 20 years old. A'ana Alofi III **(Figure 8)** had a total population of 5,530 people in 2011[7]. The educational attainment of the population was 43% primary school and 46% for secondary school the same year.

[6] Information presented in this section is from International Climate Change Adaptation Initiative, Pacific Climate Change Science Program. (http://pacificclimatechangescience.org)

[7] Samoa Bureau of Statistics - 2011 Census http://www.sbs.gov.ws/index.php/new-document-library?view=single&layout=list&id=100&show_title=0&show_description=0

Figure 7. Districts of Samoa showing A'ana Alofi 3 at Faleolo (#11)

Figure 8. Map of A'ana Alofi III[8]



The primary (Satapuala Primary School) and secondary school (Ana Alofi III College) are 400m south of the airport entrance. There is also a hospital 500m south-southwest of the airport entrance, a temporary roadside

[8] Source: CIM Plan 2007, page 6.

market at the bus station opposite the airport entrance and a police outpost at Faleolo. These facilities are not expected to be impacted by the project.

Most houses have access to reliable electricity and water from government sources. The project will contribute to increasing the availability of renewable energy to the local community.

Residents are engaged in paid employment including in adjacent agricultural plantations, airport, tourism, construction, education and health sectors. Subsistence activities and informal work including fishing and gleaning in the lagoon and coastal areas adjacent to the airport, running small shops in the village, temporary stalls selling fresh produce (fish, vegetables, coconuts) and tending livestock including pigs, chickens and cattle. There is regular access to public transport and buses to Apia cost approximately WST$3 one way.

Residents from Satapuala village use the lagoon to fish and gather shellfish for daily sustenance. In 2009, the village entered into a fifteen-year agreement with Seacology[9] to establish a 1,600 acre marine conservation area inclusive of 240 acres of no-take zones and one acre of protected *Rhizophora mangle* mangrove forest. In 2014, Satapuala village was recorded as participating in community-based fisheries management program (CBFMP) supported by the Fisheries Division of the Ministry of Agriculture and Fisheries (MAF)[10]. These sites are at least 2-3km from the project site and due to the low environmental risks of the project, it is highly unlikely the project will result in any impacts to these areas. In addition, the project site does not block access for fishermen or women gleaning in the coastal and shoreline areas or have any interference with such activities.

The governance structure of the village (*fono*) reflects *Fa'asamoa* (the Samoan way) prevalent in villages throughout the country. It is hierarchical chief based (*matai*) system with specific roles. The village council (*alii ma faipule*) comprised of those with chief (*matai*) title from which the village mayor (*sui o le nu'u, sui o le malo*) is selected. They attend to civil matters at the village level, a role recognised under the *Village Fono Act 1990*. The government representative is called the *pulenu'u*. The council is responsible for all decision-making, establishing protocols and disciplinary actions to maintain harmony within the village. The matai plays a significant role as they represent the interests of their household and extended family to the village council and speak on behalf of their families on all matters including the administering of customary land. Those without 'matai' titles form men and women groups (*aumaga* and *aualuma*). There is also a women's committee or representative (*sui o tamaitai*) and youth representative (*sui o talavou*). In 2013, there were four families in Satapuala with food insecurity recorded whom are being supported by the village, as is the *Fa'asamoa* way[11]. SPEL has a positive relationship with the community in respectful of village customs and direct engages nearby residents and matai in Satapuala village on a regular basis.

Historically, Satapuala village was located on the airport land in the coastal area. It was one of four villages relocated by the government after the land was acquired for the airport in the 1942 during the New Zealand colonial era. There is a longstanding dispute over this relocation and previously alienated customary land. A land swap for government land (administered by the Samoan Trust Estate Corporation, STEC) opposite the airport entrance took place in the 1980s to settle the dispute although customary land claims by village leaders raised tensions between the government and village in 2012[12]. The STEC has a large landholding opposite the airport precinct of 6,910 acres of land being used for agriculture and Mt Olo quarry 7km from the site.

Culturally important sites include an area where historic lapita pottery was found, and the mangrove wetland between Fasito'o Tai and Vailu'utai villages (at least 3km to the east) which contain the historic site of Liua le vai o Sina. These are not near the project and will not be impacted in any way.

[9] Seacology project update, May 2009, accessed 4 December 2015: https://www.seacology.org/project/242-samoa/
[10] Source: http://www.spc.int/DigitalLibrary/Doc/FAME/Reports/Tiitii_14_Samoa_Socioeconomic.pdf
[11] SAA (October 2013) Samoan Aviation Investment Project, final report, accessed 4 December 2015: http://samoaairports.ws/wp-content/uploads/2014/12/Govt-of-Samoa-Final-Report.pdf
[12] See story http://www.stuff.co.nz/travel/travel-troubles/7504220/Armed-stand-off-in-Samoa-affects-tourists and http://www.savalinews.com/2012/08/19/editorial-development-key-word-at-satapuala/

E. Audit Findings

The audit assessed whether the existing project facility was designed, constructed, operated, and maintained in accordance and in full compliance with ADB's SPS 2009 and relevant national laws and regulations of Samoa. Where non-compliance was identified, a Corrective Action Plan (CAP) has been prepared. The audit report is presented in **Annex 2** of this report.

V. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATING MEASURES

This section provides an overview of the likely environmental and social impacts of the project, which are site-specific, temporary and manageable with the application of mitigation measures listed in the Environmental and Social Management Plan (ESMP).

A. Construction Phase

The construction phase will have site-specific impacts since the project site has already been cleared and levelled off during the construction of the existing Project. The remaining activities include installation of the solar panels, water tanks and construction of the office building. All cut trees were utilized as timber by the village under an informal agreement.

The site is designed with a wide embankment on the southern boundary to protect the solar array from high winds and natural hazards, requiring backfilling. A trench (<1m deep) from the substation (centre of site) to the electricity pole at the front gate was dug to connect the solar-generated power to the existing EPC power supply. Power lines were encased in thick orange PVC piping to protect them from any damage and as a safety measure. A local contractor, TransWorks Ltd, was hired to complete site clearing and backfilling, resulting in temporary environmental impacts of noise from heavy vehicles and dust from earthworks, as well as loss of natural buffer from winds and minor impacts to visual amenity. There was a small, temporary increase in heavy traffic in the local vicinity to complete these works which is considered to have localized impact. A brick wall approximately two (2) m high was erected on the eastern boundary adjacent to Samoa Solar's project to protect the solar array from high winds. Fences have been erected around the parameter for security and occupational health and safety purposes.

Electrical works do not have any negative environmental impact and only trained, qualified professionals install electricity equipment. All equipment safety checks and sign off was completed by a qualified electrician.

B. Operations Phase

The solar plant partially started operations in April 2015 and expected to operate until April 2036. The operation of the solar power project does not have adverse environmental impacts or emissions, but rather will reduce consumption of large quantities of diesel fuel. The substation is located in the centre of the project site and has minimal noise and air pollution impacts. All solar panels are designed with anti-glare to reduce impact to incoming aircraft and informal consultation with SAA revealed there has been no issue for pilots regarding the solar projects to date[13].

In order to maximize solar efficiency, the panels must be free of dirt particles and cleaned regularly. Panels required more cleaning in the dry season than the wet season to remove dust and suspended non-toxic particles. Approximately 200 liters of water per row, is typically consumed for cleaning purposes. More frequent cleaning was also required during construction of the plant next door, as earthworks there generated significant dust. Rainwater tanks will be installed to reduce the burden of water consumption for cleaning from the local area during the dry season. Grass has been planted between lines to reduce dust and enhance absorption of water from rainfall and cleaning and remains visually appealing from the Main West Coast Road and Satapuala Village.

[13] This is reported by the E&S consultant during her meeting with SAA at the time of due diligence for Phase 2 of the solar project.

Small drainage has been installed to direct surface runoff into swales between the project site and runway, where large drainage culverts on SAA land are located and five outfall pipes at the airport discharge to the sea. It is not anticipated that surface runoff from the project site will cause any impact such as siltation or pollution in sensitive environment areas as adequate erosion and dust control measures are already in place, and the use of harmful or toxic substances is very limited and these are securely stored.

The operations phase is unlikely to generate significant solid waste, however this will require some storage of hazardous substances or chemicals such as oils, batteries and fuel for lawnmowers in accordance with national regulations. All staff have been trained in the handling and storage of these substances, they are stored in a locked shipping container and the site is monitored by a security guard.

The operations phase of the project created six local jobs. SPEL supports Satapuala community through the village development fund and employment opportunities. Overall the Project will reduce carbon and greenhouse gas emissions through reducing diesel consumption for electricity production through renewable energy generation, and improve availability of electricity in the local area.

Harelec/SPEL has_a Risk Management Plan (RMP) which will be implemented in the Project to avoid accident, injury, chemical exposure and accidents with hazardous materials. Protective equipment for sun exposure was provided to all staff onsite.

The project's exposure to climate risks will likely cause damage and lengthy outages. Irrespective of the design quality of the solar facility, loss of grid lines will cause loss of export revenue. The solar panels wirings and sensitive electrical components should be enclosed in a water-tight casing and located at an elevation considering potential flood levels during tropical cyclones.

C. Decommissioning Phase

The project has a lifespan of 20 years based on the timeframe of the land lease agreement and durability of solar panels and equipment installed. Although there is potential for the life of the project to be extended, it is anticipated that solar panels and associated equipment will need to be disposed of either on decommissioning of the project or when damaged equipment cannot be repaired. SPEL will seek advice from MNRE's Waste Management Division and export wastes where necessary and practical.

A Decommissioning and Recycling Plan will be prepared to outline the procedures for handling and disposing of all materials and equipment at the conclusion of the Power Purchase Agreement. The importation of foreign products was minimized to reduce risk, and upon decommissioning, products will either be recycled locally or returned to the manufacturer for disposal. For instance, Harelec have an agreement with SMA to receive redundant PI65 rated inverters at the end of cycle life (25 years). The Plan will comply with Samoa regulations including development consent conditions and advice of MNRE's Waste Management Division. It is the company's intention to restore the site to pre-project state upon decommissioning of the project.

D. Social impacts (Involuntary Resettlement and Indigenous Peoples)

The Project will require 4.645 ha of land within the boundary of the Faleolo Airport Authority government land. The land was leased by SAA to EPC for the development of solar power projects. There are no communities, ethnic groups or indigenous people residing in the project area as it is government land that was acquired in 1942 to build Faleolo International Airport, and as such there is no physical or economic displacement. No additional land was acquired for the transmission line as well since the main grid is located immediately outside the solar farm area. The Project is classified Category C under ADB's Safeguard Policy Statement both for involuntary resettlement and indigenous peoples.

E. Cumulative impacts

As at December 2015, there are four other infrastructure and energy sector projects in the vicinity of SAA boundary and project site. These include (i) expansion of the terminal building and runaway for Faleolo International Airport, (ii) partial upgrade to West Coast Road including improved drainage and road safety measures, and (iii) two solar projects of similar scale adjacent to the project site (GreenPower and Solar Samoa also facilitated by EPC). There is no anticipated significant cumulative environmental impacts from these projects, particularly since construction activities are not scheduled concurrently. The project site is at risk of stormwater runoff from neighbouring solar projects but this is expected to be at irregular intervals in the wet season with limited impact given the durability and design of the infrastructure.

VI. STAKEHOLDER CONSULTATION AND INFORMATION DISCLOSURE

During project preparation, a public notification of 28 days for the EIA was advertised in the local media as required by the EIA Regulations and MNRE's Code of Environmental Practice 3 Consultation. PUMA's Notice of Decision (NOD) to approve the project was publicly disclosed on 22 and 27 August 2014 in local newspaper and bulletins in accordance with national procedures.

During the construction phase, consultation with neighbouring residents and village was undertaken by the Managing Director in collaboration with EPC. This included local leaders and a Women's Council representative participated in and acted as translator during community meetings. Some recommendations from these consultations (such as visual barrier between the solar array and village to reduce visual amenity impacts) were raised to the company. A representative from the Women's Council is used as a translator in most meetings, and this involvement will continue in the future. During operations phase, consultation with nearby residents is ongoing. Future consultations will be documented and a site notice informing the public about the project will be erected on the fence.

VII. GRIEVANCE REDRESS MECHANISM

In Samoa, the Ministry of Women, Community and Social Development (MWCSD) are responsible for facilitating discussions between government entity's, project proponents and communities and stakeholders that may be impacted by a project. Government-lead projects engage MWCSD to arrange meetings with village leaders, matai and other relevant stakeholders at the District and/or village level. MWCSD act as mediators for grievances in some cases, but typically, residents raise issues to their village chief in line with local custom or report project-related issues directly to MNRE PUMA for attention.

The complaints process for the Project involves persons making a complaint to either the Chief of Satapula village and/or local staff onsite who report this to Site Manager in Upolu. In addition, the Chief of Satapula village, Women's Council representative and local staff all possess the relevant contact numbers for Harelec staff and Site Manager. No complaints have been recorded or made during the construction or even during operations phase of the project. EPC and PUMA also accept complaints regarding electricity supply and non-compliance issues.

VIII. ENVIRONMENTAL MANAGEMENT PLAN

This chapter outlines the environmental and social management plan (ESMP) and the implementation and monitoring arrangements of this plan.

A. Objectives of the ESMP

This ESMP addresses adverse environmental and social impacts of the proposed project through all project stages, and to enhance project benefits.

- Facilitate implementation of mitigation measures
- Define responsibilities of project developer, contractors and agencies
- Outline monitoring indicators to determine effectiveness of mitigation measures
- Provide corrective actions of unanticipated environmental or social impacts and emerging issues.

B. Personnel

The Supervisor is the designated OHS Officer on site. He/she will ensure all personnel and contractors adhere to environmental protection measures and specific mitigation measures outlined in this ESMP. Contractors will be liable under contract agreements to abide by this ESMP.

SPEL will comply with the applicable labour laws, the *Occupational Safety and Health Act 2002*, (administered by MCIL) and ADB's Social Protection Strategy.

C. Mitigation Measures

Potential Impact	Mitigation Measure	Responsibility	Time Frame
Construction Phase			
Air Quality: Dust generation during construction	• Use water sprinklers in dry weather • Cover stockpiles of excavated material and earthworks • Maintain and clear roads of mud and dirt • Routine maintenance of vehicles • Switch off vehicles when not in use • Plant grass on the site and between rows • Avoid disturbance activities on high wind days	Contractor	To be conducted daily during the 6 months period of construction
Noise: Disturbance to nearby residents	• Restrict work to 8am to 6pm Monday to Saturday • Routine maintenance of vehicles, proper mountings and muffling of equipment • Use innovative technologies and switch off equipment when not in use for remaining civil and earth works. • Provide noise protection to workers	Site Manager	To be conducted daily during the 6 months' period of construction
Waste	• Disposal in Tafa'igata Landfill	Contractor	To be conducted periodically depending on the volume of waste generated
Traffic	• Traffic coordination during construction phase with proper signage • Liaise with community and nearby residents on timing of	Site Manager	Recommended to done more frequently depending on the concern of

	construction activities and gather if they have concerns • Use markers and barriers to cover holes, trenches or other temporary hazards onsite		stakeholder/community representative
Occupational Health and Safety	• Supply potable water for construction workforce onsite • Provide portable sanitation facility onsite • Provide first aid supplies on site • Managers have first aid training • All contractors given site induction	Site Manager	To be conducted daily during the 6 months period of construction
Compliance with the national labor law	• SPEL and its contractors and subcontractors to comply with the national labor law	Managing Director/Site Manager	This must be incorporated in the contract with contractors and subcontractors and have to be monitored at least monthly.
Community and Public Health and Safety	• Security fencing to be installed first to restrict access to staff and contractors only • Liaise with community and nearby residents on timing of construction activities • Develop Community Relations Plan and Grievance Redress Mechanism that outlines approach with community and communication channels in places	Managing Director	These should be implemented prior to start of construction of Phase 2.
Operations Phase			
Water: Increased demand for water in local area	• Liaise with Samoa Water Authority, SAA and local community on water sourcing options • Avoid sourcing water from local village water supply • Install rainwater tanks onsite • Apply water efficiency measures	Managing Director	These should be implemented prior to start of operations of Phase 2.
Waste: disposal of hazardous substances	• Cardboard packaging to be recycled or reused • Get permission from MNRE's Waste Management Team of	Site Manager/ Environmental Consultant	Weekly

	materials to be disposed of Tafa'igata. Where these cannot be accepted locally (broken panels), make arrangements for shipment of waste to designated facility in the region and advise PUMA/MNRE. Export waste and equipment that cannot be disposed of locally • Record volume and type of waste generated		
Visual amenity	• Plant and maintain low shrubs along the fence line	Contractor	Bi-monthly
Occupational Health and Safety	• Wear protective clothing and sunscreen • Train staff and contractors on waste handling procedures; all training records and OHS site inspections shall be periodically (e.g. daily) logged and records be kept on site.	Site Manager	Daily
Compliance with labor law	• SPEL and its contractors and subcontractors to comply with the national labor law;	Managing Director/Site Manager	Monthly
Community and Public Health and Safety	• Consultation with local community and nearby residents on any project related issues.	Site Manager	Monthly
Climate risk (e.g. flooding, tropical cyclone)	• Protect the sensitive equipment of the solar panels (e.g. electrical wirings, sensitive electrical components) by encapsulating them in water tight containers and elevating them, considering potential flood levels	Site Manager	These should be implemented prior to start of construction of Phase 2.
Decommissioning Phase			
Waste: disposal of hazardous substances	• Develop Decommissioning and Recycling Plan	Managing Director/ Environmental Consultant	At most one year before PPA ends

D. Monitoring and Reporting

The supervision, monitoring and reporting of activities being implemented will be reported on to management team at regular intervals.

Environmental Component	Project Stage	Parameters/Standards	Frequency	Location	Responsibility
Noise	Construction	Noise levels in dB(A) based on IFC EHS General Guidelines	Monthly	1. Project site 2. Front Main road	SPEL
Solid Wastes	Construction And Operations	Volume and type	Weekly	Project site	SPEL
Hazardous Wastes	Construction And Operations	Volume and type	Weekly	Project site	SPEL
Occupational Health and Safety	Construction And Operations	OHS Performance based on Harelec Work Health Safety Management Plan	Monthly	Project site	SPEL

IX. CONCLUSION

The project site is not located in a sensitive ecosystem, and has no historical and cultural value. The nature of the solar power project and its scale ensures that the Project will not cause any significant, adverse environmental and social impacts during construction, operation and decommissioning. Only minor and temporary environmental disturbances would be experienced at the project site during construction and operation, and they will be minimized through implementation of the EMP. SPEL and Harelec are fully committed to its environmental and social responsibilities, which include compliance with Samoan national environmental, health and safety regulations and ADB SPS requirements.

ANNEXES

ANNEX 1 – TECHNICAL SPECIFICATIONS USED FOR THE SOLAR PANELS

STANDARDS USED

A. Wind

Australian New Zealand Standard ™ AS/NZS 1170.2:2011 – Structural Design Actions – Part 2: Wind Actions, international standard ISO 4354: Wind Actions on Structures, and AS 4040.3 – Resistance to wind pressures for cyclone regions provided informative and normative reference to calculate wind gusts of up to 80 metres per second (m/s) would impact the proposed 2.4 megawatt (MW) solar array structure at the Samoa Airport site, with north facing gentle slopes and no shielding afforded by the southern mountain ranges.

Solar path design close to the equator negated seasonal impact and with a projected daily yield of 10 megawatts possible with fixed angle, multiple row panel designs at an angle of 15 degrees. Computer space frame analysis software identified significant localised negative wind pressures impacts the exposed edges of the low pitched structures intended for the site.

B. Structure

Relying on ISO 2394 – General principles on reliability for structures and AS 1170.0:2006 – Structural Design Actions – Part 0: General Principles and AS 1170.1:2006 – Part 1: Imposed Actions, a series of posts supports, horizontal front and rear pipe supports, rod tie down and aluminum extruded rails were designed to withstand the imposed actions for the site.

C. Product Delivery and Service

The challenge was the ability to deliver, construct and maintain a remotely located renewable energy project. Detailed documentation and coordination of skilled-based industries was identified as the key to successfully overcoming these obstacles. A more efficient, less labour intensive system would ensure less downtime in required maintenance and minimise waste on site while providing a high performance, durable structure able to resist fatigue, corrosion, varying ground conditions and erosion. Sovereign, environmental and statutory requirements of Samoa were also paramount in development with every component subjected to rigorous review to ensure delivery of the solar project.

X. STRUCTURAL MODEL

A. Concept

A free standing mono sloped free roof concept maximised available space ratio on the contours of the site. The system needed to be simple to set out over the terrain, sized to suit shipping transport regulations on length and weight, and modular to reduce onsite labour cost. This concept enabled the breakdown of the total required 7800 panels into 25kW sub arrays consisting of 88 x 305 watt landscaped panels in 4 rows. The spacing for shade was set at 23 degrees to ensure maximum density whilst ensuring future access for maintenance.

B. Ground Support

Geotechnical investigations identified high strength volcanic rock shallow beneath the silty gravel soils of Samoa. High wind speeds required reliability of performance and efficiency in installation. These key criteria meant that galvanised steel screw piles were adopted based on smaller machinery requirements and greater control of installation into the ground.

Welded fabrication of the top plates before galvanising served both as screw drive connection to required resistance, and permanent support for the panel framework. This significantly reduced cost whilst ensuring every pile achieved design requirements.

C. Primary Rail Support

The varying levels of terrain required a uniaxial support system that could also accommodate the temperature induced expansion and contraction associated with spanning 135m across the site. Telescopic sleeve and circular hollow steel pipe provided the most effective method of transferring load without loss of strength. It also enabled a generic U-bolt for all connections irrespective of the tolerance.

D. Panel Rails

Light, high strength and fatigue resistant aluminium graded 6061 was the material best to fabricate the 4000 panel support rails. Large quantities of extrusion could be shipped in containers with pre-drilled holes to support stainless steel wedges that mitigated potential electrolysis between the aluminum and the galvanised steel rail. The extrusion mould was modified to accommodate support of threaded block inserts required to locate and tie down the panel support clips above.

E. Solar Panels

The high wind speeds required a panel that served both as solar collector and as a durable and strong frame. A specific design life and warranty also needed to address the increased load and higher performance requirements of the site. A 305 watt panel was chosen to maximise yield whilst minimising required material cost with its frame and glass infill increased in depth to meet serviceability criteria. The expansion will use six thousand 360 watt panels to further improve energy yield.

ANNEX 2 – ENVIRONMENTAL AND SOCIAL AUDIT AND CORRECTIVE ACTION PLAN

I. Introduction

A safeguards compliance audit was carried out to determine whether SPEL's Project is compliant with the Government of Samoa's laws and regulatory requirements, as well as ADB's Safeguard Requirements (SR). The process and tasks undertaken by SPEL has been reviewed against the policy principles and provisions of ADB SPS requirements. A site visit to Upolu took place from 3 to 5 December 2015 for ground-truthing (**Attachment 1**). A desktop review of Harelec and SPEL's management systems and documentation was undertaken for evaluation purposes (**Attachment 2**).

The audit report documents environmental, safety and social considerations including public consultation and land acquisition to identify past and present concerns related to the SPS for the Project. The Company, Harelec, has an existing management system and processes for Australian-based operations. The review considered:

- Whether the Company's management system covers environment, indigenous peoples/ethnic minorities and involuntary resettlement among other social issues (gender, labor, social protection) and is consistent with ADB's SPS and other social policies such as the Social Protection Strategy (2001), Gender and Development Policy (1998), and the Public Communications Policy (2011));
- Whether the Company is effectively implementing the management system and whether its subsidiaries are aware of the management system;
- How the Company conducts environmental and social assessment of its projects;
- How sites for project facilities are identified and selected;
- How land is acquired and compensated (if any) and whether there are provisions in the management system to cover land acquisition and resettlement; and
- The extent of local engagement with communities and compliance with internationally recognized labour standards.

I. Compliance with Applicable National Laws and Regulations

A. Samoan National Laws and Regulations

Sun Pacific Energy Limited (SPEL, a subsidiary of Jarcon Pty Ltd) is the developer of Faleolo Solar Power Project in Upolu, Samoa. SPEL was incorporated in Samoa in 2014 with the purpose of implementing and expanding renewable energy systems across selected countries in the Pacific region. SPEL was registered with the Ministry of Commerce, Industry and Labour (MCIL). Harelec staff identified this subproject opportunity through a bid that was released by EPC. SPEL operate under Samoan legislation and regulations. This section provides a brief overview of the key legislative instruments for environmental and social management of projects in Samoa.

- **Environment.** National legislation on ESIA in Samoa is regulated through the Ministry of Natural Resource and Environment's (MNRE) Planning and Urban Management Agency (PUMA). PUMA administers the *EIA Regulations 2007* under the *Planning and Urban Management Act 2004* (PUM Act 2004). The PUM Act provides the legal basis for development consents (DC) for new development. The EIA Regulations set out what level of ESIA is required, consultation and the review and approval process. Under the EIA Regulations, any project that triggers the qualifying criteria require an ESIA. The qualifying criteria relate to potential negative impacts on people, property, places, habitats etc. From this basis it is determined whether a Preliminary Environmental Assessment Report (PEAR) or Comprehensive Environmental Assessment Report (CEAR) is required. Due to the small-scale and low risk nature of the Project, a PEAR was required. PUMA

issues a Notice of Decision (NOD) to project proponents if the project is approved or approved with conditions.

- In 2007, PUMA developed a Code of Environmental Practice (COEP) for Samoa, which presents methods and procedures to be followed by project developers and contractors in order to avoid or mitigate adverse environmental impacts.
- **Lease of Government Land**. The Lands, Survey and Environment Act 1989 (LSE Act) provides a process for the alienation of Government land, land administration and other matters such as environmental protection, conservation and coastal zones. Under Section 37, the Minister may approve purchase of land for public purpose or lease of government land for up to 20 years. Government land is a subclass of public land that is not set aside for any public purpose and includes land that has become the property of the Government as ownerless property. There are a variety of controls under this Act on both leases and sales of Government land. Leases have to be in the approved form and subject to the covenants and conditions imposed by the Land Board not exceeding 20 years. Under Section 49, all conditions of the lease shall be in accordance with the plan approved under the PUM Act 2004. Further, if the lease fails to sign within one month from written notice, the Board may cancel the proposed lease and deposit forfeited.
- **Occupational Health and Safety**. The Occupational Safety and Health Act 2002 and Regulations 2014 provide guidance on the duty of care employers have for employees in the work place. Part 2 of the Regulations cover hazard and risk assessment, Part 3 general workplace, and Part 6 Electrical Work which require any electrical installation to be carried out by a competent person in compliance with the Electricity Act 2010.

Key legislative and policy instruments relevant to environmental and social safeguards in Samoa are outlined in Table 1.

Table 1. Key legislation relevant to safeguards

Legislation or Policy	Key Requirements	Remarks	Status (as of May 2016)
Environment			
Planning and Urban Management Act (PUMA) 2004; Planning and Urban Management (Environment Impact Assessment) Regulations 2007	All developments need to obtain Development Consent (DC) and ensure compliance with conditions given by MNRE PUMA	Development Consent provided by MNRE PUMA for earthworks, fencing, and solar installation (**Attachment 3***).*	Aug 2014 – PEAR submitted to PUMA Oct 2014 – PUMA approved DC. Dec 2014 - PUMA approved amendment to Lot Plan.
Codes of Environmental Practice 2007 (COEPs)	COEPs came into effect in 2007 and are a legal requirement under PUM Act 2004 (s46(e) and 9(b)(iv)). Relevant COEPs for the Project include: COEP 3 Consultation and COEP 13 Earthworks. An Environmental Management Plan (EMP) and Earthworks Plan are required with DC application.	COEP 13 - EMP did not contain any earthworks mitigation actions. COEP 3 - SPEL conducted consultation with adjacent properties (but these meetings were not recorded).	n/a
National Noise Policy 2011	All construction noise must be within the average of 75	PEAR (for 2.2.MW) EMP detailed noise mitigation	Applied during construction phase

Legislation or Policy	Key Requirements	Remarks	Status (as of May 2016)
	Decibels (dB) from 7am to 6pm and 60dB from 6pm to 10pm	actions to daylight hours. Since the project site is adjacent to the airport, high levels of noise impacts are prevalent and the project did not generate any additional significant noise impacts.	of the existing facility.
Building Code Act 2002	All buildings in Samoa must adhere with all the statutory conditions under the Code and a building permit is required from Ministry of Works, Transport and Infrastructure for permanent buildings	The substation shed is the only building onsite.	No building permit received as the substation is a temporary structure.
Waste Management Act 2010	Regulations for waste management operators	Tafa'igata Landfill is the closest registered landfill to the project site	A waste permit is not required
Water Resources Management Act 2008	Part V regulates the taking of water. The Act states one shall not deprive a village or community relying on that source (s12(3)(d)) or for a source in the vicinity of a village, be in accordance with an approval given by the relevant village fono for the drilling or water taking activities to be undertaken (s12(3)(e))	SPEL is currently sourcing out its operational water requirement from the village.	A water permit is not required. Rainwater tanks will be installed onsite to reduce demand on local water supply for cleaning by May 2016
Marine Pollution Prevention Act 2008	Section ((5)2a) covers runoff from terrestrial areas	Drainage has been installed to manage storm-water runoff	Minimal impacts to coastal areas are anticipated.
Land Lease			
Lands, Survey and Environment Act 1989	Part V for leases provides a process for the alienation of Government land	EPC have draft agreement currently in negotiation with SAA. SPEL do not have an MOU or similar with EPC on subleasing land.	13 Aug 2014 - SAA letter to EPC, agree to lease 10 acres of airport land to Harelec. 24 Oct 2015 – EPC have draft land lease agreement under negotiation with SAA. Land lease agreement between SAA and EPC, and EPC and SPEL not finalized.
Land Registration Titles Act 2008 (LTRA)	Part 8, Division Two (s41) regulates the property title registration system and rules for	An approved form must be used for drafting	The lease agreement has been drafted.

Legislation or Policy	Key Requirements	Remarks	Status (as of May 2016)
	land transactions including approved forms for leases and subleases	lease and sublease agreement.	
Other Relevant Legislation			
Companies Amendment Act 2006	Register the company with the Commercial Registry; obtain a certificate of incorporation; Business License and Register for VAGST and PAYE with the Ministry of Revenue, Inland Revenue Services; Register with the National Provident Fund (superannuation); Foreign Investment Certificate; and Register with the Accident Compensation Board.	SPEL has completed all necessary business registrations	July 2014 - Jarcon Ltd completed registration of the company Sun Pacific Energy Ltd (SPEL). 2016 – Business Licence, certificate of incorporation. July 2014 – Foreign Investment Certificate
Electricity Act 2010	Company is required to register as a Power Generator with Office of Regulator, and receive connection approval from EPC.	Power Purchasing Agreement (PPA) was signed between SPEL and EPC. All electrical work was carried out and supervised by qualified professionals.	June 2015 – registered as a Power Generator Oct 2014 – received connection approval
Occupational, Health and Safety Act 2002 and Regulations 2014	Part 2 of the Regulations cover hazard and risk assessment, Part 3 general workplace, and Part 6 Electrical Work which require any electrical installation to be carried out by a competent person in compliance with the *Electricity Act 2010*.	Risk assessment and Risk Management Plan was completed for the project.	2015 – electrical installation by qualified electrician.
Samoa Antiquities Ordinance 1954	Protects cultural heritage by restricting export of historic or cultural artifacts.	Not relevant to project as no cultural heritage is impacted by the project or being exported.	n/a

Table 2. Compliance on the Development Consent Conditions

General Conditions	Compliance
1. The proposed activity shall be carried out in accordance with the plans and all information submitted as part of the application DCA 386/14, being: a) Report titled "*Sun Pacific Energy Ltd Solar Power Project Faleolo Airport Site Preliminary Environmental Assessment Report*", prepared by Kramer Ausenco and submitted 28 August 2014.	n/a
2. Any other development works not included in this development consent application (including the construction of a building or any other structure) requires a separate development consent application.	In compliance - no work outside the disclosed project scope has been completed. The land allocation was changed by SAA and DCA subsequently amended with PUMA's approval (23 October 2014).
3. The consent holder shall notify any person(s) that is likely to be affected prior to the commencement of works.	Partial compliance - Neighbours consulted but no records available.
4. The consent holder shall ensure that the operation of the proposed development does not adversely impact on airport operations specifically plane operations.	In compliance - SAA confirmed in writing there are no impacts to aviation including glare for pilots.
5. The consent holder shall ensure that the panels should be sited, so far as practicable, to minimize the effect on the appearance of the building.	In compliance - the visual amenity impacts have been minimized by siting panels low to the ground and providing an earth mound on the southern side. The only building is a substation shed.
6. The consent holder shall ensure that panels should not be installed above the ridgeline.	In compliance - panels are sited low to the ground.
7. No sign, advertisement or object, not required for the functioning of the panel shall be attached to or exhibited on the panels.	In compliance.
8. The consent holder shall ensure that the proposed activities comply with requirements of the Office of the Regulator.	In compliance – Officer of the Regulator has issues authorization letter.
9. The use and development shall be managed so that the amenity of the area is not compromised, by excessive noise, excessive dust, visually offensive signs, poor airspace, small, fumes and waste materials.	In compliance.
10. The consent holder shall implement all practical measures to prevent and/or minimize any harm to the environment that may result from construction and/or operation of the project.	In compliance.
11. The consent holder shall ensure that all works during the operation must be carried out in accordance with *the Occupational Safety and Health Act 2002*.	The Risk Management Plan and Work Health Safety Management Plan incorporates WHS management for the construction phase and meets the requirements.
12. The proposed activity shall not have an undue detrimental environmental impact on: (a) environmental quality of the site or land adjoining site; (b) any vegetation on site and significant trees; and (c) likely future development.	In compliance. Site can be restored to original condition at end of project life.
Amenity	**Compliance**

13. The consent holder shall be responsible for environmental impacts resulting from actions of all persons on-site, including contractors, subcontractors and visitors.	In compliance. Contractors complied with EMP
14. The consent holder shall ensure that noise shall be minimized as far as practicable during works on site and must be in accordance with the Agency's Noise Policy 2011. Noise levels shall not exceed stipulated limits.	In compliance – noisy activities occurred within approved hours and were temporary in nature.
Construction	**Compliance**
15. The construction site shall be enclosed and a site notice erected at the boundaries of the work site for the purpose of informing the public of project details and safety.	Undetermined. No available. documentation to verify.
16. The consent holder shall ensure that construction machinery is fitted with approved noise suppression equipment and maintained regularly and operators to be provided with ear protection gear.	Undetermined. No available. documentation to verify.
17. No waste shall be disposed of on-site, with all waste disposed of at the Tafa'igata Landfill.	In compliance – all packaging material was disposed of at the Tafa'igata Landfill.
18. All construction works shall be restricted to the hours of 8am to 6pm Monday to Saturday. No work shall be undertaken on Sundays and public holidays. This is to ensure that the amenity of the area is maintained for nearby lands, unless otherwise approved by the Board.	In compliance – construction activities occurred within approved hours.
Reporting	**Compliance**
19. The Board may require update report(s) on compliance with all, or any part, of the Conditions of Approval. The report(s) shall meet the requirement of the Board and be submitted within such a period as the Board may require.	n/a
Rehabilitation	**Compliance**
20. Any temporary signs used during construction activities are to be removed when the work has been completed.	In compliance – no signage onsite.

B. Compliance with ADB SPS Requirements

1. SR1 Environmental and Social Impact Assessment

Environmental Performance

In Samoa, a Preliminary Environment Assessment Report (PEAR) and EMP was required by the national government. This was undertaken in August 2014 and contracted to Samoan environmental specialist consultant. The consultant was responsible for drafting the PEAR and seeking development approval for the project from PUMA.

The Project complied with national regulatory requirements and development consent was given by PUMA with conditions. The majority of the conditions required by PUMA for development approval were met by the company, including meeting the requirements of the Office of the Regulator in order to received authorization to generate electricity in Samoa

Although the project site was a previously disturbed setting and the scale of development is relatively small, the PEAR does not meet the minimum requirements for IEE under SR1 as required by the ADB. There was no baseline data (ecology, water quality, noise levels, social analysis, consultation summary, grievance mechanism, consideration of waste disposal or impacts over the life of the project, nor was the document publically available.

The PEAR identified there will be minimal negative environmental effects, renewable energy source will reduce consumption of diesel for energy generation, and all waste will be disposed of in designated landfill. The EMP outlined mitigation actions for dealing with (i) air quality, (ii) noise, (iii) water quality, (iv) land, (v) traffic, and (iv) health and safety. *The EMP did not outline a monitoring schedule or responsibilities for environmental monitoring activities. The PEAR and EMP provided for the project do not meet ADB SPS requirements as there was no comprehensive analysis of the existing environment, potential risks and appropriate mitigation measures for identified risks*.

Health and Safety Performance.

The company's Work Health and Safety Policy and Work Health Safety Management Plan (WHSMP) were updated in November 2015 (**Attachment 4**). The policy demonstrates Harelec's commitment to provide a safe and healthy work environment for workers, contractors and relevant workers of contractors, clients and visitors to site, as well as nearby communities. The policy contains consultation and communication arrangements, risk assessment and management, training and induction, emergency procedures, electrical safety, protective equipment[14], among others. Harelec also maintain an Electrical Equipment Policy that stipulates that all electrical wiring, portable tools and extension leads meet the New South Wales Code of Practice 'Electrical Practices for Construction Work' and the provisions of Australian Standard AS-3000 Wiring Rules. All electrical equipment is registered, tested and given a safety tag by qualified professional before being brought on site.

Harelec is currently undergoing Building and Construction Accreditation with the Australian Government's Office of the Federal Safety Commissioner (OFSC)[15]. This requires a high standard of work health and safety (WHS) measures in compliance with the Australian Government's *Work Health and Safety Act 2001* and the *Fair Work Building Industry Act 2012*. Harelec plan to achieve accreditation in March 2016 and have updated their management system and policies to reflect these new standards. As part of the new management system, WHS and environmental incidents are reported on an Incident Report Form available to all staff at all sites. To date, no projects undertaken by Harelec or SPEL have incurred lost time injuries, WHS Incidents or environmental incidents. *The audit finds a comprehensive list of policies and procedures have been developed to necessary standard, however many of which have not been adapted to the Samoan operations, contractors or workforce to date, and therefore, only partially meet ADB safeguards. The existing policy and procedure does not explicitly mention commitment to avoid forced labour and child labour in business operations*.

2. SR2: Land Acquisition and Resettlement

Liaison with government on land requirements for the project is the responsibility of the Managing Director. EPC deals with land arrangements on behalf of investors in Samoa. The land has been cleared by SAA in relation to the decision to provide land to EPC for solar projects. A lease agreement has been signed between the SAA and EPC for twenty-five years. However, the finalization and execution of the sub- lease agreement between EPC and SPEL is still underway.

The Land Registration Titles Act 2008 (LTRA) and Lands, Survey and Environment Act 1989 (LSE) apply for the lease of government land. A maximum term of twenty years applies to all leases and an approved form for leases and subleases must be used.

[14] Including compliance with AS/NZS 1337 - 1992: Eye protectors for industrial applications and AS/NZS 1067 – 2003: Sunglasses and Fashion

[15] http://www.fsc.gov.au/sites/fsc/needaccredited/accreditationscheme/pages/theaccreditationscheme

The project site is a commercial site (i.e. non-residential) on pre-disturbed land, and the proposed farm expansion will not lead to physical or economic displacement of individual or households. ADB SPS Safeguards Requirement 2 on Involuntary Resettlement is Category C for this Project.

3. SR3: Identifying and Managing Impacts on Indigenous / Vulnerable Persons

Ethnic Samoans have a collective attachment to land and customary rights over land and natural resources, as well as customary socio-cultural institutions at the village level. Despite modern influences Samoans live by "*Fa'asamoa*" (the Samoan way), which influences customs, social standing and cohesion, language, dress, food and property.

However, Samoans do not meet ADB's four qualifying criteria of Indigenous People, or being a distinct, vulnerable, social and cultural group. The local people at project sites are part of the mainstream Samoan population, do not have a distinct language or self-identification of a distinct indigenous group and not identified as vulnerable. No IPs or IP community will be impacted by the proposed project. ADB SPS Safeguards Requirement 3 on Indigenous Peoples is considered to be Category C for this Project.

4. Stakeholder Engagement and Information Disclosure

In Samoa, the guidelines for consultation are the Code of Environmental Practice 3 Consultation (2007). Consultation during the EIA process is a national requirement under the EIA Regulations. Consultation is a two-way process that must include affected and interested persons as early as possible in the process. Formal consultation with nearby residents is not compulsory under national law but is recommended by the environmental authority

Community engagement activities are the responsibility of the Managing Director and Samoa Project Supervisor. The company has a Consultation, Cooperation and Coordination Policy to ensure workers, contractors and others understand WHS requirements, but there is no disclosure policy regarding communications with external stakeholders or the public.

5. Monitoring and reporting on implementation

The company possesses Internal/External Audit Procedures that deals with auditing of projects, but not specifically for environmental and social aspects. Harelec/SPEL does not have a mechanism or formal internal monitoring procedure for assessing effectiveness of mitigation measures, corrective actions, or capturing lessons learned on environmental and social aspects or enhancement.

6. Grievance Redress

In Samoa, the Ministry of Women, Community and Social Development (MWCSD) are responsible for facilitating discussions between government entity's, project proponents and communities and stakeholders that may be impacted by a project. Government-lead projects engage MWCSD to arrange meetings with village leaders, matai and other relevant stakeholders at the District and/or village level. This is the common approach for government-funded projects, but is less common for proponents of private projects. MWCSD act as mediators for grievances in some cases, but typically, residents raise issues to their village chief in line with local custom or report project-related issues directly to MNRE PUMA for attention. There is no centralized reporting structure for grievances and complaints are addressed directly by government staff (e.g. EPC, MNRE, MWCSD).

Harelec/SPEL does not have a formal mechanism for grievance redress with communities, since the majority of their clients are for local government, business or private dwellings, and any complaints would be resolved

between the customer and the company directly on an as-needs basis. The company holds a Workplace Bullying Policy that deals with internal complaint procedures, but not external, non-staff complaints.

II. Corrective Actions

A. Environmental Safeguards

The PEAR must be updated into ADB's Initial Environmental Examination (IEE) format to include a detailed project description, list of *all* potential risks and impacts generated as a result of the project, and an expanded EMP with adequate mitigation measures to address identified impacts at all project phases.

- Rainwater tanks should be installed onsite immediately to ensure adequate water capacity for cleaning during dry season of the existing facility. Water Resource Analysis will be conducted for the expansion of the project to ensure that the project's operation is not in competition with the requirement of the communities.
- Climate Risk Analysis will be conducted to ensure that the operations of the project will not be affected in cases of flood and drought, considering the projected climate impacts within the Pacific region and the proximity to the hazard zone.
- A Decommissioning and Recycling Plan (DRP) must be prepared with procedures for handling and disposing of all broken solar panels during operations and materials and equipment at the conclusion of the Power Purchase Agreement. The plan must clarify whether products and equipment will either be recycled locally or returned to the manufacturer for disposal.

B. Land Lease

Land lease agreement between the SAA and the EPC has been finalized and executed last 23 November 2016. The only remaining outstanding document that needs to be finalized immediately is the Sub-lease agreement between the EPC and SPEL. The EPC and SPEL is working on the finalization and execution of the draft document.

C. WHS and Labour Standards

The process undertaken by Harelec for achieving Building and Construction Accreditation should consider alignment with the World Bank's Environmental, Health and Safety (EHS) Guidelines, ILO's core Labour Standards and IFC Performance Standard 2 and relevant to developing country context, prior to completion in March 2016. Contracts between Harelec/SPEL and subsidiaries should specify the Codes of Practice, standards and management policies and plans they are to comply with for the duration of the contract.

D. Communications and Community Relations

It is recommended for the company to either (i) expand the current Consultation, Cooperation and Coordination Policy to capture external stakeholders, or (ii) develop a brief Community Relations (External Stakeholders) Policy or Communications Strategy that provides guidance on community interface and corporate social responsibility. Future consultations should be documented and continue to be delivered with the assistance of a Samoan translator to ensure compliance with ADB's Communications Policy (2011) including a formal complaints management procedure and information disclosure requirements, as well as the provisions in COEP3. It is recommended that the grievance process be formalized with a one-page briefing note included in the Samoa Project Manual and distributed to local communities.

III. Estimated Budget for Corrective Action Plan

Task	Resources	Cost (USD)	Date
1. Finalize and execute sub-lease agreement between EPC and SPEL	Lawyer	Application Fee Monthly rental	February 2016 *Status as of May 2017*: As of November 23, 2016, the Lease Agreement between SAA and EPC has been finalized and executed. (**Attachment 5**)
2. Install rainwater tanks onsite	Rainwater tanks	$300	February 2016 *Status as of May 2017:* Temporary tanks have been installed and the two 10,000L construction are ongoing and targeted to be completed towards end of December 2017.
3. Update PEAR into IEE format	Environmental Consultant (2 days), Samoa	$500	March 2016 *Status as of May 2017*: As of September 16, 2016, the PEAR for the solar plant expansion (1.8MW) was already submitted by the MNRE. Development Consent for the expansion has been issued last 29 November 2016. (**Attachment 6**)
4. Prepare a Decommissioning and Recycling Plan for Faleolo Project	Environmental Consultant (2 days), Samoa	$500	*Status as of May 2017*: To start, at most a year before the end of the PPA
5. Develop Community Relations Policy (or similar), record consultation activities and formalise GRM	n/a	-	March 2016 *Status as of May 2017*: SPEL to engage a consultant to develop Community Relations Policy by September 2017 including policies and procedures on documentation of consultation activities and formalization and operationalization of GRM.
6. Induct all staff including Samoan contractors on new WHS policies and procedures	Training (0.5 day)	"	April 2016 *Status as of May 2017*: Target schedule is for this activity to be completed by end of December 2017 or induction to start as soon as funding has been made available to SPEL.

ATTACHMENTS

ATTACHMENT 1

List of Persons Met

The table below outlines persons who were interviewed during the field visit (2-4 December 2015) and subsequently for the purpose of the audit report.

Date	*Name*	*Role*	*Details*
2-4 Dec 2015	Mr Jamie Harrison	Managing Director, Harelec Australia	Samoa project operations and management Site visit to Faleolo solar plant
3 Dec 2015	Ms Ferila Brown	Principal Sustainable Development Officer, PUMA, MNRE	Development consent records and conditions
3 Dec 2015	Mr Fonoti	EPC	Renewable energy in Samoa Capacity of solar power project Status of land lease agreement with SAA
16 Dec 2015	Mrs Tanya Harrison	Administrator and Technical Support, Harelec, Australia	Update on policies and procedures Status of permitting

ATTACHMENT 2

List of Documents Reviewed

The following documents were provided and reviewed:

- Company Profile
- Harelec Policy Manual
- Harelec Procedures Manual
- Harelec Services - HR Policy Procedure Manual v.2.1 April 2015 (superseded)
- Harelec Work Health and Safety Management Plan (WHSMP) (November 2015)
- First Aid Course attendee list
- Environmental Management Plan Clarence Valley Council V.2 03072015
- Environmental Management Plan Ballina Shire Council 19092014
- ReneSola PV solar manufacturer brochure
- Sample Certificate of Electrical Compliance
- Sample Installer Declarations
- Samoa Manual including Geotech Reports on Faleolo site testing and technical drawings
- 14290W PEAR 140814 PEAR Faleolo Airport site rev 1
- Development consents from PUMA (NOD_Sun Pacific Energy - Approval Amendment of sites)
- 140813 Letter from SAA re Land Lease 13-08-14
- Deed of lease for Faleolo land (dated 25.09.15)
- Faleolo Project Risk Management Plan
- Various permits and licences

ATTACHMENT 3

Development Consent

I. Evidence of Consent

SPEL submitted a development application including site plan and design drawing plan on 18 August 2014. The PEAR was submitted on 28 August to complete the application. MNRE PUMA handed a Notice of

Decision (NOD) on 22 October 2014, giving their consent for the project to go ahead. Construction commenced in November 2014, after development consent has been received.

Table 1. Development Consent Certification

Government of Samoa

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

Matāgaluega o Puna'oa Faalenatura ma Siosiomaga

Level 3, Tui Atua Tupua Tamasese Efi Building (TATTE), Sogi., P.O Private Bag, Apia, SAMOA
Website: http://www.mnre.gov.ws/

Telephone: (+685) 67200
Fax: (+685) 23176
Email: info@mnre.gov.ws

Please address all correspondence to the Chief Executive Officer, Private Bag, Apia, Samoa.
Faamolemole faatuatusi uma mai fesootaiga uma i le Ofisa Sili

SUSTAINABLE DEVELOPMENT

NOTICE OF DECISION

Application Reference: DCA №: 386/14

DECISION DATE: 22 October 2014

Applicant:	Sun Pacific Energy Ltd
Site Location:	Faleolo, Aana District № III
Proposal:	To install solar panels
Legal Description:	Government Land
Application Received:	18 August 2014
Supporting Documentation:	1. Site Plan, submitted on 18 August 2014 2. Design Drawing Plan, submitted 18 Augsut 2014 3. Preliminary Environmental Assessment Report (PEAR) dated August 2014 and prepared by Kramer Ausenco, submitted 28 August 2014
Other Considerations:	1. The application had been notified in the *Newsline Newspaper* on 22 August 2014 and the *Iniini Samoa Newspaper* on 27 August 2014

ATTACHMENT 4

Work Health and Safety Management Plan

Work Health and Safety

Harelec take the issue of safety extremely seriously. We can promote an excellent work record with no serious injury and no time lost to work caused by any work related incident. The safety culture of Harelec is driven by all staff members and open communication lines and reporting mechanisms ensure that all employees have a suitable platform to ensure that all work practices are undertaken in a safe manner.

Harelec work health and safety culture includes thorough staff induction and training, regular communication between management and staff regarding WHS issues, use of and monitored adherence to a comprehensive list of SWS, WHS management plan developed for each project, job safety analysis, workplace inspection reports and, clearly defined roles and responsibilities.

Risk Management Process

Quality control and risk management are critical aspects of any project undertaken by Harelec and all aspects of Harelec business. While Harelec does not have formal accreditation all quality, OHS and risk management systems, along with our detailed policy and procedures manual adhere to sound principles.

Harelec adopt a proactive project management approach where potential problems are addressed before they occur. All projects have some degree of risk. Projects with a higher level of risk require more rigorous risk management. Although not all risks can be eliminated entirely, most can be anticipated and managed ahead of time. Harelec project management team will adopt the following steps in mitigating risk throughout this project.

1. Identification of potential risks

Harelec project management team will assess risk during the project under two main categories; inherent risk (for example; multiple site project, remote project sites; number of stakeholders, completion timeframes etc.) and specific risk (for example; weather, logistics, local community needs, other potential delays etc.). Harelec project management team would seek to discuss these potential risks with clients and all relevant stakeholders of the project to identify an exhaustive list of project risks.

2. Analyse the risks

Prior to finalising risk management plans Harelec project management team will evaluate each risk for occurrence probability and project impact using a matrix ranking system such as low, low to medium, medium, medium to high, and high. Each risk will then be prioritized and ranked.

3. Create a response plan for each high-level risk

Harelec project management team will first focus on creating a risk response plan for all high-level risks.

4. Evaluate the medium-level risks

All medium-level risks will be evaluated to determine if it should have a risk response plan.

5. Evaluate any low-level risks

Low-level risk items will be evaluated to assess if they are assumed or have the potential to develop into higher risk categories.

6. Create a risk management plan and incorporate in project schedule

Harelec project team will create a detailed risk management plan assigning responsibility within the project schedule this will ensure that the work is actually completed and keeps the schedule the primary focus of all work planning and monitoring.

7. Monitor the current risk plans

Harelec project management team will continually monitor the Risk Management Plan to ensure the risks are managed successfully. New strategies will be implemented if it looks like a risk is not being managed effectively.

8. Look for new risks

Harelec project management team will continually evaluate risks throughout the project. New risks may arise as the project is unfolding and some risks that were not identified up-front may become visible at a later date. It is also possible that previously identified, lower level risks (assumptions) may become medium or high risks at a later time. This ongoing risk evaluation should be performed on a regular basis.

ATTACHMENT 5

Land Lease Agreements

I. Signed Land Lease Agreement between Samoa Airport Authority (SAA) and Electric Power Corporation (EPC)

DEED OF LEASE

This **DEED OF LEASE** made on this 23rd day of November 2016

BETWEEN: **SAMOA AIRPORT AUTHORITY** a Statutory Corporate body of Government established under Section 3 of *Airport Authority Act* 2012 having its registered office at Faleolo (hereinafter called "**the Lessor**") of the one part;

AND: **ELECTRIC POWER CORPORATION** a Statutory Corporate body of Government established under Section 4 of the *Electric Power Corporation Act* 1980 (hereinafter called "**the Lessee**") of the other part.

WHEREAS: the Lessor is the registered proprietor of the land described in the **First Schedule** hereto (hereinafter called "the said land");

WHEREAS: the Lessee has plans to develop solar systems on said land to generate electricity and sell supply to the grid;

WHEREAS: total size of land to be leased by Lessee is 20 acres in accordance with survey plans; legal descriptions LOT 2 & LOT 3 in Plan 11328 as described in the First Schedule.

WHEREAS: the Lessee had signed power purchase agreements with two (2) Independent Power Producers (IPP) to construct, install, and operate separate solar systems that generates electricity and feed into Lessee's electrical grid;

WHEREAS: this Deed of Lease Agreement shall act retrospectively and shall be effective from the Commencement Date in Clause 2.

NOW THIS DEED WITNESSES as follows:

GRANT OF LEASE

1. In consideration of the rent hereby reserved and of the covenants on the part of the Lessee herein contained and implied the Lessor hereby grants to the Lessee and the Lessee accepts to hold an estate in leasehold over the said land exclusive for their own use and benefit and for the purpose as set in the **Second Schedule** hereto.

TERM OF LEASE

2. **SUBJECT** to clause 8.02 and 11 hereof the term of the lease shall be twenty (20) years with a further right of renewal for another twenty years commencing from and inclusive of the **1 May 2015** (hereinafter called the "the commencement date"). Size of land leased is 20 acres.

AMOUNT OF RENT AND PAYMENT

3. **SUBJECT** to clause 5 the rent from the commencement date shall be **$2,500 Samoa Tala** per acre per annum exclusive of VAGST or **$50,000 Samoa Tala** per year for **20 acres.**

4. **THE** said rent (including any reviewed rent) shall be paid quarterly in advance and the first such payment of **$12,500.00** Samoan Tala shall be due and payable on the commencement date and thereafter on the first day of each quarter succeeding year throughout the duration of the term of the lease. Payment will be made within 30 days after receipt by Lessee of Lessor's quarterly invoice. If the Lessee shall fail to pay such rent to the Lessor within 30 days, interest of 0.5% per month on the rents or other sum from the date when it was due to the date on which it is paid.

5. (a) **THE** annual rent for the time being payable hereunder may be reviewed by the Lessor every 5 years. A revised rent shall be agreed on by both Lessor and Lessee.

   (b) **THAT** at any time but in each case being not earlier than three (3) months prior to a date of review the Lessor shall give notice in writing to the Lessee specifying the new annual rental proposed by the Lessor which the Lessor consider is or will be the government current rental to government agencies of the premises as at the date reviewed and specified in the notice.

   (c) **THE** Lessee may, be notice in writing to the Lessor within thirty (30) days after receipt of the Lessor's notice dispute that the proposed new rental is the current market rental of the premises and require that the new rental shall be determined by arbitration.

   (d) **IN** the event of the Lessee failing to give notice to the Lessor in accordance with the provisions of the last sub-clause the Lessee shall be deemed to have accepted the proposed new annual rental specified in the Lessor's notice.

   (e) **THE** new annual rental determined pursuant to the last sub-clause or by way of arbitration as being the current government to government rental of the premises as the case may be shall be the rental by the Lessee as from the date of review specified in the Lessor's notice.

   (f) **IN** no circumstances whatsoever shall the amount of any new annual rental determined as aforesaid be less than the annual rental payable by the Lessee during the period of sixty (60) months immediately prior to the date of review specified in the Lessor's notice.

   (g) **THE** Lessee shall when requested so to do execute the recording of each rent review prepared by the Lessor's solicitor on each occasion when a review of the rent has been effected.

LESSEE'S CONVENANTS

6. **THE** Lessee **COVENANTS** with the Lessor as follows:

To Pay Rents

6.01 To promptly pay rents hereby reserved at the times and in the manner herein before provided to the offices of the Samoa Airport Authority or at such other places as the Lessor may from time to time appoint.

To Pay Rates Charges, etc.

6.02 To promptly pay discharge or fulfill all existing future rate taxes (including VAGST) assessments charges outgoing and duties whatsoever charged or imposed upon the said land by statue or other competent authority.

To Utilize the Land

6.03 To utilize within the first twelve months from the date of signing the lease agreement, the total of the said land with the activity hereinafter described in the second schedule.

To comply with all Airport Regulations

6.04 To be informed and comply with all Airport Regulations related to use of said land and structures intended to be built on said lands.

Not to Use the Land for Unlawful Purposes

6.05 Note to use the land for any purpose other than for the purpose specified under the second schedule hereto (except in pursuance of any approval by the Lessor pursuant to Clause 10 hereof) **AND NOT** to carry on or permit or suffer to be carried on or upon the said land any noxious noise offensive or immoral activity or create or permit or suffer to be created any nuisance thereon or do or permit or suffer to be done any act matter or thing which shall allow or disturb or in any way interfere with the quiet enjoyment or comfort of the tenants or occupiers of adjoining lands **BUT NOTHING** contained in this clause shall prevent the Lessee from carrying on upon the said land in a normal and reasonable manner any activity which the Lessee is by these presents obliged or permitted to carry on or conduct upon the said land.

To Pay Compensation

6.06 To pay or make good to the Lessor, damages arising from the neglect or default of the Lessee.

To Indemnify Lessor

6.07 To keep the Lessor indemnified against all actions proceedings claims and demands in respect of any such injury or damage referred to in the immediately preceding clause or any other loss damage or liability in respect or arising out of the neglect or default of the Lessee.

To Comply with Statutory Requirements

6.08 To comply with the provisions of all statutes regulation by-law present or future affecting the said lands or any activity carried on therein and also in so far as they affect the said lands with the provisions and notices lawfully issued made or given by any authority of competent jurisdiction.

To Permit Lessor to Enter and View

6.09 To Permit the Lessor or its agents at all reasonable times during the continuance of the term of this lease entry on the said land or any part thereof for the purpose of viewing the site and condition thereof.

To Yield up the Land in Good State of Repair

6.10 To keep in good and tenantable repair all buildings together with fixtures and fittings all drains, sewers, gul ies, cess-pits tanks, soak ways, water supply piping, wells, tanks, reservoirs, ponds, pumps, fences, walls, hedges gates, posts, bridges, culvert, water courses, ditches, roads and yards in and upon the land and maintain in good order any boundary markers AND to yield up the said land at the early termination or at the end of the term (as the case may be) in good state of repair and condition.

To Restrict access just inside said land

6.11 For safety and security of the Airport, Lessee and sub-lessees and its workers SHALL restrict its access ONLY to the said land and to NOT go into other areas of the Airport.

To Fence

6.12 To enclose with 1.2 meter high chain link fence with proper lock gates the whole of the said land.

To Protect Environment

6.13 Not to-

(a) Fell trees or clear off, burn or cultivate any land within a distance of eight (8) meters from the bank of any stream or rivers;

(b) Clear, burn off our cultivate any hillside having a slope of more than twenty five degrees from the horizontal or the to twenty five per Centrum (measured vertically of any hills having such slopes;

(c) Plant crops within ten meters of the centre of any public road;

Prohibition Against Burials

6.14 Not to bury, inter, entomb, inhume, or otherwise permanently or temporarily place any human remains on the property of the said land.

To Remove all equipment at end of Term of Lease

6.15 Lessee to remove all equipment and structure at end of lease and return said land to near conditions at start of lease. Unless Lessor wishes to buy the equipment from IPP companies.

Unrestricted Access to Said Land

6.16 Lessee or its IPPs shall have unrestricted access to said land during planning, investigation, construction, installation, and operation of solar systems during entire term of the lease.

LESSOR'S CONVENANTS

7. **THE** Lessor **CONVENANTS** with the Lessee as follows:

Quiet Enjoyment

7.1 **THAT** the Lessee paying the rent hereby reserving and performing and observing all and singular the covenants terms stipulations and condition on his part herein contained and implied shall quietly hold and enjoy the said land for the duration of the term hereby created without interruption by the Lessor or any person claiming under it.

RIGHT OF RENEWAL

7.2 **THAT** if the Lessee shall during the term hereby granted promptly pay the rent hereby reserved and observes and perform all the covenants terms stipulations and conditions herein contained or implied up to the expiration of the said term and shall have given notice in writing to the Lessor at least three (3) calendar months before the expiration of the said term of his desire lot take a renewed lease of the said land for further term not exceeding twenty years (20) at such rentals and conditions which the Lessor may in his absolute discretion decide **BUT OTHERWISE SUBJECT** to the same covenants terms stipulations and conditions as are herein contained or implied **EXCEPT** the present covenant for renewal.

Lessee's Right of Removal

8.1 **THAT** if the Lessee shall have performed and observed all the covenants terms stipulation and conditions herein contained or implied on his part and all rents previously due having been paid then at the expiration or soon determination of the term hereby granted (or of any renewed term) the Lessee shall be liberty at any time within 6 months thereafter to remove all buildings or other structures and crops erected or planted by the Lessee or the said land

PROVIDED that the Lessee shall make good any damage to the said land;

AND PROVIDED FURTHER that where the Lessee does not wish to remove any such buildings or other structures or crops then the Lessee shall grant to the Lessor the first option to purchase at an agreed price such buildings or other structures or crops.

Termination

8.2 **NOT WITHSTANDING** Clause 2 hereof of the Lease shall be at liberty at any time during the currency of the term hereby granted (or at any renewed term to determine this Lease by giving 12 months written notice all rent then due having been paid and there being no existing breach of covenant terms stipulations and conditions expressed or implied on the part of the Lessee or Lessor shall thereupon determine this Lease and the Lessee shall be at liberty to remove from the said land all buildings or other structures or crops in accordance with Clause 8.1 hereof

Implied Covenants

8.3 **ALL** the covenants provisions and powers directed by the Property Law Act 1952 are to be implied and have the same force and effect as it set out herein except in so far as the same are hereby expressly negative or modified.

STIPULATION / RESTRICTIONS
Assignment of Lease

9. **THE** Lessee shall not assign sublease mortgage of otherwise part with the possession of the said land or any part thereof without first obtaining the written consent of the Lessor and the Lessee may in its absolute discretion grant or refuse such assignment but soon consent shall not be unreasonably withheld.

PURPOSE FOR WHICH THE SAID LAND MAY BE USED.

10 **THE** Lessee shall not without first obtaining the written consent of the Lessor permit or use the said land for any purpose other than for the purpose described under the this agreement.

11. **IF** any part of the lease payable (whether formally demanded or not) or if the Lessee shall at any time during the term hereby granted (or of an extended term) remain in breach of any covenants terms stipulation or conditions on his part contained or implied for a period of two (2) consecutive months after being notified of such breach then in either of the said cases it shall be lawful for the Lessor at any of them in the name of the whole and thereupon this Lease shall absolute determine not withstanding clause 2 hereof and without prejudice to the right of the Lessor to take legal action in respect of any such breach.

MINERAL RIGHTS

12. **THE** Lessor shall retain rights to all stones, metals, sand or minerals of whatsoever kind in, on or under the said land and the Lessor shall have access thereto provided reasonable prior notice is given to the Lessee.

GENERAL

Arbitration

13. **IF** any question difference or dispute shall arise between the parties or any person or corporation claiming under the term respectively concerning the rents reserved or touching the construction of any clause in this Deed or the rights duties or liabilities of the parties hereunder or in any other way touching or arising out of this Deed the same shall be referred to arbitration in accordance with the provisions of the *Samoa Arbitration Act* 1976 or any statutory re-enactment or modification thereof for the time being inforce.

SERVICE OF NOTICE

14. **EVERY** notice required to be served in the case of the Lessor if forwarded to the Samoa Airport Authority by post by prepaid letter or left at the office of the General Manager of the Samoa Airport Authority and shall be sufficiently served on the Lessee if delivered to him personally or forwarded to him by post or left at his place of business for the time being. A notice sent by post shall be deemed to be given at the time when in due course of post it would be delivered at the address to which it is sent.

SCHEDULES

15. **ALL** Schedules herein contained shall for all intents and purposes be constructed as forming or part of this Lease.

WHEREOF the terms and conditions of this Deed of Lease shall be signed according to the above-mentioned date.

THE COMMON SEAL of the above named)
SAMOA AIRPORT AUTHORITY)
As Lessor)
Was hereunto affixed in the presence of)

In the presence of:

WITNESS)

(Signature & Print Name)

Legal Consultant, CAA

(Designation & Office)

.....
(Magele Hoe J. Viali)
GENERAL MANAGER

THE COMMON SEAL of the above named)
ELECTRIC POWER CORPORATION)
as Lessee)

Was hereunto affixed in the presence of)

In the presence of:

.....
(Tologata Tile Tuimaleili'ifano)
GENERAL MANAGER

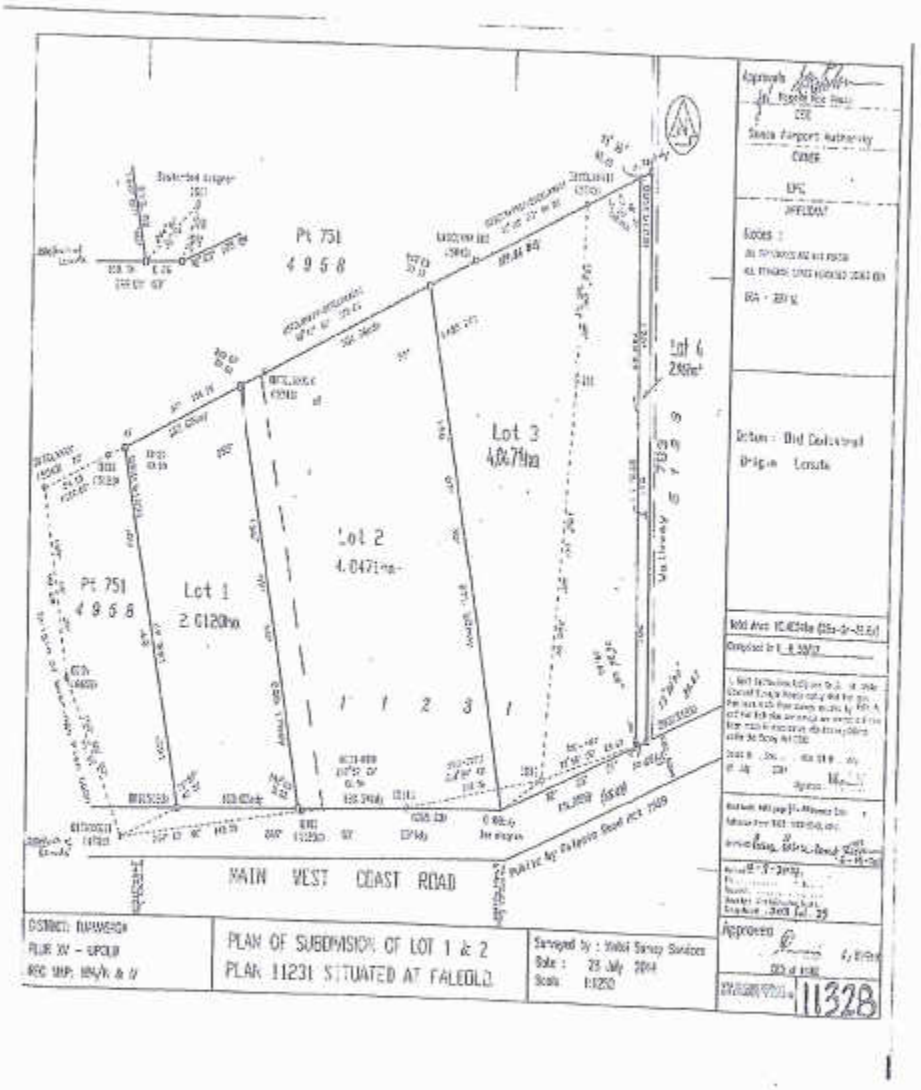
WITNESS)

(Signature & Print Name)

Legal Advisor

(Designation & Office)

FIRST SCHEDULE



SECOND SCHEDULE

("Purpose")

The solar systems to be installed by the Lessee's IPPs, Green Power Samoa Ltd and Sun Pacific Energy Ltd, will include:

a) ground mounted solar modules,
b) transformer,
c) inverter and switchgear buildings,
d) transformers,
e) underground electrical cables,
f) sunlight monitoring,
g) electric meters and measuring equipment,
h) underground fiber optic cable,
i) overhead transmission powerlines,
j) security fence, and
k) telecommunication connections.

II. Consent to Sublease (SAA to EPC)

SAMOA AIRPORT AUTHORITY
www.samoaairports.ws

Samoa Airport Authority
Private Bag
Faleolo International
SAMOA
P (685) 23201, 23202
F (685) 24281

17 May 2017

General Manager
Electric Power Corporation
APIA

CONSENT TO SUBLEASE – SUN PACIFIC ENERGY

Pursuant to Clause 9 of the Deed of Lease (the 'Lease') between the Samoa Airport Authority (the 'Lessor') and the Electric Power Corporation ('Lessee') on 23 November 2016, the Authority hereby provide ***CONSENT*** to the Lessee to sublease the described premises as **LOT 1 of Plan 782 Main West Coast Road, Faleolo** to ***SUN PACIFIC ENERGY LIMITED*** for Solar Farm Operations.

Yours faithfully,

(Magele Hoe Viali)
GENERAL MANAGER

II. Legal Land Lease Agreement

Draft Land Lease Agreement between SAA and EPC:

SUB LEASE AGREEMENT

THIS SUB LEASE AGREEMENT ("this Agreement") is entered into on this day of

BETWEEN THE ELECTRIC POWER CORPORATION ("EPC"), a Corporation duly established under section 4 of the Electric Power Corporation Act 1980 and having its place of business at Level 5, Tuiatua Tupua Tamasese Efi Building, Sogi, Apia Samoa (the "Lessor")

AND **SUN PACIFIC ENERGY LTD** a Company incorporated in Samoa, having its registered office located at Ah Chong Public Accontants, Alafua Road, Apia, Samoa (the "Lessee") and collectively as the "Parties".

I. ARTICLE 1 – DEFINITIONS

1. Unless this Agreement defines or the context requires otherwise, the following terms shall have the meanings given below when used in this Agreement:

1.1. "Term" shall mean the term of this Agreement as stated in Article 2.3 hereof;

1.2. "Rent Payments" shall means the method of rental payments set forth in this Agreement.

II. ARTICLE 2 – GENERAL TERMS

2.1 The Lessor hereby agrees to lease to the Lessee the land as described LOT 1 of Plan 782 Main West Coast Road, Faleolo as in **Schedule 1** and the lessee hereby agrees to make rent payments to the Lessor for the lease of the land pursuant to the terms and conditions of this Agreement.

2.2 Unless otherwise agreed by the Lessor in writing the Lessee shall not sublease to a third party.

2.3 This Agreement shall be effective upon execution hereof by authorized representatives of the Parties (the "Effective Date") and shall remain effective for a period of twenty (20) years. The Lessee shall not terminate this Agreement within the tern of this Agreement.

2.4 Monthly rental payable by the Lessee to the Lessor under this Agreement shall be two thousand and eighty four tala per month ($2,084.00 per month). The rental payment will commence upon completion of Additional facilities required from the lessee by the Lessor under a Power Purchase Agreement.

2.5 The Lessee shall make rental payments to the Lessor on a monthly basis.

III. ARTICLE 3 – RENTAL

3.1 Unless this Agreement is terminated in accordance to the permissible terms hereof, the Lessee shall pay the Lessor the rental as set forth in Schedule 2 in consideration of the use of land by the Lessee on a monthly basis in accordance with the terms and conditions of this Agreement.

3.2 The Rental for each month shall be payable within thirty (30) days of the last day of such month.

3.3 The Rental shall be paid in the currency of SAT $ to a bank account of the Principal. The Lessor shall provide the Lessee in writing the details of the said account.

3.4 In the event that the Lessee fails to make payment of the Rental to the Lessor on the due date under this Agreement, the Lessor shall be entitled to demand the payment of the Rental by issuing a written notice to the lessee.

3.5 The Rental paid by the Lessee to the Lessor under this Agreement shall be the only fees payable by the Lessee with respect of the land unless otherwise expressly provided.

IV. ARTICLE 4 – ASSIGNMENT OF INTERESTS

4.1 Neither Party shall be entitled to assign or otherwise transfer any of its interests under This Agreement, whether in part or in whole, without the prior written consent of the other Party.

V. ARTICLE 5 – EXTENSION OF AGREEMENT

5.1 This Agreement shall become effective upon signing by the authorized representatives of both Parties and shall be effective for twenty (20) years thereafter unless the Lessor notifies the Lessee of its intention not to renew the Agreement before the current term expires.

VI. ARTICLE 6 – FORCE MAJEURE

6.1 Should either Party be prevented wholly or in part from fulfilling any of its obligations under this Agreement for reasons of force majeure, such obligation shall be suspended to the extent and for as long as such obligation is affected by the force majeure. The Party claiming force majeure under this Article 9 shall be entitled to such extension of time to fulfil such obligation as may be reasonably necessary in the circumstances, subject to the provisions of Article 6.3 below.

6.2 Force majeure hereunder shall be defined as any unforeseeable events, the happening and consequences of which are unpreventable or unavoidable, including but not limited to earthquake, typhoon, flood, fire, embargoes, riots or war, but shall exclude the financial difficulties of the Party claiming force majeure.

6.3 Within seven (7) days from the date of commencement of any event of force majeure or as soon as practicable thereafter, the Party affected shall advise the other Party by effective means of communication of the occurrence of such event and of the date when such even commenced; likewise, within seven (7) days after the end of such event, the Party affected shall advise the other Party by facsimile or email of the date when such event ends, and shall also specify the re-determined time by which the performance of its obligations hereunder is to be completed.

6.4 In case one Party fails to acknowledge such notification hereunder within fourteen (14) days after receipt hereof, the date of dispatch of communication shall be considered to be the date of notification, provided, however, that email shall be confirmed in writing subsequent to the said date of dispatch.

VII. ARTICLE 7 – EXECUTION

7.1 This Agreement shall become effective upon the execution hereof by the duly authorized representative of each Party.

VIII. ARTICLE 8 – DISPUTE RESOLUTION

8.1 Any dispute or difference arising between the Lessor and Lessee arising out or in connection with this Contract or its interpretation may be negotiated by the parties but otherwise shall be referred to arbitration under the Arbitration Act 1976.

IX. ARTICLE 9 – NOTICE

9.1 Any notices or other communication required to be given under this Agreement by a Party shall be given to the other Party to the respective address below by airmail, telefax or email:

For the Lessor:

General Manager
Electric Power Corporation
TATTE Building
Level 5, Sogi, Apia
SAMOA
Phone: 0685 65501, Fax: 0685 23748
Email Address: leiat@epc.ws
(Attention: Tologata G. L. T. Tile Lei'a Tuimalealiifano)

For the Lessee:

Jamie Harrison
Managing Director
Sun Pacific Energy Limited.

9.2 Any change of either Party's address shall be notified to the other Party in the manner provided above immediately after such change becomes effective.

X. ARTICLE 10 – MISCELLANEOUS

10.1 Failure or delay on the part of any Party hereto to exercise any right, power or privilege under this Agreement shall not operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or privilege preclude any future exercise thereof.

10.2 This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior discussions, negotiations and agreements between them.

10.4 No variation of or supplement to this Agreement shall be effective unless the Parties have agreed in writing.

IN WITNESS WHEREOF, the parties hereto have agreed to this **Lease Agreement:**

Signed by the **GENERAL MANAGER OF)**

THE ELECTRIC POWER CORPORATION) _____

In the presence of:

.....

(Signature)

.....

(Title)

.....

(Address)

Signed by, for and on behalf of the _____

Lesee: **JAMIE HARRISON**

MANAGING DIRECTOR

In the presence of

.....

(Signature)

.....

(Title)

.....

(Address)

Schedule 1: Lot 1 of Lot 782 Main West Coast Road, Faleolo

SCHEDULE 2:
RENT AMOUNT

LEASE TERM- 20 YEARS Lot 1 of Plan 782	
PAYMENT CONDITIONS	
Monthly per 10 acres	**$2,084.00 Tala per month**
Annually per 1 Acre	$2,500 per acre per Year
Annually per 10 Acres	$25,000.00 for 10 Acres per year

Attachment 6

Notice of Decision for Development Consent for Solar Farm Expansion

Government of Samoa

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

Matāgaluega o Puna'oaFaalenatura ma Siosiomaga

Level 3, TuiAtua Tupua Tamasese Efi Building (TATTE), Sogi, P.O Private Bag, Apia, SAMOA
Website: http://www.mnre.gov.ws/

Telephone: (+685) 67200
Fax: (+685) 23176
Email: info@mnre.gov.ws

Please address all correspondence to the Chief Executive Officer, Private Bag, Apia, Samoa. [illegible] le Ofisa

29 November 2016

Sun Pacific Energy Limited
Faleolo
<u>**AANA ALOFI 3 DISTRICT**</u>

Afioga e,

Notice of Decision for Development Consent Application toextend solar farm, Faleolo (our ref: DCA 656/16)

We hereby advise that your application for development consent toextend existing solar farm at Faleolohas been approved subject to conditions by the Planning and Urban Management Board. (see attached).

Please ensure that you comply with all conditions of the consent as per attached document. The conditions aim to prevent and minimize adverse environmental impacts and set standards for acceptable environmental management of the project.

As a legal document, it is important that the development consent is kept for your record. For further information, please contact the undersigned or Ms. Della Savaiinaea on telephone 67200.

Sincerely,

Toleafoa Fetoloai Yandall- Alama
Administrative Head/ACEO
Planning and Urban Management Agency
For: Chief Executive Officer

Encl
Notice of Decision

Government of Samoa

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

Matāgaluega o Puna'oa Fualenatura ma Siosiomaga

Level 3, Tui Atua Tupua Tamasese Efi Building (TATTE), Sogi, P.O Private Bag, Apia, SAMOA
Website: http://www.mnre.gov.ws/

Telephone: (+685) 67200
Fax: (+685) 23176
Email: info@mnre.gov.ws

Please address all correspondence to the Chief Executive Officer, Private Bag, Apia, Samoa. Faamolemole faatuatusi uma mai fesootaiga uma i le Ofisa Sili

SUSTAINABLE DEVELOPMENT

NOTICE OF DECISION

Application Reference: DCA №: 656/16

DECISION DATE: 29 November 2016

Applicant:	Sun Pacific Energy Limited
Site Location:	Faleolo, Aana 3 District
Proposal:	To extend existing solar farm
Legal Description:	Government Land
Application Received:	22 September 2016
Supporting Documentation:	1. Site Plan, submitted on 22 September 2016
	2. Development Plans, submitted 22 September 2016
	3. Preliminary Environmental Assessment Report (PEAR) prepared by Sun Pacific Energy Limited, submitted 22 September 2016
Other Considerations:	1. The application had been notified in the *Samoa Observer* on 11 October 2016

THE DECISION

The Planning and Urban Management Board, pursuant to sections 34(2), 47, 48, 50 of the Planning and Urban Management Act 2004, approve development consent, to the above application, subject to the following conditions:

General:

1. The proposed activity shall be carried out in accordance with the plans and all information submitted as part of the application DCA 656/16, being:

a) Report titled *"Preliminary Environmental Assessment Report, Sun Pacific Energy Limited: Faleolo Solar Project, Upolu, Samoa"*, prepared by Sun Pacific Energy Limited and submitted on 22 September 2016.

2. Any other development works not included in this development consent application (including the construction of a building or any other structure) requires a separate development consent application.

3. The consent holder shall notify and consult with any person(s) that is likely to be affected prior to the commencement of works.

4. The consent holder shall ensure that the operation of the proposed development does not adversely impacts on airport operations specifically plane operations.

5. The consent holder shall ensure that panels should not be installed above the ridgeline.

6. No sign, advertisement or object, not required for the functioning of the panel shall be attached to or exhibited on the panels.

7. The consent holder shall ensure that the proposed activities comply with requirements of the Office of the Regulator.

8. The use and development shall be managed so that the amenity of the area is not compromised, by excessive noise, excessive dust, visually offensive signage, poor airspace, smell, fumes and waste materials.

9. The consent holder shall ensure that all works during operation must be carried out in accordance with the *Occupational Safety and Health Act 2002*.

10. The proposed activity shall not have an undue detrimental environmental impact on:
    (a) environmental quality of the site or land adjoining the site;
    (b) any vegetation on site and significant trees; and
    (c) likely future development.

Amenity:

11. The consent holder shall be responsible for environmental impacts resulting from actions of all persons on-site, including contractors, subcontractors and visitors.

12. The consent holder shall ensure that noise shall be minimized as far as practicable during works on site and must be in accordance with the Agency's *Noise Policy 2011*. Noise levels shall not exceed the following limits:

'Noise Source' (Average dBA, $L_{Aeq,T}$)	'Receiving Property' (L_{Aeq}, 10 minutes)											
	Residential Use			Commercial Use			Religious Use			Industrial Use		
	Day	Even*	Night	Day	Even*	Night	Day	Even*	Night	Day	Even*	Night
Construction Works	75	60	-	75	60	-	75	60	-	75	65	-

*Note: Day period is defined as 0700 to 1800, evening period is defined as 1800 to 2200 and night period is defined as 2200 to 0700.

Construction:

13. The construction site shall be enclosed and a site notice erected at the boundaries of the work site for the purpose of informing the public of project details and safety.

14. The consent holder shall ensure that construction machinery is fitted with approved noise suppression equipment and maintained regularly and operators to be provided with ear protection gear.

15. No waste shall be disposed of on-site, with all waste disposed of at the Tafa'igata Landfill.

16. All construction works shall be restricted to the hours of 8.00am to 6.00pm Monday to Saturday. No work shall be undertaken on Sundays and public holidays. This is to ensure that the amenity of the area is maintained for nearby lands, unless otherwise approved by the Board.

Reporting

17. The Board may require update report(s) on compliance with all, or any part, of the Conditions of Approval. The report(s) shall meet the requirement of the Board and be submitted within such a period as the Board may require.

Rehabilitation

18. Any temporary signs used during construction activities are to be removed when the work has been completed.

Advisory Notes

1 *The Agency has considered all submitted information as accurate, if proven otherwise, this consent may be revoked.*

2 *The Agency or any employee is not liable for any damage, or loss resulting from any act, omission, or default in the exercise of the development consent function.*

3 *A copy of this consent should be held on site at all times during the construction.*

4 *The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.*

5 *Non-compliance with this development consent may result in enforcement and legal proceedings under the Planning and Urban Management Act 2004.*

6 *The consent shall lapse two (2) years after the date on which it was granted unless it has been given effect before the end of that period.*

Approved by:

Fiamē N. Mataafa

Hon. Fiamē Naomi Mataāfa
Chairperson

cc: Chief Executive Officer, Ministry of Natural Resources and Environment