

Desk-based Environmental and Social Due Diligence Report for 250 MW under-construction Solar PV Project in Andhra Pradesh, India

Ayana Renewable Power Private Limited.

Final Report

20 July 2020

Project No.: 0557252

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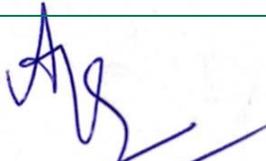
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Final Report



Name Ajay Pillai
Job title Partner



Name Nidhi Sharma
Job title Principal Consultant

ERM India Private Limited

Building 10A
4th Floor, DLF Cyber City
Gurgaon, NCR – 122002

Tel: 91 124 417 0300

Fax: 91 124 417 0301

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Acronyms and Abbreviations

AASPL	Ayana Ananthapuramu Solar Power Ltd
AC	Alternating Current
APGENCO	Andhra Pradesh Power Generation Corporation Limited
APPCB	Andhra Pradesh Pollution Control Board
APSPCL	Andhra Pradesh Solar Power Corporation Pvt. Ltd
ARPPL	Ayana Renewable Power Private Limited
COVID-19	Coronavirus Disease 2019
CPCB	Central Pollution Control Board
CTE	Consent to Establish
CTO	Consent to Operate
DC	Direct Current
EFR	External factor Review
HSE	Health Safety and Environment
H&S	Health and Safety
EIA	Environment Impact Assessment
EPC	Engineering Procurement Construction
ESAP	Environmental and Social Action Plan
ESDD	Environmental and Social Due Diligence
ESG	Environmental and Social Governance
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental and Social Management System
IMS	Integrated Management System
ISA	Implementation and Support Agreement
LARR	Land Acquisition, Rehabilitation & Resettlement
MoEFCC	Ministry of Environment Forest and Climate Change
MRO	Mandal Revenue Officer
Name	Description
NREDCAP	New and Renewable Energy Development Corporation of Andhra Pradesh Limited).
PGCIL	Power Grid Corporation of India Limited

PMC	Project Management Consultant
PPA	Power Purchase Agreements
QHSE	Quality, Health, Safety and Environment
SEIAA	State Environmental Impact Assessment Authority
SOP	Standard Operating Procedure
SPCB	State Pollution Control Board
SPV	Special Purpose Vehicle

EXECUTIVE SUMMARY

E.1 Background

Ayana (ARPPPL) through its special purpose vehicle (SPV) Ayana Ananthapuramu Solar Power Ltd (AASPL) is developing the 250 MW Solar Power Plant within the 1500 MW solar power park at N.P Kunta Mandal of Ananthapuramu District of Andhra Pradesh Andhra Pradesh.

Ayana has engaged ERM to conduct a desk based Environmental and Social Audit (including telephonic/ videoconferencing with project team, consultations with Mandal Revenue Officer and some sample consultations with land sellers) of this under-construction solar power asset (hereinafter referred as 'Project'). The desk based assessment approach was adopted in view of the current COVID pandemic situation and related travel restrictions.

ARPPPL had previously completed the Environmental and Social Impact Assessment (ESIA) study of the 250 MW Solar Power Project in Ananthapuramu, Andhra Pradesh, India, as per IFC guidelines in December 2018, through a third party consultant 'M/S Opensense Labs Private Limited' (hereinafter referred to as 'OSL'). The report was submitted to AIIB for a review, which is evaluating a potential investment opportunity into the project. AIIB reviewed the ESIA report of 2018 and shared comments on the same. Ayana engaged ERM in June 2020 to update and re-align the existing ESIA Report of the 250 MW Solar Power Project to the requirements of AIIB's E&S Framework. The ESIA report was reviewed as part of this Project.

The solar power park is named Ananthapuramu Ultra Mega Solar Park (1500 MW) and is managed by Andhra Pradesh Solar Power Corporation Pvt. Ltd. (APSPCL). Out of the total 1500 MW, about 1000 MW capacity solar power plants have already been commissioned within the Park by several Independent Power Producers (IPP) and are currently operating and evacuating energy. APSPCL is responsible for providing land that is free of encumbrance, on lease of 25 years for generating and distributing power along with other allied infrastructure such as developing and managing transmission line, access road, and water supply through pipeline from a water reservoir constructed within the solar park.

E.2 Project Overview

The proposed 250 MW solar plant (14°1'55.20"N, 78°24'52.29"E) is located at Ananthapuram Solar Park in N.P Kunta Mandal of Anantapuram district in the state of Andhra Pradesh. The Project is currently in the construction stage. The land lease agreement has been signed between Andhra Pradesh Solar Power Corporation Pvt. Ltd. (Lessor) and AASPL (Lessee) on 23rd October 2018, for a period of 25 years TATA Power Solar Systems Limited was awarded the EPC Contract for the Project in November 2018. Approximately, 1274 Acres of land which is encumbrance free is in possession of Ayana and the project area is fenced.

Construction activities were initially started in February 2019, which continued till August 2019. The construction was put on hold due to an issue with the Power Sale Agreement (PSA) for Solar Park signed by AP DISCOMs with M/s. NTPC and regulation of price under Section 86 (1) (b) of the Electricity Act, 2003 for purchase of power from 750 MW (Phase - II) Solar Park at NP Kunta, Ananthapuram District. However, the matter was resolved after an appeal was filed by the solar power plants within the park challenging the impugned order dated 05.10.2019 passed by Andhra Pradesh Electricity Regulatory Commission (APERC). The construction activities at 250 MW plant were resumed in May 2020. Currently, procurement and delivery of construction materials are undertaken at site and installation of inverters, foundation of string combiner box and laying of cables have been started.

The site is accessible through SH-34 and Kokkanti Cross-Pedaballe-NP Kunta road located approximately 650 m and 600 m (aerial distance) respectively towards east and west direction. The project will use existing road developed by APSPCL within the solar park to access the site and for transportation of construction material.

Furthermore, based on review of ESIA report (December 2018) and ESDD report (February 2019) and desk based research, it is noted that the Project does not fall within 10 km of any protected area (such as national park, wildlife sanctuary, biosphere reserves etc) and/or key biodiversity areas.

E.3 Existing Measures for HSE and Social Management

ARPPL has established an Integrated Management System (IMS) at the corporate level to manage Quality, Health & Safety and Environment in its activities and operations. The Company has developed a Quality, Health, Safety and Environment (QHSE) Manual which defines Company’s QHSE Policy and objectives and provides overall guidance to the Company on QHSE aspects. Furthermore, the Company utilises a software called ‘Complinty’ to keep a track of all national and local legislation with respect to operational, HSE and social aspects. The IMS also defines procedures for trainings to be conducted on HSE and defines a set of management procedures to be followed at each project site of ARPPL. Some of the key management procedures of the IMS include procedure on Human Resources, Environment And Social Aspects, Hazards identification and Risk Control, Management Review, Internal Audits, Emergency Preparedness and Response, Grievance, Community Engagement and Consultation, Communication, Participation and Consultation and Waste storage handling and Disposal.

Further, AASPL has hired TATA Power Solar System Limited as the EPC contractor. Tata Power has a documented Health, Safety and Environment Management System of their own which is followed at the 250 MW Project.

E.4 Key Finding and Environmental and Social Action Plan

The key observation, gaps and recommendation and timeline for implementation have been presented in the table below.

S.No	Observation	Gap	Recommendation	Timeline
Identification of Risks and Impacts				
1.	<ul style="list-style-type: none"> ■ A hazard identification and risk assessment was conducted by the EPC contractor on 05.11.2018 which included identification of hazards and risks associated with the site activities and suggested control measures and assigned risk rating to each activity. ■ A safety audit was conducted at the site in the month of March-April 2019 by the Project Management Consultant (TUV) on behalf of AASPL to monitor the work of EPC contractor w.r.t HSE aspects. 	<ul style="list-style-type: none"> ■ The HIRA was conducted in 2018, when the site was greenfield and no construction activities were started. The HIRA has not been updated post start of construction phase. ■ About 88 observations were identified as part of the audit, out of which 65 were closed and 29 were open. No further information was shared on the measures implemented to close the 29 observations. ■ The safety audit was conducted in 2019 and based on review of 	<ul style="list-style-type: none"> ■ AASPL shall ensure that EPC contractor updates the existing HIRA by identifying hazards and risks; ■ AASPL shall ensure that the remaining 29 observations identified as part of the PMC audit are closed by EPC contractor after implementing adequate mitigation measures. ■ The HSE audit by PMC shall be conducted on monthly basis and report shall be shared with AASPL. 	1 month

S.No	Observation	Gap	Recommendation	Timeline
		documents shared by Client, it is understood that no audit has been conducted at site by PMC in May and June 2020		

Monitoring and Review

2.	<ul style="list-style-type: none"> ■ The PMC conducts Safety audit at the site to monitor the work progress of the EPC contractor and overall HSE status at site and share the results to the QHSE Head at Corporate level on monthly basis; ■ The EPC contractor also shares monthly report on its HSE work to PMC 	It is understood no audit has been conducted by PMC and EPC contractor since May-June 2020 after the construction work had resumed.	<ul style="list-style-type: none"> ■ The PMC should conduct audit on monthly basis and share the HSE results to the QHSE Head at Corporate Office; ■ EPC contractor should conduct HSE monitoring on monthly basis for the remaining months of construction phase starting June 2020 and share the results with AASPL. 	1 month
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HR Policy

3.	<p>ARPPL has an Employee Handbook which has description of policies and procedures applicable to all their full time employees in India. The handbook comprises of the following major policies such as:</p> <ul style="list-style-type: none"> ■ Policy on Recruitment, On boarding, Probation and Confirmation; ■ Working norms and Etiquette; ■ Leaves and Travel; ■ Policy of Separation, notice period, retirement and dismissal; ■ Performance Management; ■ Prevention of Sexual Harassment (POSH)Policy; and 	There is no mention of overtime work and wages policy for employees and contractors in ARPPL's employee handbook or IMS manual	<p>The Employee Handbook should be updated with the following:</p> <ul style="list-style-type: none"> ■ Policy on Overtime work and wages for employees and guidelines for contractors; ■ For workers overtime policy should follow working hours and overtime hours as per section 28-30 of BOCW, 1996 Act, minimum wages act and Factories act (during operation phase) 	1 month
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S.No	Observation	Gap	Recommendation	Timeline
	<ul style="list-style-type: none"> ■ QHSE Policy. 			
Occupational Health and Safety				
4.	A site specific training calendar has been developed by the EPC Contractor;	Based on review of the training calendar, it is understood that the “plan” and “ actual” column of the calendar gets updated after the training is completed on monthly basis;	AASPL is recommended to ensure that the EPC Contractor updates the “plan” column of the training calendar on priority for the entire year and “actual” column should be filled based on actual training conducted at site on monthly basis.	1 months
	-	No job safety analysis have been conducted by the EPC contractor till date;	AASPL shall ensure that EPC contractor conducts Job Safety Analysis for its workers and share report for the same to site head	3 months
5.	-	No drinking water test has been carried out at the site in past one year	It is recommended to undertake drinking water testing once every 6 months at the site and labour camp (if used in future) as per drinking water standards IS 10500:2012	6 months
6.	In terms of OHS trainings, the EPC contractor has imparted trainings on toolbox talks, fire fighting, working at height, personal protective equipment, biological hazards, flora and fauna and material handling and COVID	No training on working at night time has been provided to the workers.	Prior training on Working at night time should be imparted to the workers to avoid accidents. AASPL shall ensure the same is included in the training calendar	1 month
7.	-19 awareness to the workers working at site; Based on review of site photograph, a first aid kit is available at the site and at the labour camp;	Based on review of training records and calendar, it is understood that training on use of first aid have not been provided to the workers; It could not be verified based on photographs shared by Ayana team, if the first aid provided at the site is within expiry date;	AASPL shall ensure that training on first aid is provided annually to the workers by a trained professional. AASPL should ensure that the first aid box is inspected periodically and the ointments and medicines are within the expiry date	Annually

S.No	Observation	Gap	Recommendation	Timeline
Accommodation Services for labour				
8.	As part of the contract agreement with TATA Power, 'Workers' accommodation: processes and standards A guidance note by IFC and the EBRD' were shared with TATA Power, however, it is not clear if the same has been adapted by TATA on site;	The review of the documents made available, suggests that there is no contract worker accommodation guidelines/ checklist that will be followed by AASPL or other contractors to monitor the services and facilities provided to the workers	<p>As a good practice AASPL should develop a checklist for the monitoring the accommodation services that will be provided by the contractors and check the following:</p> <p>As per chapter 6 and section 32 of BOCW, 1996 act includes accommodation related measures such as - separate cooking place, bathing, washing and lavatory facilities. after the building or other construction work is over, the employer shall, at his own cost, cause removal or demolition of the temporary structures erected by him for the purpose of providing living accommodation, cooking place or other facilities to the building workers as required under sub-section (1) and restore the ground in good level and clean condition.</p> <p>IFC guidelines include:</p> <ul style="list-style-type: none"> ■ Rented accommodation in the villages could also be provided; ■ The rooms should be designed keeping in context the high temperature in the area ■ first-aid box should be provided in the living quarters; ■ LPG gas facility should be used more for cooking purpose rather than use of firewood etc. 	Within 1 month

S.No	Observation	Gap	Recommendation	Timeline
Resource Efficiency and Pollution Prevention				
9.	According to the ESIA report, AASPL has plans to install bore wells at the site for emergency purpose within its solar power plant. However, as confirmed by Client, bore wells have not been installed at site yet;	No information on future plans for installing bore wells at site was shared with ERM	Prior to installing any bore well at site, requisite approval from Rural Development Department, Government of Andhra Pradesh shall be obtained	Prior to installation of bore well
	Ambient air, noise, groundwater and surface water monitoring was conducted as part of ESIA in 2018 during planning phase of the Project.	No ambient air, noise, groundwater and surface water monitoring have been conducted at site during construction phase to identify the impact of construction activities on ambient environment.	AASPL is recommended to conduct ambient air, noise, groundwater and surface water monitoring at the Project site and nearest settlement once during peak time of construction period.	Once during peak time of construction period
	Water for construction phase is procured by EPC contractor through water tankers	It could not be verified whether the tanker water suppliers are abstracting water from registered bore wells.	AASPL should ensure best possible way to identify and receive water tankers from contractors authorised to abstract groundwater and/or surface water. Furthermore, an agreement should be signed between AASPL and the authorised contractor for supplying water to the site;	Prior to supply of water tankers

Waste Management

10.	<ul style="list-style-type: none"> ■ Reportedly, domestic waste including food waste generated at labour camps and at site are buried in earth pit. As reported by Client, 500 kg of domestic waste have been generated at site. ■ As reported by Client, no hazardous wastes (such as used oil from DG sets) have been generated at site till date, therefore agreement with authorised vendor is yet to be signed 	<ul style="list-style-type: none"> ■ The domestic waste is not being disposed as per Solid Waste Management Rules, 2016; ■ Reportedly, since the construction activities are in initial phase and have been carried out only for past two months, construction waste generated at site is limited and have not been disposed till date. Reportedly, no vendor has been identified for 	<ul style="list-style-type: none"> ■ AASPL is recommended to dispose domestic, hazardous and construction waste generated at site through an authorised vendor and maintain records of waste generated at site; ■ The site shall store hazardous waste such as used oil from DG sets and transformers when generated in future in a designated location with concrete flooring and covered roof top. 	2 months
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S.No	Observation	Gap	Recommendation	Timeline
		disposal of construction waste at site yet;		

Community Health, Safety and Security

11.	At present the project is under construction phase, there are chances of offsite hazards or impacts on the community related to loud noise, dust emissions, traffic congestion, etc. The daily traffic movement for the project in this phase is project team vehicles, azex machine, JCB etc passing through approach road twice/thrice a day.	Based on discussion with Client, it is understood that the site EPRP have not been communicated to the local community.	Undertake consultations with the residents of the nearby community to understand their concerns with the plant construction and operations and communicate them regarding the Emergency procedures; The site should follow the traffic management plan for the plant provided in ESIA to avoid the traffic congestion and risk to community;	2 months
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1. INTRODUCTION

ERM India Private Limited (hereinafter referred to as 'ERM') was commissioned by **Ayana Renewable Power Private Limited** (hereinafter referred to as the 'Client' or 'ARPPL' or 'Ayana') to conduct a desk based Environmental and Social Due Diligence of an under-construction 250 MW Solar Power Project at Ananthapuram in the state of Andhra Pradesh, India (hereinafter referred as 'Project'). The assessment included telephonic discussions/ videoconferencing with project team, consultations with Mandal Revenue Officer and some sample consultations with land sellers. The desk based assessment approach was adopted in view of the current COVID pandemic situation and related travel restrictions.

ARPPL has been set up to develop renewable energy generation capacities in India and its neighbouring countries.

1.1 Project Background

Ayana (ARPPL) through its special purpose vehicle (SPV) Ayana Ananthapuramu Solar Power Ltd (AASPL) is developing the 250 MW Solar Power Plant within the 1500 MW solar power park at N.P Kunta Mandal of Ananthapuramu District of Andhra Pradesh Andhra Pradesh.

ARPPL had previously completed the Environmental and Social Impact Assessment (ESIA) study of the 250 MW Solar Power Project in Ananthapuramu, Andhra Pradesh, India, as per IFC guidelines in December 2018, through a third party consultant 'M/S Opensense Labs Private Limited' (hereinafter referred to as 'OSL'). The report was submitted to AIIB for a review, which is evaluating a potential investment opportunity into the project. AIIB reviewed the ESIA report of 2018 and shared comments on the same. Ayana engaged ERM in June 2020 to update and re-align the existing ESIA Report of the 250 MW Solar Power Project to the requirements of AIIB's E&S Framework. The ESIA report was referred to, during this ESDD.

The solar power park is named Ananthapuramu Ultra Mega Solar Park (1500 MW) and is managed by Andhra Pradesh Solar Power Corporation Pvt. Ltd. (APSPCL). Out of the total 1500 MW, about 1000 MW capacity solar power plants have already been commissioned within the Park by several Independent Power Producers (IPP) and are currently operating and evacuating energy. APSPCL is responsible for providing land that is free of encumbrance, on lease of 25 years for generating and distributing power along with other allied infrastructure such as developing and managing transmission line, access road, and water supply through pipeline from a water reservoir constructed within the solar park.

APSPCL was incorporated in the year 2014 under Companies Act 2013 as a joint venture company between SECI (Solar Energy Corporation of India), APGENCO (Andhra Pradesh Power Generation Corporation Limited) and NREDCAP (New and Renewable Energy Development Corporation of Andhra Pradesh Limited). The objective was to plan, develop and operate solar parks in state of Andhra Pradesh under MNRE scheme for development of solar parks and Ultra Mega Solar power projects in the country, notified on 12th December 2014. In line with this, APSPCL was designated as Solar Power Park Developer (SPPD) by MNRE for facilitation and implementation of Ultra Mega Solar Park. Power Purchase Agreement was executed between AASPL and NTPC Ltd. on 17th July 2018.

1.1.1 Project Overview

The Project overview and salient features of the under-construction 250 MW Solar Power Project at Ananthapuram in the state of Andhra Pradesh is provided in the table below:

Table 1.1 Project description of AASPL 250 MW project

Particulars	Description
Location	<ul style="list-style-type: none"> ■ The 250 MW solar power plant (14°1'55.20"N, 78°24'52.29"E) is located within Ananthapuram Ultra Mega Solar Park (1500 MW) ■ Spread over villages - NP Kunta and P. Kothapalli of NP Kunta Mandal of Ananthapuram District of Andhra Pradesh. ■ The 250 MW project is spread over 1274 acres of land. <p>Detailed information has been provided in Section 2 of the report.</p>
Project Status	<ul style="list-style-type: none"> ■ Ayana has secured the land and fencing work is complete. ■ Construction work is under progress. ■ Materials like Inverter duty transformers, Cables, Solar Modules of 50 MW capacity, Civil and electrical materials for example, column / rafters, electrical panels etc are at site.
Land Requirement	<ul style="list-style-type: none"> ■ Total land area of 1274 acres has been leased by APSCPCL to Ayana. Ayana will require 1250 Acres of land for commissioning 250 MW solar project. ■ 1274 Acres of land has that has been leased to Ayana also includes unusable area of 24 Acres. The unusable area includes area of land covered with small hill, natural drain and unsuitable slopes for the project.
EPC Contractor	<ul style="list-style-type: none"> ■ Tata Power Solar System Ltd. (TPSSL);
PV Modules	<ul style="list-style-type: none"> ■ Polycrystalline / Mono PERC type; ■ Rating- 335 / 375 Wp, 72 Cells
Power Evacuation	<ul style="list-style-type: none"> ■ The power generated will be evacuated to 33/220kV Pooling Station at 33kV and further will be evacuated to 400/220kV PGCIL Substation which shares boundary with the park and is under operation

Source: AASPL

1.2 Scope of Work

The scope of work for the current assessment includes the following:

- Desk based review of project related information provided by Client and gap assessment against the requirements of the reference framework (Section 1.3) including AIIB ESP and ESSs, IFC Performance standards and applicable regulations.
- Review the adequacy of assessment of E&S risks and sensitivities undertaken for the project such as risk to environment and ecology, nearby community due to construction of the project, occupational health and safety of workers, worker accommodation, water availability and sourcing, land related conflicts if any;
- Verification of the extent to which existing environmental, social and governance aspects of the project are in accordance with E&S requirements specified under AIIB's ESP and ESSs, IFC Performance standards, applicable E&S regulations and industry best practices;
- Consultations with the project teams/Site teams over telephone calls/ video calls to obtain understanding of the Site and its present status;
- Review the adequacy of the site level organisational capacity to address environmental and social impacts at site level and coordination and information flow to corporate H&S team;

- Review the status of permits and licenses applicable to the project;
- Review of the labour and safety measure in place for construction works;
- Review/screen of the publicly available information on the assets and project proponent on any environmental, health and safety and social issue representing a potential for reputational risks (eg. Any litigation, liabilities, protest, complaints etc);
- Review compliance to various E&S management plans and identify gaps;
- Provide a Environmental and Social Action Plan (ESAP)

1.3 Applicable Reference Framework

The assignment has been conducted in accordance to the following reference framework

- Applicable local and national environmental and social regulations (including that of the state nodal agency for renewable energy development);
- AIIB's Environmental and Social Framework (ESP and ESSs)
- IFC Performance Standards on Environmental and Social Sustainability (2012);
- World Bank Group's General EHS guidelines (2007); and
- EHS Guidelines for Electric Power Transmission and Distribution (2007).

1.4 Approach and Methodology

1.4.1 Project Inception and Planning

ERM organized a kick off meeting with client over a teleconference to confirm the scope of work, approach to the due diligence, expectations from the required documentation and the timeline of assessment and report submission.

1.4.2 Documentation Review

ERM submitted a list of documents/ information required for the assessment. ERM received the data access on 13 June 2020. The documents shared by ARPPL and reviewed by ERM included the following (but not limited to):

- Organization Structure;
- QHSE Policies, Labour and Working Condition Policies, Community development framework, Security Policies
- Anti-Bribery and corruption policy, Code of Conduct for supplier, Prevention of Sexual Harassment (POSH) Policy, Whistle blower Policy, Employee code of Conduct
- QHSE Manual developed in line with ISO 9001, 14001, 45000 and IFC Performance standards.
- Contractor's Health, Safety and Environment Management System
- SOP for Safety Precautions against COVID-19 (by EPC Contractor)
- Management Procedure for Waste storage, Handling and Disposal.
- Previously completed environmental and social impact assessment (ESIA);
- Safety audit reports
- Contractor's HSE Report
- Site layout;
- Power Purchase Agreements (PPAs);

- Project schedule;
- Land lease agreements
- Civil Contract with TATA Power including QHSE requirements,
- Details of number of employees (direct and contractual);
- Procedure for Incident Reporting and Investigation
- Applicable permits;
- Source of water supply for construction work, domestic and drinking purposes;
- Onsite accident, incident, near miss reporting systems;
- Health and safety audit reports;
- Training records;
- Emergency response management and procedure; and
- Management Procedure for Grievance Redressal (Grievance register- workmen and community), Stakeholder Engagement and Consultation.

Simultaneously, ERM undertook an external factor review of E&S data available in the public domain related to ARPPL and 250 MW solar power plant in Ananthapuram.

1.4.3 Gap Assessment Criteria

The Gap Assessment Section of the report provides the compliance status of the H&S, environment and social performance of the under-construction 250 MW solar power project in Ananthapuram vis-à-vis the AIIB E&S Framework and IFC Performance Standards. The gap assessment also includes recommendations and these have been collectively organized in the form of an E&S Action Plan (ESAP) detailed in **Section 4** of this report.

The findings are classified as per the following definitions.

Table 1.2 Compliance Definitions

Rating	Definition
Aligned (AL)	Information available indicates that the Project/Company fulfils the requirement and/or is aligned with intended outcome of the requirement.
Partially Aligned (PA)	Information available indicates that the Project/Company partially fulfils the requirement and/or is partially aligned with intended outcome of the requirement.
Not Aligned (NAL)	Information available indicates that the Project/Company does not fulfil the requirement.
Insufficient Information (II)	There is insufficient information to assess the level of alignment.
Not Applicable (NAp)	The specific standard/requirement has limited or no applicability.
Forward Looking Requirement (FLR)	At present, the requirement is not applicable to the project but will be applicable to construction and operation phases.

1.4.4 Reporting

As per the proposal and work order, a consolidated ESDD Report has been developed as an outcome of the assessment. The report covers:

- Overview of the Project including current status, location and management system implemented at site;
- Overview of E&S permits and licenses applicable to the project;
- E&S issues with respect to Reference Framework and suggested mitigation measures;
- E&S Action Plan based on the current assessment Limitation and timeline for monitoring;

1.5 Limitation

While our assessments have endeavoured to provide a comprehensive review against the requirements of nationally/ regionally applicable legal aspects, IFC PS and other standards there remain certain limitations to the assessment that should be considered:

- The desk-based ESDD is a high-level assessment of environmental and social risks/issues and should not be construed as a detailed legal compliance review. If there are specific concerns that may have to be legally addressed, ERM has categorically specified the same in the recommendations sections of its report;
- This due diligence exercise has been strictly undertaken based on the documents made available by the client, on consultations with project representatives, and information available in public domain. No onsite work was undertaken for the Project due to prevailing global Public Health Emergency i.e. Coronavirus pandemic (COVID-19) and resulted lockdown in India. However, the information shared were validated based on site photos shared by the client;
- The conclusions presented in this report represent ERM's professional judgment based on the information made available to us during the course of this Assessment and are true and correct to the best of ERM's knowledge as of date of this report;
- ERM is not engaged in consulting or reporting for the purpose of advertising, sales promotion, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Client acknowledges this report has been prepared for their and their clients' exclusive use and agrees that ERM reports or correspondence will not be used or reproduced in full or in part for such purposes, and may not be used or relied upon in any prospectus or offering circular. Client also agrees that none of its advertising, sales promotion, or other publicity matter containing information obtained from this assessment and report will mention or imply the name of ERM;
- Nothing contained in our reports shall be construed as a warranty or affirmation by ERM that the site and property described in the report are suitable collateral for any loan or that acquisition of such property by any lender through foreclosure proceedings or otherwise will not expose the lender to potential environmental or social liability;

1.6 Report Layout

The layout of this report is as given below.

<u>SECTION 1 (this section)</u>	Introduction and background
SECTION 2	Project description
SECTION 3	E&S Gap assessment
SECTION 4	Environmental and Social Action Plan

2. PROJECT DESCRIPTION AND CONTEXT SETTING

This section provides a description on the Project location, settings, infrastructure, management systems, organisational structure, H&S, environment, ecological and social context of the Project and the status of relevant permits & licenses.

2.1 Project Status

The status of the Project, as understood from discussions with Ayana team, is summarised below:

- The 250 MW solar power project is currently in the construction stage;
- The land lease agreement has been signed between Andhra Pradesh Solar Power Corporation Pvt. Ltd. (Lessor) and AASPL (Lessee) on 23rd October 2018, for a period of 25 years TATA Power Solar Systems Limited was awarded the EPC Contract for the Project in November 2018;
- 1274 Acres of land which is encumbrance free is in possession of Ayana and the project area is fenced.
- The site is within a solar park. The access road to the site has been constructed and the project area is accessible.
- Site preparation in terms of clearance of vegetation has been completed.
- Construction activities were initially started in February 2019, which continued till August 2019. The construction was put on hold due to an issue with the Power Sale Agreement (PSA) for Solar Park signed by AP DISCOMs with M/s. NTPC and regulation of price under Section 86 (1) (b) of the Electricity Act, 2003 for purchase of power from 750 MW (Phase - II) Solar Park at NP Kunta, Ananthapuram District (Refer **Section 2.7**) the construction of the Solar PLANT was put on hold. However, the matter was resolved after an appeal was filed by the solar power plants within the park challenging the impugned order dated 05.10.2019 passed by Andhra Pradesh Electricity Regulatory Commission (APERC)¹. PGCIL Substation for power evacuation is in operation and is evacuating power generated by other solar power plant.
- The construction activities at 250 MW plant were resumed in May 2020;
- As understood, the site team has implemented a Standard Operating Procedure to minimise spread of COVID in labour and site staff. Following precautions have been adopted -
 - Entry denied for any staff who shows flu like symptoms or has temperature above 100F.
 - Physical check for signs of cough, cold and fever undertaken
 - If any worker shows signs of infection, the worker is advised to get tested for the disease and follow the self-quarantine related directives as issued by State government.
- Keep workforce contact details daily
- Construction work details as reported:
 - As reported, construction materials such as electrical cables, solar modules (for 50 MW capacity), columns, rafters, purlins, inverter duty transformers, inverters, electrical panels are being procured and delivery of these materials to the site is in progress.
 - Ten (10) inverter duty transformers have been installed on foundation.
 - Piling 78272 out of 172074 is completed. (Column post erection)

¹ The entire order dated 05.10.2019 was not the subject matter of the appeal, but it was limited to the directions issued by APERC indicating that there would be consideration of amendments to the Power Purchase Agreement/Power Sale Agreement forming part of bidding document which were prepared in line with the guidelines issued by Ministry of Power for tariff based competitive bidding process in respect to procurement of power from Grid connected solar power projects. For more information on the Court order, refer to the links provided in Section 2.7 of this report.

- String combiner box foundation, 215 out of 1200 is completed,
 - Inverter: 16 out of 80 is installed.
 - DC Cable laying for 230 String Combiner Box out of 1200 String Combiner Box is done,
 - Pooling Station has been commissioned by APSPCL in January 2020 and is ready for evacuation.
 - Transmission line for evacuation of power from pooling substation to PGCIL is commissioned and is ready for evacuation.
- As per the Project schedule, MMS piling work, equipment installation in pooling substation and in control room (UPS, battery, charger, auxiliary LT panel) will be started in July 2020
 - As reported by AASPL, the first 50 MW of the plant will be commissioned by September 2020. The next 100 MW will be commissioned by October 2020 and balance 100 MW will be operational by November 2020

The present status of the 250 MW under construction site as shared by Ayana site representative is given in Figure 2.1.



Figure 2.1 Present status of the under-construction site

Source: Ayana site team

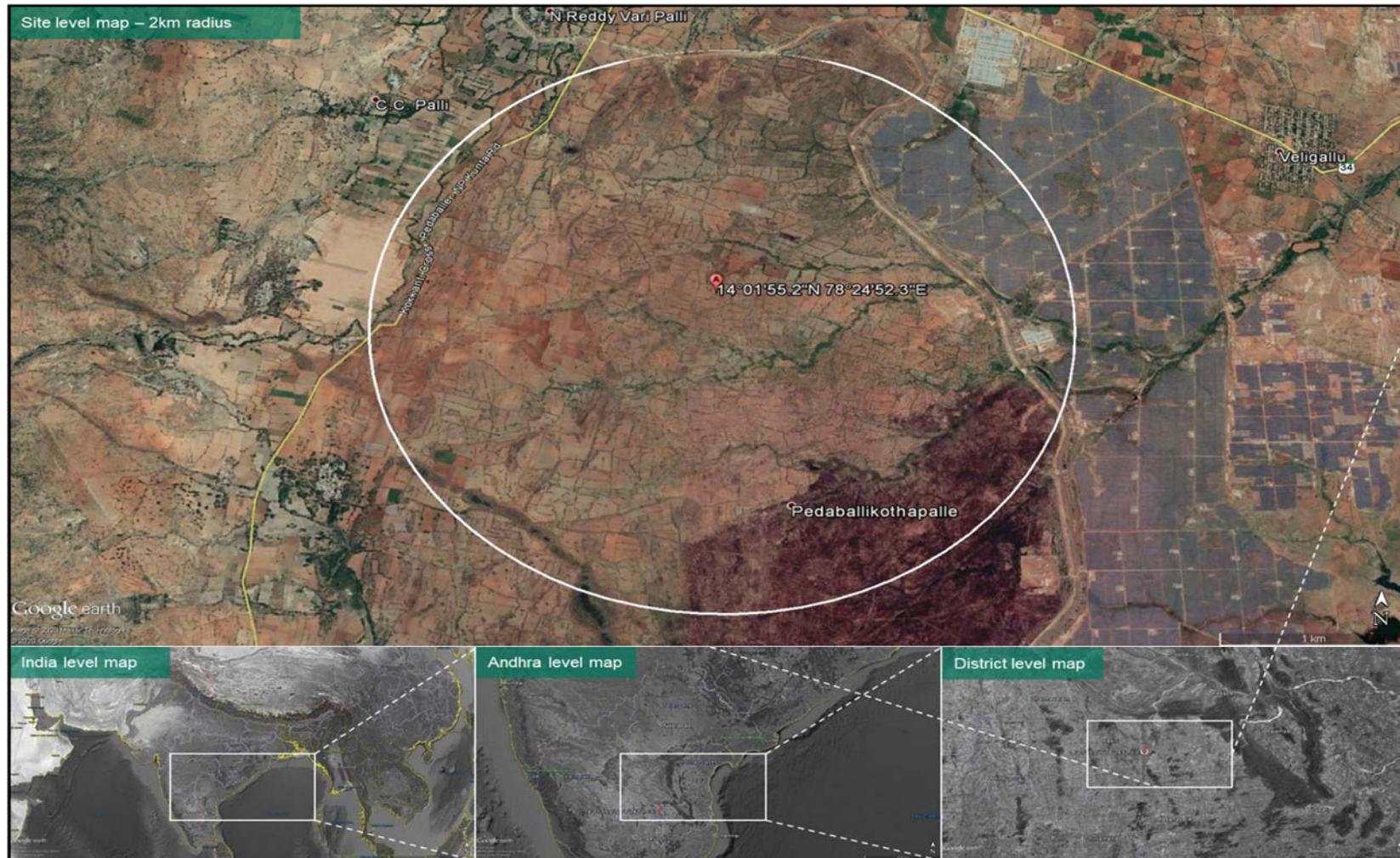
2.1.1 Location and Site setting

The proposed 250 MW solar plant (14°1'55.20"N, 78°24'52.29"E) is located at Ananthapuram Solar Park in N.P Kunta Mandal of Anantapuram district in the state of Andhra Pradesh. The project is being developed on land admeasuring 1274 acres comprising of primarily open scrubland with sparse vegetation. The topography comprises flat terrain with slight undulations. The elevation within project site ranges from 430 to 470 m above mean sea level, sloping from East to West.

The nearest habitation to the site is Nambula Pulakunta (N.P. Kunta) village located approximately 1 km (aerial distance) towards north direction. There are other operational solar power plants located adjacent to the site towards the east. Velligallu reservoir is located approximately 4km from the site towards southeast direction. There are seasonal watercourses passing through the site (refer **Figure 2.2**). Reportedly, these watercourses will not be re-routed or altered by the project activities.

The site is accessible through SH-34 and Kokkanti Cross-Pedaballe-NP Kunta road located approximately 650 m and 600 m (aerial distance) respectively towards east and west direction. The project will use existing road developed by APSPCL within the solar park to access the site and for transportation of construction material. The road connects to SH-34 at approximately 650 m (aerial distance) from the project location. The proposed site is situated approximately 30 km West of Kadiri town. The nearest airport is Kempegowda International Airport in Bangalore located at a distance of 180 km from the project site. The rail connectivity to the site is through the Kadiri Railway Station under south central railway zone which is at a distance of approximately 31 km from the site. Site location map of the project is presented in the figure below.

Figure 2.2 Site Location Map



Source: ERM

2.1.2 Plant Layout and Associated Facilities

The Solar Park comprises of three sub-sections A1, A2 and A3, where Ayana Ananthapuram Solar Pvt. Ltd. (AASPL) occupies section A1. The 250 MW (under construction) solar plant will include the following components

- Project Components:
- Solar PV Modules: Convert solar radiation directly into electricity through the photovoltaic effect;
- Module mounting systems: Allow PV modules to be securely attached to the ground at an angle;
- Inverters: Required to convert direct current (DC) electricity to alternating current (AC) electricity for supply to the utility grid;
- Step-up transformers: Transformer takes the output from the inverters to the required grid voltage (such as 11 kV, 22 kV, 33 kV and so on) depending on the level of power evacuation; and
- Grid connection interface: Consists of a switchyard that provides grid interface, i.e., electricity is exported to the grid network
- Main Control Room: Consist of SCADA room which operators use to monitor the plant and interact with remote devices.

Additional project infrastructure includes site office scrap yard, storage area

According to the Implementation and Support Agreement (ISA) dated 12th October 2018, the associated facilities such as transmission line connecting the solar plant to the PGCIL grid substation and external approach road will be under the scope of Andhra Pradesh Solar Power Corporation Private Limited (APSPCL).

The 4.6 km long transmission line having 16 towers have been already commissioned by APSPCL within the solar park and connectivity of the line with the 250 MW solar plant will be done prior to start of operation phase of the plant. The external access roads of 7m width is already developed by APSPCL for the solar park which will be used for accessing the 250 MW solar power plant as well for transporting construction material.

Figure 2.3 presents the layout of the AASPL within Ananthapuram Ultra Mega Solar Park.

2.1.3 Ecological setting

Based on review of ESIA report (December 2018) and ESDD report (February 2019) and desk based research, it is noted that the project does not fall within 10 km of any protected area (such as national park, wildlife sanctuary, biosphere reserves etc) and/or key biodiversity areas.

As per the ESIA study (2018), there are 82 floral species found within the 10 km of the project area. Some of these common wild plants found within 10 km of the project site includes *Karanj (Pongamia pinnata)*, *ber (Ziziphus nummularia)*, *mesquite (Prosopis juliflora)*, *lantana camara*, *Anisomeles indica*, *Calotropis procera*, *Calotropis gigantea*, *Cassia auriculata*, *Waltheria indica*, *Aristida setacea*, *Scilla indica*, *Stylosanthes hamata*, *Solanum xanthocarpum*. As per IUCN red list category, the above plants fall under least concern category.

According to the ecological survey, there are 36 mammalian and 52 bird species commonly found in the 10 km radius. Some of the key mammalian and reptile species include cobra (*Naja naja*), large bandicoot rat (*Bandicota indica*), Three striped squirrel (*Funambulus palmarum*), Rhesus Macaque (*Macaca mulatta*), Tree Snake (*Chrysopelea taprobanica*). Some of the key avian species found at the project area include Black-Shouldered Kite (*Elanus caeruleus*), Shikra (*Accipiter badius*), Small Blue Kingfisher (*Alcedo atthis*), Asian Koel (*Eudynamys scolopace*) and Black Kite (*Milvus migrans*). Most of the faunal species fall under schedule II, III and IV of Wildlife Protection Act, 1972 and are categorised as least concern as per IUCN red list category. However, Indian star tortoise (*Geochelone elegans*) is categorised as vulnerable as per IUCN category. Avian species like Black-Shouldered Kite, Shikra and Black Kite fall under Schedule I (absolute protection) of Wildlife Protection Act, 1972 but are categorised as least concern as per IUCN red list category.

2.2 Organisation structure

Tata Power Solar System Ltd. has been engaged as the EPC contractor for the Project.

Tata has deployed a dedicated safety team at the site including Site Safety Manager supported by Site Safety Engineer to monitor the safety aspects associated with the project;

An external consultant (TUV) has been engaged as the Project Management Consultant (PMC) to support the project site head in monitoring the work progress of EPC contractor and oversee the H&S and environment aspects;

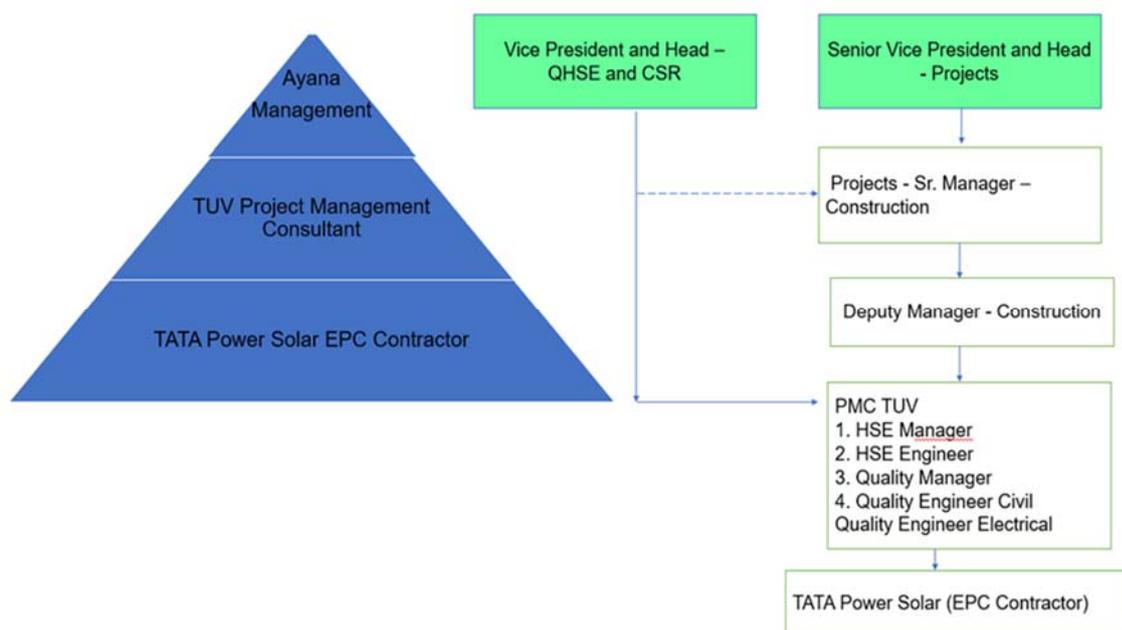
The Project Management Consultant (PMC) is also responsible for reporting the overall HSE status of the project to the QHSE Head at Corporate Level.

Ayana has deployed one (1) Site In-charge and one (1) Safety supervisor at the construction site to manage and monitor the Project. These are on roll- employees of Ayana.

In addition, there are other subcontractors for manpower supply and security services. These are discussed in **Section 2.2.1** below.

The site level organisation structure is presented below in **Figure 2.4**

Figure 2.4 250MW AASPL Project QHSE Organisation Structure



Source: AASPL

2.2.1 Details of Contractors

In addition to the EPC contractor and PMC, there are three (3) additional contractors for manpower supply and security services.

The contractor details are provided in **Table 2.1**.

Table 2.1 Contractor Details

Sl. No.	Name address of the contractor	Nature of work on Contractor	Number of workers deployed during construction work initiated in Feb 2019*
1.	TUV Management Consultant	Project Management Consultant	10
2.	Tata Power Solar Systems Limited	EPC of Solar Plant Work	16
3.	RIMS Manpower Solutions Pvt.Ltd	Man Power Supply	4
4.	Pyome Infra Solutions Pvt Ltd No.08	Man Power Supply	2
5.	Gansun. Global Solutions India Pvt	Security	41

Source: AASPL

**majority of the migrant workers have moved to their native places in view of COVID-19 pandemic situation. Details on the number of migrant workers currently available onsite is not known.*

Labour at site

At present, majority of workers are residents of the nearby villages such as NP Kunta. Out of the total number of third-party contracted migrant workers, who were deployed for construction work, majority of them moved to their native places in view of the COVID-19 pandemic situation; only a few migrant workers have remained for work on the site. Details on number of labourers presently available on site including migrant workers is not available. As confirmed by Ayana, there are no female workers on site at present.

Reportedly, temporary accommodation facilities were developed at site by the EPC; however, those will be used once more workers return to work. Further details on accommodation facilities have been provided in Table 3.2 in **Section 3**.

2.3 Environment and Social Management System of ARPPL

Note: The following sub-section provides a brief commentary on the E&S Management system of Ayana (ARPPL). It is to be noted that assessment of the ARPPL's ESMS including IMS, QHSE procedures and management measures is not under the scope of the current study. The scope comprises only project level assessment of AASPL against the requirements of the reference framework. The same has been presented below.

2.3.1 Integrated Management System Policy

ARPPL has established an Integrated Management System (IMS) at the corporate level to manage Quality, Health & Safety and Environment in its activities and operations. ARPPL has formulated a Quality, Health, Safety and Environment (QHSE) Manual which defines Company's QHSE Policy and objectives and provides overall guidance to the Company on QHSE aspects. The Manual also defines mandatory procedures pertaining to Quality, Health and Safety and Environment to be followed by the Company and its subsidiaries for all its activities and operations.

The QHSE Policy states the Company's commitment to continually improve QHSE performance and manage QHSE risks associated with the business activities, product and services through investment in renewable energy technologies. Additionally, ARPPL has also formulated a Community Development Framework, Grievance and Labour and Working Condition Policy.

The QHSE Manual defines the Organisational roles, responsibilities and authority within the Company structure. Roles and responsibilities of Heads of the Department, Board of Directors, CEO, MD and Head QHSE have been detailed. The Manual also defines Company's expectations from the leadership, presents the planning procedures, operational procedures, performance evaluation procedures and improvement procedures. The Head QHSE - CDP is a full-time employee of the Company who has deep experience in the renewable sector. In his role, he is responsible for implementation of the QHSE policies and procedures and reviewing and monitoring HSE performance for all business operations in the Company. The Head-QHSE-CDP directly reports to the Managing Director of the Company.

The IMS at the Corporate level defines a set of management procedures to be followed at each project site of ARPPL. The list of procedures applicable to ARPPL's projects are given below::

- Management procedure on Design & Engineering;
- Management procedure on Procurement;
- Management procedure on Project Quality;
- Management procedure on Administration;
- Management procedure on Operations and Maintenance;
- Management procedure on Documented Information;

- Management procedure on Human Resources;
- Management procedure on Environment And Social Aspects;
- Management procedure on Hazards identification and Risk Control;
- Management procedure on Management Review;
- Management procedure on Incident Investigation;
- Management procedure on Internal Audits;
- Management procedure on Non-conformity and Corrective action;
- Management procedure on Emergency Preparedness and Response;
- Management procedure on Grievance, Community Engagement and Consultation;
- Management procedure on Communication, Participation and Consultation;
- Management procedure on Waste storage handling and Disposal;

The Company utilises a software called 'Complinty' to keep a track of all national and local legislation with respect to operational, HSE and social aspects. The IMS also defines procedures for Trainings to be conducted on HSE.

250 MW Solar power Project at Ananthapuram: AASPL has hired TATA Power Solar System Limited as the EPC contractor. Tata Power has a documented Health, Safety and Environment Management System of their own. As reported by Ayana, the EPC contractor has implemented its own HSE procedures at site in addition to the HSE procedures of ARPPL. The status of implementation of HSE procedures has been detailed out in **Section 3** of this report.

2.4 Contextual setting of the Project– Environmental, Health and Safety

This section provides the HSE context of the Project, with respect to water requirement, waste management, fuel requirement, and occupational health and safety.

2.4.1 Water requirement

2.4.1.1 Construction Phase

Water requirement during construction phase is primarily for civil work, domestic and drinking purposes. Based on review of construction water usage register shared by Client, it is noted that approximately 5000-10,000 litres of water is used per day for construction activities. As reported by Client, water for construction phase is procured by EPC contractor through water tankers. It could not be verified whether the tanker water suppliers are abstracting water from registered bore wells. Additionally, review of domestic water usage register indicates that approximately 2000 litres of water per day is used for domestic purpose. Packaged water is procured from nearby villages.

According to the ESIA report (2018), AASPL had plans to install bore wells at the site for emergency purpose within its solar power plant. However, as confirmed by Client, bore wells have not been installed at site yet. The project, till now, has not assessed whether there would be a need of installing any bore wells in future.

Reportedly, no surface and groundwater monitoring have been conducted at site during construction phase. However, the said monitoring were conducted in 2018 for the project by M/s Opensense Labs Private Limited as part of the Environmental and Social Impact Assessment (ESIA). Based on review of monitoring results, it was observed ground water monitoring was conducted at two locations (GW1 and GW 2) and all the parameters for both the samples were found to be within limits as per IS10500:2012 except for TDS, Hardness and iron content in GW1 that exceeded the permissible limit.

Furthermore, all the parameters for surface water for both the locations were found to be within permissible limits defined by CPCB.

2.4.1.2 Operation Phase

Water requirement during operation phase will be primarily for module cleaning. It is estimated that approximately 1.5 litre of water will be required per module wash and 18 wash cycles per year will be undertaken for 11,20,000 PV modules. Therefore, approximately 30,240 KL of water will be required annually for module cleaning. For domestic purpose, water requirement is estimated to be 1500 litre per day and approximately 548 KL per year.

Reportedly, APSPCL will be responsible for providing water at the plant during operation phase. Water supply obligation of APSPCL is 16 KL/MW/month. Considering, 250 MW capacity of the ARPPL solar plant, total water to be supplied by APSPCL will be 4000 KL/ month and 48000 KL per year. In addition, 17212 KL of water is estimated to be surplus from demand and supply requirement.

According to the Implementation and Support Agreement (ISA) signed between APSPCL (SPPD) and Ayana Ananthapuram solar Private Limited (SPD) dated 12th October 2018, SPD shall be charged for water supply by SPPD at the rate of Rs. 10/KL which is fixed for the agreement period.

APSPCL has provisioned for a reservoir extending in 25 acres of land within Ultra Mega Solar Park for storage of water for requirement during operation phase of PV plants. APSPCL has connected natural drains and man-made canal with its reservoir to collect rain water. The APSPCL reservoir is also connected with Veligallu reservoir located approximately 4 km from the ARPPL plant towards east direction

2.4.2 Sources of Air and Noise Emission

Since the project is in construction phase, there may be potential impact on air and noise quality due to onsite construction activities. The likely emissions from construction activities would include the following:

- Fugitive emissions from site clearing, material handling, transportation, piling, use of construction machinery, etc.;
- Vehicular and noise emissions from increased traffic volume from vehicles used for transport of construction material; transportation of PV modules and accessories; and
- Exhaust and noise emissions from operation of diesel generators

The site has installed one DG set of 62.5 kW at the plant for meeting power requirement during construction phase. Based on review of diesel entry register, it was observed that 30 litres of diesel is used per day by the DG set at the site for meeting power requirement. Reportedly, other potential sources of emissions such as batching plant and ready mix plants have not been installed at site. As confirmed by Client, concrete mix are prepared by in a mobile concrete mixer (mounted on a chassis (Ajax model machine).

With regard to the onsite environmental monitoring, the site had conducted ambient air monitoring and ambient noise monitoring at two locations, in year 2018 as a part of ESIA study done by M/s Opensense Labs Private Limited. Based on review of results of the ambient air monitoring, it was noted that none of the parameters exceeded the NAAQS and WHO standards of ambient air quality except for PM_{2.5} at one of the location (AAQ1) which exceeded the WHO limit but was within the NAAQS limit. Noise levels were noted to be within the permissible limits. However, during construction phase, ambient air or noise monitoring has not been initiated yet.

Figure 2.5 62.5 kV DG set at Site

Source: Ayana Site Team

2.4.3 Waste Management

ARPPL has a dedicated waste management procedure as part of its integrated management system. The waste management procedure mandates segregated management of construction and demolition waste, food waste and hazardous waste. As reported, no hazardous wastes have been generated at site till date, therefore, identification of an authorised hazardous waste disposal vendor is yet to be done for a contractual agreement. In terms of fuel management, as reported by Client, diesel for DG set is procured from nearby diesel bank and no diesel containers are stored at site.

Reportedly, waste water generated at site is discharged into soak pits constructed for the project site. The EPC is responsible for disposal of construction wastes as per the requirements of the Construction and Demolition Waste Management Rules 2016. As per the ESIA report (2018), the construction waste generated at site will be reused by the contractor and the non-recyclable wastes will be disposed in an environmentally friendly manner. As reported by Client, an authorised vendor for disposal of construction waste is yet to be identified. The EPC contractor is responsible for safe disposal of bio-medical waste which might get generated from first aid treatment. The wastes will be sent to the Venkateshwara hospital located at village Velligalu. A medical services alliance agreement has been signed between the EPC contractor and the hospital dated 21.05.2020.

With respect to COVID-19 waste, as reported by Client, reusable masks are currently being used at site to prevent spread of the disease. Based on discussion with Client, it is understood, that COVID-19 related waste have not been generated at site till date. However, any COVID-19 related biomedical waste generated at site in future will be stored separately and disposed of as per the guidelines issued by state government

2.4.4 Occupational Health and Safety

The EPC contractor (TATA Power Solar Systems Limited) is responsible for maintaining a safe working environment for all workers present at construction site. AASPL has also deputed Project Management Consultant (TUV) to oversee the HSE aspects carried out by EPC contractor during construction phase.

Tata Power Solar System Limited has a dedicated Safety Team at site comprising - two site safety engineers and one site safety manager who are responsible for overlooking the health and safety aspects at the site.

In terms of OHS trainings, the EPC contractor have imparted trainings on toolbox talks, firefighting, working at height, personal protective equipment, protection of flora and fauna and material handling and COVID-19 awareness to the workers working at site. Mock drills have been conducted at site.

Training records for the month of May and June 2020 were reviewed. A site specific training calendar has been developed at site which included the following trainings:

- HSE Management System and Plan
- HSE Induction
- Fire Fighting and Prevention
- Hot Work- Gas Cutting, Welding and Grinding
- Lockout and Tag out
- Manual Material Handling
- Traffic Safety
- Work at heights
- Scaffold Safety
- Confined Space
- Site Safety Rules and Requirements
- Environment Protection
- Work Permit and Restrictions
- Personal Protective Equipment
- Excavation and Backfilling
- Electrical Safety
- Health and Hygiene
- Emergency Response Plan
- Hazardous Material Handling
- Fire Drill

The EPC contractor have also implemented permit to work system for high risk work and personal protective equipment such as safety helmet, safety vest and safety shoes have been provided to the workers. A first aid kit has been also provided at the project site.

Additionally, the EPC contractor has signed a medical services alliance agreement dated 21.05.2020 with Venkateshwara hospital in Velligalu, Kadiri district, Andhra Pradesh for treatment of its work force in case of emergency and disposal of small quantity bio-medical waste generated at site.

Photographs showing H&S training conducted at site and first aid kit available at site are presented in **Appendix A**.

2.5 Land Requirement

2.5.1 Land Requirement and Procurement Process

The sub-sections below present land status pertaining to the Solar Park and the 250 MW Ayana project. Land procurement process adopted for the Park level has also been discussed in a separate sub-section.

2.5.1.1 Land Requirement for 1500MW Solar Park

The 1500 MW Ananthapuram Ultra Mega Solar Park is being developed by Andhra Pradesh Solar Power Corporation Pvt. Ltd. (APSPCL) in the N.P. Kunta Mandal of Ananthapuram district and Galiveedu Mandal of Kadapa District of Andhra Pradesh. The land for 1500 MW Solar Park is

procured from the villages of Kothapalli (5128.31 acres) and N P Kunta (2052.7 acres). APSPCL was responsible for acquisition and procurement of land for the entire Solar Park. The land lease agreement has been signed between Andhra Pradesh Solar Power Corporation Pvt. Ltd. (Lessor) and AASPL (Lessee) on 23rd October 2018, for a period of 25 years. As per the Land lease agreement, APSPCL is responsible for development of common infrastructure in the Solar Park, comprising Internal Transmission System, Water Supply, Road Connectivity, Drainage systems, Weather stations and Street Lightings. The table below presents the breakup of land procured for Solar Park.

Table 2.2: Land Break up for Solar Park (in acres)

Village	Government Land	Assigned Land	Patta (Private) Land	Total
Kothapalli	3713.41	1262.28	152.62	5128.31
N. P Kunta	873.23	1070.93	108.54	2052.7
Total	4586.64	2333.21	261.6	7181.01

Source: 2018 ESIA report for the Project, provided by AASPL

The various categories of land procured by APSCPL for the Solar Park are explained below.

Box 2.1: Definitions of various land types in the project

Assigned Land-Assigned land is that land which was originally government land but was later assigned to people for agricultural/ residential use. Consultations with villagers and review of Andhra Pradesh Assigned Lands (Prohibition of Transfer) Act, 1977 indicated that this allotment granted villagers the right of use on the land. It is also understood that at those who were assigned lands prior to 1954 (G.O.Ms. Number 1142 dated 18th June 1954, wherein for the first time prohibition on transfer of assigned lands situated in Andhra Area was prescribed) can sell away their land and others who were assigned lands after 1954 could use the land but cannot sell it. Also, a condition (as reported during consultations) was added in the patta document stating that the government can withdraw the allotment for any developmental activity. As the assigned lands were granted pattas or documents stating user right on a particular parcel, the whole exercise of withdrawing the allotted patta gives these lands a local name of 'Depatta' land.

Patta or Private Land- Patta or Private land is self-explanatory meaning that these plots are privately owned and ownership of these plots is maintained by the local patwari or land revenue officer.

Government Land – The land, for which legal ownership lies with the Government.

SJ- stands for Sivai Jamedar which means tiller. "Sivai jamedar" is one who has been in occupation of the land at the time of consideration for its assignment provided he had been in continuous occupation of the land from the fasli (fasli year means a period of crop cycle starting from July to June) immediately preceding the one in which the assignment is considered.

As per the data provided, 3.6% of land for the Solar Park is purchased from private land sellers, while the rest is Government land and Assigned Land. As per information collected during primary socio-economic survey (and mentioned in 2018 ESIA report), approximately 1200 families are getting directly or indirectly affected by the overall activities of the 1500 MW Solar Park.

2.5.1.2 Land Requirement for 250 MW AASPL project

The 250 MW power project being developed by AASPL is situated on 1274 Acres of land allotted to Ayana (with 24 acres of unusable land), out of the approximately 7181 Acres of land for 1500 MW ultra -solar power park. The breakup of the land procured is presented in table below.

Table 2.3: Land ownership breakup of 250 MW AASPL power plant

Government Land Acquired in Acres	Assigned Land Acquired in Acres	Patta Land Acquired in Acres	Total Land Allotted to Ayana in Acres
610.59	582.38	81.04	1274.00

Source: Land Lease Agreement between APSPCL and AASPL

Based on review of Land Lease Agreement and understanding developed basis discussion with AASPL team, there were approx. 235 Assigned Land parcels and approx. 14 Private land parcels have been identified to be procured for 250 MW AASPL project.

2.5.1.3 Land Procurement Process

The land procurement for the Solar Park was under the scope of APSPCL (Solar Park level SPV), along with assistance from the state government and District Revenue Department of Ananthapuram.. APSPCL is contractually responsible for delivering vacant possession of land to AASPL, for the development.

The District Revenue Department has conducted the process of procurement of Assigned Land (as per LARR Act, 2013) and has handed over Government Land and Assigned Land identified for the project to New and Renewable Energy Development Corporation of Andhra Pradesh (NREDCAP), which in turn has handed over the possession of land to APSPCL. The purchase of private land parcel has been undertaken through direct discussions and negotiations with respective land sellers.

As per the updated ESIA report (ERM 2020), government has focussed on procuring land parcels that are not viable for cultivation and are left unused, for Solar Park.

It has been mentioned in the discussion with AASPL team and ESIA report (ERM 2020), that there have been community agitations and issues due to non-payment or delayed payment of compensation to the encroachers, who were claiming use of Government land for agriculture, especially in absence of correct legal documentation possessed by the claimants and various illicit claims. According to the ESIA report, consultation with APSPCL officials and AASPL team have highlighted that the compensation claims have been closed by payment of INR 1 lac per Households, for valid encroachment claims. As per a local newspaper article in 2018, Revenue officials & Joint collector visited NP Kunta Mandal and discussions were held with the farmers who were cultivating on Government land and payment of INR 1 lac was finalised as compensation amount. At present the land procurement is understood to be completed for entire Solar Park and all compensation claims are settled, as confirmed by Mandal Revenue Officer, NP Kunta. The land parcels are handed over to companies for construction of solar plant and the AASPL plot is also fenced.

Compensation Details

The private land owners (approx. 13 land owners), contributing to 6.3% of total land for 250 MW power plant, are reportedly paid a compensation of INR 3.25 lac per Acre. ERM reviewed two sample sale deeds for approximately 4 acres of land, that confirm the same. The sale deeds were signed between APSPCL and landowners (from NP Kunta village) on 25th March 2015. It is understood that amount paid to the Private landowners is more than government circle rate (for the year 2018-19), which is in the range of INR 1,00,000 to 1, 32,000 per acre in NP Kunta and P. Kothapalle village². On the other hand, the Assigned land owners are reportedly paid compensation at the rate of INR 2 lacs per acre. A preliminary notification certificate³ (Form VI under section 11(1) of the Right to

² <http://registration.ap.gov.in/UnitRateMV.do>

³ As per section 11 (1) Whenever, it appears to the appropriate Government that land in any area is required or likely to be required for any public purpose, a notification (hereinafter referred to as preliminary notification) to that effect along with details of the land to be acquired in rural and urban areas shall be published in the following manner, namely:—

Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Act, 2013 (No. 30 of 2013) – Andhra Pradesh (hereinafter called as ‘LARR act, 2013’) was shared with ERM⁴. Further, Advance land possession certificate and details of compensation (2015) for Assigned landowners was shared by AASPL, this document was duly signed by Revenue Divisional Officer, Kadiri.

The table below presents the rates understood to be paid for different categories of land.

Table 2.4: Land procurement rates

S. No	Land Ownership/ Claim	Number of Land parcels	Compensation amount (in INR)
1.	Private land (owners with valid Patta/ Old Patta), having selling rights	14 land parcels	3.25 lac per acre
2.	Assigned Land (Depatta land or DKT land)	235 land parcels	2 lac per acre
3.	Encroachers (cultivating of government vested land for generations within the site location) – referred to <i>Sivai Jamedar</i> by the Land Revenue Department	<ul style="list-style-type: none"> ■ 1150 – Initial claims from land users (for entire 1500 MW Solar Park)* ■ 934 – Reduced number of valid claims after verification of documents (for entire 1500 MW Solar Park) 	1 lac per head

Source: Discussion with APSPCL and Land Lease Agreement

*Break up for encroachers on 250 MW AASPL project not available

The procurement process followed for each land type is detailed in the sections below.

Patta or Private Land

The Private Land identified for the project comprises 14 private land parcels (as per Land Lease agreement) that are understood to be purchased through willing buyer willing seller principle. The owners of identified land parcels were approached directly by NREDCAP officials for discussion and negotiation for sale of land for the Solar Park.

(a) in the Official Gazette;

(b) in two daily newspapers circulating in the locality of such area of which one shall be in the regional language;

(c) in the local language in the Panchayat, Municipality or Municipal Corporation, as the case may be and in the offices of the District Collector, the Sub-divisional Magistrate and the Tehsil;

(d) uploaded on the website of the appropriate Government;

(e) in the affected areas, in such manner as may be prescribed.

(2) Immediately after issuance of the notification under sub-section (1), the concerned Gram Sabha or Sabhas at the village level, municipalities in case of municipal areas and the Autonomous Councils in case of the areas referred to in the Sixth Schedule to the Constitution, shall be informed of the contents of the notification issued under the said sub-section in all cases of land acquisition at a meeting called especially for this purpose.

(3) The notification issued under sub-section (1) shall also contain a statement on the nature of the public purpose involved, reasons necessitating the displacement of affected persons, summary of the Social Impact Assessment Report and particulars of the Administrator appointed for the purposes of rehabilitation and resettlement under section 43.

(4) No person shall make any transaction or cause any transaction of land specified in the preliminary notification or create any encumbrances on such land from the date of publication of such notification till such time as the proceedings under this Chapter are completed:

Provided that the Collector may, on the application made by the owner of the land so notified, exempt in special circumstances to be recorded in writing, such owner from the operation of this subsection:

Provided further that any loss or injury suffered by any person due to his wilful violation of this provision shall not be made up by the Collector.

(5) After issuance of notice under sub-section (1), the Collector shall, before the issue of a declaration under section 19, undertake and complete the exercise of updating of land records as prescribed within a period of two months.

4

Government Land

As per Land Lease agreement (LLA), about 194 Government land parcels have been transferred for the development of Solar Park. The list of identified land parcels has been shared with District Revenue department and the land has been leased from Revenue department to NREDCAP for a period of 99 years. NREDCAP has further handed over the land parcel to APSPCL for use in the 1500 MW Solar Park.

Encroachment

There have been some encroachment activities prevalent in the area by *Sivai Jamedar* (Encroachers), and the above mentioned agitations by community on land use compensation claims have been regarding the non-title use of vacant/unused Government land, for opportunistic cultivation by the local community. As discussed above, the compensation claims have been closed by payment of INR 1 lac per Households, for valid encroachment claims. At present the land procurement is understood to be completed for entire Solar Park and all compensation claims are settled, as per consultations with Mandal Revenue Officer (MRO), of village NP Kunta. A drone survey was conducted by AASPL in the year 2018, before taking possession of land from APSPCL and no settlement/encroachment or structures were identified. The land had only a few patches of agriculture land which is now confirmed to be clear (by AASPL), the plot is fenced and construction activities are ongoing for AASPL.

Assigned Land

There are approx. 235 land parcels understood to be procured for 250 MW AASPL Plant of Solar Park (as per LLA). As per the provisions of the LARR, act 2013, a Social Impact Assessment needs to be undertaken for the procurement of land for the projects. The consultations with APSPCL officials stated that a Social Impact Assessment has been undertaken in the year 2015-16. As discussed above a preliminary notification as per section 11(1) of the said act was shared with ERM for review. However the SIA report has not been made available to AASPL or ERM, by APSPCL. The consultations with Assigned land owners also confirmed that SIA linked consultations were undertaken in 2015, followed by a Public Hearing in 2015-16. The types of grievances raised comprised of delayed payments of compensation or insufficient compensation. It is understood from the discussion with MRO and limited consultation with Assigned landowners that currently there are no claims of pending compensation.

Reportedly, the negotiations with the Assigned land owners were conducted by the Tehsildar and Mandal Revenue Officer (MRO), based on review of Land Passbook records possessed by Assigned land owner that states ownership. After review of documents and negotiation process, the land was procured by Revenue department, compensation was paid to the Assigned land owners and land was transferred to NREDCAP for further use by APSPCL.

2.5.1.4 Project Related Land Procurement and Specific Issues

Table 2.5 Project Related Land Procurement Issues

S. No	Specific Issue	Details
1.	Schedule V Area ⁵ (Designated Tribal Inhabited Area)	The project is not being set up in a Schedule V area, as Ananthapuram district does not have notified Schedule V areas, as per Ministry of Tribal Affairs list.
2.	Tribal (Schedule Tribe) Land	As per Census of India, 2011 there is approx. 3.2 percent of ST population in the study area. However, the land procurement for the project did not result in physical displacement of Tribal households. There can be some livelihood related impacts due to encroachment of Government land by the local population; however the extent of Tribal households being impacted due to procurement of land due to project is not known till the compilation of this report
3.	Landlessness	The land identified for the project comprises mostly of Government land and Assigned land, with very small proportion of private land (6.3% for AASPL and 3.6% for the 1500 MW Solar Park). The Assigned land owners belong to vulnerable groups, who were assigned land parcels for livelihood related use. The extent of land procured from Assigned land owners and their remaining land holdings post project related land procurement is not presently known by ERM. There were sample consultations undertaken with Assigned Land Owners, where it was understood that some Assigned land holders may have been rendered landless post procurement of land for solar project; however the consulted Assigned Land owners reported that they opportunistically cultivate Government land parcels at locations (outside Solar Park), which were more viable for agriculture, due to better water availability.
4.	Common Property Resources	The Government land identified for the project was being used for cattle grazing by the residents of the nearby villages.
5.	Cultural Resources	There are small mosques and temples located near the identified land parcels outside solar park boundary; however no sites of religious and/ or cultural importance have been identified to fall within the identified land parcels for the project

⁵ In the Constitution of India, the expression "Scheduled Areas" means such areas as the President may by order declare to be Scheduled Areas. The criteria followed for declaring an area as Scheduled Area are preponderance of tribal population; compactness and reasonable size of the area; under-developed nature of the area; and marked disparity in economic standard of the people. These criteria are not spelt out in the Constitution of India but have become well established. (Source: Official website of the Ministry of Tribal Affairs (MoTA), Government of India (GoI). URL: <http://tribal.nic.in/Content/DefinitionofScheduledAreasProfiles.aspx>. Accessed on 27.08.2016.

2.6 Regulatory Requirements and Status of Applicable Permits

Table 2.6 Status of Applicable Permits

S.No.	Applicable Legal Requirements	Agency Responsible	Status	Remarks
1.	Power Purchase Agreement (PPA)	Solar Energy Corporation of India Limited (SECI)	Obtained	PPA was executed between AASPL and NTPC Ltd. on 17 th July 2018
2.	Chief Electrical Inspector to Government (CEIG) Approval for transmission line	Electrical Inspectorate, Government of Andhra Pradesh	Not Applicable	Reportedly, construction and operation of transmission line is under the scope APSPCL. Hence, approvals for transmission line will be obtained by APSPCL. Ayana to continue their follow up and liaison with APSPCL regarding the status of transmission line NoC from PGCIL.
3.	Prior Environmental Clearance as per Environment Impact Assessment (EIA) Notification 2006 and amendments	Ministry of Environment Forest and Climate Change (MoEFCC) or the State Environmental Impact Assessment Authority (SEIAA).	Not Applicable	Since solar power projects does not fall within the Schedule of EIA Notification (2006) and its amendments, therefore, project does not require prior environmental clearance (EC) from Ministry of Environment Forest and Climate Change (MoEFCC) or the State Environmental Impact Assessment Authority (SEIAA).
4.	Consent to Establish (CTE) / Consent to Operate (CTO) under the Air Prevention and Control of Pollution Act, 1981 (Air Act, 1981) and Water Prevention and Control of pollution) Act, 1974 (the Water Act 1974)	Central Pollution Control Board (CPCB) Andhra Pradesh Pollution Control Board (APPCB)	Not Applicable	As per CPCB notifications vide Ref No: B-29012/ ESS (CPA)/2015-2016 dated 07.03.2016 and No. B-29012/ESS/CPA/2016-17/ dated 18.01.2017, "solar power generation through solar photovoltaic cell (plants of all capacities), wind power generation plants of all capacities and mini hydel power plants having capacity less than 25 MW" has been classified to "white category" from "green category" and therefore "there shall be no necessity in obtaining 'Consent to Establish and Operate' for white category except intimation to the concerned SPCB/ PCC. Based on discussion with Client, it is understood that no batching plant has been installed at the site for construction activities. The concrete mixing is taking place via azex machine which is a mobile vehicle. Additionally, a DG set of 62.5 kW is used at site for power requirement. Hence, CTE/CTO for ready mix plant or DG set is not applicable to the site.

S.No.	Applicable Legal Requirements	Agency Responsible	Status	Remarks
5.	Intimation Letter to SPCB for White Category of Industries	Andhra Pradesh Pollution Control Board (APPCB)	Obtained	AASPL had shared intimation letter with Andhra Pradesh Pollution Control Board (APPCB) "to establish 250 MW solar power plant under white category" on 21.12.2018 and also received acknowledgement on the same from APPCB on 27.12.2018.
6.	Hazardous Waste Authorisation as per Hazardous Waste (Management and Transboundary Movement)	Andhra Pradesh Pollution Control Board (APPCB)	Not applicable	As per Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2019, an occupier shall not be required to obtain an Hazardous Waste Authorization from SPCB in case Consent to Establish (CTE) or Consent to Operate CTO is not required under The Air (Prevention and Control of Pollution) Act, 1981 and The Water (Prevention and Control of Pollution) Act, 1974. Provided that the hazardous and other wastes generated by the occupier shall be given to the actual user, waste collector or operator of the disposal facility in accordance with CPCB guidelines. Since the project does not require CTE and CTO under the Air Prevention and Control of Pollution Act, 1981 (Air Act, 1981) and Water Prevention and Control of pollution) Act, 1974 (the Water Act 1974) Hence hazardous waste authorization is not applicable for the project. However, AASPL is required to dispose hazardous waste through an authorised hazardous waste vendor only.
7.	Land Lease Agreement	AASPL	Land lease agreement signed on 23 rd October,	The land lease agreement has been signed between Andhra Pradesh Solar Power Corporation Pvt. Ltd. (Lessor) and AASPL (Lessee) on 23rd October 2018, for a period of 25 years. As per the Land lease agreement, APSPCL is responsible for development of common infrastructure in the Solar Park, comprising Internal Transmission System, Water Supply, Road Connectivity, Drainage systems, Weather stations and Street Lightings.
8.	No Objection Certificate (NOC) from Gram Panchayat for development of project	Gram Panchayat	Falls under the purview of APSPCL	This provided as part of the lease agreement
9.	Land Use Change	District Revenue Department/ District Commissioner	Falls under the purview of APSPCL	This provided as part of the lease agreement

S.No.	Applicable Legal Requirements	Agency Responsible	Status	Remarks
10	Principal Employer License under Contract Labour (Regulation and Abolition) Act, 1970	Department of Labour, Government of Andhra Pradesh	The license was obtained on 24.11.2018 and valid upto 31.03.2021	License obtained as per Sec2 (d) and 4(2) of the Andhra Pradesh (Issuance of Integrated Registration and Furnishing of Combined returns under various Labour Laws by certain Establishments) Act, 2015.
11	Building and other Construction Workers (regulation of employment and conditions of service) Act, 1996	Department of Labour, Government of Andhra Pradesh		
12	Provident Fund Registration	Department of Labour, Government of Andhra Pradesh	The EPC contractor TATA Power has PF registration (2482003003944), Gansun Global Solutions India Pvt.(1212005004975), and Pyome	-
13	Private Security Registration License for Security Service Providers	State's designated Controlling Authority	Not shared for review	As informed by AASPL, the security agency has obtained the license. However, the same has not been shared for review.

2.7 External Factor Review

An external factors review (EFR) was undertaken for the 250 MW solar power project within the scope of this Due Diligence. Based on the following observations were made.

Table 2.7 External Factors Review

S. No	Topic/ Issue	Date	Reference Link	Current Status
1.	<p>Public hearing in the matter of approval of Power Sale Agreement (PSA) signed by APDISCOMs with M/s. NTPC and regulation of price under Section 86 (1) (b) of the Electricity Act, 2003 for purchase of power from 750 MW (Phase - II) Solar Park at NP Kunta, Anantapuram District</p> <p>Appeal filed by the solar power plants challenging impugned order dated 05.10.2019 passed by Andhra Pradesh Electricity Regulatory Commission. APPEAL NOS. 368, 369, 370, 371, 372 & 373 OF 2019</p>	05.10.2020	<p>http://aperc.gov.in/admin/upload/PSAagreement.pdf</p> <p>http://www.aptel.gov.in/sites/default/files/A.Nos.</p>	The issue has been resolved now. Please see section 2.1 for further details
2.	<p>Work on the Ultra Mega Solar Park at Nambulapulakunta (N.P. Kunta) in the district came to a halt due to the compensation issues.</p>	07.06.2019	<p>https://www.thehindu.com/news/national/andhra-pradesh/work-on-nambulapulakunta-solar-park-comes-to-a-standstill/article27585237.ece</p>	As informed by APSCPCL, AASPL and MRO, the issue has now been resolved. The same is discussed in detail in Section 2.5.1

3. KEY OBSERVATIONS AND GAP ASSESSMENT

3.1 Applicability of International Standards

Applicability of international standards for the Project has been provided in table below

Table 3.1 Applicability of International Standards

S. N	International Standard & Requirements	Applicability
1.	<p>PS-1 of IFC Performance Standards 2012 Assessment and Management of Environmental and Social Risks and Impacts. The client will establish and maintain a Social and Environmental Management System appropriate to the nature and scale of the project and commensurate with the level of social and environmental risks and impacts.</p> <p>AiIB E&S Standards ESS 1: Environmental and Social Assessment and Management</p>	Yes
2.	<p>PS-2 of IFC Performance Standards 2012 Labour and Working Conditions</p> <p>AiIB E&S Standards ESS-1 - Environmental and Social Assessment and Management</p>	Yes
3.	<p>PS-3 of IFC Performance Standards 2012 Resource Efficiency and Pollution Prevention</p>	Yes
4.	<p>PS-4 of IFC Performance Standards 2012 Community Health, Safety and Security</p>	Yes
5.	<p>PS-5 of IFC Performance Standards 2012 Land Acquisition and Involuntary Resettlement</p> <p>AiIB E&S Standards ESS- 2: Involuntary Resettlement</p>	No
6.	<p>PS- 6 of IFC Performance Standards 2012 Biodiversity Conservation and Sustainable Management of Living Natural Resources</p>	No
7.	<p>PS- 7 of IFC Performance Standards 2012 Indigenous Peoples</p> <p>AiIB E&S Standards ESS-3: Indigenous Peoples of AiIB Environmental & Social Standards 2016.</p>	No
8.	<p>PS- 8 of IFC Performance Standards 2012 Cultural Heritage</p>	No

3.2 Gap Assessment with respect to Reference Framework

A gap assessment of the environmental and social performance of the 250 MW under construction solar power project has been undertaken vis-à-vis the applicable reference framework and presented in **Section 1.3**. The compliance definitions used in the assessment are as provided in the **Table 1.2**.

Table 3.2 Key Observations and Gap Assessment

S. No.	IFC Requirements	AiIB	Observations	Gaps identified	Level of Compliance	Recommendation
1	E&S risk assessment and management					
	IFC PS 1 Assessment and Management of Environmental and Social Risks and Impacts	Environmental and Social Standard 1: Environmental and Social Assessment and Management				
1.1	The client will establish and maintain a Social and Environmental Management System (SEMS) appropriate to the nature and scale of the project and commensurate with the level of social and environmental risks and impacts. The SEMS will incorporate the following elements: EHS Policy, E&S Impact Assessment, Management program, Organisational capacity, Training, Community engagement , Monitoring, Reporting	AiIB Requirement Environmental and Social Assessment: Conduct an <u>E&S assessment for the proposed Project</u> to identify risks and impacts in the Project's area of influence.	ARPPL at the corporate level has established an Integrated Management System (IMS) to manage Quality, Health & Safety and Environment aspects in its activities and operations. In line with this, the Company has formulated a Quality, Health, Safety and Environment (QHSE) Manual which defines Company's QHSE Policy and objectives and provides overall guidance to the Company on QHSE aspects. The manual is followed at all the project sites of ARPPL (Refer Section 2.3) Additionally, AASPL has hired TATA Power Solar System Limited as the EPC contractor who has developed their own Contractor Health, Safety and Environment Management System to manage Health Safety and	Nil	AL	Nil recommendation

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			Environment (HSE) aspects associated with the project.			
1.2	Policy: The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance. The client will communicate the policy to all levels of its organization	AIIB Requirement AIIB recognizes that environmental and social sustainability is a fundamental aspect of achieving outcomes consistent with its mandate to support infrastructure development and enhance interconnectivity in Asia. The objective of this overarching policy is to facilitate achievement of these development outcomes, through a system that integrates sound environmental and social management into Projects.	<p>ARPPL has a dedicated QHSE policy duly signed by the Managing Director and Chief Executive Officer, which states Company's commitment to continually improve QHSE performance and manage QHSE risks associated with the business activities, product and services through investment in renewable energy technologies. In addition, ARPPL has Grievance Redressal Mechanism Policy, POSH and community development framework, which is applicable to all their sites. Details are provided in row 1.8, 1.9 and section 2 of this table.</p> <p>Additionally, the EPC contractor has its own Health, Safety and Environment Policy which is also implemented at the site.</p> <p>Based on review of photographs of site at site, it is understood that ARPPL's QHSE Policy is displayed at site at designated location along with EPC Contractor's HSE Policy.</p>	Nil	AL	Nil

S. No.	IFC Requirements	AiIB	Observations	Gaps identified	Level of Compliance	Recommendation
1.3	<p>Identification of Risks and Impacts: The client will conduct a process of Social and Environmental Assessment that will consider in an integrated manner the potential social and environmental (including labour, health, and safety) risks and impacts of the project. The ESIA should cover the project area of influence across the project lifecycle.</p>	<p>AiIB Requirement Environmental and Social Assessment: Conduct an E&S assessment for the proposed project to identify risks and impacts in the Project's area of influence.</p>	<p><u>Hazard Identification and Risk Assessment (HIRA)</u> In line with the ARPPL's ARP-IMSP-24 (Hazard Identification and Risk Control), a hazard identification and risk assessment was conducted by the EPC contractor on 05.11.2018 which included identification of hazards and risks associated with the site activities such as surveying, material handling, hot work, road work, module mounting etc. and suggested control measures and assigned risk rating to each activity.</p> <p><u>Environmental And Social Impact Assessment (ESIA)</u> In line with ARPPL's ARP-IMSP-23 (Environmental and Social Aspect), AASPL conducted an Environmental and Social Impact Assessment study for the 250 MW solar power plant in December 2018 through an external consultant. However, the ESIA report was recently updated again in June 2020 by ERM based on comments shared by AiIB on the initial ESIA report. The updated ESIA report covered impact on HSE aspects (air, water, noise, soil, OHS), social aspects (labour, community, economy</p>	<p><u>Hazard Identification and Risk Assessment (HIRA)</u> The HIRA was conducted in 2018, when the site was greenfield and no construction activities were started. The HIRA has not been updated post start of construction phase.</p> <p><u>Safety Audit</u> About 88 observations were identified as part of the audit, out of which 65 were closed and 29 were open. No further information was shared on the measures implemented to close the 29 observations.</p> <p>The safety audit was conducted in 2019 and based on review of documents shared by Client, it is understood that no audit has been</p>	PA	<ul style="list-style-type: none"> AASPL shall ensure that EPC contractor updates the existing HIRA by identifying hazards and risks taking into account present scenario of construction phase AASPL shall ensure that the remaining 29 observations identified as part of the audit are closed after implementing adequate mitigation measures; The HSE audit by PMC shall be conducted on monthly basis and report shall be shared with AASPL.

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>and employment) and ecological aspects due to the project during construction, operation and decommissioning phases.</p> <p>As part of the ESIA study (2018), air quality, surface and ground water quality and ambient noise monitoring was conducted at the site.</p> <p><u>Safety Audit</u></p> <p>A safety audit was conducted at the site in the month of March-April 2019 by the Project Management Consultant (TUV) on behalf of AASPL to monitor the work of EPC contractor w.r.t HSE aspects. Based on review of the daily safety audit report shared by Client, it is understood that the audit was conducted daily for the month of March –April 2019 starting from 13.03.2019-28.04.2019). The safety report covered observations related to activities like waste management, excavation, drilling, test piling, storage, use of JCB etc.</p>	conducted at site by PMC in May and June 2020		
1.4	Legal Register - Establish Legal requirements for both social and environmental parameters - Applicable laws and	NA	ARPPPL has an existing procedure - IMS procedure ISMP-31 on Compliance Management which defines procedure for timely compliances and regular monitoring.	Nil	AL	None

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
	regulations of the jurisdictions in which the project operates that pertain to social and environmental matters, including those laws implementing host country obligations under international law, will also be taken into account.		<p>The Company has implemented a software called 'Complinity' which is a web based interface to keep a track of all project specific national and local legislation, permit and licenses with respect to HSE and social aspects.</p> <p>The app specified actions required against legal permits by through email alerts.</p>			
1.5	<p>Management Programs</p> <p>Management of a programme (with defined desired outcomes as measurable events) to mitigate and implement improvement measures and actions that address identified social and environmental risks and impacts.</p>	NA	<p>ARPPL has developed management procedures as part of its IMS (Refer Section 2.3). The management procedures are applicable for the current Project as well;</p> <p>As part of the updated ESIA dated June 2020, site specific environmental and social management plan has been developed for the project applicable for construction, operation and decommissioning phases. The site specific ESMP included mitigation measures against risk/hazards associated with each activity identified during ESIA study, monitoring schedule, roles and responsibilities for ensuring</p>	<p>The contractor has not developed any site specific management plan for the Project except for EPRP.</p> <p>Additionally, the HSE management system does not include social aspects such as community health and safety, grievance mechanism etc.</p>	PA	In addition to the Contractor's HSE Management system. It is recommended that Contractor should implement the ESMP developed as part of the ESIA, 2020 at site.

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>implementation of suggested measures and reporting requirement;</p> <p>Additionally, the EPC contractor has its own management plan on material handling and storage which is being followed at the 250 MW site;</p> <p>The EPC contractor has also developed a standard operating procedure (SOP) for safety precautions against COVID-19 which is being followed at site;</p> <p>A site specific Emergency Preparedness and Response Plan (EPRP) was developed by the EPC contractor that is implemented at the site (Refer Row 1.8)</p>			
1.6	Define organizational structure with well-defined roles, responsibilities and authorities	AIIB requires the client to include organizational arrangement to manage E&S related responsibilities.	<p>Section 2.2 details out site level organisation structure for the 250 MW solar plant.</p> <p>The EPC Contractor has a dedicated safety team at the site to monitor the safety aspects associated with the project;</p> <p>AASPL has appointed a Project Management Consultant (TUV) to support the site head in monitoring the work progress of EPC contractor and oversee the HSE aspects;</p>	Nil	AL	Nil Recommendation

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			The Project Management Consultant (PMC) is responsible for reporting the overall HSE status of the project to the QHSE Head at Corporate Level.			
1.7	Monitoring and Review	AIIB Requirement Implementation and Monitoring: Implement the ESMP and ESMPF (as applicable) and monitor their effectiveness, document monitoring results, and disclose monitoring report.	<p>The PMC conducts Safety audit at the site to monitor the work progress of the EPC contractor and overall HSE status at site and share the results to the QHSE Head at Corporate level on monthly basis;</p> <p>The EPC contractor also shares monthly report on its HSE work to PMC which includes weekly HSE Performance Statistics, trainings imparted to workers on H&S, vehicle inspection data, equipment inspection data, fire extinguisher inspection and incident/accident reports</p> <p>As reported by Ayana team, the monthly reports of EPC contractors are verified by PMC and then shared with AASPL Site Head and QHSE Head at Corporate level</p> <p>Additionally, incident reporting statistics was also shared on June 2020 from AASPL Site Head to the QHSE Head at the corporate level.</p>	It is understood no audit has been conducted by PMC and EPC contractor since May-June 2020 after the construction work had resumed.	PA	<ul style="list-style-type: none"> ■ The PMC should conduct audit on monthly basis and share the HSE results to the QHSE Head at Corporate Office; ■ Similarly, EPC contractor shall conduct HSE monitoring on monthly basis for the remaining months of construction phase starting June 2020 and share the results with AASPL.

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
1.8	<p><u>Emergency Preparedness and Response</u></p> <p>Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, the ESMS will establish and maintain an emergency preparedness and response system.</p> <p>The emergency preparedness and response activities will be periodically reviewed and revised, as necessary, to reflect changing conditions</p>	<p>The client should put in place preventive and emergency preparedness and response measures to avoid, or where avoidance is not possible, to minimize adverse risks and impacts of the Project on the health and safety of local communities.</p>	<ul style="list-style-type: none"> ■ A site specific Emergency Preparedness and Response Plan (EPRP) was developed by the EPC contractor; ■ The EPRP includes site emergency layout, emergency contact numbers, emergency assembly point, reporting structure in case of emergency, precautionary measures against snake/reptile bite, fire and explosion, collapse of crane during lifting heavy materials, fall from height and electrocution; ■ The EPRP also includes emergency response in case of serious accident. 	<p>Based on review of the EPRP, it was observed that the emergency contact numbers did not include phone number and distance of nearest fire station and police station.</p>	PA	<p>AASPL should ensure that EPC contractor revise its EPRP and add emergency contact number and distance of nearest fire station and police station.</p>
1.9	<p><u>Stakeholder Engagement Plan (SEP):</u></p> <p>The client will develop and implement a Stakeholder Engagement Plan that is scaled to the project risks and impacts and development stage, and be tailored to the characteristics and</p>	<p>AIIB Requirement</p> <p>AIIB believes that transparency and meaningful consultation is essential for the design and implementation of a Project and works</p>	<ul style="list-style-type: none"> ■ As part of the updated ESIA report (ERM June 2020), a formal stakeholder identification and analysis has been done.. The important aspects of Stakeholder analysis includes the following information: <ul style="list-style-type: none"> - Identified stakeholders; - profile and key concerns and expectation of stakeholders; 	<ul style="list-style-type: none"> ■ ARPPL does not have a SEP/framework at the corporate level, which can serve as a template for guiding the Project for preparation of site specific Stakeholder Engagement Plans 	PA	<p>It should be ensured that AASPL develops a site level SEP/framework. In addition to the stakeholder analysis and identification done in ESIA site level SEP should include the following:</p> <ul style="list-style-type: none"> ■ Mode and topic of engagement and timeline;

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
	interests of the Affected Communities	closely with its Clients to achieve this objective Stakeholder Engagement: Stakeholder engagement should be conducted in a manner commensurate with the risks to, and impacts on, those affected people,	<ul style="list-style-type: none"> - Feedback received by the neighbouring community (ESIA 2018) <p>As per the ESIA report (2018), the main expectations by the community was the increase in employment opportunities, which will eventually lead to increase in their income and their standards of living will increase.</p> <p>A few people from the Project area, also raised concerned over payment of land compensation. It is understood that they did not have ownership of the land (no documents) however they were enjoying rights over the land and were claiming compensation for the land.</p> <p>In addition, ARPPL has its Community Development Framework. In line with this framework, AASPL along with other partners such as DFID, SEWA Bharat, CDC, SEED CSR, Xynteo are undertaking 'Pilot project on skill development & livelihood generation in green jobs' in the nearby villages (NP Kunta and P. Kothapalli villages). The main aim of program is to promote gender equality and empower women to acquire right set of skills that enable</p>	<p>in a consistent manner across all sites</p> <ul style="list-style-type: none"> ■ The site has maintained grievance register (see 1.10 below), however, there is no guideline for the following: <ul style="list-style-type: none"> - Mode and topic of engagement and timeline; - Mode of Engagement and Output Document; - Resources and Responsibilities; - Monitoring, Reporting and Disclosure 		<ul style="list-style-type: none"> ■ Mode of Engagement and Output Document; ■ Resources and Responsibilities; and ■ Monitoring and Reporting.

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			them to have access to job opportunities upcoming in close proximity to their residences and entrepreneurship, reducing migration and improving livelihood. The detail report was shared with ERM.			
1.11	<p><u>Grievance Redressal mechanism (GRM)</u></p> <p>Targets will implement and maintain a procedure for external communications that includes methods to:</p> <p>Receive and register external communications from the public;</p> <p>Screen and assess the issues raised and determine how to address them;</p> <p>Provide, track, and document responses, if any; and</p> <p>Adjust the management program, as appropriate.</p> <p>In addition, Targets are encouraged to make</p>		<ul style="list-style-type: none"> ■ As part of IMS manual of ARPPL, GRM is developed at corporate and site level; ■ AASPL has a special Grievance Cell comprising of all top management persons and site Managers. The cell is established for addressing the grievances of third party/ stakeholders, project staff and contracted staffs that has direct contact with project affected communities. The GRM mentions that information for filing a grievance shall be displayed at site, along with the details of lodging the grievances through various modes. As per the photographic evidence provided by AASPL, GRM has been displayed on site (in local language); ■ In addition, updated ESIA report (ERM, June 2020) provides the 	<ul style="list-style-type: none"> ■ There is lack of clarity on training provided to employees and contract worker regarding the GRM. ■ In addition, the GRM does not clearly define the roles and responsibility and defined timelines. 	PA	<p>As a good practice, the GRM should be updated for both internal and external stakeholders with the following :</p> <ul style="list-style-type: none"> ■ Define roles & responsibilities at site level and define timelines for addressing grievances and process of escalation; ■ Routes available for employees/workers (maintaining anonymity) to lodge a grievances. ■ Provide training/awareness (relevant to their exposure and responsibilities) shall be provided to both employees and contractual worker regarding the GRM.

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	publicly available periodic reports on their environmental and social sustainability. Where there are Affected Communities, the client will establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the client's environmental and social performance.		<p>format for recording the grievances;</p> <ul style="list-style-type: none"> The site has also maintained grievance register for both community and workers separately. This includes, date of receiving grievance, responsibilities, date of closing the grievance; According to the registers shared, there have been 2 community grievance related to land. This was received in 2019 and matter was escalated to APSPCL and closed. 			
2	Labour and Working Conditions					
	IFC PS 2 Labour and Working Conditions	AIIB's ESS1: Environmental and Social Assessment and Management	Observations	Gaps Identified	Level of Compliance	Recommendation
2.1	<p>Human Resources Policies</p> <p>A Human Resources policy which sets out its approach to manage employees</p>	<p>AIIB Requirement</p> <p>AiIB recognizes the important role played by workers and their representatives in the development process and their</p>	<p>ARPPL has an Employee Handbook which has description of policies and procedures applicable to all their full time employees in India. The handbook comprises of the following major policies such as:</p>	<p>There is no mention of overtime work and wages policy for employees and contractors in ARPPL's employee handbook or IMS manual</p>	PA	<p>The Employee Handbook should be updated with the following:</p> <ul style="list-style-type: none"> Overtime work and wages policy for employees and contractors;

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
	consistent with the requirement of this PS.	contribution to sustainable economic growth. It believes that the following measures contribute to the quality of the Project: providing workers with living wages, safe and healthy working conditions and putting measures in place to prevent accidents, injuries and disease; avoiding activities involving forced labour and harmful or exploitative forms of child labour; having good human resources management; and having a sound labour management relationship based on equal opportunity, fair treatment, non-discrimination, freedom of association, right to	<ul style="list-style-type: none"> ■ Policy on Recruitment, On boarding, Probation and Confirmation; ■ Working norms and Etiquette; ■ Leaves and Travel; ■ Policy of Separation, notice period, retirement and dismissal; ■ Performance Management; ■ Prevention of Sexual Harassment (POSH)Policy; and ■ QHSE Policy. <p>In addition, ARPPL has various Code of Conduct policies on the following aspects:</p> <ul style="list-style-type: none"> ■ Anti-Bribery and Corruption Policy/ Fraud and Money Laundering; ■ Whistle Blowers Policy; ■ Code of Conduct for suppliers: ■ Health, Safety and Environment; <p>Additionally, there is a standalone policy (not part of Employee handbook or IMS) on Labour and Working Conditions, applicable to</p>			<ul style="list-style-type: none"> ■ For workers overtime policy should follow working hours and overtime hours as per section 28-30 of BOCW, 1996 Act, minimum wages act and Factories act (during operation phase)

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
		collective bargaining and access to grievance mechanisms, consistent with the national law (including international agreements adopted by the member) governing the Project.	<p>both on roll and contractual workers, which mentions the good practices like non- discrimination, equal opportunity, prohibition of Child Labour and Forced labour, etc.</p> <p>It is understood that these policies are introduced to the employees during induction and communicated to the contractors and their workers prior to their engagement. A copy is shared with the contractor with the agreement.</p> <p><u>Contract Staff</u></p> <p>It is understood that the EPC Contractor (Tata Power Solar Ltd) has implemented their own HR, occupational, H&S related procedures at site. Their policies on Human Rights, Prevention of Sexual harassment at workplace (POSH), gender diversity, corporate sustainability were shared with ERM for review.</p> <p>As informed, all the other contractors also follow their own HR policies. However these policies were not shared with ERM for review.</p>			

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
2.2	The client will provide workers with documented information that is clear and understandable, regarding their rights under national labour and employment law and any applicable agreements.		<p><u>Joining Letter for On-roll Staff(Fixed term staff)</u> Reportedly, as part of the recruitment process, the employee of Ayana, receive joining/appointment letters which highlights the terms and conditions of employment, working hours, compensation and benefits and salary break-up etc. However, a sample of the appointment letter was not shared with ERM.</p> <p><u>Joining Letter for Contractual workers</u> It is understood that TATA power and TUV receive joining letters which highlights the terms and conditions. However, the same was not shared with ERM for review. There is lack of clarity on appointment letters by other contract workers (Tata Power Solar Systems Limited, RIMS Manpower Solutions Pvt.Ltd and Gansun Global Solutions India Pvt).</p>	-	II	It is recommended that AASPL should ensure that contract workers are provided with appointment letter, wherever feasible. Where it is not possible to provide appointment letters, it should be ensured that they are verbally informed about their terms of employment, entitlement to wages and benefits, hours of work, overtime arrangements and compensation etc.
2.3	<p>Working conditions and terms of employment: The client will document and communicate to all employees and workers</p>	<p>AIB Requirement Labour Management System (LMS): The client insure that a LMS for project</p>	<p><u>Minimum Wages</u> As per the sample wages slips shared by one of the subcontractors (M/s Pyome Infra Solutions Pvt Ltd) for the month of February, March and April,</p>	As per the discussion with ARPPL representative, it is understood that workers are working in 2 shifts of 12 hours. At	PA	See recommendation for 2.1

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
	<p>directly contracted, their working conditions and terms of employment, including entitlement to wages and benefits, hours of work, overtime arrangements and compensation etc., where such agreements are respected at the minimum comply with the national law.</p> <p>These include, but are not limited to:</p> <ul style="list-style-type: none"> ■ Factories Act, 1948; ■ Payment of Wages Act, 1936 ■ Employees' State Insurance Act, 1948; ■ Employees' Provident Fund ■ Minimum Wages Act, 1948; ■ Equal Remuneration Act, 1976 <p>Employee standing orders act, 1946</p>	<p>workers, which includes the following, is in place for the project, consistent with relevant national law:</p> <ol style="list-style-type: none"> a. clear and understandable written terms of employment made available to Project workers in an accessible manner b. timely payment for Project work c. adequate periods of rest d. timely notice of termination of the working relationship e. employment on the 	<p>the engineers (INR 25,803) and supervisors (INR 19, 311) were paid above the stipulated wage as per the legal requirement (minimum wages notification for all the 73 scheduled employments for the period from 01.10.2019 to 31.03.2020 and From 01.04.2020 to 30.09.2020);</p> <p>The review of wages slips indicate that PF and ESIC are also being deducted from the salary.</p> <p><u>Working Hours and Overtime</u></p> <p>A sample of attendance records/ muster roll for the month of February, March and April for Pyome contractor was shared with ERM. Attendance records have in-time and out-time mentioned to record and calculate the total hours worked (8:30 to 5:30 pm). The overtime hours work and attendance sheet record was shared by Pyome only. According to which, no worker has worked beyond stipulated working hours and a weekly leave was also marked.</p> <p><u>POSH</u></p> <p>Employees handbook details policy on anti-sexual harassment as per the Sexual Harassment of Women at</p>	<p>present there is no night shift but can be undertaken as the work load increases. This is a non-compliance under section 234 of BOCW,1996. <i>Hours of work, intervals of rest and spread over etc.:-</i></p> <p>(1) <i>No building worker employed in building or other construction work shall be required or allowed to work for more than nine hours a day or forty-eight hours a week</i></p> <p>Reportedly, the attendance is marked by each contractor and shared on daily basis with TUV and AASPL team.</p>		

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
		basis of the principle of equal opportunity, fair treatment and non-discrimination f. compliance with national law relating to workers' organizations and collective bargaining ; g. an accessible , understandable and transparent grievance mechanism for raising Project	workplace (Prevention, Prohibition and Redressal) Act, 2013 for all its employees and workers. The policy clearly defines the meaning of sexual harassment. It includes reference to internal committee, complaint mechanism, investigation etc. GRM See row 1.10 for details.			

S. No.	IFC Requirements	AIBB	Observations	Gaps identified	Level of Compliance	Recommendation
		workplace.				
2.4	Workers engaged by third parties / Contractor Management	Workers engaged by third parties - With respect to contracted workers the client will take commercially reasonable efforts to ascertain that the third parties who engage these workers are reputable and legitimate enterprises and have an appropriate ESMS.	<ul style="list-style-type: none"> ■ ARPPL IMS Manual provides guidelines for hiring technical contractors. IMS Management of Procurement specifies procurement and payment procedures for products and services. The procedure also details out the process of contractor selection and its monitoring including EPC contractors, other contractors and suppliers. ARPPL has developed sample formats for technical prequalification, technical performance, techno commercial evaluation, management approval note, general condition of contract, contract supply agreement for strategic project, contract EPC agreement for turnkey project. ■ As per a sample agreement signed between TATA Power and AASPL (on 30th March 2019) includes HSE and social aspects related clauses aspect in their Contract Agreements with the vendors/ contractors. The contract included clauses on Labour, Social security, Health 	Nil	AL	

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>and Safety and Protection of Property. As per the clause, the EPC shall be responsible for security protection and H&S of all persons including public and employees, agents of contractors and its subcontractor on site as well as damage to property. There is a binding on the Contractor to comply with all the national and state level legislation on labour welfare and benefits. The contractor is mandated to maintain safety precautions and accident prevention programs for the site.</p> <ul style="list-style-type: none"> ■ It is understood that certain practices have been adopted to monitor labour related related aspects of the contractors, such as, submission of records of wages, attendance sheet, PF, ESIC paid by the contractors on a monthly basis. A sample copy was shared with ERM for review. Reportedly these are managed by TUV and final report is provided to ARRPL HR at corporate level on monthly basis. 			

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
2.4	<p>Migrant labour The client will identify migrant workers and ensure that they are engaged on substantially equivalent terms and conditions to non- migrant workers carrying out similar work.</p>		<p>As discussed in section 2.2.1, there are limited migrant workers at the site.</p> <p>It is likely that there will be more inter-state migrant workers mobilized for the Project.</p> <p>It is understood that the Project has already obtained inter-state migrant certificate as part of the Andhra Pradesh (Issuance of Integrated Registration and Furnishing of Combined returns under various Labour Laws by certain Establishments) Act, 2015.</p>	-	Forward Looking	<ul style="list-style-type: none"> AASPL should ensure that migrant contractual workers are employed at terms equivalent to local workers; This can be done by conducting uninformed audits of workers of different sub-contractors, periodically.
2.5	<p>Occupational Health & Safety The client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, as far as reasonably practicable, the causes of hazards</p>	<p>AIIB Requirement Occupational health & safety:</p> <p>Implement measures designed to ensure Project workers have safe and healthy working conditions, and put in place measure to prevent accidents, injuries, and disease cause</p>	<ul style="list-style-type: none"> Refer Section 2.4.4 for occupational health and safety context of the project. EPC Contractor has a dedicated safety team at site comprising of two site safety engineers and one site safety manager who are responsible for overlooking the health and safety aspects at the site; In terms of OHS trainings, the EPC contractor has imparted 	<ul style="list-style-type: none"> It could not be verified based on photographs shared by Ayana team, if the first aid provided at the site is within expiry date; Based on review of training records and calendar, it is understood that training on use of 	PA	<ul style="list-style-type: none"> AASPL is recommended to ensure that the EPC Contractor updates the “plan” column of the training calendar on priority for the entire year and “actual” column should be filled based on actual training conducted at site on monthly basis. AASPL shall ensure that EPC contractor conducts Job Safety Analysis and

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
		by the Project. Apply the relevant occupational health and safety provisions of internally recognized standards, such as appropriate, industry-specific Environmental, Health and Safety Guidelines (EHSGs) to the Project. Document and report on accidents, disease and incidents.	<p>trainings on toolbox talks, fire fighting, working at height, personal protective equipment, biological hazards, flora and fauna and material handling and COVID -19 awareness to the workers working at site;</p> <ul style="list-style-type: none"> ■ Based on review of site photograph, a first aid kit is available at the site and at the labour camp; ■ Incident/accident register as per ARP-IMSP-27- F1(HSE Incident Reporting) is being maintained at site; ■ A site specific training calendar has been developed by the EPC Contractor; ■ Based on review of documents, it is understood that snakes are common in the area. Measures against snake bite has been provided in EPRP. Reportedly, in case of snake bite, injured person will be taken to the hospital located 12 km from site. ■ A PPE register is maintained at site with details on issue of 	<p>first aid have not been provided to the workers;</p> <ul style="list-style-type: none"> ■ Based on review of the training calendar, it is understood that the “plan” and “ actual” column of the calendar gets updated after the training is completed on monthly basis; ■ No job safety analysis have been conducted by the EPC contractor till date; ■ No training on working at night time has been provided to the workers. ■ No drinking water test has been carried out at the site in past one year 		<p>reports to same to the Site head.</p> <ul style="list-style-type: none"> ■ It is recommended to undertake water testing once every 6 months at the site and labour camp as per drinking water standards IS 10500:2012. ■ Prior training on Working at night time should be imparted to the workers to avoid accidents. AASPL shall ensure the same is included in the training calendar. ■ AASPL shall ensure that training on first aid is provided annually to the workers by a trained professional. Furthermore, AASPL should ensure that the first aid box is inspected periodically and the ointments and medicines are within the expiry date ■ Additionally, AASPL should ensure that workers working at Site are following social

S. No.	IFC Requirements	AiIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>PPEs on daily basis and stock of PPEs available;</p> <ul style="list-style-type: none"> ■ Additionally, AASPL has provided training to the PMC on QHSE Management covering topics like IFC PS 1-8, ESIA, Ayana's policies, EPRP, QHSE monitoring reporting, IMS of ARPPL, QHSE management system of EPC contractor and QHSE requirements as per contract; ■ Based on review of site photographs, it was observed that site is equipped with fire extinguishers and buckets; ■ Fire extinguisher inspection have been conducted at site on 28.05.2020. The inspection sheet was shared with ERM for review; ■ Danger sign boards were observed and barricading was done at locations where excavation activities have been carried out; ■ No information was shared on any drinking water test if conducted recently at site and 			<p>distancing due to COVID-19 pandemic. Workers should wear mask throughout their work at site and frequently wash their hands. The same protocol should be followed at labour camps in future.</p>

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>labour camps. Based on ESIA report, it is understood that ground water test as per IS 10500:2012 was conducted in 2018.</p> <ul style="list-style-type: none"> Based on discussion with Client, it is understood that construction work during night time was carried out in 2019. However no night work has been carried out in 2020 till but as reported by Client, the same will be undertaken in future with adequate lighting arrangement. 			
2.6	Where accommodation services are provided to workers covered by the scope of this Performance Standard, the client will put in place and implement policies on the quality and management of the accommodation and provision of basic services. This also includes the applicable requirements of the IFC Guidelines on Worker Accommodation.	NA	<ul style="list-style-type: none"> The Project has accommodation services that will be used for workers as and when they return (see row 2.4 and section 2.2.1 for further details); As part of the contract agreement with TATA Power, 'Workers' accommodation: processes and standards A guidance note by IFC and the EBRD' were shared with TATA Power, however, it is not clear if the same has been adapted by TATA on site; At present, the accommodation facilities are being sanitised and guidelines related to COVID-19 	The review of the documents made available, suggests that there is no contract worker accommodation guidelines/ checklist that will be followed by AASPL or other contractors to monitor the services and facilities provided to the workers	PA	<p>AASPL should develop a checklist specifically for the monitoring the accommodation services provided by the contractors (that will be used by workers as and when they return to work) on monthly or daily basis and check the following:</p> <ul style="list-style-type: none"> As per chapter 6 and section 32 of BOCW Act, 1996 accommodation related measures such as - separate

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			(cleaning, social distancing, PPEs etc) are displayed.			<p>cooking place, bathing, washing and lavatory facilities. after the building or other construction work is over, the employer shall, at his own cost, cause removal or demolition of the temporary structures erected by him for the purpose of providing living accommodation, cooking place or other facilities to the building workers as required under sub-section (1) and restore the ground in good level and clean condition.</p> <ul style="list-style-type: none"> ■ IFC guidelines include: <ul style="list-style-type: none"> - Rented accommodation in the villages could also be provided; - The rooms should be designed keeping in

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
						<p>context the high temperature in the area</p> <ul style="list-style-type: none"> - first-aid box should be provided in the living quarters; - LPG gas facility should be used more for cooking purpose rather than use of firewood etc.
3.	Resource Efficiency and Pollution Prevention					
	IFC PS 3: Resource Efficiency and Pollution Prevention	AIIB's ESS1: Environmental and Social Assessment and Management	Observation/Gap		Level of Compliance	Recommendation
3.1	<p>Resource Efficiency The client will implement technically and financially feasible and cost effective measures for improving efficiency in its</p>	<p>AIIB Requirement</p> <p>Resource Efficiency: Implement technically and financially feasible measures under the Project for</p>	<p><u>Air Emission</u></p> <ul style="list-style-type: none"> ■ The site has installed one DG set of 62.5 kW at the plant for meeting power requirement during construction phase. Based on review of diesel entry register, it was observed that 30 litres of diesel is used per day by the DG set at the site for meeting power requirement. 	<p><u>Air Emission</u></p> <ul style="list-style-type: none"> ■ No dust suppression activities are conducted at site due to operation of azex machine, movement of vehicles and excavation work. 	PA	<ul style="list-style-type: none"> ■ AASPL shall ensure that water sprinkling is carried out at site on daily basis to suppress dust emission at site; ■ If AASPL has any plans to install bore well at site, prior approval from Rural Development Department, Government of Andhra

S. No.	IFC Requirements	AIBB	Observations	Gaps identified	Level of Compliance	Recommendation
	<p>consumption of energy, water, as well as other resources and material inputs, with a focus on areas that are considered core business activities.</p> <p>Pollution Prevention: During the design, construction, operation and decommissioning of the project (project life cycle), the client is to consider ambient conditions and apply pollution prevention and control technologies and techniques</p>	<p>improving efficiency in consumption of energy and water, as well as other resources and material inputs.</p> <p>Pollution Prevention: Apply pollution prevention and control technologies and practices under the Project consistent with international good practice as reflected in internationally recognized standards, such as the World Bank Group’s Environmental, Health and Safety Guidelines (EHSGs).</p>	<ul style="list-style-type: none"> ■ As reported by Client, diesel is procured from nearby diesel bank and no diesel containers are stored at site; ■ The Site has obtained “test certificate for diesel generating set with acoustic enclosure” for the 62.5 KV DG set with model number KG1-62.5WS2 from Genlite Engineering Private Limited. ■ The site has also obtained engine test certificate from Kirloskar Oil Engines Limited for the DG set. As per the certificate, the engine model 4R810TAG1 complies with CPCB norms as per Environment Protection Act, 1986, in the Schedule I, relating to emission limits for new diesel engine up to 800 KW for generator set application –G.S.R. 771 E dated 11.12.2013 and G.S.R 232E dated 31st March 2014 notified by MOEF&CC. ■ Reportedly, other sources of emissions such as batching plant and ready mix plants have not been installed at site. As confirmed by Client, concrete mix 	<ul style="list-style-type: none"> ■ No ambient air monitoring has been conducted at site during construction phase to identify the impact of construction activities on ambient air <p><u>Water Consumption</u></p> <ul style="list-style-type: none"> ■ No information on future plans for installing bore wells at site was shared with ERM; ■ Additionally, no groundwater and surface water monitoring have been conducted at site during construction phase to identify the impact of construction activities on water resources. <p><u>Noise Emission</u></p>		<p>Pradesh (CGWA) shall be obtained</p> <ul style="list-style-type: none"> ■ AASPL should ensure best possible way to identify and receive water tankers from contractors authorised to abstract groundwater and/or surface water. Furthermore, an agreement should be signed between AASPL and the authorised contractor for supplying water to the site;AASPL shall ensure that vehicle inspection and equipment inspections are carried out on monthly basis at site. ■ AASPL shall ensure that equipment with high noise levels are not used during night time to avoid impact on local community and personnel staying (such as security guards) at nearby plants ■ Additionally, AASPL is recommended to conduct

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>are prepared in azex machine which is a mobile equipment present at the site.</p> <ul style="list-style-type: none"> ■ Vehicular inspection for the vehicles deployed at site was conducted on monthly basis in 2019 by the EPC Contractor and the same was verified by PMC and shared with the QHSE Head. ■ As reported by Client, vehicles used at site are PUC certified. The same was verified by ERM through document review. ■ Additionally, tree plantation have been carried out at the construction site (Appendix A) ■ Ambient air quality monitoring was conducted for the project as part of the ESIA study in 2018 (Refer Section 2.4.2). <p><u>Water Consumption</u></p> <ul style="list-style-type: none"> ■ The Site maintains water logs and update it on daily basis. Based on review of construction water usage register shared by Client, it is observed that approximately 5000-10,000 litres 	<ul style="list-style-type: none"> ■ No machine inspection has been carried out for the year 2020; ■ No ambient noise monitoring has been conducted at site since 2018 at site. ■ As reported by Client, work will be carried out during night time in future. The nearest settlement to the plant is NP Kunta village located approximately 1 km towards North and there are other solar projects located adjacent to the site which may be impacted due to operation of equipment with high noise level; ■ No ambient noise monitoring has been conducted at 		<p>ambient air, noise, groundwater and surface water monitoring at the Project site and nearest settlement once during peak time of construction period.</p>

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>of water is used per day for construction activities;</p> <ul style="list-style-type: none"> ■ Domestic water usage register revealed that approximately 2000 litres of water per day is used for domestic purpose; ■ As reported by Client, water for construction phase is procured by EPC contractor through water tankers and water campers from nearby villages; ■ According to the ESIA report, AASPL has plans to install bore wells at the site for emergency purpose within its solar power plant. However, as confirmed by Client, bore wells have not been installed at site yet; ■ Based on review of ESIA, it is understood that during operation phase approximately 1.5 litre of water will be required per module wash and 18 wash cycles per year will be undertaken for 11,20,000 PV modules. Therefore, approximately 30,240 KL of water will be required annually for module cleaning. 	<p>site during construction phase to identify the impact of construction activities on ambient noise.</p>		

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<ul style="list-style-type: none"> ■ For domestic purpose, water requirement during operation phase is estimated to be 1500 litre per day and approximately 548 KL per year. ■ Reportedly, APSPCL will be responsible for providing water at the plant during operation phase. Water supply obligation of APSPCL is 16 KL/MW/month. Considering, 250 MW capacity of the ARPPL solar plant, total water to be supplied by APSPCL will be 4000 KL/ month and 48000 KL per year. In addition, 17212 KL of water is estimated to be surplus from demand and supply requirement; ■ Ground water and surface water monitoring was conducted for the project in 2018 as part of the ESIA stud (Refer Section 2.4.1.1). <p><u>Noise Emission</u></p> <ul style="list-style-type: none"> ■ The 62.5 kV DG set used at site is equipped with acoustic enclosure. ■ As part of ESIA, the site conducted ambient noise 			

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>monitoring of the site in 2018 and the results were observed to be within CPCB permissible limits.</p> <ul style="list-style-type: none"> Based on review of inspection sheet shared by Client, it is understood that equipment and machine inspection was carried out in 2019 on monthly basis by the EPC contractor. However, no inspection has been carried out for the year 2020. Additionally, ambient noise monitoring was conducted for the project as part of the ESIA study in 2018 (Refer Section 2.4.2). 			
3.2	Waste Management	-	<ul style="list-style-type: none"> ARPPPL as part of the IMS has a dedicated waste storage handling and disposal management plan which is applicable to the site; Reportedly, domestic waste including food waste generated at labour camps and at site are buried in earth pit. As reported by Client, 500 kg of domestic waste have been generated at site. The waste water generated at site is discharged into soak pits constructed for the project site. 	<ul style="list-style-type: none"> The domestic waste is not being disposed as per Solid Waste Management Rules, 2016; Reportedly, since the construction activities are in initial phase and have been carried out only for past two months, construction waste 	PA	<ul style="list-style-type: none"> AASPL is recommended to segregate and store the waste generated in 3 separate streams- biodegradable, non-biodegradable and domestic hazardous wastes (if any) and handover the segregated domestic waste to authorized waste collectors. Also maintain records of domestic waste generated at site.

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>The same protocol is followed at the labour camp;</p> <ul style="list-style-type: none"> ■ Any medical waste generated at site such as small quantity from minor first aid treatment will be sent to the Venkateshwara hospital in Velligalu by the EPC contractor for safe disposal. A medical services alliance agreement has been signed between the EPC contractor and the hospital dated 21.05.2020; ■ Based on review of site photographs, it was observed that drip trays are kept to collect oils or hazardous substance in case of any leakage; ■ As reported by Client, no hazardous wastes (such as used oil from DG sets) have been generated at site till date, therefore agreement with authorised vendor is yet to be signed ■ Based on discussion with Client, it is understood, that COVID-19 related waste have not been generated at site till date. However, any COVID-19 related biomedical waste generated at 	<p>generated at site is limited and have not been disposed till date. Reportedly, no vendor has been identified for disposal of construction waste at site yet;</p> <ul style="list-style-type: none"> ■ No records of wastes generated at site were maintained. 		<ul style="list-style-type: none"> ■ AASPL is recommended to dispose hazardous and construction waste generated at site through an authorised vendor and maintain records of mentioned wastes at site; ■ AASPL is recommended to ensure hazardous and non hazardous waste generated at site are recorded on daily basis ■ The site shall store hazardous waste such as used oil from DG sets and transformers when generated in future in a designated location with concrete flooring and covered roof top.

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			site in future will be stored separately and disposed of as per the guidelines issued by state government.			
4.	Emergency Response and Planning					
	IFC PS 4 Community Health, Safety and Security	AIIB's ESS1: Environmental and Social Assessment and Management	Observation/Gap		Level of Compliance	Recommendation
4.1	<p><u>Health, Safety and Security</u> The client will evaluate the risks and impacts to the health and safety of the Affected Communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice (GIIP), such as in the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) or other internationally recognized sources.</p>	<p>AIIB Requirement Emergency Response and Planning: Put in place preventive and emergency preparedness and response measures to avoid, or where avoidance is not possible, to minimize adverse risks and impacts of the Project on the health and safety of local communities.</p>	<ul style="list-style-type: none"> The Site is surrounded by fallow lands towards the west and with other solar plants to the east. At present the project is under construction phase, there are chances of offsite hazards or impacts on the community related to loud noise, dust emissions, traffic congestion, etc. The daily traffic movement for the project in this phase is project team vehicles, azex machine, JCB etc passing through approach road twice/thrice a day. There have been no accidents or incidents recorded due to the project activities on the community roads; 	<ul style="list-style-type: none"> Based on discussion with Client, it is understood that the site EPRP have not been communicated to the local community. 	PA	<ul style="list-style-type: none"> Ensure that Good International Industry Practices (GIIP) are followed when it comes to community health and safety; Undertake consultations with the residents of the nearby community to understand their concerns with the plant construction and operations and communicate them regarding the Emergency procedures; The site should follow the traffic management plan for the plant provided in ESIA to avoid the traffic

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<ul style="list-style-type: none"> Based on ESIA report review, it was observed that traffic management plan guideline was provided for the site 			congestion and risk to community;
4.2	<p>Security Personnel Client to assess risks to those within and outside the project site from the security arrangements provided; Providing training on rules of conduct, handling of security equipment to all the security personnel; Provide a grievance mechanism for the community to raise concerns about security arrangements; Ensure that any unlawful or abusive acts by the security are investigated Appropriately.</p>	<p>AIIB Requirement</p> <ul style="list-style-type: none"> Security Personnel: When Project workers are assigned to provide security to safeguard the Client's personnel and property (Project security workers), assess risks posed by these security arrangements to persons within and outside the Project site. 	<ul style="list-style-type: none"> AASPL has engaged Gansun.Global Solutions India Pvt., as their security service provider. As per the contractor certificate the Project can engage up to 40 security guards; Reportedly, the security guards engaged are local residents of the neighbouring villages; ARRPL has a Security Policy statement that defines measures to prevent risks to the security of persons, property and the local community as a result of ARPPL security presence. The statement includes identifying and mitigating any condition or circumstances that may compromise the security of ARPPL, and preparing ARPPL to respond effectively to threats and other emergencies. 	Nil	AL	
5	IFC PS 5: Land Acquisition and Involuntary Resettlement:					

S. No.	IFC Requirements	AIB	Observations	Gaps identified	Level of Compliance	Recommendation
5.1	The project will consider feasible alternative project designs to avoid or at least minimize physical or economic displacement, while balancing environmental, social, and financial costs and benefits, paying particular attention to impacts on the poor and vulnerable		<ul style="list-style-type: none"> ■ The 250 MW power project being developed by AASPL is situated on 1274 Acres of land allotted to AASPL (with 24 acres of unusable land), out of the approximately 7181 Acres of land for 1500 MW ultra -solar power park. The land lease agreement has been signed between Andhra Pradesh Solar Power Corporation Pvt. Ltd. (Lessor) and AASPL (Lessee) on 23rd October 2018, for a period of 25 years. As per the Land lease agreement, APSPCL is responsible for development of common infrastructure in the Solar Park, comprising Internal Transmission System, Water Supply, Road Connectivity, Drainage systems, Weather stations and Street Lightings. ■ AASPL or ARPPL was not involved/responsible in the land acquisition and purchase process. There are no pending land issues or legacy issues due to the land procurement at present In addition there was no physical displacement due to the 	Nil	NAp	

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>Project (See section 2.5 for further details)</p> <ul style="list-style-type: none"> This Performance standard is not applicable for the project due to the above reason and as there is no physical displacement understood to have happened due to project related land procurement. 			
6.	Biodiversity Conservation and Sustainable Management of Living Natural Resources					
	PS - 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	AIIB's ESS1: Environmental and Social Assessment and Management	Observation/Gap		Level of Compliance	Recommendation
6.1	The risks and impacts identification process as set out in Performance Standard 1 should consider direct and indirect project-related impacts on biodiversity and ecosystem services and identify any significant residual impacts.	<p>AIIB Requirement</p> <p>Consider direct and indirect project-related impacts on biodiversity and avoid adverse Project impacts on biodiversity or implement measures to minimize adverse impacts.</p>	<p>Based on IBAT run, review of ESIA report dated December 2018 and ESDD reported (greenfield) dated February 2019 conducted for the 250 MW solar power project, it is understood that the project is not within 10 km of any protected area (such as national park, wildlife sanctuary, biosphere reserves etc) and/or key biodiversity areas.</p> <p>According to ecological survey carried out as part of the ESIA study, there are 82 floral species, 36 mammalian</p>	Nil	NAP	Nil recommendation

S. No.	IFC Requirements	AIBB	Observations	Gaps identified	Level of Compliance	Recommendation
			<p>and 52 bird species found within the 10 km of the project area.</p> <p>All the species were observed to be of least concern as per IUCN red list category of threatened species except for Indian star tortoise which has been classified as vulnerable. However three bird species (Black-Shouldered Kite, Shikra and Black Kite) fall under Schedule I of Wildlife Protection Act, 1972</p> <p>Based on review of training records, it was observed that training on protection of flora and fauna was provided to the workers;</p> <p>Additionally the emergency response plan provides precautionary measures against snake bite/ reptile bite</p>			
7	IFC PS 7: Indigenous Peoples:: Indigenous Peoples:					
7.1	The Target will identify, through an environmental and social risks and impacts assessment process, all communities of Indigenous Peoples		This PS is not applicable for the project as it is not set up in a Schedule V area or has Indigenous population (referred to Scheduled Tribes (ST) in India), that is being impacted due to land procurement or other project activities.	Nil	NAP	

S. No.	IFC Requirements	AIIB	Observations	Gaps identified	Level of Compliance	Recommendation
	within the project area of influence who may be affected by the project, as well as the nature and degree of the expected direct and indirect economic, social, cultural (including cultural heritage), and environmental impacts on them.					
8.	PS - 8: Cultural Heritage					
8.1	Cultural Heritage		This PS is understood to be not applicable for the project as the Project site is not located near any cultural heritage or legally protected sites.	Nil	NAP	

4. ENVIRONMENTAL AND SOCIAL ACTION PLAN

The gaps/ issues identified in the preliminary findings report have been assigned a risk categorization based on the implications that they might pose on environment, health, safety and social aspects. The categorisations have been provided in the table below.

Table 4.1 Risk Rating of ESDD findings

Rating	Description
Red Flag Issues (RF)	Trigger of IFC Project Exclusion List / Prohibited Activities, or; material issue with potential severe consequences and limited opportunities of mitigating, leading to immediate operational shut down, reputational damage/ possibilities of significant reputational risks arising in the future, or; impacts to sensitive environmental and social receptors including critical habitats and indigenous peoples, or; lead to criminal proceedings.
High risk issues (HR)	Significant non-conformance with the regulatory requirements and standards, which may result in business interruption; a material cost, and/or affect sensitive receptors, and/or induce community opposition that may damage Owner's/Investor's reputation.
Medium risk issues (MR)	Non-conformance with the regulatory requirements and standards, which may result in non-material rectification cost or fine, but is unlikely to result, in the short-term, in business discontinuity in current regulatory enforcement context. Non rectification of this issue is likely to result in business interruption in the long-term.
Low Risk Issues (LR)	Minor regulatory or safeguard non-compliance, which may result in limited cost or only require management time to address the issue.

Table 4.2 Environment & Social Action Plan

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
1.	Identification of Risks and Impacts	Row 1.3 of Table 3.1	<ul style="list-style-type: none"> AASPL shall ensure that EPC contractor updates the existing HIRA by identifying hazards and risks; AASPL shall ensure that the remaining 29 observations identified as part of the PMC audit are closed by EPC contractor after implementing adequate mitigation measures. 	Medium risk issues (MR)	AASPL Site Head and PMC	Updated HIRA;	1 months
2.	Management Programs	Row 1.5 of Table 3.1	<ul style="list-style-type: none"> In addition to the Contractor's HSE Management system. It is recommended that Contractor should implement the ESMP developed as part of the ESIA, 2020 at site. 	Low Risk Issues (LR)	EPC Contractor	-	1 month
3.	Monitoring and Review	Row 1.7 of Table 3.1	<ul style="list-style-type: none"> The PMC should conduct audit on monthly basis and share the HSE results to the QHSE Head at Corporate Office; EPC contractor should conduct HSE monitoring on monthly basis for the remaining months of construction phase starting June 2020 and share the results with AASPL. 	Medium risk issues (MR)	Site Head and QHSE Head at Corporate level	Monthly HSE audit reports	1 month
4.	Stakeholder Engagement Plan	Row 1.8 of Table 3.1	<ul style="list-style-type: none"> It should be ensured that AASPL develops a site level SEP/framework. In addition to the stakeholder analysis and identification done in ESIA site level SEP should include the following: 	Low Risk Issues (LR)	AASPL Site Head and ARRPL Management	Site level SEP	2 months

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
			<ul style="list-style-type: none"> ■ Mode and topic of engagement and timeline; ■ Mode of Engagement and Output Document; ■ Resources and Responsibilities; and ■ Monitoring, Reporting and Disclosure 				
5.	Grievance Redressal Mechanism	Row 1.9 of Table 3.1	<ul style="list-style-type: none"> ■ As a good practice, the GRM should be updated with the following: ■ Define roles & responsibilities and define timelines for addressing grievances; ■ Routes available for employees/workers (maintaining anonymity) to lodge a grievances. ■ Provide training/awareness (relevant to their exposure and responsibilities) shall be provided to both employees and contractual worker regarding the GRM. 	Low Risk Issues (LR)	AASPL Site Head and ARRPL Management	Updated GRM	1 month
6.	HR Policy	Row 2.1 of Table 3.1	<ul style="list-style-type: none"> ■ The Employee Handbook should be updated with the following: ■ Policy on Overtime work and wages for employees and guidelines for contractors; ■ For workers overtime policy should follow working hours and overtime hours as per section 28-30 of BOCW, 1996 Act, minimum wages act and Factories act (during operation phase) 	Medium risk issues (MR)	HR department ARRPL	Updated Employee handbook	1 month

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
7.	Occupational Health and Safety	Row 2.5 of Table 3.1	AASPL is recommended to ensure that the EPC Contractor updates the “plan” column of the training calendar on priority for the entire year and “actual” column should be filled based on actual training conducted at site on monthly basis.	Medium risk issues (MR)	Site Head, PMC	Updated training calendar	1 months
8.	Occupational Health and Safety	Row 2.5 of Table 3.1	AASPL shall ensure that EPC contractor conducts Job Safety Analysis for its workers and share report for the same to site head	Medium risk issues (MR)	Site Head and PMC	Job Safety Analysis	3 months
9.	Occupational Health and Safety	Row 2.5 of Table 3.1	It is recommended to undertake drinking water testing once every 6 months at the site and labour camp (if used in future) as per drinking water standards IS 10500:2012.	Medium risk issues (MR)	Site Head and EPC Contractor	Water Testing Report	6 months
10.	Occupational Health and Safety	Row 2.5 of Table 3.1	Prior training on Working at night time should be imparted to the workers to avoid accidents. AASPL shall ensure the same is included in the training calendar	Medium risk issues (MR)	Site Head , EPC Contractor	Training on work at night	1 month
11.	Occupational Health and Safety	Row 2.5 of Table 3.1	AASPL shall ensure that training on first aid is provided annually to the workers by a trained professional. AASPL should ensure that the first aid box is inspected periodically and the ointments and medicines are within the expiry date	Medium risk issues (MR)	Site Head, EPC Contractor	Training on first aid	Annually
12.	Accommodation Services for labour	Row 2.6 of Table 3.1	As a good practice AASPL should develop a checklist for the monitoring the accommodation services that will be provided by the contractors and check the following:	Medium risk issues (MR)	HR department ARRPL, PMC/	Checklist for monitoring the	Within 1 month

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
			<p>As per chapter 6 and section 32 of BOCW, 1996 act includes accommodation related measures such as - separate cooking place, bathing, washing and lavatory facilities. after the building or other construction work is over, the employer shall, at his own cost, cause removal or demolition of the temporary structures erected by him for the purpose of providing living accommodation, cooking place or other facilities to the building workers as required under sub-section (1) and restore the ground in good level and clean condition.</p> <p>IFC guidelines include:</p> <ul style="list-style-type: none"> ■ Rented accommodation in the villages could also be provided; ■ The rooms should be designed keeping in context the high temperature in the area ■ first-aid box should be provided in the living quarters; ■ LPG gas facility should be used more for cooking purpose rather than use of firewood etc. 		AASPL site head	accommodation services	
13.	Resource Efficiency	Row 3.1 of Table 3.1	Prior to installing any bore well at site, requisite approval from Rural Development Department, Government of Andhra Pradesh shall be obtained	Medium risk issues (MR)	Site Head	NOC for bore well	Prior to installation of bore well

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
14.	Resource Efficiency	Row 3.1 of Table 3.1	AASPL should ensure best possible way to identify and receive water tankers from contractors authorised to abstract groundwater and/or surface water. Furthermore, an agreement should be signed between AASPL and the authorised contractor for supplying water;	Medium risk issues (MR)	Site Head	Identification of authorised contractor	Prior to supply of water tankers
15.	Pollution Prevention	Row 3.1 of Table 3.1	AASPL shall ensure that vehicle inspection and equipment inspections are carried out on monthly basis at site	Low Risk Issues (LR)	Site Head and PMC	Vehicular Inspection	1 month
16.	Pollution Prevention	Row 3.1 of Table 3.1	AASPL shall ensure that equipment with high noise levels are not used during night time to avoid impact on local community and personnel staying (such as security guards) at nearby plants	Low Risk Issues (LR)	Site Head and PMC	-	1 month
17.	Pollution Prevention	Row 3.1 of Table 3.1	AASPL is recommended to conduct ambient air, noise, groundwater and surface water monitoring at the Project site and nearest settlement once during peak time of construction period.	Medium risk issues (MR)	Site Head and EPC Contractor	Ambient air, noise, ground water and surface water monitoring	Once during peak time of construction period
18.	Waste Management	Row 3.2 of Table 3.1	AASPL is recommended to dispose hazardous and construction waste generated at site through an authorised vendor and maintain records of mentioned waste generated at site.	Medium risk issues (MR)	Site Head and PMC and EPC Contractor	Authorised vendor for disposal of waste	2 months

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
19.	Waste Management	Row 3.2 of Table 3.1	AASPL is recommended to segregate and store the waste generated in 3 separate streams- biodegradable, non-biodegradable and domestic hazardous wastes (if any) and handover the segregated domestic waste to authorized waste collectors. Additionally, AASPL should maintain records of domestic waste generated at the site.	Medium risk issues (MR)			
20.	Waste Management	Row 3.2 of Table 3.1	The site shall store hazardous waste such as used oil from DG sets and transformers when generated in future in a designated location with concrete flooring and covered roof top;	Medium risk issues (MR)	Site Head and PMC and EPC Contractor	Concrete floor and covered rooftop for hazardous waste storage	2 months
21.	Community Health, Safety and Security	Row 4.1 of Table 3.1	Undertake consultations with the residents of the nearby community to understand their concerns with the plant construction and operations and communicate them regarding the Emergency procedures;	Medium risk issues (MR)	Site Head and PMC	-	2 months
22.	Community Health, Safety and Security	Row 4.1 of Table 3.1	The site should follow the traffic management plan for the plant provided in ESIA to avoid the traffic congestion and risk to community;	Medium risk issues (MR)	Site Head and PMC	Implementation of Traffic Management Plan	2 months
23.	Emergency Preparedness and Response	Row 1.8 of Table 3.1	AASPL should ensure that EPC contractor revise its EPRP and add emergency contact number and distance of nearest fire station and police station.	Low Risk Issues (LR)	Site Head and PMC	Updated EPRP	1 month

S. No	Aspect	Reference Section/(s) in the ESDD Report	Recommendations	Flag	Responsibility and Resources	Outcome	Timeline for implementation
24.	Resource Efficiency	Row 3.1 of Table 3.1	AASPL shall ensure that water sprinkling is carried out at site on daily basis to suppress dust emission at site;	Low Risk Issues (LR)	Site Head and PMC	Water Sprinkling at Site	1 month
25.	Waste Management	Row 3.2 of Table 3.1	AASPL is recommended to ensure hazardous and non-hazardous waste generated at site are recorded on daily basis.	Low Risk Issues (LR)	Site Head and PMC and EPC Contractor	Records of waste generated	1 month

APPENDIX A PHOTOLOG

H&S Training conducted at Site



Site Induction and Training



Site Induction and Training



Site induction and Training



COVID-19 Awareness



Site Induction



Site induction and Training Area



Lifting equipment training



Security Training



Fire Fighting Training

First Aid and other H&S Aspects at site



First Aid kits

Ambulance



First Aid Room

Workmen rest area

Drinking water in Field

Vehicle Disinfection and Health Safety & Environment Awareness Displays



Vehicle Sanitization



COVID-19 Awareness Poster



HSE Awareness Poster

COVID-19, Prevention and Control at Workplace



Thermal Screening at Site entrance



Hand Sanitization



Office area Sanitization



Vehicle Sanitization

Vehicle/ Equipment Inspection and Tagging.



Lifting Tool Inspection



JCB (Earth mover) Inspection



Fitness Tagging



Equipment Inspection



Power Tool Inspection



Power Tool Inspection



Scrap Yard



Material Storage



Tree Plantation



Tree Plantation



Old Image of Snake captured and secured at site



Old Image of Snake released in area away from population



Old Image of Lizard captured and secured at site



Old Image of Lizard released in area away from population

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ERM India Private Limited

Building 10A
4th Floor, DLF Cyber City
Gurgaon, NCR – 122002

Tel: 91 124 417 0300
Fax: 91 124 417 0301

www.erm.com