

Environmental and Social Monitoring Report

Project Number: 44932-054
October 2015

INDIA: 145 MW Grid Connected Solar Project Sand Land Real Estate Private Limited Safeguards Monitoring Report (April 2014 to March 2015)

Prepared by Sand Land Real Estate Private Limited for the Asian Development Bank

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Environment and Social Safeguard Provisions & Compliance Management

Company	Sandland Real Estates Private Limited
Project	25MW Solar Photovoltaic Power Plant
Location	Banaskantha District, Gujarat State, India
Commissioning Date	1 st April 2012
Reporting Period	01 April 2014- 31 March 2015

Prepared By:

Krishan Kumar Kapil
Manager-EHS (Solar Farm)
Email: krishan.kapil@hpppl.in
Mobile: +91 9999415645

Approved by:

Kishore Bhardwaj
Head-EHS&S (Corporate)
Email: kishor.bhardwaj@hpppl.in
Mobile: +91 9810575185

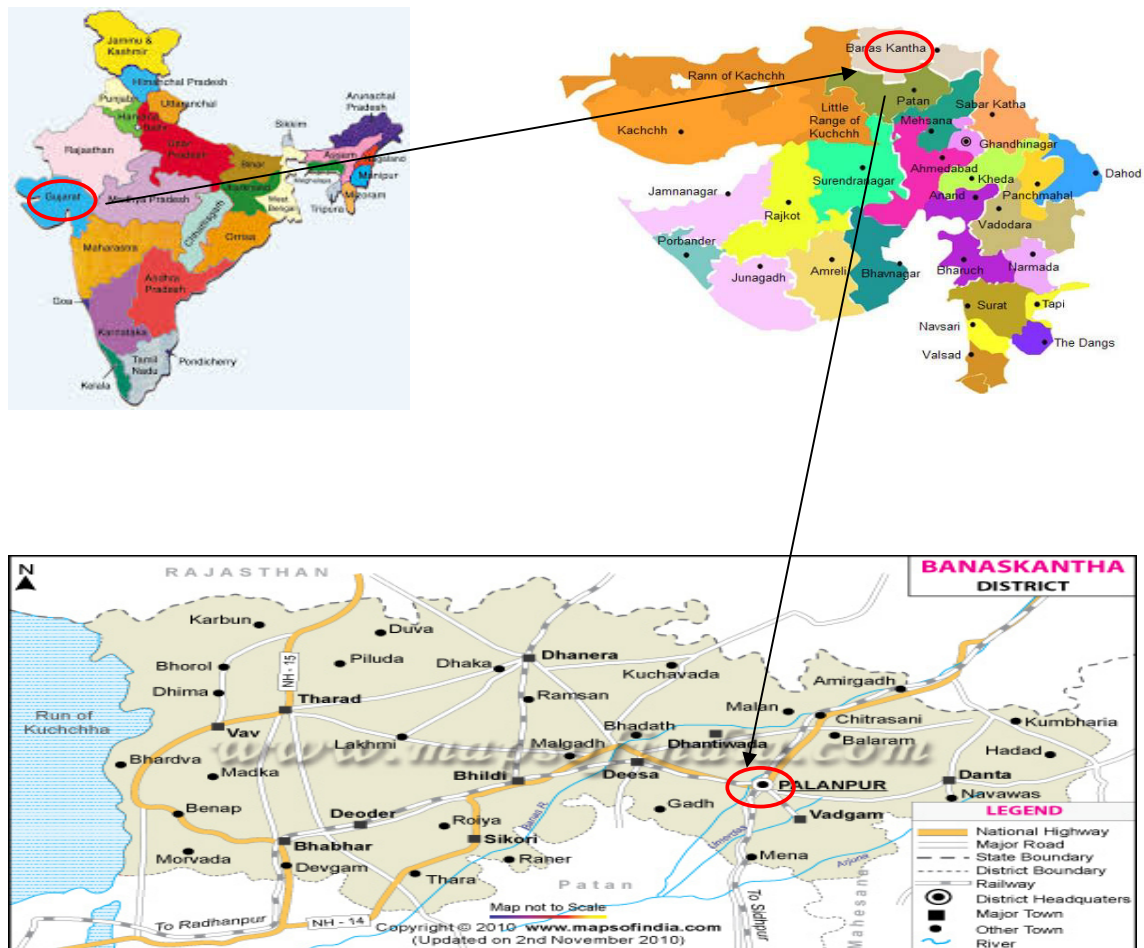
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Chapter 1- Project Summary

Sandland Real Estate Private Limited (SREPL), the company incorporated on February 04, 2010 has setup a 25 MWp solar photovoltaic power project at village Alwada, District Banaskantha in the state of Gujarat (India). The project got commissioned on 1st April 2012. The other relevant details of the project is given below

S. No	Particulars	Descriptions
1	Project site	Sandland
2	Village Name	Alwada & Khimat
3	District Name	Banaskantha
4	Name of the state	Gujarat
5	Latitude	24°31'27.1"North
6	Longitude	72°12' 12.27" East
7	Road Accessibility	Road connectivity via Ahmedabad
8	Nearest Airport	Ahmedabad
9	Nearest City	Ahmedabad
10	Land available (Acres)	212
11	Water requirement (LPD)	15,500
12	Power Purchase Agreement (25 Yrs)	Gujarat Urja Vikas Nigam Limited
13	Annual Global Irradiance (kWh/m2)	2035
14	Type of PV module	Thin Film
15	Capacity (MW)	25 MWp
16	Project Cost (Million INR)	3628.4



Purpose/Objectives of Safeguards Monitoring Report

The purpose and Objective of Safeguard Monitoring Report is prepared in accordance with the Safeguards Requirements, for monitoring and measuring the progress of implementation of the Environmental Management Plan and including any corrective and preventative actions.

The Annual report for period from fiscal year 2014-15 is prepared on its compliance with the measures identified for social protection requirement and safeguard policy statement of ADB. As per the requirement, the company shall provide annual social safeguard report on its compliance to ADB pursuant to Safeguard Policy Statement

Chapter 2- Environmental Permits and Compliances

The company has already taken all necessary permits and clearance for operation and maintenance of the project under national and local statutory regulations. The details of requisite compliances are given below

Compliance	Consent No	Validity
Consent to Operate	W-12580, Dated 03/03/2012	01/02/2017
Registration under Factories Act	Regd no. 422/ 40106/2012 dated 19 th April 2012	31/12/2015
O&M Labour License	Regd No. 4134	26/08/15
Registration under Contract Labour Act	Registration dated 16/07/2011	One time registration

It's also pertinent to mention here that Ministry of Environment and Forests (MoEF) in its Office Memorandum No. J-11013/41/2006-IA.II (I) dated 13th May, 2011 stated that the Solar Photovoltaic Power Projects are not covered under the ambit of EIA Notification, 2006 and hence, no environmental clearance is required. Hence, the Solar Power PV Project does not require preparation of Environmental Impact Assessment Report and pursuing Environmental Clearance from Central Government or State Level Environmental Impact Assessment Authority.

Chapter 3- Grievance Redressal Mechanism

A Grievance Redressal Committee has been constituted & is already in operation at project site. The Grievance Redressal Committee (GRC) was formed at the project site to ensure affected person's grievances on both environmental and social concerns are adequately addressed. The GRC comprises the following members:

- Project Head
- Site In Charge
- Admin-Incharge

Grievance Redressal Mechanism for Local Community

- Admin-Incharge act as a focal point for recording & registering of grievances from local communities. The local communities during April-May 2015 months via informal discussion were informed to registers respective grievance (if any) to Admin-In charge only. The revised GRC system is also regularly updated via informal communication with panchayat heads & local community.
- The Site In-Charge is responsible for capturing, identifying, maintaining enquiries associated with community grievance in a register, and communicating progress to the concerned community member.
- A Register contains information such as date, time, location and names of villager and grievance; if any. The record will summarize what information was provided to or discussed with the the community member.

Record keeping

For record keeping purposes, A separate grievance redressal registers are maintained at plant level. The register contains information such as date, time, location and names of villager and the grievances, if any. The record also maintained about the information provided or discussed against the grievance.

Handling grievances

The company representative regularly visits nearby villages to capture project affected families grievances on continuous basis and record the same through public and individual meetings. Grievance Redressal registers are maintained at project site

There were no grievance reported at the project site

Chapter 4- Occupational and Community Health & Safety

There are no occupational hazards expected in the solar power plants during operational phase of the project. During the reporting period, there were no incidents reported of any safety event or outreach activities during the reporting period.

Training:

During the reporting period, several training program related to Environment, Health & Safety were conducted at Sandland solar project site. Few training topics are provided below

1. *Safety & PPE*
2. *General awareness about snake threats (precaution and preventive)*
3. *EHS (Fire & Safety)*
4. *Operation of fire Extinguishers*
5. *First Aid & Fire Fighting*
6. *Guidelines on Medical treatment during Snake Bite*

EHS Action Points:

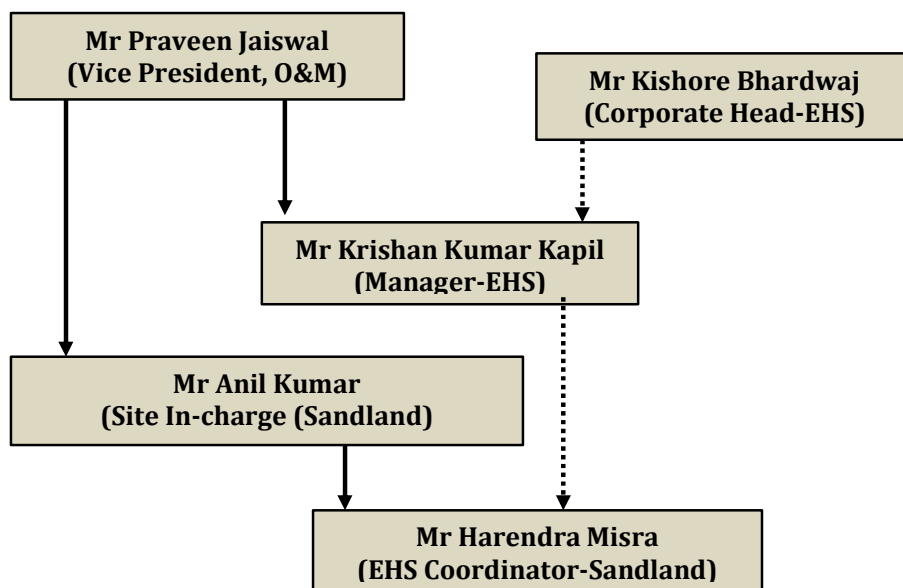
Few of the safety hazards mitigation measures adopted at solar site are enlisted below:

1. *Regular cutting of grass from fire prone area*
2. *Conduct of live firefighting training*
3. *Sensitizing associates towards importance of electrical safety*
4. *Ascertained availability & maintenance of required PPE's*
5. *Conducting regular training programme for precaution to be taken while entering snake prone zone.*
6. *Organizing regular training Programme on safety protocols.*

Chapter 5- Environmental Management Capacity

EHS Organization structure

The company has an EHS department at corporate and business unit level, headed by EHS&S Head Corporate. Following organizational structure is in place for the EHS team:



The duties of the EHS department at site level are to:



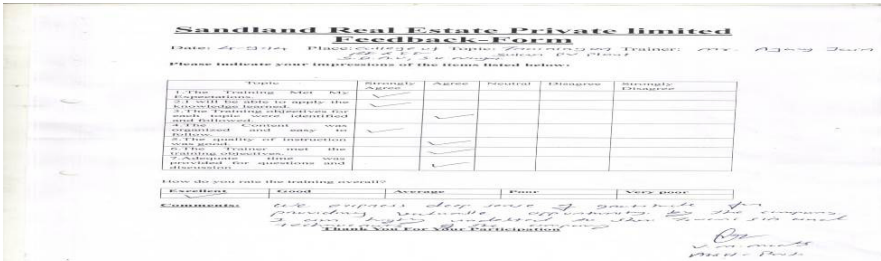


- Implement the EHS manual guidelines and environmental good practices at site.
- Advise and coordinate the contractor(s) activity towards effective management of environment, health and safety aspects.
- Train all company employees including contract workers at site to make them aware on various EHS practices and guidelines to be followed at site.
- Carrying out internal EHS audits at defined intervals, identify the existing EHS gaps at the site and report the findings of the audit to the EHS head.

Furthermore, two separate meeting namely EHS Core Committee and EHS Apex Committee meetings are being held every month. The participants include Corporate Head (EHS), Vice President (O & M) along with the site head and the EHS coordinator to discuss on the EHS perspective of the site. Furthermore, Weekly EHS report has also been compiled at site level and submitted to Corporate for review

EHS Committees	1. EHS Core Committee (HO Team) 2. EHS Apex Committee (HO Team & Site Personals) <i>(Monthly review meetings are conducted among Core members & Apex committee members, Meeting are chaired by VP-Operations)</i>
Weekly EHS Status	Sandland solar site send Weekly EHS report to HO team.

Chapter 6- Social Safeguard Initiatives

As the Sandland solar project has already been commissioned and in operation phase, there shall be no new land requirements/acquisition for this project. Also, during the year, following social safeguard activities were conducted at Sand land solar power project.

<p>Imparting Solar power knowledge to college students</p>	<p>Students of “College of renewable energy & Environmental Engineering” Dantiwada were invited for a site visit at Sandland solar site for an exposure & general awareness imparting on operation and benefits of solar power plants. The visit was conducted on 04 Sep 2014. Pics of the same are attached</p>   
<p>Women Empowerment Programme</p>	<p>On need basis, we engage approx. 5-6 local women labours for any non-technical works (like grass cutting, cleaning etc). We are committed to give preference to Women for any non-technical Labour requirements at site. We on timely basis also conduct informal training session on various health related or any other hygiene related activities</p>
<p>Imparting Solar power knowledge to school children</p>	<p>Children for “Bapla School” were invited for a site visit at sand land solar site for an exposure & general awareness imparting on operation and benefits of solar power plants. The visit was conducted on 20 March 2015. Pics of the same are attached</p>  

Chapter 7- Compliance with applicable Environmental and Social Requirements

Compliance status on the actual mitigation measures on each potential impact identified during Operation and Maintenance phase are given below.

1. Switchyard Operation

Potential Impact	Mitigation Action	Monitoring Frequency	Responsibility	Compliance Status
Safety risks	<ul style="list-style-type: none"> Regular safety training are imparted to employee on electrical safety Rubber mats are being provided near all high voltage areas 	Continuous	Site O&M team	Ongoing process
Soil contamination	Regular maintenance and monitoring of the transformers shall be carried out to avoid leakage of transformer oil	Annually		Rubber mats provided
				Ongoing and followed

2. Use of Ground Water Resources

Potential Impact	Mitigation Action	Monitoring Frequency	Responsibility	Compliance Status
Depletion of Ground water	<ul style="list-style-type: none">Water meter is installed at water intake works to monitor total water consumptionWater reduction measures through periodic checking of pipeline leakagesSpills / wastages to be avoided and ensure optimal consumption	Monthly Weekly	EHS Team	Daily water consumptions record are maintained and followed.
Domestic water consumption during the reporting period				
On an average approx. 300 liters per day of waster is consumed at solar site for domestic utilization purpose				
Utilization per day		Utilization per month	Total (KL/annum)	
300		109500	10.95 Kl/annum	

3. Handling of broken solar modules

Potential Impact	Mitigation Action	Monitoring Frequency	Responsibility	Compliance Status
Land Contamination	Broken or damaged solar panels are immediately shifted to a designated area in scrap yard to avoid any type of land	Continuous	Site in-charge and EHS team	Adherence to the procedure for waste material handling and

	contamination. A photograph is to be taken of the broken panel at the site to cater to Insurance settlement claims			HSD/ Transformer oil/ Chemical storages
Health Risk	<ul style="list-style-type: none"> ▶ Proper PPE are provided to the workers handling the broken solar panels ▶ The workers at site are also on regular basis apprised about the potential health risks associated with handling of solar panels 	Continuous	Site in-charge, EHS and HR team	Followed

4. Handling of Domestic Waste

There is no canteen/cafeteria facility at site; hence there is no domestic waste generation. Associates brought their own lunch. In case any negligible waste it is disposed in small pit.

Site Photographs

Plant



EHS Policy



Child Labour Policy



As per Company Policy: To Employee any person below the age of 18 years is illegal

Waste Transformer Oil Storage



HSD Storage



<p>Hazardous Waste Collection</p>	<p>EHS & PPE Display</p>
 <p>A photograph showing an outdoor hazardous waste collection area. In the foreground, there are three black metal chairs with red, blue, and green seats. Behind them is a red tractor and a yellow tanker truck. A sign in the background reads "Mortgaged To" and "HMS Trust Company Limited".</p>	 <p>A photograph of an indoor display board for EHS and PPE. The board is mounted on a wall and contains various safety-related documents and images. Below the board, there are several pairs of black safety boots and a yellow safety vest hanging on the wall.</p>
<p>Broken Module Storage</p>	<p>Soaking Pit</p>
 <p>A photograph showing a large area of broken solar modules and debris. The debris is piled up in a field, and a white fence is visible in the background.</p>	 <p>A photograph of a yellow sign that reads "SOAKING PIT" in black letters. The sign is mounted on a wooden post in a dry, open field.</p>
<p>Plantation at Sandland Solar Power Plant during World Environemnt Day</p>	
 <p>A collage of three photographs showing people engaged in a plantation activity. The top left photo shows three men standing in a field, one holding a small tree. The top right photo shows a man kneeling and planting a tree. The bottom photo shows a group of four men kneeling together, holding a small tree.</p>	