

# Environmental and Social Monitoring Report

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Project Number: 44932-064  
July 2015

## INDIA: 145 MW Grid Connected Solar Project Ujjawala Power Private Limited Safeguards Monitoring Report (April 2013 to March 2014)

Prepared by Ujjawala Power Private Limited for the Asian Development Bank

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# Environment and Social Safeguard Provisions & Compliance Management

<b>Company</b>	Ujjawala Power Private Limited
<b>Project</b>	25MW Solar Photovoltaic Power Plant
<b>Location</b>	Surendranagar District, Gujarat State, India
<b>Commissioning Date</b>	31 <sup>st</sup> March 2013
<b>Reporting Period</b>	01 April 2013- 31 March 2014

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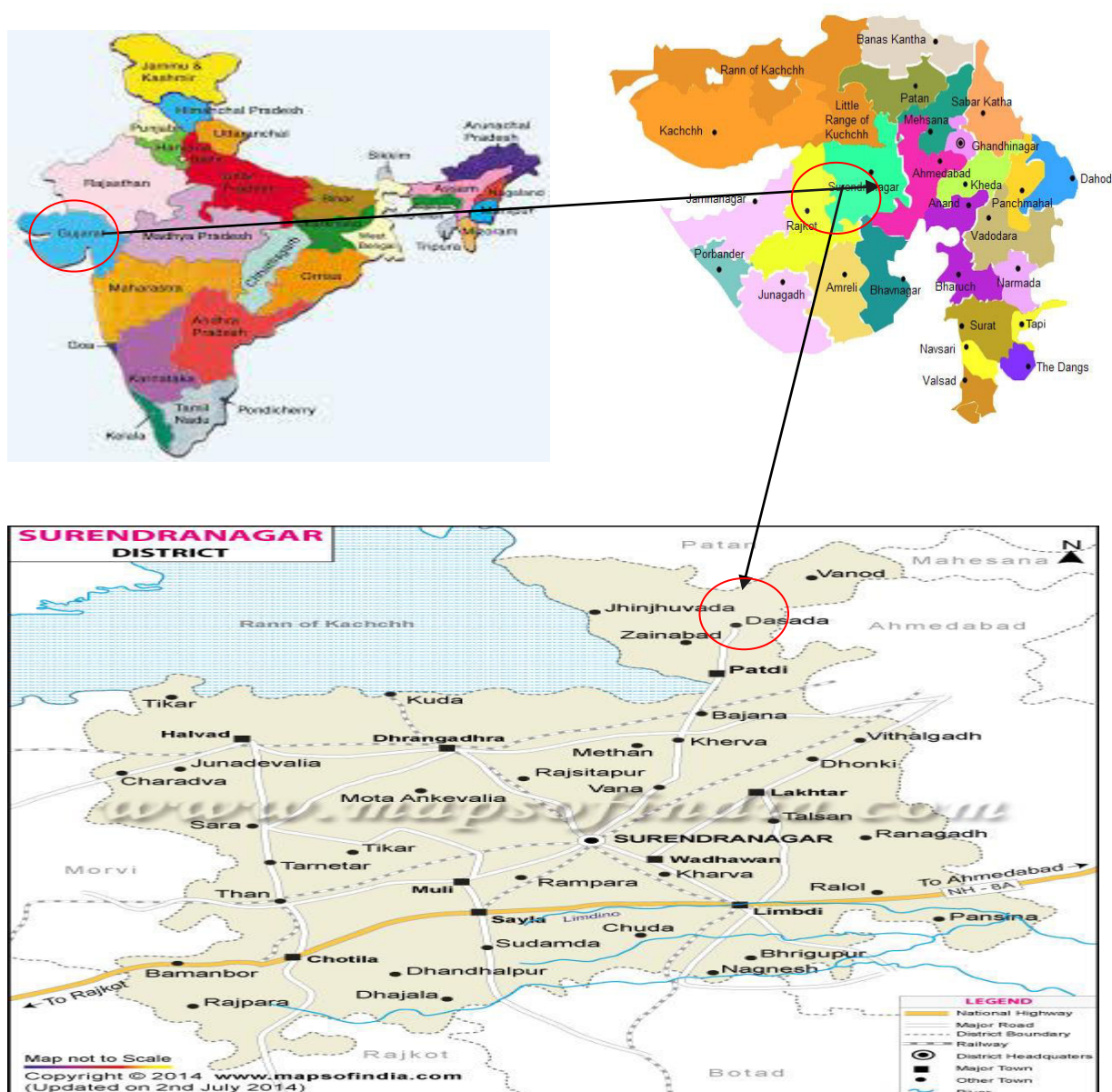
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## Chapter 1- Project Summary

Ujjawala Power Private Limited has setup a 25 MWp solar photovoltaic power project at Kamalpur village, Dasada Taluka, Surendranagar District in the state of Gujarat (India). The project got commissioned on 31<sup>st</sup> March 2013. The other relevant details of the project is given below

S. No	Particulars	Descriptions
1	Project site	Ujjawala
2	Village & District Name	Kamalpur and Rajpar, Surendranagar
3	Name of the state	Gujarat
4	Latitude & Longitude	23° 03' 27" N & 71° 51' 42" E
5	Road Accessibility	Road connectivity via Ahmedabad
6	Nearest Airport & City	Ahmedabad
7	Water requirement	13,000 LPD
8	Capacities of modules proposed (Wp)	The polycrystalline solar PV module. The project will comprise of a total of 94,344 modules of poly-crystalline type.
9	Commissioning Date	31.03.2013



**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 2013-14 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	AW-14092, Dated 31/05/2013	14/05/2018
O&M Labour License	Dated 01 Nov 2014	31/12/2015
Registration under Contract Labour Act	Registration dated 21/02/2012	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 is already in operation at project site. The GRC comprises the following members:

- Project Head
- Site In Charge /Admin (Liaisoning Officer)
- Land Seller /Local Community representative

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 and facilitate timely project implementation.

### **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

In the reporting period, 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. Few of the identified occupational Health & safety hazards along with respective mitigation measures are enlisted below:

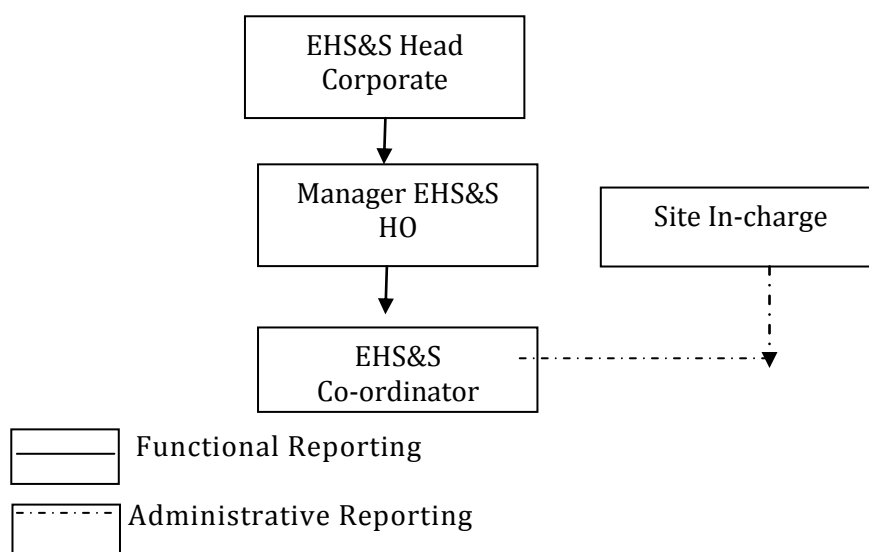
Identified Hazards	Mitigation Measures
Fire Hazard	<ul style="list-style-type: none"><li>• Conducting regular gas refill &amp; working condition audit of Fire Extinguishers</li><li>• Provide regular training on use &amp; upkeep of fire extinguishers.</li><li>• Conducting regular check &amp; refilling of Sand Buckets and other major firefighting equipment's.</li></ul>
Electrical Shock	<ul style="list-style-type: none"><li>• Provided rubber insulation mats across control room and LT room</li><li>• Developed and circulated "Standard Operating Procedure for electrical Isolation"</li><li>• Organizing regular training Programme on safety protocols.</li><li>• Sensitizing associates towards importance of electrical safety</li><li>• Plant Head are regularly organization training programme on basic operational understanding of various equipment's (Transformer, Invertors etc)</li><li>• Ascertained availability &amp; maintenance of PPE's at solar site.</li><li>• Stringent protocols developed for adherence to Safety (Like LOTO, WP, etc)</li></ul>
Safety from Reptiles	<ul style="list-style-type: none"><li>• Regular spray of Carbolic acid is performed at HT, LT and Control Rooms</li><li>• Regular conducting removal of overgrown grass around the snake prone areas</li><li>• Ascertained availability &amp; maintenance of anti-snake venom &amp; syringe at site</li><li>• Snake Caution notices are displaced at Snake prone areas.</li><li>• Made tie ups with local medical practitioner, Hospitals &amp; doctor's for support during nay emergency in plants.</li><li>• Conducting regular training programme for precaution to be taken while entering snake prone zone.</li></ul>

There were no incidents reported of any safety event or outreach activities during the reporting period.



## Chapter 5- Environmental Management Capacity

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 Company is fully committed to its environmental and social responsibility and discharges this responsibility in adherence to principles of good corporate governance guidelines. Its staff and contractors are fully committed to their environmental responsibility and discharge their responsibility within company's EHS guidelines and operational framework. 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

<b>EHS Committees</b>	<ol style="list-style-type: none"> <li><b>EHS Core Committee</b> (HO Team)</li> <li><b>EHS Apex Committee</b> (HO Team &amp; Site Personals)</li> </ol> <p><i>(Monthly review meetings are conducted among Core members &amp; Apex committee members, Meeting are chaired by VP-Operations)</i></p>
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<b>Weekly EHS Status</b>	<ol style="list-style-type: none"> <li>1. Ujjawala solar site send <b>Weekly EHS report</b> to HO team</li> <li>2. The report contains following section: <ul style="list-style-type: none"> <li>• Training provided</li> <li>• Work permit &amp; LOTO Implemented</li> <li>• Accident/Incident/Near Miss reporting (If any)</li> <li>• Weekly EHS Observations and status</li> <li>• Plantation &amp; Hazardous waste management details</li> <li>• Status or update on compliance, PPE's, Fire Extinguisher, etc</li> <li>• Weekly EHS site meeting details</li> </ul> </li> </ol>
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The company has also developed standard procedures and manuals to ensure the implementation of any E&S Concerns namely

- 1- Procedure for Waste Material Handling and HSD/ Transformer oil/ chemical storages
- 2- Procedure for Restriction / Identification of Child labour deployment
- 3- On site emergency and Disaster control plan
- 4- Grievance Handling Mechanism
- 5- Aspect – Impact Study
- 6- Social and Environment Management Plan
- 7- Work to Permit Procedures
- 8- EHS Manual & Policy
- 9- Isolation Procedure – Electrical
- 10- Copy of Contractor EHS Clause Agreement


### **EHS & S Training**

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

1. Electrical Safety
2. Use of snake anti-venom
3. QMS Awareness
4. Description on AC Section
5. Induction Training of new technician
6. Induction Training of new Engineer
7. Induction Training of new technician
8. Discussion on Cabling in plant
9. Induction Training of new technician
10. Operation of electrical switchgear
11. Operation of micom realy
12. Housekeeping in HT & LT Room
13. Preparation of ADB visit
14. Safety Value of PPE's
15. Safety precaution while crane/Hydra movement inside the plant

## Chapter 6- Social Safeguard Initiatives

As the 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.

<p><b>Imparting Solar power knowledge to school children</b></p>	<p><b>Parishram Shaikshnik</b> school students and their staff invited for a site visit at Ujjawala solar site for an exposure &amp; general awareness imparting on operation and benefits of solar power plants. The visit was conducted on 26 Oct 2013. Pics of the same are attached</p> 
<p><b>Women Empowerment Programme</b></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>

## 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"> <li>Regular safety training are imparted to employee on electrical safety</li> <li>Rubber mats are being provided near all high voltage areas</li> </ul>	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"> <li>Water meter is installed at water intake works to monitor total water consumption</li> <li>Water reduction measures through periodic checking of pipeline leakages</li> <li>Spills / wastages to be avoided and ensure optimal consumption</li> </ul>	Monthly  Weekly	EHS Team	Daily water consumptions record are maintained and followed.
Details of domestic water consumption in the reporting period:				
<b>Drinking/ Domestic Water Consumption</b>		<b>Horticulture</b>	<b>Module Cleaning purpose</b>	
60800 Ltrs		0	4636250 Ltrs	

### 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	Continuous	Site in-charge and EHS team	Adherence to the procedure for waste material

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

#### 4. Handling of Domestic Waste

There is no canteen/cafeteria facility at site there is no domestic waste generation. However lunch brought by associates. In case any negligible waste it is disposed in small pit.

## Site Photographs

**Plant**



**Waste Transformer Oil Storage**



**HSD Storage**



**Hazardous Waste Collection**



**EHS & PPE Display**





Broken Module Storage	Soaking & Domestic Waste Pit
	

### Plantation at Ujjawala Solar Power Plant

