Social Monitoring Report

Project Number: 44426-014/44917-014
January 2018

Period: April 2017 – September 2017

IND: National Grid Improvement Project

Submitted by

Power Grid Corporation of India Limited, Gurgaon, Haryana

Asian Development Bank

GM/PKM/WRK. for signing pls

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)
पावरग्रिड

केन्द्रीय कार्यालय: "सौदामिनी" प्लॉट सं. 2, सैक्टर–29, गुडगाँव–122 001, (हरियाणा) दूरभाष: 0124-2571700-719, फैक्स : 0124-2571762,
"Saudamini" Plot No. 2, Sector-29, Gurgaon-122 001, (Haryana) Tel. : 0124-2571700-719, Fax : 0124-2571762, Web.: www.powergridindia.com

CIN : L40101DL1989GOI038121

Ref: C/CP/ADB-VII &VIII **Date: December 29, 2017**

Mr. Kenichi Yokoyama
Country Director, INRM
Asian Development Bank
4, San Martin Marg, Chanakyapuri
New Delhi - 110021.

Sub: Loan 2787-IND & 2788-IND: National Grid Improvement Project - Semi-Annual Environment and Social Safeguard Monitoring Reports for the period of April, 2017 – September, 2017.

Dear Sir,

This has reference to submission of Semi-Annual Environment and Social Safeguard Monitoring Reports under Loan Nos. 2787-IND & 2788-IND.

As part of the compliance requirement to loan covenants of subject Loan(s) (Ln 2787: Schedule 5, para 19 and Ln 2788: Clause 17.6), Semi-Annual Environment and Social Safeguard Monitoring Reports for the period of April, 2017 – September, 2017 is attached, please.

Thanking you,

Yours faithfully,
Jasbir Singh 29/12/17
(Jasbir Singh)
Addl. General Manager (CP)

Attach: As above

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INRM
02 JAN 2018
3457
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Semi-Annual Safeguard Social Monitoring Report

Loan Number : **2787-IND & 2788 -IND**

Reporting Period : **Apr.'17 to Sept.'17**

National Grid Improvement Project

Prepared by : **ESMD, CORPORATE CENTRE, POWERGRID**

Implementing Agency : **POWERGRID**

Executing Agency : **POWERGRID**

Date : **27/12/2017**

ABBREVIATIONS

ADB	–	Asian Development Bank
APs	–	Affected Persons
CEA	–	Central Electricity Authority
CTU	–	Central Transmission Utility
EA	–	Executing Agency
EIA	–	Environment Impact Assessment
ESPP	–	Environment and Social Policy & Procedures
ESMD	–	Environment & Social Management Department
EMF	–	Electro Magnetic Fields
EMP	–	Environmental Management Plan
GIS	–	Gas Insulated Switchgear
GO	–	Government Order
GoI	–	Government of India
GRM	–	Grievances Redressal Mechanism
GRC	–	Grievance Redressal Committee
HVDC	–	High Voltage Direct Current
IEE	–	Initial Environmental Examination
IPP	–	Independent Power Producer
km	–	Kilometers
LTOA	–	Long-Term Open Access
MoEF	–	Ministry of Environment and Forests
PAPs	–	Project Affected Persons
POWERGRID	–	Power Grid Corporation of India Ltd.
PMU	–	Project Management Unit
RoW	–	Right of Way
RAP	–	Rehabilitation Action Plan
S/s	–	Substation
WR	–	Western Region
NR	–	Northern Region

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SECTION 1: INTRODUCTION

Power Grid Corporation of India Ltd. (POWERGRID), the Central Transmission Utility (CTU) of the country, is engaged in power transmission with the mandate for planning, co-ordination, supervision and control over complete Inter-State transmission system. It has been contributing significantly towards development of Indian power sector by undertaking coordinated development of power transmission network along with effective and transparent operation of regional grids and through continuous innovations in technical & managerial fields.

POWERGRID has received a nos. of Long-Term Open Access (LTOA) applications from Independent Power Producer (IPP) generation projects coming up in Chhattisgarh for transfer of power to different target regions viz. Western and Northern region. It is estimated that IPP generation projects with long-term power transfer requirement of about 15000-16000 MW is coming up in Raigarh (Kotra), Champa, Raigarh (Tamnar) and Raipur generation complex in Chhattisgarh progressively in next 3-4 years. Out of the 15000-16000 MW quantum of power transfer requirement, about 5000 MW power is indicated for transfer to Northern region as the target region and balance power is to be transferred to the Western region. For evacuation and transfer of power from these generation projects, 765/400kV High Capacity Pooling stations viz. at Raigarh (Kotra), Raigarh (Tamnar), Raipur and Champa is proposed. However, considering the quantum of power transfer requirement (about 5000 MW) to Northern region, it is proposed that a new high capacity transmission corridor may be developed to effect above transfer.

Based on the discussion with IPPs and Central Electricity Authority (CEA) as well in the 29th & 30th Standing Committee meeting on Power System planning in Western region/11th meeting of WR constituents regarding LTOA application in WR, transmission system for above generation projects in Chhattisgarh with power transfer requirement to target regions was agreed. Looking at the transmission system requirement for transfer of power to Northern/Western region from generation projects coming up in Chhattisgarh, a comprehensive transmission scheme on system strengthening in Western- Northern inter-regional HVDC transmission corridor is proposed.

Presently, North-West inter-regional transmission corridors are being developed with AC technology. However, considering the long distance as well quantum of power transfer requirement to NR from IPP generation projects in Chhattisgarh, it is proposed that power from IPP generation projects in Chhattisgarh can be transferred over HVDC system. Development of such HVDC transmission corridors shall facilitate in establishing transmission corridors with hybrid technology. This shall also facilitate in meeting controlled power flow requirement, flexibility of operation as well as maintaining system parameters within limits through its control mechanism. For this ±800kV, 3000MW HVDC bipole between Champa Pooling Station and Kurukshetra, a major load center in NR is proposed. For power transfer from Kurukshetra onwards, a 400kV transmission corridor towards Nakodar/ Jallandhar in Punjab is proposed. It is also proposed that provision should be kept to upgrade above HVDC Bipole to 6000MW at a later date with increased power transfer requirement to Northern region.

To meet the funding requirement for the proposed project, Asian Development Bank (ADB) has accepted POWERGRID's proposal to finance a loan of USD 750 million (USD 500 million as Sovereign & USD 250 million as Non-Sovereign) for implementation of HVDC Sub- Station at Champa & Kurukshetra and some package of transmission line. The funding for the remaining part will be met from POWERGRID's

own Internal Resources (IR). The loan no.2787 & 2788 was signed on 30th March, 2012 and became effective from 22nd October, 2012. The loan closing date is 30th June, 2018.

1.1 SCOPE OF PROJECT

The National Grid Improvement Project covered under Loan No. 2787-IND and 2788 - IND involves following projects:

1. Establishment of HVDC Inter-regional transmission system between the Northern (Haryana) and Western (Chhattisgarh) regions. The detail scope of the project covered under above loans include following transmission facilities:
   i. Construction of ±800kV HVDC Bipole between Champa (in Chhattisgarh) and Kurukshetra (in Haryana).
   ii. Establishment of 800kV HVDC terminals at Champa and Kurukshetra
2. Inter-Regional System strengthening Scheme for WR and NR (Part-B)*
   i. Orai-Aligarh 765 kV D/c line
   ii. Orai-Orai (UPPTCL) 400kV D/c (Quad) line
   iii. LILO of Agra-Meerut 765 kV S/c line at Aligarh substation
   iv. LILO of Kanpur- Jhatikara 765 kV S/c line at Aligarh substation.

Associated substation facilities are not covered under the funding.

1.2 PROJECT OBJECTIVES

The objective of the project is to provide transmission arrangement so as to transfer power from future IPP generation projects in the State of Chhattisgarh to Northern and Western region with reliability and security.

The additional components under IRSSS (Part-B) aim to facilitate the efficient and reliable power transfer between NR and WR.

1.3 OVERALL PROJECT PROGRESS, AGREED MILESTONES & COMPLETION SCHEDULES

Name of project	Project Details	Progress as on Sept..'2017	Completion Schedule
Establishment of HVDC inter-Regional Transmission System between the Northern (Haryana) and Western (Chhattisgarh) Regions	**Transmission Line:** Construction of +800kV HVDC Bipole between Champa (in Chhattisgarh) and Kurukshetra (in Haryana) **Substation:** Establishment of 800kV HVDC terminals at Champa and Kurukshetra	Pole-I commissioned in Mar'17 and 2nd pole Pole-II commissioned in September, 2017	June' 2017 (extended)
Inter-Regional System Strengthening Scheme for WR and NR (Part-B)	**Transmission Line:** • Orai-Aligarh 765 kV D/c line	Tower foundation – 98%, Erection- 94% & Stringing -	April'2018

	• Orai-Orai (UPPTCL) 400 kV (Quad) line • LILO of Agra-Meerut 765 kV S/c line at Aligarh substation • LILO of Kanpur-Jhatikara 765 kV S/c line at Aligarh substation.	64% completed	

SECTION 2 : COMPLIANCE STATUS WITH MAJOR LOAN COVENANTS

POWERGRID has complied with various social safeguards as agreed in the loan covenants. The point wise compliance status is presented in the table below;

Table-1 : Compliance Status

Project Specific Covenants	Reference	Status of Compliance
The Borrower shall ensure, or cause to be ensured, that all land and all rights-of-way required for the Project are made available to the works contractor in accordance with the schedule agreed under the related works contract and all land acquisition and resettlement activities are implemented in compliance with (a) all applicable laws and regulations of the Guarantor and the relevant States relating to land acquisition and involuntary resettlement; (b) ESPP; (c) the Involuntary Resettlement Safeguards; and (d) all measures and requirements set forth in the CPTD and the RP, and any corrective or preventative actions set forth in the Safeguards Monitoring Report.	LA, Sch. 5, para. 14	Being complied.
Without limiting the application of the Involuntary Resettlement Safeguards, the CPTD or the RP, the Borrower shall ensure that no physical or economic displacement takes place in connection with the Project until: (a) compensation and other entitlements have been provided to affected people in accordance with the CPTD or the RP; and (b) a comprehensive income and livelihood restoration program has been established in accordance with the RP.	LA, Sch. 5, para. 15	Being complied.
In the event irrigation supplies are disrupted and affected farmers experience losses, the Borrower shall ensure that a provision is made for independent valuation of the losses and timely compensation in respect thereof.	LA, Sch. 5, para. 16	Not applicable as no such instances observed/reported till date.
The Borrower shall make available necessary budgetary and human resources to fully implement the EMP, the CPTD and the RP.	LA, Sch. 5, para. 17	Complied.

The Borrower shall ensure that all bidding documents and contracts for works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, the CPTD and the RP (to the extent they concern impacts on affected people during Construction), and any corrective or preventative actions set forth in the Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; (c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, the CPTD and the RP; (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and (e) Reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.	LA,. Sch. 5, para. 18	Complied
The Borrower shall do the following: (a) submit semiannual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, the CPTD and the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan;	LA, Sch. 5, para. 19	Being complied. No such issues came across till date.
(c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP, the CPTD and the RP promptly after becoming aware of the breach; and (d) in the event unexpected significant safeguard impacts are identified, promptly engage qualified and experienced external expert or agency under terms of reference intimated to ADB, to verify information produced through the Project monitoring process, and facilitate the carrying out of any verification activities by such external experts.		Not applicable as till date no such breach reported.
The Borrower shall ensure that subsequent to award of works contract, no works are commenced by the contractor unless the applicable provisions of the IEE, the EMP, the CPTD and the RP, as approved by ADB, have been complied with.	LA, Sch. 5, para. 20	Complied.

In relation to the Project, the Borrower shall cause the contractors to undertake detailed survey of the affected persons during transmission line alignment finalization. The Borrower shall prepare CPTD which meets ADB's requirements, and update it based upon the detailed design information during the survey carried out by work contractors. The Borrower shall submit to ADB for approval the revised CPTD progressively during the implementation of the related works.	LA, Sch. 5, para. 21	Complied
Any changes to the location, land alignment, or environment impacts on account of detailed designs of the Project shall be subject to prior approval by ADB before commencement of works for transmission lines under the Project.	LA, Sch. 5, para. 22	Not applicable as no such deviation reported so far.
In the event of any significant or related impacts on indigenous peoples, the Borrower shall prepare and implement an indigenous peoples plan in accordance with the applicable laws and regulations of the Guarantor and the relevant States, and the Indigenous Peoples Safeguards.	LA, Sch. 5, para. 23	Not applicable as no Indigenous people involved/ impacted so far.

SECTION: 3 COMPLIANCE STATUS WITH SOCIAL MANAGEMENT & MONITORING PLAN AS AGREED WITH ADB

A summary of the social mitigation measures their monitoring vis-a vis compliance by POWRGRID is given in **Table 2**.

Details of land secured/acquired for both terminals are mentioned below-

A) **Champa Substation:** In the RP, land requirement for HVDC station was mentioned as 116.7 acres as per preliminary assessment of 2011. However, after detailed assessment, the actual land details for HVDC Terminal (under funding) is 114.7 acres out of total 262 acres land of Champa Substation.

It is to inform you that the above mentioned land details is for entire Champa substation comprising of 800 kV HVDC portion (114.7 acres), 20 nos. of 765 kV bays (83.2 acres), 47 nos. of 400 kV bays including future bays (64.35 acres) and also colony area. Accordingly, the details of affected PAPs, land compensation and R&R benefits have been given for the entire substation area and not specifically for the HVDC terminal.

As explained above, the total land requirement for Champa Substation is 262.27 acres, land comprising of 158 acre govt. and 104.27 acre private land was secured. Accordingly, land was acquired/ allotted for the entire substation and not separately for HVDC terminal.

Govt. Land (158 acre)
Govt. order for transfer of land was issued on 30.09.11. DC issued order for possession of land on 23.11.11 and agreement signed on 25.11.11.

Private land (104.27 acre)
The private land was acquired by invoking Land Acquisition Act, 1894. Sec. - 4 issued on 25.08.11. Sec. - 6 issued on 25.11.11. Public hearing under Sec. - 9 held

on 03.01.12 and 06.01.12. Award under Sec.-11 issued on 30.11.12. Possession of land was taken by POWERGRID on 15.04.13.

At the very initial stage when acquisition was not initiated, ADB through consultant carried out social assessment for identified area of Champa substation and prepared RP which was approved in 2011(Copy available on POWERGRID's and ADB's website). As per R&R policy of Chhattisgarh and negotiation with land owners, compensation package of Rs. 6 lakhs per acre for barren land, Rs. 8 lakhs per acre for un-irrigated land and Rs. 10 lakhs per acre for irrigated land, was decided. The finalized compensation was all inclusive and had component of R&R included within the final price. As separate RAP was not required, same was not prepared by POWERGRID. However, as per POWERGRID's policy, the social assessment was awarded to third party (M/s Mittsoo Solution Pvt. Ltd., New Delhi) at the time of publication of Section-4 notification under LA Act, 1894.

Public consultation was done with villagers to identify the Community Development Works (CDW). After detailed discussion, POWERGRID and affected persons mutually agreed upon carrying out following CDWs :

Sl.	Activity	Status
1	4 no. Solar Semi High lamp at village Taga and Chorbatti	**Completed**
2	Community Center at village Taga	Land has been finalized on 20.04.17. Work is under progress.
3	Construction of bridge over Nallah/drain at village Taga	**Completed**
4	Elevated resting places for Cows/Buffaloes (Gothan) at village Taga	Revised cost after including the cost component of GST approved. Retendering is in progress.
5	Development of area around Community Center and boundary wall at village Taga	OBD issued.
6	Retaining wall for drain at village Taga	OBD issued.
7	Bus Stop at village Chorbatti	Revised cost after including the cost component of GST approved. Retendering is in progress.
8	Development of playground and children park at village Chorbatti	OBD for civil works issued. LOA for procurement of Children playing equipment is placed.

Further, many other CSR activities have been taken up in the affected villages. The details of which are as follow-

1. Construction/repair of roads in village Jayjaypur, District Janjgir –Champa – 20 lakhs
2. Health check up camp organised in village Taga. Total 186 villagers participated in the program. The health check up included blood pressure monitoring, eye check up, ECG, general physician consultation etc.
3. Providing Furnitures in Central school at village Janjgir- 52.91 lakhs.

B) **Kurukshetra Substation:** Since RP was prepared and submitted in Jun'11, the data and figures given were based on preliminary assessment. The land requirement as per preliminary assessment was 225 acres, out of which 75 acres was private land. After fixation of general arrangement/ layout of Air Insulated Substation (AIS) substation, land area requirement reduced and proposal for land acquisition of 173 acres was submitted to State Govt.

State Govt. asked Haryana Vidyut Prasaran Nigam Limited (HVPNL) for recommendation. Joint review has taken place with POWERGRID and HVPNL to reduce the land area further and it was decided then to shift the 400 kV AIS to Gas Insulated Switchyard (GIS), resulting in reduced land area with consent from HVPNL to bear the additional cost for it. (Copy of communication enclosed for ready reference as **Annex-1)**.

On the recommendation from HVPNL, POWERGRID opted for GIS 400 kV switchyard, reducing required land to 116 acres. The reduction in land requirement enabled POWERGRID to establish its substation totally on Govt./ Panchayat land. Possession for this land was taken on 17.10.12. Since the land secured was govt. owned, encroachment free land, there are no PAPs involved and no RAP is required. However, a public consultation was done with villagers to identify the Community Development works. The following community development works were identified by villagers:

- ✓ Construction of interlocking path within the village
- ✓ Const, of Shamshan shed, Bramda shamshan & B.Wall.
- ✓ Construction of interlocking paver main phirni and Nala.
- ✓ Construction of Community Centre and Shamshan Bramda.
- ✓ Interlocking pavement in Rajiv Gandhi Sewa Kendra.
- ✓ Construction of 5 nos. Toilets.
- ✓ Construction of Bramda in Harijan Choupal.

After the detailed discussion, POWERGRID has agreed upon the CDW suggessted activites to develop in villge and made an estimate budget Rs. 92.34 lakhs. The status of work is as follows:

Sl.	Activity	Status
1	Construction of interlocking path within the village	**Completed**
2	Construction of Shamshan shed, boundrywall and bramda	**Completed**
3	Construction of ILPB main firni, construction of Nalla	**Completed**
4	Construction of Community Center	**Completed**
5	Construction of ILPB Pavement in Rajiv Gandhi Sewa Kendra	**Completed**
6	Construction of 5 no. Toilets	**Completed**
7	Construction of Bramda in Harijan Choupal	**Completed**

Compensation for Acquired Lands

POWERGRID always tries to pay compensation at prevailing market prices/ replacement value. In instant case, only Champa substation has private land partially. In absence of suitable govt. land for establishment of Champa substation, Site Selection Committee consented on a partially private land. POWERGRID approached DC for calculation of land cost at market price.

As per "Adarsh Punarvas Neeti", 2007 of Govt. of Chhattisgarh, land compensation is decided according to type/pattern of land. The cost of land to be purchased for above substation, as per policy, worked out to be Rs. 6 lakhs per acre for barren land, Rs. 8 lakhs per acre for un-irrigated land and Rs. 10 lakhs per acre for irrigated land. In accordance to that, POWERGRID was asked to pay land compensation at 10 lakhs per acre vide award of land published under Sec.11 of Land acquisition Act 1894. As per the guidelines to calculate market value under LA act, 1894, the land compensation rate including 30% solatium and interest, were ranging from Rs. 3,90,515/- per acre to Rs. 4,86,081/- per acre depending on pattern of land. On the basis of this, total land compensation was Rs.3,64,73,649/- for village Taga and Rs. 35,41,978/- for Village Chorbatti. POWERGRID has paid the land compensation in line with "Adarsh Punarvas Neeti", 2007 at a land rate of 10 lakhs per acre, amounting to total compensation of Rs. 1229 lakhs.

During subsequent negotiation meetings, POWERGRID agreed to pay an additional amount of Rs. 10 lakhs per acre (4 lakhs per acre as additional land compensation, 3 lakhs per acre in lieu of employment and 3 lakhs per acre in form of Rehabilitation Assistance) to landowners, amounting to Rs. 1043 lakhs. Hence, a total of 20 lakhs per acre, which includes components of land compensation, compensation towards employment and R&R, has been paid to landowners in final settlement.

The details for land for both the substation is mentioned below:

Substation Name	Acquired Land (in Acres)		No. of PAPs	Land compensation (in Lakhs)			R&R (in Lakhs)
	Pvt.	Govt		Pvt.	Govt	Total	
Champa	104.27	158	258	1229	711	1940	1043
Kurukshetra	NIL	116.7	NIL	NIL	2845	2845	NA

Compensation for Tree/crop damages:

POWERGRID follows the principle of Avoidance, Minimization and Mitigation in the construction of line in agricultural field having crop due to inherent flexibility in phasing the construction activity and tries to defer construction in cropped area to facilitate crop harvesting. However, if it is unavoidable and is likely to affect project schedule, compensation is given at market rate for standing crops. The process of tree/crop compensation is depicted in **Figure 1**. All efforts are also taken to minimize the crop damage to the extent possible in such cases. In the instant project also, POWERGRID is taking all possible measures to avoid damages to crop/trees by taking up the construction activities during lean period or post-harvest season. As per the prevailing norms farming activity allowed after the construction work is completed. However, compensation for the loss of crops/trees/any structure etc. paid to Affected Persons (APs) for the area of damaged to mitigate the impacts probably 3 times i.e. during foundation work, tower erection & stringing as per the prevailing situation. Details of region/line wise compensation under different projects paid for tree/crop damages till Sept'17 is given below:

(i) ± 800kV Champa- Kurukshetra HVDC Bipole line:

Sl. No	Location/ Region	No. of AP's	Affected Land Area (in Ha.)	Nos. of Tree affected	Compensation Paid for Crop damages (Rs. Lakh)			Compensation Paid for Tree damages (Rs. Lakh)		
					Foundation	Erection	Stringing	Foundation	Erection	Stringing
1.	HVDC line (Western Region-I portion)	5610	672.40	35539	175.05	183.85	193.41	4.33	0.92	741.60
2.	HVDC line (Western Region-II portion)	8592	2193.34	32589	413.83	380.25	348.74	45.06	59.97	398.46
3.	HVDC line (Northern Region-I portion)	20554	2469	99400	466.71	788.67	1579.97	35.96	35.50	525.55
	Total	**34756**	**5334.74**	**167528**	**1055.59**	**1352.77**	**2122.12**	**85.35**	**96.39**	**1665.61**

Total of **Rs.6377.83 lakhs** compensation paid towards tree/crop compensation till now against the provision kept in DPR Rs. 1273.21 lakhs. A sample copy of crop compensation notice along with payment details is enclosed at **Annex-2.**

(ii) Transmission lines under Inter-Regional System strengthening Scheme for WR and NR (Part-B)

Sl. No	Name of the Tr. Line	No. of AP's	Affected Land Area (in Ha.)	Nos. of Tree affected	Compensation Paid for Crop damages (Rs. Lakh)			Compensation Paid for Tree damages (Rs. Lakh)		
					Foundation	Erection	Stringing	Foundation	Erection	Stringing
1.	Orai-Aligarh	8303	1290.41	560	354.1	534.31	224.72	0	0	14.33
2.	Orai- Orai (UPPTCL)	723	156.69	620	34.40	39.45	36.12	0	0	17.36
3.	LILO of Agra-Meerut at Aligarh s/s	169	35.87	0	17.37	11.93	0	0	0	0
4.	LILO of Kanpur-Jhatikara at Aligarh s/s	84	16.12	0	9.40	8.05	0	0	0	0
	Total	**9279**	**1499.09**	**1180**	**415.27**	**593.74**	**260.84**	**0**	**0**	**31.69**

Total of **Rs.1301.54 lakhs** compensation paid towards tree/crop compensation till now against the provision kept in DPR Rs. 2036 lakhs.

Figure 1 : TREE / CROP COMPENSATION PROCESS

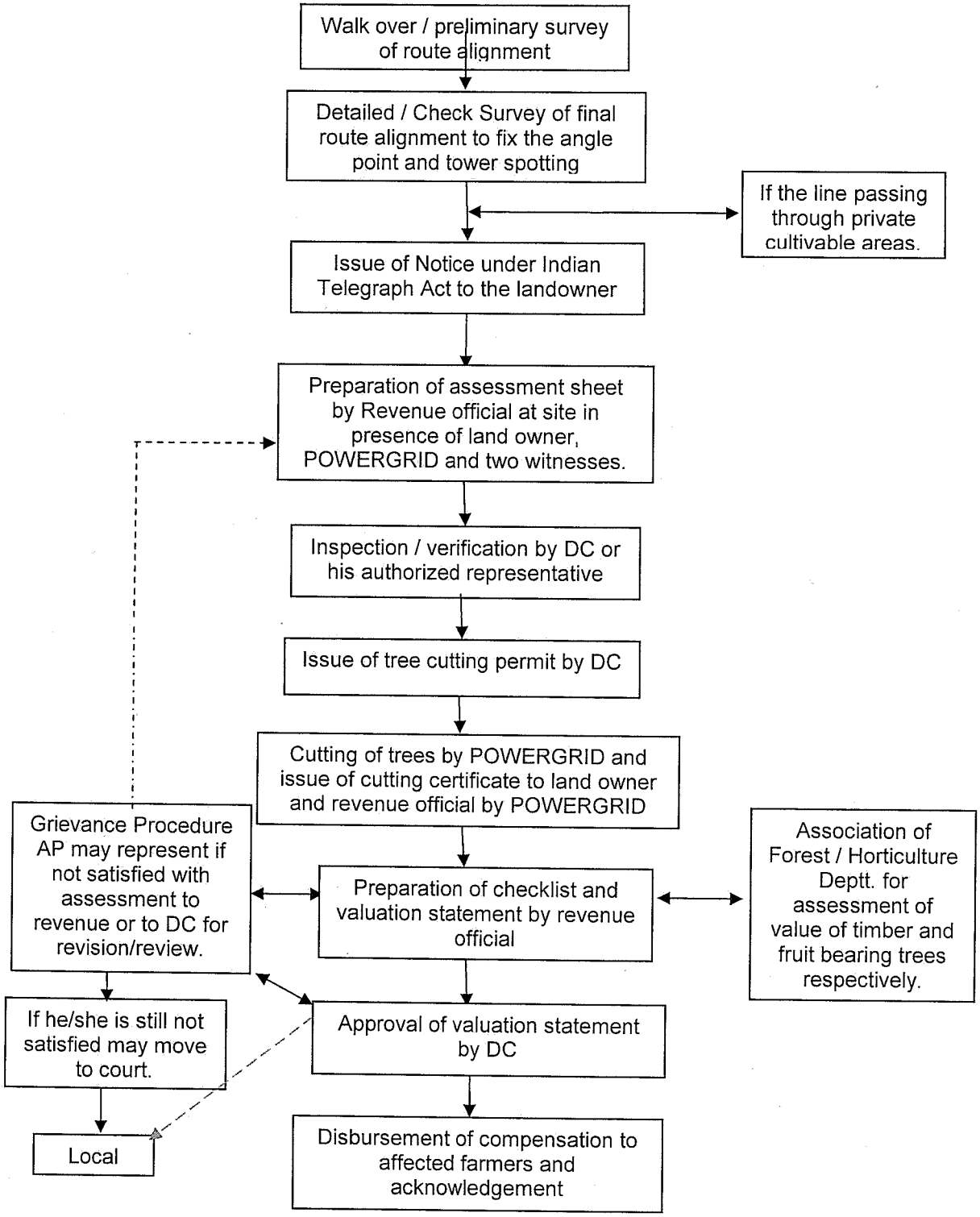

TABLE – 2 : ENVIRONMENT MANAGEMENT PLAN

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Pre-construction							
Location of transmission towers and transmission line alignment and design	Exposure to safety related risks	Setback of dwellings to overhead line route designed in accordance with permitted level of power frequency and the regulation of supervision at sites.	Tower location and line alignment selection with respect to nearest dwellings	Setback distances to nearest houses - once	POWERGRID	Part of tower siting survey and detailed alignment survey and design	
Equipment specifications and design parameters	Release of chemicals and gases in receptors (air, water, land)	PCBs not used in substation transformers or other project facilities or equipment.	Transformer design	Exclusion of PCBs in transformers stated in tender specification - once	POWERGRID	Part of tender specifications for the equipment	
		Processes, equipment and systems not to use chlorofluorocarbons (CFCs), including halon, and their use, if any, in existing processes and systems should be phased out and to be disposed of in a manner consistent with the requirements of the Govt.	Process, equipment and system design	Exclusion of CFCs stated in tender specification – once	POWERGRID	Part of tender specifications for the equipment	
				Phase out schedule to be prepared in case still in use – once		Part of equipment and process design	
Transmission line design	Exposure to electromagnetic interference	Transmission line design to comply with the limits of electromagnetic interference from overhead power lines	Electromagnetic field strength for proposed line design	Line design compliance with relevant standards - once	POWERGRID	Part of detailed alignment survey and design	
Substation location and design	Exposure to noise	Design of plant enclosures to comply with noise regulations.	Expected noise emissions based on substation design	Compliance with regulations - once	POWERGRID	Part of detailed siting survey and design	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Location of transmission towers and transmission line alignment and design	Impact on water bodies and land	Consideration of tower location at where they could be located to avoid water bodies or agricultural land.	Tower location and line alignment selection (distance to water and/or agricultural land)	Consultation with local authorities and land owners - once	POWERGRID	Part of tower siting survey and detailed alignment survey and design	Complied during survey. Route alignment criterion is part of survey contract.
	Social inequities	Careful route selection to avoid existing settlements	Tower location and line alignment selection (distance to nearest dwellings or social institutions)	Consultation with local authorities and land owners - once	POWERGRID	Part of detailed tower siting and alignment survey and design	
		Minimise need to acquire agricultural land	Tower location and line alignment selection (distance to agricultural land)	Consultation with local authorities and land owners - once	POWERGRID	Part of detailed tower siting and alignment survey and design	
Involuntary resettlement or land acquisition	Social inequities	Compensation paid for temporary/permanent loss of productive land as per LAA and its process	RAP implementation	Consultation with affected parties – once in a quarter	POWERGRID	Prior to construction phase	Progressive social entitlement framework is part of policy and implemented in true spirit
Encroachment into precious ecological areas	Loss of precious ecological values/ damage to precious species	Avoid encroachment by careful site and alignment selection	Tower location and line alignment selection (distance to nearest designated ecological protection area)	Consultation with local forest authorities - once	POWERGRID	Part of detailed siting and alignment survey /design	
Transmission line through forestland	Deforestation and loss of biodiversity	Avoid encroachment by careful site and alignment selection	Tower location and line alignment selection (distance to nearest protected or reserved forest)	Consultation with local authorities - once	POWERGRID	Part of detailed siting and alignment survey/design	
		Minimise the need by using existing towers, tall towers and RoW, wherever possible		Consultation with local authorities and design engineers - once			

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		Obtain statutory clearances from the Government	Statutory approvals from Government	Compliance with regulations – once for each subproject			
Encroachment into farmland	Loss of agricultural productivity	Use existing tower footings/towers wherever possible	Tower location and line alignment selection	Consultation with local authorities and design engineers - once	POWERGRID	Part of detailed alignment survey and design	Complied during survey which is part of survey contract. However, as per law of land, no land is acquired for transmission line tower but all damages are compensated as per provision of Electricity Act, 2003 and Indian Telegraph Act, 1885.
		Avoid siting new towers on farmland wherever feasible	Tower location and line alignment selection	Consultation with local authorities and design engineers - once		Part of detailed siting and alignment survey /design	
		Farmers compensated for any permanent loss of productive land	Design of Implementation of Crop Compensation (based on affected area)	Consultation with affected parties – once in a quarter		Prior to construction phase	
		Farmers/landowners compensated for significant trees that need to be trimmed/ removed along RoW.	Design of Implementation of Tree compensation (estimated area to be trimmed/ removed)	Consultation with affected parties – once in a quarter		Part of detailed siting and alignment survey /design	
			Statutory approvals for tree trimming /removal	Compliance with regulations – once for each subproject			
Noise related	Nuisance to neighbouring properties	Substations sited and designed to ensure noise will not be a nuisance.	Noise levels	Noise levels to be specified in tender documents – once	POWERGRID	Part of detailed equipment design	
Interference with drainage patterns/Irrigation channels	Flooding hazards/loss of agricultural production	Appropriate siting of towers to avoid channel interference	Tower location and line alignment selection (distance to nearest flood zone)	Consultation with local authorities and design engineers - once	POWERGRID	Part of detailed alignment survey and design	Complied during survey. Route alignment criterion is part of survey contract.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Escape of polluting materials	Environmental pollution	Transformers designed with oil spill containment systems, and purpose-built oil, lubricant and fuel storage system, complete with spill	Equipment specifications with respect to potential pollutants	Tender document to mention specifications - once	POWERGRID	Part of detailed equipment design /drawings	
		Substations to include drainage and sewage disposal systems to avoid offsite land and water pollution.	Substation sewage design	Tender document to mention detailed specifications - once	POWERGRID	Part of detailed substation layout and design /drawings	
Explosions /Fire	Hazards to life	Design of substations to include modern fire control systems/firewalls.	Substation design compliance with fire prevention and control codes	Tender document to mention detailed specifications - once	POWERGRID	Part of detailed substation layout and design /drawings	
		Provision of fire fighting equipment to be located close to transformers.					
Construction							
Equipment layout and installation	Noise and vibrations	Construction techniques and machinery selection seeking to minimize ground disturbance.	Construction techniques and machinery	Construction techniques and machinery creating minimal ground disturbance- once at the start of each construction phase	POWERGRID (Contractor through contract provisions as per Sec- VII, 44.7)	Construction period	
Physical construction	Disturbed farming activity	Construction activities on cropping land timed to avoid disturbance of field crops (within one month of harvest wherever possible).	Timing of start of construction	Crop disturbance –Post harvest as soon as possible but before next crop - once per site	POWERGRID (Contractor through contract provisions as per Sec-II, 2.5)	Construction period	Construction on farm land being undertaken mostly during post harvest period. Wherever crop loss occurs compensation paid to farm owners and an amount of **Rs.58.00 Cr**. has been paid so far.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Mechanized construction	Noise, vibration and operator safety, efficient operation	Construction equipment to be well maintained.	Construction equipment – estimated noise emissions	Complaints received by local authorities - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-VIII, 44.7)	Construction period	
	Noise, vibration, equipment wear and tear	Turning off plant not in use.	Construction equipment – estimated noise emissions and operating schedules	Complaints received by local authorities - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-VIII, 44.7)	Construction period	
Construction of roads for accessibility	Increase in airborne dust particles	Existing roads and tracks used for construction and maintenance access to the line wherever possible.	Access roads, routes (length and width of new access roads to be constructed)	Use of established roads wherever possible - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-II, 2.8)	Construction period	
	Increased land requirement for temporary accessibility	New access ways restricted to a single carriageway width within the RoW.	Access width (meters)	Access restricted to single carriage -way width within RoW - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-II, 2.8)	Construction period	Complied/ Being Complied
Temporary blockage of utilities	Overflows, reduced discharge	Temporary placement of fill in drains/canals not permitted.	Temporary fill placement (m^3)	Absence of fill in sensitive drainage areas - every 4 weeks	POWERGRID (Contractor through contract provisions as per Sec-II, 2.6)	Construction period	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Site clearance	Vegetation	Marking of vegetation to be removed prior to clearance, and strict control on clearing activities to ensure minimal clearance.	Vegetation marking and clearance control (area in m^2)	Clearance strictly limited to target vegetation - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-VIII, 43.5 & Sec. II, 2.6)	Construction period	
Trimming /cutting of trees within RoW	Fire hazards	Trees allowed growing up to a height within the RoW by maintaining adequate clearance between the top of tree and the conductor as per the regulations.	Species-specific tree retention as approved by statutory authorities (average and maximum tree height at maturity, in meters)	Presence of target species in RoW following vegetation clearance – once per site	POWERGRID (Contractor through contract provisions)	Construction period	
	Loss of vegetation and deforestation	Trees that can survive pruning to comply should be pruned instead of cleared.	Species-specific tree retention as approved by statutory authorities	Presence of target species in RoW following vegetation clearance – once per site	POWERGRID (Contractor through contract provisions)	Construction period	
		Felled trees and other cleared or pruned vegetation to be disposed of as authorized by the statutory bodies.	Disposal of cleared vegetation as approved by the statutory authorities (area cleared in m^2)	Use or intended use of vegetation as approved by the statutory authorities – once per site	POWERGRID (Contractor through contract provisions)	Construction period	
Wood/ vegetation harvesting	Loss of vegetation and deforestation	Construction workers prohibited from harvesting wood in the project area during their employment, (apart from locally employed staff continuing current legal activities)	Illegal wood /vegetation harvesting (area in m^2, number of incidents reported)	Complaints by local people or other evidence of illegal harvesting - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-II, 2.3)	Construction period	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Surplus earthwork/soil	Runoff to cause water pollution, solid waste disposal	Soil excavated from tower footings disposed of by placement along roadsides, o at nearby house blocks if requested by landowners	Soil disposal locations and volume (m^3)	Acceptable soil disposal sites - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-VIII, 43.5 & Sec-II, 2.6)	Construction period	
Site clearance	Vegetation	Tree clearances for easement establishment to only involve cutting trees off at ground level or pruning as appropriate, with tree stumps and roots left in place and ground cover left undisturbed	Ground disturbance during vegetation clearance (area, m^2)	Amount of ground disturbance - every 4 weeks	POWERGRID (Contractor through contract provisions)	Construction period	
			Statutory approvals	Statutory approvals for tree clearances – once for each site	POWERGRID (Contractor through contract provisions)	Construction period	
Tower construction – disposal of surplus earthwork/fill	Waste disposal	Excess fill from tower foundation excavation disposed of next to roads or around houses, in agreement with the local community or landowner	Location and amount (m^3)of fill disposal	Appropriate fill disposal locations - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-II, 2.6 & Sec-VIII, 43.5)	Construction period	
Storage of chemicals and materials	Contaminatio n of receptors (land, water, air)	Fuel and other hazardous materials securely stored above high flood level.	Location of hazardous material storage; spill reports (type of material spilled, amount (kg or m^3) and action	Fuel storage in appropriate locations and receptacles - every 2 weeks	POWERGRID (Contractor through contract provisions)	Construction period	
			taken to control and clean up spill)				
Construction schedules	Noise nuisance to	Construction activities only undertaken during the day	Timing of construction (noise	Daytime construction only	POWERGRID (Contractor	Construction period	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
	neighbouring properties	and local communities informed of the construction schedule.	emissions, [dB(A)])	- every 2 weeks	through contract provisions as per Sec-VIII, 44.7)		
Provision of facilities for construction workers	Contaminatio n of receptors (land, water, air)	Construction workforce facilities to include proper sanitation, water supply and waste disposal facilities.	Amenities for Workforce facilities	Presence of proper sanitation, water supply and waste disposal facilities - once each new facility	POWERGRID (Contractor through contract provisions)	Construction period	
Encroachmen t into farmland	Loss of agricultural productivity	Use existing access roads wherever possible	Usage of existing utilities	Complaints received by local people /authorities - every 4 weeks	POWERGRID (Contractor through contract provisions as per Sec-II, 2.8) Sec-II, 2.5 & Sec-II, 2.7	Construction period	Being complied. No complaints received from local peoples/ authorities
		Ensure existing irrigation facilities are maintained in working condition	Status of existing facilities				
		Protect /preserve topsoil and reinstate after construction completed	Status of facilities (earthwork in m^3)				
		Repair /reinstate damaged bunds etc after construction completed	Status of facilities (earthwork in m^3)				
	Social inequities	Compensation for temporary loss in agricultural production	Implementation of Crop compensation (amount paid, dates, etc.)	Consultation with affected parties – once in a quarter	POWERGRID	Prior to construction	Tried to minimise the loss. However, if there is any damage to tree/crop then damages are compensated. An amour of **Rs.76.79 Cr**. Paid towards crops & tree compensation during construction till Sep'16 (refer Table-2)
Uncontrolled erosion/silt runoff	Soil loss, downstream siltation	Need for access tracks minimised, use of existing roads.	Design basis and construction procedures	Incorporating good design and construction	POWERGRID (Contractor through	Construction period	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		Limit site clearing to work areas	(suspended solids in receiving waters; area re-vegetated in m^2; amount of bunds constructed [length in meter, area in m^2, or volume in m^3])	management practices – once for each site	contract provisions as per Sec-II,2.8)		
		Regeneration of vegetation to stabilise works areas on completion (where applicable)					
		Avoidance of excavation in wet season					
		Water courses protected from siltation through use of bunds and sediment ponds			As per Sec-II, 2.6		
Nuisance to nearby properties	Losses to neighbouring land uses/ values	Contract clauses specifying careful construction practices.	Contract clauses	Incorporating good construction management practices – once for each site	POWERGRID (Contractor through contract provision as per Sec-II, 2.8)	Construction period	No complaints received
		As much as possible existing access ways will be used	Design basis and layout	Incorporating good design engineering practices– once for each site			Complied/ Being Complied
		Productive land will be reinstated following completion of construction	Reinstatement of land status (area affected, m^2)	Consultation with affected parties – twice- immediately after completion of construction and after the first harvest			No complaints received
	Social inequities	Compensation will be paid for loss of production, if any.	Implementation of Tree/Crop compensation (amount paid)	Consultation with affected parties – once in a quarter	POWERGRID	Prior to construction	Compensation provided as per POWERGRID's procedure for tree/ crop compensation
Inadequate siting of borrow areas	Loss of land values	Existing borrow sites will be used to source aggregates, therefore, no need to	Contract clauses	Incorporating good construction management	POWERGRID (Contractor through	Construction period	Complied/ Being Complied

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		develop new sources of aggregates		practices – once for each site	contract provisions)		
Health and safety	Injury and sickness of workers and members of the public	Contract provisions specifying minimum requirements for construction camps	Contract clauses (number of incidents and total lost-work days caused by injuries and sickness)	Contract clauses compliance – once every quarter	POWERGRID (Contractor through contract provisions as per Sec-II, 2.2 (v,vii,viii) and also Safety precautions in spe. contract Condition 43.2)	Construction period	Complied/ Being Complied
		Contractor to prepare and implement a health and safety plan.					
		Contractor to arrange for health and safety training sessions					
Inadequate construction stage monitoring	Likely to maximise damages	Training of POWERGRID environmental monitoring personnel	Training schedules	Number of programs attended by each person – once a year	POWERGRID	Routinely throughout construction period	
		Implementation of effective environmental monitoring and reporting system using checklist of all contractual environmental requirements	Respective contract checklists and remedial actions taken thereof.	Submission of duly completed checklists of all contracts for each site - once			
		Appropriate contact clauses to ensure satisfactory implementation of contractual environmental mitigation measures.	Compliance report related to environmental aspects for the contract	Submission of duly completed compliance report for each contract - once			
Operation and Maintenance							
Location of transmission towers and transmission line alignment and design	Exposure to safety related risks	Setback of dwellings to overhead line route designed in accordance with permitted level of power frequency and the regulation of supervision at sites.	Compliance with setback distances ("as-built" diagrams)	Setback distances to nearest houses – once in quarter	POWERGRID	During operations	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Equipment submerged under flood	Contaminatio n of receptors (land, water)	Equipment installed above the high flood level (HFL) by raising the foundation pad.	Substation design to account for HFL ("as-built" diagrams)	Base height as per flood design - once	POWERGRID	During operations	
Oil spillage	Contaminatio n of land/nearby water bodies	Substation transformers located within secure and impervious sump areas with a storage capacity of at least 100% of the capacity of oil in transformers and associated reserve tanks.	Substation bunding (Oil sump) ("as-built" diagrams)	Bunding (Oil sump) capacity and permeability - once	POWERGRID	During operations	
Inadequate provision of staff/workers health and safety during operations	Injury and sickness of staff /workers	Careful design using appropriate technologies to minimise hazards	Usage of appropriate technologies (lost work days due to illness and injuries)	Preparedness level for using these technologies in crisis – once each year	POWERGRID	Design and operation	
		Safety awareness raising for staff.	Training/awareness programs and mock drills	Number of programs and percent of staff /workers covered – once each year			
		Preparation of fire emergency action plan and training given to staff on implementing emergency action plan					
		Provide adequate sanitation and water supply facilities	Provision of facilities	Complaints received from staff /workers every 2 weeks			
Electric Shock Hazards	Injury/ mortality to staff and public	Careful design using appropriate technologies to minimise hazards	Usage of appropriate technologies (number of injury incidents, lost work days)	Preparedness level for using these technology in crisis – once a month	POWERGRID	Design and Operation	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		Security fences around substations	Maintenance of fences	Report on maintenance – every 2 weeks			
		Barriers to prevent climbing on/dismantling of transmission towers	Maintenance of barriers				
		Appropriate warning signs on facilities	Maintenance of warning signs				
		Electricity safety awareness raising in project areas	Training /awareness programs and mock drills for all concerned parties	Number of programs and percent of total persons covered – once each year			
Operations and maintenance staff skills less than acceptable	Unnecessary environmental losses of various types	Adequate training in O&M to all relevant staff of substations & transmission line maintenance crews.	Training/awareness programs and mock drills for all relevant staff	Number of programs and percent of staff covered – once each year	POWERGRID	Operation	
		Preparation and training in the use of O&M manuals and standard operating practices.					
Inadequate periodic environmental monitoring.	Diminished ecological and social values.	Power Grid staff to receive training in environmental monitoring of project operations and maintenance activities.	Training/awareness programs and mock drills for all relevant staff	Number of programs and percent of staff covered – once each year	POWERGRID	Operation	
Equipment specifications and design parameters	Release of chemicals and gases in receptors (air, water, land)	Processes, equipment and systems using cholofluorocarbons (CFCs), including halon, should be phased out and to be disposed of in a manner consistent with the requirements of the Govt.	Process, equipment and system design	Phase out schedule to be prepared in case still in use – once in a quarter	POWERGRID	Operations	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Transmission line maintenance	Exposure to electromagnetic interference	Transmission line design to comply with the limits of electromagnetic interference from overhead power lines	Required ground clearance (meters)	Ground clearance - once	POWERGRID	Operations	
Noise related	Nuisance to neighbouring properties	Substations sited and designed to ensure noise will not be a nuisance.	Noise levels (dB(A))	Noise levels at boundary nearest to properties and consultation with affected parties if any - once	POWERGRID	Operations	

SECTION: 5 APPROACH AND METHODOLOGY ADOPTED FOR MONITORING OF THE PROJECT

Monitoring is a continuous process throughout the Project life cycle starting from site selection to construction and maintenance state. A Project Management Unit (PMU) has been set up headed by Executive Director (Corporate Planning) at headquarters to coordinate and implement all environment and social issues with the assistance of functional department like Environment & Social Management Deptt., Engineering etc. Apart from this, site managers review the progress on daily basis and regular project review meetings held at least on monthly basis, chaired by the Executive Director of the region wherein the environmental aspects of the projects are discussed and remedial measures taken, wherever, required. The exceptions of these meetings will be submitted to the Directors and Chairman & Managing Director (CMD).

POWERGRID has separate monitoring departments which carry out real time monitoring of all parameters of project implementation including the environment and social issues. Such issues are discussed in detail during every quarter in the Project Review Meeting (PRM) Chaired by Director (Project). CMD also takes periodic review of project implementation.

SECTION: 6 DETAILS OF GRIEVENCE REDRESS COMMITTEE AND COMPLAINT RECEIVED AND ACTION TAKEN

POWERGRID has a well establish Grievance Redressal Mechanism (GRM) inbuilt in the process itself to receive complaints and grievances to facilitate concerns of project affected persons (PAPs). As a regular practice, wherever fresh land acquisition is involved, a committee is formed comprising of POWERGRID officials, representatives of local authorities, PAPs, Gram Panchayat and well-reputed person to address the grievances of the affected persons. However, in the instant project for Kurukshetra terminal station, no such committee is needed since the land area of 116.7 acres acquired is a govt./Panchayat land. In case of Champa terminal station the private land has been acquired with negotiated settlement/consent award (copy of minutes of meeting enclosed as **Annex-3**), Grievance Redressal Committee (GRC) has been constituted with representatives from POWERGRID, Revenue authorities, PAPs and Gram panchayat. Composition of existing Grievance Redressal Committee at Champa substation is as follows-

Village Taga

S.No.	Nominee's Organization	Name/Designation
1	Representative of local authority	Sub Divisional cum Land acquisition officer, Janjgir Dist.-Janjgir-Champa
2	Representative of Gram Panchayat	Sarpanch village Taga, Tehsil-Akaltara,
3	POWERGRID representative (Site)	Sh. R S Gupta, AGM (Champa)
4	Representative of PAPs	1) Shri Shivnandan Yadav 2) Shri Kholbahara

Village Chorbhatthi

S. no.	Nominee's Organization	Name/Designation
1	Representative of local authority	Sub Divisional cum Land acquisition officer, Pamgarh, Dist-Janjgir-Champa

2	Representative of Gram Panchayat	Sarpanch village Pamgarh, Tehsil-Pamgarh,
3	POWERGRID representative (Site)	Shri. R S Gupta, AGM (Champa)
4	Representative of PAPs	1) Sh. Umendram 2) Sh. Bhisham

Substation at Orai and Aligarh are not under funding. However, GRC is not required at both these places as Private land have been purchased on **"Willing Buyer Willing Seller"** basis on mutually negotiated price.

In case of transmission line, the GRM process is in built in the tree & crop compensation process, where affected persons are given a chance to place their grievances after issuance of notice by revenue officials on the basis of assessment of actual damages. Grievances received towards compensation are generally addressed in open forum and in the presence of many witnesses. Process of spot verification and random checking by the district collector also provides forum for raising the grievance towards any irregularity/complaint. Apart from this, POWERGRID officials also listen to the complaints of affected farmers and the same are forwarded to revenue official for doing the needful and, if required, POWERGRID takes necessary action to mitigate the concern of the affected.

SECTION: 7 CONCLUSION

It may be noted above that all the possible measures have taken to avoid/minimize the impact of land acquisition. As for Champa Substation, out of 262.27 acre land, 158 acre land is govt land and 104.27 acre private land was acquired from 258 land owners. Land compensation given at Rs. 10 Lakhs/ acre as per Aadarsh Punarvaas Neeti of Govt of Chhattisgarh and additional compensation of Rs. 10 Lakhs/ acre (Rs. 7 Lakhs towards land compensation enhancement, 3 Lakhs towards one time settlement in lieu of employment) for including Rehabilitation Assistance and cost for job paid as per demand/agreement.

For Kurukshetra Substation, 116.7 acre govt. land was secured by State Govt. and possession was taken on 17.10.14. Since land was govt. owned encroachment free land there were no PAPs involved. Hence, no RAP was required.

It is evident from above that mostly govt land was selected for construction of substations. Private land was acquired for Champa Substation, but adequate compensation have been paid to land owners.

800kV Champa- Kurukshetra transmission line has length of approximately 1286.7 KM with around 3220 towers location. During the construction in different phases i. e. foundation, erection, stringing of line we have paid the tree/crop compensation to the tune of Rs. 6377.83 lakhs for 5334.74 ha. of affected land area.

Similarly, in case of Orai- Aligarh , Orai-orai, and LILO of Agra- meerut and LILO Kanpur-Jhatikara lines for total of 1499.09 ha. of affected land area Rs. 1301.54 lakhs compensation already paid towards tree/crop compensation.

R.K.SRIVASTAVA
General Manager (ESMD)

HEALTH CHECK UP CAMP AT CHAMPA

COMMUNITY DEVELOPMENT WORK AT KURUKSHETRA SUBSTATION

CONSTRUCTION OF INTERLOCKING PATH WITHIN THE VILLAGE

CONSTRUCTION OF SHED AT SHAMSHAN GHAT

BOUNDRYWALL & BARAMDA OF SHAMSHAN GHAT

CONSTRUCTION OF COMMUNITY CENTRE

CONSTRUCTION OF ILPB PAVEMENT IN RAJIV GANDHI SEWA KENDRA

ANNEX-1

HARYANA VIDYUT PRASARAN NIGAM LIMITED
(A Govt. of Haryana Undertaking)
Chief Engineer, Planning, Panchkula
Phone 0172-2584338, Fax 0172-2584415
Email:Planning_hvpn@yahoo.com
HVPN

To

The Managar T/L,
PGCIL, 400 kV substation Abdullapur
Village Bhambholi, Jagadhari – Ambala Road
District Yamuna Nagar (Haryana)

Memo No Ch— 7 /HSS-367 Dated 29 /07/ 2011

Subject: Acquisition of land for construction of 800 kV substation at Kurukshetra by PGCIL.

Please refer to Sub-Divisional Officer (Civil)-cum-Land Acquisition Collector, Indri District Karnal office memo no. 387/MC dated 18.07.2011 addressed to FC&PS, GoH Power Deptt. with a copy to your office regarding Notification u/s 4 of the Land Acquisition Act 1894 for acquisition of 173.38 acres of land of village Bhadson, Tehsil Indri, District Karnal

It appears that land requirement is on higher side. The justification for acquiring 173.38 acre fertile land may be supplied alongwith applicable guidelines. PGCIL may also suggest the measures by which the land requirement can be reduced by adopting GIS Technology/ Vertical configuration etc

It is also intimated that the proposed site is about 40-50 km of Deenbandhu Chhotu Ram Thermal Power Plant (DCRTPP), Yamuna Nagar. Haryana has already created 220 kV substations at Salampur and Unispur (Nilokheri) for utilization of power of DCRTPP. These substations are very close to the proposed site of subject cited substation. Additional 3rd generating unit of 1x660 MW at DCRTPP has already been planned. This additional power will be utilized to meet the load requirement in Kurukshetra and Pehowa area

It has been decided in 28th meeting of the standing committee on power system planning of northern region held on 23.02.2010 that 2x500 MVA, 400/220 kV transformers are planned to be installed at proposed 800 kV substation at Kurukshetra for use of Haryana. It will be difficult to evacuate power as the load of nearby area has already been planned to be fed from DCRTPP, Yamuna Nagar.

In view of above it is requested to change the site if possible, for creation of proposed 800 kV substation

Chief Engineer/ Planning,
HVPNL, Panchkula

POWER GRID CORPORATION OF INDIA LIMITED
REGIONAL ENGINEERING SERVICES
Northern Region – II, Jammu

INTER OFFICE MEMO

From: AGM (Engg/FQA)
NR-II, Jammu.

To: GM(HVDC), CC Gurgaon

CC: 1) ED, NR-II For kind info.
2) GM (Projects)

Ref No : N2JM/Engg/SS-30/2011/ 709
Dated : 03.08.2011

Subject: Land acquisition for 800kV HVDC Terminal Station near kurukshetra associated with IPP's in Chattisgarh (ADB funded project).

Enclosed please find herewith a letter (reference no: Ch-7/HSS-367 dated 29.07.2011) from Chief Engineer/ planning, HVPNL on subject matter. In this context it is intimated that the case for notification under section 4 of Land Acquisition Act, 1894 for acquisition of 173.38 acres of Land for subject Station in Village Bhadson, Tehsil Indri, District Karnal was got processed through SDO (Civil) cum LAC, Tehsil Indri, district Karnal and forwarded to FC& PS, Power deptt., Government of Haryana.. Out of these 173.38 acres, major chunk of approx. 150 acres belongs to village Panchayat and is lying vacant. Only 25 to 30 acres of land belongs to farmers and is being cultivated.

However, as per aforementioned letter received from CE/ Palnning, HVPNL has sought clarification on certain issues before case for notification under section 4 can be forwared to Government of Haryana. It was intimated to CE/Planning, HVPNL that that the land being acquired is the bare minimum and with Technology enhancement additional land for earth electrode is no more being acquired. A copy of layout of HVDC Terminal Station was also provided to CE/ Planning, HVPNL. However, CE/ Planning, HVPNL is still not satisfied and asked for further Technical clarification/ justification. It is therefore requested that suitable Technical justification/ inputs may be forwarded through return fax so that a suitable reply can be forwarded to CE/ Planning, HVPNL from this end.

Matter **URGENT**

Encl.: As above

(A. K. Srivastava)

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड

POWER GRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprise)

Corporate Office "Saudamini" Sector-29 Gurgaon Haryana

Tel 2571700

Ref. Number

C/ENG/SEF/N/NR-PLG

Dated 12/08/2011

Ms Jyoti Arora, IAS
Managing Director,
Haryana Vidyut Prasaran Nigam,
Shakti Bhawan, Sector-6,
Panchkula 134 109

Subject: Land for HVDC Terminal Station at Kurukshetra

Madam,

This is with reference to the discussions undersigned had with you in regard to setting up of HVDC terminal station at Kurukshetra of Champa – Kurukshetra HVDC Bipole line. This ± 800 kV Champa – Kurukshetra HVDC bipole line shall be developed in two phases with an ultimate capacity of 6000 MW. Kurukshetra terminal station would consist of 2 nos. of HVDC biples each having a capacity of 3000 MW and a 400 kV substation which is required for dispersal of power. Accordingly the land requirement of 173 acres was worked out. However as suggested by you, we have reviewed the design of the station and now we are considering 400 kV GIS station in place of conventional Air Insulated substation. This would reduce the requirement of land to about 110 acres.

It is to mention that Champa – Kurukshetra HVDC line has been planned to bring power from various generating stations in Chattisgarh, being pooled at Champa pooling station to Kurukshetra. Injection of 6000 MW of power would provide undisturbed reliable power supply at the doorstep of Haryana, which is equivalent to setting up of a pollution free 6000 MW power generating station in Haryana. The HVDC line would provide controlled power flow resulting into improvement of grid stability & reliability of power in Haryana and nearby regions as well as reduction of transmission losses. From the above it may be appreciated that Champa – Kurulshetra HVDC bipole would be of great help to the state in long term perspective.

Further, it is to inform that we are planning to commission the first phase of HVDC bipole by 2014-15, and keeping in view the tight schedule for large quantum of works involved we have already started tendering activities. It is requested to kindly extend necessary support in obtaining acquisition of about 110 acres of land at in Kurukshetra area. In this regard if desired, we can come to your office [illegible] the [illegible] and other concerned officers.

Thanking you

Yours faithfully

(I S Jha)
Director (Projects)

ED (S/S & T/L)

Registered Office : B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi

ANNEX.-2

POWERGRID CORPORATION OF INDIA LIMITED

(A Government of India Enterprise)
800/400/220 KV Substation, Delhi Roorkee Road
Gram Mataur, Post Daurala, Meerut-250221 (UP)
(FAX: 01237- 231673, Phone: 230700)

MRT 145

Loc. No. 10711
Work. TC
Date: 23/02/15

Ref. No.: NR-I/MRT/TU...../

To,

Sh. ..... S/o Sh.....

Gram: ..... Post:.....

Tehsil:..... District:.....

Sub:-Notice regarding Construction of ±800 KV HVDC Champa – Kurukshetra Transmission line - compensation for damages.

Power Grid Corporation of India Ltd. is mandated to construct the subject line, under section 164 of Indian Electricity Act-2003, read with section-10 of Indian Telegraph Act-1885 and the order of Ministry of Power dated 24.12.2003 (Gazette Notification dated – 24.12.2003). This line passes through the Village ---- Tehsil ---- District ----.

It has been observed that Tree as detailed here under are falling within the Right of Way of the aforesaid transmission line, and are likely to be damaged unless salvaged immediately.

Depending upon actual damages, we shall pay compensation for the losses on account of Tree, on the basis of guidelines received from the local bodies/ revenue authorities.

Details of Trees: Khasara No. : 17

Sl. No.	Name/ type of Tree	No. of Trees	Girth at a height of 1 mtr. (Cm.)	Remarks
	पोपलस	12	0-30 cm. (8)	Nos
			30-40 cm. (4)	Nos
	यूकेलिप्टस	50	40-60 cm. (10)	Nos
			70-90 cm. (40)	Nos

It is confirmed that Trees as detailed above have been to be damaged.

Name of Land owner..... Signature/ L.T.I :

(Signature with seal)
Tehsildar

For Power Grid Corporation of India Ltd.

4(7915)

POWER GRID CORPORTION OF INDIA LIMITED, MEERUT

LINE: ±800 KV CHAMPA-KURUKSHETRA TRANS. LINE

Tehsil-Mawana

Village- Paswada

Tree Compensation

UTTER PRADESH

Sr. No.	Name & Father Name	Village	Distt.	Loc./ Section Name	Khasra/ Khatauni No.	Species	Age of Trees in Years	Girth	Nos. of Trees
1	BEER SINGH S/O SATPALM SINGH	PASWADA	MEERUT	107/0-107/1	127	Jamun	15	90-120	10
						Sheesham		70-90	10
						Sheesham		110-120	7
						Sheesham		130-150	3
									20
2	MUKESH KUMAR S/O SHAUDAN SINGH	PASWADA	MEERUT	107/0-107/1	129, 131	Popular		40-60	15
						Popular		70-90	24
									39
3	TASWEER KAUR W/O RAM KISHAN	DABTHLA	MEERUT	107/0-107/1	127	Popular		60-90	38
						Ukelyptus		40-60	20
									58
4	UDAY RAJ S/O BALDEVA	PASWADA	MEERUT	107/0-107/1	7	Popular		40-60	30
						Popular		70-80	20
									50
5	PRAVEEN KUMAR S/O OMVEER SINGH	PASWADA	MEERUT	107/1	11	Ukelyptus		0-30	8
						Ukelyptus		60-90	4
						Popular		40-60	10
						Popular		70-90	40
									62
6	SAVITA W/O DUSHYANT KUMAR	PASWADA	MEERUT	107/1-107/2	100	Popular		0-30	50
						Popular		40-60	30
						Popular		70-90	130
						Sheesham		120	1
						Sheesham		40	1
									212
7	DEEPCHAND S/O SINGHAR SINGH	PASWADA	MEERUT	107/2	49	Popular		0-30	160
						Popular		40-60	8[illegible]
						Popular		70-90	45
									290
8	NETRAPAL S/O JAIPAL SINGH	PASWADA	MEERUT	107/2	50	Mango	8	90	4
9	NARVEER S/O BRAHM SINGH	PASWADA	MEERUT	107/3-107/4	331	Popular		60-90	20
						Ukelyptus		160	1
									21
10	SUKARAM PAL S/O TEEKAM SINGH	PASWADA	MEERUT	107/4	320	Popular		60-90	4
						Sheesham		130	1
									5
11	ANAND SWAROOP S/O KHEMCHAND	PASWADA	MEERUT	107/4-107/5	309	Sheesham		70-90	3
						Sheesham		100-120	3
									6

महोदय, क्रमांक 1 से 11 तक ग्राम पसवाड़ा की खतौनी अनुसार स्वामी हैं

[signature] 2/2/16

LEKHPAL

[signature]

REVENUE INSPECTOR

प्रतीक सिंह

प्रभारी राजस्व निरीक्षक

रा० नि० क्षेत्र-माछरा (मेरठ)

[signature] 02.02.2016

TEHSILDAR

तहसीलदार

मवाना (मेरठ)

[signature]

POWERGRID REPRESENTATIVE

[signature]

आर. आर. सिंह / R. R. SINGH

प्रबन्धक (पारेषण) / MANAGER (TL)

Tree Compensation Bill No.-13

POWER GRID CORPORTION OF INDIA LIMITED, MEERUT

LINE: ±800 KV CHchampa-KURUKSHETRA TRANS. LINE

Tree Compensation UTTER PRADESH

Sr. No.	Name & Father Name	Village	Distt.	Loc./ Section Name	Khasra/ Khatauni No.	Species	Age of Trees in Years	Girth	Nos. of Trees	Rate	Amount	Total Amount	Cheque No. & Date
1	BEER SINGH S/O SATPALM SINGH	PASWADA	MEERUT	107/0-107/1	127	Jamun	15	90-120	10	11873	118730		22/3/16
						Sheesham		70-90	10	2085	20850		
						Sheesham		110-120	7	6135	42945		
						Sheesham		130-150	3	12285	36855		
									20		219380	219380	035840
2	MUKESH KUMAR S/O SHAUDAN SINGH	PASWADA	MEERUT	107/0-107/1	129, 131	Popular		40-60	15	84	1260		
						Popular		70-90	24	552	13248		
									39		14508	14508	035824
3	TASWEER KAUR W/O RAM KISHAN	DABTHLA	MEERUT	107/0-107/1	127	Popular		60-90	38	552	20976		
						Ukelyptus		40-60	20	225	4500		
									58		25476	25476	035815
4	UDAY RAJ S/O BALDEVA	PASWADA	MEERUT	107/0-107/1	7	Popular		40-60	30	84	2520		
						Popular		70-80	20	552	11040		
									50		13560	13560	035823
5	PRAVEEN KUMAR S/O OMVEER SINGH	PASWADA	MEERUT	107/1	11	Ukelyptus		0-30	8	23	184		
						Ukelyptus		60-90	4	825	3300		
						Popular		40-60	10	84	840		
						Popular		70-90	40	552	22080		
									62		26404	26404	035584
6	SAVITA W/O DUSHYANT KUMAR	PASWADA	MEERUT	107/1-107/2	100	Popular		0-30	50	36	1800		
						Popular		40-60	30	84	2520		
						Popular		70-90	130	552	71760		
						Sheesham		120	1	6135	6135		
						Sheesham		40	1	198	198		
									212		82413	82413	035603

11/3/16

HDFC BANK

Cash Management Services - Payments

MAIL TO

PRAVEEN KUMAR S/O OMVEER SINGH

MEERUT

BY ORDER OF

POWERGRID CORPORATION OF INDIA LTD

KATWARIA SARAI,
NEW DELHI

Dear Sir/ Madam,
We enclose herewith our Cheque towards the settlement of your payment as per the following details.

Cheque Number	:	035584
Cheque Date	:	22/03/2016
Cheque Amount	:	******26,404.00
Favouring	:	PRAVEEN KUMAR S/O OMVEER SINGH
Reference No.	:	110124002679102015
Payment Details	:	
Customer Reference	:	FTC03228241931

भुगतान प्राप्ति की रसीद

बिल संख्या 13 क्रम संख्या 5 कार्य TC

टावर संख्या 107/1

± 800 के. वी. चम्पा- कुरुक्षेत्र एच. वी. डी. सी. लाइन के निर्माण कार्य के समय हुई पेड़ों की क्षति के भुगतान का चेक संख्या 035584 दिनांक 22.03.2016 एच.डी.एफ.सी. बैंक, मेरठ रूपये 26404/- Rupees Twenty Six Thousand Four Hundred Four Only पावरग्रिड कार्पोरेशनऑफ इण्डिया लिमिटेड,मेरठ से सधन्यवाद प्राप्त किया।

हस्ताक्षर/अंगूठा निशान

भूस्वामी का नाम- PRAVEEN KUMAR S/O OMVEER SINGH

ग्राम का नाम- PASWADA

जिला- MEERUT