



Environmental Monitoring Report

Project Number: 38492-013
December 2012

Period: April 2012-September 2012

IND: Power Grid Transmission (Sector) Project

Submitted by

Power Grid Corporation of India Limited, Gurgaon, Haryana

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(भारत सरकार का उद्यम)

POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



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C/CP/ADB-III

Date: 2nd November, 2012

Mr. Hun Kim

Country Director, INRM
Asian Development Bank,
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New Delhi - 110 051

Sub: **Loan No. 2152-IND: Power Grid Transmission (Sector) Project:
Submission of Semi-Annual Environmental Monitoring Report for the
period of April, 2012 - September, 2012.**

Dear Sir,

This has reference to submission of Semi-Annual Environmental Monitoring Report under ADB-III Loan (Loan No. 2152-IND).

Please find attached herewith Semi-Annual Environmental Monitoring Report for the period of April, 2012 - September, 2012.

Thanking you,

Yours faithfully,

(Signature)

(A. K. Singhal)

Addl. General Manager (CP)

Attach.: As above

Copy to:

Mr. K. V. Rao

Team Leader
Asian Development Bank,
4, San Martin Marg, Chanakyapuri,
New Delhi - 110 051.



Semi-Annual Environmental Monitoring Report

Loan Number: 2152 IND

Reporting period: (April 2012 to Sept. 2012)

POWERGRID Transmission (Sector) Project in India

Prepared by : ESMD, CORPORATE CENTER, POWERGRID

Implementing Agency : POWERGRID

Executing Agency : POWERGRID

Date : 31/ 10/ 2012

ABBREVIATIONS

ADB	— Asian Development Bank
APs	— Affected Persons
CTU	— Central Transmission Utility
EA	— Executing Agency
EIA	— Environment Impact Assessment
ESPP	— Environment and Social Policy & Procedures
EMF	— Electro Magnetic Fields
EMP	— Environmental Management Plan
GO	— Government Order
GoI	— Government of India
GRM	— Grievances Redressal Mechanism
GRC	— Grievance Redressal Committee
IEE	— Initial Environmental Examination
km	— Kilometers
MoEF	— Ministry of Environment and Forests
POWERGRID	— Power Grid Corporation of India Ltd.
PMU	— Project Management Unit
RoW	— Right of Way
RAP	— Rehabilitation Action Plan
S/s	— Substation
SR	— Southern Region

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SECTION 1: INTRODUCTION

India's power sector has expanded rapidly, but power shortages, poor quality and reliability of supply severely constrain economic growth. As a result, to ensure optimal utilization of energy resources, it is necessary to develop high capacity inter-regional links crisscrossing the regions as well as shifting of planning strategy from regional concept to national level, which would ultimately lead to formation of a strong national grid. In other words, an Integrated Resource Planning approach needs to be adopted for overall development of the power system so as to meet the growing demand with reliability and security.

The Southern regional grid covers the Regional as well as State grids of Andhra Pradesh, Karnataka, Tamil Nadu, Kerala and Union Territory of Pondicherry. In the past few years the Southern regional grid had witnessed remarkable growth as compared to other regional grids of the country. Further, with the growth in installed capacity and power demand, the existing transmission arrangement around the major load centers are required to be strengthened by establishment of new substations, some of which are already taken up by State sectors. These substations are required to be connected to the main grid by providing the missing links in the vicinity of new substation.

POWERGRID, as the Central Transmission Utility (CTU) of the country engaged in power transmission with the mandate for planning, co-ordination, supervision and control over complete Inter-State transmission system has been entrusted the job by Government of India to plan, develop and strengthen the transmission networks in Southern region. In this background, POWERGRID proposed a comprehensive grid-strengthening scheme plan involving construction of approx. 1330 km new transmission line and 5 nos. of Sub-station (S/s) along with augmentation of existing system including 4 nos. of existing Substation to cope up with enhanced power requirement to its beneficiaries and also to facilitate interstate and interregional power transfers with security and reliability.

To meet the funding requirement, POWERGRID has availed loan of \$ 400 million sector loan to facilitate strengthening the National Transmission Grid under Loan 2152- IND for Power Grid Transmission Project. The loan was signed on 3rd November 2005 and effective from 10th January 2006. The scope of subject loan originally includes 3 core subprojects namely (1) Grid Strengthening for Tamil Nadu-I (2) Grid Strengthening for Tamil Nadu- II & (3) Grid Strengthening for Tamil Nadu, Andhra Pradesh and Pondicherry and additional 6 non-core sub-projects namely (1)Grid Strengthening for Kerala-I (2) Grid Strengthening for Kerala-II (3) Northern Region System Strengthening Scheme-V (4) Enhancement of Transmission Capacity in East-West corridor of Northern Region (5) Western Region Strengthening Scheme VI & (6) Procurement of Bulk conductors and insulators.

1.1 OVERALL PROJECT DESCRIPTION

The Power Grid Transmission(Sector) Project involves the grid strengthening plan in the southern regional grid of Tamil Nadu, Pondicherry and Andhra Pradesh covering the Regional as well as state grids of Andhra Pradesh, Karnataka, Tamil Nadu and Union Territory (U.T.) of Pondicherry. In accordance with ADB's procedure for sector lending, the core subprojects have been identified in the southern regional grid involving construction of approx. 580 km. new transmission line and setting up of five new sub

stations two each in the states of Andhra Pradesh, Tamil Nadu and one U.T. of Pondicherry. The distinct activities of the various subprojects included under the loan scope are as follows :

A. Core Subprojects

(1) Grid Strengthening for Tamil Nadu –I :

- Transmission Line
 - 400 kV D/C Tirunelveli – Udumalpet Line – 264.5 Kilometers (km)
- Substation
 - Augmentation of 400/220 kV Substation at Udumalpet and Trivandrum by 315 MVA each

(2) Grid Strengthening for Tamil Nadu –II :

- Transmission Line
 - 400 kV D/C Pugalur – Madurai Line – 123 km ; and
 - 400 kV D/C Udumalpet – Arasur Line – 65 km
- Substation
 - Establishment of new 400/220 kV, 2 x 315 MVA Substations each at Pugalur and Arasur ; and
 - Extension of bays at Madurai and Udumalpet substation

(3) Grid Strengthening for Tamil Nadu and Andhra Pradesh :

- Transmission Line
 - Line-in-Line-out (LILO) of 400 kV D/C Neyveli-Sriperumbudur line at Pondicherry – 13 km ; and
 - LILO of 400 kV D/C Ramagundam– Khmmam Line at Warangal–14 km
- Substation
 - Establishment of new 400/220 kV, 2 x 315 MVA Substations each at Pondicherry and Warangal

B. Non- core Subprojects

(1) Grid Strengthening for Kerala – I :

- Transmission Line
 - 400 kV D/C Tirunelveli – Edamon Line – 80 km ; and
 - 400 kV D/C Edamon – Muvattupuzha Line – 145 km

(2) Grid Strengthening for Kerala – II :

- Transmission Line
 - 400 kV D/C Muvattupuzha – North Trichur Line – 80 km
- Substation
 - Establishment of new 400/220 kV, 2 x 315 MVA Substation at Muvattupuzha; and
 - Extension of bays at existing 400/220 kV North Trichur substation
 -

(3) Northern Region System Strengthening V :

- Transmission Line
 - LILO of 400 kV D/C Hissar– Jaipur Line at Bhiwadi – 70 km
 - 400 kV D/C Bhiwadi – Agra Line – 204 km; and
 - 400 kV D/C Bhiwadi – Moga Line – 351 km
- Substation
 - Extension of bays at 400 kV Agra S/s
 - Extension of bays at 400 kV Moga S/s; and
 - Extension of bays at 400 kV Bhiwadi S/s

(4) Enhancement of Transmission Capacity in East-West Corridor of Northern Region :

- 2 nos. 30% fixed series compensation on 400 kV Gorakhpur- Lucknow S/s
- 2 nos. 30% fixed series compensation on 400 kV Bareilly- Mandaula S/s
- 2 nos. 45% fixed series compensation on 400 kV Unnao - Bareilly S/s

(5) Western Region Strengthening Scheme VII :

- 1 x 125 MVAR Bus bar reactor at Khandwa and
- 1 x 125 MVAR Bus bar reactor at Dehgam S/s

(6) Procurement of bulk Conductors and Insulators :

Supply of bulk conductors and insulators for

- ACSR Moose conductors (5,359 km)
- 120 KN Insulators (80,161); and
- 160 KN Insulators (134, 761)

Except 400 kV D/C Edamon – Muvattupuzha Line under Grid Strengthening Kerala- all other projects have been completed. However, due to severe Right of Way (RoW) constraints and court intervention the above subproject in Kerala have missed the completion target many times and presently under hold.

1.2 PROJECT OBJECTIVES

The objective of the Project is to assist with the strengthening and development of India's national transmission grid to improve system reliability, facilitate interstate and interregional power transfers by removing transmission bottlenecks, reduce transmission losses, facilitate efficient utilization of existing and planned power plants and facilitate development of a national power trading market through open access to the transmission grid. This would in turn support the Government's strategy for continued poverty reduction through sustained economic growth by assisting in the preparation of a power transmission project to ensure a sufficient and stable power supply for the Southern region (SR) in India, which is one of the key economic zones.

1.3 ENVIRONMENTAL CATEGORY

Under the Asian Development Bank's (ADB) classification of project on the basis of potential environmental impacts, the POWERGRID Transmission (Sector) Project in India involving all the 3 core subprojects and 6 non-core subprojects are classified as Environmental Category 'B'.

1.4 ENVIRONMENTAL PERFORMANCE INDICATOR:

Environmental performance of the subprojects may be gauged through periodical monitoring of following selected parameters which are considered as crucial indicators from environment view point.

1. Selection of optimum route for transmission corridor which has least impact on environment and also avoid forest area, protected/ environment sensitive area and historical/cultural monument
2. Compliance with Environment Management Plan
3. Compliance to all applicable statutory requirements

1.5 OVERALL PROJECT PROGRESS, AGREED MILESTONES AND IMPLEMENTATION SCHEDULES

Name of Subprojects	Subprojects Details	Progress as on Oct. 2012	Implementation schedule
Core Projects			
Grid Strengthening for Tamil Nadu – I	Transmission Line <ul style="list-style-type: none"> • 400 kV D/C Tirunelveli–Udamalpet –264.5 km Substation <ul style="list-style-type: none"> • Augmentation of 400/220 kV S/s at Udamalpet & Trivandrum by 315 MVA each 	100% completed	Commissioned since October 2009
Grid Strengthening for Tamil Nadu–II	Transmission Line <ul style="list-style-type: none"> • 400 kV D/C Pugalur–Madurai Line–123 km • 400 kV D/C Udamalpet –Arasur Line – 65 km Substation <ul style="list-style-type: none"> • Establishment of new 400/220 kV, 2 x 315 MVA S/s each at Pugalur and Arasur • Bays extension Madurai and Udamalpet S/s 	100% completed	Commissioned since September 2010
Grid Strengthening for Tamil Nadu and Andhra Pradesh	Transmission Line <ul style="list-style-type: none"> • Line-in-Line-out(LILO) of 400 kV D/C Neyveli - Sriperumbudur line at Pondicherry – 13 km • LILO of 400 kV D/C Ramagundam – Khmmam Line at Warangal–14 km Substation <ul style="list-style-type: none"> • Establishment of new 400/220 kV, 2 x 315 MVA S/s each at Pondicherry and Warangal 	100 % completed	Commissioned since July 2010
Non-Core Projects			
Grid Strengthening for Kerala – I	Transmission Line <ul style="list-style-type: none"> • 400 kV D/C Tirunelveli – Edamon Line – 80 km • 400 kV D/C Edamon–Muvattupuzha Line –145 km 	100 % completed Only 15 % completed due to severe RoW Problem.	Commissioned since June 2010 Project held up due to RoW problem
Grid Strengthening for Kerala – II	Transmission Line <ul style="list-style-type: none"> • 400 kV D/C Muvattupuzha – North Trichur Line – 80 km 	100 % completed. Delayed due to severe RoW problem.	Commissioned since Nov. 2011

	Substation <ul style="list-style-type: none"> Establishment of new 400/220 kV, 2 x 315MVA S/s at Muvattupuzha and Extension of bays at existing 400/220 kV North Trichur S/s 	100% completed	Commissioned since Nov. 2011
Northern Region System Strengthening V	Transmission Line <ul style="list-style-type: none"> LILO of 400 kV D/C Hissar– Jaipur Line at Bhiwadi – 70 km 400 kV D/C Bhiwadi–Agra Line–204 km 400 kV D/C Bhiwadi–Moga Line–351 km Substation <ul style="list-style-type: none"> Extension of bays at 400 kV Agra S/s Extension of bays at 400 kV Moga S/s; and Extension of bays at 400 kV Bhiwadi S/s 	100 % completed	Commissioned since March 2010
Enhancement of Trans. Capacity in East-West Corridor of N Region	<ul style="list-style-type: none"> 2 nos. 30% fixed series compensation on 400 kV Gorakhpur- Lucknow S/s 2 nos. 30% fixed series compensation on 400 kV Bareilly- Mandaula S/s 2 nos. 45% fixed series compensation on 400 kV Unnao - Bareilly S/s 	100 % completed	Commissioned since March 2010
Western Region Strengthening Scheme VII	<ul style="list-style-type: none"> 1 x 125 MVAR Busbar reactor at Khandwa 1 x 125 MVAR Busbar reactor at Dehgam S/s 	100 % completed	Commissioned since October 2010
Procurement of bulk Conductors and Insulators	Supply of bulk conductors and insulators for <ul style="list-style-type: none"> ACSR Moose conductors (5,359 km) 120 KN Insulators (80,161) 160 KN Insulators (134, 761) 	100 % completed	Commissioned since March 2010

SECTION 2 : COMPLIANCE STATUS WITH APPLICABLE STATUTORY ENVIRONMENTAL REQUIREMENTS:

S. No.	Legal Requirements Act/Rules/ Guidelines	Applicable Attributes	Compliance Status by POWERGRID's
1.	Environment (Protection) Act, 1986	All developmental projects listed in Schedule of EIA Notification, 2006 needs to get prior environmental clearance. However, environment clearance is required if transmission projects is located in specified area of Aravalli range (Alwar district in Rajasthan and Gurgaon & Mewat districts in Haryana) as per notification dated 7 th May 1992 under the EPA, 1986	<p>Power transmission projects are not listed in schedule of the EIA Notification 2006. Therefore, prior environmental clearances are not required for the subprojects.</p> <p>However, portion of one line (400 kV D/C Bhiwadi–Agra) is passing through 2.019 km Gair Munkin Pahar forest area in Gurgaon district cover under notification dated 7th May 1992 of EPA, 1986. Therefore, environment clearance from competent authority was obtained vide no: DEH/AN-145 dated 31.01.2008 under the notification.</p>

S. No.	Legal Requirements Act/Rules/ Guidelines	Applicable Attributes	Compliance Status by POWERGRID's
2.	Forest (Conservation) Act, 1980	This Act is applicable whenever a transmission line traverses through forest area. Prior approval from Ministry of Environment & Forests (MoEF), Govt. of India has to be obtained before construction of line in forest areas	<p>Forest clearances have been obtained from Ministry of Environment and Forest for the following transmission line which involves diversion of forest area.</p> <ol style="list-style-type: none"> 1. 4.74 ha. of forest land in Tamil Nadu for 400 kV D/C Pugalur-Madurai Line 2. 49.20 ha. (47.7 ha. in Kerala & 2.13 ha. in Tamil Nadu) forest land for 400 kV D/C Tirunelveli – Edamon Line 3. 1.62 ha. forest land in Kerala for Edamon–Muvattupuzha Line 4. 1.058 ha. of forest land in Kerala for 400 kV D/C Muvattupuzha – North Trichur Line 5. 3.0 ha. of forest land in Haryana for LILO of 400 kV D/C Hissar – Jaipur Line at Bhiwadi 6. 20.15 ha. (7.44 ha. in Rajasthan, 1.15 ha. in U.P & 12.56 ha. in Haryana) of forest land for 400 kV D/C Bhiwadi–Agra Line 7. 14.76 ha. (11.56 ha. in Haryana & 3.2 Ha in Punjab) of forest land for 400 kV D/C Bhiwadi–Moga Line <p>Rest of the transmission lines covered under the subject loan don't involve any forest land. So forest clearance is not required.</p>
3	Batteries (Management and Handling) Rules, 2001	As per the Rule, Bulk consumers shall have the responsibility to dispose all used batteries to dealers, manufacturer, registered recycler, reconditioners or at the designated collection centres only. Half-yearly return (Form-8) for the same is to be submitted to the concerned State Pollution Control Board.	Since installations are new, no batteries have been replaced so far.
4	Hazardous Wastes (Management, Handling and Transboundary Movement) Amendment Rules, 2008	As per Rules, used mineral oil (Schedule I, Category – 5.1) is categorized as hazardous waste and require proper handling, storage and disposed of only in authorised disposal facility (registered recyclers/ reprosorsors). Half-yearly return (Form -13) for the same is to be	Transformer oil is changed only after 10-15 years of operation. Since these are new installation, no such change has taken place.

S. No.	Legal Requirements Act/Rules/Guidelines	Applicable Attributes	Compliance Status by POWERGRID's
		submitted to the concerned State Pollution Control Board.	
5	Ozone Depleting Substances (Regulation and Control) Rules, 2000	Controls and regulations specified on manufacturing, import, export, and use of CFC compound.	Restricting the use of equipments containing ozone depleting substances by specifying in tender document and also phasing out all existing equipments that use ODS
4.	The Biological Diversity Act, 2002	This act is not directly applicable to transmission projects because it deals with the conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith.	Not applicable as no transmission line under the subprojects passes through Biosphere Reserves.

SECTION 3 : COMPLIANCE STATUS WITH MAJOR LOAN COVENANTS

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

Project Specific Covenants	Reference	Status of Compliance
POWERGRID will ensure that the Project is undertaken and all subproject facilities are operated and maintained, in accordance with all applicable laws and ADB's Environment Policy 2002. POWERGRID shall prepare and implement each Subproject, the IEE, and the EMP (with budget).	LA, Schedule 4, para 5.	Complied with. Subprojects are being undertaken in compliance with the covenant and all subproject facilities are operated and maintained according to all applicable laws & ADB's Environment Policy, 2002. Initial Environment Examination (IEE) including the EMP (with budget) are prepared and implemented for all transmission lines and substations covered under the loan
POWERGRID will ensure that adequate funds are budgeted for and duly expended for implementation of environmental mitigation measures set forth in the IEE and EMP for each subproject and ensure that these are incorporated in detailed designs (including any amendments due to detailed designs with prior approval by ADB). POWERGRID shall ensure that these measures are also followed during construction and operation of the subprojects.	LA, Schedule 4, para 6(a).	Complied with. Fund allocated as per EMP & IEE for environmental mitigation measures implemented in respective subprojects.

POWERGRID shall obtain all necessary environmental clearances as required, from relevant statutory authorities of the Government, and in particular, shall not undertake works in any stretch of lines passing through reserve forests or other forestland unless the required forest and environmental clearances are obtained from the Ministry of Forest and Environment.	LA, Schedule 4, para 6(b).	Complied with. Forest clearances from MoEF obtained before commencement of work for stretch of transmission lines passing forest area.
POWERGRID shall ensure that all Subprojects shall be subject to ADB's classification and any Subproject deemed sensitive shall require justification and documentation including effective mitigation measures for anticipated impacts.	LA, Schedule 4, para 6(c).	Complied with. All the subprojects are classified as environment category 'B'. Accordingly, IEE with EMP prepared and submitted to ADB.
POWERGRID shall use only polychlorinated biphenyls (PCB)-free transformers for all the substations renovated and/or established under the Project.	LA, Schedule 4, para 7(a).	Complied with. Suitable clauses incorporated/ exist in the bidding documents and contract documents.
POWERGRID shall install oil separator (oil trap) in all outlets of the sewers of substations. The sludge of oil trapped by the separator will be kept in safe place within the property of the substation and will be sold only to the authorized third parties in accordance with applicable laws and regulations of the Guarantor.	LA, Schedule 4, para 7(b).	Complied with Oil separator installed in all Substations. Oil sludge collected is sold to authorized recyclers/ reprocessors as per Hazardous Waste Rules.
POWERGRID, through Environmental and Social Management Department (ESMD), shall continue to implement its internal environmental and social policies and procedures and shall undertake routine monitoring to check the implementation of the mitigation measures recommended by the IEE and the EMP for each subproject.	LA, Schedule 4, para. 8	Complied with.

SECTION: 4 COMPLIANCE STATUS WITH ENVIRONMENT MANAGEMENT AND MONITORING PLAN STIPULATED IN IEER AND AS AGRRED WITH ADB

POWERGRID has prepared Initial Environmental Examination (IEE) reports including Environmental Management Plan (EMP) for all transmission lines and substations under the subprojects to ensure that the anticipated environment impacts due to the project activities are minimized wherever possible. The EMP was prepared which considered impacts during the different stages viz. (i) pre-construction (ii) construction, and (iii) operation and maintenance. All the subprojects were/are being implemented as per approved IEE and EMP and in accordance with applicable laws and ADB's Environment Policy 2002. For proper implementation of EMP and other mitigation measures separate fund has been allocated. As per the loan agreement, POWERGRID engaged external monitoring agencies like Indian Institute of Management (IIM), Bangalore for Pugalur, Arasur & Pondicherry S/s, NABARD Consultancy Services Private Limited (NABCONS) for Warangal S/s and Socio-Economic Unit Foundation (SEUF) for East Cochin S/s for independent monitoring of Rehabilitation Action Plan (RAP) implemented at substations under different subprojects.

POWERGRID have implemented the approved EMP in all transmission lines and substations covered under the loan and have submitted compliance status report to ADB regularly. Since a detailed EMP could not be made as part of contract document, most of the EMP provisions are included in contract condition for proper and timely implementation. The EMP with such linkage and compliance to stipulation is presented in the **table- 1**.

TABLE – 1: 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	Complied during survey. Route alignment policy is part of survey contract.
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	As per technical specification PCB is not used or it should not be detectable (i.e less than 2mg/kg) as per IEC 61619 or ASTM D4059
Transmission line design	Exposure to electromagnetic interference	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 Government	Process, equipment and system design	Exclusion of CFCs stated in tender specification - once	POWERGRID	Part of tender specifications for the equipment	New ACs in use are CFC free and old ACs are being phased out.
				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	Designed as per guidelines of ICNIRP and ACGIH and checked by CPRI and M/s PTI, USA
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	In the present scheme S/s n construction is not involved.	Noise level is properly monitored.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on 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 policy 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 wherever land is acquired for construction of substation facility.
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	Complied during survey. Route alignment policy is part of survey contract.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
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	Complied. Forest clearance obtained from MoEF under Forest Conservation Act, 1980 for all the transmission line passing through forest land
		Minimise the need by using existing towers, tall towers and RoW, wherever possible		Consultation with local authorities and design engineers - once			
Encroachment into farmland	Loss of agricultural productivity	Obtain statutory clearances from the Government	Tower location and line alignment selection	Statutory approvals from Government	POWERGRID	Part of detailed siting and alignment survey /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.
		Use existing tower footings/towers wherever possible		Consultation with local authorities and design engineers - once			
		Avoid siting new towers on farmland wherever feasible		Consultation with local authorities and design engineers - once			
		Farmers compensated for any permanent loss of productive land		Consultation with affected parties - once in a quarter			
		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	

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
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	Proper monitoring of noise level at regular interval (maximum noise limit is 80 dBA as per technical specification for transformer- Cl 6.0.20)
Interference with drainage patterns/Irrigation on 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 policy is part of survey contract.
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 cleanup equipment.	Equipment specifications with respect to potential pollutants	Tender document mention specifications - once	POWERGRID	Part of detailed equipment design /drawings	Oil sump of sufficient capacity (200% by volume of oil tank in transformer) is provided for every transformer.
		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	Provision of soak pit is part of design where sewage line is not present.
Explosions /Fire	Hazards to life	Design of substations to include modern fire control systems/firewalls.	Substation design compliance with fire prevention and	Tender document to mention detailed	POWERGRID	Part of detailed substation layout and	Fire fighting equipments are integral part of

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
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	Complied. Low noise producing machinery/ equipments used
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 undertaken mostly during post harvest period. Where ever crop loss occurs compensation paid to farm owner
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	No complaints received
	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	Complied with

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
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	Sites are easily accessible. So no new roads are constructed
	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 with
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	Complied with
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	Complied with
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	Regulated felling of tree in RoW is carried out with permission of owner & revenue authority keeping required electrical clearance as per design.
	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	Complied with

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		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	All felled trees are handed over to owner for disposal. POWERGRID has no role in storage and disposal of felled tree/wood.
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	No complaints received on illegal harvesting
Surplus earthwork/soil	Runoff to cause water pollution, solid waste disposal	Soil excavated from tower footings disposed of by placement along roadsides, or 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	Complied with
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	Regulated felling of tree in RoW is carried out with permission of owner & revenue authority
			Statutory approvals	Statutory approvals for tree clearances – once for each site	POWERGRID (Contractor through contract provisions)	Construction period	keeping required electrical clearance as per design. All felled trees are handed over to owner for disposal. Powergrid has no role in storage and disposal of felled tree/wood.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
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	Complied with
Storage of chemicals and materials	Contamination 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 taken to control and clean up spill)	Fuel storage in appropriate locations and receptacles - every 2 weeks	POWERGRID (Contractor through contract provisions)	Construction period	Stored at designated place.
Construction schedules	Noise nuisance to neighbouring properties	Construction activities only undertaken during the day and local communities informed of the construction schedule.	Timing of construction (noise emissions, [dB(a)])	Daytime construction only - every 2 weeks	POWERGRID (Contractor through contract provisions as per Sec-VIII, 44.7)	Construction period	Construction activity restricted to day time only
Provision of facilities for construction workers	Contamination 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	No complaints received
Encroachment 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	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)				

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
		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.
Uncontrolled erosion/silt runoff	Soil loss, downstream siltation;	Need for access tracks minimised, use of existing roads.	Design basis and construction procedures (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])	Incorporating good design and construction management practices – once for each site	POWERGRID (Contractor through contract provisions as per Sec-II, 2.8) As per Sec-II, 2.6	Construction period	Complied with
		Limit site clearing to work areas					
		Regeneration of vegetation to stabilise works areas on completion (where applicable)					
		Avoidance of excavation in wet season					
Nuisance to nearby properties	Losses to neighbouring land uses/ values	Water courses protected from siltation through use of bunds and sediment ponds	Contract clauses	Incorporating good construction management practices – once for each site	POWERGRID (Contractor through contract provision as	Construction period	No complaint received
		Contract clauses specifying careful construction practices.					

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
		As much as possible existing access ways will be used.	Design basis and layout	Incorporating good design engineering practices – once for each site			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 develop new sources of aggregates	Contract clauses	Incorporating good construction management practices – once for each site	POWERGRID (Contractor through contract provisions)	Construction period	Complied
Health and safety	Injury and sickness of workers and members of the public	Contract provisions specifying minimum requirements for construction camps Contractor to prepare and implement a health and safety plan.	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	Construction period	Complied

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
Inadequate construction stage monitoring	Likely to maximise damages	Contractor to arrange for health and safety training sessions	Training schedules	Number of programs attended by each person – once a year	POWERGRID	Routinely throughout construction period	Provides proper training and have very good environmental monitoring process. Appropriate clause incorporated in contract provision for EMP implementation. Site managers review the implementation on daily basis.
		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 contract 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	Designed as per guidelines of ICNIRP and ACGIH and checked by CPRI and M/s PTI, USA
Equipment submerged under flood	Contamination 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	Safety margin of 300 mm above the HFL is part of all foundation design.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
Oil spillage	Contamination 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)	Bundling (Oil sump) capacity and permeability - once	POWERGRID	During operations	Oil sump of sufficient capacity (200% by volume of oil tank in transformer) is provided for every transformer.
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	In design and operation standards of safety procedure followed. Proper safety training to all workers and primary safety kits/PPEs are provided in every site. Regular mock drills on fire and other occupational hazards are organised.
		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					
Electric Shock Hazards	Injury/ mortality to staff and public	Provide adequate sanitation and water supply facilities	Provision of facilities	Complaints received from staff /workers every 2 weeks	POWERGRID	Design and Operation	Used of technology which trip the line in fraction of seconds to prevent hazards.
		Careful design using appropriate technologies to minimise hazards	Usage of appropriate technologies (number of injury incidents, lost work days)	Preparedness level for using these techn. in crisis – once a month			
		Security fences around substations	Maintenance of fences	Report on maintenance – every 2 weeks			Security fences are maintained at every substation.
		Barriers to prevent climbing on/dismantling of transmission towers	Maintenance of barriers				Sufficient barriers are maintained.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
		Appropriate warning signs on facilities Electricity safety awareness raising in project areas	Maintenance of warning signs Training /awareness programs and mock drills for all concerned parties	Number of programs and percent of total persons covered –once each year			Warning system is maintained for alarm Regular mock drills on electric and other occupational hazard are organised.
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. Preparation and training in the use of O&M manuals and standard operating practices.	Training/awareness programs and mock drills for all relevant staff	Number of programs and percent of staff covered – once each year	POWERGRID	Operation	Training imparted at regular interval.
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	Training imparted at regular interval.
Equipment specifications and design parameters	Release of chemicals and gases in receptors (air, water, land)	Processes, equipment and systems using chlorofluorocarbons (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	No such emission is reported at any site
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	Designed as per guidelines of ICNIRP and ACGIH and checked by CPRI and M/s PTI, USA. CPRI also monitored in charged lines.

Project activity /stage	Potential impact	Proposed mitigation measure	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation on schedule	Compliance Status
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	Noise level is measured at regular interval and found within prescribed limit. No complaints have been reported.

SECTION: 5 APPROACH AND METHODOLOGY ENGAGED FOR ENVIRONMENT MONITORING OF THE PROJECT

Environmental monitoring is a continuous process through out 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 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 and Managing Director (CMD).

POWERGRID has a separate monitoring department 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

A summarized environmental monitoring plan with implementation schedule at different stage of subprojects implementation is presented in the table below

Environmental Monitoring Tasks	Implementation Responsibility	Implementation Schedule
Pre Construction Phase		
Monitor contractor's detailed alignment survey to ensure relevant environmental mitigation measures in EMP have been included.	POWERGRID with assistance of project implementation unit	Prior to POWERGRID approval of contractor's detailed alignment survey.
Audit detailed designs of substations to ensure standard environmental safeguards/mitigation measures (as identified in EMP) have been included.	POWERGRID with assistance of project implementation unit	Prior to POWERGRID approval of contractor's detailed designs.
Construction Phase		
Regular monitoring and reporting of contractor's compliance with contractual environmental mitigation measures.	POWERGRID with assistance of project implementation unit	Continuous throughout construction period.
Operation and Maintenance Phase		
Observations during routine maintenance inspections of substations and transmission lines RoWs. Inspections will include monitoring implementation status of mitigation measures specified in EMP.	POWERGRID	As per POWERGRID inspection schedules

SECTION: 6 MONITORING OF ENVIRONMENTAL RECEPTORS/ ATTRIBUTES

It is evident that environmental impacts associated with power transmission project are not far reaching as these developmental activities are non polluting in nature and do not involve any disposal of solid waste, effluents and hazardous substances on land, air and water. Although, there are some localized impacts on natural resources like forest whenever transmission line passes through forest area, however, it can be avoided or minimized through careful route and site selection.

By adopting careful route selection using modern technique (GPS, GIS), the forest involvement was restricted to 20.54 km which is only 1.15 % as compared to the total transmission line length of 1330 km under different subprojects. None of the subprojects is located inside/near to environmental sensitive or protected area like national parks, sanctuaries, eco-sensitive zones, tiger reserves and biosphere reserves etc. Hence, there is no impact on wildlife and its habitat.

Air quality impact is restricted to the construction phase only as no emission to air is anticipated during ordinary operations of the substations and transmission lines. Impacts on air quality only due to airborne dust in the vicinity of the work sites (for existing, proposed substation sites and at points along the route of the transmission line where towers are located) as a result mainly of excavation and construction activities and tail gases from construction equipment and vehicles. The construction activities are small scale and of a temporary nature. Moreover, the activities are not localized to any residential area and are widely dispersed which provide adequate buffering to air environment. Therefore, impacts on air quality from construction activities associated with the subprojects are considered to be insignificant. No liquid effluent is generated due to subprojects activities. The subprojects activities don't cause any noise nuisance to people at nearby locality. The ambient noise level measured near substations are well within permissible level.

SECTION: 7 ANY OTHER MONITORING OF ENVIRONMENTAL ASPECTS, IMPACTS OBSERVED DURING IMPLEMENTATION

Except the predicted impacts as mentioned in EMP, no other unanticipated impacts were observed during the implementation of subprojects.

SECTION: 8 DETAILS OF GRIEVANCE 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). A formal Grievance Redressal Committee (GRC) was set up by POWERGRID for 5 Substations area i.e Arasur, Pugalur, Warangal, Muvattupuzha and Pondicherry to address all concerns and grievances of the local communities and affected parties (APs). The GRC was established with the commencement of the land acquisition process for substation land. The members of GRC included representatives from local authorities, and village panchayat, well reputed persons from health, education sectors as mutually agreed with the local authorities, APs and representatives from POWERGRID. The committee met at least twice in a year or as and when required and addressed all grievances satisfactorily. Certain grievances of Project Affected Person (PAP) regarding compensation and community development works were received and were address as per the norms

However for 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. Any grievance received towards compensation is 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 simultaneously. In the instant project, Govt. of Kerala also taken initiatives to resolve compensation issues and issued Government Order (G.O) on 9.3.2009 and 4.2.2010 directing POWERGRID to pay additional compensation for tower base and RoW. These G.Os have also facilitated in resolving the grievances of affected persons. Moreover, the transparent and open consultation processes during different stages of project cycle also help in resolving many disputes. It is a proven fact that no. of Court cases has reduced considerably after the implementation of such initiatives by POWERGRID.

9. CONCLUSION

It is obvious that the subprojects activities are non-polluting in nature and don't have significant adverse impacts on environment. However, some environmental impacts are anticipated, mostly during construction period which have been mitigated successfully by implementing the EMP. Moreover, POWERGRID approach of project implementation involving selection of optimum route before design stage, proper implementation of EMP and monitoring mechanism through out project life cycle supported by strong institutional arrangement has considerably nullified the adverse impacts due to subproject activities. Besides this, direct or indirect beneficial impacts of the subprojects like the employment opportunity, improvement in infrastructure facilities, improved business opportunity will outweigh the negative impacts of the subprojects.

Signed by:



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