SEMI ANNUAL ENVIRONMENT & SOCIAL SAFEGUARD MONITORING REPORT

(Reporting Period: Up to Dec'18)

North Eastern Region Power System Improvement Project (NERPSIP)

(The World Bank Project ID - P127974, Loan No. 8631-IN)

Prepared & Submitted by

Power Grid Corporation of India Ltd.

(Environment and Social Management Department)

ABBREVIATIONS		
ADC	–	Autonomous District Council
APDCL	–	Assam Power Distribution Company Limited
AEGCL	–	Assam Electricity Grid Corporation Ltd.
APs	–	Affected Persons
CBIS	–	Capacity Building & Institutional Strengthening
CEA	–	Central Electricity Authority
CPTD	–	Compensation Plan for Temporary Damages
CPIU	–	Central Project Implementation Unit
CF	–	Conservator of Forest
DC	–	District Collector
DM	–	District Magistrate
DFO	–	Divisional Forest Officer
DPN	–	Department of Power Nagaland
E&S	–	Environmental and Social
EHV	–	Extra High Voltage
EIA	–	Environment Impact Assessment
ESMD	–	Environment & Social Management Department
ESPPF	–	Environment and Social Policy & Procedures Framework
EMP	–	Environmental Management Plan
FCA,1980	–	Forest (Conservation) Act, 1980
FEAR	–	Final Environment Assessment Report
GOI	–	Government of India
GRM	–	Grievances Redressal Mechanism
GRC	–	Grievance Redressal Committee
IA	–	Implementing Agency
IEAR	–	Initial Environmental Assessment Report
LA	–	Loan Agreement
CKT	–	Circuit Kilometers
MoEFCC	–	Ministry of Environment, Forest and Climate Change
MSPCL	–	Manipur State Power Company Limited
RMoEFCC	–	Regional Office of Ministry of Environment Forest & Climate Change
NOA	–	Notification of Award
NBWL	–	National Board for Wildlife
NO	–	Nodal Officer
NER	–	North Eastern Region
NERPSIP	–	North Eastern Region Power System Improvement Project
OPs	–	Operational Policies
PA	–	Project Agreement
PIU	–	Project Implementation Unit
POWERGRID	–	Power Grid Corporation of India Ltd.
PPEs	–	Personal Protective Equipments
PMU	–	Project Management Unit
RCE	–	Revised Cost Estimate

RoW	–	Right of Way
R& R	–	Rehabilitation and Resettlement
RRM	–	Random Rubble Masonry
SS	–	Substation
SPCU	–	State Project Coordination Unit
TPDP	–	Tribal People Development Plan
T & D	–	Transmission & Distribution (T&D)
TSECL	–	Tripura State Electricity Corporation Limited
USD	–	United States Dollar
WB	–	The World Bank

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Executive Summary

The North Eastern Region (NER) in India is endowed with rich energy resources but faces significant bottlenecks in its access and availability. To create/augment proper infrastructure/network of Transmission & Distribution (T&D) in the region, Government of India (GoI) with the financial assistance of the World Bank (WB) has planned a composite scheme viz. ***"North Eastern Region Power System Improvement Project" (NERPSIP).*** The scheme covered six North Eastern States including Meghalaya to create a robust power network by improving the intra-state transmission & distribution (33kV and above) network with required capacity building initiatives for effective utilization of assets. The GoI appointed **Power Grid Corporation of India Limited (POWERGRID),** the Central Transmission Utility of the country as the "Implementing Agency" (IA) to implement the project under Tranche-1 in close coordination with the respective State Governments/Utilities. However, the ownership of the assets shall be with the respective State Governments/ State Utilities, who will be responsible for operation and maintenance of assets once they are handed over to them upon progressive commissioning.

In order to ensure environmental and social sustainability of the project, POWERGRID assisted State Utilities in preparation and adoption of state specific **Environment and Social Policy & Procedures Framework (ESPPF)** based on the key principles of **Avoidance, Minimization & Mitigation,** In line with the provisions of ESPPF as well as frameworks agreed with Bank, various E & S safeguard documents such as **Initial Environment Assessment Reports (IEARs), Compensation Plan for Temporary Damages (CPTDs) and Final Environment Assessment Reports (FEARs) etc.** are prepared/being prepared and publically disclosed. The present Semi-Annual Safeguard Monitoring report enlisting details of compliance of various E & S safeguard measures till Dec'18 is being submitted to Bank as part project agreement agreed with the Bank.

The Project components include construction of about 1401 km of new 220 kV/132 kV EHV lines & 34 nos. of associated 220 kV/132/66/33 kV substation, 2051 km of 33 kV distribution lines & 85 nos. associated 33/11 substations along with various augmentation/extension of existing substations and reconductoring of line works spread across all six States i.e. Assam, Meghalaya, Manipur, Tripura , Mizoram & Nagaland. The total project cost is Rs. 5111 Crore with financing from both GoI and Bank on 50:50 basis. The Bank is providing financial support to the tune of Rs $ 470 million (Rs 2511.165 crores) under the Loan No.-8631-IN which was signed on 28th November, 2016 and became effective from 20th February, 2017. The loan closing date is 31st March, 2023.

POWERGRID has been implementing the above project conforming to all applicable environmental and social legislations of the country as well as various conditions agreed with Bank under project & loan agreements. NER being a biodiversity rich area with very high tree density cover, routing of line and locating substation without involvement of forest and other ecologically sensitive areas posed a great challenge. However, inspite of best efforts, a total of 261.26 ha. (approx. 96.97 km) of forest in Tripura, Meghalaya and Manipur and 0.55 ha. Trishna Wildlife Sanctuary area in Tripura couldn't be avoided. As per regulatory requirement, clearance/permission for diversion of forest and wildlife area being obtained from Ministry of Environment, Forest & Climate Change (MoEFCC) under Forest (Conservation) Act, 1980 and Wildlife (Protection) Act, 1972 respectively.

As regard land for substation, all lands are secured either through purchase on willing-seller willing- buyer basis or already in possession of State Utilities. Since no involuntary acquisition is involved, social issues such as physical displacement, R & R etc. not envisaged in the instant project. However, for transmission line no land is acquired as per law of land but damages are compensated as per provisions of Electricity Act, 2003 and Indian Telegraph Act, 1885. POWERGRID is taking all possible efforts to avoid damage to standing crops and trees during construction of transmission lines, But in case of any damages , compensation is being paid to affected land owners/farmers for damage to standing crops/tree after due assessment of revenue authority/competent authority. Accordingly, a total of 56 persons were issued notices against crop area/tree damaged for which total compensation of Rs. 2.398 million were paid to affected farmers/land owners till December, 2018. Further, in compliance to MoP guidelines on RoW compensation dated 15th October, 2015 and subsequent adoption by Govt of Assam and Manipur for its implementation of said guidelines, POWERGRID has already started paying land compensation for tower footing and RoW Corridor. Till December, 2018, a total amount of Rs. 19.661 million has been paid to 192 affected persons towards land compensation for tower base in Assam and Meghalaya.

The Project doesn't envisage significant impact on environmental attributes like air, water, soil etc. As anticipated, some impact like loss of vegetation due to clearing of the Right-of-Way (RoW) for lines and temporary impacts due to small scale construction activities in substation during construction period can never been avoided completely. The project specific mitigation measures enlisted in EMP, which is also part of contract documents are being applied appropriately in different stages of project and regularly monitored for proper implementation. In addition to implementation of EMP provisions, some site specific measures related to slope protection/stabilization (viz.retaining wall, toe wall, revetment wall, stone pitching, guard wall, bio-engineering measures etc), drainage (such as cross drainage, culverts), approach road and other protection measures etc are being undertaken/have been planned as per the site requirement/conditions and subsequent technical approval through committee.

As regard Safety, all required measures are in place including due precautions/ awareness programs as well as ensuring use of PPEs and regular monitoring which is evident from the fact that no accidents (fatal or non-fatal) including major/minor injuries were reported during the reporting period from any of the construction sites.

The two-tier grievance redress mechanism has been addressing/resolving the concerns and grievances of the complainant effectively. All concerns/grievances of affected persons/public including minor ones are also recorded and regularly tracked for early resolution within stipulated timeframe. It has been observed that most of these compliants are minor in nature which were also resolved instantly and there have been no court case or major complaints registered till date.

Public consultation & information dissemination is an indispensable part of project cycle. As stated in ESPPF, public consultation using different technique like Public Meeting, Small Group Meeting, informal Meeting are being carried out during different activities starting from planning to implementation stage. In case of Autonomous District Council (ADC) area, consultations are also being held with the respective village councils for identification of the landowner and obtaining their consent for the RoW. Besides, gender issues have also been addressed to the extent possible during such consultation process. Till December, 2018, a total of 3015 persons participated in safeguard consultation process including 740 female participants, which is approx. 24.54% of total participants.

POWERGRID approach of project implementation in close co-ordination with respective State Utilities involving selection of optimum route before design stage, proper implementation of EMP and monitoring mechanism throughout project life cycle supported by strong institutional arrangement has considerably nullified the adverse impacts arising out of project activities. Besides, direct or indirect benefits of the Projects like the employment opportunity, improved & uninterrupted power supply, improvement in infrastructure facilities, improved business opportunity outweigh the negligible impacts of the project.

SECTION-1: INTRODUCTION

1.1 Introduction

The North Eastern Region (NER) in India is endowed with rich energy resources but faces significant bottlenecks in its access and availability. The per capita power consumption of NER is one third of the national average. To create/augment proper infrastructure/network of Transmission & Distribution (T&D) in the region, Government of India (GoI) with the financial assistance of the World Bank (WB) has planned a composite scheme viz. **"North Eastern Region Power System Improvement Project" (NERPSIP).** The scheme covers six North Eastern States (Assam, Meghalaya, Manipur, Tripura, Nagaland & Mizoram) to create a robust power network by improving the intra-state transmission & distribution (33kV and above) network with required capacity building initiatives for effective utilization of assets. The GoI appointed **Power Grid Corporation of India Limited (POWERGRID),** the Central Transmission Utility of the country as the "Implementing Agency" (IA) to implement the project under Tranche-1 in close coordination with the respective State Governments/Utilities. However, the ownership of the assets shall be with the respective State Governments/ State Utilities, who will be responsible for operation and maintenance of assets once they are handed over to them upon progressive commissioning. POWERGRID is also facilitating in building the institutional capacity of the state departments and utilities to continue managing the rehabilitated networks in an efficient manner.

The total project cost is Rs. 5111 Crore with financing from both GoI and Bank on 50:50 basis. The Bank is providing financial support to the tune of Rs $ 470 million (Rs 2511.165 crores) under the Loan No.-8631-IN which was signed on 28th November, 2016 and became effective from 20th February, 2017. The loan closing date is 31st March, 2023. The remaining financing including capacity building will be met through Govt. of India funding. Details of State wise funding is placed below;

State	World Bank	Government of India		Total
	Project Cost (Rs in Cr.)	Project Cost (Rs in Cr.)	Capacity Building (Rs in Cr.)	
Assam	729.485	729.485	14.83	**1473.803**
Manipur	213.690	213.690	14.83	**442.213**
Meghalaya	381.050	381.050	14.83	**776.933**
Mizoram	150.965	150.965	14.83	**316.763**
Nagaland	357.290	357.290	14.83	**729.413**
Tripura	678.685	678.685	14.83	**1372.203**
Sub Total	2511.165	2511.165	89	**5111.33**
Total	**2511.165**	**2600.165**		

In order to ensure Environmental and Social (E&S) sustainability of the project, POWERGRID assisted all State Utilities in preparation and adoption of state specific **Environment and Social Policy & Procedures Framework (ESPPF)** based on the key principles of **Avoidance, Minimization & Mitigation,** that will serve as management framework for identification, assessment and management of environmental and social concerns at both organizational as well as project levels. In line with the ESPPF and Loan agreement with Bank, various E & S safeguard

documents such as **Initial Environment Assessment Reports (IEARs), Compensation Plan for Temporary Damages (CPTDs) and Final Environment Assessment Reports (FEARs) etc.** are prepared/being prepared and publically disclosed. The present Semi-Annual Safeguard Monitoring report covering the detail status of compliance of various E & S safeguard indicators till Dec'18 is being submitted to Bank as per agreed framework.

1.2 Project Description

The state wise scope of works proposed under Tranche-1 transmission scheme is given below:

	Transmission/ Sub-transmission (132kV & above)			Distribution (33kV)		
	Line (Km)	**New S/s (No.)**	**Total MVA (New & Aug.)**	**Line (Km)**	**New S/s (No.)**	**Total MVA (New & Aug.)**
Assam	233	11	1644	479	16	240
Manipur	254	2	160	131	13	229.4
Meghalaya	225	4	940	263	11	135
Mizoram	143	3	125	5	1	6.3
Nagaland	285	5	245	76.5	10	190
Tripura	261	9	1306.5	1096	34	450.5
Total	**1401**	**34**	**4420.5**	**2051**	**85**	**1251.2**

1.3 Progress and Implementation Schedule

The details of package wise award status and physical progress of project implementation till Dec'18 as well as completion schedule is provided below:

Sl. No	Package No.[1]	Lines/Substations Scope covered under Pkg.	Date of Award	Schedule Completion as per NOA	Physical Progress (In %) as on Dec' 18
ASSAM					
1	TW 02	1 no. 220 kV Line (55 km)	10th Oct'17	Apr-20	25%
2	TW 04	1 no. 132 kV line (36 km)	8th Sept'17	Mar-20	17%
3	TW 05	1 no. 132 kV line (53 km)	1st Sept'17	Mar-20	24%
4	TW 07	1 no. 220 kV (33 km) & 7 nos. 132kV line (53 km)	30thMay'18	Nov'20	2%
5	P 01	Pile foundations	18th Sept'17	Mar-20	11%
6	SS 01	2 nos. new 132/33 kV, 2 nos. Ext. & 1 no. Aug of 132/33 kV substation	12th Aug'16	Aug-19	43%
7	SS 02	1 no. new 220/132 kV & 3 nos. of new 132/33 kV and 2 nos. Ext. of substation.	12th Aug'16	Aug-19	46%
8	SS 03	2 nos. new 132/33 kV, 2 nos. Ext. & 1 no. Aug of 132/33 kV substation.	12th Aug'16	Aug-19	36%

[1] Other three packages i.e. OPGW live line stringing (OPGW 01), Transformer (TR1) and Tele Equipment have also been awarded but not included in the above list as these are not directly relevant.

9	SS 04	3 nos. new substations (1no. 220/132/33kV & 2 nos132/33kV) and 1 no. Extn. of 132/33 kV substation	6th May'16	Mar-19	28%
10	DMS 01	4 nos. new 33/11kV substation & 7 nos. 33 kV lines (119 km).	8thSept'16	Jun-19	21%
11	DMS 02	3 nos. new 33/11kV substation & 11 nos. 33 kV lines (146 km)	20th Oct'16	Jul-19	44%
12	DMS 03	5 nos. new 33/11kV substation & 9 nos. 33 kV lines (134 km)	23rd Dec'16	Sep-19	26%
13	DMS 04	4 nos. new 33/11kV substation & 11 nos. 33 kV Underground cable lines (80 km)	23rd Dec'16	Sep-19	29%
MANIPUR					
14	TW 06	4 nos. 132 kV line (85 km) & renovation of 1 no. existing 132 kV line (91 km) and stringing of 2nd circuit in existing 132 kV line (78 km)	31st May'18	Nov-20	3%
15	SS 01	1 no. new 132/33 kV & 2 nos. Ext./Aug. of substations.	3rd Jan'18	July-20	5%
16	SS 02	4 nos. Ext. & 1 no. Aug. of 132/33 kV substation.	8th Dec'17	Jun-20	7%
17	SS03	1 no. new 132/33 kV & 1 no. Ext & 1 no. Aug. of 132/33 kV substation.	3rd Jan'18	July-20	4%
18	DMS 01	7 nos. new 33/11kV substation & 7 nos. 33 kV lines (68 km)	3rd Mar'17	Aug-19	40%
19	DMS 02	2 nos. new 33/11kV substation & 2 nos. 33 kV lines (20 km)	16th Dec'16	Sep-19	49%
20	DMS 03	2 nos. new 33/11kV substation & 2 nos. 33 kV lines (23 km)	18th Mar'16	Dec-18	66%
21	DMS 04	2 nos. new 33/11kV substation & 2 nos. 33 kV lines (20 km)	18th Mar'16	Dec-18	67%
MEGHALAYA					
22	TW 01	1 no. 220kV line (122 km)	29th Jun'16	Jun-19	30%
23	TW 02	2 nos. 132kV line (103 km)	29th Jun'16	Jun-19	60%
24	SS 01	2 nos. new & 1 no. Ext. of 132/33 kV substation.	12th Aug'16	Aug-19	44%
25	SS 02	2 nos. new 1 no. Ext. of 220/132 kV substation	6th Jun''16	Apr-19	49%
26	DMS 01	4 nos. new 33/11kV substation & 4 nos. 33 kV lines (56 km)	13th July'16	Apr-19	59%
27	DMS 02	3 nos. new 33/11kV substation & 6 nos. 33 kV lines (63 km)	27th May'16	Feb-19	56%
28	DMS 03	4 nos. new 33/11kV substation & 7 nos. 33 kV lines (79 km)	17th May'16	Feb-19	59%
TRIPURA					
29	TW 01	4 nos.132 kV lines (87 km)	12th June'17	Feb-20	7%
30	TW 02	5 nos.132 kV lines(112 km)	12th June'17	Feb-20	6%
31	TW 03	5 nos.132 kV lines (62 km)	12th June'17	Feb-20	6%
32	SS 01	4 nos. new 132/33 kV	4th Nov'16	Nov-19	43%

		substation.			
33	SS 02	2 nos. new & 1 each Ext. and Aug. of 132/33 kV substation.	4th Nov'16	Nov-19	44%
34	SS03	3 nos. new & 1 no. Ext. & 3 nos. Aug. of 132/33 kV substation.	4th Nov'16	Nov-19	39%
35	DMS 01	7 nos. new 33/11kV substation & 9 nos. 33 kV lines (121 km)	20th Feb'17	Nov-19	27%
36	DMS 02	6 nos. new 33/11kV substation & 11 nos. 33 kV lines (181 km)	20th Jan'17	Oct-19	28%
37	DMS 03	5 nos. new 33/11kV substation & 11 nos. 33 kV lines (137 km)	20th Feb'17	Nov-19	20%
38	DMS 04	10 nos. new 33/11kV substation & 17 nos. 33 kV lines (198 km)	20th Jan'17	Oct-19	31%
39	DMS 05	6 nos. new 33/11kV substation & 9 nos. 33 kV lines (128 km)	20th Feb'17	Nov-19	29%
MIZORAM					
40	TW 01	3 nos.132kV lines (84 km)	20th Sept'17	Mar-20	9%
41	SS 01	1 no. new & 1 no. Ext. of 132/33 kV substation.	2nd Nov'17	May-20	8%
42	SS 02	3 nos. new 132/33kV & 1 no. new 33/11 of substation. 1 no. 132kV line (50 km) & 1 no 33kV line (5 km)	13th Oct'17	Apr-20	9%
NAGALAND					
43	TW 01	1 no. 220kV line (92 km)	20th Sept'17	Mar-20	10%
44	TW 05	1 no. 132kV line (28 km)	21st Sept'17	Mar-20	7%
45	TW 06	5 nos. 132kV lines(165 km)	31stMay'18	Nov'20	5%
46	SS 01	2 nos. new 132/33 kV substation.	5th Dec'17	Jun-20	3%
47	SS 02	1 no. new 132/33 kV & 3 nos. ext. of substation.	30th Nov'17	May-20	4%
48	SS 03	1 no. new 132/33 kV & 1 no. ext.(220/132 kV) of substation	14th Dec'17	Jun-20	4%
49	SS 04	1 no. new & 1 no. ext. of 132/33 kV substation	13th Dec-17	Jun-20	5%
50	DMS 01	2 nos. new 33/11kV substation & 2 nos. 33 kV lines (2.5 km)	12th Feb'18	Nov-20	4%
51	DMS 02	3 nos. new 33/11kV substation & 6 nos. 33 kV lines (59 km)	11th Jan'18	Oct-20	5%
52	DMS 03	3 nos. new 33/11kV substation & 2 nos. 33 kV lines (5 km)	22nd Sep'16	Jun-19	37%
53	DMS 04	2 nos. new 33/11kV substation & 1 no. 33 kV lines (10 km)	22nd Sep'16	Jun-19	38%

SECTION-2: COMPLIANCE TO E & S COVENANTS OF LOAN AGREEMENTS

The various safeguard covenants specified in the agreed Loan Agreement and Project Agreement under the subject loan has been complied and detail of compliance status against such covenants is presented in below;

Description of Covenants	Reference	Status of Compliance
Loan Agreement (LA)		
The Borrower shall make its best efforts to ensure that the Participating States: (a) carry out the their responsibilities under the SS-ESPPFs, IEARs, RAPs, EMPs, CPTDs and/or TPDPs (the "Safeguards Documents") prepared, and/or to be prepared and publicly disclosed, as required, by the Project Implementing Entity and/or the Respective Power Utilities/ Departments, as the case may be, pursuant to paragraph 2 of Section I.E. of the Schedule to the Project Agreement, in each case in a manner and in substance satisfactory to the Bank; (b) ensure that the Respective Power Utility/Department complies with the applicable Safeguard Documents as well as any related obligations set forth in the respective Implementation/ Participation Agreement; and (c) refrain from taking any action which would prevent or interfere with the Project Implementing Entity's and/or the Respective Power Utility/Department's, implementation of the Safeguard Documents, including any amendment, suspension, waiver, annulment and/or voidance of any provision of such documents, whether in whole or in part, without the prior written agreement of the Bank.	LA, Schedule-2, Section-I (D)	These covenants are being complied as part of Project Agreement and Separate Agreements with IA & State Utilities
Project Agreement (PA)		
The Project Implementing Entity shall: (a) carry out the Project in accordance with the SS-ESPPFs, IEARs, EMPs, the RAPs, CPTDs and TPDPs prepared, and/or to be prepared in form and substance satisfactory the Bank, pursuant to paragraph 2 of	PA, (Schedule), Section- I, E, Para 1	Complied/Being Complied. RAPs and TPDPs not applicable. All others safeguard documents prepared/being prepared. For details refer **Table-1**.

Description of Covenants	Reference	Status of Compliance
this sub-section, in accordance with the objectives, policies, procedures, time schedules, compensation arrangements and other provisions set forth in the SS-ESPPFs (together, the "Safeguard Documents"), in each case in a manner and in substance agreed with the Bank; (b) make its best efforts to ensure that the Participating States and their respective Power Utilities/ Departments carry out their responsibilities under their respective Implementation/ Participation Agreements in accordance with the objectives, policies, procedures, time schedules, compensation arrangements and other provisions set forth in their respective SS-ESPPFs, IARs, EMPs, RAPs, CPTDs and TPDPs; and (c) refrain from taking any action which would prevent or interfere with the implementation of the Safeguard Documents by any of the Participating States, their Respective Power Utilities /Departments and/or the Project Implementing Entity itself, including any amendment, stay, suspension, waiver, annulment and/or voidance of any provision of the Safeguard Documents, whether in whole or in part, without the prior written agreement of the Bank.		Being complied. No such safeguard issues encountered till reporting period. Will be complied if such situation warrants.
With respect to each transmission line, substation or distribution network to erected/built be or augmented under Component A of the Project, the Project Implementing Entity shall refrain from commencing any civil works or undertaking any activities ancillary thereto, until and unless: (a) the proposed activities/civil works have been screened by the Project Implementing Entity (in coordination with the respective SPCU), in accordance with the guidelines, standards and procedures set forth in the SS-ESPPF of the Participating State in which the asset will be located;		Complied/ Being complied.

Description of Covenants	Reference	Status of Compliance
(b) the respective IEAR(s), EMP(s), RAP(s), CPTD(s) and/or TPDP(s), as required for such transmission line, substation or distribution network, pursuant to the applicable SS-ESPPF has/have been prepared and submitted to the Bank for review; and the Bank has notified the Project Implementing Entity and/or the Participating States in writing of its no objection thereto; and (c) the foregoing Safeguard Documents have been publicly disclosed by the Project Implementing Entity and the Participating States (through it Respective Power Utility /Department), in local language(s) at the relevant Project's sites, at least thirty (30) days prior to the award of the contract for the related works	PA, (Schedule), Section- I, E, Para 2	Complied/Being Complied. For details refer **Table-1**. Complied/Being Complied. All approved safeguard reports stand disclosed publically on website of POWERGRID & State Utilities. Below is the link to access such reports; https://www.powergridindia.com/ner-agreements-and-mous
Prior to commencing any civil works for any transmission line, substation or distribution network under Component A of the Project, the Project Implementing Entity shall ensure that: (a) all necessary governmental permits and clearances for such civil works for such transmission line, substation or distribution network shall have been obtained from the competent governmental authority lies and submitted to the Bank; (b) all pre-construction conditions imposed by the governmental authority lies under such permit(s) or clearance(s) shall have been complied with/fulfilled; and (c) all resettlement measures for the respective transmission/distribution substation, set forth in the applicable RAP shall have been fully executed, including the full payment of compensation for the land prior to displacement and/or the provision of relocation assistance to all APs, as per the entitlements provided in the SS-ESPPF and/or the applicable RAP.	PA, (Schedule), Section- I, E, Para 3	Complied/ Being complied. Refer in **Table- 2** for details of forest/ wildlife clearances along with their present status
Prior to commencing any civil works under a transmission line, the respective CPTD plan including the compensation and payment schedule thereunder shall have been agreed with the Bank.	PA, (Schedule), Section- I, E, Para 4	Complied/ Being complied. Till Dec'18, 7 nos. CPTD stand submitted/ approved. Remaining CPTDs are being prepared matching with completion of detail survey of TLs. For details refer **Table-1.**

Description of Covenants	Reference	Status of Compliance
The Project Implementing Entity shall ensure that each contract for civil works under the Project includes the obligation of the relevant contractor to comply with the relevant Safeguard Documents applicable to such civil works commissioned/awarded pursuant to said contract.	PA, (Schedule), Section- I, E, Para 5	Complied/Being complied.
The Project Implementing Entity shall: (a) maintain monitoring and evaluation protocols and record keeping procedures agreed with the Bank and adequate to enable the Project Implementing Entity and the Bank to supervise and assess, on an ongoing basis, the implementation of/compliance with the Safeguards Documents, as well as the achievement of the objectives thereof; (b) furnish to the Bank, throughout the period of Project implementation quarterly reports, assessing compliance with the Safeguard Documents, monitoring the efficacy of the social and environmental management measures, and evaluating the results of the mitigation or benefit enhancing measures applied; and (c) unless otherwise agreed with the Bank, engage independent consultants with qualification and experience, and under terms of reference agreed with the Bank, in order to: (i) carry out by no later than: (A) one hundred twenty (120) days as of completion of stage I clearances under the Forest (Conservation) Act, 1980 if the activities involve designated forest land; or (B) six (6) months after the contractors' completion of the detailed survey for final placement/route alignment for any civil works, in the case of activities not involving designated forest land, a final environmental assessment report ("FEAR") setting forth the actual impact of Project activities, the results of stakeholders	PA, (Schedule), Section- I, E, Para 6	Complied/ Being complied. Quarterly Progress Reports including updates on safeguards indicators & forest clearances being submitted to the Bank on a regular basis. The instant report which is a comprehensive report exclusively on E & S safeguard issues has been prepared for the first time and shall be submitted at every six months interval, henceforth, as agreed. Being Complied. Independent Consultants for FEAR already appointed for Meghalaya, Assam & Tripura. For other States, the same is under progress matching with agreed timeline. For details refer **Table-1**

Description of Covenants	Reference	Status of Compliance
consultations, the clearances obtained and status of compliance with any conditions attached therewith, and the mitigation processes/measures taken or set in place to minimize or avoid any negative environmental impact of Project activities, all in accordance with the processes and requirements set forth in the respective SS-ESPPF(s) and IEAR(s); and (ii) thereafter, within fifteen (15) days of completion of each such FEAR: (A) submit such reports to the Bank for consideration and disclosure by the Bank, and (B) thereafter publicly disclose such reports in a similar fashion as the disclosure of the Safeguard Documents		First such report for Meghalaya submitted in Nov' 18 to the Bank for review /approval. Will be disclosed after obtaining Bank Clearance.
The Project Implementing Entity shall make its best efforts to ensure that each participating State has established by no later than three (3) months after the Effective Date, and thereafter maintains and operates throughout the period Project of implementation, a grievance redress mechanism as incorporated in SSESPPF and agreed by the Bank for the handling of any stakeholder complaints arising out of the implementation of Project activities.	PA, (Schedule), Section- I, E, Para 7	Complied/ Being complied. HQ and Site Level GRC have been constituted by all State Utilities. However, representation from local administration & Panchayat /village council for Site Level GRC to be nominated by State Utilities except Mizoram and partly in case of Assam & Meghalaya.
In the event of any conflict between any of the provisions of any of the SSESPPFs, IEAR(s), EMP(s), RAP(s), CPTD(s) and/or TPDP(s), on the one hand, and any of the provisions of this Agreement or the Loan Agreement, on the other hand, the provisions of this Agreement and the Loan Agreement shall prevail.	PA, (Schedule), Section-I, E, Para 8	No such event occurred till reporting period. Will be complied if such situation warrants. .

Table – 1 : Status of preparation & disclosure of E & S Safeguard Documents

State	SS-ESPPF (Date of Disclosure)	Status of Safeguard Documents (Date of Approval/Disclosure)			
		Subprojects District & Brief Scope of works	IEAR	CPTD	FEAR
Assam	29th June	**Dhemaji**	13th May	22nd June	M/s Green

	2015	1 no. 132kV & 2 nos. 33kV line, 1 no. each 132/33kV & 33/11kV substation	2015	2018	Circle Inc. appointed as Independent Consultant for FEAR preparation on 31st Dec 2018.
		Tinsukia & Dibrugarh 1 no. each 220kV & 132 kV and 4 nos. 33 kV line, 2 nos. 132/33kV & 3 nos. 33/11 kV substation	8th July 2015	3rd Oct. 2018	
		Kamrup 2 nos. 132kV & 11 nos. 33 kV Underground line, 2 nos. 132/33 kV & 5 nos. 33/11 kV substation	20thJuly 2015	N.A. (UG lines only)	Identification / finalization of Independent Agency under progress.
		Kamrup Rural, Udalguri & Sonitpur 1 no. 220 kV, 5 nos.132 kV & 12 nos. 33 kV line, 1 no. 220/132kV, 3 nos. 132/33 kV & 5 nos.33/11 kV substation	14thJuly 2015	CPTDs will be submitted after detailed survey which is presently under progress	
		Golaghat, Nagaon, Jorhat, Sibsagar & Karbi-Anglong 2 nos.132kV & 8 nos.33kV line, 2 nos. each 132/33kV & 33/11 kV substation	27th July 2015		
Manipur	17thAugust 2015	**Imphal West, Senapati & Bishnupur** 2 nos.132kV & 5 nos. 33kV line, 1 no.132/33kV & 5 nos. 33/11kV substation	15th June 2015	Transmission Line Pkg. awarded on 31.05.18. CPTDs will be prepared after completion of detailed survey which presently is under progress	Identification /finalization of Independent Agency under progress.
		Imphal East, Churachandpur, Thoubal & Tamenglong Strg. of 2 nos.132 kV & reno. 1 no.132kV & 7 nos.33kV line, and 5 nos. 33/11 kV substation	23rdJuly 2015		
		Imphal West, Imphal East & Tamenglong 1 no. 132kV & 3 nos. 33kV line, 1 no. 132/33 kV, 3 nos. 33/11kV substation	8th Jan. 2015		
Meghalaya	29th June, 2015	**West Garo Hills & South West Garo Hills** 1 no. 132kV & 6 nos. 33kV line, 1 no. 132/33kV & 3 nos. 33/11kV substation	5th May 2015	22ndJun 2018	Draft FEAR submitted by NEHU (Independent agency) forwarded to

		Ri-Bhoi and East Khasi Hills 1 no. 220kV & 5 nos. 33kV line, 1 no. 220/132/33kV & 4 nos. 33/11kV substation	7th July 2015	Under Preparation	Bank in Nov'18 for review & approval
		East Jaintia Hills (1 no. 132kV & 4 nos. 33kV line, 1 no. 132/33kV & 4 nos. 33/11kV substation)	15th June 2015	19thOct 2018	
Tripura	17th June, 2015	**Gumti & South Tripura** (5 nos. 132kV & 4 nos. 132/33 kV substation)	15th Apr 2015	29th Dec. 2018	M/s Green Circle Inc. appointed as Independent Consultant for FEAR preparation on 31st Dec 2018.
		West Tripura, South Tripura, Sepahijala & Khowai (4 nos.132kV & 24 nos.33kV line, 3 nos. 132/33kV & 15 nos 33/11kV substation)	18thJuly 2015	3rd Sept 2018	
		Dhalai, North Tripura & Unakoti (2 nos.132kV & 8 nos. 33kV line, 1 no. 132/33kV & 6 nos. 33/11kV substation)	13thJuly 2015	15th Oct 2018	
		Gumti & South Tripura (19 nos. 33kV line, 1 no. 132/33kV & 14 nos. 33/11kV substation)	27thJuly 2015	Under Preparation	
Mizoram	7th July, 2015	**Lunglei & Lawngtlai** (2 nos. 132kV & 1 no. 33kV line, 1 no. each 132/33kV & 33/11kV substation)	17thJune 2015	CPTDs will be submitted matching with completion detailed survey which is presently under progress	Process of finalization of Independent Agency under progress.
		Mamit 1 no. 132kV & 33kV line, 2 nos. 132/33kV substation)	26thJuly 2017		
Nagaland	10th July, 2015	**Tuensang & Longleng** (1 no. 132kV & 33kV line, 1 no. 132/33kV substation	13th May 2015	CPTDs will be submitted matching with completion detailed survey which is presently under progress	Identification / finalization of Independent Agency under progress.
		Mokokchung, Kohima, Dimapur, Phek, Wokha, Zunheboto, Mon 6 nos.132kV & 10 nos. 33kV line, 4 nos. 132/33kV & 9 nos. 33/11kV substation	27tJuly 2015		

SECTION-3: COMPLIANCE STATUS WITH ENVIRONMENT MANAGEMENT PLAN

3.1 Implementation of Environmental Management Plan

The instant project is being implemented as per approved Initial Environment Assessment Repots which have been prepared based on framework agreed under SS-ESPPFs and Bank Operational Policies (OP 4.01: Environmental Assessment). Accordingly, a total of 19 nos. of IEARs along with respective Environmental Management Plans (EMP) enlisting various mitigation measures were prepared and subsequently disclosed to ensure that all the identified/ possible environment impacts due to the instant project intervention are minimized to the extent possible. The EMP describes detailed site-specific mitigation measures including monitoring indicators with responsibility allocation in different stage of project cycle. i.e. pre-construction, construction, and operation & maintenance phase. For ensuring proper and effective implementation of various measures of EMP even by associated contractors, EMP has also been made part of contract condition/document. Additionally, budget provisions of Rs. 203.73 Crores has been included in cost estimate apart from additional requirement of Rs. 20 Crores proposed under Revised Cost Estimate (RCE) for site specific measures identified during course of implementation. The total E & S management cost is approximately 4.45 % overall project cost.

Further, monitoring the implementation of environmental mitigation measures is required to ensure that these are undertaken in accordance with provisions of IEA/EMP and as per relevant contract conditions. A summary of the environmental and social mitigation measures and monitoring requirements vis-à-vis compliance status is given in **Appendix-1**.

3.1.1. Status of required clearances, permits and approvals

It is an established fact that power transmission projects activities are non-polluting in nature and do not involve disposal of any pollutant in land, air, water or any large scale excavation resulting in soil erosion and its contribution towards environmental pollution is minimal. Due to this transmission projects were kept out of the purview of different pollution laws as well as exempted from the requirement of environmental clearance under Environment Impact Assessment (EIA) Notification of 1994 and 2006. However, the major environment regulation applicable to instant project is prior approval under Forest (Conservation) Act, 1980 from Ministry of Environment, Forests and Climate Change (MoEFCC) wherever the line is passing through notified forest area. Similarly, permission of National Board for Wildlife (NBWL) is a statutory requirement under Wildlife (Protection) Act, 1972 for all non-forest activities in protected areas (National Parks, Wildlife Sanctuary etc.).

Accordingly, all necessary approval/permits in respect to above applicable environment laws and regulations are being complied. The status of forest and wildlife clearance for various subprojects till Dec'18 is presented below in **Table- 2**;

Table- 2: Details of Package Wise Forest/Wildlife Clearance Status

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
	ASSAM			
TW02	220 kV D/c Tinsukia-Behiating	55	Nil	

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
TW04	132 kV S/c Dhemaji-Silapathar	36	Nil	
TW05	132 kV S/c Rupai-Chapakhowa	53	Nil	
TW07	220 kV D/C Rangia-Amingaon	33	Yet to be ascertained	Forest area involvement, if any shall be ascertained after detailed survey which is presently under progress
	132 kV D/c Amingaon-Hazo	16		
	LILO 132 kV S/c Rangia-Rowta	10		
	LILO132kVS/c Kamalpur-S'gram	1		
	LILO132kVS/c K'pur-Khamakhya	1		
	LILO 132kV S/c Golaghat-Bokajan at Sarupathar	5		
	132 kV D/c Sonabil-Tezpur	15		
	LILO 132 kV S/c Jorhat-Nazira	5		
DMS01	33 kV Silapathar - Silapathar-II	35	Nil	
	33 kV Silapathar - Silapathar	5		
	33 kV Samaguri - Hathimurah-2	30		
	33 kV Tezpur - LGM Hospital	7		
	33 kV Tezpur- Parowa	7		
	33 kV Tezpur - Dolabari	5		
	33 kV Shankardeo Nagar-Mailo	30		
DMS02	33 kV Behiating - Bogibil	10	Nil	
	33 kV Behiating - Dibrugarh	15		
	33 kV Dibrugarh - Romai	17		
	33 kV Chapakhowa – C'khowa	10		
	33 kV Sarupathar -Barapathar	12		
	33 kV Sarupathar - Sarupathar	5		
	33 kV Sarupathar - Sariajhan	20		
	33 kV Teok -Teok	5		
	33kV Teok - Kakojaan	15		
	33kV Teok - Zangi	15		
	33kV Teok - Pragati	22		
DMS03	33kV Tangla - Harsingha	12	Nil	
	33kV Tangla - Paneri	20		
	33kV Tangla - Kalaigaon	20		
	33kV Tangla -Khairabari	10		
	33kV Tangla - Tangla	10		
	33kV Hazo - Sesa	15		
	33kV Hazo - Ramdiya	12		
	33kV Hazo -Domdoma-hazo	10		
	33kV Hazo - Mukalmuwa	25		
DMS04	33kV(UG Cable) GMC-GS Road	14	Nil	
	33kV (UG) GMC -GMC-2	10		
	33kV (UG) GMC-Tarun Nagar	10		
	33kV (UG) GMC- Arya College	12		
	33kV (UG) GMC- GMC	5		
	33kV (UG) GMC- Ullubari	10		
	33 kV (UG) P'bazar-Chabipool	4		
	33kV (UG) Paltanbazar-P'bazar	2		
	33kV (UG) Paltanbazar-J' field	5		
	33kV (UG)Paltanbazar-F'bazaar	4		
	33kV (UG) P'bazar - Ullubari	4		

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
	MANIPUR			
TW06	Renovation of 132kVY'bam-Karong-Kohima	91		Forest area involvement, if any shall be ascertained after detailed survey which is presently under progress
	LILO132 kV S/c Y'bam -Karong	6		
	LILO of 132kV D/c Kongba-Kakching	16		
	Stringing (2nd Ckt.) of 132 kV D/c Yaingangpokpi – Kongba	45		
	Strg.132kV Kakching-Kongba	33		
	132 kV D/c Imphal – Nin'khong	34		
	132 kV S/c Rengpang-Tamenglong	29	51.893	Forest proposal submitted on 25.10.18. Proposal forwarded to Divisional Forest Officer (DFO) on 13.11.18. Presently under formulation at DFO, Tamenglong.
DMS01	33kV Andro-Yairipok	15	Nil	
	33kV M'sangei-Pishum(UG+OH)	10		
	33kV Mongsangei -Hiyangthang	4		
	33kV Iroisemba - Takyel	7		
	33kV Top Khongnangkhong-Porompat	7		
	33kV Iroisemba - Lamphel	10		
	33kV LILO Y'bam-Noney at Keithelmanbi	15		
	33/11kV Top Khongnangkhong substation		0.283	Forest proposal submitted on 20.02.18. Proposal forwarded to DFO on 19.10.18. Presently under formulation at DFO, Imphal.
DMS02	33kV Moirang- Kwakta	10	Nil	
	33kV Nambol - Leimapokpam	10		
DMS03	33kV Sanjenbam -Porompat	3	Nil	
	33kV Khoupom - Thangal	20		
	33/11kV Porompat substation		0.27	Stage-I & Stage-II (final) approval obtained on 18.02.17 & 30.05.17 respectively.
DMS04	33kV Napetpalli - Sanjenbam	10	Nil	
	33 kV LILO Copur-Singhat at Tuiliphai	10		
	MEGHALAYA			
TW01	220 kV D/c Byrnihat-Mgap-New Shillong	122		No Reserve Forest Involved. However, tree enumeration report & route details have been submitted to Forest Deptt. on 18.10.18 for ascertaining of forest area, if any based on tree density and applicability of Forest (Conservation) Act, 1980.

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
				Confirmation from Forest Deptt. awaited.
TW02	LILO132kV MLHEP-Khliehriat at Mynkre	34	11.566	Forest proposal for Loop In (4.85 ha.) and Loop Out (6.716 ha.) section submitted on 22.01.19 & 23.01.19 respectively.
	132 kV D/c Phulbari-Ampati	69	Nil	
DMS01	33kV Mynkre - Mynkre	6	Nil	
	33kV Mynkre - Rymbai	15		
	33kV Mynke - Lumshnong	10		
	33kV Mynkre - Latykre	25		
DMS02	33kV Phulbari - Rajballa Bhaitbari	10		
	33kV Phulbari - Chibinang	6		
	33kV Tikrila - Raksambre	35		
	33kV Phulbari-Phulbari	6		
	33kV LILO Tikrila-Phulbari	6		
DMS03	33kV New Shillong - Mawpat	25	Nil	
	33kV SE Falls - Mawpat	10		
	33kV New Shillong -N. Shillong	6		
	33kVN.Shillong- Mawryngkneng	26		
	33kV LILO Jowai-L'krem	4		
	33kV Jongksha-Mawkynrew	8		
	TRIPURA			
TW01	132 kV D/c Bagafa-Belonia	14	2.5118	Stage-I approval obtained on 30.10.18. Compliance of Stage-I conditions under progress.
	132 kV D/c Belonia-Sabroom	42	25.5204	Stage-I approval obtained on 28.06.18. Compliance of Stage-I conditions under progress.
	132 kV S/c Bagafa-Satchand	40	9.1503	Stage-I approval obtained on 12.10.18. Compliance of Stage-I conditions under progress.
	132kV S/c S'room-S'chand at S'room	1	Nil	
	132kV S/c S'room-S'chand at S'chand	1	Nil	
TW02	132 kV D/c Udaipur-Bagafa	32	26.77	Stage-I approval obtained on 09.04.18. Compliance of Stage-I conditions under progress.
	132 kV D/c Rabindranagar-Belonia	40	74.9493	Forest proposal resubmitted on 26.12.15. State Govt. forwarded proposal to Regional Office of Ministry of Environment Forest and Climate Change

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
				(RMoEFCC), Shillong on 02.04.2018. However, RMoEFCC, Shillong raised certain observations on 17.05.2018 & 16.10.18 which were replied by State Govt. on 18.09.18 & 27.11.18 respectively. Presently, proposal under process at RMoEFCC, Shillong for Stage-I approval.
	132 kV D/c Rabindranagar-Rokhia	24	21.1896	Stage-I approval obtained on 28.06.18. Compliance of Stage-I conditions under progress.
	LILO 132kV S/c Sj'nagar-Rokhia at Gokulnagar	5	Nil	
TW03	LILO 132kV S/c Ambassa-P.K.Bari at Manu	4	Nil	
	132 kV D/c Kailashahar-Dharamnagar	24	14.3586	Stage-I approval obtained on 10.04.18. Compliance of Stage-I conditions under progress.
	LILO132kV 79 Tilla-Dhalabil at Mohanpur	2	Nil	
	132 kV D/c Udaipur-Amarpur	30	22.0482	Stage-I approval obtained on 10.04.18. Compliance of Stage-I conditions under progress.
	132 kV Manu-Manu	2	Nil	
DMS01	33kV LILO T'mukh-Silachari at Karbook	6	Nil	.
	33kV LILO Jolaibari- Bagafa at M'pur	16		
	33kV Dalak- Amarpur	15		
	33kV Dalak - Jatanbari	12		
	33kV Belonia - Chittamara	8		
	33kV Garjee to Chittamara	20		
	33kV Udaipur to Maharani	8		
	33kV Garjee-Maharani	20		
	33kV Amarpur-Chechua	16		
DMS02	33kV Sabroom - Manughat	10	Nil	.
	33kV Manughat - Srinagar	20		
	33kV Satchand - Srinagar	22		
	33kV Tapping point of Belonia-Hrishyamukh to Srinagar	25		
	33kV Rupaichari - Sabroom	12		
	33kV Satchand - Rupaichari	10		
	33kV Rajnagar - Ekinpur	20		

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
	33kV LILO S.Nagar-Takarjala at Gabardi	4		
	33kV LILO Belonia-Rajnagar at Barpathari	10		
	33kV Jolaibari - Silachari	30		
	33kV Jolaibari - Satchand	18		
	33/11 kV Ekinpur Substation		0.1932	Forest proposal submitted on 08.09.18. Nodal Officer (NO) raised some queries which were replied on 27.11.18. Proposal forwarded to DFO on 14.12.18 and subsequently to Conservator of Forest (CF) on 19.12.18.
	33/11 kV Barpathari Substation		0.2209 (Forest & Trishna WL)	Forest proposal submitted on 08.09.18. Nodal Officer (NO) raised some queries on 20.09.18. Proposal after formulation by DFO, Sepahijala forwarded to CF on 19.12.18. Wildlife proposal submitted on 08.09.18. Wildlife Warden raised certain queries on 28.12.18. Proposal resubmitted on 10.01.19 Presently proposal under consideration of Wildlife Warden.
DMS03	33kV Gokul Nagar-Golaghati	15	Nil	No Forest involved
	33kV Gokul Nagar-Durganagar	15		
	33kV G'Nagar-Tapping at Madhupur-Jangalia	1		
	33kV Rajnagar-Nidaya	20		
	33kV Takarjala- Golaghati	15		
	33kV Madhupur-Durganagar	14		
	33kV Kathalia-Nidaya	12		
	33kV Melagarh-Nalchar	10		
	33kV Bishramganj-Nalchar	10		
	33kV Bishramganj-Jangalia	15		
	LILO B'ghat-Jangalia at S'kote			
	33/11 kV Nidaya Substation		0.3299 (Forest & Trishna WL)	Forest proposal submitted on 08.09.18. Nodal Officer (NO) raised some queries on 20.09.18. Proposal resubmitted on 18.12.18. Proposal forwarded to DFO, Sepahijala on 18.12.18 for formulation. Wildlife proposal submitted

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
				on 08.09.18. Wildlife warden raised certain queries on 17.12.18. Proposal resubmitted on 19.12.18. Presently proposal under consideration of Wildlife Warden.
DMS04	33kV Mohanpur -Barkathal	14	Nil	
	33kV Lembucherra -Bamutia	6		
	33kV Champak Nagar-ADC HQ	9		
	33kV Dhalabil –Khowai	8		
	333kV Jirania -ADC HQ	5		
	33kV Hezamara -Simna	22		
	33kV Hezamara -Barkathal	12		
	33kV Durjoynagar -Bamutia	14		
	33kV Hezamara -Dhalabill	22		
	33kV Ampura - Khowai	16		
	33kV Mohanpur -Hezamara	16		
	33kV Jirania -Champak Nagar	8		
	33kV Teliamura - Taidu	12		
	Chechua to Taidu	20		
	LILO Agartala -Mohanpur at Lembucherra	4		
	LILO Khayerpur -Jirania at Ranirbazar	8		
	LILO Ambassa-Teliamura at Mungiakami	2		
DMS05	33kV Manu - Dhumachhera	25	Nil	
	33kV Manu - 82 mile	21		
	33kV Manu-Tapping of C. Manu-Manu	4		
	33kV J'Nagar-Dhumachhera	20		
	33kV P.K.Bari - 82 mile	13		
	33kV Kalaisahar-Tilla Bazar	14		
	33kV Ambassa-Jawhar Nagar	13		
	LILO C'manu-Manu at Chailengta	8		
	LILO Salema-Kamalpur at D. Chowmohani	14		
	MIZORAM			
TW02	132kV S/c Lungsen-Chawngte	39		As per detailed survey, approx. 3.5 km (9.45 ha.) of Riverine Forest is likely to be encountered. Verification of area with Forest deptt. under progress.
	132kVS/c Chawngte-S.Bungtlang	45		
	132kV S/C Lunglei-Lungsen	0.5	Nil	
SS02	132kV S/c West Phaileng-Marpara	50		As per detailed survey, approx. 38.80 km (104.77 ha.) of forest/wildlife buffer

Pkg. No.	Name of the Line/Substation	Line Length (In km)	Forest (In Ha.)	Status/Remarks
				area likely to be involved. Verification of area with Forest deptt. under progress.
DMS01	33kV Lungsen-Lungsen	5	Nil	
	33kV West Phaileng-W.Phaileng	0.1		
	NAGALAND			
TW01	220 kV S/c N. Kohima-Wokha-M.chung	92	Nil	
TW05	132 kV D/c Kohima- New Secretariat Complex	28	Nil	
TW06	132 kV S/c Wokha-Zunheboto-M'chung	97		Forest area involvement, if any shall be ascertained after detailed survey which is presently under progress
	132 kV S/c Tuensang-Longleng	36		
	LILO of 132 kV S/c Mo'chung-Mariani at Longnak	1		
	LILO of 132 kV S/c Kohima-Workha at New Kohima	15		
	LILO 132 kV D/c Kohima-Meluri at Pfutsero	16		
DMS01	33kV M'chung-Mariani to Longtho	0.5	Nil	
	LILO M'chung-Mariani at Longnak	2		
	33kV Longleng -Longleng Town	5		
DMS02	33kV M'chung-M'chung Town PH	12	Nil	
	33kV M'chung-M'chung TH Area	16		
	33kV Zu'boto- Zunheboto South	4		
	33kV Suruhuto -Akuloto	18		
	33kV Pughoboto -Torogonyu	4		
DMS03	33 kV New Kohima -Zhadima	1	Nil	
	33 kV Pfutsero - Pfutsero	4		
DMS04	33 kV Nagarjan-Padam Pukhri.	10	Nil	

3.1.2. Status of corrective actions/agreed milestones from previous missions/field visits

Till the reporting period (up to Dec' 18), Bank has completed three implementation support missions. During 3rd mission (from October 22 to November 30, 2018), the Bank team including environment and social specialists undertook field visits to select sites in Assam, Meghalaya and Tripura (Site visits photographs placed as **Plate-1**). Based on the above sites visit and subsequent discussion/ meeting with IA, six participating States, Ministry of Power (MoP), Central Electricity Authority etc. Bank has proposed some corrective actions/ milestones agreed in their Aide Memoire issued on December 12, 2018. The status of agreed actions pertaining to E & S aspects are summarized below in **Table- 3**.

Table- 3: Status of agreed actions related to E & S Safeguard

S.N	Actions	Responsible	Present Status
1.	CPTD: Making land compensations in respect of those lands wherein towers have been erected	POWERGRID	Disbursement of land compensation has been expedited. Till Dec' 18, a total of Rs 19.611 million compensation paid to 192 APs. For details refer **Table- 9**.
2.	CPTD: Making land compensations in respect of those lands wherein only the foundations have been laid	POWERGRID	
3.	Compensation Payment: Sharing details of the payment made not only for lands but also for other crop/structure compensations	POWERGRID	Details of compensation paid for crop/tree already shared with Bank. Refer **Table- 8** for details
4	Expediting identification & handing over of alt. land: - Tarun Nagar and Amingaon EHV S/S (Assam) - - Phisum and Takyel DMS S/S (Manipur) - Manughat, Dhalak and Ranirbazar (Tripura) - Wokha (Nagaland) Review site location at Romai and Bogibil DMS S/S (Assam) to address sub-lease issue	APDCL/AEGCL MSPCL TSECL DPN APDCL	Under progress.
5	Diversion of existing TL in Belonia, Kailasahar, Udaipur and Ambassa (Tripura)	TSECL	Diversion of existing lines completed in Belonia & Ambasa. However, partially completed in case of Kailasahar and Udaipur.
6	Forest and/ or Wildlife clearance proposals for 33 kV S/S at Nidaya, Barpathari and Ekinpur (Tripura)	POWERGRID, TSECL	Proposal submitted and matter being taken up regularly with wildlife authorities to expedite clearance process.
7	Addressing observations from field visit	POWERGRID	Being complied.
8	Sharing revised draft for Final Environmental Assessment Report for Meghalaya	POWERGRID/ Consultants	Already Complied.

Plate 1 : Mission Team Visit to Sites during 3rd Implementation Support Mission

Visit to 132/33 kV Mohanpur Substation Site on 22.10.18 (Tripura)

Visit to 33/11 kV Barpathari Substation Site on 23.10.18

Visit to 220/132kV New Shillong substation Site on 24.10.18 (Meghalaya)

Visit to 33/11 kV New Shillong substation Site on 24.10.18 (Meghalaya)

9	Finalization of independent agency for conducting Final Environmental Assessment (FEA) and preparation of FEA Report	POWERGRID	Complied / Being Complied Awarded to M/s Green Circle Inc. for both Assam & Tripura. on 31.12.18. For Others identification/ finalization of agencies under progress (refer **Table-1** for details)
10	Filling up vacancies for field officer (ESM) in Manipur and Meghalaya	POWERGRID	Administrative approval for recruitment of FO for vacant position under progress. However, temporary arrangements have been made through redesignation of executive as in case of Meghalaya and additional charge assigned to FO, Mizoram for Manipur also.
11	Sharing first six-monthly safeguard monitoring report	POWERGRID	Being Complied. The instant report is part of such compliance.
12	Project/ Site level GRC – Nominations from Local Administration	All States (except Mizoram)	No progress so far. Support from Bank is required for expediting notification of same by the State Utilities.

It is also worth mentioning that most of the observations made by the Bank in their 2nd implementation support mission during Nov-Dec.' 2017 such as sharing the first quarterly safeguard monitoring report, site specific management and mitigation measures for substations, finalization of independent agency for conducting FEAR, uploading the Land Registry of substations, prepare a WBS/RM matrix in respect of each sub project for CPTD and upload on the websites, augmentation of modules for capacity building to include ES training, engage in a dialogue with State Government to adopt the ROW guidelines etc were either complied and/or being complied, wherever such actions are of continuous nature. However, certain action such as nominations from Local Administration for Site Level GRC is still not complied fully by State Utilities/Govt inspite of repeated reminders.

3.1.3. Status of implementation of site-specific mitigation measures

As already explained, the subprojects are being implemented as per provisions enlisted in respective Environment Management Plans (EMP) in order to minimize/mitigate the identified impacts associated with each subproject component to the extent possible. The EMP contains mitigation measures including monitoring indicators with responsibility allocation in different stage of project cycle. For ensuring proper and effective implementation of various measures by associated contractors/sub-contractors, it has also been made part of contract condition/document. The summarized status of EMP compliance is presented in **Appendix-1**.

In addition to implementation of EMP provisions, some site specific measures related to slope protection/stabilization (viz.retaining wall, toe wall, revetment wall, stone pitching, guard wall, bio-engineering measures etc), drainage (such as cross drainage, culverts), approach road and other protection measures etc are being undertaken/have been planned

as per the site requirement/conditions and subsequent technical approval through committee. Further, rain water harvesting system which is an integral part of substation design will also be implemented based on the site condition/requirement. The details of such measures which are already under implementation/already approved for implementation are presented in **Table-4**. Some photographs of site specific measures implemented in different sites are placed as **Plate -2**. For others sites also similar procedure shall be followed and status of site specific measures will be updated as per work progress.

It may be noted that to implement such site specific measures at appropriate time adequate budgetary provisions are being made through inclusion of cost in Revised Cost Estimate (RCE) or as additional quantity against Bill of Quantity (BoQ). Accordingly, requirement of approach road has already been worked out for various substations and provision of Rs. 20 crore has been included in the RCE. Similarly, apart from implementation of retaining wall/revetment wall, other slope protection measures like stone pitching, bio-engineering measures etc. are also being explored & will be executed as per the site requirement.

Table-4 : Status of implementation of Site Specific Mitigation Measures

Sl. No	Name of Substation /Site	Required Approach Road (length in meter)	Type of Slope Protection/ Stabilization / bio-engineering Measures	Other measures (rainwater harvesting/ cross/ outer drainage etc.
		**** Planned, ** Under Implementation,*** Completed***		
ASSAM				
1	132/33 kV GMC	100*		Outer peripheral drain & box culvert*
2	132/33 kV Silapather	128*		
3	132/33 kV Sarupathar	10*		
4	220/132 kV Amingaon	200*		
5	132/33kV Chapakhowa	20*		
6	132/33 kV Hazo	500*	RRM Wall***	
7	132/33 kV Tangla	33*		
8	132/33 kV Tezpur New	100*	RRM Wall**	Outer drainage*
9	132/33 kV Teok	17*	RRM Wall**	
10	33/11 kV Harsingha	62*	RRM Wall**	
11	33/11 kV GS Road		RRM Wall**	
12	33/11 kV Mailo	105*		
13	33/11 kV Chabipool		RRM Retaining Wall**	Box culvert***
14	33/11 kV Dibrugarh Electrical SD-3		RRM Wall**	
15	33/11 kV Silapathar II	15*	RRM Wall**	
16	33/11 kV Sesa		RRM Wall***	
17	33/11 kV Ramdiya		RRM Wall***	
18	33/11kV D'doma- hazo		RRM Wall***	
19	33/11 kV Arya College			Box culvert***

Plate 2 : Implementation of Site Specific Measures

RRM Wall at 33/11 kV New Shillong, Meghalaya

RRM Wall at 33/11 kV Mawpat, Meghalaya

Retaining Wall at 33/11 kV Bosta, Nagaland

U/C Retaining Wall at 33/11 kV Pfutsero, Nagaland

RRM Wall at 33/11kV Top Khongnangkhong, Manipur

Outer Drainage at 33/11 kV Porompat, Manipur

U/C RRM Wall at 33/11 kV Ramdiya, Assam

RRM Wall at 33/11 kV Sesa, Assam

U/C Boundary Wall at 132/33 kV Rabindranagar, Tripura

Boundary Wall at 33/11 kV Gabardi, Tripura

Sl. No	Name of Substation /Site	Required Approach Road (length in meter)	Type of Slope Protection/ Stabilization / bio-engineering Measures	Other measures (rainwater harvesting/ cross/ outer drainage etc.
		**** Planned, ** Under Implementation, *** Completed,***		
MANIPUR				
19	132/33kV Tamenglong	550*		
20	33/11 kV Takyel	140*		
21	33/11 kV Lamphel	05*		
22	33/11 kV Top Khongnankhong	05*	RRM Wall**	
23	33/11 kV Porompat			Outer drainage***
24	33/11 kV Andro	15*	RRM Wall**	
25	33/11 kV Hiyangthang	73*	RRM Wall***	
26	33/11kV Kaithelmanbi	290*		
27	33/11 kV Kwata	05*		
28	Aug.of 33/11 kV Ukhrul		Retaining Wall**	
MEGHALAYA				
29	220/132kV N. Shillong	20*	Retaining Wall* Stone Pitching* & Grass with bamboo grids*	
30	132/33 kV Mynkre	25*	RRM Wall*	
31	132/33 kV Phulbari	10*	Revetment & RRM Wall** & Grass with bamboo grids*	
32	33/11 kV Rymbai		RRM Wall*	
33	33/11 kV Latyrke		RRM Wall***	
34	33/11 kV Rajballa Bhaitbari		Revetment RRM Wall* & Grass with bamboo grids*	
35	33/11 kV Chibinang		RRM Wall*	
36	33/11 kV Raksambre		RRM Wall***	
37	33/11 kV Mawpat		RRM Wall***	
38	33/11 kV New Shillong		RRM Wall***	
39	33/11 kV Maw'kneng		RRM Wall***	
40	33/11 kV Mawkynrew		Stone Pitching*	
TRIPURA				
41	132/33 kV Gokulnagar		Retaining Wall*	
42	132/33 kV Belonia		Retaining Wall*	
43	132/33 kV Mohonpur		Retaining Wall*	
NAGALAND				
44	132/33kV Secretariat Complex Kohima	80**	RRM & Retaining Wall***	
45	132/33 kV Longnak		Retaining Wall**	
46	132/33 kV Longleng	500**		

Sl. No	Name of Substation /Site	Required Approach Road (length in meter)	Type of Slope Protection/ Stabilization / bio-engineering (grass with bamboo grids) Measures	Other measures (rainwater harvesting/ cross/ outer drainage etc.
		* Planned, ** Under Implementation, *** Completed		
47	132/33 kV Pfutsero	100*		
48	132/33 kV Zunheboto	80*		
49	Ext. of 132/66/33 kV Mokokchung		RRM & Retaining Wall**	
50	Ext. of 132/33 kV Wokha		RRM & Retaining Wall***	
51	33/11 kV Longtho	700*		
52	33/11 kV Longleng		RRM Wall*	
53	33/11kV Pfutsero	55*	RRM Wall*	
54	Aug. of 33/11kV Bosta		Retaining Wall****	
55	Aug. of 33/11kV Chakabhama		Retaining Wall****	
56	Aug. of 33/11kV Torogonyu		Retaining Wall*	
57	Aug. of 33/11kV Tseminyu		Retaining Wall*	
MIZORAM				
58	132/33 kV Lungsen		Stone Pitching* Grass with bamboo grids*	Cross drainage* Outer drainage*
59	132/33 kV West Phaileng	80*	Retaining Wall* Grass with bamboo grids*	Cross drainage**
60	132/33 kV Marpara	130*	Retaining Wall* Grass with bamboo grids*	Cross drainage*
61	33/11kV South Bungtlang	200*	Retaining Wall*	Cross drainage*
62	Aug. of 132/33 kV Lunglei		Retaining Wall* Stone Pitching*	Cross drainage*

3.1.4. Occupational Health and Safety

Safety of workers as well as of residents of areas close to the project activities is always a challenge mostly during project execution stage. In the instant project also occupational health & safety has been given top priority and all health and safety issues and their management aspects have made integral part of project through contract conditions/contract specific safety plan. All the subprojects are executed as per the approved safety plan and regularly monitored by dedicated Safety personnel. Further, strict compliance of various contractual aspects to work and safety regulations, workmen's compensation, insurance, safety standard/plan etc by the contractor(s) are ensured.

The compliance of safety guidelines/checklists including work permits, height pass, Use of PPEs and other safety precautions are regularly monitored by site in-charge. Mock drill such as fire safety, victim rescue/Cardio-Pulmonary Resuscitation, first aid etc are conducted periodically to enhance the preparedness level of the workforce. Availability of First aid facilities and/or ambulance at work site is ensured to face any eventuality. Safety induction & awareness programme including HIV/AID are also conducted at every active site. Safety film for transmission project developed by POWERGRID have been translated in local languages[2] like Assamese, Manipuri, Bengali, Khasi & Nagamese, Mizo apart from English & Hindi and is shown to workers regularly. Additionally, every day before start of work tool box talk is held which also include safety aspects/instruction. Photographs/ documents related to safe work practices including safety awareness are placed as **Plate- 3**. It is heartening to note that till Dec'18 no accidents (fatal or non-fatal) including major/minor injuries were reported from any of the construction sites.

Plate-3 : Safe Work Practices at Site

[2] Also available on POWERGRID's website http://www.powergridindia.com/ner-agreements-and-mous

Tool Box Talk at 33/11 kV Keithalmanbi, Manipur

First Aid Talk at 33/11 kV Lalmati, Nagaland

Tool Box Talk at 132/32 kV West Phaileng, Mizoram

Tool Box Talk in along 132 KV Chanwgte –South Bungtlang Line Route, Mizoram

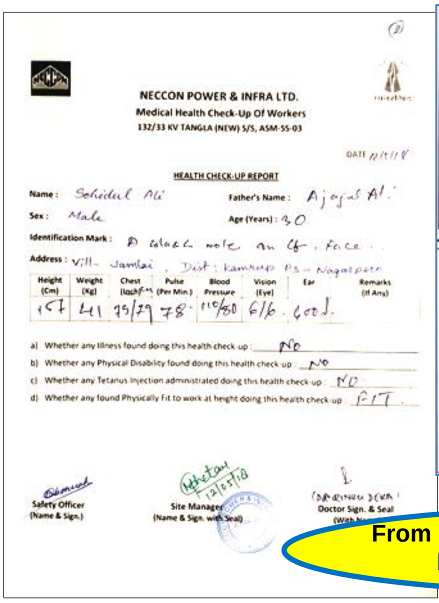
Fire Fighting Mock Drill

Safe Material Handling

Proper Barricading of work area and display of signage at 132/33 Zhadima, Nagaland

Proper Use of PPEs during CRB Casting at 33/11 kV Bogibil, Assam

From L to R : Above - Health Check-up at 132/33kV Tangla (Assam) & 33/11 kV Sanjenbam(Manipur)
Below – HIV/AID Awareness at 132/33kV Satchand (Tripura) & Tezpur (Assam


NECCON POWER & INFRA LTD.
Medical Health Check-Up Of Workers
132/33 KV TANGLA (NEW) S/S, ASM-SS-03

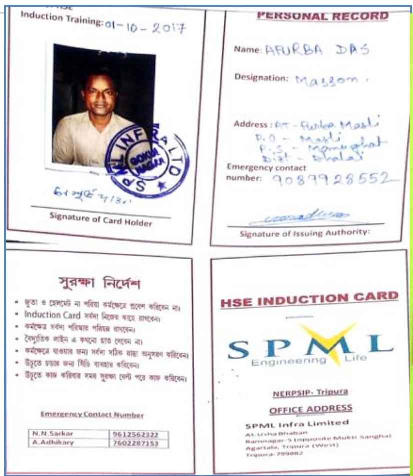
HEALTH CHECK-UP REPORT

Name : Sohidul Ali Father's Name : Ajajul Ali
Sex : Male Age (Years) : 30
Identification Mark : A black mole on Lt. Face
Address : Vill- Jamlai, Dist : Kamrup PS – Nagarbera

Height (Cm)	Weight (Kg)	Chest (Inch)	Pulse (Per Min.)	Blood Pressure	Vision (Eye)	Ear	Remarks (If Any)
157	41	75/79	78	110/80	6/6	Good.	

a) Whether any illness found doing this health check up : No
b) Whether any Physical Disability found doing this health check-up : No
c) Whether any Tetanus Injection administrated doing this health check-up : NO
d) Whether any found Physically Fit to work at height doing this health check-up : FIT

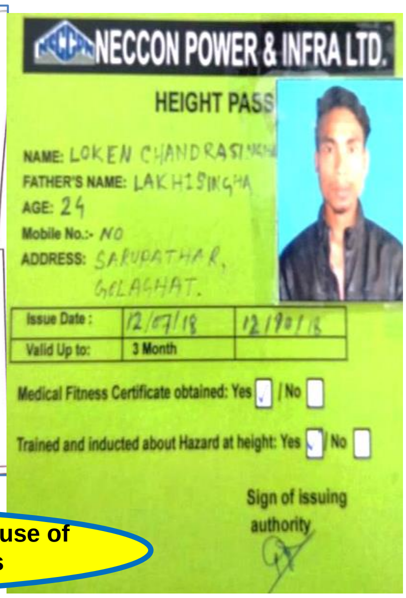
Safety Officer (Name & Sign.)
Site Manager (Name & Sign. with Seal)
Doctor Sign. & Seal


Induction Training: 01-10-2017
Signature of Card Holder

PERSONAL RECORD
Name: APURBA DAS
Designation: Mason
Emergency contact number: 9089928552
Signature of Issuing Authority:

সুরক্ষা নির্দেশ

HSE INDUCTION CARD
SPML Engineering Life
NERPSIP- Tripura
OFFICE ADDRESS
SPML Infra Limited


NECCON POWER & INFRA LTD.
HEIGHT PASS
NAME: LOKEN CHANDRASINGHA
FATHER'S NAME: LAKHISINGHA
AGE: 24
Mobile No.:- NO
ADDRESS: SARUPATHAR, GOLAGHAT.

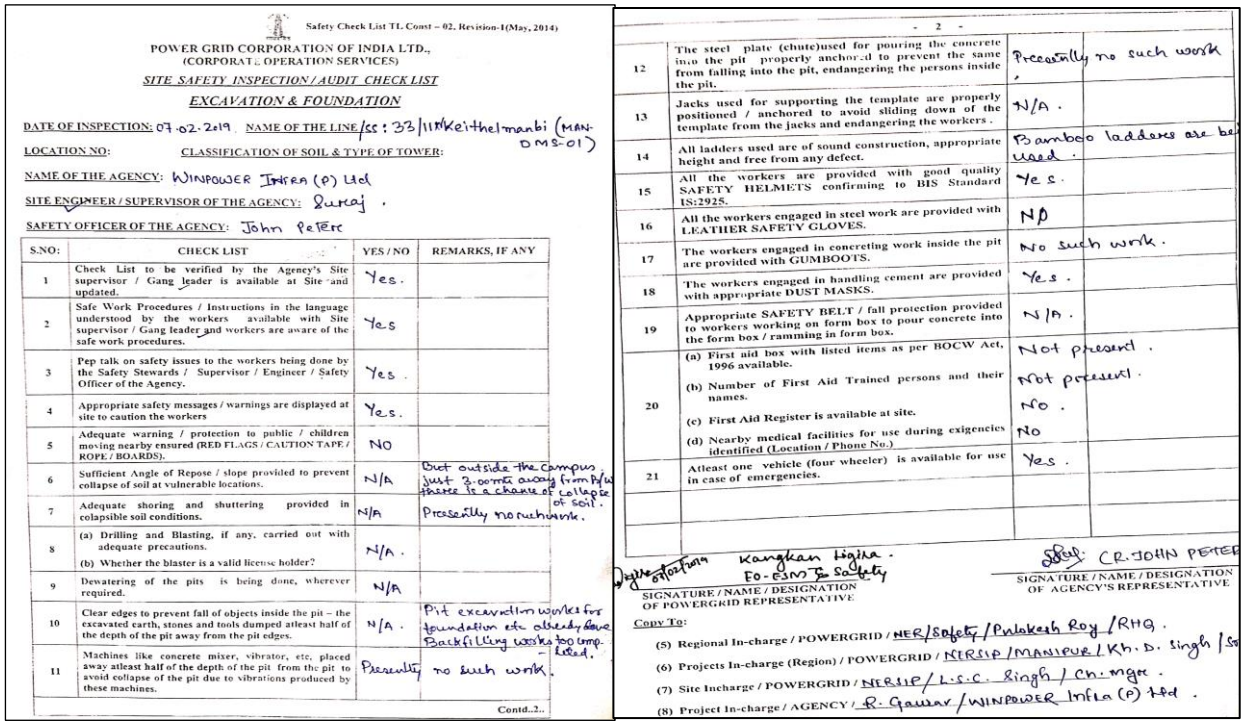
Issue Date :	12/07/18	12/10/18
Valid Up to:	3 Month	

Medical Fitness Certificate obtained: Yes / No
Trained and inducted about Hazard at height: Yes / No
Sign of issuing authority

From L to R : Health Check-up report , Isuse of Induction Card & Height Pass Sites

Screening of Safety Film in Local Language to Workers at each active site

DG set installed with proper platform & roof



Safety Check List TL Const – 02. Revision-I(May, 2014)

POWER GRID CORPORATION OF INDIA LTD.,
(CORPORATE OPERATION SERVICES)

SITE SAFETY INSPECTION / AUDIT CHECK LIST

EXCAVATION & FOUNDATION

DATE OF INSPECTION: 07.02.2019 NAME OF THE LINE/SS: 33/11KV Keithelmanbi (MAN-DMS-01)

LOCATION NO: CLASSIFICATION OF SOIL & TYPE OF TOWER:

NAME OF THE AGENCY: WINPOWER INFRA (P) Ltd

SITE ENGINEER / SUPERVISOR OF THE AGENCY: Suraj .

SAFETY OFFICER OF THE AGENCY: John Peter

S.NO:	CHECK LIST	YES / NO	REMARKS, IF ANY
1	Check List to be verified by the Agency's Site supervisor / Gang leader is available at Site and updated.	Yes.	
2	Safe Work Procedures / Instructions in the language understood by the workers available with Site supervisor / Gang leader and workers are aware of the safe work procedures.	Yes	
3	Pep talk on safety issues to the workers being done by the Safety Stewards / Supervisor / Engineer / Safety Officer of the Agency.	Yes.	
4	Appropriate safety messages / warnings are displayed at site to caution the workers	Yes.	
5	Adequate warning / protection to public / children moving nearby ensured (RED FLAGS / CAUTION TAPE / ROPE / BOARDS).	NO	
6	Sufficient Angle of Repose / slope provided to prevent collapse of soil at vulnerable locations.	N/A	But outside the campus just 3-4 mtrs away from P/F there is a chance of collapse of soil.
7	Adequate shoring and shuttering provided in colapsible soil conditions.	N/A	Presently no such work.
8	(a) Drilling and Blasting, if any, carried out with adequate precautions. (b) Whether the blaster is a valid license holder?	N/A.	
9	Dewatering of the pits is being done, wherever required.	N/A	
10	Clear edges to prevent fall of objects inside the pit – the excavated earth, stones and tools dumped atleast half of the depth of the pit away from the pit edges.	N/A.	Pit excavation works for foundation etc already done Backfilling works too completed.
11	Machines like concrete mixer, vibrator, etc, placed away atleast half of the depth of the pit from the pit to avoid collapse of the pit due to vibrations produced by these machines.	Presently	no such work.

Contd..2..

- 2 -

12	The steel plate (chute)used for pouring the concrete into the pit properly anchored to prevent the same from falling into the pit, endangering the persons inside the pit.	Presently no such work
13	Jacks used for supporting the template are properly positioned / anchored to avoid sliding down of the template from the jacks and endangering the workers.	N/A.
14	All ladders used are of sound construction, appropriate height and free from any defect.	Bamboo ladders are being used.
15	All the workers are provided with good quality SAFETY HELMETS confirming to BIS Standard IS:2925.	Yes.
16	All the workers engaged in steel work are provided with LEATHER SAFETY GLOVES.	NO
17	The workers engaged in concreting work inside the pit are provided with GUMBOOTS.	No such work.
18	The workers engaged in handling cement are provided with appropriate DUST MASKS.	Yes.
19	Appropriate SAFETY BELT / fall protection provided to workers working on form box to pour concrete into the form box / ramming in form box.	N/A.
20	(a) First aid box with listed items as per BOCW Act, 1996 available. (b) Number of First Aid Trained persons and their names. (c) First Aid Register is available at site. (d) Nearby medical facilities for use during exigencies identified (Location / Phone No.)	Not present. Not present. No. No
21	Atleast one vehicle (four wheeler) is available for use in case of emergencies.	Yes.

Kangkan Tigga. EO-ESMS for Safety
SIGNATURE / NAME / DESIGNATION OF POWERGRID REPRESENTATIVE

C.R. JOHN PETER
SIGNATURE / NAME / DESIGNATION OF AGENCY'S REPRESENTATIVE

Copy To:
(5) Regional In-charge / POWERGRID / NER/Safety/Prakash Roy/RHQ.
(6) Projects In-charge (Region) / POWERGRID / NERSIP/MANIPUR/Kh.D. Singh/Sr
(7) Site Incharge / POWERGRID / NERSIP/L.S.C. Singh/Ch.mgr.
(8) Project In-charge / AGENCY / R. Gautam/WINPOWER Infra (P) Ltd.

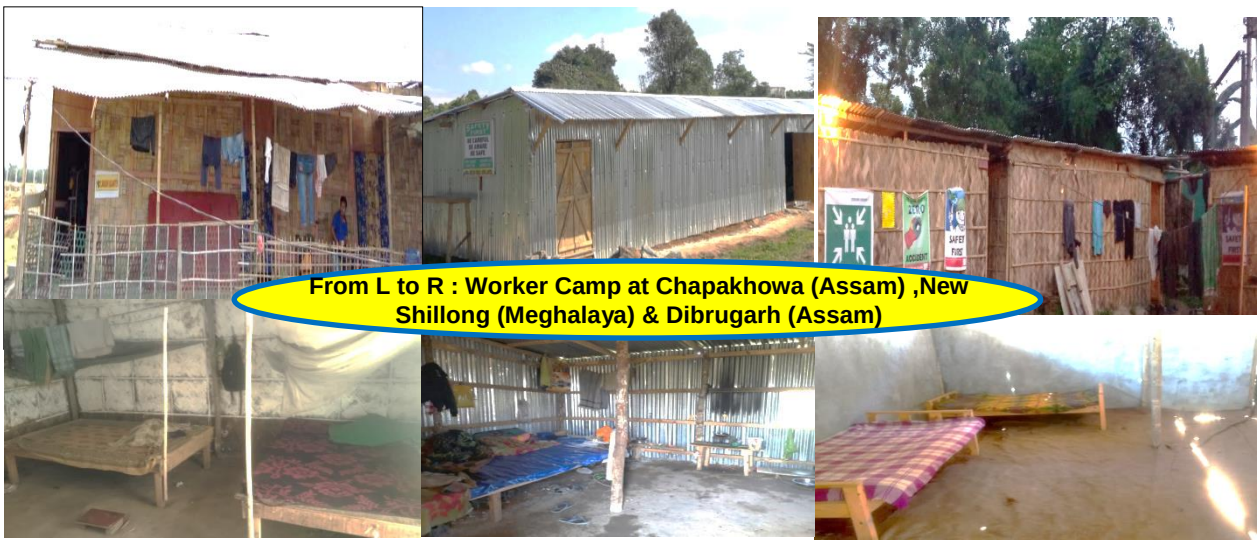
The amenities for worker's including occupational health, safety and hygiene at work site is the responsibility of contractors/sub-contractor(s), who is also abide by various provisions related to worker welfares in contractual agreements and EMP. Moreover, as per contract agreement contractor and his sub-contractors shall abide at all times by all applicable existing labour enactments and rules made thereunder, regulations notifications and byelaws of the State or Central Government or local authority and any other labour law (including rules), regulations bye laws that may be passed or notification that may be issued under any labour law. Accordingly it is ensured that all contractors employed are operating with valid labor license as per provision under section – 12(1) of the Contract Labour (Regulation & Abolition) Act, 1970 and also certified under Section- 7(3) of the Building and Other Construction Workers (Regulation of Employment and Condition of Service) Act, 1996 from Ministry of Labour & Employment. Besides, the contractors have obtained requisite insurance policy as per provisions of Employee Compensation Act, 1923 for its employed workforce. It is pertinent to mention that actual number of manpower employed at each site/package varies significantly from time to time depending upon the work requirements as well as availability of contract labour. The detail of state wise approved manpower obtained by different contractors along with maximum no. of workers employed on any day during the reporting period is provided in the table below;

State	Name of Contractor	Package	Approved Worked force	Worked force(max.) Employed
Assam	M/s Neccon Power & Infra Ltd	SS-01-03, DMS-01	340	210
	M/s JV Techno & Seiyuan	SS-04	100	75
	M/s T & R (India) Ltd	TW-01	100	42
	M/s Meher Foundation & Civil Engg. Pvt. Ltd	P - 01	30	20
	M/s Power Mech Projects Ltd	TW-02 & 05	110	60
	M/s Teems India Pvt. Ltd	TW-04	60	37
	M/s Simplex Infra. Ltd.	TW-07	100	60

	M/s Sterling & Wilson Pvt. Ltd.	DMS-02 & 03	300	90
Meghalaya	M/s Neccon Power & Infra Ltd	DMS-01 to 03, SS-02	215	165
	M/s Techno Electric & Engg Co. Ltd	SS-02	100	57
	M/s Unique Structures & Towers Ltd.	TW-01 & 02	400	140
Tripura	M/s SPML	SS-01 to 03	300	53
	M/s EMC Limited	TW- 01 to 03	NA	NA
	M/s Technofab	DMS 01 to 05	500	122
Manipur	M/s Win Power Infra Pvt. Ltd	DMS -01 & 02	60	30
	M/s Siddhartha Engg. Ltd.	DMS -03 & 04	50	36
	M/s Sterling & Wilson Pvt. Ltd.	SS-01 & 03	360	50
	M/s Shyama Power India Ltd.	SS-02 & TW-06	200	90
Mizoram	M/s KSA Powerinfra Pvt. Ltd	SS-01, TW-01	100	14
	M/s Sterling & Wilson Pvt. Ltd	SS-02	119	28
Nagaland	M/s Sterling & Wilson Pvt. Ltd.	DMS-03 & 04	200	31
	M/s Shyama Power India Ltd.	TW-01,05,06 &SS-03	400	96
	M/s Techno Power Ente. Ltd	DMS-01 & 02	75	23
	M/s Power Mech. Projects Ltd.	SS-02 & 04	100	33
	M/s Techno Electric & Engineering Co. Ltd	SS-01	100	12

Further in every active site, it is ensured that the construction contractor engaged provides accommodation arrangements along with uncontaminated water for drinking, sanitation, cooking washing & health care arrangements through regular monitoring and their compliance as per provisions of contract agreement and EMP. Some photographs of worker facilities provided at different sites are placed as **Plate- 4.** Besides, the workforce are regularly instructed to respect local people, tradition, culture and not to indulge in any activities with local through strictly controlling entry of outsiders in non-working hours is ensured to avoid any conflict with the local people.

Plate - 4 : Worker Facilities at Construction Sites



Worker Facilities From L to R Top : 132/33kV Udaipur (Tripura) & 33/11 kV Padampukhri, Nagaland
Bottom: 33/11 kV Tuliaphai & 33/11 kV Porompat (Manipur)

Above: Toilet & Sanitation Facilities
Below L to R: Drinking Water, Rest Room & Kitchen

3.1.5. Environmental awareness and training

Knowledge about environmental problem in general and environmental issues associated with project in particular not only enhances the environmental sensitivity of the project staff but also helps in compliance with safeguard issues associated with the project. Accordingly, Environmental and Social Management trainings have been made an integral part of the Capacity Building & Institutional Strengthening (CBIS) Framework.

Till date, one E&S Training each has been conducted in Nagaland, Mizoram and Tripura under CBIS and the same has been planned in other three states also in near future. Further, POWERGRID being a pioneer in the area of Sustainable Development, organized a three days training programme on Management of Safeguard issues on 11-13 December, 2018 at its PAL Manesar, Gurgaon exclusively for its project personnel involved in NERPSIP**.** In these programme subject experts from leading organizations like the World Bank, ADB, MoEFCC and domain experts from university/research institutes interacted with the participants and gave them a clear insight about the relevant environmental and social issues. Apart from project specific E & S safeguard matters these trainings also covered topics like engagement with indigenous people & gender issues with special reference to NER and best international practices. Some photographs and training modules for such programmes are placed as **Plate- 5.** Details of training programmes conducted till Dec'18 is provided below in **Table-5**.

Table-5: Details of Training Programme under NERPSIP Capacity Building

Sl.	Topic of Training Programme	Place & Date	Participants Level	Total Mandays
1	E & S aspects of projects and System Planning & STU Management under NERPSIP	Conference Hall DPN, Kohima, Nagaland 23 & 24 April' 18	Middle Management including Site Officials	42
2.	E & S aspects of T and Distribution Projects under NERPSIP	Aijal Club, Aizawl, Mizoram 23 & 24th May'18,	-Do-	36
3	Env. & Soc. aspects of T & D Projects under NERPSIP	Pragna Bhavan, Agartala, Tripura 4 & 5th Sept'18	All levels	54
4.	E & S Safeguard Management of NERPSIP	PAL Manesar, Gurgaon 11-13th Dec' 2018	Middle management associated with projects and safeguard management at site level	69

Plate 5 : E & S Training Programme

E & S Aspects of Projects and System Planning & STU Management under NERPSIP, 23-24th April' 2018, Conference Hall, DPN Kohima, Nagaland

E & S aspects of T & D Projects under NERPSIP, 23-24 May'18, Aijal Club, Aizawl, Mizoram

Training program on "Environment and Social aspects of Transmission and Distribution Projects under NERPSIP"
Date : 4th & 5th September, 2018
Venue : Pragna Bhawan, Agartala

Day/ Date	9.15 9.30 Hrs.	9.30 Hrs. -11.00 Hrs.	TEA BREAK	11.15 Hrs.-12.45 Hrs.	LUNCH BREAK	13.45 Hrs. – 15.15 Hrs.	TEA BREAK	15.30-17.00 Hrs.
Day 1 04.09.18	Inauguration & Keynote Address	Environmental and Social Policy & Procedures Framework (ESPPF) - A Recap **S.K. Kar POWERGRID**		World Bank E & S Safeguard Requirements for T & D Projects **K. Khumujam World Bank**		Ensuring EHS compliance as per Environment Management Plan (EMP) **K. Khumujam World Bank**		Environmental Laws vis-a-vis Transmission Line Projects with special emphasis to Forest and Wildlife Clearance process **Suvendu Kar POWERGRID**
Day 2 05.09.18		Forest & Bio-diversity issues in Developmental Projects and their Management **Dr. Sabyasachi Dasgupta, Tripura University**		Forest & Bio-diversity issues in Developmental Projects and their Management **Dr. Sabyasachi Dasgupta, Tripura University**		RoW Compensation and Diminution of Land Value due to placing of Transmission Line/Tower **R. Ranjan POWERGRID**		Discussion & Feedback

Training Modules

TRAINING PROGRAMME ON ENVIRONMENT & SOCIAL SAFEGUARD MANAGEMENT OF NERPSIP
Venue: POWERGRID Academy of Leadership (PAL), Manesar, Gurugram
Date: 11th -13th December, 2018

DATE/ TIME	9.30-9.45	9.45 -11.30	TEA BREAK	11.45 -13.00	LUNCH BREAK	14.00 - 1530	TEA BREAK	15.45 - 17.00
Day-1	Registration	Program Inauguration/ Light of Lamp and Inaugural Address by Chief Guest *Sh. H. S. Sohal, IFS PCCF & CVO, EIL*		WB Policies vis-a-vis E & S Management in Transmission Projects *Sh. G. Joshi Sr. Env. Specialist, World Bank*		Global Best practices in managing E & S issuses in T & D Projects & Case Study *Sh. K. Khumujam Env. Consultant World Bank*		Gender Issues and Policy Framework of WB *Ms. Sangeeta Kumari Sr. Soc. Specialist & Gender Expert, WB*
Day-2	10.00 -11.30			11.45 -13.00		14.00 - 1530		15.45 - 17.00
	Engaging with Indigenous People (Tribal) & aaddressing Gender Issues with special reference to NER States *Sh. R. Swarankar, Former Sr. Social Specialist ADB*			Environmental laws of India vis-à-vis Forest & Wildlife Clearance *Sh. S.S.Singh General Manager (ESM)*		Engineering/Design Measures to meet safeguard e.g. - Slope stabilization including bio-engg measures - Bird Guards - Innovative Towers - Wildlife/Elephant protection *Sh. Vinay General Manager (Engg.)*		RoW Compensation and Diminution of Land Value due to placing of Transmission Line/Tower *Sh. R. Ranjan Manager (ESM)*
Day-3	10.00 -11.00			11.15-12.30		13.30- 14.30		
	Environmental and Social Policy & Procedures Framework (ESPPF) - An Overview *Sh. S.K. Kar Manager (ESM)*			EMP Implementation, Monitoring & Reporting Frameworks as per WB requirements e.g. Preparation of E & S Safeguard Documents e.g. IEAR/ FEAR/ CPTD Report *Sh. S.K. Kar Manager (ESM)*		Panel Discussion, Valedictory & feedback		

Env. & Soc. aspects of T & D Projects under NERPSIP, 4 & 5th Sept'18, Pragna Bhavan, Agartala Tripura

E & S Safeguard Management of NERPSIP, 11-13th Dec' 2018, PAL Manesar (Gurgaon)

3.1.6 Non-compliance notices issued to contractors/subcontractors

Contractors/subcontractors play a significant role in ensuring compliance with safety and environment provisions applicable to project, considering their role in actual implementation of the project activities at ground level. Additionally, most of the workforce assigned at sites are also directly under the control of contractors/subcontractors. In view of this, they have also been made accountable to compliance with safety and environment provisions by incorporating the project EMP and other contract clauses specifically aiming at safeguard compliance including safety as part of the contract documents.

POWERGRID's site officials ensure that these contract clauses are always complied by the project/site contractors/ subcontractors. Any incidence of deviation/non-compliance of the applicable contract condition results in issuance of notice/letter to concerned contractor/ subcontractor for necessary compliance and further improvement. Besides, POWERGRID Regional Safety, Shillong conducts periodic safety check/audit in all active sites and strict compliance of observations made during audit is ensured from respective contractor/sub-contractor. Sample copy of such notice/memo issued and corresponding compliance submitted by the respective contractor/ subcontractor is placed as **Appendix-2.** It may be noted that most of these notices/memoes are related to inadequate worker facilities like labor camp, toilet, drinking water etc., non-availability/use of PPEs, compliance to safety audits, slow progress of EMP/other protection measures like boundary/ retaining/ revetment wall, drainage etc, deployment of designated safety officer and lapses in renewal of insurance under workmen compensation policies. However, repeated violations may result in penalties, termination of contractor and debarment from future association with POWERGRID. Details of state- wise memo/notice issued related to compliance of health, safety and environment measure till Dec' 18 is given in **Table- 6.**

Table-6: State wise nos. memo/notice/penalties issued to contractors/ subcontractors related to health, safety and environment measures

State	Nos. Obs./ Notice issued by Regional Safety	Obs./Notice issued by Site Officials	Penalties, if any
Assam	7	14	Nil
Meghalaya	4	10	Nil
Tripura	5	24	Nil
Manipur	4	14	Nil
Nagaland	1	6	Nil
Mizoram	Nil	21	Nil

SECTION-4: SOCIAL SAFEGUARD

4.1 Social Compliance

4.1.1 Substation Land:

The land requirement for construction of substation generally varies from 0.3 acres (for 33 kV) to 10 acres (220 kV) depending upon voltage levels and no. of bays. As per provisions in ESPPF, land for substation can be secured through adoption of following three methods;

i) Purchase of land on willing buyer & Willing Seller basis on negotiated rate;
ii) Voluntary Donation; and
iii) Involuntary Acquisition.

Moreover, all land donations and direct purchases will be subject to a review/ approval by a broad based committee comprising representatives of different sections including those from the IA and State Utilities. It may be noted that in the instant case land for all the proposed substations are secured either through purchase on willing-seller willing-buyer basis or already in possession of State Utilities. Wherever required, consent from ADC/VDC is also obtained, In the instant case, no land is secured through Involuntary Acquisition. Hence, no social issues such as physical displacement; R & R are envisaged in the instant project. Details of land secured for transmission and distribution substations (220/132/33 kV or 33/11 kV) including area, number of owners, compensation thereof are provided in **Table-7**.

Table-7 : Details of Land Secured for proposed substations

Sl. No	Name of Substation	Area (acres)	Type of Land (Govt./ Pvt.)	No. of Land Owner	Total Cost of Land (Rs Million)	Method of Securing Land
ASSAM						
1	220/132 kV Behiating	7.31	AEGCL Existing Land	N.A	N.A	N.A
2	132/33 kV GMC	0.83				
3	132/33 kV Silapathar	7.27				
4	132/33 kV Paltanbazar	0.63				
5	132/33 kV Sarupathar	7.27				
6	220/132 kV Amingaon	8.0				
7	132/33kV Chapakhowa	7.31	Pvt.	2	25.519	Direct Purchase through Willing Buyer Willing Seller basis on negotiated rate
8	132/33 kV Hazo	6.25	Pvt.	1	28.479	
9	132/33 kV Tangla	8.26	Pvt.	12	42.600	
10	132/33 kV Tezpur New	7.27	Pvt.	3	14.080	
11	132/33 kV Teok	7.27	Pvt.	2	52.979	
12	33/11 kV Harsingha	0.74	APDCL Land	N.A	N.A	N.A
13	33/11 kV Hathimurah-2	0.96				
14	33/11 kV Mailo	1.9				
15	33/11 kV GS Road (GIS)	0.41				
16	33/11 kV GMC-2	0.83				

17	33/11 kV Tarun Nagar					Govt allotted land was not found suitable due to high cost involvement in pile foundation. Therefore, alternate land being arranged by APDCL.
18	33/11 kV Arya College	0.13	Govt.	N.A.	0.969	
19	33/11 kV Chabipool	0.36	Govt.	N.A.	6.600	
20	33/11 kV Romai	0.66	Pvt.		0.024/yr	Land on long term lease of 20 years
21	33/11 kV Bogibil	0.66			0.024/yr	
22	33/11 kV Dibrugarh Electrical SD-3	0.66		N.A.	9.355	Direct Purchase on negotiated rate
23	33/11 kV Silapathar II	0.66		1	1.018	
24	33/11 kV Sesa	0.66		1	3.785	
25	33/11 kV Ramdiya	0.50		2	1.580	
26	33/11kV D'doma- hazo	0.50		1	2.399	
27	33/11 kV LGM hospital	0.33		1	1.950	
MANIPUR						
1	132/33 kV Gamphajol	2.96	Pvt.	1	2.790	Direct Purchase on negotiated rate
2	132/33 kV Tamenglong	4.44		1	1.900	
3	33/11 kV Takyel	0.59	Govt.	N.A.	****	Yet to be handed over to POWERGRID
4	33/11 kV Lamphel	0.37	Govt.	N.A.	****	
5	33/11 kV Top Khongnankhong	1.97	Govt.	N.A.	****	
6	33/11 kV Porompat	1.97	Govt.	N.A.	0.197	
3	33/11 kV Andro	0.50	Pvt.	1	0.335	Direct Purchase on negotiated rate
5	33/11 kV Hiyangthang	0.73	Pvt.	1	4.424	
8	33/11kV Kaithelmanbi	0.74	Pvt.	1	0.697	
9	33/11 kV Kwata	0.31	Pvt.	1	1.008	
10	33/11 kV Leimapokam	0.63	Pvt.	1	0.955	
12	33/11 kV Thangal	0.612	Pvt.	1	0.522	
13	33/11 kV Sanjenbam	0.62	Pvt.	3	1.029	
14	33/11 kV Tuliaphai	0.494	Pvt.	1	0.465	
15	33/11 kV Pishum (GIS)	0.249	Govt.	N.A.	****	
MEGHALAYA						
1	220/132kV Mawngap	10.77	MePTCL Land	N.A	N.A	N.A
2	220/132kV N. Shillong	6.214	Pvt.	2	30.148	Direct Purchase on negotiated rate
3	132/33 kV Mynkre	16.40		1	22.003	
4	132/33 kV Phulbari	12.5		1	32.877	
5	33/11 kV Mynkre	0.49		1	1.133	Direct Purchase on negotiated rate
6	33/11 kV Rymbai	1.26		1	0.981	
7	33/11 kV Lumshnong	0.36		1	1.248	
8	33/11 kV Latyrke	0.34		1	1.689	

9	33/11 kV Rajb'Bhaitbari	0.66		1	0.244	
10	33/11 kV Chibinang	1.65		1	0.612	
11	33/11 kV Raksambre	0.66		1	0.492	
12	33/11 kV Mawpat	0.30		1	5.993	
13	33/11 kV New Shillong	1.0		Comm unity land	3.496	
14	33/11 kV Maw'kneng	0.61		1	0.220	
15	33/11 kV Mawkynrew	1.18		1	1.600	
TRIPURA						
1	132/33kV Rabin'nagar	2.5	TSECL Land	NA	NA	NA
2	132/33 kV Gokulnagar	3.5				
3	132/33 kV Belonia	3.0				
4	132/33 kV Bagafa	3.7				
5	132/33 kV Sabroom	1.64				
6	132/33 kV Mohonpur	4.0				
7	132/33 kV Satchand	2.02				
8	132/33 kV Manu	2.18				
9	132/33 kV Amarpur	3.34	Pvt.	1	5.936	Direct Purchase on negotiated rate
10	33/11 kV Khowai	0.49	TSECL Land	NA	NA	NA
11	33/11 kV Simna	0.59				
12	33/11 kV Barkathal	0.59				
13	33/11 kV Bamutia	0.59				
14	33/11 kV Lembucherra	0.59				
15	33/11kV Champaknagar	0.68				
16	33/11 kV Ranirbazar	0.74				
17	33/11 kV ADC H.Q.	1.18				
18	33/11 kV Jampuijala	0.33				
19	33/11 kV Sekerkote	4.00				
20	33/11 kV Golaghati	0.49				
21	33/11 kV Durganagar	0.69				
22	33/11 kV Radhanagar	1.97				
23	33/11 kV Nidaya	0.61				
24	33/11 kV Nalchar	0.46				
25	33/11kV Jawhar Nagar	1.97				
26	33/11 kV Chailengta	0.74				
27	33/11 kV Dhumacherra	1.38				
28	33/11 kV 82 Mile	0.74				
29	33/11 kV Tilla Bazar	1.58				
30	33/11 kV Srinagar	1.46				
31	33/11 kV Harina	0.59				
32	33/11 kV Rupaichari	0.62				
33	33/11 kV Ekinpur	1.03				
34	33/11 kV Ratanpur	0.86				
35	33/11 kV Barpathari	0.74				

36	33/11 kV Karbook	0.59				
37	33/11 kV Muhuripur	0.99				
38	33/11 kV Dalak	1.38				
39	33/11 kV Bir C. Manu	1.14				
40	33/11 kV Rangamati	1.23				
41	33/11 kV Matabari	0.76				
42	33/11 kV Garjee	0.79				
43	33/11 kV Manughat	0.8	Pvt.	1	0.657	
MIZORAM						
1	132/33 kV Lungsen	3.16	PEDM Land	N.A	N.A	N.A
2	132/33 kV W. Phaileng	3.92				
3	132/33 kV Marpara	4.34				
4	South Bungtlang	0.58				
NAGALAND						
1	132/33kV Secretariat Complex Kohima	3.4	DPN Land	N.A	N.A	N.A
2	132/33 kV Longnak	4.7	Pvt.	1	2.700	Direct Purchase on negotiated rate
3	132/33 kV Longleng	8.1	Pvt.	7	0.458	
4	132/33 kV Pfutsero	4.94	Pvt.	1	5.812	
5	132/33 kV Zunheboto	14.64	Pvt.	6	2.781	
6	33/11 kV Longtho	1.04	DPN Land	N.A	N.A	N.A
7	33/11kV Longleng Town	0.52				
8	33/11kV Mokokchung Power House	0.15				
9	33/11kV Mokochung Hospital Area	0.20				
10	33/11kV Zunheboto South Point	0.76				
11	33/11kV Sechu-Zubza (Lalmati)	0.33				
12	33/11kV Chiephobozou	0.37				
13	33/11kV Pfutsero	0.15				
14	33/11kV Tizit	0.15				
15	33/11kV Padampukhri	0.74	Pvt.	1	4.536	Direct Purchase on negotiated rate

4.1.2. CPTD Preparation and Implementation Status

As per existing law, land for tower/pole and right of way is not acquired and agricultural activities are allowed to continue after construction activity. However, the law[3] stipulates that the licensee shall have to pay full compensation to all interested for any damages sustained during the execution of work.

Moreover, land requirements for erecting tower/ poles for transmission/ distribution lines are just minimal. All it requires is to place the foot, four of which warrants an area of 4-6 sq. ft. Thus, the actual impact is restricted to 4 legs of the tower. Further, line

[3] *As per the present provision in the Electricity Act, 2003 read with relevant provisions of Indian Telegraph Act, 1885 all the damages without acquisition of subject land) accrued to person while placing the tower and line are to be compensated.*

alignments are done in such a way so as to avoid settlements and / or structures and hence no relocation of population on account of Transmission Line (TL)/Distribution Line (DL) is envisaged. Most of the impacts are temporary in nature in terms of loss of standing crops/trees and other damages for which compensation is paid to the affected persons/land owner/ community for all damages including cost of land for tower base and/ or RoW corridor to its land owner without acquiring it. Thus, compensations are made for;

(i) standing crops;
(ii) trees, if any;
(iii) land cost of tower footings and RoW Corridor(if applicable) ;
(iv) other assets like well and
(v) any other damages/ effects.

In order to capture such temporary damages likely to be caused during implementation of projects and payment of compensation thereof, project specific Compensation Plan for Temporary Damages (CPTD) have been prepared and subsequently disclosed after approval by the Bank for implementation. CPTD includes entitlement matrix, detailed procedure along with timeframe for compensation disbursement and responsibility with respect to various process/activities which will be implemented during the project execution. The project wise CPTDs are being prepared matching with completion of detailed survey of TLs/DLs corresponding to scope covered in respective IEARs. The status of CPTD preparation and its disclosure as of now is already presented in **Table- 1.**

4.1.3. Compensation for Tree/crop damages:

Following cardinal principles of avoidance, minimization of State- Specific ESPPF and Bank's Safeguard Policies, State Utilities/ POWERGRID has selected and finalized the routes of transmission line with due consideration of the avoidance or minimization of impacts toward temporary damages on crops/ trees/ structures, if any coming in the Right of Way (RoW) during construction. Similarly, the route of all the 33 KV distribution lines are mostly selected /finalized along the existing roads (PWD roads/Village roads etc.) involving minimum habitated areas and also through agricultural and barren lands wherever possible. Further field visits and public consultations helped in developing the measures towards minimizing negative social impacts, if any.

During project implementation also, due to inherent flexibility in phasing construction activity in lean period or rescheduling the construction activity in cropped area for some period to facilitate crop harvesting, temporary impacts associated with Transmission Lines are further minimized to a great extent. However, if it is unavoidable and is likely to affect project schedule, compensation is given at market rate for standing crops in consultation with revenue department and affected person based on assessment of actual damages. The process of tree/crop compensation is depicted in **Figure 1**. In the instant project also all possible measures are taken to avoid damages to crop/trees through taking up the construction activities during lean period or post-harvest season. As per the prevailing norms farming activity is allowed after the construction work is completed. However, compensation for the loss of crops/trees/any structure paid to Affected Persons (APs) for the area of damage to mitigate the impacts probably 3 times i.e. during foundation work, tower erection & stringing as per the prevailing situation. Details of line wise compensation paid for Tree & Crop damages till Dec' 18 are given below in **Table- 8.**

Figure 1: Tree/Crop Compensation Process

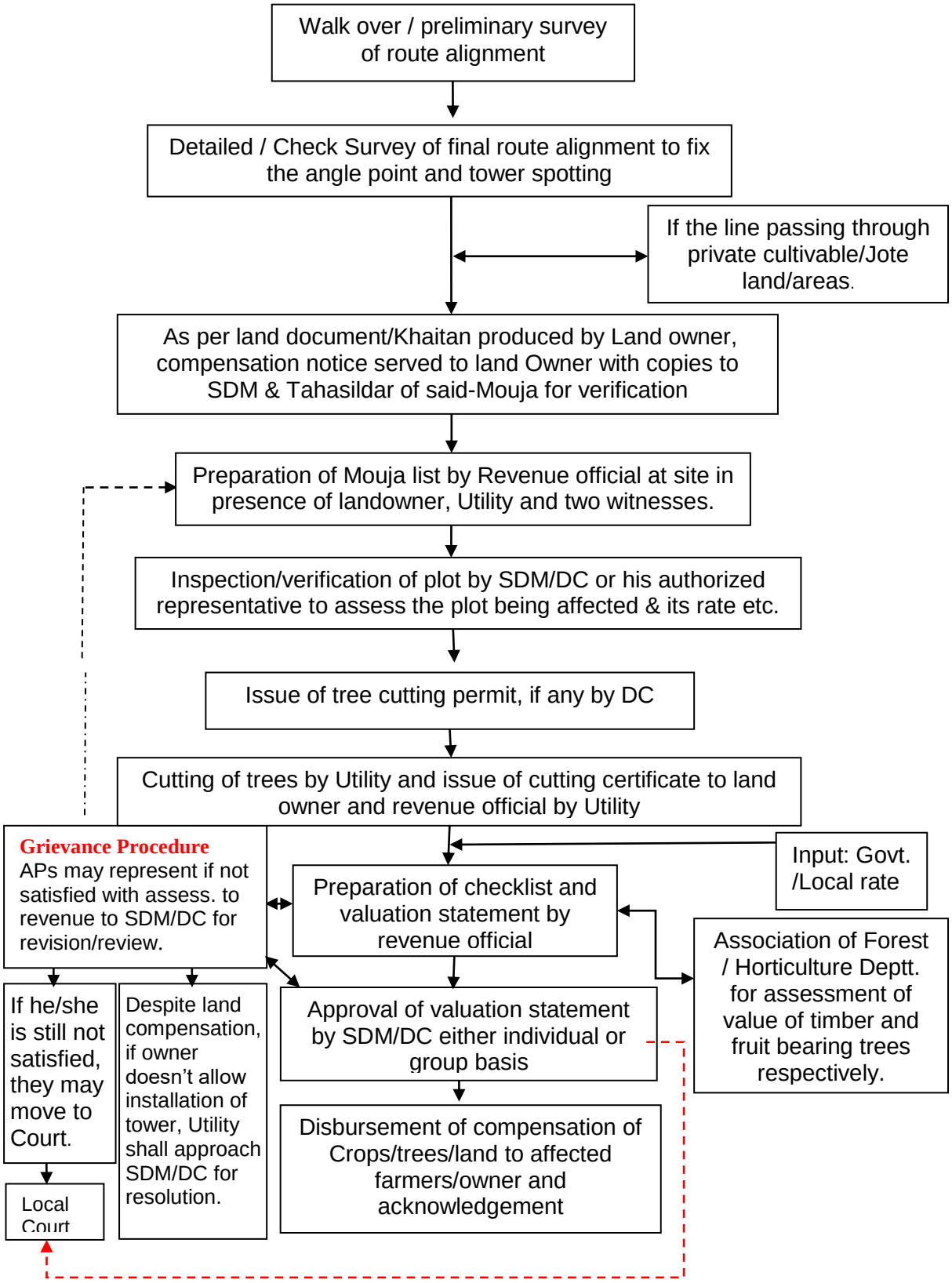


Table - 8: Details of Crop & Tree compensation

S. No.	Name of the Line	Nos. of Person issued notice	Affected Land Area (Ha.)	Nos. of Tree	Compensation Paid for crop damages(Rs. million)			Compensation Paid for Tree damages(Rs. million)		
					Fdn	Erection	Stringing	Fdn.	Erection	Stringing
A	**Assam**									
1	220 kV D/c Tinsukia-Behiating	20			0.862	Nil	NA	Nil	Nil	NA
2	132 kV S/c Dhemaji-Silapathar									
3	132 kV S/c Rupai-Chapakhowa	27			1.387	Nil	NA	Nil	Nil	NA
4	220 kV D/C Rangia-Amingaon									
5	132 kV D/c Amingaon-Hazo									
6	LILO 132 kV S/c Rangia-Rowta									
7	LILO 132kVS/c Kamalpur-S'gram									
8	LILO132kVS/c K'pur-Khamakhya									
9	LILO 132kVS/c Golaghat-Bokajan at S'pathar									
10	132 kV D/c Sonabil-Tezpur									
11	LILO 132 kV S/c Jorhat-Nazira									
	Sub-total (A)	47		Nil	2.250	Nil	NA	Nil	Nil	NA
B	**Manipur**									
12	Reno132kV Y'bam-Karong-Kohima	Civil work yet to be started. Detailed Survey under progress								
13	LILO132 kV S/c Y'bam -Karong									
14	LILO132kV D/c Kongba-Kakching									
15	Strg 132 kV D/c Yaingangpokpi – Kongba									
16	Strg.132kV Kakching-Kongba									
17	132 kV D/c Imphal – Nin'khong									
18	132 kV S/c Rengpang-Tamenglong									
	Sub-total (B)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
C	**Meghalaya**									
19	220kV D/c Byrnihat-Mgap- Shillong	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil	NA
20	LILO132kV MLHEP-Khliehriat at Mynkre	Nil	Nil	Nil	Nil	Nil	NA	Nil	Nil	NA
21	132 kV D/c Phulbari-Ampati	9			0.148	Nil	NA	Nil	Nil	NA
	Sub-total (C)	9		Nil	0.148	Nil	NA	Nil	Nil	NA

D	**Tripura**									
22	132 kV D/c Bagafa-Belonia									
23	132 kV D/c Belonia-Sabroom									
24	132 kV S/c Bagafa-Satchand									
25	132kV S'room-S'chand at S'room									
26	132kV S'room-S'chand at S'chand									
27	132 kV D/c Udaipur-Bagafa									
28	132 kV D/c Rabindranagar-Belonia									
29	132 kV D/c -Rabindranagar-Rokhia									
30	LILO 132kV S/c Sj'nagar-Rokhia at G'nagar									
31	LILO132kV Ambassa-PKBari at Manu									
32	132 kV D/c K'shahar-Dharmanagar									
33	LILO132kV 79Tilla-Dhalabil at M'pur									
34	132 kV D/c Udaipur-Amarpur									
35	132 kV Manu-Manu									
	Sub-total (D)									
E	**Mizoram**									
36	132kV S/c Lungsen-Chawngte	Civil work yet to be started. Detailed Survey under progress								
37	132kVS/c Chawngte-S.Bungtlang									
38	132kV S/C Lunglei-Lungsen									
39	132kV S/c West Phaileng-Marpara									
	Sub-total (E)									
F	**Nagaland**									
40	220 kV S/c N.Kohima-Wokha-M.chung	Civil work yet to be started. Detailed Survey under progress								
41	132 kV D/c Kohima-New Sec. Complex									
42	132 kV S/c Wokha-Zunheboto-M'chung									
43	132 kV S/c Tuensang-Longleng									
44	LILO132kV S/c M'chung-Mariani at Longnak									
45	LILO 132kVS/c Kohima-Workha at N Kohima									
46	LILO 132 kV D/c Kohima-Meluri at Pfutsero									
	Sub-total (F)									
Grand Total (A+B+C+D+E+F)		**56**			**2.398**	Nil	NA	Nil	Nil	NA

4.1.4 Land Compensation for RoW:

Ministry of Power (MoP), Govt of India issued guidelines for payment of compensation towards damages in regard to Right of Way for transmission lines on October 15, 2015, stipulating payment of 85% of land value for tower base area (between four legs) and compensation towards diminution of land value in the width of Right of Way (RoW) corridor subject to a maximum of 15% of land value. However, these guidelines are subject to adoption by state governments for its implementation in respective states.

Out of six participating states, till date only Assam and Manipur States have adopted the MoP guidelines with same compensation provisions on 10th March 2017 and 28th March 2018. Accordingly, land compensation @85% for tower base and 15% towards line corridor shall be paid for the sub projects located in the state of Assam and Manipur. However, in the balance States prevailing practice of 100% land cost for tower base shall only be implemented.

The process of land compensation begins with identification of land owners, verification of land records etc. However, actual process start only after fixation of land rates by the concerned DC/DM. Accordingly, payment of land compensation are made to the respective land owners to the extent of land area coming under tower/corridor as per the norms in addition to normal crop and tree damages. The status of land compensation paid till reporting period is given in **Table- 9**.

Table -9 : Status of Land Compensation

S. No.	Name of the Line	Compensation paid for			Compensation paid for Tower Base (Rs. million)	Compensation paid for RoW Corridor (Rs. million)	Remark, if any
		FDN. (Nos.)	ERE. (Nos.)	STRG. (km)			
Assam							
1	220 kV D/c Tinsukia-Behiating	20			0.507	Not yet started	
2	132 kV S/c Dhemaji-Silapathar						
3	132 kV S/c Rupai-Chapakhowa						
4	220 kV D/C Rangia-Amingaon						
5	132 kV D/c Amingaon-Hazo						
6	LILO 132 kV S/c Rangia-Rowta						
7	LILO 132kVS/c Kamalpur-S'gram						
8	LILO132kVS/c K'pur-Khamakhya						
9	LILO 132kVS/c Golaghat-Bokajan at S'pathar						
10	132 kV D/c Sonabil-Tezpur						
11	LILO 132 kV S/c Jorhat-Nazira						
	Sub Total (A)	**20**			**0.507**		
A. Manipur							
12	Reno132kV Y'bam-Karong-Kohima						Civil work yet to be started. Detailed Survey under progress
13	LILO132 kV S/c Y'bam -Karong						
14	LILO132kV D/c Kongba-Kakching						
15	Strn132 kV D/c Yaingangpokpi – Kongba						
16	Strg.132kV Kakching-Kongba						
17	132 kV D/c Imphal – Nin'khong						
18	132 kV S/c Rengpang-Tamenglong						
	Sub Total (B)						
B. Meghalaya							
19	220 kV D/c Byrnihat-Mgap-N. Shillong	41			9.278	Not Applicable as State Govt has not yet adopted MoP guidelines	
20	LILO132kV MLHEP-Khliehriat at Mynkre	10			0.774		
21	132 kV D/c Phulbari-Ampati	121			9.101		
	Sub Total (C)	**172**			**19.153**		

C. Tripura							
22	132 kV D/c Bagafa-Belonia					Not Applicable as Govt. of Tripura has not yet adopted the MoP Guidelines for implementation.	Detailed Survey completed. However, Civil work yet to be started.
23	132 kV D/c Belonia-Sabroom						
24	132 kV S/c Bagafa-Satchand						
25	132kV S/c S'room-S'chand at S'room						
26	132kV S/c S'room-S'chand at S'chand						
27	132 kV D/c Udaipur-Bagafa						
28	132 kV D/c Rabindranagar-Belonia						
29	132 kV D/c -Rabindranagar-Rokhia						
30	LILO 132kV S/c Sj'nagar-Rokhia at G'nagar						
31	LILO 132kV S/c Ambassa-P.K.Bari at Manu						
32	132 kV D/c Kailashahar-Dharamnagar						
33	LILO132kV 79Tilla-Dhalabil at Mohanpur						
34	132 kV D/c Udaipur-Amarpur						
35	132 kV Manu-Manu						
Sub Total (D)							
D. Mizoram							
36	132kV S/c Lungsen-Chawngte					Not Applicable as State Govt has not yet adopted MoP guidelines	Civil work yet to be started. Detailed Survey under progress
37	132kVS/c Chawngte-S.Bungtlang						
38	132kV S/C Lunglei-Lungsen						
39	132kV S/c West Phaileng-Marpara						
Sub Total (E)							
E. Nagaland							
40	220 kV S/c N. Kohima-Wokha-M.chung					Not Applicable as State Govt has not yet adopted MoP guidelines	Civil work yet to be started. Detailed Survey under progress
41	132 kV D/c Kohima- New Sec.Complex						
42	132 kV S/c Wokha-Zunheboto-M'chung						
43	132 kV S/c Tuensang-Longleng						
44	LILO 132 kV S/c M'chung-Mariani at Longnak						
45	LILO 132 kV S/c Kohima-Workha at N.Kohima						
46	LILO 132 kV D/c Kohima-Meluri at Pfutsero						
Sub Total (F)							
Grand Total(A+B+C+D+E+F)		**192**			**19.661**		

4.1.5 Grievance Redressal Mechanism (GRM)

Grievance Redress Mechanism (GRM) is an important mechanism for addressing/ resolving the concerns and grievances in a transparent and swift manner. Moreover, addressing grievances within stipulated timeframe has also been included as one of the important result indicator agreed under subject loan. Accordingly, Grievance Redress Committees (GRC) have been constituted both at the project/scheme level and at Corporate/HQ level for all Six participating States/Utilities (Copy of notification enclosed as Annexure-A). . The site/project level GRCs constituted include members from State Utilities, POWERGRID, Local Administration, Village Panchayat Members, Affected Persons representative and reputed persons from the society and representative from the autonomous districts council in case of tribal districts selected/decided on nomination basis under the chairmanship of project head. This GRC is aimed to provide a trusted way to voice and resolve environment & social concerns of the project, and to address the concerns of the affected person/community in a time bound manner without impacting project implementation.

The Corporate/HQ level GRC have been constituted and notified by all States and are headed by Director Projects/Technical of Utilities including one representative from corporate Environment Social Management Cell conversant with the environment & social issues.

Apart from above, grievance redressal is in built in crop/tree 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/ its authorized representative also provides forum for raising the grievance towards any irregularity/complain. Moreover, State Utility & POWERGRID officials also address to the complaints of affected farmers and the same are forwarded to revenue official for doing the needful, if required

It may also be noted that concerns of public are addressed regularly through public consultation process which started from project planning to construction and will be continued in operation and maintenance also. Besides, many concerns/grievances from affected persons/public both of verbal and written nature have been recorded by Site Offices which are also regularly tracked for early resolution. However, it has been observed that most of them were minor in nature and were resolved instantly and amicably by Site Officials after discussion & deliberation with affected person/ in consultation of revenue/district officials. Details of written & verbal complaints including court cases are presented below in **Table-10.**

Table - 10 : Details of Grievances/Complaints

SN	Name of the Subproject /State	Loc. No/ Village	Name of complainants	Date of complaints/ Court case	Main Issue of complaints	Status of complaint
A. Court Cases						
No Court Case has been registered so far against any subprojects under NERPSIP						

B. Written Complaints						
1.	LILO 132kV Rokhia-Surajmaninagar at Gokulnagar (Tripura)	AP-13 & 14	Villagers of Gokulnagar	05.06.18	Route diversion at location AP-13 & 14, infringing their land intended to be used for construction of houses by marginalized people	Resolved. Modification in route alignment avoiding such land has been achieved after due diligence to the satisfaction of complainants.
C. Verbal Complaints						
2.	132kV S/c West Phaileng-Marpara (Mizoram)	AP-168	Sh. Bosisto Moni	13.12.18	Compensation for crop/other damages during construction	Resolved. Compensation framework explained to complainant to his satisfaction
3	33/11 kV Botsa (Ext.) substation (Nagaland)	Village Botsa	Dr. Ropfu Dolie (PHC)	01.03.18	Regarding Road Block due to construction materials	Resolved. Within 3 hours to complainant satisfaction
4.	33/11 kV Sechu-Zubza substation (Nagaland)	Village Zubza	Nearest Church authorities	04.06.18	Power cut due to substation construction work	Resolved through discussion
5.	33/11 kV Chiephobozou substation (Nagaland)	Village Chiephobozou	Visakuolie Kiewhuo (Villager)	06.06.18	Demand for road	Though matter is not under purview of POWERGRID, discussion are being held to find an amicable solution
6.	33/11 kV Padampukhri substation (Nagaland)	Village Padampukhri	Nearby Residents	18.07.18	Unpleasant sound due to construction	Resolved. Noise reduction measures implemented & no further complaint received
7.	33/11 kV Botsa (Ext.) substation (Nagaland)	Village Botsa	Villagers	28.12.18	Fencing of the substation boundary	Discussion held with DoP & construction Agency to expedite the work

4.1.6 Details of Stakeholder Consultation

Public consultation/ information dissemination is a continuous process starting with the project conception and continues during project implementation and even during O&M stage. As stated in ESPPF, public consultation using different technique like Public Meeting, Small Group Meeting, informal Meeting are being carried out during different activities of project cycle. In the instant project, many consultations with stakeholders and utility were organized during development of State- Specific ESPPFs, environment assessment & preparation of IEAR and land securing process. Both formal and informal consultations meeting were organized which is also integral part of IEARs . During survey also Utilities & POWERGRID site officials meet people and inform them about the routing of transmission and distribution lines. Similarly, during the construction every individual, on whose land tower is erected and people affected by RoW, are being consulted. Further, in case of Autonomous District Council areas consultations are being held with the respective village councils for identification of the landowner and obtaining their consent for the RoW (refer **Plate- 8**) . Besides, as per agreed framework, gender issues have also been addressed to the extent possible during such consultation process. Sample photographs depicting safeguard consultation at different stages of project cycle is placed as **Plate-6**. The state-wise details of public participation including percentage of females participated in the safeguard consultation meetings till Dec'18 is presented in **Table-11**.

Table -11: Details of Public Consultation & Gender Participation

Consultation Period	Person Attended			State-wise Details
	Total	Male	Female	
Till June 16	1548	1160	388	Assam: 169 (22 female), Manipur: 273 (86 female), Tripura: 461(178 female), Meghalaya: 259 (28 female), Nagaland: 182(27 female) & Mizoram: 204 (47 female)
July- Dec' 16	390	299	91	Assam: 88 (12 female), Manipur : 68 (30 female), Tripura: 80 (25 female), Meghalaya: 50 (5 female), Nagaland: 52 (15 female) & Mizoram: 52 (4 female)
Jan'-Jun'17	203	143	60	Assam: 88(37 female), Manipur: 59 (8 female), Meghalaya: 7 (4 female) & Mizoram: 49 (11 female)
July- Dec' 17	376	275	101	Assam: 281 (61 female), Tripura : 77 (38 female) & Nagaland: 18 (2 female)
Jan-June' 18	226	154	72	Manipur: 152 (63 female), Nagaland: 74 (9 female)
July- Dec' 18	272	244	28	Tripura : 50 (11 female) Manipur: 27 (12 female), Nagaland: 195 (5 female)
Total	**3015**	**2275**	**740 = 24.54%**	

Plate 6: Stakeholders Consultation

Public Consultation during ESPPFs- Above - Hotel Imphal, Imphal, (Manipur) on 21st April 2015
Below- NEHU Complex, Shillong (Meghalaya) on 29th April 2015

Public Consultation during IEARs- Above – Bagafa, Tripura on 15st Sept' 2014
Middle – Phulbari (Meghalaya) on 10th Dec. 2014
Below : Phuldungsei, Mammit, Mizoram on 18th May 2017

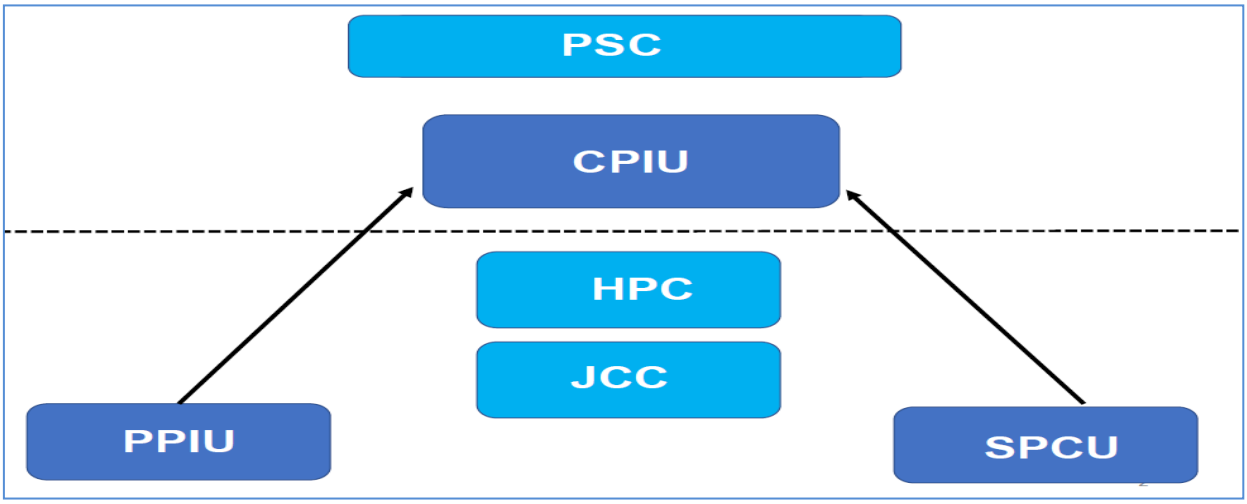
Consultation/Meeting with land owner during land securing for substation - 132kV Teok, Assam (Left) & 132/33kV Pfutsero Nagaland (Right)

Consultation during construction period
Above : At New Keithelmanbi and Napetpalli Village (Manipur)
Below : At f Teroguuvonou and Pongo Village (Nagaland)

Meeting with other Stakeholders
Above : Meeting with DC, Kohima, Nagaland (left) & DC East Jaintia Hills District (Meghalaya)
Below : Meeting with Village Headman of Mawkhar, Mawpynthih & Maweitnai (Megahalaya) & VDC Members Zadima (Nagaland)

SECTION-5: ANY OTHER ISSUES (MANAGEMENT & MONITORING

Environmental monitoring is a continuous process throughout the Project life cycle starting from site selection to construction and maintenance state. As Implementing Agency (IA) POWERGRID endeavours to implement the project in close coordination with the respective state power utilities and departments. POWERGRID has been implementing the project based on the Implementation/Participation agreements that were signed separately between POWERGRID and the Power utilities. However, the ownership of the assets shall be with respective State government or State Utilities, which upon progressive commissioning shall be handed over to them for taking care of Operation and Maintenance of assets. The arrangement for monitoring and reviewing of project from the perspective of environment and social management forms part of overall arrangements for project management and implementation environment. Following implementation arrangement has been proposed at different levels for smooth implementation of this project; Flow chart showing institutional arrangement for ESPP implementation & monitoring is placed below.



The Field In-Charge reviews the progress on daily basis and periodic review by higher management including review by Heads of SPCU and CPIU undertaken wherein apart from construction issues the environmental aspects of the projects are discussed and remedial measures taken wherever required. Besides, Periodic Contractor's Review Meeting (CRM) are being held by officials of PIU with Contractors at field offices, State Head Quarters (PIU location) and with CPIU at Guwahati for better co-ordination and resolution any pending issues. The World Bank mission team also visits various sites every six months to review the progress status including ground level implementation of safeguard measures. Any observation/agreed action plan suggested by the Bank in the Aide Memoire is religiously complied in time bound manner. Additionally, review meeting among MoP, GoI, The Bank, State Governments., Utility and IA being held periodically to maintain oversight at the top level and also to debottleneck issues that require intervention at GoI/ State Government level. Due to such strong institutional support structure coupled with monitoring mechanism in place, no major non-compliance were observed/reported during the implementation of projects till date

SECTION-6: CONCLUSION

As it is vivid from the preceding sections that though the project has been classified as Category “A” in view of rich bio-diversity of North Eastern states of the country, through concerted efforts right from project planning stage itself major and significant environmental impacts have been avoided. Through careful route selection Forest involvement in the project has been limited to 261.26 ha or approx. 97 km, (which is just 2.80 % of total line length of 3,452km of proposed TL/DL), including 0.55 Ha of protected area i.e. Trishna Wildlife Sanctuary. Moreover, with the condition of raising the compensatory afforestation on double the area and measures like extended tower to reduce tree felling will further mitigate the likely loss of vegetation. Similarly, with the implementation of measures suggested in Biodiversity Impact Assessment Study for the Wildlife Area involved, the impacts on Dampa Wildlife Sanctuary will be negligible. However, some environmental impacts are anticipated, mostly during construction period which are being mitigated successfully by implementing the EMP and site specific measures as discussed in the previous sections. POWERGRID approach of project implementation involving selection of optimum route before design stage, regular consultation with local population, obtaining all applicable regulatory clearances/permissions, proper implementation of EMP and monitoring mechanism throughout project life cycle supported by strong institutional arrangement has considerably nullified the adverse environmental impacts arising out of project activities.

Similarly it is worth mentioning that all efforts have been made to minimize the social impacts associated with the project. The endeavor to minimize the social impacts started right from the selection of land for the proposed substations. Out of total 254.529 acres of land required for the proposed 129 substations, 120.619 acres of land is encroachment free Government land having no Project Affected persons (PAPs) and was handover to POWERGRID by State Utilities without creating any adverse social issues. The balance 133.91 acres of private land required for 44 nos. of substations was secured either through donation or was purchased through willing buyer- willing seller basis on negotiated rate without invoking land acquisition act, thus, there are no Project Affected Persons even for this private land. However, total 69 persons willing sell their land measuring 133.91 acres of private land without any undue pressure. Further, steps like constitution of a well-defined Grievance Redress Mechanism (GRM), regular consultation with local population, members of ADC/VDC (wherever applicable) and obtaining the prior consent of Affected Persons before starting the work not only ensured smooth execution of the project but also greatly reduced social risks associated with the project and improved the image of the organization.

In view of aforesaid, it may be noted that all possible measures have already been taken not only towards mitigation of adverse environmental and social impacts leftover after exhausting the options of avoidance and minimization but also to safeguard the interest of PAPs. Moreover, the state governments are also being persuaded for enhancing the compensation as per MoP guidelines on RoW compensation. Besides, direct or indirect benefits of the subprojects like the employment opportunity, improved & uninterrupted power supply, improvement in infrastructure facilities, improved commercial/economic activities will not only ensure the overall development of the project area but will also outweigh any leftover negative impacts (though unlikely) of the project.

Appendix -1: Compliance of Environment Management Plan (EMP)

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
Pre-construction								
1	Location of overhead line towers/ poles/ underground distribution lines & alignment & 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 overhead /underground alignment selection with respect to nearest dwellings	Setback distances to nearest houses – once	Implementing Agency (IA)/ Survey Agency *(Sec-III. 3.6, 3.8 & 4.1 of Contract Agreement)*	Part of overhead lines tower/ poles/ laying of underground cable sitting survey and detailed alignment survey and design	Complied/Being Complied Route alignment criterion is part of survey contract wherein all statutory Electrical clearance as stipulated under CEA's regulations, 2010 (Measures related to safety & electric supply) is considered/ensured.
2	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	IA	Part of tender specifications for the equipment	Complied. As per technical specification of transformer, PCB is not used or non-detectable level (i.e. less than 2mg/kg) as per IEC 61619 or ASTM D4059
			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	IA	Part of tender specifications for the equipment	Complied. CFC free equipments are being procured.
					Phase out schedule to be prepared in case still in use – once		Part of equipment and process design	Not Applicable

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
3	Transmission /Distribution line design	Exposure to electro-magnetic interference	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	IA	Part of design parameters	Complied. Designed as per guidelines of ICNIRP and ACGIH and checked by CPRI & M/s PTI, USA
4	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	IA	Part of detailed siting survey and design	Complied. Transformers with maximum noise emitting level of 75 dB and DG set with proper enclosures is specified in tender specification/ design criteria
		Social inequities	Careful selection of site to avoid encroachment of socially, culturally and archaeological sensitive areas (i. g. sacred groves, graveyard, religious worship place, monuments etc.)	Selection of substation location (distance to sensitive area).	Consultation with local authorities/ autonomous councils -once		Part of detailed siting survey and design	Complied/Being Complied. Part of substation site finalization/route alignment criteria
5	Location of overhead line towers/poles/ laying of underground distribution line & alignment and design	Impact on water bodies	Avoidance of such water bodies to the extent possible. Avoidance of placement of tower inside water bodies to the extent of possible	Tower/pole location and overhead/ underground line alignment selection (distance to water bodies)	Consultation with local authorities– once	IA/ Survey Agency *(Sec-II. 2.2 i of Contract agreement)*	Part of tower/pole sitting survey and detailed underground /overhead line alignment survey and design	All due care taken during survey to avoid placing of tower/pole on water bodies. However, in spite of best efforts, placing of some towers (approx. 11 nos.) on rivers couldn't be avoided in case of 132kV Rupai-Chapakhowa and Rangia-Amingaon line due to locational constraints/wide river crossing span.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		Social inequities	Careful route selection to avoid existing settlements and sensitive locations	Tower/pole location and overhead/ underground line alignment selection (distance to nearest dwellings or social institutions)	Consultation with local authorities/ autonomous councils and land owners – once	IA/ Survey Agency *(Sec-II. 2.2 i of Contract agreement)*	Part of detailed tower/pole sitting and overhead/ underground alignment survey and design	All socially sensitive areas including habitated areas avoided for TLs (refer **Plate – 7**). However, distribution lines due to their functional mandate are bound to pass through habited areas.
			Minimise impact on agricultural land	Tower location and overhead/ underground line alignment selection (distance to agricultural land)	Consultation with local auth./ autonomous councils and land owners – once			Though major sections of proposed lines are routed through agricultural field in order to avoid impact on environmentally/socially sensitive areas, every efforts including consultation with local authorities/ autonomous councils and land owners (refer **Plate – 8**). undertaken to minimize impacts on agricultural land/produce to the extent possible.
			Careful selection of site and route alignment to avoid encroachment of socially, culturally and archaeological sensitive areas (i. g. sacred groves, graveyard, religious worship place, monuments etc.)	Tower/pole location and overhead/ underground line alignment selection (distance to sensitive area)	Consultation with local authorities/ autonomous councils -once			As explained in the precedinding section all such areas avoided during survey stage itself following the cardinal principle of ESPPF.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
6	Involuntary acquisition or permanent land acquisition for substation.	Social inequities	Compensation and R&R measures as per provision of RFCTLARRA,2013[4]	Compensation and monetary R&R measures implementation before possession.	As per provisions of Act.	State Govt.	Prior to award/start of substation construction.	No involuntary acquisition of land involved in instant case. Please refer **Table-7** for details securing of substations land.
7	Line through protected area/ precious ecological area	Loss of precious ecological values/ damage to precious species	Avoid siting into such areas by careful site and alignment selection (National Parks, Wildlife Sanctuary, Biosphere Reserves/ Biodiversity Hotspots)	Tower/pole location & overhead/ underground line alignment selection (distance to nearest designated eco protected / sensitive areas)	Consultation with local forest authorities - once	IA/ Survey Agency *(Sec-II. 2.4, 2.1 (i) of Contract agreement)*	Part of detailed siting and alignment survey /design	Through careful route selection involvement of forest/protected areas avoided to the maximum extent. However, given the magnitude of project and peculiarity of terrain, minimum involvement of forest/protected area couldn't be avoided as per details provided in **Table- 2.**
			Minimize the need by using existing RoW wherever possible	Tower/pole location and overhead/ underground line alignment selection	Consultation with local authorities and design engineers - once		Part of detailed sitting and alignment survey /design	During survey, every efforts made to utilize already available corridor wherever, possible.
8	Line through identified Elephant corridor / Migratory bird	Damage to the Wildlife/ Birds and also to line	Study of earmarked elephant corridors to avoid such corridors, Adequate ground clearance, Fault clearing by Circuit Breaker, Barbed wire wrapping on towers, reduced spans etc., if applicable	Tower/pole location and overhead/ underground line alignment selection. Minimum/ maximum ground clearance	Consultation with local forest authorities – once. Monitoring – quarterly basis	IA/ Survey Agency *(Sec-II. 2.4, 2.1 (i) of Contract agreement)*	Part of detailed sitting and alignment survey /design and Operation	Through careful route selection, all known Elephant corridors have been avoided completely in consultation with forest authorities.

[4] In the instant subproject no fresh land acquisition (permanent) is involved hence this clause shall not be applicable.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			Avoidance of established/ identified migration path (Birds & Bats). Provision of flight diverter/reflectors, Bird guard, elevated perches, insulating jumper loops, obstructive perch deterrents, raptor hoods etc.[5], if applicable	Tower/pole location and overhead/ underground line alignment selection	Consultation with local forest authorities - once		Part of detailed sitting and alignment survey /design and Operation	All such identified/ established birds migratory path have been avoided completely through adopting careful route selection technique.
9	Line through forestland	Deforestation and loss of biodiversity, edge effect	Avoid siting of line by careful site and alignment selection	Tower/pole location and overhead/ underground line alignment selection (distance to nearest protected or reserved forest)	Consultation with local authorities – once	IA/ Survey Agency *(Sec-II. 2.4, 2.1 (i) of Contract agreement)*	Part of detailed sitting and alignment survey/design	As explained above, proposed line routes of TL/DL have been finalised by taking consideration of minimum impact on forest area after consultation with forest authorities and/or village councils in case of private /community forest. Wherever applicable forest clearance under Forest (Conservation) Act, 1980 have been obtained/ are presently under various stages of approval process at State Govt/ RMoEFCC level (for details refer **Table-2**). As far as invasion of alien species is concern, it is noteworthy that actual damage/tree felling is minuscule and limited 3m
			Minimise the need by using existing towers, tall towers and RoW, wherever possible		Consultation with local authorities and design engineers – once			
			Measures to avoid invasion of alien species	Intrusion of invasive species	Consultation with local forest authorities - once			
			Obtain statutory clearances from the Government	Statutory approvals from Government	Compliance with regulations – once for each subproject			

[5] As per International/National best practices and in consultation with concerned forest/wildlife Authority

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			Consultation with autonomous councils wherever required	Permission/ NOC from autonomous councils	Consultation with autonomous councils – once during tower placement			strip below each conductor and not in whole RoW. Hence, chance of invasion of alien species is not envisaged. Moreover, afforestation scheme is prepared by forest authority taking local species into consideration which is also integral part of forest proposal. The afforestation activity in forest land is the sole responsibility of forest deptt and user agency has no role in selection of species /afforestation activity in forest except depositing compensatory cost levied by forest deptt. For details on forest clearance please visit: http://forestsclearance.nic.in/Online_Status.aspx
10	Lines through farmland	Loss of agricultural production/ change in cropping pattern	Use existing tower or footings wherever possible	Tower/pole location and overhead/ underground line alignment selection	Consultation with local authorities and design engineers – once	IA/ Survey Agency *(Sec-II. 2.4, 2.1 (i) of Contract agreement)*	Part of detailed alignment survey and design	While passing through agricultural land construction activities are scheduled mostly during lean period so that damage to standing crop is avoided. However, full compensation as per assessment of revenue authorities is paid to land owner/farmer in case of inevitable damages.
			Avoid sitting new towers on farmland wherever feasible	Tower/pole location and overhead/ underground line alignment selection	Consultation with local authorities and design engineers – once		Part of detailed sitting and alignment survey /design	

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
11	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	IA	Part of detailed equipment design	Most of the proposed substations are located away from habitated area. Moreover noise control measures already part of tender specification/ design criteria such as Transformers with maximum noise emitting level of 75 dB and DG set with proper enclosures.
12	Interference with drainage patterns/ Irrigation channels	Flooding hazards/ loss of agricultural production	Appropriate sitting of towers to avoid channel interference	Tower/pole location and overhead/ underground line alignment selection (distance to nearest flood zone)	Consultation with local authorities and design engineers – once	IA	Part of detailed alignment survey and design	The actual blockage of ground surface is limited to area covered by tower footing only and that also up to a maximum of 3m depth. Hence, chances of inference with drainage pattern/ irrigation channel are remote
13	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 to mention specifications – once	IA	Part of detailed equipment design /drawings	Complied. Part of detailed equipment deign/drawing. As per approved design provision of pit (capacity of 130% of transformer oil volume) below each transformer and a sump of capacity of 200% of oil volume of largest transformer is provided.
			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	IA	Part of detailed substation layout and design /drawings	Complied. Part of detailed substation layout and design/drawings

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
14	Equipments submerged under flood	Contamination of receptors	Substations constructed above the high flood level(HFL) by raising the foundation pad	Substation design to account for HFL (elevation with respect to HFL elevation)	Base height as per flood design- once	IA	Part of detailed substation layout and design /drawings	Complied. Part of detailed substation layout and design/drawings
15	Explosions /Fire	Hazards to life	Design of substations to include modern fire fighting equipment Provision of fire fighting equipment to be located close to transformers	Substation design compliance with fire prevention and control codes	Tender document to mention detailed specifications – once	IA	Part of detailed substation layout and design /drawings	Complied. Part of detailed substation layout and design/drawings.
Construction								
16	Equipment layout and installation	Noise and vibrations	Construction techniques and machinery selection seeking to minimize ground disturbance.	Construction techniques and machinery	Construction techniques & machinery creating minimal ground disturbance- once at the start of each construction phase	IA (Contractor through contract provisions) (Sec-IX. PC 22.4.3.5, 22.4.1 of *Contract agreement*)	Construction period	Complied/ Being Complied. Use of low noise producing equipments /machineries by construction contractor is ensured through compliance contract condition
17	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	IA (Contractor through contract provisions) (Sec-II. 2.5 of *Contract agreement*)	Construction period	As already explained, construction activities on farm/agricultural land are being undertaken mostly lean/post-harvest period so that damage to standing crop is avoided. However, full compensation as per assessment of revenue authorities is paid to land owner/farmer in case of inevitable damages.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
18	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	IA (Contractor through contract provisions) (Sec-IX.PC 22.4.3.6)	Construction period	Complied/ Being Complied. Proper maintenance of construction equipments by construction contractor is ensured through compliance of referred contract condition. Noise levels are being monitored in all active sites regularly and all readings are found to be well within permissible limits (**refer Plate-9**). Till date, only one complained received from resident near Padampukhri substation site for which necessary measures were undertaken and no further complaint received (refer **Table-10**).
		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	IA (Contractor through contract provisions)	Construction period	
19	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	IA (Contractor through contract provisions) (Sec-II. 2.8)	Construction period	Most of the sites are easily accessible and existing roads/paths are used for construction activities. However, at few sites, there was a need to strengthen existing paths/construction of approach road (refer **Table-4** for details**)** in order to carry heavy equipments/ machineries.
		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	IA (Contractor through contract provisions) (Sec-II. 2.8)	Construction period	

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
20	Construction activities	Safety of local villagers	Coordination with local communities for construction schedules, Barricading the construction area and spreading awareness among locals	Periodic and regular reporting /supervision of safety arrangement	No. of incidents- once every week	IA (Contractor through contract provisions) (Sec-II. 2.2 iv, vi, vii & viii)	Construction period	Being complied. All requisite safety arrangement ensured through regular monitoring and compliance of contract conditions (refer **Plate- 10**). No accidents reported so far.
		Local traffic obstruction	Coordination with local authority/ requisite permission for smooth flow of traffic	Traffic flow (Interruption of traffic)	Frequency (time span)- on daily basis	IA (Contractor through contract provisions)	Construction period	Most of the tower/pole locations are in farm/barren land. Hence, the problem of traffic obstruction is not witnessed. In case of road/ rail crossing due precaution and required permission (refer **Plate-11**) are being obtained prior to start of work. Till date only one complaint received in case of Bosta substation site which was promptly resolved.(refer **Table- 10**)
21	Temporary blockage of utilities	Overflows, reduced discharge	Measure in place to avoid dumping of fill materials in sensitive drainage area	Temporary fill placement (m^3)	Absence of fill in sensitive drainage areas – every 4 weeks	IA (Contractor through contract provisions) (Sec-II. 2.6)	Construction period	Most of the fill materials are being utilized either in own premises or being utilized for useful purpose with due consent of the local communities.
22	Site clearance	Vegetation	Marking of vegetation to be removed prior to clearance, and strict control on clearing activities to ensure minimal clearance. No use of herbicides and pesticides	Vegetation marking and clearance control (area in m^2)	Clearance strictly limited to target vegetation – every 2 weeks	IA (Contractor through contract provisions) (Sec-II. 2.2 ix, 2.5)	Construction period	Only controlled clearing of vegetation is being undertaken, if necessary and with the prior permission of competent authority

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
23	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 max. tree height at maturity, in meters)	Presence of target species in RoW following vegetation clearance – once per site	IA (Contractor through contract provisions)	Construction period	Regulated felling in RoW is being carried out with the permission of owner and revenue authorities keeping required electrical clearance as per applicable norms (CEA's regulations, 2010 (Measures related to safety & electric supply)
		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	IA (Contractor through contract provisions) (Sec-II. 2.2 ix, 2.5)	Construction period	Actual damage/tree felling is minuscule and limited 3m strip below each conductor and not in entire RoW. However, after stringing natural vegetation is allowed to regrowth in all these cleared strips except for one strip which is kept clear of vegetation for maintenance purpose In remaining RoW area, only pruning/ pollarding is done to maintain electrical clearance.
			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	IA (Contractor through contract provisions)	Construction period	All felled trees are handed over to concerned author/owner for disposal. IA/State Utilities have no role in storage or disposal of felled trees/wood
24	Wood/ vegetation harvesting	Loss of vegetation and	Construction workers prohibited from harvesting wood in the	Illegal wood /vegetation harvesting	Complaints by local people or other evidence	IA (Contractor through	Construction period	Compiled/Being complied. Regular monitoring is

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		deforestation	project area during their employment, (apart from locally employed staff continuing current legal activities)	(area in m^2, number of incidents reported)	of illegal harvesting – every 2 weeks	contract provisions) (Sec-II. 2.3)		undertaken to ensure compliance of applicable contract provisions by contractor.
25	Surplus earthwork/ soil	Runoff to cause water pollution, solid waste disposal	Soil excavated from tower footings/ substation foundation 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	IA (Contractor through contract provisions) (Sec-II, 2.6)	Construction period	Complied/Being Complied. Approx. 90-95% of excavated soil is used for refilling/ resurfacing and rest is being disposed off along with other debris at designated location as already explained in clause no 21.
26	Substation construction	Loss of soil	Loss of soil is not a major issue as excavated soil will be mostly reused for filling. However, in case of requirement of excess soil the same will be met from existing quarry or through deep excavation of existing pond or other nearby barren land with agreement of local communities	Borrow area sitting (area of site in m^2 and estimated volume in m^3)	Acceptable soil borrow areas that provide a benefit - every 2 weeks	IA (Contractor through contract provisions) (Sec-II, 2.9)	Construction period	Excess soil is not required in most of the proposed substations as excavated soil is normally sufficient for levelling and refilling work. For few substations where excess soil is required, the same has been managed from existing approved/ registered borrow/ quarry or private land/pond after taking due permission/ consent (refer **Plate -12**).
		Water pollution	Construction activities involving significant ground disturbance (i.e. substation land forming) not undertaken during the monsoon season	Seasonal start &finish of major earthworks (P^H ,BOD/ COD, Suspended	Timing of major disturbance activities – prior to start of construction activities	IA (Contractor through contract provisions)	Construction period	Complied/Being complied. No construction activities undertaken during monsoon period.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
				solids, others)				
27	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 2 weeks	IA (Contractor through contract provisions) (Sec-VII, 9.3, 10.3)	Construction period	Complied/Being Complied. Already explained at clause no. 23.
				Statutory approvals	Statutory approvals for tree clearances – once for each site			
28	Substation foundation/ Tower erection disposal of surplus earthwork/fill	Waste disposal	Excess fill from substation/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	IA (Contractor through contract provisions) (Sec-II, 2.6)	Construction period	Complied/Being Complied. Already explained at clause no. 21.
29	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	IA (Contractor through contract provisions) (Sec-IX, PC 22.4.3.3)	Construction period	Complied/Being Complied. Regular monitoring is undertaken to ensure that such materials are stored securely at designated places only along with sufficient containment as part of compliance of applicable contract provisions by the contractor.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
30	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	IA (Contractor through contract provisions) (Sec-IX, PC 22.4.1)	Construction period	Complied/Being Complied. Construction activities are restricted to day time only. Further, regular monitoring is undertaken to ensure compliance of applicable contract provisions by contractor. Noise level measured in various constructions sites were found to be well with in permissible standard. (refer **Plate - 9**)
31	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	IA (Contractor through contract provisions) (Sec-VIII, 22.2.1, 22.2.6, 22.2.11)	Construction period	Complied/Being Complied. Regular monitoring is undertaken to ensure compliance of applicable contract provisions by contractor. Refer Section 3.1.4 and Plate -4 for details on worker facilities in different work sites.
32	Influx of migratory workers	Conflict with local population to share local resources	Using local workers for appropriate asks	Avoidance/reduction of conflict through enhancement/ augmentation of resource requirements	Observation & supervision– on weekly basis	IA (Contractor through contract provisions) {Sec-II, 2.2(iii)}	Construction period	Complied/Being Complied. Local workforces are being engaged by construction contractor based on skill in compliance to contract provisions. No incidents of conflict reported so far.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
33	Lines through farmland	Loss of agricultural productivity	Use existing access roads wherever possible	Usage of existing utilities	Complaints received by local people /authorities - every 4 weeks	IA (Contractor through contract provisions) {Sec-II, 2.8 & Sec. IX, PC 22.4.2, (ii)}	Construction period	Complied/Being complied. Implementation of all proposed mitigation measures is being ensured including preservation of topsoil resulting in receipt of no compliants so far.
			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	Land owners/ Farmers compensated for any temporary loss of productive land as per existing regulation.	Process of Crop/tree compensation in consultation with forest dept.(for timber yielding tree) and Horticulture deptt.(for fruit bearing tree)	Consultation with affected land owner prior to implementation and during execution.	IA	During construction	In case of unavoidable tree and crop damages, full compensation as per assessment done by revenue /forest authorities is paid to affected land owners/farmers. Accordingly, Rs. 2.398 million has been paid to 56 affected person so far. Besides, an amount of Rs 19.661 million has been paid to 192 affected persons towards diminishing land value as per the MoP guidelines dated 15th Oct '15. (for details of compensation paid refer **Table- 8 & Table-9**)
34	Uncontrolled erosion/silt runoff	Soil loss, downstream siltation	Need for access tracks minimised, use of existing roads.	Design basis and construction	Incorporating good design and	IA (Contractor through	Construction period	Complied/Being complied. Wherever needed appropriate

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			Limit site clearing to work areas	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])	construction management practices – once for each site	contract provisions) (Sec-II, 2.7)		slope protection measures such as RRM Wall, Retaining Wall, Revetment, Stone Pitching along with bio-engineering measures undertaken/being undertaken as per site requirements (for details of such measures refer **Table- 2 & Plate-4**) . Further as explained in clause no 19 & 22, adequate prudence has been practiced in site clearance and use of existing road/path.
			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.					
35	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	IA (Contractor through contract provisions) {Sec-II, 2.8 & Sec. IX, PC 22.4.2, (ii)}	Construction period	Complied/Being complied. All such measures have been implemented as already explained at Clause no 17, 18, 19, 30 & 33.
			As much as possible existing access ways will be used	Design basis and layout	Incorporating good design engineering practices–			
			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			

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
		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	IA	Prior to construction	Already explained at clause no.33. All applicable compensation to all eligible PAPs are being paid in consultation with revenue authority and affected persons.
36	Flooding hazards due to construction impediments of natural drainage	Flooding and loss of soils, contamination of receptors (land, water)	Avoid natural drainage pattern/ facilities being disturbed/blocked/ diverted by on-going construction activities	Contract clauses (e.g. suspended solids and BOD/COD in receiving water)	Incorporating good construction management practices-once for each site	IA (Contractor through contract provisions) (Sec-II, 2.7)	Construction period	Good construction management practices are being employed at sites to avoid blockage of natural drainage and resultant flooding.
37	Equipment submerged under flood	Contamination of receptors (land, water)	Equipment stored at secure place above the high flood level(HFL)	Store room level to be above HFL (elevation difference in meters)	Store room level as per flood design-once	IA (Sec-II, 1.11)	Construction period	Complied. All equipment foundations are designed above in accordance with approved substation design/layout.
38	Inadequate siting of borrow areas (quarry 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	IA (Contractor through contract provisions) (Sec-II, 2.9)	Construction period	Complied/Being complied. Already explained at clause no. 26.
39	Health and safety	Injury and sickness of workers and members of the public	Safety equipment's (PPEs) for construction workers Contract provisions specifying minimum requirements for construction camps	Contract clauses (number of incidents and total lost-work days caused by injuries	Contract clauses compliance – once every quarter	IA (Contractor through contract provisions) (Sec-II, 2.2 v, vii, viii & Sec-	Construction period	Complied/Being Complied with project specific safety plan and general conditions of contract which covers all applicable regulations. No major or minor accident reported till Dec'18. Details

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			Contractor to prepare and implement a health and safety plan.	and sickness)		IX, PC 22.4.3.8, PC 22.4.3.24 and Safety Rules of PC 22.4.3.21)		on Health and Safety aspect provided in **Section 3.1.4**.
			Contractor to arrange for health and safety training sessions					
40	Inadequate construction stage monitoring	Likely to maximise damages	Training of environmental monitoring personnel	Training schedules	Number of programs attended by each person – once a year	IA	Routinely throughout construction period	All employees engaged in project execution including designated Environment Officers have been adequately trained. (refer **Section 3.1.5**).
			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 clause incorporated in contract provisions for EMP implementation. Site manager monitor and review the implementation of EMP on daily basis. Further, each state covered under the projects has been provide with a dedicated designated Environment Officers for proper monitoring and implementation of safeguards measures. Necessary arrangement being made to fill the posts that have fallen vacant in two states i.e. Meghalaya & Manipur.

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			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			In order to comply with such provisions and further improvement, site inspections /audits are being carried out periodically and memo/ observation/notice are issued to respective contractor for necessary compliance (refer **Section-3.1.6 &Appendix-2**.)
Operation and Maintenance								
41	Location of line towers/poles and overhead/ underground line alignment & 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	State Utility	During operations	Not applicable currently. Will be complied during O & M stage
42	Line through identified bird flyways, migratory path	Injury/ mortality to birds, bats etc due to collision and electrocution	Avoidance of established/ identified migration path (Birds & Bats). Provision of flight diverter/reflectors, elevated perches, insulating jumper loops, obstructive perch deterrents, raptor hoods etc., if applicable	Regular monitoring for any incident of injury/ mortality	No. of incidents- once every month	State Utility	Part of detailed siting and alignment survey /design and Operation	- do-
43	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	State Utility	During operations	- do-

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
44	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)	Bunding (Oil sump) capacity and permeability - once	State Utility	During operations	- do-
45	SF6 management	Emission of most potent GHG causing climate change	Reduction of SF6 emission through awareness, replacement of old seals, proper handling & storage by controlled inventory and use, enhance recovery and applying new technologies to reduce leakage	Leakage and gas density/level	Continuous monitoring	State Utility	During Operations	- do-
46	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	State Utility	Design and operation	- do-
			Safety awareness raising for staff.	Training/awareness programs and mock drills	Number of programs and percent of staff /workers covered – once each year			- do-
			Preparation of fire emergency action plan and training given to staff on implementing emergency action plan					- do-

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			Provide adequate sanitation and water supply facilities	Provision of facilities	Complaints received from staff /workers			- do-
47	Electric Shock Hazards	Injury/ mortality to staff and public	Careful design using appropriate technologies to minimise hazards	Usage of appropriate technologies (no. of injury incidents, lost work days)	Preparedness level for using these technology in crisis – once a month	State Utility	Design and Operation	- do-
			Security fences around substations	Maintenance of fences	Report on maintenance – every 2 weeks			- do-
			Barriers to prevent climbing on/	Maintenance of barriers				- do-
			Appropriate warning signs on facilities	Maintenance of warning				- do-
			Electricity safety awareness raising in project areas	Training /awareness programs and mock drills for all concerned parties	Number of programs and per cent of total persons covered –once each year			- do-
48	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/distribution line maintenance crews.	Training/awareness programs and mock drills for all relevant staff	Number of programs and per cent of staff covered – once each year	State Utility	Operation	- do-
			Preparation and training in the use of O&M manuals and standard operating practices					
49	Inadequate periodic environmental monitoring.	Diminished ecological and social values.	Staff to receive training in environmental monitoring of project	Training/awareness programs and mock drills for all relevant	Number of programs and per cent of staff covered –	State Utility	Operation	- do-

Cla. No.	Project activity/stage	Potential impact	Proposed mitigation measures	Parameter to be monitored	Measurement & frequency	Institutional responsibility	Implementation schedule	Compliance Status
			operations and maintenance activities.	staff	once each year			
50	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	State Utility	Operations	- do-
51	Transmission / distribution line maintenance	Exposure to electromagnetic interference	Transmission/ distribution line design to comply with the limits of electromagnetic interference from overhead power lines	Required ground clearance (meters)	Ground clearance - once	State Utility	Operations	- do-
52	Uncontrolled growth of vegetation	Fire hazard due to growth of tree/shrub /bamboo along RoW	Periodic pruning of vegetation to maintain requisite electrical clearance. No use of herbicides/pesticides	Requisite clearance (meters)	Assessment in consultation with forest authorities - once a year(pre-monsoon/post-monsoon	State Utility	Operations	- do-
53	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	State Utility	Operations	- do-

Appendix-2 : Sample copy of such notice/memo issued and compliance submitted by the respective contractor/ subcontractor

पावर ग्रिड कारपोरेशन आंफ इंडिया लिमिटेड
(भारत सरकार का उध्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)
पावरग्रिड
Dongtieh, Lower Nongrah, Lapalng, (Shillong)-793006
Phone: (0364) 2536178, Fax: (0364) 2536397, Email: nerts_os@yahoo.in
उत्तर-पूर्वी क्षेत्रीय मुख्यालय: प्रचालन सेवा; NERTS RHQ: Operation Services

REF: NESH/Safety/Audit/113/2017/

Date. 28.10.2017

To,

The Project in-charge
M/s Sterling & Wilson (P) Ltd.
220kV POWERGRID Sub-station, Dimapur,
Nagaland.

Sub: Safety Check / Audit.

Dear Sir,

Under signed has visited various construction sites of NERPSIP projects under your jurisdiction on 26th to 27th Oct'2017 at Dimapur & Kohima. The Safety check / Audit has been carried out along with your Safety officer / site Engineers. During the Safety Check / Audit, some lapses pertaining to safety related aspects have been observed. The observations are enclosed at Annex-I.

You are requested to look in to the matter seriously and comply the observations immediately. Failing of which, action shall be taken as per terms and condition of contract. The compliance report shall be submitted to the Regional Safety, Shillong through concern site in-charge /site engineer of POWERGRID. Further, it is requested to ensure the implementation of proper safety measures at working site to avoid any untoward incidence.

Thanking you,

Enclos: As above

31/10/17
(Pulakesh Roy)
Regional Safety officer, Shillong.

Copy to:

1. GM (NERPSIP), Guwahati – For kind information
2. DGM, NERPSIP, Kohima
3. CM, NERPSIP, Dimapur / Kohima

पंजीकृत कार्यालय: बी- 19, कुतुब इन्स्टीटयूशनल एरिया, कटवरिया सराय, नई दिल्ली- 110016, इपीबीएक्स- 6560121, फैक्स- 011-6560039, ग्राम- 'नेटग्रिड'
Registered Office: B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi- 110016, EPBAX: 6560121, Fax: 011-6560039 Gram: 'NATGRID'

ANNEX-I

The Location wise observations:

33/ 11kV Sub-station Construction at Padampukri, Dimapur:

1. During audit it has been observed that Dust Musk is not provided to the workers and also not available at store / working site. Dust Musk shall be provided to all the workers who are involved in cement handling and working near mixture m/c.
2. Pep talk / Tool Box talk record is not available at site. Pep talk / Tool Box talk record shall be maintained at site.
3. Sufficient quantity of PPEs, caution tape etc. shall be stored at working site and its use shall be ensured.
4. During audit it has been observed that Dust Musk is not provided to the workers and also not available at store / working site. Dust Musk shall be provided to all the workers who are involved in cement handling and working near mixture m/c.
5. Emergency contact numbers are not displayed at site. Required to be displayed at working site.
6. Medical health checkup of all the workers to be done and proper record shall be maintained.
7. Prior to engage fitters for work at height, medical health checkup of the fitters shall be ensured & height pass shall be issued to the fitters.
8. Safety posters / warning shall be displayed at prominent locations of the working site.
9. First aid materials available in the first aid box are not sufficient. Required to be procured.
10. Drinking water facility for the workers shall be provided at site / labour camp.
11. Dust bin shall be provided at site / near labour camp

33 / 11kV Zubza Sub-station Construction at Kohima:

1. During audit it has been observed that PPEs like Dust Musk, Hand Gloves etc. are not provided to the workers. The PPEs shall be made available at site immediately. Further, the use of the same by the workers at site must be ensured.
2. Labour camp, proper sanitation, drinking water facility etc. shall be provided immediately at working site.
3. Pep talk / Tool Box talk record is not available at site. Pep talk / Tool Box talk record shall be maintained at site
4. Safety posters / warning shall be displayed at prominent locations of the working site.
5. Medical health checkup of all the workers to be done and proper record shall be maintained.
6. Prior to engage fitters for work at height, medical health checkup of the fitters shall be ensured & height pass shall be issued to the fitters.

33 / 11kV Chiephobozou Sub-station Construction at Kohima:

1. During audit it has been observed that PPEs like safety shoes, Dust Musk, Hand Gloves etc. are not provided to the workers. The PPEs shall be made available at site immediately. Further, the use of the same by the workers at site must be ensured.
2. Pep talk / Tool Box talk record is not available at site. Pep talk / Tool Box talk record shall be maintained at site
3. Safety posters / warning shall be displayed at prominent locations of the working site.

Contd. P/2

4. Medical health checkup of all the workers to be done and proper record shall be maintained.
5. Prior to engage fitters for work at height, medical health checkup of the fitters shall be ensured & height pass shall be issued to the fitters.
6. Emergency contact numbers are not displayed at site. Required to be displayed at working site.
7. First aid materials available in the first aid box are not sufficient. Required to be procured.
8. Working site shall be barricaded properly with caution tape.

STERLING AND WILSON PRIVATE LIMITED

ELECTRO MECHANICAL ENGINEERS
ASSOCIATES OF :
SHAPOORJI PALLONJI & CO. PVT. LTD.

STERLING AND WILSON PRIVATE LIMITED
Bandish, IT Building, 31 G N Block, 3rd Floor
Sector - V, Salt Lake City, Kolkata - 700 091
Tele Fax : 033-3011 8249 / 3011 8200
Ph : 033-3011 8100

HEAD OFFICE
Sterling & Wilson Pvt. Ltd.
Associates of : Shapoorji Pallonji & Co. Pvt. Ltd.
9th Floor, Universal Majestic, P. L.
Lokhande Marg, Chembur (West)
Mumbai - 400 043
Tel : 022 2548 5300 ● Fax : 022 2548 5231
Web : www.sterlingandwilson.com

Our Ref.: S&W/NAG-PGCIL/DMS-03/SITE- 130 Date :- 06.10.2018

TO,
The D.G.M (NERPSIP)
Power Gird Corporation of India Ltd.
Kohima, Nagaland.

NOA No. CC-CS/92-NER/REW-3070/1/G7/NOA-I/7008 Dtd-22/09/16
Sub: Submission of Compliance report of safety audit under DMS-03, Nagaland Project

Ref. :- NESH/Safety/Audit/113/2017

Dear Sir,

With reference to the above, please find the attachment of Compliance report Of Safety audit for the site Zubza and Chiephobozou, DMS-03, Nagaland Project.

This is for your kind information.

Thanking you
Yours faithfully,
For sterling and Wilson Pvt. Ltd

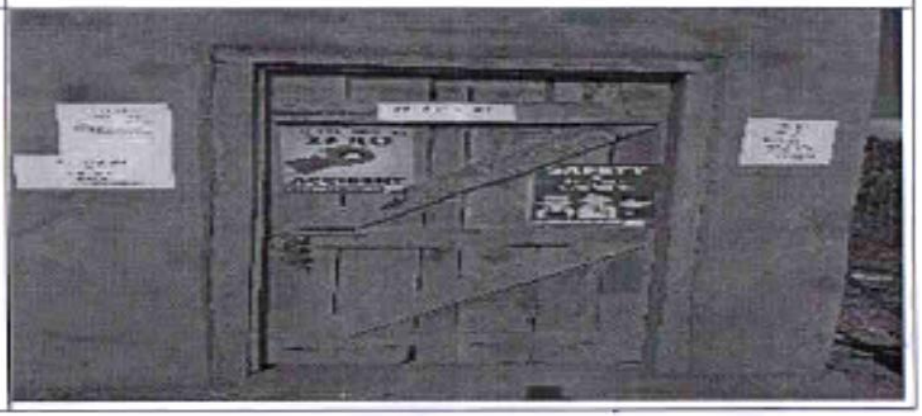
(ANANT KUMAR)
SAFETY OFFICER

SAFETY COMPLIANCE REPORT

SITE :- ZUBZA(LALMATI)

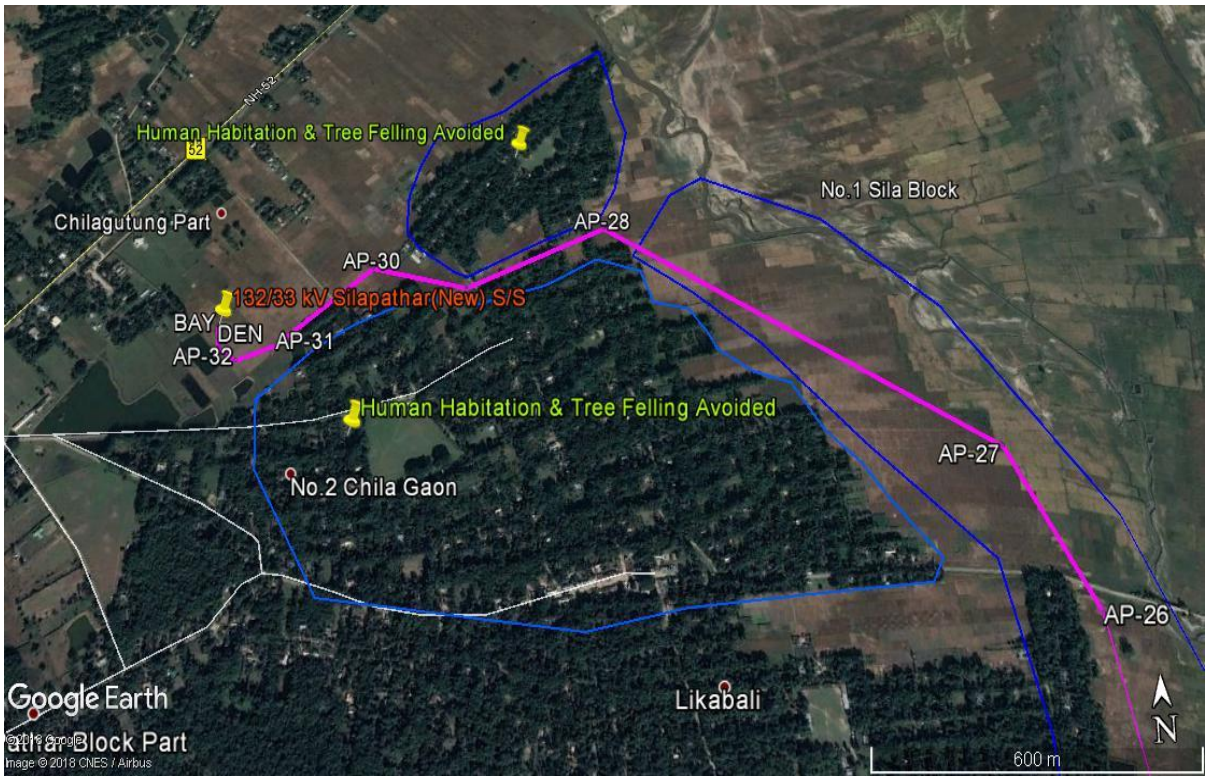
SR. NO.	OBSERVATIONS	CORRECTIVE ACTION	STATUS	PHOTO	PHOTO	PHOTO
1	During audit it has been observed that PPE,s like dust mask,hand gloves etc. are not provided to the worker.	All required PPE,s has been provided to all workers.	Close			
2	Labour camp,proper sanitation,drinking water facility etc. shall be provided immediately at working site.	All lackness is fulfilled in working site which is related with labour welfare.	Close			 
3	Pep talk ,Tool Box Talk record is not available at site.	Now,everytime TBT record, daily observation file is available at site.	Close			

SR. NO	OBSERVATIONS	CORRECTIVE ACTION	STATUS	PHOTO	PHOTO	PHOTO
4	Safety posters/warning shall be displayed at prominent locations of the working site.	Safety posters and banners of warning and safety slogan is displayed at site.	Close			
5	Medical health checkup of the all workers to be done and proper record shall be maintained.	Medical health checkup of the all workers is done with medical fitness certificate and proper record is maintained.	Close			
6	Prior to engage fitters for work at height,medical health checkup of the fitters shall be ensured and height Pass shall be issued for the fitters.	We ensure that medical health checkup of all workers including fitters and availability of height Pass for fitters will be done prior to start the height work.	Prior to start the work, Required issue shall be closed			

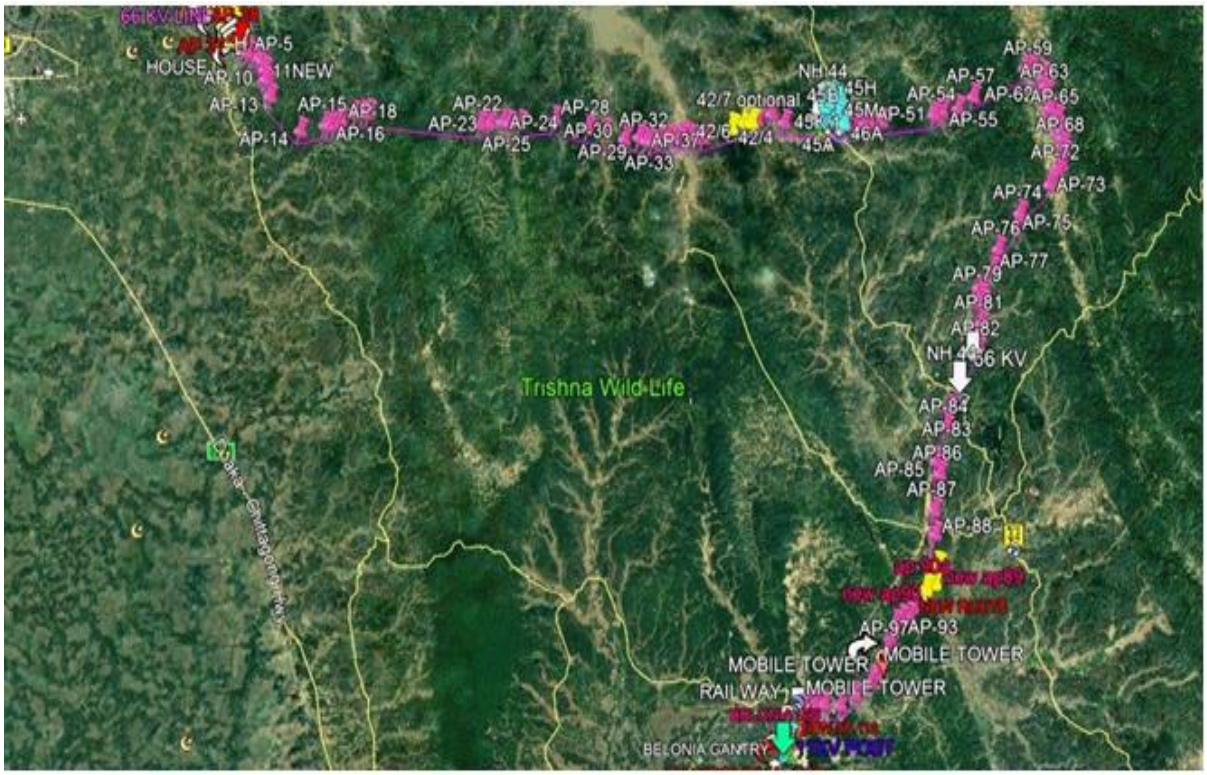
SITE :- CHIEPHOBOZOU				
SR. NO.	OBSERVATIONS	CORRECTIVE ACTION	STATUS	PHOTO
1	During audit it has been observed that PPE,s like safety shoe,dust mask hand gloves etc. are not provided to the workers.	All required PPE,s has been provided to all workers.	Close	
2	Pep talk ,Tool Box Talk record is not available at site.	Now,everytime TBT record, daily observation file is available at site.	Close	
3	Safety posters/warning shall be displayed at prominent locations of the working site.	Safety posters and banners of warning and safety slogan is displayed at site.	Close	

SR. NO.	OBSERVATIONS	CORRECTIVE ACTION	STATUS	PHOTO
4	Medical health checkup of the all workers to be done and proper record shall be maintained.	Medical health checkup of the all workers is done with medical fitness certificate and proper record is maintained.	Close	
5	Prior to engage fitters for work at height,medical health checkup of the fitters shall be ensured and height Pass shall be issued for the fitters.	We ensure that medical health checkup of all workers including fitters and availability of height Pass for fitters will be done prior to start the height work.	Prior to start the work, Required issue shall be closed	
6	Emergency Contact numbers are not displayed at site.	Emergency Contact numbers are displayed near emergency assembling point at site.	Close	
7	First Aid materials available in the first Aid Box is not sufficient.	Sufficient First Aid materials(required medicines,cotton,bandage etc.) is availed in the First Aid Box.	Close	
8	Working site shall be barricaded properly with caution tape.	All dangerous places are barricaded in site as a routine work.	Close	

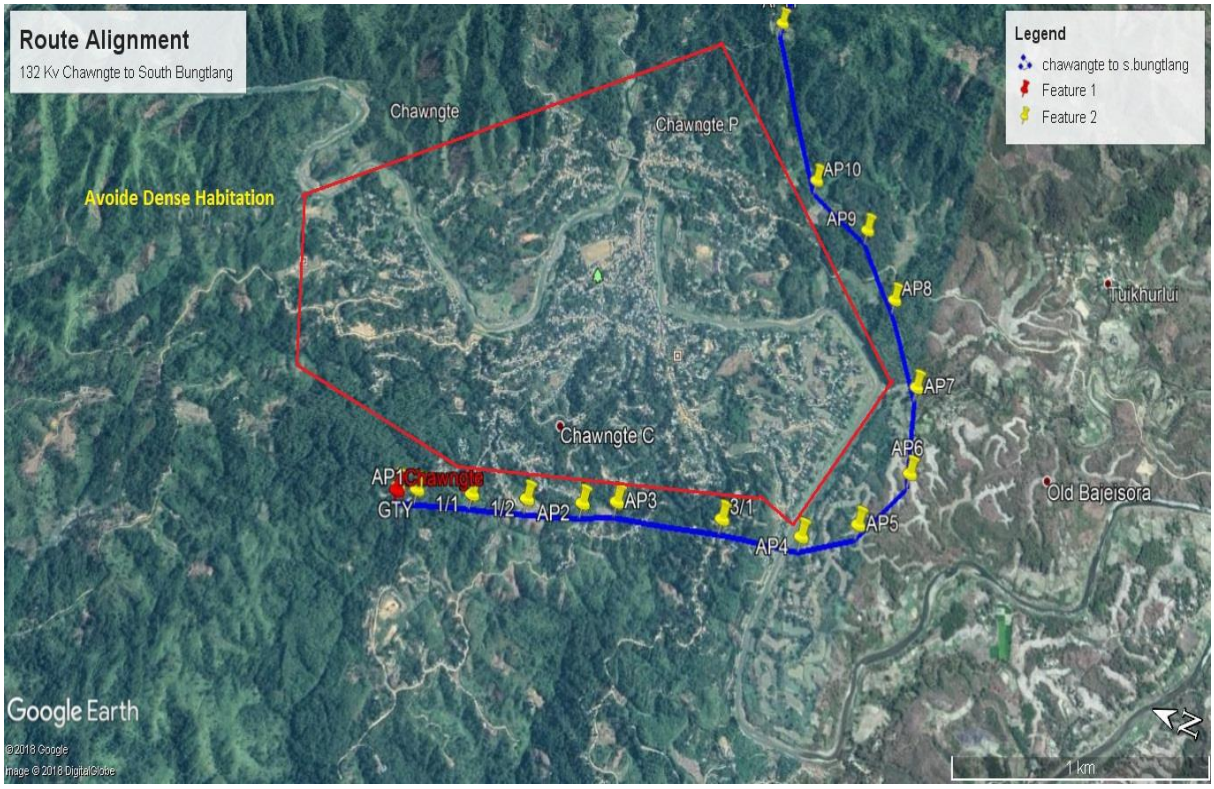
Plate 7: Avoidance of Environmentally and Socially Sensitive Areas



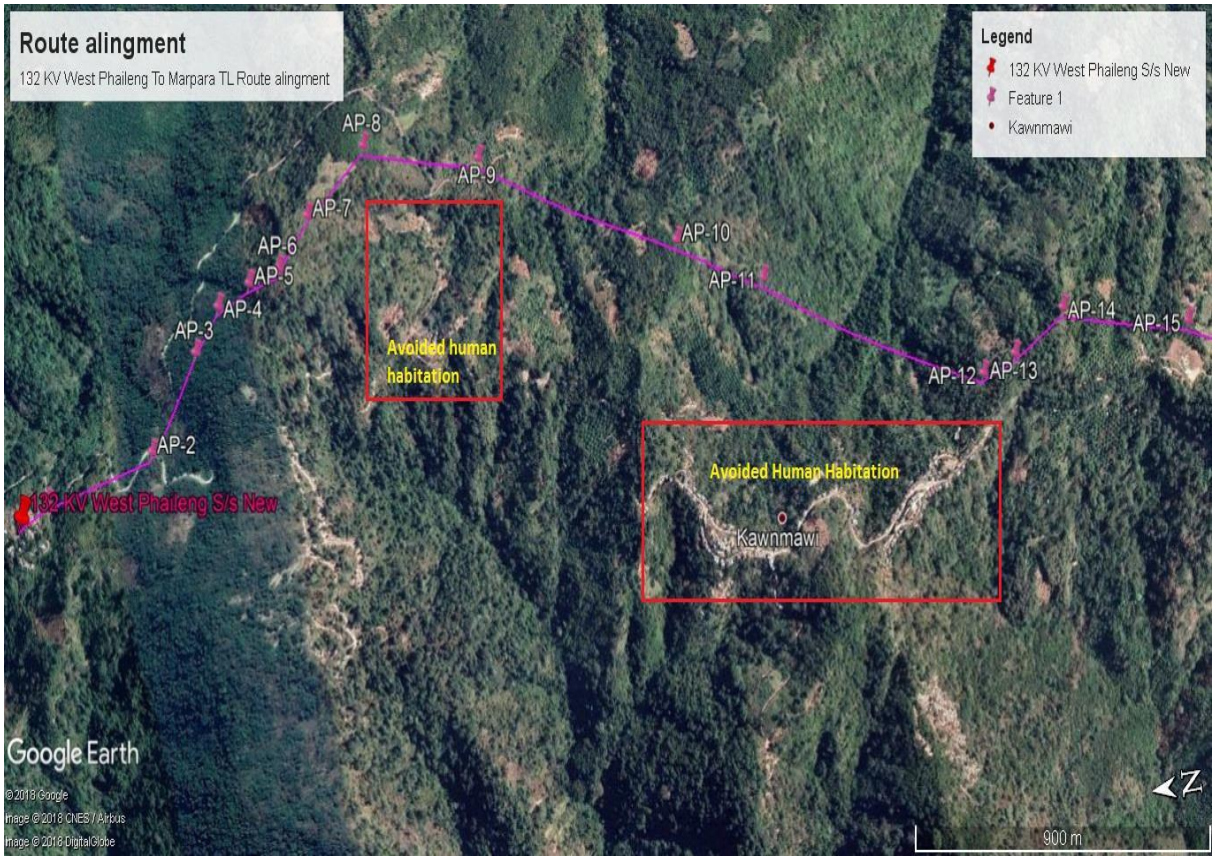
Avoidance of Human Habitation & Tree Felling in Dhemaji-Silapather 132kV line in Assam



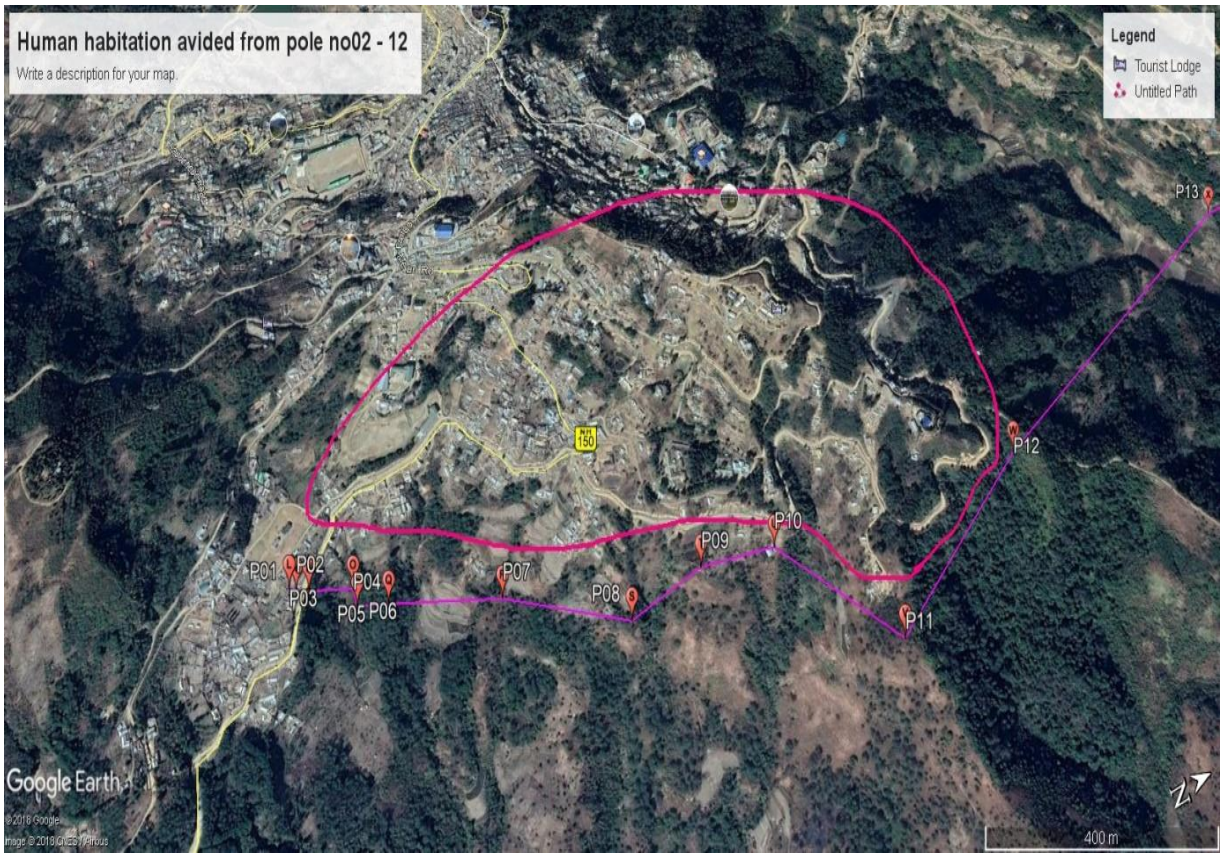
Complete Avoidance of Trishna Wildlife Sanctuary by adopting even more circuitous route (AP-14 to AP-109)for Rabindranagar- Belonia 132kV line in Tripura



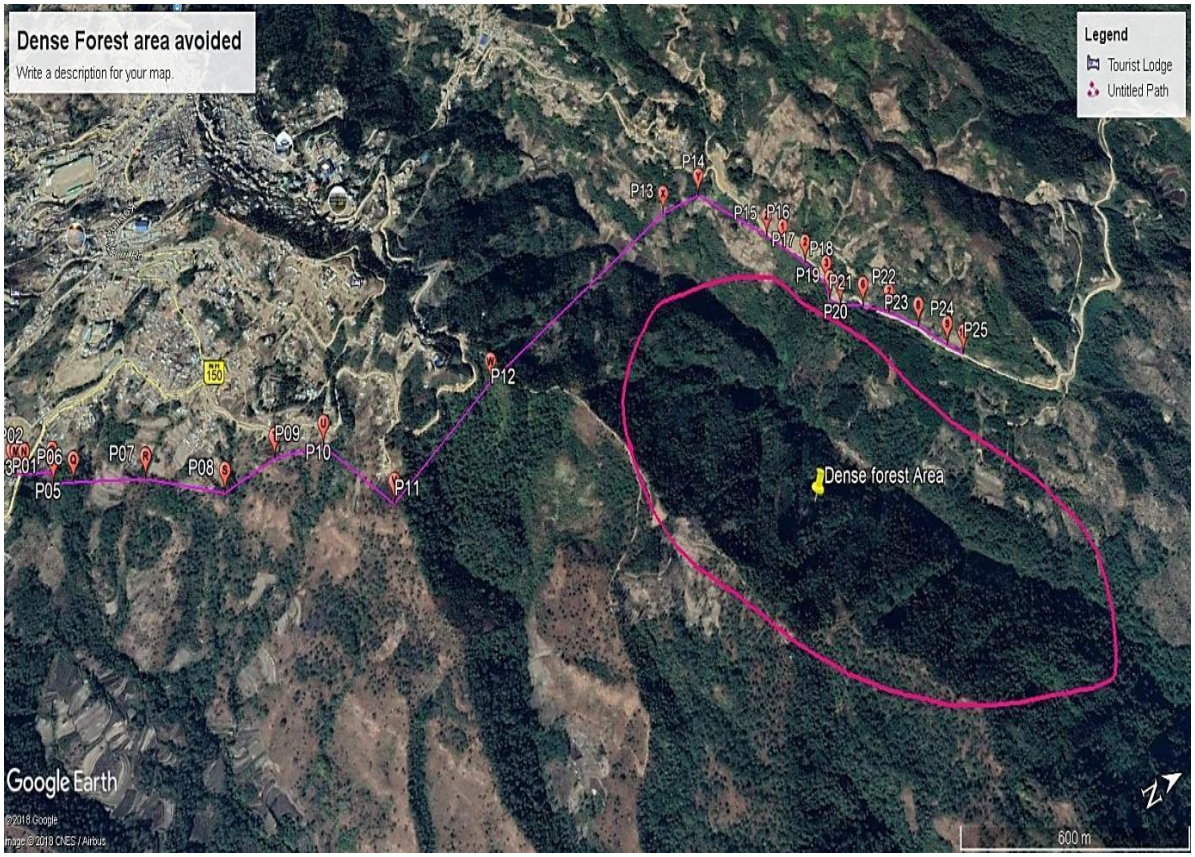
Avoidance of dense habitation area (AP-1 to AP-15) for Chawngte-S. Bungtlang 132kV line in Mizoram

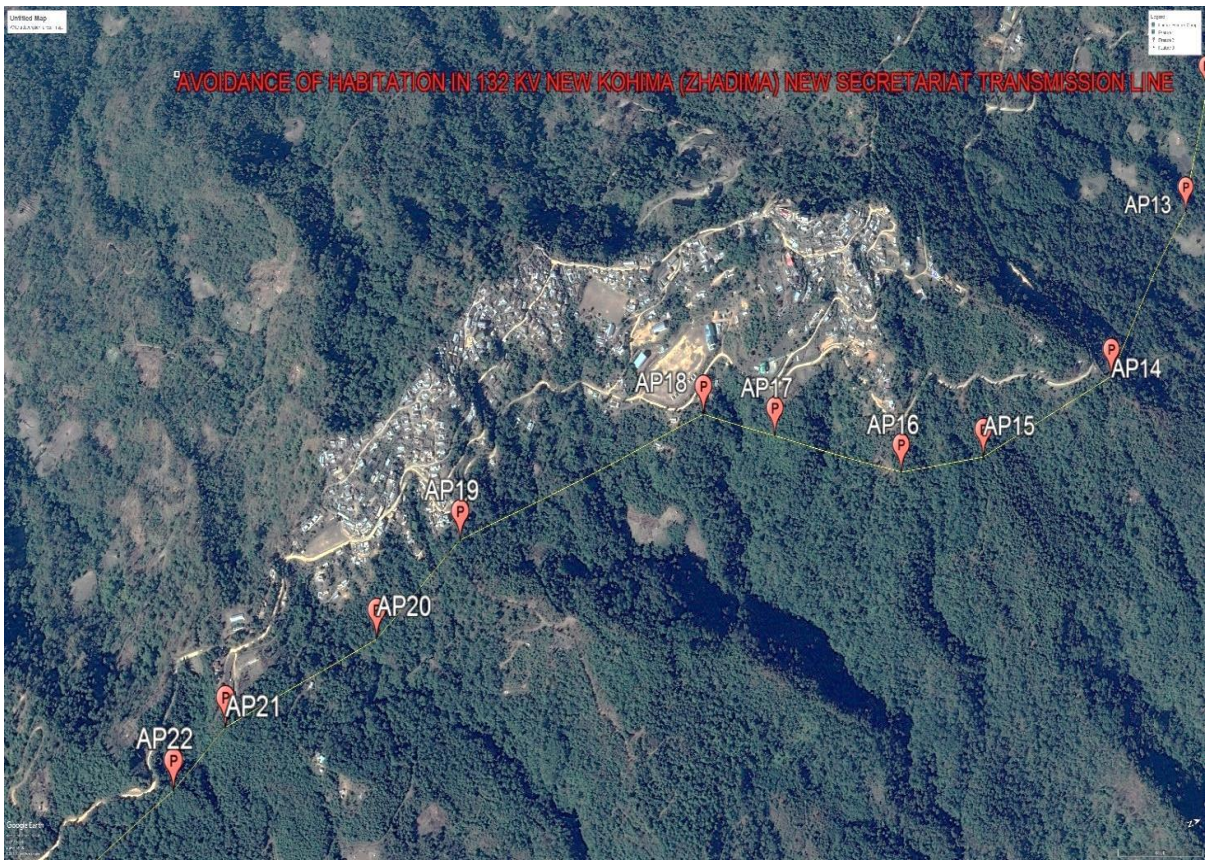


Avoidance of habitation area (AP-1 to AP-16) for West Phaileng- Marpara 132kV line in Mizoram

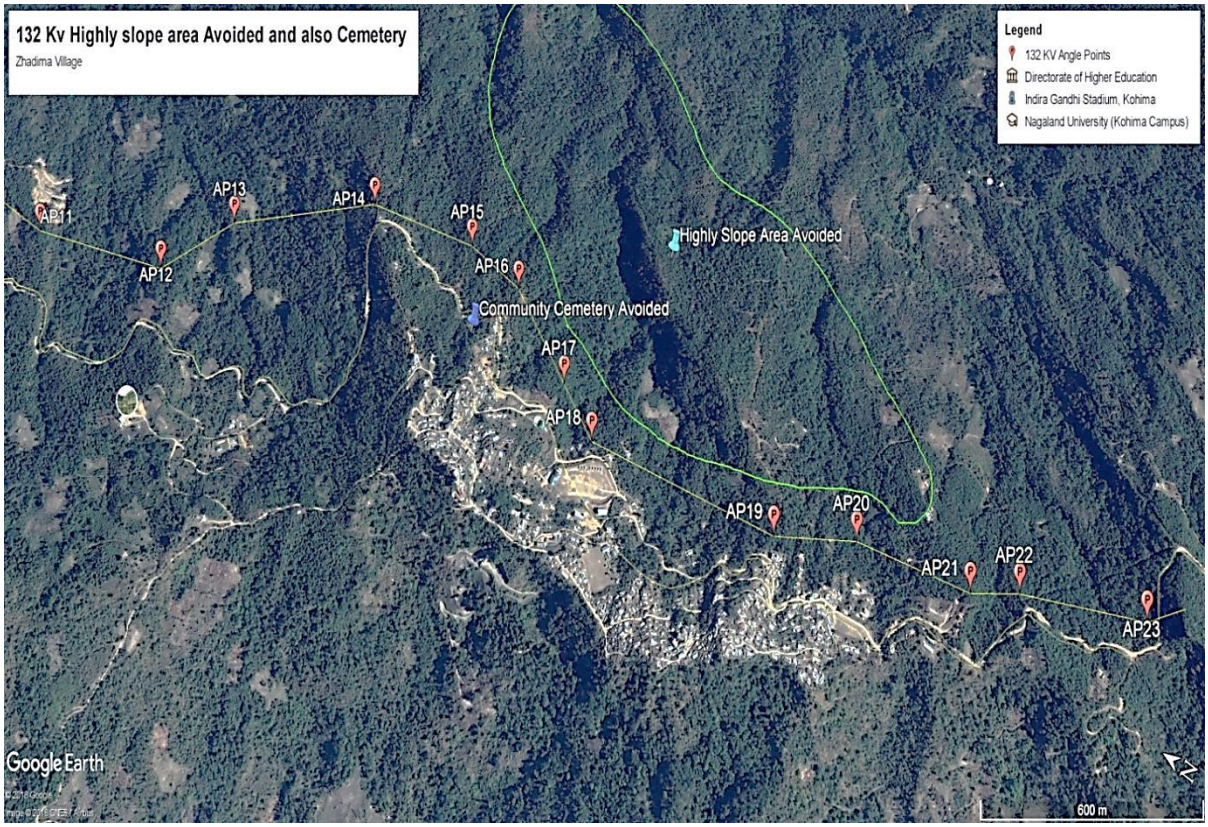


Avoidance of dense habitation area (Pole- 2 to Pole-12) and Dense forest & valley area (Pole-11 to Pole- 25 for Pfutsero - Pfutsero 33 kV line in Nagaland





Avoidance of habitation area (AP-13 to AP-22) for New Kohima – New Secretariat Complex 132kV line in Nagaland



Avoidance of Steep slope area and Cemetery (AP-14 to AP-24) for New Kohima – New Secretariat Complex 132kV line in Nagaland

Plate 8 : NoC/Consent from ADC/VDC/Land Owners

DORBAR SHNONG MAWPDANG

KHYRIM SYIEMSHIP

SHILLONG - 793018, EAST KHASI HILLS

Ref. No. : To .....

Date : 22/8/17

The Deputy Manager
Power Grid,NERPSIP
Nongrah,Lapalang
Shillong.

SuB:- No Objection Certificate (NOC) for 220KV

Sir,

With reference to the subject cited above, we would like inform you that the Dorbar Shnong Mawpdang has no objection for the construction of 220KV Line passing through our Village land and our jurisdiction as per your Map and Drawing.

We therefore, the undersigned issued this Certificate to your Office as per the following terms and conditions:-

1. That the Power GRID Corporation of India Ltd, should compensate to all the lands where the Towers is to be erected as per the rate approved by the District Council.

2. That the Power GRID Corporation of India Ltd, should compensate to all the Trees, Crops, Vegetables and Etc where the Line is passing through and affected as per the rate approved by the Government authorized Offices.

3. That the Power GRID Corporation of India Ltd, should inform from time to time in relation to any complaint or disputes to the headman of the Dorbar Shnong Mawpdang in the future to come.

Thanking You

Stai Sing Syiem
Sordar Shnong Mawpdang
Sordar
Shnong Mawpdang
Khyrim Syiemship
East Khasi Hills

Robinson Syiem
Gen.Secy Shnong Mawpdang
General Secretary
Shnong Mawpdang
Khyrim Syiemship
East Khasi Hills

****

UMSATAI VILLAGE
P.O. LAD RYMBAI, EAST JAINTIA HILLS DISTRICT, MEGHALAYA - 793160

To

The Manager, NERPSIP
POWERGRID, Khliehriat

Subject: - "NOC for Construction of 132 KV Transmission Line".

Sir,

This is in reference to your request letter no. **NERPSIP/KHLT/2017/248 dated 2/11/17** regarding construction of two **132 KV** Double Circuit transmission line (132 KV D/C MLHEP-Khliehriat Loop in Loop Out) emanating from Rymbai village to Mynkre associated with NERPSIP project. The Dorbar Shnong of Umsatai Village, East Jaintia Hills District, Meghalaya is pleased to intimate you that it has No Objection for whatsoever to the construction of 132 KV D/C line under the jurisdiction of Rymbai Village.

Therefore, you are hereby allowed to start the construction activities of the said transmission line within the jurisdiction of Umsatai village. However necessary compensation will be made as per prevailing norms.

L. Shylla

Dated-Umsatai
The 16th December, 2017

(Shri. Lowel Shylla)
Waheh Shnong
Umsatai Village
East Jaintia Hills District

Waheh Shnong
Umsatai
Elaka Rymbai
East Jaintia Hills

NO OBJECTION CERTIFICATE

030

I Shri/Smti Sopola Hajong

~~S/o/D/o~~ W/o Babul Hajong

aged about 44 years

old and residing at Arjungre, West Garo Hills

District and Owner of Land mentioned hereunder at clause (I), hereby on this day the 20th of November, 2017 solemnly affirm and declare as follows :

1) That I have no objection whatsoever for MePTCL/PGCIL to construct 132KV Phulbari-Ampati Transmission Line passing through my land located at Arjungre Village West Garo Hills District Meghalaya.

2) That I am making this declaration sincerely and conscientiously, believing the same to be true and with full knowledge that it is on the strength of this declaration that MePTCL/ PGCIL has agreed to pay compensation to me, in accordance with the schedule of rates issued by the Deputy Commissioner West Garo Hills District / West Garo Hills District Council.

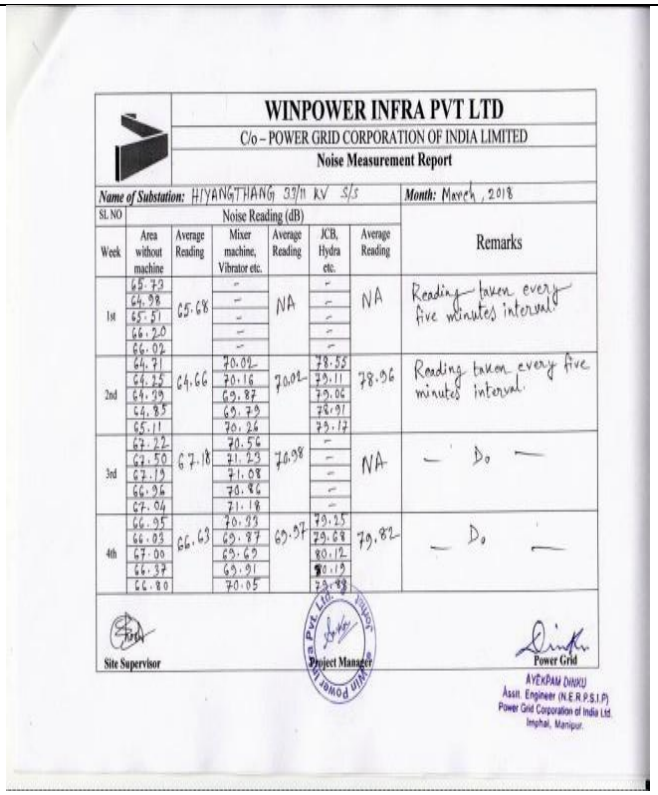
Land Owner

Witness :

1. Anjolly Hajong

2. Nomali Hajong

Plate- 9 Noise Level Measured at Different Construction Sites



WINPOWER INFRA PVT LTD

C/o – POWER GRID CORPORATION OF INDIA LIMITED

Noise Measurement Report

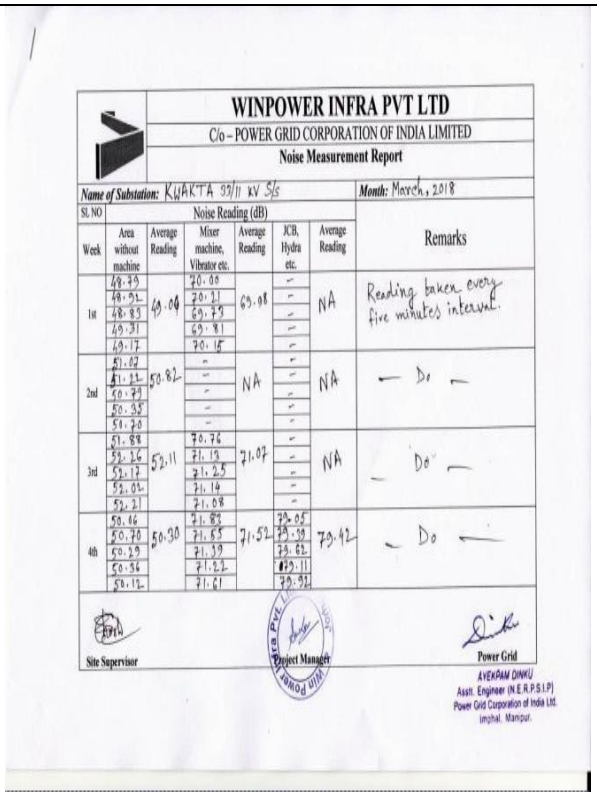
Name of Substation: HIYANGTHANG 33/11 kV S/S — *Month:* March, 2018

Sl. NO	Noise Reading (dB)						
Week	Area without machine	Average Reading	Mixer machine, Vibrator etc.	Average Reading	JCB, Hydra etc.	Average Reading	Remarks
1st	65.73, 64.98, 65.51, 66.20, 66.02	65.68	-	NA	-	NA	Reading taken every five minutes interval.
2nd	64.71, 64.25, 64.39, 64.85, 65.11	64.66	70.09, 70.16, 69.87, 69.79, 70.26	70.02	78.55, 79.11, 79.06, 78.91, 79.17	78.96	Reading taken every five minutes interval.
3rd	67.22, 67.50, 67.19, 66.96, 67.04	67.18	70.56, 71.23, 71.08, 70.86, 71.18	70.98	-	NA	— Do —
4th	66.95, 66.03, 67.00, 66.37, 66.80	66.63	70.93, 69.87, 69.69, 69.91, 70.05	69.87	79.25, 79.68, 80.12, 80.19, 79.88	79.82	— Do —

Site Supervisor — Project Manager — Power Grid

AYEKPAM DINKU
Asstt. Engineer (N.E.R.P.S.I.P)
Power Grid Corporation of India Ltd.
Imphal, Manipur.

For Hiyangthang S/S (Manipur)



WINPOWER INFRA PVT LTD

C/o – POWER GRID CORPORATION OF INDIA LIMITED

Noise Measurement Report

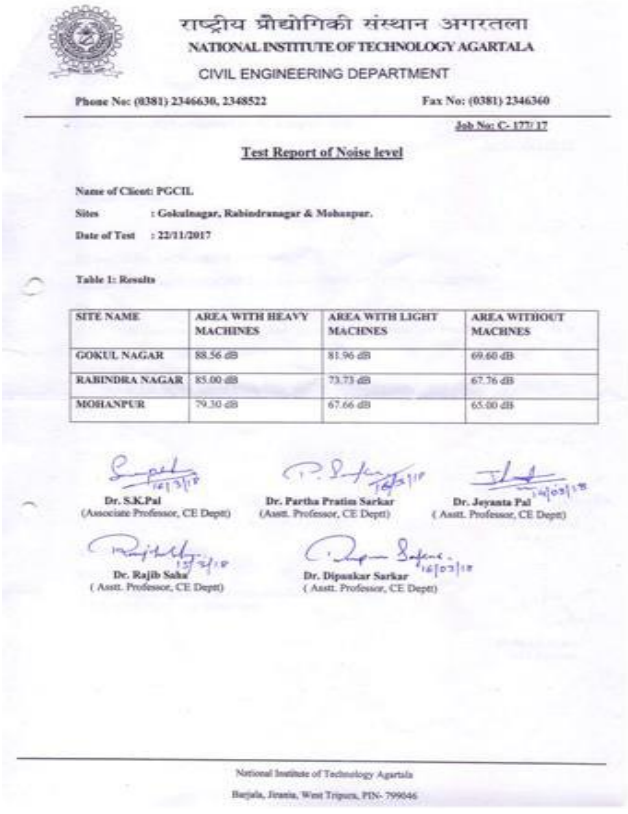
Name of Substation: KWAKTA 33/11 kV S/S — *Month:* March, 2018

Sl. NO	Noise Reading (dB)						
Week	Area without machine	Average Reading	Mixer machine, Vibrator etc.	Average Reading	JCB, Hydra etc.	Average Reading	Remarks
1st	48.39, 48.91, 48.85, 49.31, 49.17	49.04	70.00, 70.21, 69.79, 69.81, 70.15	69.98	-	NA	Reading taken every five minutes interval.
2nd	51.02, 51.12, 50.79, 50.35, 51.20	50.82	-	NA	-	NA	— Do —
3rd	51.88, 52.26, 52.12, 52.05, 52.21	52.11	70.76, 71.19, 71.25, 71.14, 71.08	71.07	-	NA	— Do —
4th	50.46, 50.70, 50.29, 50.34, 50.12	50.30	71.83, 71.65, 71.39, 71.22, 71.61	71.52	79.05, 79.39, 79.62, 79.11, 79.91	79.42	— Do —

Site Supervisor — Project Manager — Power Grid

AYEKPAM DINKU
Asstt. Engineer (N.E.R.P.S.I.P)
Power Grid Corporation of India Ltd.
Imphal, Manipur.

For Kwakta S/S (Manipur)



राष्ट्रीय प्रौद्योगिकी संस्थान अगरतला
NATIONAL INSTITUTE OF TECHNOLOGY AGARTALA
CIVIL ENGINEERING DEPARTMENT

Phone No: (0381) 2346630, 2348522 — Fax No: (0381) 2346360

Job No: C- 177/ 17

Test Report of Noise level

Name of Client: PGCIL
Sites : Gokulnagar, Rabindranagar & Mohanpur.
Date of Test : 22/11/2017

Table 1: Results

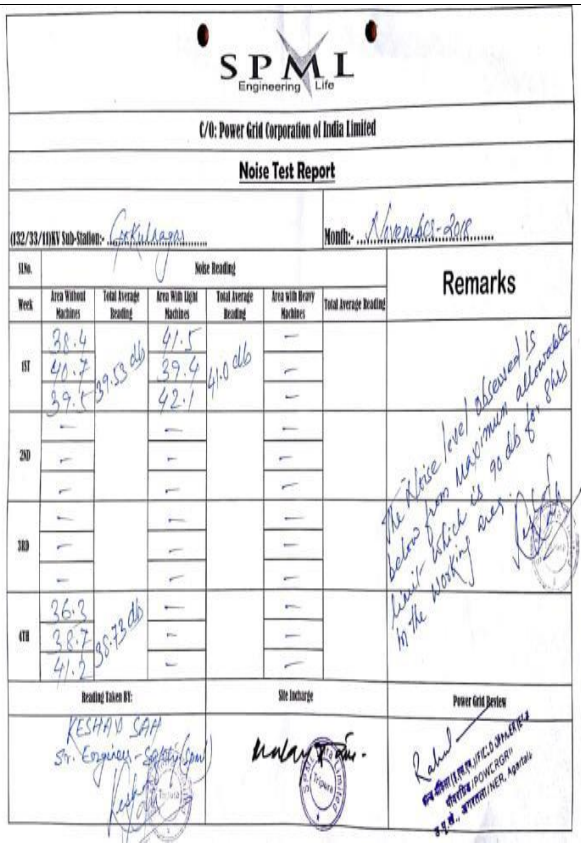
SITE NAME	AREA WITH HEAVY MACHINES	AREA WITH LIGHT MACHINES	AREA WITHOUT MACHINES
GOKUL NAGAR	88.56 dB	81.96 dB	69.60 dB
RABINDRA NAGAR	85.00 dB	73.73 dB	67.76 dB
MOHANPUR	79.30 dB	67.66 dB	65.00 dB

Dr. S.K.Pal (Associate Professor, CE Deptt) — Dr. Partha Pratim Sarkar (Asstt. Professor, CE Deptt) — Dr. Jeyanta Pal (Asstt. Professor, CE Deptt)

Dr. Rajib Saha (Asstt. Professor, CE Deptt) — Dr. Dipankar Sarkar (Asstt. Professor, CE Deptt)

National Institute of Technology Agartala
Barjala, Jirania, West Tripura, PIN- 799046

For Rabindranagar S/S (Tripura)



SPML Engineering Life

C/O: Power Grid Corporation of India Limited

Noise Test Report

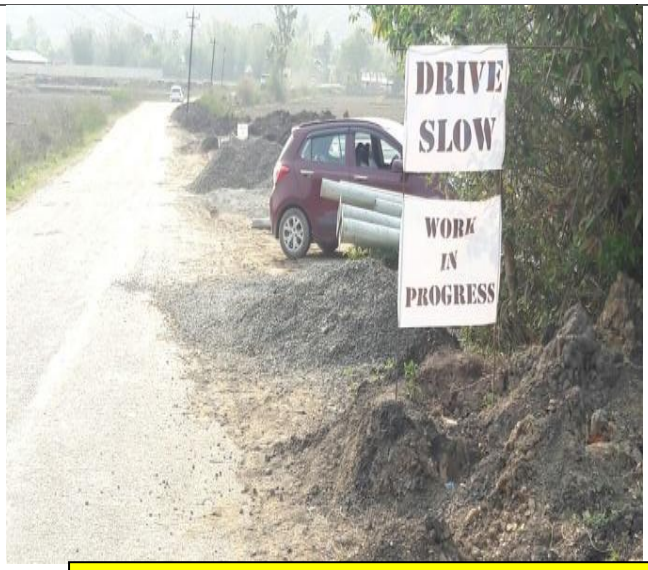
(132/33/11)kV Sub-Station:- Gokulnagar — Month:- November-2017

Sl.No.	Noise Reading					Remarks
Week	Area Without Machines	Total Average Reading	Area With Light Machines	Total Average Reading	Area with Heavy Machines	Total Average Reading
1ST	38.4, 41.7, 39.5	39.53 dB	41.5, 39.4, 42.1	41.0 dB	-	The noise level observed is below from maximum allowable limit which is 90 dB & also in the working area.
2ND	-		-		-	
3RD	-		-		-	
4TH	36.3, 38.7, 41.2	38.73 dB	-		-	

Reading Taken BY: KESHAV SAH, Sr. Engineer - Safety (Spml) — Site Incharge — Power Grid Review

For Gokul Nagar S/S (Tripura)

Plate- 10: Community/Villagers Safety



Display of Signage Board

Proper Barricading of Work Area

Safety Awareness and Information dissemination before start of work

Plate -11 Permission/Way Leave for Rail/Road Crossing

N. F. Railway

Office of the
Sr. Divisional Engineer/Co-ord,
Maligaon, Guwahati-11

No. W/214/Way leave/PG/G/APDCL/Pt.I

Date: 16.06.2017

To
Chief Executive Officer
Guwahati Electrical Circle-I
APDCL (LAR), Ulubari
Guwahati-781007.

Sub:- Way leave facility in connection with laying and underground crossing of Railway track by 33 KV electric line at Km.9/1-2 & Km.9/9-10/0 of KYQ-GHY section by APDCL,), Ulubari, Guwahati-7.

Ref:- APDCL online application ID Nos.
(i) NFR-LMG-2016-117 dtd.16.11.2016 and (ii) NFR-LMG-2016-118 dtd.21.11.2016.

Sir,

In terms of the above, enclosed please find herewith the agreement copies executed between the Railway and APDCL (LAR), GEC-I, Ulubari, Guwahati-7 alongwith blue print copies of the Sr.DEN.C/MLG's approved plan Nos. SK/06/2017 & SK/07/2017 in connection with laying and underground crossing of Railway track by 33 KV electric line at Km.9/1-2 & Km.9/9-10/0 of KYQ-GHY section by APDCL, Ulubari, Guwahati-7. It is requested to execute the work in accordance with the provisions as laid in the plan and agreement.

Before energisation of the U/G electric line, a separate agreement may be made with electrical deptt. at the office of the Sr.DEE/GHY.

With regards.

Yours Sincerely,

(Ajay Kumar)
Sr.Divisional Engineer/W/GHY
N. F. Railway, Maligaon

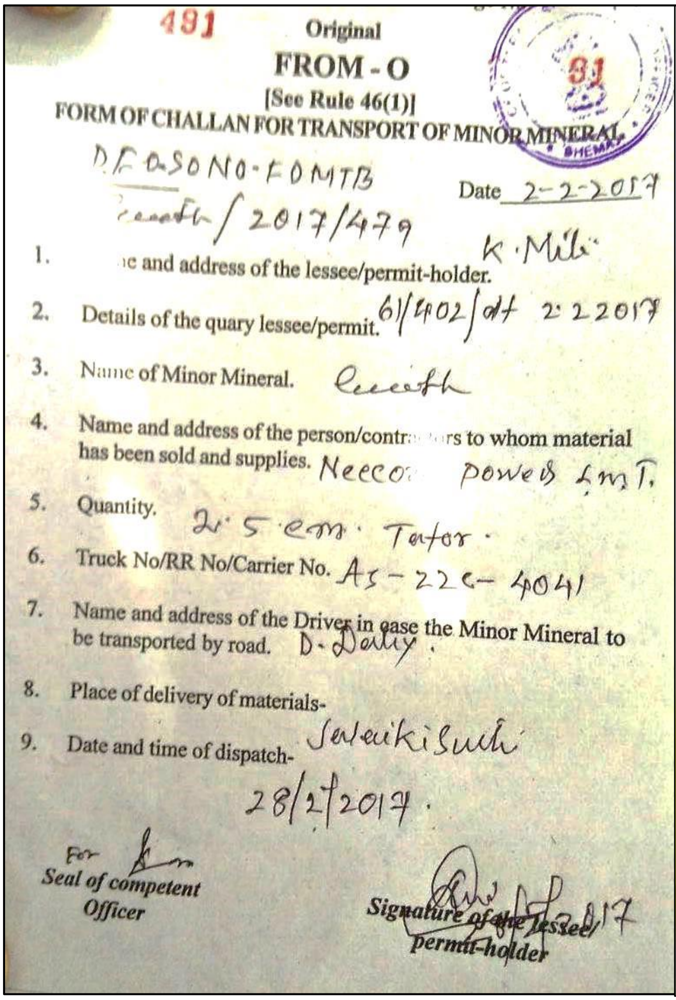
DA:- As above.

Copy to:-
Sr.DSTE/MLG, Sr.DEE/GHY } for information please.
ADEN/T/GHY, ADEN/W/GHY, SSE/W/GHY, SSE/P-Way/GHY, SSE/P/GHY, SSE/Tele/GHY, SSE/Sig/GHY } for information and necessary action in this regard please.

Sr.Divisional Engineer/W/GHY
N. F. Railway, Maligaon

Misc Letter~

Plate -12 Borrow Area Management /Improvement



491 Original

FROM - O

[See Rule 46(1)]

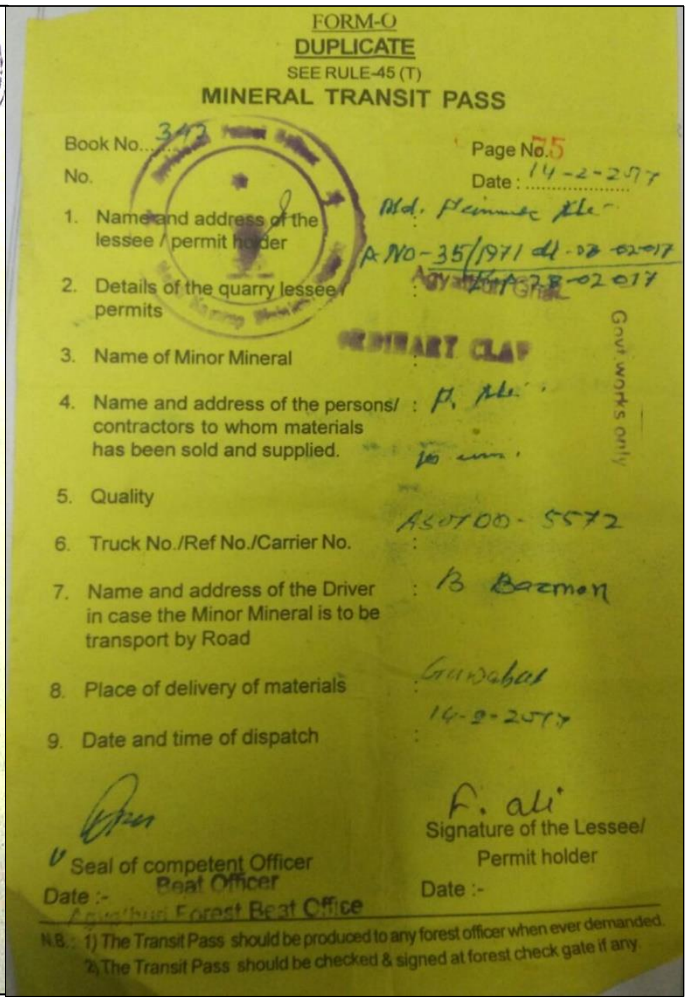
FORM OF CHALLAN FOR TRANSPORT OF MINOR MINERAL

DFO.SO NO-FOMTB Date 2-2-2017

1. ...e and address of the lessee/permit-holder. K. Mili
2. Details of the quary lessee/permit. 61/402/dt 2.2.2017
3. Name of Minor Mineral. Earth
4. Name and address of the person/contractors to whom material has been sold and supplies. Neeco powers Lmt.
5. Quantity. 2.5 cm. Tator.
6. Truck No/RR No/Carrier No. AS-22C-4041
7. Name and address of the Driver in case the Minor Mineral to be transported by road. D. Daliy.
8. Place of delivery of materials-
9. Date and time of dispatch- Salaikisuth 28/2/2017.

For Seal of competent Officer

Signature of the lessee/ permit-holder



FORM-O

DUPLICATE

SEE RULE-45 (T)

MINERAL TRANSIT PASS

Book No. 343 Page No. 55

No. Date : 14-2-2017

1. Name and address of the lessee / permit holder : Md. ...
2. Details of the quarry lessee / permits : A No-35/1971 dt. 28-02-2017
3. Name of Minor Mineral
4. Name and address of the persons/ contractors to whom materials has been sold and supplied.
5. Quality
6. Truck No./Ref No./Carrier No. : AS07DD-5572
7. Name and address of the Driver in case the Minor Mineral is to be transport by Road : B Barman
8. Place of delivery of materials : Guwahati
9. Date and time of dispatch : 14-2-2017

Seal of competent Officer

Date :-

Signature of the Lessee/ Permit holder

Date :-

N.B. : 1) The Transit Pass should be produced to any forest officer when ever demanded.
2) The Transit Pass should be checked & signed at forest check gate if any.

Govt. works only

Permission/Transit Pass for Borrowed Earth

Development of Borrow Area into a Pond as desired by Local Villagers near 132/33 KV Tezpur Substation