

COMPENSATION PLAN FOR TEMPORARY DAMAGES (CPTD)

FOR

T & D NETWORK IN TUENSANG & LONGLENG DISTRICTS UNDER NERPSIP TRANCHE-1, NAGALAND



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For

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LIST OF ABBREVIATIONS

AC	:	Autonomous Council
DPN	:	Department of Power, Nagaland
AP	:	Affected Person
CEA	:	Central Electricity Authority
Ckt-Km	:	Circuit-kilometer
CGWB	:	Central Ground Water Board
CP	:	Compensation Plan
CPTD	:	Compensation Plan for Temporary Damages
CPIU	:	Central Project Implementation Unit
CRM	:	Contractor Review Meeting
DC	:	District Collector
D/c	:	Double Circuit
DL	:	Distribution Line
DM	:	District Magistrate
DMS	:	Distribution Management System
EHV	:	Extra High Voltage
EHS	:	Environment Health & Safety
EMP	:	Environment Management Plan
E&S	:	Environmental & Social
ESPP	:	POWERGRID's Environmental and Social Policy & Procedures
ESPPF	:	DPN's Environmental and Social Policy & Procedures Framework
GoI	:	Government of India
GRC	:	Grievance Redress Committee
GRM	:	Grievance Redress Mechanism
Ha	:	Hectare
HPC	:	High Powered Committee
IA	:	Implementing Agency
INRs	:	Indian National Rupees
IP	:	Indigenous People
IR	:	Involuntary Resettlement
JCC	:	Joint Coordination Committee
kV	:	Kilo volt
Km	:	Kilometer
LA	:	Land Acquisition
MCM	:	Million Cubic Meter
MoP	:	Ministry of Power
M&E	:	Monitoring and Evaluation
NoC	:	No Objection Certificate
NER	:	North Eastern Region
NERPSIP	:	North Eastern Region Power System Improvement Project
O&M	:	Operation and Maintenance
OP	:	Operational Policy
PAP	:	Project Affected Person
POWERGRID	:	Power Grid Corporation of India Limited
PPIU	:	PMC Project Implementation Unit
RFCTLARRA	:	The Right to Fair Compensation and Transparency in Land, Acquisition, Rehabilitation and Resettlement Act, 2013
RoW	:	Right of Way
RP	:	Resettlement Plan
R&R	:	Resettlement and Rehabilitation

S/c	:	Single Circuit
SC	:	Scheduled Caste
Sq.m.	:	Square Meters
SMF	:	Social Management Framework
SPCU	:	State Project Coordination Unit
ST	:	Scheduled Tribe
T & D	:	Transmission & Distribution
TL	:	Transmission Line
USD	:	United States Dollar
WB	:	The Word Bank

GLOSSARY

Regional Council/Autonomous District Council/ Village Council	:	An autonomous body/institution formed under the provisions of 6th Schedule of Constitution of India which provides tribal people freedom to exercise legislative, judicial, executive and financial powers.
Village Headman	:	Elected head of the Village Council
Zila/District	:	It is the first administrative division at the State level.
Sub-division	:	A revenue sub-division, within a district
Block	:	An administrative sub-division within a district
Panchayat	:	The third tier of decentralized governance

EXECUTIVE SUMMARY

i. The Compensation Plan for Temporary Damages (CPTD) has been prepared for Transmission & Distribution (T & D) network in Tuensang & Longleng districts of Nagaland state under the North Eastern Region Power System Improvement Project (NERPSIP) which is being funded by Govt. of India (GoI) and the World Bank (WB). The Implementing Agency (IA) is Power Grid Corporation of India Limited (POWERGRID). The present CPTD is based on the Environmental and Social Policy & Procedures Framework (ESPPF) of Department of Power, Nagaland (DPN).

ii. The project components include construction of one no. of 132 kV line of 29.14 km length & one new 33kV distribution lines of 5 km length along with associated 132/33kV substation Longleng, Tuensang & 33/11kV substation at Longleng located in Tuensang & Longleng Districts of Nagaland State. The present CPTD has been prepared based on the detailed survey/ investigation. However, the temporary impacts on land and loss of crops/trees occurred only during the project implementation/construction. Therefore, the CPTD remains as draft, as actual temporary impacts on crop/tree including details of Affected Persons (AP) shall be ascertained during check survey and tower spotting once the construction contractor is mobilized for implementation. DPN/ POWERGRID¹ provide compensation for actual damages after assessment by revenue authority. Check survey is done progressively during the construction of the transmission/distribution line. Normally the work is done in off season when there is no standing crop. The compensation for damage is assessed in actual after construction activities of transmission/distribution lines in three stages i.e. after completion of foundation, tower erection and stringing of conductor. The payment of compensation may also be paid in three instances, if there are different damages during all the above three stages. Assessment of damages at each stage and subsequent payment of compensation is a continuous process. Hence, CPTD updating will also be a continuous process during construction and updated data on APs shall be disclosed through semi-annual E & S monitoring report submitted by DPN /POWERGRID.

iii. The project components under the scope of present CPTD include following transmission/ distribution lines and associated substations;

A. Transmission Components:

¹ For the purpose of CPTD, DPN and POWERGRID may be referred as SPCU and PPIU respectively. For further details, please refer Chapter - VII Institutional arrangements.

1. 132 kV S/C (On D/C Tower) Tuensang - Longleng- 29.14 km.
2. Establishment of 132/33kV Longleng substation
3. Bay Extn. at 132/33 kV Tuensang substation

B. Distribution Components:

1. 33kV line Longleng - Longleng Town substation Line- 5.0 km.
2. Establishment of 33/11 kV Longleng substation

iv. As per existing law, land for tower/pole and right of way is not acquired² and agricultural activities are allowed to continue after construction activity. Land requirements for erecting tower/poles for transmission/ distribution lines are just minimal and require placing of 4 legs which needs an area of 4-6 sq- ft. Thereby, the actual impact is restricted to 4 legs of the tower. Further, line alignments are done in such a way so as to avoid settlements and / or structures. Hence no relocation of affected persons 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 will be paid to the affected persons including cost of land for tower base area to its owner without acquisition or transfer of title as per provisions of law and Entitlement matrix defined in ESPPF.

v. For the temporary loss of crops, only agricultural land and private plantation land are considered for estimation. Though Right of Way (RoW) for 132 kV & 33 kV line are 27 meter & 15 meters respectively but average affected width/corridor would be limited to maximum 20 meter for 132 kV & 10 meters for 33 kV line. Accordingly, actual impacted area for crops and other damages worked out to be approx. 141.55 acres. Total number of trees likely to be affected is 1060 excluding 520 bamboo during construction of line. Private trees will be compensated in cash as per the entitlement matrix. The total number of affected persons is estimated to be 170.

vi. Public participation and community consultations have been taken up as an integral part of the project's social and environmental assessment process. Public is informed about the project at every stage of execution. During survey also DPN & POWERGRID's site officials meet people and inform them about the routing of transmission/ distribution line. During the construction, every individual, on whose land tower is erected and people affected by RoW, are consulted. There were many informal group and public consultation meetings conducted during survey of the entire routes of transmission/distribution lines and substation site. The process of such consultation will be

² 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.

continued during project implementation and even during Operation & Maintenance (O&M) stage. The draft/summary CPTD will be disclosed to the affected households and other stakeholders by placing it on website. To maintain the uninterrupted communication channel, DPN & POWERGRID's site/field officials are meeting APs and inform about the norms and practices of damage assessment and compensation thereof. For wider circulation, executive summary of the CPTD and Entitlement Matrix will be translated in local language and placed at construction offices/sites.

vii. Grievance Redress Mechanism (GRM) is an integral part of project implementation, operation and maintenance stage of the project. For handling grievance, Grievance Redress Committee (GRC) has been established at two places, one at the project/scheme level and another at corporate/head quarter level. The GRCs include members from Department of Power, POWERGRID, Local Administration, Village Council 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. The composition of GRC disclosed in Panchayat/village council office and concerned district headquarter for wider coverage. In case of any complaint, GRC meeting shall be convened within 15 days. If project level GRC is not able to take decision it may refer the complaint to corporate GRC for solution. GRC endeavors to pronounce its decision within 30-45 days of receiving grievances. In case complainant/appellant is not satisfied with the decision of project level GRC they can make an appeal to corporate GRC for review. The proposed mechanism does not impede access to the country's judicial or administrative remedies at any stage. Further, grievance redressal is also inbuilt in the tree/crop compensation process where affected persons are given a chance to place their grievances after issuance of notice by revenue officials on the basis of assessment of actual damages. Grievances received towards compensation are generally addressed in open forum and in the presence of many witnesses. Process of spot verification and random checking by the district collector also provides forum for raising the grievance towards any irregularity/complaint.

viii. The CPTD is based on the DPN's ESPPF. Being a transmission project, the relevant national laws applicable for this project are (i) The Electricity Act, 2003 and (ii) The Indian Telegraph Act, 1885. The compensation principles adopted for the project shall comply with applicable laws and regulations of the Governments of India, DPN's ESPPF as well as World Bank Safeguard Policies.

ix. APs will be entitled for compensation for temporary damages to crops/trees/structures etc. as per the Entitlement Matrix (EM) given in E-1. Temporary damage will occur during construction of transmission/distribution lines for which compensation is paid as per eligibility criteria of EM and other applicable norms. All APs are paid compensation for actual damages irrespective of their religion, caste and their economic status including non-title holders. However, vulnerable households are provided additional one time lump sum assistance on recommendation of State/ local Authority. As per the policy provision construction contractors shall be encouraged to hire local labor that has necessary skills.

E-1: Entitlement Matrix

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
1.	Land area below tower base (#)	Owner	100% land cost at market value as ascertained by revenue authorities or based on negotiated settlement without actual acquisition/title transfer.
2.	Loss/damage to crops and trees in line corridor	Owner/ Tenant/ sharecropper/ leaseholder	Compensation to actual cultivator at market rate for crops and 8 years income for fruit bearing trees*. APs will be given advance notice to harvest their crops. All timber* will be allowed to retain by the owner.
3.	Other damages (if applicable)	All APs	Actual cost as assessed by the concerned authority.
4.	Loss of structure		
(i)	House	Titleholders	Cash compensation at replacement cost (without deduction for salvaged material and depreciation value) plus Rs. 25,000/- assistance (based on prevailing GOI norms for weaker section housing) for construction of house plus transition benefits as per category-5 below.
(ii)	Shop/ Institutions/ Cattle shed	Individual/ Titleholders	Cash compensation plus Rs. 10000/- for construction of working shed/shop plus transition benefits as per category-5 below
(iii)	Losses during transition under (i) & (ii) above for Shifting / Transport	Family/unit	Provision of transport or equivalent cash for shifting of material/ cattle from existing place to alternate place

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
(iv)	Tribal/ Vulnerable APs	Vulnerable APs ³	One time additional lump sum assistance not exceeding 25% of total compensation on recommendation of State Authority/ADC/VC.

(#) As per decision taken by State Govt./DPN, only land compensation for tower base shall be paid as per prevailing practice.

* Assistance/help of Forest department for timber yielding trees and Horticulture department for fruit bearing trees shall be taken for assessing the true value.

x. Due to inherent flexibility in routing of line, no major damages to structures or physical displacement is envisaged in transmission/distribution line. Hence, there are no adverse impacts such as permanent loss of assets, livelihood loss or physical resettlement/relocation due to project intervention. However, in case it is completely unavoidable, compensation for structures as decided by committee based on government norms and entitlement matrix shall be provided. A notice for damage is issued to APs and the joint measurement by DNP/ POWERGRID and APs is carried out before start of construction and same is assessed and verified by revenue official during/ after construction for estimation of compensation against actual damages. Hence, compensation is paid in parallel with the construction activity of transmission/distribution line. The cost estimate for the project includes eligible compensation for loss of crops, trees, and support cost for implementation of CPTD, monitoring, other administrative cost etc. The budget estimation presented in CPTD is tentative and may get revised during the course of implementation. The total indicative cost is estimated to be INR 176.95 Lakhs equivalent to USD 0.2609 million.

xi. The implementation and monitoring are critical activities which shall be followed as per Implementation Chart/Schedule provided in Chapter-X. POWERGRID will be the Implementing Agency (IA) for the Project. For the day to day implementation of Project activities, PMC Project Implementation Units (PPIUs) located in each participating State, has been formed including members of Utility on deputation, with its personnel being distributed over work site & working in close association with the State Project Coordination Unit (SPCU) / Central Project Implementation Unit (CPIU). PPIU report to State level "Project Manager" nominated by the Project-in-Charge of IA. The IA will have a Core team stationed at the CPIU on permanent basis and other IA officers (with required skills) will visit as and when required by this core team. This team shall represent IA and shall be responsible for all coordination with SPCU, PIU, within IA and MoP, GoI. CPIU shall also assist MoP, GoI in monitoring project progress and in its coordination with The Bank.

³ Vulnerable APs include scheduled tribes residing in scheduled areas/ physically handicapped/ disabled families etc.

xii. Monitoring is the responsibility of both DPN / POWERGRID and will submit semi-annual monitoring reports on their implementation performance to The World Bank. If required, DPN/ POWERGRID will engage the services of an independent agency/external monitoring for which necessary provisions have been kept in the budget.

I. INTRODUCTION AND PROJECT DESCRIPTION

1.1. Project Background

1. Recognizing that intrastate T&D systems in the North Eastern States (NER) states have remained very weak and that there is a critical need to improve the performance of these networks, the Central Electricity Authority (CEA) developed a comprehensive scheme for the NER in consultation with POWERGRID and the concerned state governments. This scheme is intended to (a) augment the existing T&D infrastructure to improve the reliability of service delivery across all the NER states and (b) build institutional capacity of the power utilities and departments in the NER. This scheme is part of the GoI's wider efforts to develop energy resources in the NER for electricity supply within the region, to strengthen transmission networks, expand and strengthen sub-transmission systems, and extend last mile electricity connectivity to household.

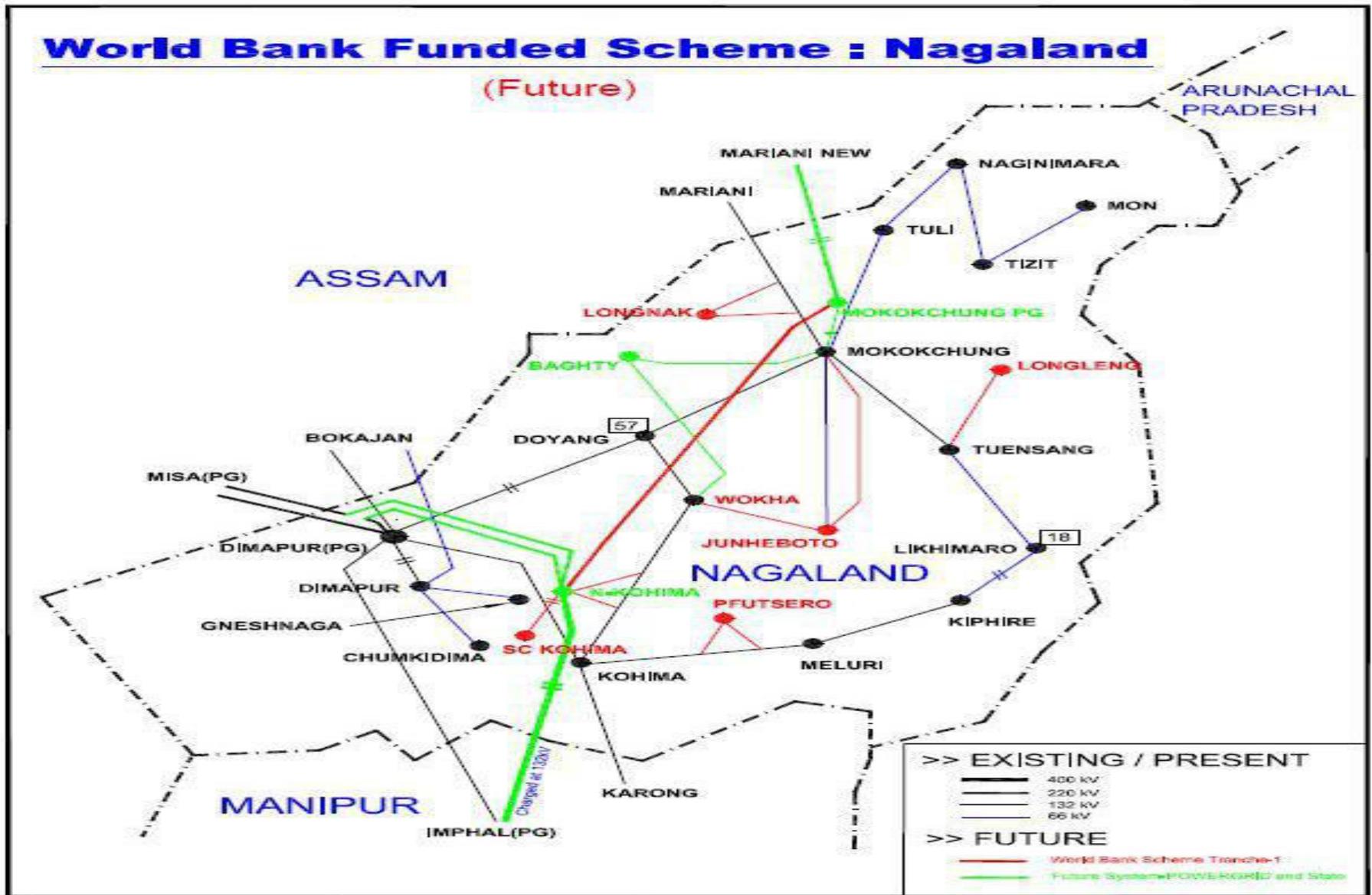
2. GoI requested for World Bank's support in implementing a set of priority investments in six NER States. In 2016, the World Bank (WB) has approved a loan (IBRD 470 USD Million) to the Government of India (GoI) for North Eastern Region Power System Improvement Project (NERPSIP) which aims to create a robust intrastate transmission and distribution network in all the six (6) North Eastern States including Nagaland. The project being funded on 50:50 (World Bank loan: GoI) basis except the component of capacity building for Rs.89 crore, which GoI will bear entirely. The scheme is to be taken up under a new Central Sector Plan Scheme of MoP.

3. Ministry of Power, GoI has appointed POWERGRID as Implementing Agency (IA) to six North Eastern States for the said project. However, the ownership of the assets shall be with the respective State Utilities/State Government which upon progressive commissioning shall be handed over to them for taking care of Operation and Maintenance of assets.

4. The project will be implemented over a seven-year period and has two components, namely Component A: Priority Investments for Strengthening Intrastate Transmission, Sub-transmission, and Distribution Systems, and Component B: Technical Assistance for Capacity Building and Institutional Strengthening (CBIS) of Power Utilities and Departments of Participating States.

5. The scope of work under NERPSIP in state of Nagaland include construction of 265 km of 220/132 kV transmission lines & associated 10 nos. new substations & Extn. Aug. Substation and 76 ckm of 33 kV distribution lines & 29 nos. substation along with augmentation & strengthening of transmission and distribution system spread across the State. The power map of Nagaland indicating the existing intra-state transmission network along with proposed project under Tranche-1 of NERPSIP is presented in **Figure 1.1**.

Figure 1.1 : Power Map of Nagaland along with proposed project



1.2. Project Components

6. The project components under the scope of present CPTD include following transmission/ distribution lines and associated Extra High Voltage (EHV) & Distribution substations proposed in Tuensang & Longleng Districts of Nagaland State;

A. Transmission Components:

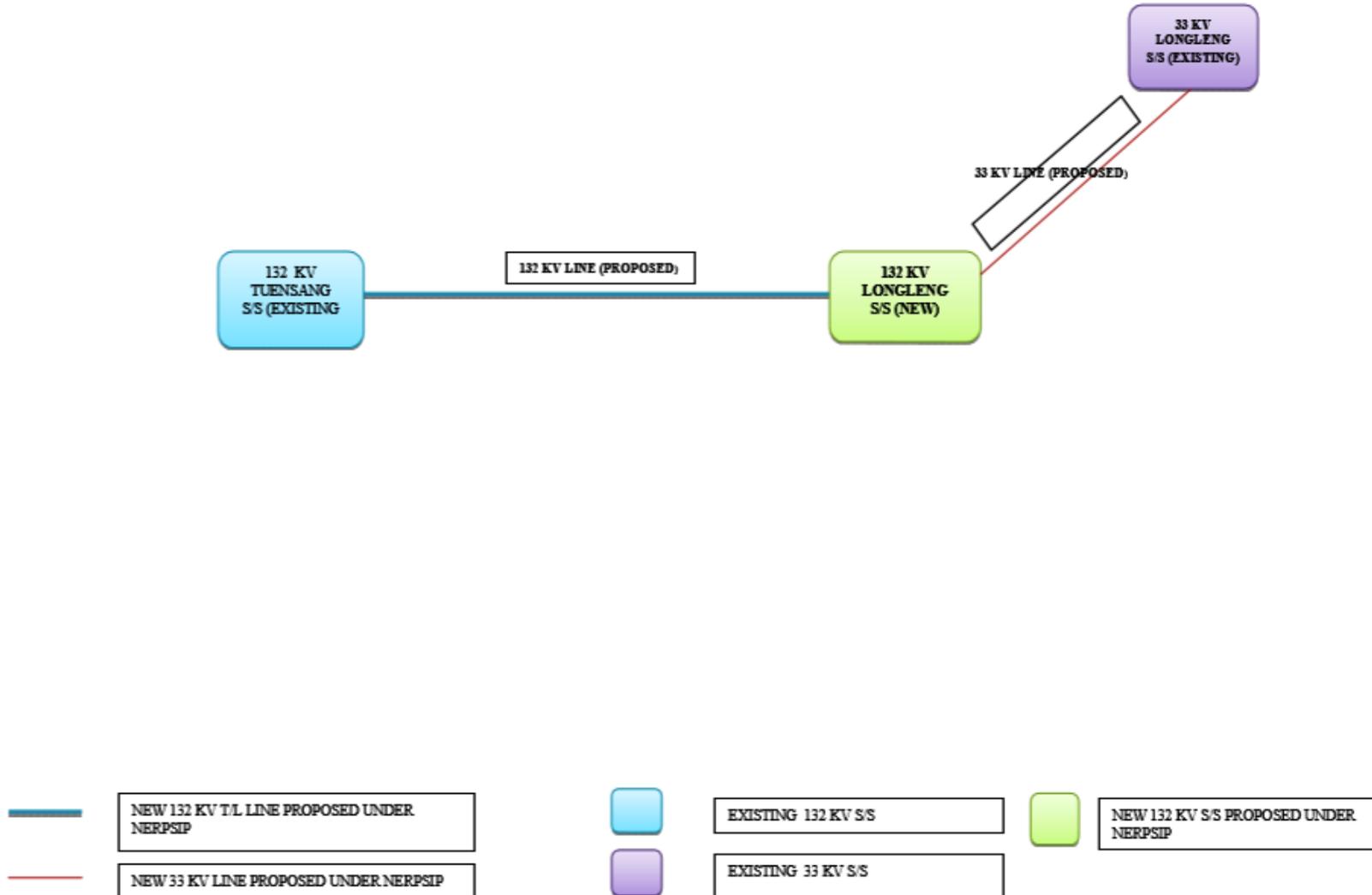
1. 132 kV S/C (On D/C Tower) Tuensang - Longleng- 29.14 km.
2. Establishment of 132/33 kV Longleng substation
3. Bay Extn. at 132/33 kV Tuensang substation

B. Distribution Components:

1. 33kV line Longleng - Longleng Town substation Line- 5.0 km.
2. Establishment of 33/11 kV Longleng substation

7. The schematic diagram of proposed transmission and distribution network under NERPSIP Trench-1of Nagaland in Tuensang & Longleng Districts are shown below:

Figure 1. 2.: Proposed T & D Network in Tuensang & Longleng Districts under NERPSIP



1.3 Objective of Compensation Plan for Temporary Damages (CPTD)

8. The primary objective of the CPTD is to identify impacts/damages and to plan measures to mitigate losses likely to be caused by the projects. The CPTD is based on the general findings of field visits, detailed survey and meetings with various project-affected persons in the project areas. The CPTD report include (i) introduction and project description (ii) socio-economic information and profile (iii) legal & regulatory framework (iv) project impacts,(v) entitlement, assistance and benefit (vi) information disclosure, consultation and participation (vii) institutional arrangements (viii) grievance redress mechanism (ix) budget (x) implementation schedule & (xi) monitoring and reporting.

1.4. Scope and Limitation of the CPTD

9. Based on the assessment of proposed project components and intervention as well as provisions of existing law/ regulations, it has been established that no permanent land acquisition is involved and only temporary impacts on land and loss of standing crops/trees are anticipated. The present CPTD has been prepared based on the detailed survey/ investigation. However, the temporary impacts on land and loss of crops/trees occurred only during the project implementation/construction. Therefore, the CPTD remains as draft, as actual temporary impacts on crop/tree including details of Affected Persons (AP) shall be ascertained during check survey and tower spotting once the construction contractor is mobilized for implementation. DPN/ POWERGRID⁴ provide compensation for actual damages after assessment by revenue authority. Check survey is done progressively during the construction of the transmission/distribution line. Normally the work is done in off season when there is no standing crop. The compensation for damage is assessed in actual after construction activities of transmission/distribution lines in three stages i.e. after completion of foundation, tower erection and stringing of conductor. The payment of compensation shall be paid in three instances, if there are different damages during above all the three activities. Assessment of damages at each stage and subsequent payment of compensation is a continuous process. Hence, CPTD updating will also be a continuous process during construction and updated data on APs shall be disclosed through semi-annual E & S monitoring report submitted by DPN/POWERGRID.

⁴ For the purpose of CPTD, DPN and POWERGRID may be referred as SPCU and PPIU respectively. For further details, please refer Chapter - VII Institutional arrangements.

1.5. Measures to Minimize Impact

7. In keeping with provisions of ESPPF and Bank's Safeguard Policies, DPN/ POWERGRID has selected and finalized the routes of transmission line with due consideration of the avoidance or minimization to the extent possible and same principles shall be followed during construction stages of project to further restrict the possibility of temporary damages on crops/ trees/ structures etc. in the Right of Way (RoW). Similarly, the route of distribution lines are mostly selected /finalized along the existing roads (PWD roads/Village roads etc.) involving minimum habituated areas and also through barren lands wherever possible. Regular field visits and public consultations helped in developing the measures for further minimizing the possible social impacts.

10. For transmission/distribution line there is no permanent land acquisition involved as per applicable legal framework i.e. in exercise of the powers under Indian Telegraph Act-1885, Part 3, section 10 to 16 conferred under section 164 of the Electricity Act, 2003 through Department OF Power, Govt. of Nagaland vide notification dated 16th April, 2016, DPN has the mandate to place and maintain transmission lines under/ over/ along or across and posts in or upon, any immovable property. However, clause 10 (d) of same act stipulates that the user agency shall pay full compensation to all interested for any damages sustained during the execution of said work. Therefore, DPN/ POWERGRID have developed a procedure which is designed to minimize impacts, during the preliminary survey/ investigation (for screening & scoping of the project with at least 3 alternative route alignments), thereafter during detailed survey (spot)/design followed by foundation work, tower erection and during the stringing of conductors.

11. All tower foundations and tower footings are dug and laid, including transportation of material and land clearance, generally at the end of a crop season to avoid impacts on cultivations and need for compensation. After construction of transmission towers, farmers are allowed to continue agricultural activity below tower.

12. Because the concrete needs time to dry and settle, all towers are erected normally three weeks after casting of foundation. Thus, both foundation and erection works are generally completed in one gap between two crop seasons.

13. Given the limited time needed for the stringing, the latter can be done right after the tower construction, before the following crop season.

14. For this reason no household is significantly affected due to the project. Thus, productive loss due to construction is negligible. However, due care shall be taken to avoid damages to crop/trees by taking up the construction activities during lean period or post-harvest season. As per the prevailing norms farming activity shall be allowed after the construction work is completed. All affected farmers will be compensated for all sorts of damages during construction as per the laid down procedure.

1.6. Route Selection and Study of Alternatives

15. For selection of optimum route, the following points are taken into consideration:

- (i) The route of the proposed transmission/distribution lines does not involve any human displacement/rehabilitation.
- (ii) Any monument of cultural or historical importance is not affected by the route of the transmission/distribution line.
- (iii) The proposed line route does not create any threat to the survival of any community with special reference to Tribal Community.
- (iv) The proposed line route does not affect any public utility services like playgrounds, schools, other establishments etc.
- (v) The line route does not pass through any National Parks, Sanctuaries etc.
- (vi) The line route does not infringe with area of natural resources.

16. In order to achieve this, DPN/POWERGRID undertakes route selection for individual line in close consultation with representatives of concerned Forest Department and the Department of Revenue. Although under the law, DPN have the right of eminent domain yet alternative alignments are considered, keeping in mind, the above-mentioned factors during site selection, with minor alterations often added to avoid environmentally sensitive areas and settlements at execution stage.

- a. As a rule, alignments are generally cited away from major towns, whenever possible, to account for future urban expansion.
- b. Similarly, forests are avoided to the extent possible, and when it is not possible, a route is selected in consultation with the local Divisional Forest Officer, that causes minimum damage to existing forest resources.
- c. Alignments are selected to avoid wetlands and unstable areas for both financial and environmental reasons.

17. In addition, care is also taken to avoid National Parks and Wildlife Sanctuaries and any other forest area rich in wildlife. Keeping above in mind the route of proposed lines have been so aligned that it takes care of above factors. As such different alternatives were studied with the help of Govt. published data like Forest atlas, Survey of India topo maps, satellite imageries etc. to arrive at most optimum sections of the route which can be taken up for detailed survey and assessment of environmental & social impacts for their proper management.

18. The comparative details of three alternatives in respect of proposed lines are presented as **Annexure-1**.

II. SOCIOECONOMIC INFORMATION AND PROFILE

2.1. General

19. The socio-economic profile of the project area is based on general information collected from various secondary sources. As the assets of any sorts will not be acquired but for temporary damage to crops/trees or any other structures adequate compensation as per norms shall be paid to all APs. This chapter provides broad socio-economic profile in terms of demography, literacy, employment and other infrastructure etc. in the State of Nagaland and Tuensang & Longleng districts in particular through which the various lines will traverse. Following section briefly discuss socio-economic profile.

2.2. Socio-Economic Profile

2.2.1. Land Use Pattern Nagaland

20. Nagaland is situated in the north-eastern part of India sharing international border with Myanmar. It lies between latitudes of 25°6' N and 27°4' N and the longitudes of 93°20' E and 95°15' E and has geographical area of 16,579 sq km. Nagaland consists of a narrow strip of hilly area running northeast to southwest which is located in the northern extension of the Arakan Yoma ranges. The altitude ranges from 194 m to 3,826 m. The general land use pattern of the state is given in **Table-2.1**.

Table-2.1 Land use Pattern

Land Use	Area in '000 ha	Percentage
Total geographical area	1,658	
Reporting area for land utilization	1,644	100.00
Forests	863	52.51
Not available for cultivation	95	05.78
Permanent pastures and other grazing lands	00	00.00
Land under misc. tree crops & groves	92	05.61
Culturable wasteland	67	04.08
Fallow lands other than current fallows	98	05.98
Current Fallows	49	02.99
Net area sown	379	23.05

Source: Land use statistics, Ministry of Agriculture, GOI, 2011-12

Tuensang district is located between the latitudes of 26°14' N - 26°23' N and the longitudes of 94°49' E and 94°81' E. Total geographical area of the district is 214192 Ha.

Longleng district is a strip of mountainous territory having no plains and situated in the Northern Nagaland. Total geographical area of the district is 56321 Ha.

2.2.2 Climate

21. The climate of Nagaland has a wet climate with high humidity levels. Annual Rainfall varies from 175 cm to 250 cm with maximum rainfall occurring during months of June to September. Summer temperature varies from 16°C to 31°C, while the winter temperature varies from 4° C to 24° C. Strong North West winds blow through the state during the months of February and March. The average annual rainfall ranges from 175 cm to 250 cm.

The average rainfall of Tuensang and Longleng districts is around 200 cm. During winter, the temperature varies from 4°C to 24°C and in summer it varies between 16°C to 31°C. The temperature of the project districts doesn't show much variation from average temperature data of the state.

2.2.3 Minerals:

22. The state is rich in mineral resources such as coal, limestone, iron, nickel, cobalt, chromium, and marble. Nagaland has a recoverable reserve of limestone of 1,000 million tonnes plus a large untapped resource of marble and handicraft stone. Important mineral occurrences in the State are coal in Borjan, Jhanzi-Disai, Tiesang and Tiru Valley Coalfields; iron ore (magnetite), cobalt and nickeliferous chromite in Tuensang district; and limestone in Phek and Tuensang districts.

2.2.4 Soils:

23. The soil of Nagaland is an important part of the topography and the geography of Nagaland. The systematic survey and classification of soils in Nagaland has facilitated extensive crop cultivation in the state. Major types of soil in the state are: a) Inceptisols b) Entisols c) Alfisols d) Ultisols. Inceptisols is the most important type of soil that covers about 66 percent of the land area of Nagaland. These soil types are predominant near the river beds. About 23.8 percent of the land area of Nagaland is enveloped by the Utisols. The soil is characterized by its low base saturation feature. This soil type is found in different regions of the state and is prevalent mostly in the forested regions of the state which receive a high amount of rainfall. The texture of the soil remains clayey. Entisols cover 7.3 percent of the land area and is found mainly in the north and

the north eastern parts of the state of Nagaland. The light colored and mineral rich, Alfisols cover a meager 2.9 percent of the land area of the state of Nagaland. The fine loamy and the fine drained class of soil texture occur in the western extremity of the state near its border with Assam.

2.2.5 Water Resources:

24. Nagaland has a number of seasonal and perennial rivers and rivulets. The major rivers of Nagaland include Doyang, Dikhu, Dhansiri, Tizu, Tsurong, Nanung, Tsurang or Disai, Tsumok, Menung, Dzu, Langlong, Zunki, Likimro, Lanye, Dzuza and Manglu. All these rivers are dendritic in nature. While Dhansiri, Doyang and Dikhu flow westward into the Brahmaputra, the Tizu River, on the other hand, flows towards east and joins the Chindwin River in Burma. The main rivers flowing through project districts include Zungki river flows through Tuensang district, while Dikhu and Yangnyu are the important rivers of Longleng district. However, the subprojects covered under instant scheme have no major river crossings and thus do not have any impact on these water bodies.

2.2.6. Ecological Resources:

25. The recorded forest area of the state is 9,222 sq km which is 55.62% of its geographical area. The Reserved Forests constitute 0.93%, Protected Forests 5.51% and Unclassed Forests constitute 93.56%. Forest Map of Nagaland is enclosed as **Map-1**. The state has seven forest types as per Champion & Seth Classification, belonging to six forest type groups, viz. Tropical Wet Evergreen Tropical Semi-evergreen, Tropical Moist Deciduous, Subtropical Broadleaved Hill, Subtropical Pine and Montane Wet Temperate Forests. The proposed transmission and distribution lines traverse through districts of Tuensang & Longleng. The details of forest cover of these districts are given below:

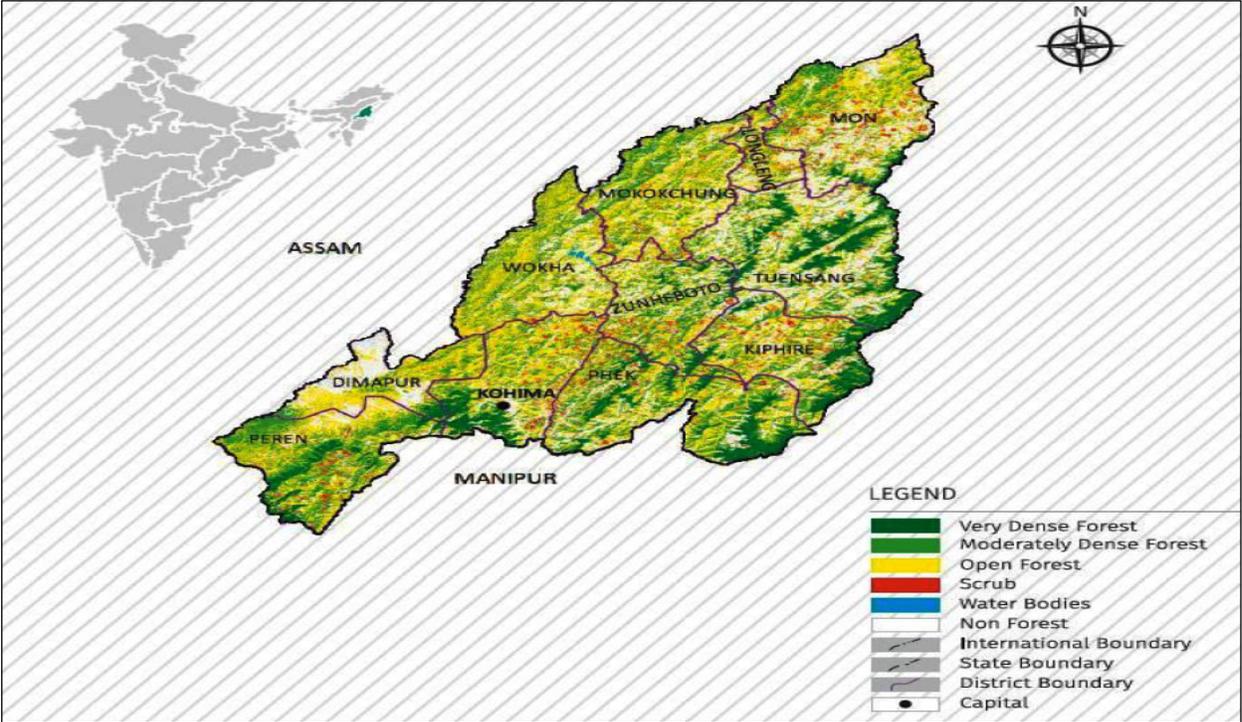
District	Geographic area	2013 Assessment (Area in Sq. km)				% Forest cover
		Very Dense forest	Mod Dense forest	Open forest	Total	
Tuensang	4,228	609	1,027	1,490	3,126	73.94
Longleng						

Note: Longleng district was carved out of Tuensang district in year 2004

2.2.7 Forests and Protected Areas:

26. Forest cover constitutes 78.68 % of the total area of this State. The State is endowed with wide range of flora and fauna due to the favourable climate and topography. The recorded forest

cover of Nagaland is 13,044 sq. km. Above 90% of the forest of Nagaland is governed by private (individual or communities). These forests are mainly individual forest, village forest, group of village forests, restricted forest, sacred forests etc. Village committee or village council manages and protects these forests. GoN vide Notification No. FOR-58/82 dated 03-07-1986 has limited the application of the Forest Conservation Act to these forest lands. The act, however, does not apply to other forest areas so the compensatory afforestation is not required in private, community or individual forest.



Map-1- Forest Map of Nagaland

27. Even though the state has 78.68 % of the area under forest cover, there are four protected areas in the State (for details refer Table-1). There are also nine Important Bird Area (IBA) sites and 421 wetlands in the state. The Doyang reservoir is one of the important wetlands in the state.

Protected Area Network in Nagaland

Sl. No.	National Park/ WL	Area (sq. km.)	District	Important Habitats
1	Intanki National Park	202.02	Peren	White-winged Duck, Rufous-necked Hornbill, Grey Sibia, common pheasant and black star
2	Fakim Wildlife Sanctuary	6.4	Kiphire & Tuensang	Blyth's Tragopan, Hume's Pheasant, Rufous-necked Hornbill, Grey Sibia

3	Puliebadze Wildlife Sanctuary	9.23	Kohima	Blyth's Tragopan, Chevron-breasted Babbler, Dark-rumped Swift, Striped Laughingthrush, Brown-capped Laughingthrush, Streak-throated Barwing, Grey Sibia, White-naped Yuhina
4	Rangapahar Wildlife Sanctuary	4.7	Dimapur	Sambar Deer, Spotted Deer and Barking Deer.

The proposed transmission and distribution lines don't pass through any protected area like national parks, sanctuaries, elephant reserves/corridors and biosphere reserve etc. In the instant scheme all such areas are completely avoided through careful route selection. It is also observed that there is no ecologically sensitive area within a radius of 10 km from the transmission and distribution lines proposed under this scheme.

2.2.8. Wetland:

28. The state of Nagaland has a total wetland area of 21544 Ha, which is 1.3% of total Geographic Area of the State. Total number of wetlands present in the State is 421, including 267 small wetlands, however, none of the wetlands is in the Ramsar list. Doyang Lake, Chthe Reservoir, Shilloi Lake and parts of Tizu river are important wetlands of the State. Total wetland area of Tuensang and Longleng districts are 2015 Ha and 947 Ha respectively. *However, none of these wetlands are getting involved/impacted in routing/RoW of proposed lines and locating substations.*

2.2.9 Human and Economic Development:

29. The Gross State Domestic Product (GSDP) of Nagaland was about ₹ 12065 crore (US\$2.0 billion) in 2011-12. Nagaland's GSDP grew at 9.9% compounded annually for a decade, thus more than doubling the per capita income. Nagaland has a high literacy rate of 80.1 per cent. Majority of the population in the state speaks English, which is the official language of the state. The state offers technical and medical education. Nevertheless, agriculture and forestry contribute majority of Nagaland's Gross Domestic Product. Most of state's population, about 68 per cent of the total, depends on rural cultivation. The main crops of the state are rice, millet, maize, and pulses. Cash crops, like sugarcane and potato, are also grown in some parts. Plantation crops such as premium coffee, cardamom, and tea are grown in hilly areas in small quantities, but a large growth potential. Most people cultivate rice as it is the main staple diet of the people. About 80% of the cropped area is dedicated to rice. Oilseeds is another, higher income crop gaining ground in Nagaland. The farm productivity for all crops is low, compared to

other Indian states, suggesting significant opportunity for farmer income increase. Currently the Jhum to Terraced cultivation ratio is 4:3; where Jhum is local name for cut-and-burn shift farming. Jhum farming is ancient, causes a lot of pollution and soil damage, yet accounts for majority of farmed area. The state does not produce enough food, and depends on trade of food from others states of India. Forestry is also an important source of income. Cottage industries such as weaving, woodwork, and pottery are also an important source of revenue. Tourism has a lot of potential, but largely limited due to insurgency and concern of violence over the last five decades. Nagaland's gross state domestic product for 2004 is estimated at \$1.4 billion in current prices.

The Longleng district is primarily inhabited by Phom tribe of Nagas. As per 2011 census, the total population of the district is 50,593. Literacy rate of the the district stands at 80.2%. Agriculture is the main profession of the population of the district. Jhum cultivation is the main form of Agriculture, though; wet paddy cultivation is also practiced. There are no established industries in the district, though, there are possibilities of Handicraft and Handloom industries.

The Tuensang district is home to five Naga tribes i.e. Chang, Sangtam, Khiamniugam, Yimchungar, Phom and Sumi. Total population is 4,14,801, while the population density is 98/sq. km. Agriculture is the main stay of the people of Tuensang. Two forms of Agriculture i.e. Jhum and Terrace are practiced. Rice, Maize, Millet, Pumpkin, Beans, Squash, Potato are the main Agriculture products. Industries are by and large absent in the district, in spite of the fact, that occurrence of various minerals such as Asbestos, Coal, Limestone, Marble, Magnesite, Chromite etc have been detected in the district.

2.2.3 ADMINISTRATIVE SET UP OF THE STATE

30. Since India's independence, the Naga territory of the present Nagaland State came under the administration of Assam Governor. In 1959, the Naga Hills District was divided into two, namely Kohima and Mokokchung with the office of Commissioner at Kohima. It was also assigned to look after the Tuensang Area²⁶¹ that formed the Naga Hills Tuensang Area (NHTA). Later, Nagaland became a full-fledged State on 1st December, 1963.

At the time of inauguration of the Statehood there were three districts, namely Kohima, Mokokchung and Tuensang. For effective administration reason, four more districts were created

in 1973, namely Phek, carved out of Kohima, Wokha and Zunheboto out of Mokokchung and Mon out of Tuensang. In 2000, Dimapur district was created out of Kohima district and became the eighth district in the State. Subsequently, in 2004, three more districts were created, Peren from Kohima district, Kiphire and Longleng from Tuensang district.

According to 2011 census, there are eleven districts in Nagaland, each headed by a Deputy Commissioner assisted by 18 Additional Deputy Commissioners and 19 Sub-Divisional Officers (Civil). Altogether, there are 1428 villages headed by Gaonburas or the traditional headmen who look after the administrative functioning of the villages. Each village has a Village Development Board (VDB) headed by the VDB Secretary, which serves as a decision making as well as implementing agency for all developmental works in the village level. There are 9 (nine) census towns and 19 statutory towns. The State is almost entirely inhabited by tribals with their own distinct lingual and cultural features. As such, 16 tribes are recognised in the State, viz; Angami, Ao, Chakhesang, Chang, Kachari, Khiamniungan, Konyak, Kuki, Lotha, Phom, Pochury, Rengma, Sangtam, Sema, Yimchunger and Zeliang.

2.2.4 Demography Features

2.2.4.1. Total Population

31. According to 2011 census, the population of Nagaland is 19,78,502. The district with highest population is Dimapur with 3,78,811, while with the lowest is Longleng with 50,484. As of 2011 census, the density of population in Nagaland is 119 per sq. km against the country's average of 362 per sq. km. Among the districts, the highest and lowest are Dimapur and Peren with 410 and 55 persons per square kilometre respectively.

The Naga people are a conglomeration of several tribes, have similar cultures and traditions. As of 2012, the State of Nagaland officially recognized 17 Naga tribes. Prominent Naga tribes include Angami, Ao, Chakhesang, Chang, Khiamniungan, Konyak, Liangmai, Lotha, Pochury, Rongmei, Zeme. The Naga tribes constitute about 86% of the population. In addition, some other Naga tribes occupy territory in the contiguous adjoining states of Manipur, Assam, and Arunachal Pradesh, India; and across the border in Burma. The Naga speak various distinct Tibeto-Burman languages, including Lotha, Angami, Pochuri, Ao, Poula (Poumai Naga), Inpui, Rongmei (Ruangmei), Tangkhul, Thangal, Maram, and Zeme. In addition, they have developed Nagamese Creole, which they use between tribes and villages, which each have their own dialect of

language. The details of population residing in rural and urban area of the state and project districts are delineated at **Table no.2.2**.

Table 2.2: Details on Total Population

Name/Particular	Total Population	Total (Rural)	Total (Urban)	Percentage (Rural)	Percentage (Urban)
Nagaland	19,78,502	14,07,536	5,70,966	71.14	28.86
Tuensang	1,96,596	1,59,822	36774	81.29	18.71
Longleng	50,484	42,871	7613	84.92	15.08

Source: Census of India, 2011

2.2.4.2 Male and Female Population

32. In 2011, the sex ratio in Nagaland is 931 as compared to 940 of India. The Tuensang and Longleng districts has the sex ratio of 929 and 849 respectively which is lower than state and national average. The details are given in **Table 2.3**.

Table 2.3: Details on Male/ Female Population

Name/Particulars	Total Population	Total Male	Total Female	Percentage (Male)	Percentage (Female)	Sex Ratio
Nagaland	19,78,502	10,24,649	9,53,853	51.79	48.21	931
Tuensang	1,96,596	1,01,933	94,663	51.85	48.15	929
Longleng	50,484	26,502	22,511	52.50	44.59	849

Source: Census of India, 2011

2.2.4.3 Scheduled Caste (SC) and Scheduled Tribe (ST) Population

33. As per census 2011, the Scheduled Caste (SC) & Scheduled Tribe (ST) population of the State stands at nil and 17,10,973 (86.48%) respectively. The details n SC/ ST population of the state and project districts are given in **Table 2.4**.

Table 2.4: Details on SC/ ST Population

Name/Particulars	Total Population	Total SC Population	% of SC Population	Total ST Population	% of ST Population
Nagaland	19,78,502	0	0	17,10,973	86.48
Tuensang	1,96,596	0	0	190916	97.11
Longleng	50,484	0	0	48615	96.30

Source: Census of India, 2011

2.2.4.4 Literacy

34. In Nagaland the literacy rate of the State stands at 67.85% comprising of 53.93% male literacy and 46.07% of female literacy. Such details for other projects districts are provided in **Table 2.5**.

Table 2.5: Literate Population

Name/Particulars	Total Population	Total Literate	% of Literate	% of Male Literate	% of Female Literate
Nagaland	19,78,502	13,42,434	67.85	53.93	46.07
Tuensang	1,96,596	1,17,511	59.77	55.87	45.83
Longleng	50,484	29,859	59.15	54.05	45.95

Source: Census of India, 2011

2.2.4.5. Total Workers (Male and Female)

35. In Nagaland, Total population into work stands at 9,74,122 of which total Male (work) population stands at 5,47,357 (56.19%) and total female (Work) population stands at 4,26,765 (43.81%). The details on working population for other project districts are given in **Table 2.6**.

Table 2.6: Details on Worker

Name/Particulars	Total Population (Work)	Total Male (Work)	Total Female (Work)	% of Male (Work)	% of Female (Work)
Nagaland	9,74,122	5,47,357	4,26,765	56.19	43.81
Tuensang	98,154	52,931	45,223	53.93	46.07
Longleng	30,568	16,273	14,295	53.24	46.76

Source: Census of India, 2011

2.2.4.6. Households

36. Total Households in Nagaland stands at 3,96,002 of which 2,77,491 (70.07%) households belong to rural area and 1,18,511 (29.93%) households belong to urban area. The details on households of other projects districts are delineated at **Table 2.7**.

Table 2.7: Details on Households

Name/Particulars	Total Households	Total (Rural)	Total (Urban)	% of Rural	% of Urban
Nagaland	3,96,002	2,77,491	1,18,511	70.07	29.93
Tuensang	36,742	29,782	6,960	81.05	18.95
Longleng	11,985	10,295	1,690	85.90	14.10

Source: Census of India, 2011

III. LEGAL & REGULATORY FRAMEWORK

3.1. Overview

37. In India, compensation for land acquisition (LA) and rehabilitation for project affected persons/families is directed by the National law i.e. “The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (hereafter RFCTLARR, 2013)”, effective from 1st January 2014. For transmission/distribution line project, land for tower/pole and right of way is not acquired and ownership of land remains with the owner and is allowed to continue cultivation after construction, hence this act is not applicable. However, as per existing laws⁵ compensation for all damages are paid to the individual land owner. The relevant national laws applicable for transmission/distribution project are (i) The Electricity Act, 2003 and (ii) The Indian Telegraph Act, 1885. The compensation principles adopted in the Entitlement Matrix for this project comply with applicable laws/ regulations of the GOI/ State Govt., World Bank’s Safeguard Policies and DPN’s ESPPF.

3.2. Statutory Requirements

38. Transmission lines are constructed under the ambit of The Electricity Act, 2003. The provisions stipulated in section 67-68 of the Electricity Act, 2003 read with section 10 & 16 of the Indian Telegraph Act, 1885 governs the compensation as DPN has been vested with the powers of Telegraph Authority vide Department of Power, Govt. of Nagaland notification dated 16th April, 2016 under Section- 164 of the Electricity Act. As per the provision of Indian Telegraph Act, 1885 under section 10 (b), DPN is not authorized to acquire any land hence land under tower is not acquired. However, compensation for all damages are paid to the individual land owner as per the provision of Section-10 (d) of Indian Telegraph Act, 1885.

39. The provisions in the Electricity Act, 2003 and Indian Telegraph Act, 1885 regarding compensation for laying of transmission lines are as follows:

3.2.1. The Electricity Act, 2003, Part-VIII, Section 67 & 68

Quote:

Section 67 (3-5):

⁵ 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

- (3) *A licensee shall, in exercise of any of the powers conferred by or under this section and the rules made thereunder, cause as little damage, detriment and inconvenience as may be, and shall make full compensation for any damage, detriment or inconvenience caused by him or by any one employed by him.*
- (4) *Where any difference or dispute [including amount of compensation under sub-section (3)] arises under this section, the matter shall be determined by the Appropriate Commission.*
- (5) *The Appropriate Commission, while determining any difference or dispute arising under this section in addition to any compensation under sub-section (3), may impose a penalty not exceeding the amount of compensation payable under that sub-section.*

Section 68 (5 & 6):

- (5) *Where any **tree standing or lying near an overhead line or where any structure or other object which has been placed or has fallen near an overhead line** subsequent to the placing of such line, interrupts or interferes with, or is likely to interrupt or interfere with, the conveyance or transmission of electricity or to interrupt or interfere with, the conveyance or transmission of electricity or the accessibility of any works, an Executive Magistrate or authority specified by the Appropriate Government may, on the application of the licensee, cause the tree, structure or object to be removed or otherwise dealt with as he or it thinks fit.*
- (6) *When disposing of an application under sub-section (5), an Executive Magistrate or authority specified under that sub-section shall, in the case of any tree in existence before the placing of the overhead line, **award to the person interested in the tree such compensation as he thinks reasonable, and such person may recover the same from the licensee.***
- Explanation. - For purposes of this section, the expression “tree” shall be deemed to include any shrub, hedge, jungle growth or other plant.*

Unquote.

3.2.2. The Indian Telegraph Act, 1885, Part-III, Section 10:

Quote:

Section 10 – *The telegraph authority may, from time to time, place and maintain a telegraph line under, over, along, or across, and posts in or upon any immovable property, Provided that*

- a) *the telegraph authority shall not exercise the powers conferred by this section except for the purposes of a telegraph established or maintained by the [Central Government], or to be so established or maintained;*

- b) ***the [Central Government] shall not acquire any right other than that of user only in the property under, over, along, across in or upon which the telegraph authority places any telegraph line or post; and***
- c) *except as hereinafter provided, the telegraph authority shall not exercise those powers in respect of any property vested in or under the control or management of any local authority, without the permission of that authority; and*
- d) ***in the exercise of the powers conferred by this section, the telegraph authority shall do as little damage as possible, and, when it has exercised those powers in respect of any property other than that referred to in clause (c), shall pay full compensation to all persons interested for any damage sustained by them by reason of the exercise of those powers.***

Unquote.

Section 16 of the Indian Telegraph Act, 1885 which stipulates as under:

16. Exercise of powers conferred by section 10, and disputes as to compensation, in case of property other than that of a local authority:

- (1) *If the exercise of the powers mentioned in Section 10 in respect of property referred to in clause (d) of that section is resisted or obstructed, the District Magistrate may, in his discretion, order that the telegraph authority shall be permitted to exercise them.*
- (2) *If, after the making of an order under sub section (1), any person resists the exercise of those powers, or, having control over the property, does not give all facilities for this being exercised, he shall be deemed to have committed an offence under section 188 of the Indian Penal Code (45 of 1860).*

3.3. DPN's ESPPF

40. To address the environmental and social issues related to its power transmission and distribution projects under NERPSIP, DPN has adopted an Environmental and Social Policy & Procedures Framework (ESPPF) in 2015 based on the principles of avoidance, minimization, and mitigation. The ESPPF had been developed by POWERGRID on behalf of the State Utility based on ESPP of POWERGRID who has proven credentials in management of environmental and social issues of large number of power transmission projects both within and outside the country after a comprehensive review of Utility's existing policies/provisions and consultation with

stakeholders.

41. ESPPF's outlines Utility's approach and commitment in dealing with the environmental and social issues relating to its transmission projects, lays down the management procedures and protocols for the purpose that includes the framework for identification, assessment, and management of environmental and social concerns at both organizational and project levels.

42. ESPPF's provides compensation to affected persons in respect of temporary damages like crop/tree/structure etc during construction of transmission line as per the eligibility criteria stipulated in Entitlement Matrix (EM) (Table-5.1). Accordingly, compensation is paid to eligible APs for actual damages including non-title holders such as squatter, encroacher etc. As regard land compensation for transmission line, as per prevailing practice only compensation @100% of land cost for tower base shall be paid to affected land owner.

43. Specifically on social, the following criteria and approach are considered in the ESPPF:

- (i) Take due precautions to minimize disturbance to human habitations, tribal areas and places of cultural significance.
- (ii) Take due care of Project Affected Persons (PAP).
- (iii) Involve affected people from inception stage to operation and maintenance.
- (iv) Consult affected people in issues of RoW, land acquisition or loss of livelihood.
- (v) Encourage consultation with communities in identifying environmental and social implications of projects.
- (vi) Guarantee entitlements and compensation to affected people as per entitlement matrix.
- (vii) Share information with local communities about environmental and social implications.
- (viii) Always maintain highest standards of health and safety and adequately compensate affected persons in case of any eventuality.

3.4. Basic Principles for the Project

44. The basic principles adopted for the Project are:

- (i) Avoid negative impacts of land acquisition and involuntary resettlement on persons affected by the Project to the extent possible.
- (ii) Where negative impacts cannot be avoided, assist affected persons (AP), in improving or at least regaining their standard of living and income.

- (iii) Carry out meaningful consultations with affected persons and inform all displaced persons of their entitlements and resettlement options. Ensure their participation in planning, implementation and monitoring of the Project
- (iv) Disclose all information related to, and ensure AP participation in, resettlement planning and implementation.
- (v) Provide compensation for acquired assets at replacement/market value in accordance with the RP/CPTD.
- (vi) Ensure that displaced persons without titles to land or any recognizable legal rights to land are eligible for resettlement assistance and compensation for loss of non-land assets.
- (vii) Provide resettlement assistance and income restoration to APs.
- (viii) Provide for APs not present during enumeration. However, anyone moving into the project area after will not be entitled to assistance.
- (ix) Develop procedures in a transparent, consistent, and equitable manner if land acquisition is through negotiated settlement to ensure that those people who enter into negotiated settlements will maintain the same or better income and livelihood status.
- (x) Provide compensation and resettlement assistance prior to taking possession of the acquired lands and properties.
- (xi) Establish grievance redress mechanisms to ensure speedy resolution of disputes.
- (xii) Ensure adequate budgetary support to cover implementation costs for CPTD.
- (xiii) Monitoring of the implementation of CPTD.

45. Additionally, the issues related to the Right of Way (RoW) for the transmission lines will be dealt with proper care especially for the temporary loss. For the loss of crops and trees due to construction of overhead lines, cash compensation payable by cheque/through online transfer will be provided during construction works. Further, cash compensation (by cheque/ online transfer) to the APs for the temporary loss of crop and loss of trees if occurred, during the time of maintenance and repair.

3.5. World Bank's Environmental & Social Safeguard Policies

46. The objective of Bank's policies is to prevent and mitigate undue harm to people and their environment in the development process. Safeguard policies provide a platform for the participation of stakeholders in project design, and act as an important instrument for building ownership among local populations. Operational Policies (OP) are the statement of policy

objectives and operational principles including the roles and obligations of the Borrower and the Bank, whereas Bank Procedures (BP) is the mandatory procedures to be followed by the Borrower and the Bank. Apart from these, World Bank Group Environmental, Health, and Safety (EHS) General Guidelines and EHS Guidelines for Electric Power Transmission and Distribution are also relevant for environmental protection and monitoring of transmission projects. The WB's relevant social safeguard policies and their objective are given in **Table – 3.1**.

Table 3.1: World Bank's Operational Policies for Social Safeguard

Operational Policy (OP)	Policy Objectives
OP 4.11 - Physical Cultural Resources (PCR)	To preserve PCR and in avoiding their destruction or damage. PCR includes resources of archeological, paleontological, historical, architectural, and religious (including graveyards and burial sites), aesthetic, or other cultural significance.
OP 4.12 – Involuntary Resettlement	To avoid or minimize involuntary resettlement and, where this is not feasible, assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
OP 4.10 – Indigenous Peoples	To ensure that the Indigenous Peoples receive social and economic benefits those are culturally appropriate and gender and inter generationally inclusive. The project shall ascertain broad community support for the project based on social assessment and free prior and informed consultation with the affected Tribal community, if any.

IV. PROJECT IMPACTS

4.1. General

47. The project does not require any private land acquisition for construction of transmission/distribution lines. Due to inherent flexibility in routing of line, no major damages to structures or physical displacement is envisaged. Hence, there are no adverse social impacts such as permanent loss of assets, livelihood loss or physical resettlement/relocation due to project intervention. However, there are some social impacts due to construction of lines/placing of towers & poles which are temporary in nature in terms of loss of standing crops/trees/structures in the RoW. Preliminary investigation/survey has been carried out for transmission/distribution line to estimate/ arrive at the selection of one best feasible alignment route out of at least 3 alternative alignments studied, for detailed survey to be undertaken during execution of main contracts. The details of tower/pole schedule depicting location & its coordinate, land use including major crossings along proposed route alignment is placed as **Annexure-2**. The compensation for damage is assessed in actual after construction activities of transmission lines in three stages i.e. after completion of foundation, tower erection and stringing of conductor. The payment of compensation is also paid in three instances, if there are damages during all the above three stages. Assessment of damages at each stage and subsequent payment of compensation is a continuous process. Hence, CPTD updating will also be a continuous process during construction. The details of land use have been gathered to have an idea about the temporary damages that might occur during construction of the transmission and distribution lines. The RoW width for 132 KV D/C transmission line is 27 meters whereas, the 33 kV distribution lines it is 15 meters.

48. Soil & Surface Geology: In plain areas impact on soil & geology will be almost negligible as the excavated pit material is stacked properly and back filled as well as used for resurfacing the area. On hill slopes where soil is disturbed will be prone to erosion is suitably protected by revetment, breast walls, and proper drainage. Besides extensive leg /chimney extension shall be used to avoid benching or cutting of slopes to minimize the impact on slope stability.

The land requirement for erection of tower legs is very small i.e. for each leg of tower actual construction is done on a small square area with side length ranging from 0.20 to 0.30 meter depending on the types of tower. Four such square pieces of land will be required to place the legs of tower. The area that becomes unavailable because of the erection of tower legs for an

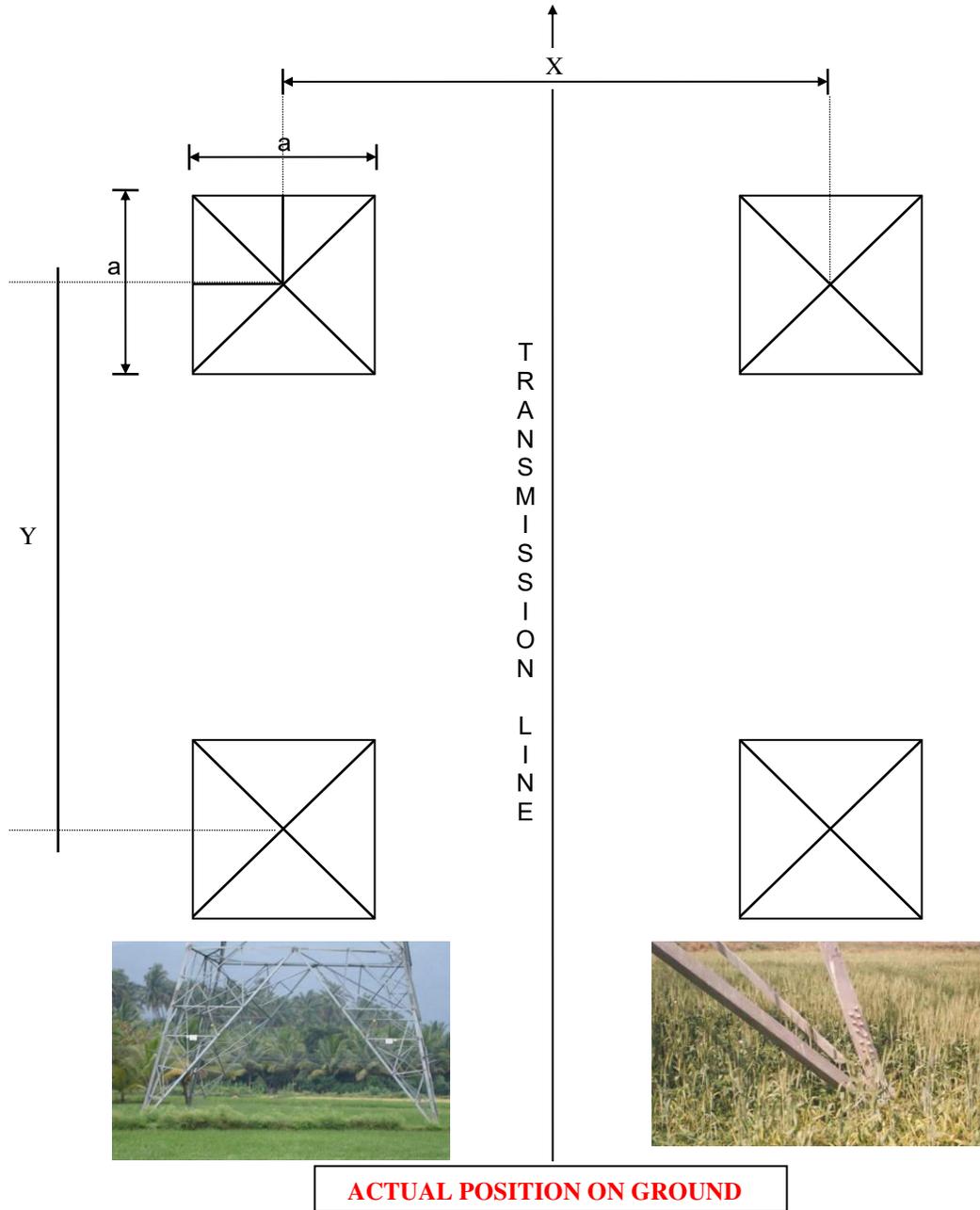
average 132 kV D/c transmission tower ranges from 0.16-0.36 sq.m. of land. Thus, the actual impact is restricted to 4 legs of the tower and agriculture can continue as clearly depicted in the **Figure-4.1**. In case of 33 kV distribution line area that becomes unavailable because of the erection of pole is insignificant as approx. 1 sq. ft. land area is occupied for one pole (refer **Figure. 4.2** depicting actual base area impact). Due diligence confirms that land is either agricultural or barren, and current land use is not altered and resumed after construction. As per present practices, full compensation (100%) towards land value in tower base areas as decided by the district authority is paid towards damages to the affected persons/land owners. Since, Govt. of Assam vide notification dated 10th March, 2017 has adopted the MoP guidelines, compensation toward damages in regard to RoW shall be paid as per the norms in addition to normal crop and tree damages.

49. Crops: Construction of line in crop season is avoided as far as possible. In case when installation of towers/poles impacts on agricultural activity, detailed assessment/survey is conducted looking at existing crops, general crop patterns, seasonal particulars, nature and extent of yield. This data is compiled and analysed to study the extent and nature of impact. The compensation is in terms of yield/hectare and rate/quantity for prevailing crops in the area. Based on this, total compensation is calculated in consultation with revenue authorities. Compensation is paid to the owners and their acknowledgement obtained.

50. Trees: Construction of line in fruit bearing season is avoided as far as possible. Tree compensation is calculated on the basis of tree enumeration, tree species and an estimate of the compensation will be calculated on the basis of 8 years yield (assessed by revenue/horticulture department). Market rates of compensation are assessed by the relevant government authorities. The total estimate is submitted for approval of the competent authority. Payments are made to owners in the presence of local revenue authorities or village head/ Sarpanch and respective acknowledgements are obtained.

51. Other Damages: Like bunds, water bodies, fish ponds, approach paths, drainage and irrigation canals etc. are at best avoided. However, if damaged, the Revenue Department assesses the cost of damage as per State Govt. norms. The total estimate is submitted for approval to the competent authority. Payments are made to owners in the presence of local revenue authorities or village head/ Sarpanch and respective acknowledgements are obtained and POWERGRID/ DPN pays the compensation. Hindrances to power, telecom carrier & communication lines etc. shall be paid as per Govt. norms.

Figure- 4.1: Typical Plan of Transmission Line Tower Footing

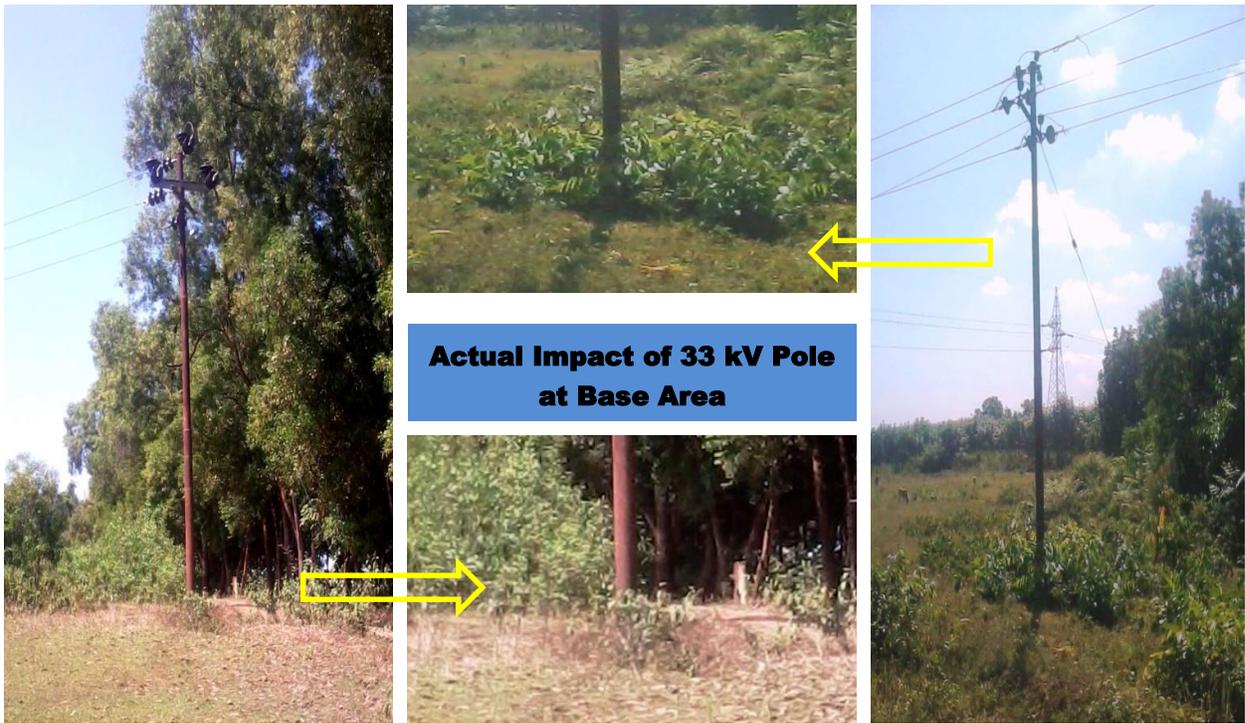


INDICATIVE MEASURES

X & Y = 5-10 METERS

a = 200- 300 mm

Figure- 4.2: 33 KV lines (Single & H pole) depicting base area impact



33 kV line inside city area of



33 kV (H Pole) line inside substation

4.2. Impact due to construction of New Substation and Bay extension

The project component consists of establishment of one 132/33 KV new substation at Longleng and one Extn.132/33kV substation at Tuensang and there is 33/11 kV new substation at Longleng. However, fresh land required only in case of 132/33kV Longleng which was secured through private purchased on negotiated rates based on “willing buyer-willing seller basis”. For remaining new substation and bay extensions of the EHV and DMS substations land is already available with DPN. Since involuntary acquisition is involved, R&R will not be an issue in the instant project. The details are provided in **Table 4.1**:

Table 4.1: Details of Substation

Name of substation	Permanent Impact on Land Use	Temporary Impact on loss of crops	Impact on Loss of Trees	Details of Land			
				Land Area (acre)	No. of Land owner	Compensation (Rs. Million)	Land Type/ Securing method
132/33kV Longleng	Yes	Nil	50 Nos	8.1	7	0.458	Private Land purchased on negotiated rates based on “willing buyer-willing seller basis
Extn. of 132/33 kV Tuensang	Nil	Nil	Nil	NA	NA	NA	DPN Land
33/11 kV Longleng	Yes	Nil	Nil	0.52	NA	NA	DPN land

4.3. Temporary Impacts Caused due to Transmission/Distribution Line (Right of Way)

4.3.1. Type and Use of Land within Corridor Right of Way

52. The line corridor will pass through mixed land uses which are generally agricultural land, private plantation, government land etc. The calculations are based on detailed survey/ investigation carried out along the route of transmission/distribution lines and considering the total line length of the line and its right of way. The total line length is 34.14 kilometres which will impact an estimated of 212.94 acre⁶ of land. These include 11 km of line passing through agricultural land (73.39 acre of agricultural land), 21.64 km of private plantation (132.52 acre of private plantation land) and 1.5 km of government land (7.04 acre of government/ barren land). A brief description about the type and use of land in the corridor is given in **Table 4.2**.

⁶ Total Line Length (kilometers) X Right of Way (meters)X1000/4,047= Area in Acre

Table 4.2: Type and Use of Land within Corridor of RoW (in Km/Acre)

Sl. No.	Name of the Line	RoW Width (in meter)	Agricultural land	Private Plantation	Forest	Govt land	Total
A. Transmission Line							
1	132 kV S/C Tuensang - Longleng	27	11km (73.39 acre)	17.64km (117.69 acre)	Nil	0.5km (3.33 acre)	29.14km (194.41acre)
B. Distribution Line							
2	33kV line Longleng - Longleng Town S/s	15	Nil	4km (14.83 acre)	Nil	1km (3.71 acre)	5km (18.53 acre)
Total			11km (73.39 acre)	21.64km (132.52 acre)	Nil	1.5km (7.04 acre)	34.14km (212.94 acre)

Source: Detailed Survey

4.3.2 Total loss of crop area (RoW Corridor & Tower/Pole)

53. For the temporary loss of crops, only agricultural land and private plantation land are considered for estimation. The damages are not done in complete RoW of line (27 m for 132 kV D/c) but mostly restricted to tip to tip of the conductor and tower base area where average affected width/corridor would be limited to 20 meter (maximum). In 33 kV distribution lines, damages are minimal (mostly near bi-pole/quad-pole structure) however, 10-meter corridor is considered for accessing the damages. Moreover, all efforts are made to reduce the damages to crops and to minimize the impacts whatsoever. One of the reasons is that schedules of construction activities are undertaken in lean season or post-harvest periods. As the assets of any sorts will not be acquired but during construction, only temporary damages will occur for which the compensation shall be paid to affected persons as per entitlement matrix.

54. Based on the above estimation, the total land considered for crop compensation for transmission/distribution line corridor and tower/pole foundation for the entire subproject covered under the scope of above CPTD is 151.42 acre. Details of estimated impacted area for crop damages is given in **Table 4.3:**

Table 4.3: Estimation on Loss of Land for Crop Damage due to Overhead Lines

Name of the line	Width Considered for Estimation of Loss of Crops and other impacts (Meter)	Total Agricultural Land (km)	Total Private Plantation (km)	Total Line Length Considered for Crop Compensation (km)	Total Land Area considered for Crop Compensation (acre)
A. Transmission Line					
132 kV S/C Tuensang - Longleng	20	11	17.64	28.64	141.54
Total- A		11	17.64	28.64	141.54

B. Distribution Line					
33kV line Longleng - Longleng Town S/s	10	Nil	4	4	9.88
Total- B		Nil	4	4	9.88

Source: Detailed Survey

4.3.3 Actual loss of land for Tower Base & Pole

55. As already explained, the impact of transmission line is restricted to 4 legs of the tower and agriculture can continue after construction activity is over. The average land area will be unavailable for erection of one 132 kV T/L tower and one pole for 33 kV D/L is approx. 0.25 sq.m & 0.092 sq.m. respectively. Based on above, total land loss for construction of 29.14 km of 132 kV transmission line and 5 km of 33 kV distribution line proposed under the present scheme is estimated 0.008 acre respectively. However, compensation toward loss land shall be provided to APs which is part of RoW compensation. Details of land loss for tower base & pole are given in **Table- 4.4.**

Table 4.4: Estimation of Actual Loss of Land for Tower Base & Pole

Name of the line	Line length (km)	Total Tower/Pole (Nos.)	Land loss per tower/ pole base (sq.m.)	Total land loss area for tower & pole base (sq.m)
A. Transmission Line				
132 kV S/C Tuensang - Longleng	29.14	102	0.25	25.5
Total- A				25.5 \cong 0.0063 acre
B. Distribution Line				
33kV line Longleng - Longleng	5	75	0.092	6.9
Total- B				6.9 \cong 0.0017 acre

4.3.4 Land area for Tower base compensation as per MoP Guidelines /Govt. of Nagaland notification

56. Since Govt. of Nagaland has not approved the adoption of MoP guidelines dated 15.10.2015 no payment will be paid for land compensation for RoW corridor area. However, as per prevailing practice compensation @ 100% land value for tower base shall be paid to the affected persons/land owners. Details of land areas considered for such compensation is given in **Table 4.5.**

Table 4.5 Land area for Tower base Compensation

Name of the line	Line length (km)	Nos. of Tower	Land area for Towerbase per km (in acre)	Total land area for tower bas (In acre)
132 kV S/C Tuensang - Longleng	29.14	102	0.036	1.04
Total				1.04

4.3.5. Loss of Trees

57. Total numbers of trees likely to be affected due to construction of 29.14 km of 132 kV line and for 5 km of 33 kV distribution line is approx. 1690 nos. out of which 1600 are private trees and approx. 90 trees in govt. land. Additionally, approx. 500 nos. private bamboo trees likely to be affected. The major species to be affected are Bamboo (*Bambusa ballooa*), Orange tree (*Citrus sinensis*), Banana (*Musa acuminata*), Tiksong (*Tectona grandis*) & Gooseberry (*Embllica officinalis*). During construction, private trees will be compensated as per the entitlement matrix. Details on number of trees for each line are given in **Table 4.6**.

Table 4.6: Loss of Trees

Name of Line	Trees in Private Area (Numbers)	Trees in Govt. Area (Numbers)	Total Trees (Numbers)
A. Transmission Line			
132 kV S/C Tuensang - Longleng	1000+500 Bamboo	60+20 Bamboo	1060+520 Bamboo
B. Distribution Line			
33kV line Longleng - Longleng	100	10	110
Total			1170+520 Bamboo

Source: Detailed Survey

4.3.6. Loss of Other Assets (Small Shed in Agriculture Fields)

58. It has been observed during survey that approximately 1 number of small structures exist along the right of way of proposed lines. These are small storage sheds/huts which are mostly temporary structure associated with the agricultural fields. People do not use these small structures/sheds for residential purpose and they use it as storage of agricultural purpose only. During construction, these will be compensated in cash as per the entitlement matrix. Details on impacts on small structures are given in **Table 4.7**

Table 4.7: Loss of Other Assets

Name of Line	No. of storage sheds/huts
A. Transmission Line	
132 kV S/C Tuensang - Longleng	1
B. Distribution Line	
33kV line Longleng - Longleng	0
Total	1

Source: Detailed Survey

4.4. Details of Affected Persons

59. It is estimated that total number of affected persons which may be impacted temporarily will be approximately 170. Details are given in **Table 4.8**. The number of APs in the table refers

to the most conservative option. State Utilities/ POWERGRID will schedule civil works in such a way to minimize impacts and substantially reduce the damages to crops and therefore the number of affected persons and Agricultural Households (AHH).

Table 4.8: Number of Affected Persons

Name of Line	Total APs
A. Transmission Line	
132 kV S/C Tuensang - Longleng	100
B. Distribution Line	
33kV line Longleng - Longleng	70
Total	170

Source: Detailed Survey

4.5 Other Damages

60. As far as possible, damages to bunds, water bodies, fish ponds, approach paths, drainage and irrigation canals etc. are avoided. However, if damaged during construction activities, compensation as per practice is paid after assessment of the cost of damage by the State Govt. Revenue Department. The total estimate is submitted for approval to the competent authority. DPN/POWERGRID pays the compensation to owners in the presence of local revenue authorities or Village head/ Sarpanch and respective acknowledgements are obtained. Any hindrances to power, telecom carrier & communication lines etc. shall also be paid as per Govt. norms.

4.6 Impact on Indigenous People

61. Government of India, under Article 342 of the Constitution, considers the following characteristics to define indigenous peoples [Scheduled Tribes (ST)]:

- (i) tribes' primitive traits;
- (ii) distinctive culture;
- (iii) shyness with the public at large;
- (iv) geographical isolation; and
- (v) social and economic backwardness before notifying them as a Scheduled Tribe.

62. Essentially, indigenous people have a social and cultural identity distinct from the 'mainstream' society that makes them vulnerable to being overlooked or marginalized in the development processes. STs, who have no modern means of subsistence, with distinctive culture and are characterized by socio-economic backwardness, could be identified as Indigenous Peoples. Indigenous people are also characterized by cultural continuity. Constitution of India

identifies schedule areas which are predominately inhabited by such people.

63. The State of Nagaland is pre-dominantly a tribal state with > 89% population, inhabited by 16 major tribes under the umbrella term of the 'Naga', and along with a number of subtribes. Accordingly, special provision has extended to the State under Article 371 A of the Constitution of India which provides “no act of parliament in respect of religious and social practices of the Naga, Naga customary laws and procedures, administration of civil and criminal justices involving decisions according to Naga customary law and ownership and transfer of land and its resources shall apply to the state of Nagaland, unless Legislative Assembly of the state, by a resolution, so decides.

64. Since, the project under NERPSIP is envisaged for economic uplifting of the NE region, hence, no indigenous population will be negatively impacted in the project area. However, It may be noted that all social issues shall be dealt separately in accordance with the provisions of Social Management Framework (SMF, A-C) placed in the Further, *It may be noted that all social issues shall be dealt separately in accordance with the provisions of Social Management Framework (SMF, A-C), placed in the ESPPF of DPN*”.

4.7. Summary of Impacts

65. Based on the above assessment, temporary impacts on loss of crops, trees, other structures and number of APs are summarized below in **Table 4.9**.

Table 4.9: Summary of Impacts

Particulars	Details	
	Transmission Line	Distribution Line
Length in km	29.14	5
Number of Towers/ Poles	102	75
Total Area of actual land loss under Tower Base (acre)	0.0063	0.0017
Total APs	100	70
Affected Structures (Small Sheds for agricultural purpose)	1	Nil
Area of Temporary Damages for crop compensation (In acre)	141.54	9.88
Total Trees	1060+520 Bamboo	110

Source: Detailed Survey

V. ENTITLEMENTS, ASSISTANCE AND BENEFITS

5.1. Entitlements

66. There is no involuntary acquisition of land involved; only temporary damage will occur during construction of transmission lines for which compensation is paid as per relevant regulations/ norms. APs will be entitled for compensation for land loss and other towards temporary damages to crops/ trees/ structures etc. as per the Entitlement Matrix given in **Table- 5.1**. Compensation towards temporary damages to all eligible APs including non-title holders is paid after assessment by relevant authorities of State Govt.

67. All APs are paid compensation for actual damages irrespective of their religion, caste and their economic status. One time additional lump sum assistance will be paid to vulnerable households not exceeding 25% of total compensation on recommendation of State Authority/ADC/VC. As an additional assistance, construction contractors are encouraged to hire local labour that has the necessary skills.

5.2. Entitlement Matrix

68. An Entitlement Matrix for the subprojects is given in **Table 5.1**.

Table 5.1: Entitlement Matrix

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
1.	Land area below tower base (#)	Owner	100% land cost at market value as ascertained by revenue authorities or based on negotiated settlement without actual acquisition/title transfer.
2.	Loss/damage to crops and trees in line corridor	Owner/ Tenant/ Sharecropper/ Leaseholder	Compensation to actual cultivator at market rate for crops and 8 years income for fruit bearing trees*. APs will be given advance notice to harvest their crops. All timber* will be allowed to retain by the owner.
3.	Other damages (if applicable)	All APs	Actual cost as assessed by the concerned authority.
4.	Loss of structure		
(i)	House	Titleholders	Cash compensation at replacement cost (without deduction for salvaged material and depreciation value) plus Rs. 25,000/- assistance (based on prevailing GOI norms for weaker section housing) for construction of house plus transition benefits as per category-5 below.

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
(ii)	Shop/ Institutions/ Cattle shed	Individual/ Titleholders	Cash compensation plus Rs. 10000/- for construction of working shed/shop plus transition benefits as per category-5 below
(iii)	Losses during transition under (i) & (ii) above for Shifting / Transport	Family/unit	Provision of transport or equivalent cash for shifting of material/ cattle from existing place to alternate place
(iv)	Tribal/ Vulnerable APs	Vulnerable APs ⁷	One time additional lump sum assistance not exceeding 25% of total compensation on recommendation of State Authority/ADC/VC.

(#) *As per decision of State Govt./DPN only land compensation for tower base shall be paid as per prevailing practice.*

* *Assistance/help of Forest department for timber yielding trees and Horticulture department for fruit bearing trees shall be taken for assessing the true value.*

5.3. Procedure of Tree/crop compensation

69. In exercise of the powers conferred by section 164 of the Electricity Act, 2003, Department of Power, Govt. of Nagaland vide notification dated 16th April, 2016 has authorized DPN to exercise all the power vested in the Telegraph Authority under part-III of the Indian Telegraph Act, 1885, to place and maintain transmission lines under over along or across and posts in or upon, any immovable property. However, the provisions of same act in Section 10 (d) stipulates that the user agency shall pay full compensation to all interested for any damages sustained during the execution of said work. Accordingly, DPN/ POWERGRID shall pay compensation to land owners towards damages, if any for tree, crop etc. during implementation of project as well as during operation and maintenance phase. The procedure followed for such compensation is as follows:

70. DPN follows the principle of Avoidance, Minimization and Mitigation in the construction of line in agricultural field and cropping areas due to inherent flexibility in phasing the construction activity and tries to defer construction in cropped area to facilitate crop harvesting. However, if it is unavoidable and is likely to affect project schedule, compensation is given at market rate for standing crops. All efforts are also taken to minimize the crop damage to the extent possible in such cases.:

71. As regard of trees coming in the Right of Way (RoW) following procedure is adopted for enumeration:

- All the trees which are coming within the clearance belt of ROW on either side of the

⁷ Vulnerable APs include scheduled tribes residing in scheduled areas/ physically handicapped/ disabled families etc.

centre line are identified and marked/numbered from one AP to the other and documented.

- Type, Girth (Measured 1 m. above ground level), approximate height of the tree is also noted for each tree
- Trees belonging to Govt., Forest, Highways and other local bodies may be separately noted down or timely follow up with the concerned authorities for inspection and removal.
- Guava, Lemon, and other hybrid trees which are not of tall growing nature are not marked for cutting since these trees can be crossed using standard tower extensions if required.

72. A notice under Electricity Act, 2003/ Indian Telegraph Act, 1885 is served to the landowners informing that the proposed transmission line is being routed through the property of the individual concerned. The notice shall contain the particulars of the land, ownership details and the details of the trees/crops/land inevitability likely to be damaged during the course of the construction of the proposed transmission line and acknowledgement received from land owners. A copy of said notice is further issued to the Revenue Officer/DC, who has been authorized by the Nagaland Govt. for the purpose of assessment/valuation and disbursement of compensation to the affected parties.

73. The revenue officer shall further issue a notice of intimation to the concerned land owner and inspect the site to verify the documents related to the proof of ownership and a detailed Mouja list is prepared for the identified trees/ crops/ land for tower footing inevitability damaged during the course of the construction. For assessing the true value of timber yielding trees help of forest officials is taken and for fruit bearing trees help of Horticulture department is taken.

74. The Mouja list shall contain the land owner details, type of tree/crop, its present age, variety, yielding pattern etc. and the same is prepared at site in the presence of the land owner. These Mouja lists are further compiled and a random verification is conducted by the concerned DC or his authorized representative in order to ascertain the assessment carried out by the revenue office is genuine and correct. After this process the DC issues a tree cutting permit to DPN to enable removal / damage to the standing tree/crop identified in the line corridor.

75. Once the tree/crop is removed / damaged, DPN shall issue a tree cutting/crop damaged notice to the land owner with a copy to the Revenue Officer to process the compensation payment. Based on the above the compensation payment is generated by means of a computerized programme developed by the National Informatics Centre exclusively for this purpose. The detailed Valuation statement thus generated using this programme is verified at

various levels and approval of payment of compensation is accorded by the concerned District Collectors or Council Authority.

76. On approval of compensation, the revenue officer shall further intimate the amount payable to the different landowners and DPN/POWERGRID will arrange the payment by way Cheque/online transfer to the affected parties. The payment is further disbursed at the local village office after due verification of the documents in presence of other witnesses. Process of tree/crop compensation is depicted in **Figure-5.1**.

5.4. Land Compensation for Tower Footing & RoW Corridor

77. As per present practices, full compensation (100%) towards land value for tower base areas as decided by the district authority is paid to the affected persons/ land owners in addition to tree/crop damage compensation. Since State Govt./DPN has decided that only land compensation for tower base shall be paid as per prevailing practice in the State, land compensation for corridor area as per MoP guidelines of Oct'15 shall not be applicable in the instant project.

5.5. Compensation for Structure

78. No physical displacement is envisaged in the proposed project. Displacement of structures is normally not envisaged due to flexibility of routing of transmission/distribution line. However, whenever it is necessary, compensation for structures as per entitlement matrix shall be provided (**refer Table 5.1**). In the instant case, 1 number of small structures likely to be encountered in the right of way of proposed transmission/distribution lines. These are small sheds/small storage which are associated with the agricultural fields. People do not use these small structures/sheds for residential purpose. A notice for damage is issued to APs and the joint measurement by DPN/POWERGRID and APs will be done and verified by revenue official for actual damages. The compensation will be paid to the APs as decided by committee based on state government norms. Hence, compensation is paid parallelly with the construction activity of line.

5.6. Compensation Disbursement Module

79. In order to streamline the compensation process, a disbursement module has been developed (**Table -5.2**) specifying time period with respect to various process/activities which will

be implemented during the project execution.

Table 5.2: Compensation Disbursement Module

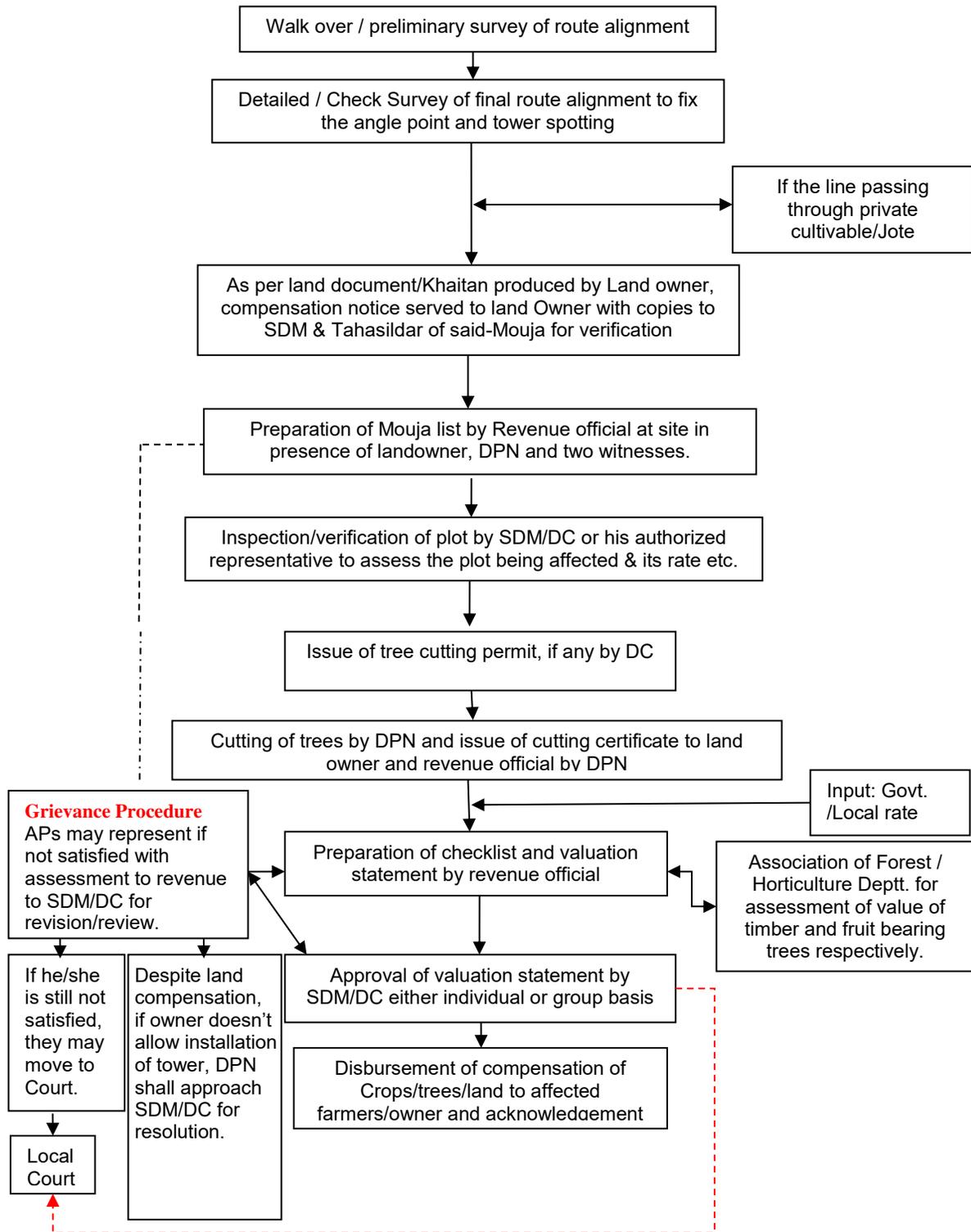
Activity/Stage	Process	Maximum Time Period from Cut-Off date
Tower Foundation/ Erection/ Stringing	Serving of Notice (<i>Cut-off date</i>)	0 date
	Verification of Ownership by Revenue Deptt.	15 days
	Assessment/Verification of damages by Revenue Deptt.	45 days
	Online disbursement*	60 days**

* ***Provision of advance payment up to 25% (Rs. 1 lakh maximum) of total estimated land compensation already made in the RoW guidelines of POWERGRID and may also be implemented in the NERPSIP after consent of concerned State Utilities.***

** ***60 days is on maximum side. However, based on past experience it's normally concluded within 30-45 days.***

******For payment of land compensation also, the above schedule will be followed, however, the process will start only after fixation of land rates by concerned DC/DM.***

Figure-5.1: Tree / Crop Compensation Process



VI. INFORMATION DISCLOSURE, CONSULTATION & PARTICIPATION

6.1. Consultations

80. Public consultation/information is an integral part of the project implementation. Public is informed about the project at every stage of execution. During survey also DPN & POWERGRID site officials meet people and inform them about the routing of transmission and distribution lines. During the construction, every individual, on whose land tower is erected and people affected by RoW, are consulted. Apart from this, Public consultation using different technique like Public Meeting, Small Group Meeting, informal Meeting shall also be carried out during different activities of project cycle. During such consultation the public are informed about the project in general and in particular about the following;

- Complete project plan (i.e. its route and terminating point and substations, if any, in between);
- Design standards in relation to approved international standards;
- Health impacts in relation to EMF;
- Measures taken to avoid public utilities such as school, hospitals, etc.;
- Other impacts associated with transmission & distribution lines and DPN approach to minimizing and solving them;
- Trees and crop compensation process.

81. In the instant project also, many group meetings were organized (informally and formally) in all villages where the interventions are likely to happen (**Table - 6.1**). These meetings were attended by Village Panchayat members, senior/respected person of village, interested villagers/general public and representatives from DPN & POWERGRID. Besides, gender issues have also been addressed to the extent possible during such consultation process (total 14 female out of 91 participants). To ensure maximum participation, prior intimation in local language was given and such notices were also displayed at prominent places/panchayat office etc. Details of above public consultation meetings including minutes of meeting, list of participants and photographs are enclosed as **Annexure -5**.

Table 6.1 Details of Consultations

Date of meeting	Venue of Meeting	No. of Persons attended	Persons Attended
Public Consultation Meeting			
15.10.2018	Pongo Village Council Hall	12	Village head, Senior persons and general public of Pongo village, DPN Members, &

			PGCIL representatives.
16.11.2018	Pongo Village, Longleng	10	Village head, Senior persons and general public, DPN Members, PGCIL representatives.
22.11.2018	Pongo Village, Longleng	10	Village Council Chairman/G. B's of Pongo village, PGCIL, Techno Electric representatives and DoP representatives.
30.11.2018	Pongo Village, Longleng	15	Village Council Chairman/G. B's of Pongo village, PGCIL, Techno Electric representatives and DoP representatives.
20.03.2019	Pongo Village Council Hall	10	Village Council Chairman/G. B's of Pongo village, PGCIL, Techno Electric representatives and DoP representatives
24.07.2019	Hakchang Village council hall, Longleng	08	Project affected person, village headmen, PGCIL & Shyama Power India Ltd. Representatives
23.09.2019	Tuensang (C Khel) Village council hall,	09	Project affected person, village headmen of Tuensang village, PGCIL & Shyama Power India Ltd. Representatives
Informal Group Meeting			
24.12.2018	Pongo village at the SS location	4	village headmen, PGCIL & Techno Electric Representatives.
16.05.2019	Pongo village at the SS location	6	Land owner, villagers, PGCIL & Techno Electric Representatives.
22.09.2019	Hakchang Village council hall, Longleng	7	village headmen, PGCIL & Shyama Power India Ltd. Representatives.

82. During consultations/interaction processes with people of the localized areas, DPN field staffs explained benefit of the project, impacts of transmission line, payment of compensation for damaged of crops, trees, huts etc as per The Indian Electricity Act, 2003 and The Indian Telegraph Act, 1885 and measures to avoid public utilities such as schools, hospital etc. People more or less welcomed the construction of the proposed project.

83. Various issues inter alia raised by the people during public consultation and informal group meetings are as follows;

- To Involve Village headman during survey work/finalization of line corridor;
- To engage local people in various works associated with construction of line and if required proper training may be provided to engage them.
- To provide flexibility in disbursement of compensation;
- Direct payment of compensation to affected land owners and expeditious disbursement of compensation.

84. DPN & POWERGRID representative replied their queries satisfactorily and it was assured that compensation will be paid in time after Revenue department fixed/award the amount.

6.2. Plan for further Consultation and Community Participation during Project Implementation

85. The process of such consultation to be continued during project implementation and even during O&M stage. The progress and proposed plan for Public consultation is described in **Table 6.2**

Table 6.2: Plan for Future Consultations

S. N.	Activity	Technique	Schedule
1.	Detailed/ Check survey	Formal/Informal Meeting at different places (20-50 Km) en-route final route alignment of line	Public meeting during pre-construction stage
2.	Construction Phase	Localized group meeting, Pamphlet/ Information brochures, Public display etc.	During entire construction period.
3.	O&M Phase	Information brochures, Operating field offices, Response to public enquiries, Press release etc.	Continuous process as and when required.

6.3. Information Disclosure

86. The CPTD will be disclosed to the affected households and other stakeholders by placing it on DPN & POWERGRID websites. To maintain the uninterrupted communication channel DPN & POWERGRID site officials are meeting APs and inform about norms and practices of damage assessment and compensation thereof. A notice is also issued to APs after the detailed/ check survey and finalization of tower location during the construction. Affected persons also visit site/construction offices of DPN & POWERGRID to know about the compensation norms and policies and to discuss their grievances. For wider circulation, the executive summary of the CPTD and Entitlement Matrix will be translated in local language and placed at construction offices/ sites. The summary of CP will be disclosed on the World Bank website. DPN & POWERGRID will organize further public consultation meetings with the stakeholders to share the views of public and all possible clarifications. This consultation process will continue throughout the project implementation and even during operation and maintenance (O&M) stage.

VII. INSTITUTIONAL ARRANGEMENTS

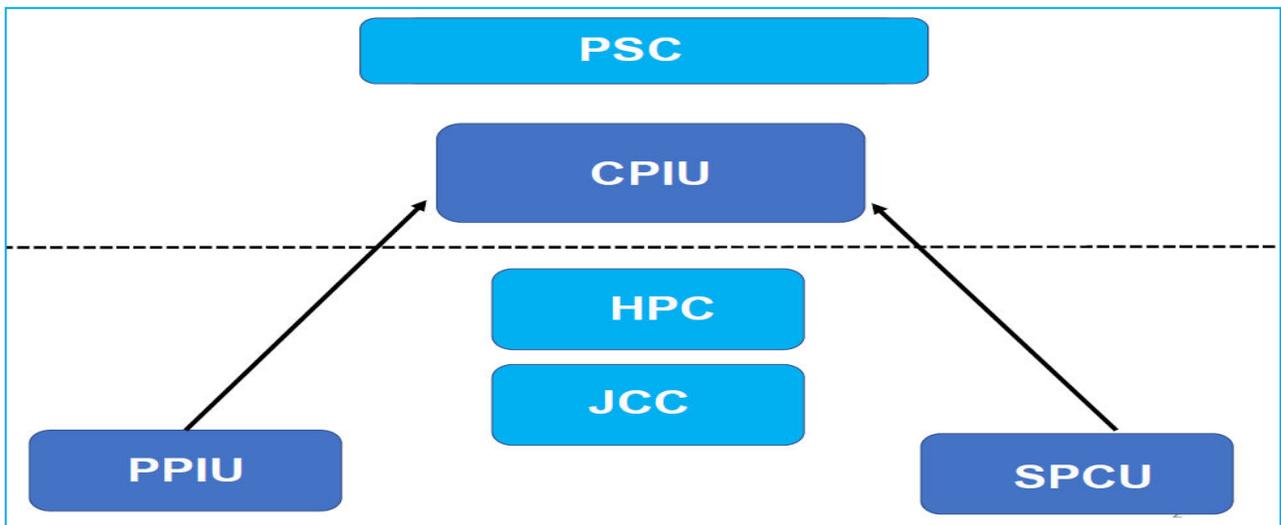
7.1 Administrative Arrangement for Project Implementation

87. Ministry of Power (MoP), GoI has appointed POWERGRID as Implementing Agency (IA) to implement the project in close coordination with the respective state power utilities and departments. POWERGRID will implement 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 will form 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;

Central Project Implementation Unit (CPIU) - A body responsible for coordinating the preparation and implementation of the project and shall be housed within the IA's offices at Guwahati. The "Project-In-Charge" of IA & Head of each of the SPCU shall be a member of CPIU.

State Project Coordination Unit (SPCU) – A body formed by the Utility and responsible for coordinating with IA in preparing and implementing the project at the State level. It consist of experts across different areas from the Utility and shall be headed by an officer of the rank not below Chief Engineer, from the Utility.

PMC Project Implementation Unit (PIIU) – A body formed by the IA, including members of Utility on deputation, and responsible for implementing the Project across the State, with its personnel being distributed over work site & working in close association with the SPCU/ CPIU. PIU report to State level "Project Manager" nominated by the Project-in-Charge of IA. The IA will have a Core team stationed at the CPIU on permanent basis and other IA officers (with required skills) will visit as and when required by this core team. This team shall represent IA and shall be responsible for all coordination with SPCU, PIU, within IA and MoP, GoI. CPIU shall also assist MoP, GoI in monitoring project progress and in its coordination with The Bank.



7.2. Review of Project Implementation Progress:

88. To enable timely implementation of the project/subprojects, following committee has been setup to review the progress;

- A. Joint Co-ordination Committee (JCC):** IA and SPCU nominate their representatives in a body called JCC to review the project. IA shall specify quarterly milestones or targets, which shall be reviewed by JCC through a formal monthly review meeting. This meeting forum shall be called as Joint Co-ordination Committee Meeting (JCCM). The IA shall convene & keep a record of every meeting. MoP, Gol and The Bank may join as and when needed. Minutes of the meeting will be shared with all concerned and if required, with Gol and The Bank.
- B. High Power Committee (HPC):** The Utility in consultation with its State Government shall arrange to constitute a High Power Committee (HPC) consisting of high level officials from the Utility, State/ District Administration, Law enforcement agencies, Forest Department. etc. so that various permission/ approvals/ consents/ clearances etc. are processed expeditiously so as to reach the benefits of the Project to the end consumers. HPC shall meet on bimonthly basis or earlier, as per requirement. This forum shall be called as High Power Committee Meeting (HPCM) and the SPCU shall keep a record of every meeting. Minutes of the meeting will be shared with all concerned and if required, with Gol and The Bank.

- C. Contractor's Review Meeting (CRM):** Periodic Review Meeting will be held by officials of PIU with Contractors at field offices, State Head Quarters (PIU location) and if required with core team of IA at Guwahati. These shall be called "Contractor's Review Meeting" (CRM). PIU shall keep a record of all CRMs, which shall be shared with all concerned and if required, with GoI and The Bank.
- D.** A review will be held among MoP, GoI, The Bank, State Government., Utility and IA, at four (4) months interval or earlier if needed, primarily to maintain oversight at the top level and also to debottleneck issues that require intervention at GoI/ State Government level. Minutes of the meeting shall be prepared by IA and shared with all concerned.

7.3. Arrangement for Safeguard Implementation

89. At the central project implementation level (CPIU) based at Guwahati, POWERGRID has set up an Environmental and Social Management cell (ESMC) which is headed by Dy. General Manager(DGM) to oversee Environmental and Social issues of the projects and to coordinate the SPCU & Site Offices.

90. At the State level, POWERGRID has already set up PPIU at the capital of each participating State. The PPIU is staffed with dedicated multidisciplinary team headed by Project Manager who is also responsible for overseeing and implementing the environmental and social aspects of project in their respective state. The PPIU team is assisted by a dedicated Field Officer (Environment & Social Management) who has been specifically recruited for this purpose by POWERGRID. Moreover, State Utilities have constituted State Project Coordination Unit (SPCU) at each state and also designated their Environmental & Social Officer within SPCU to work in close co-ordination with the PMC Project Implementation Unit of POWERGRID and CPIU team at Guwahati. Major responsibilities of Environment and Social team at State level are conducting surveys on environmental and social aspects to finalize the route/substation land, implementation Environment Management Plan (EMP)/CPTD, co-ordination with the various statutory departments, monitoring EMP/CPTD implementation and producing periodic progress reports to CPIU.

91. In the instant subprojects, POWERGRID will implement the CPTD in close co-ordination with DPN which includes overall coordination, planning, implementation, financing and maintaining all databases & also work closely with APs and other stakeholders. A central

database will also be maintained for regular updation of social assessment & compensation data. DPN & POWERGRID will ensure that local governments are involved in the CPTD implementation to facilitate smooth settlement of compensation related activities. Roles and responsibilities of various agencies for CPTD implementation are presented in **Table 7.1**.

Table 7.1: Agencies Responsible for CPTD Implementation

Activity	Agency Responsible	
	Primary	Secondary
Implementing CPTD	Field staffs of POWERGRID & DPN	
Updating the CPTD	POWERGRID	DPN
Review and Approval of CPTD	DPN	POWERGRID
Verification survey for identification of APs	POWERGRID, DPN field staffs	Revenue Officials
Survey for identification of plots for Crop/Tree/ other damages Compensation	POWERGRID, DPN	Revenue Officials
Consultation and disclosure of CPTD to APs	POWERGRID, DPN	Revenue officials
Compensation award and payment of compensation	Revenue Deptt / Competent Authority	POWERGRID, DPN
Fixing of replace cost and assistance	Revenue Dept / Competent Authority	POWERGRID, DPN
Payment of replacement cost compensation	POWERGRID, DPN	Revenue Department
Takeover temporary possession of land/houses	POWERGRID, DPN	Revenue Department
Hand over temporary possession land to contractors for construction	POWERGRID & DPN	Contractor
Notify construction starting date to APs	POWERGRID & DPN Field Staff	Contractor
Restoration of temporarily acquired land to its original state including restoration of private or common property resources	Contractor	POWERGRID, DPN
Development, maintenance and updating of Compensation database	POWERGRID & DPN	
Internal monitoring	POWERGRID & DPN	
External monitoring, if required	POWERGRID & DPN	

7.4. Responsibility Matrix to manage RoW Compensation

92. In order to manage the RoW compensation effectively, a Work Time Breakdown (WTB) matrix depicting sequence of activities, timing, agencies responsible have been drawn both for

Tree/Crop and Land compensation which will be implemented during project execution.

a) WTB for Tree/Crop Compensation

Activities	Responsibility		Time Schedule
	Primary	Secondary	
Identification of APs (During Tower spotting & Check Survey)	Contractor	POWERGRID & DPN field staffs	In 3 different Stages i.e. before start of Foundation, Erection & Stringing Works
Serving Notice to APs	POWERGRID & DPN field staffs	Revenue Dept.,	0 date
Verification of ownership	POWERGRID & DPN Revenue Dept.	ADC/VDC (if applicable)	0-15 days
Joint Assessment of damages	Revenue Dept. & APs	POWERGRID & DPN	16-45 days
Payment (online/DD) of compensation to AP*	POWERGRID & DPN		46-60 days

a) WTB for Land Compensation

Activities	Responsibility		Time Schedule
	Primary	Secondary	
Identification of APs (During Tower spotting and Check Survey)	Contractors	POWERGRID & DPN field staffs	Before start of Foundation/ Erection & Stringing Works
Fixation of land rate	DC, ADC/BTC (if applicable)	POWERGRID & DPN	0 date
Serving Notice to APs	POWERGRID & DPN field staffs	Revenue Dept.,	0-7 days
Assessment of compensation/ Verification of ownership	Revenue Dept./ ADC/VDC,	POWERGRID & DPN	8-15 days
Payment (online/DD) of compensation to AP*	POWERGRID & DPN		16-30 days

* AP can approach to DC for any grievance on compensation.

** Discussion for release of certain % as advance is also under progress with Utilities.

Note: Both a and b activities shall run parallelly

VIII. GRIEVANCE REDRESS MECHANISM

93. Grievance Redress Mechanism (GRM) is an integral and important mechanism for addressing/resolving the concern and grievances in a transparent and swift manner. Many minor concerns of peoples are addressed during public consultation process initiated at the beginning of the project. For handling grievance, a two tier GRM consisting of Grievance Redress Committee (GRC) at two levels, i.e. project/scheme level and Corporate/ HQ level have been constituted. The project level GRCs include members from DPN, POWERGRID, Local Administration, Village Council/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. The composition of GRC also disclosed in Panchayat/Village council offices and concerned district headquarter for wider coverage.

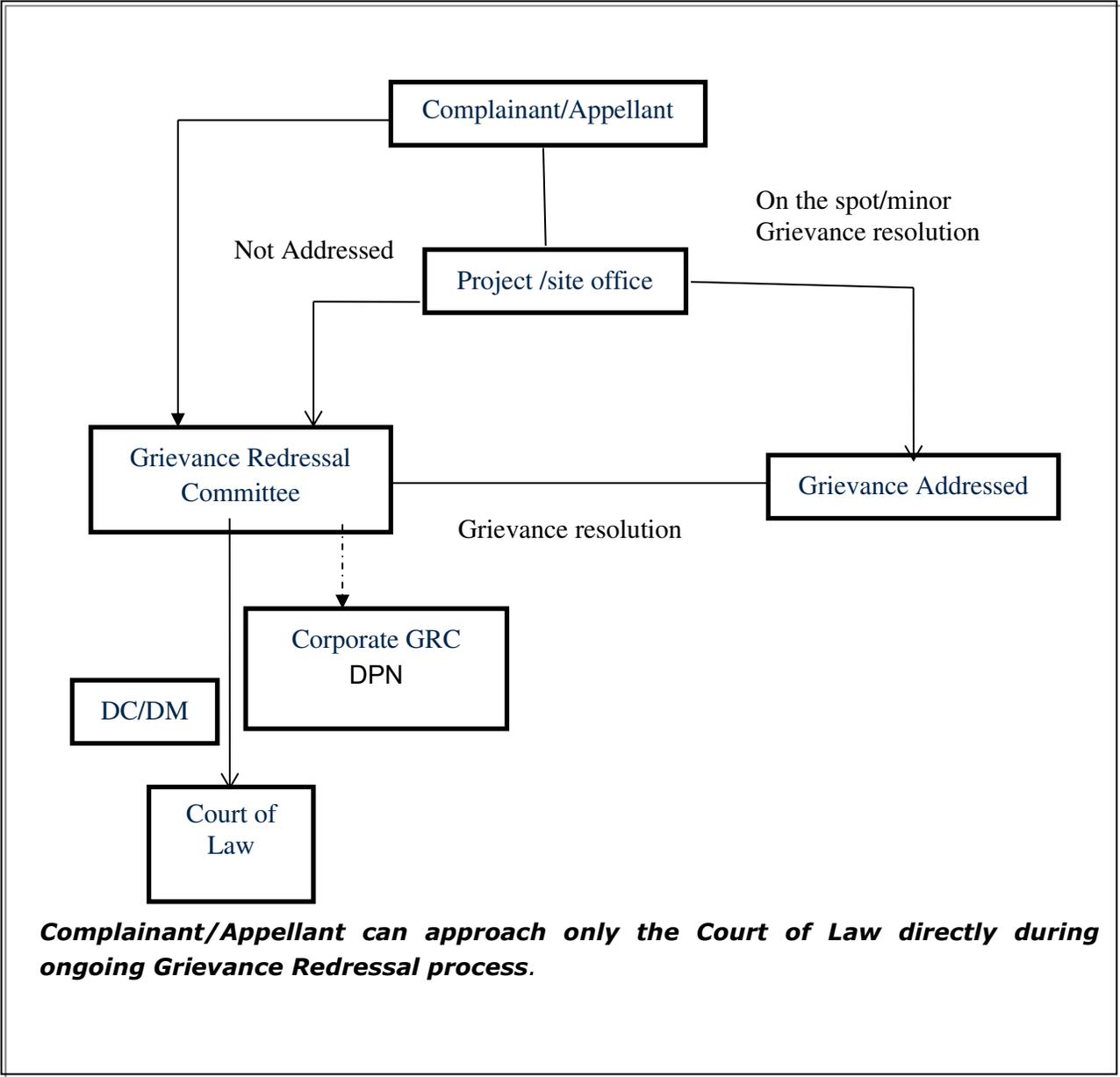
94. The complainant will also be allowed to submit its complaint to local project official who will pass it to GRC immediately but not more than 5 days of receiving such complaint. The first meeting of GRC will be organized within 15 days of its constitution/disclosure to formulate procedure and frequency of meeting. In case of any complaint, GRC meeting shall be convened within 15 days. If Project level GRC is not able to take decision it may refer the complaint to corporate GRC for solution. GRC endeavours to pronounce its decision within 30-45 days of receiving grievances. In case complainant/appellant is not satisfied with the decision of project level GRC they can make an appeal to corporate GRC for review. The proposed mechanism does not impede access to the country's judicial or administrative remedies at any stage.

95. The corporate level GRC function under the chairmanship of Director (PMU) who nominated other members of GRC including one representative from corporate ESMC conversant with the environment & social issues. The meeting of Corporate GRC shall be convened within 7-10 days of receiving the reference from project GRC or complainant directly and pronounce its decision within next 15 days.

96. 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 authorised

representative also provides forum for raising the grievance towards any irregularity/complain. Moreover, DPN officials also address to the complaints of affected farmers and the same are forwarded to revenue official for doing the needful. Details are depicted below in **Figure-8.1**:

Figure-8.1: Flow Chart of Grievance Redress Mechanism



IX. BUDGET

97. The CPTD Implementation cost estimate for the project includes eligible compensation for loss of crops/ trees/ huts and support cost for implementation of CPTD, monitoring, other administrative cost etc. Though Govt. of Nagaland has not yet adopted MoP guidelines for RoW compensation for implementation, budgetary provision for compensation for Tower Base (@ 100% of the land cost) has been made as per the prevailing practices. Accordingly, the cost has been estimated for proposed for 132kV lines in the budget by including these provisions. However, this is a tentative budget which may change during the original course of implementation. The unit cost for the loss of crop has been derived through rapid field appraisal and based on DPN & POWERGRID's previous experience of similar project implementation. Contingency provision equivalent to 3% of the total cost has also been made to accommodate any variations from this estimate. Sufficient Budget has been provided to cover all compensation towards land use restriction, crops losses, other damages etc. As per DPN & POWERGRID's previous projects and with strategy for minimization of impacts, an average of 50-60% of the affected land area is expected for compensation for crops and other damages. Structure will be avoided to the extent possible. However, if any structure is affected, budget provisions are available to cover all damages as per entitlement matrix. As detailed in above paras, initial study has confirmed that no residential structure shall be affected. Therefore, provisions of budget expenditure for implementation of CPTD for the subprojects considering corridor of 20 meter & 10 meter maximum for 132 kV & 33 kV line respectively.

9.1. Compensation for Land under Tower Base

98. The land area for 132 kV tower base are estimated as 0.036 acre per km respectively. As Govt. of Nagaland has not approved the adoption of MoP guidelines dated 15.10.2015, no payment shall be paid for land compensation for RoW corridor. However, as per prevailing practice only land compensation @ 100% land value for tower base will be paid. Accordingly, land compensation cost for 132kV lines tower base is estimated around Rs. 15.6 Lakhs. A detail of cost is given below in **Table 9.1**.

Table 9.1: Cost of Land Compensation for Tower Base

Name of Line	Line Length (km)	Land Area for Tower Base (acre)	Avg. Cost of Land (Lakhs /acre)	Total in Lakhs (Tower base @ 100%)
132 kV S/C Tuensang - Longleng	29.14	1.04	15.00	15.6

9.2. Compensation for Crops and Trees

99. The crop compensation is estimated in consultation with revenue authorities in terms of yield/hectare and rate/quantity for prevailing crops in the area. Similarly, tree compensation is calculated on basis of tree enumeration, tree species and an estimate of the yield. In case of fruit bearing trees compensation will be calculated on the basis of 8 years yield (assessed by revenue/horticulture department). Market rates of compensation are assessed by the relevant government authorities. The estimation of crop and tree damages are based on preliminary investigation and accordingly budgetary provisions are made which will be updated during implementation. Details of line wise cost are given in **Table 9.2** below.

Table 9.2: Cost of Compensation for Crops and Trees

SI No	Name of the Line	Total Length (Km)	Compensation /Km (In Lakh)	Total compensation cost for Crops & trees (Lakh)
1.	132 kV S/C Tuensang - Longleng	29.14	5.0	145.7
2.	33kV line Longleng - Longleng	5	0.5	2.5
Total				148.2

9.3. Summary of Budget

100. The total indicative cost is estimated to be **INR 176.95 Lakhs** equivalent to **USD 0.2609** million. Details are given in **Table 9.3**. The following estimated budget is part of complete project cost as on date. However, actual updation of the estimated cost shall be updated during execution.

Table 9.3: Summary of Budget

Item	Amount in Lakh (INR)	Amount in (Million USD)
A. Compensation		
A-1: Loss of Crops and Trees	148.2	0.228
A-2: Land Compensation for Tower Base	15.6	0.024
Sub Total-A	163.8	0.252
B: Implementation Support Cost		
B-1: Man-power involved for CPTD Implem. & Monitoring	3.00	0.0046
B-2: External Monitoring, if required	5.00	0.0077
Sub Total- B	8.00	0.0012
Total (A+B)	171.80	0.253
Contingency (3%)	5.15	0.0079

Grand Total	176.95	0.2609
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X. IMPLEMENTATION SCHEDULE

101. Following work schedule has been drawn for implementation of CPTD considering letter of award for execution of work placed in end of 2016. Tentative implementation schedule for project including various sub tasks presented in **Table 10.1**.

Table 10.1 Tentative Implementation Schedule

Sl. No.	Activity	1 st Year				2 nd Year				3 rd Year			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1.	Initial CPTD Matrix disclosure												
2.	Detailed Survey												
3.	Public Consultation												
4.	Compensation Plan Implementation												
i)	Compilation of land record, ownership,												
ii)	Finalization of list of APs, fixing rate by DC												
iii)	Serving of Notice to APs												
iv)	Joint assessment & acknowledgement by APs												
v)	Validation of Compensation amount												
vi)	Compensation Payment												
5.	Civil Works												
6.	Review/ Activity Monitoring												
i)	Monthly												
ii)	Quarterly												
iii)	Half yearly												
iv)	Annual												
7.	Grievance redress												
8.	CPTD Documentation												
9.	External Monitoring, if required												

XI. MONITORING AND REPORTING

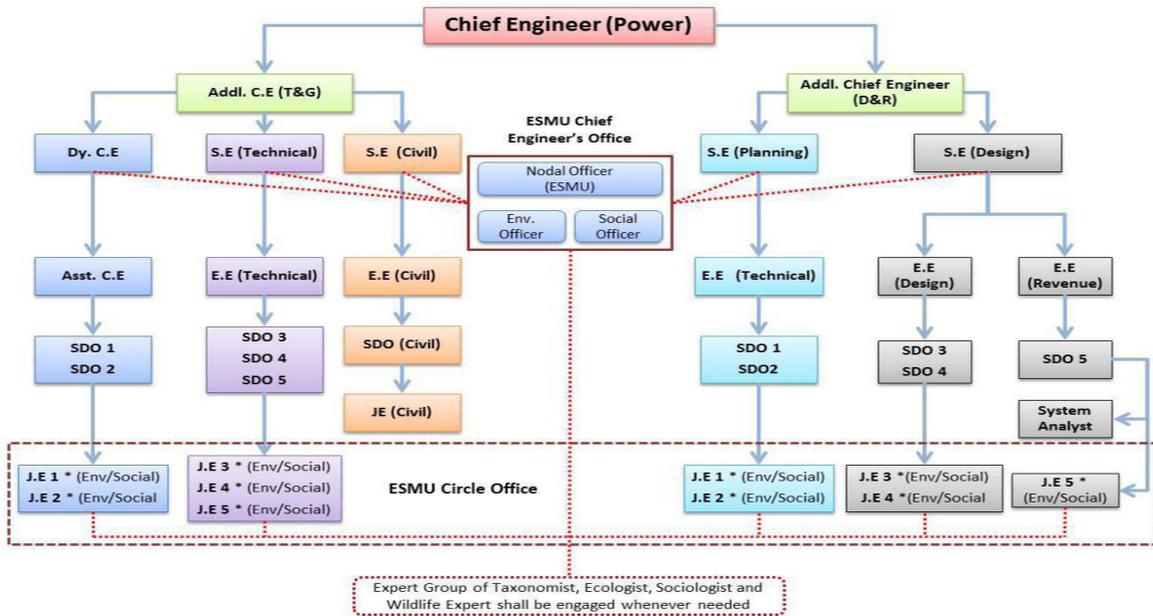
102. Monitoring is a continuous process at all stages of project. Monitoring of CPTD implementation will be the responsibility of POWERGRID as well as the DPN.

103. Internal monitoring will include: (i) administrative monitoring: daily planning, implementation, feedback and troubleshooting, maintenance, and progress reports and (ii) socio-economic monitoring: compensation for land/crops/trees or any other damages, demolition if any, salvaging materials, dates for consultations and number of grievance/complaints received etc.. Monitoring and reports documenting progress on compensation/ implementation of CPTD will be provided by POWERGRID to World Bank for review semi-annually.

104. If required, POWERGRID/DPN will engage the services of an independent agency/External monitoring and provisions for the same have been made in the budget component.

105. DPN is well equipped to implement and monitor its environment and social management plan including CPTD. Organizational Support Structure of DPN for monitoring of above is given in **Figure-11.1**.

Figure – 11.1: DPN Support Structure for Safeguard Monitoring



* Through redeployment of personnel after due training with dual responsibility in the initial stage

11.1 Status of Compensation (Tree/ Crop / Land / Structures)

106. As explained in previous chapters, compensation for the loss of crops, trees, land, structure etc. are paid to Affected Persons (APs) based on actual damages in 3 different stages i.e. during foundation work, tower erection & stringing as per norms. Till Oct, 2020, works in 18 location out of total of 102 tower locations have been completed. However, due to delay in finalization of land rate between land owners and DC, further assessment/disbursement of land compensation couldn't be progressed. Further, there is no compensation paid in respect of tree or crop compensation against any of the subprojects as no tree/crop is damaged till date

11.2 Status of Grievances

107. No minor or major complaints including court case has been registered till date against any of the subprojects covered under the present CPTD.

ANNEXURE - 1

EVALUATION OF ALTERNATIVES ROUTE ALIGNMENT

EVALUATION OF ALTERNATIVES ROUTE ALIGNMENT

Three different alignments were studied with the help of Google Maps / published data such as Forest Atlas, Survey of India topographic sheets, etc. and walkover survey to arrive at the most optimum route to be considered for detailed survey. The comparative details of these three alternatives in respect of the proposed lines are as follows;

EVALUATION OF ALTERNATIVE ROUTE ALIGNMENT FOR 132 KV S/C (ON D/C TOWER) TUENSANG – LONGLENG TL

Three (3) different alignments (**Map-3**) were studied with the help of Google Maps and walkover survey to arrive at most optimum route for detailed survey. This was then verified on web-based IBAT database and an image for the same is provided in **Map-4**. The comparative details of these three alternatives in respect of proposed line are as follows:

S.N	Description	Alternative-I	Alternative-II	Alternative-III
1.	Route particulars (Bee Line:- 25.66 km)			
i.	Route Length (km)	29.40	32.22	42.12
ii.	Terrain			
	Hilly/Undulate	100%	100%	100%
	Plain			
2.	Environmental details			
i.	Name of District through which the line passes	Tuensang & Longleng	Tuensang & Longleng	Tuensang & Longleng
ii.	Town in alignment	Tuensang & Longleng	Tuensang & Longleng	Tuensang & Longleng
iii.	House within ROW	Shall be ascertained after detailed survey	Shall be ascertained after detailed survey	Shall be ascertained after detailed survey
iv.	Forest involvement in Ha/km	Nil	Nil	Nil
v.	Type of Forest (RF/PF/Mangrove/ Wildlife Area/ Elephant corridor/ Biodiversity Hotspots/ Biosphere Reserve/Wetlands or any other environmentally sensitive area)	N.A.	N.A.	N.A.
vi.				
vii.	Density of Forests	N.A.	N.A.	N.A.
viii.	Type of flora	Bonsum, Gogra, Alder, Wild Lemon, Wild Banana, Gomari, Neem etc	Bonsum, Gogra, Alder, Wild Lemon, Wild Banana, Neem Gomari, etc	Bonsum, Gogra, Alder, Wild Lemon, Wild Banana, Gomari, Neem etc

S.N	Description	Alternative-I	Alternative-II	Alternative-III
ix.	Type of fauna	Cow, Buffalo, Goat, Cat, Dog, Snake, Pigeon, Sparrow	Cow, Buffalo, Goat, Cat, Dog, Snake, Pigeon, Sparrow	Cow, Buffalo, Goat, Cat, Dog, Snake, Pigeon, Sparrow
x.	Endangered species, if any	Nil	Nil	Nil
xi.	Historical/cultural monuments	Nil	Nil	Nil
xii.	Any other relevant information	Line is passing through Jhum cultivation land and private/community owned land having some tree cover. Also the entire route is close to state road.	Line is passing through Jhum cultivation land and private/ community owned land having some tree cover. The route is not easily approachable in some sections.	Line is passing through Jhum cultivation land and private/ community owned land having some tree cover. The route is not easily approachable in many sections.
3	Compensation Cost (in Rs. Lakhs)			
i.	Crop & Tree	Provision for Rs. 5 Lakhs/km exist in the DPR.	Provision for Rs. 5 Lakhs/km exist in the DPR.	Provision for Rs. 5 Lakhs/km exist in the DPR.
ii.	Forest (CA+NPV)	N.A. <i>Provision of voluntary afforestation in the ratio of 1:3 @ Rs.1 lakh/km made in budget as per ESPPF.</i>	N.A.	N.A.
4.	No. of Crossings (Nos.)			
i.	Highway (NH/SH)	5	3	4
ii.	Power line	Nil	Nil	Nil
iii.	Railway line	Nil	Nil	Nil
iv.	River crossing	Nil	Nil	Nil
5.	Overall Remarks	Comparatively easy as it is shortest route passing proximity to the state road and also involves minimum tree felling	Comparatively more due unavailability of approach roads/ paths and involvement of more tree felling	Comparatively difficult as the route is not easily accessible and away from roads and line length is highest

From the comparative analysis of three alternative routes, it is evident that none of the three alternative routes studied involves forest or wildlife area. However, Alternative- I is shorter in length than alternative II & III and is easily accessible due to its proximity to existing approach roads. Hence, lesser degree of construction and O&M problems are anticipated. Also, since route is shorter in length, it will involve minimum tree felling. Hence, Alternative - I is considered as the most optimized route and recommended for detailed survey.

4.1.3 ANALYSIS OF ALTERNATIVE ROUTES FOR 33 KV LINE FROM 132/33 KV LONGLENG NEW SUBSTATION TO 33/11 KV LONGLENG TOWN EXISTING SUBSTATION DISTRIBUTION LINE

The proposed distribution line connects 2 substations (i.e. 132/33 kV Longleng and 33/11 kV Longleng substation) in close vicinity and has line length of only 5.0 km and has negligible environment and social impact including no involvement of any forest area. Hence, no alternative have been studied for the subject line.

ANNEXURE - 2

***DETAILS OF TOWER SCHEDULE OF
PROPOSED LINES ROUTE ALIGNMENT***

SL NO	AP NO	TOWER NO	TYPE OF TOWER	CONNE CT WITH	CONNE CT WITH	REMARKS	ANGLE OF DEVIATION	LEG EXTENSION				CHIMNEY EXTENSION				SPAN IN (M)	SEC. LENG.	CUMULTY LENGTH	R.L	C.P.D.	LEVEL DIFF.	SUM OF ADJ.	WIND SPAN	WEIGHT SPAN IN (HOT)		WEIGHT SPAN IN (COLD)			MAJOR CROSSING DETAIL	VILL NAME	GPS CO-ORDINATE WGS-84		
								A	B	C	D	A	B	C	D									LEFT	RIGHT	TOTAL	LEFT	RIGHT			TOTAL	EASTING	NORTHING
23	22	22/0	DC	BB	0		17°52'42"RT	6	9	7.5	6	0	0	0	0		857.17	2.5		619.00	309.50	185.47	221.03	406.50	200.65	267.26	467.91	2 Times NH-702B, Nala	VILL-TUENSANG	94°49'48.08"	28°17'17.64"		
24	23	23/0	DB	BB	0		10°03'55"LT	9	9	6	6	1.5	1.5	0	0	296	296	5982	642.75	0	-11.92	808.00	404.00	74.97	104.76	179.73	28.74	9.02	37.76	2 Times NH-702B	VILL-TAGHI	94°49'56.36"	26°17'23.77"
25	25	25/0	DC	BB	0	Used DC tower instead of DB due to Sum of Adj. Span Limit Crossed	11°40'48"RT	9	9	9	9	3	3	0	0	512	512	6494	885.45	3	42.70	772.00	386.00	407.24	289.72	696.97	502.98	390.83	893.81	2 Times NH-702B	VILL-TAGHI	94°50'08.17"	28°17'38.74"
26	26	26/0	DC	BB	0		19°49'31"RT	9	7.5	6	6	0	0	0	0	260	260	6754	864.05	1.5	-22.90	524.00	262.00	-29.72	-159.05	-188.77	-130.83	-343.29	-474.12	NH-702B, Nala	VILL-TAGHI	94°50'15.51"	26°17'41.81"
27	27	27/0	DB	BB	0	X-Arm Strengthening Suggested	04°14'02"RT	9	9	9	9	3	1.5	0	0	264	264	7018	903.92	2	42.37	438.00	219.00	423.05	112.33	535.37	607.29	128.36	735.64	NH-702B	VILL-TAGHI	94°50'24.52"	26°17'44.50"
28	28	28/0	DC	BB	0		17°07'08"LT	9	9	9	9	1.5	3	0	0	174	174	7192	901.98	2.5	-2.43	473.00	236.50	61.67	44.88	106.55	45.64	-21.35	24.29	2 Times NH-702B	VILL-TAGHI	94°50'30.72"	28°17'45.76"
29	29	29/0	DD	BB	0		39°35'14"LT	9	9	9	9	0	0	0	0	299	299	7491	920.24	3.5	17.25	440.00	220.00	254.12	58.80	312.92	320.35	51.39	371.74	2 Times NH-702B	VILL-TAGHI	94°50'40.11"	28°17'50.61"
30	30	30/0	DC	BB	0		22°19'50"RT	6	9	6	6	0	0	0	0	141	141	7632	923.15	2.5	0.91	548.00	274.00	82.20	210.14	292.34	89.61	214.34	303.95	2 Times NH-702B	VILL-TAGHI	94°50'41.79"	26°17'54.90"
31	31	31/0	DB	BB	0		11°35'52"RT	4.5	4.5	3	3	0	0	0	0	407	407	8039	923.16	1	-1.49	703.00	351.50	196.86	84.22	281.08	192.66	43.85	236.51	2 Times NH-702B	VILL-TAGHI	94°50'51.47"	26°18'04.77"
32	32	32/0	DC	BB	0		25°26'18"LT	6	4.5	3	4.5	0	0	0	0	296	296	8335	933.07	0.5	10.41	510.00	255.00	211.78	343.68	555.46	252.15	493.51	745.66		VILL-TUENSANG	94°51'00.08"	26°18'10.68"
33	33	33/0	DD	BB			32°09'28"RT	1.5	1.5	0	0	0	0	0	0	214	214	8549	909.14	1.5	-27.93	547.00	273.50	-129.68	56.28	-73.41	-279.51	-13.50	-293.01	2 Times NH-702B	VILL-TUENSANG	94°51'03.64"	26°18'16.64"
34	34	34/0	DD	BB	0		41°51'25"LT	4.5	6	3	3	0	0	0	0	333	333	8882	926.38	1.5	20.24	501.00	250.50	276.72	158.37	435.10	346.50	205.45	551.95		VILL-TUENSANG	94°51'14.13"	26°18'22.13"
35	35	35/0	DD	BB			32°40'18"LT	1.5	1.5	0	0	0	0	0	0	168	168	9050	922.49	1.5	-6.89	445.00	222.50	9.63	140.46	150.09	-37.45	141.71	104.25		VILL-TUENSANG	94°51'16.08"	26°18'27.28"
36	36	36/0	DB	BB	0		00°34'43"RT	6	7.5	6	6	0	0	0	0	277	277	9327	916.69	2	-0.30	648.00	324.00	136.54	63.93	200.47	135.29	-13.02	122.27	2 Times NH-702B	VILL-TUENSANG	94°51'13.49"	26°18'35.98"
37	37	37/0	DB	BB			11°04'58"RT	1.5	1.5	0	0	0	0	0	0	371	371	9698	948.06	0.5	24.87	765.00	382.50	307.07	310.69	617.75	384.02	382.65	766.67	2 Times NH-702B	VILL-TAGHI	94°51'10.19"	26°18'47.84"
38	39	39/0	DD	BB			42°22'20"RT	1.5	1.5	0	0	0	0	0	0	394	394	10092	922.36	1.5	-24.70	844.00	422.00	83.31	407.31	490.63	11.35	522.72	534.07	2 Times NH-702B	VILL-TAGHI	94°51'09.56"	26°19'00.56"
39	40	40/0	DC	BB			18°04'20"LT	0	0	0	0	0	0	0	0	450	450	10542	876.62	1	-45.24	752.00	376.00	42.69	-58.39	-15.70	-72.72	-190.94	-263.66	Nala	VILL-TAGHI	94°51'19.80"	26°19'11.87"
40	41	41/0	DB	BB	0		13°49'03"RT	7.5	6	6	6	0	0	0	0	302	302	10844	905.49	1	34.87	521.00	260.50	360.39	-192.58	167.81	492.94	-383.80	109.14		VILL-SANGCHEN	94°51'23.67"	26°19'20.88"
41	42	42/0	DB	BB	0	X-Arm Strengthening Suggested	05°47'01"LT	7.5	7.5	6	6	0	0	0	0	219	219	11063	941.97	1	36.48	552.00	276.00	411.58	565.57	977.15	602.80	818.19	1420.99	NH-702B	VILL-SANGCHEN	94°51'28.18"	26°19'26.89"
42	43	43/0	DC	BB			24°57'58"RT	0	1.5	0	0	0	0	0	0	333	333	11396	874.69	1	-73.28	601.00	300.50	-232.57	370.50	137.92	-485.19	520.20	35.01	NH-702B	VILL-SANGCHEN	94°51'33.95"	26°19'36.25"
43	44	44/0	DB	BB	0		10°29'21"LT	9	9	9	9	0	0	0	0	268	268	11664	832.24	2.5	-34.95	616.00	308.00	-102.50	174.10	71.61	-252.20	174.17	-78.03		VILL-SANGCHEN	94°51'41.70"	26°19'41.54"
44	45	45/0	DC	BB	0	X-Arm Strengthening Suggested	19°49'60"RT	4.5	6	3	3	0	0	0	0	348	348	12012	836.22	0.5	-0.02	648.00	324.00	173.90	427.82	601.72	173.83	603.69	777.52	Nala	VILL-SANGCHEN	94°51'50.43"	26°19'49.58"
45	46	46/0	DD	BB	0		40°23'59"LT	6	3	3	3	0	0	0	0	300	300	12312	790.76	1	-45.96	549.00	274.50	-127.82	123.04	-4.78	-303.69	122.12	-181.57	Vill Road	VILL-SANGCHEN	94°52'00.18"	26°19'54.05"
46	47	47/0	DC	BB			18°54'58"RT	0	0	0	0	0	0	0	0	249	249	12561	793.95	1	0.20	633.00	316.50	125.96	312.57	438.52	126.88	388.89	515.77		VILL-SANGCHEN	94°52'03.88"	26°20'01.39"
47	48	48/0	DB	BB			07°34'44"LT	0	0	0	0	0	0	0	0	384	384	12945	768.43	1	-25.53	755.00	377.50	71.43	-131.64	-60.20	-4.89	-332.39	-337.28	Nala	VILL-SANGCHEN	94°52'12.91"	26°20'10.85"

Handwritten signature and stamp of PGCIL.

Handwritten signature and stamp of K.K. Medhi, Deputy General Manager, Powergrid, NERPSIP, Longleng.

Handwritten signature and stamp of L.A. Sharma, General Manager, Powergrid, NERPSIP, Longleng.

SL NO	AP NO	TOWER NO	TYPE OF TOWER	CONNE CT WITH	CONNE CT WITH	REMARKS	ANGLE OF DEVIATION	LEG EXTENSION				CHIMNEY EXTENSION				SPAN IN (M)	SEC. LENG.	CUMULV LENGTH	R.L	C.P.D.	LEVEL DIFF.	SUM OF ADJ.	WIND SPAN	WEIGHT SPAN IN (HOT)			WEIGHT SPAN IN (C)			MAJOR CROSSING DETAIL	VILL NAME	GPS CO-ORDINATE WGS-84	
								A	B	C	D	A	B	C	D									LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL			EASTING	NORTHING
47	48	48/0	DB	BB			07°34'44"LT	0	0	0	0	0	0	0	0	0	0	768.43	1		755.00	377.50	71.43	-131.64	-60.20	-4.89	-332.39	-337.28		VILL-SANGCHEN	94°52'12.91"	26°20'10.85"	
48	49	49/0	DB	BB	0	X-Arm Strengthening Suggested	01°35'05"LT	7.5	6	6	6	0	0	0	0	0	371	2	64.88	937.00	468.50	502.64	298.48	801.11	703.39	308.27	1011.66	Pond, NH-702B	VILL-SANGCHEN	94°52'20.27"	26°20'20.60"		
49	50	50/0	DB	BB		X-Arm Strengthening Suggested	11°21'15"LT	1.5	0	0	1.5	0	0	0	0	0	566	1.5	-4.83	796.00	398.00	267.52	-444.73	-177.21	257.73	-799.05	-541.32	Nala, NH-702B	VILL-SANGCHEN	94°52'31.15"	26°20'36.20"		
50	51	51/0	DB	BB	0	X-Arm Strengthening Suggested	04°46'36"LT	3	3	3	3	0	0	0	0	0	230	1.5	70.99	401.00	200.50	674.73	-268.29	406.45	1029.05	-492.24	536.81	NH-702B, Boundary	VILL-SANGCHEN	94°52'34.18"	26°20'43.30"		
51	51A	51A	DB	BB		X-Arm Strengthening Suggested	05°09'24"RT	1.5	0	0	0	0	0	0	0	0	171	1	33.36	511.00	255.50	439.29	-157.70	281.58	663.24	-365.15	298.09	Boundary	VILL-SANGCHEN	94°52'38.00"	26°20'48.84"		
52	52	52/0	DB	BB	0	X-Arm Strengthening Suggested	05°08'25"RT	6	6	3	3	0	0	0	0	0	340	0	61.44	493.00	246.50	497.70	-259.88	237.82	705.15	-472.82	232.33	Vill Road	VILL-SANGCHEN	94°52'40.30"	26°20'58.85"		
53	53	53/0	DB	BB	0	X-Arm Strengthening Suggested	12°21'13"RT	6	4.5	3	3	0	0	0	0	0	153	0.5	28.38	296.00	148.00	412.88	171.68	584.57	625.82	235.10	860.92	11KV	VILL-SANGCHEN	94°52'42.91"	26°21'03.25"		
54	54	54/0	DC	BB	0	X-Arm Strengthening Suggested	16°49'38"LT	9	9	9	9	0	3	0	0	0	143	3	-7.90	517.00	258.50	-28.68	452.09	423.40	-92.10	619.89	527.79	2 Nos Vill Road	VILL-SANGCHEN	94°52'48.01"	26°21'07.02"		
55	55	55/0	DC	BB	0		23°09'07"RT	3	3	3	3	0	0	0	0	0	374	1	-54.67	590.00	295.00	-78.09	289.85	211.76	-245.89	404.97	159.07	NH-702B, Orange Garden	VILL-SANGCHEN	94°52'50.90"	26°21'18.35"		
56	56	56/0	DD	BB	0		35°58'06"LT	3	6	3	3	0	0	0	0	0	216	1	-21.66	562.00	281.00	-73.85	33.53	-40.32	-188.97	-54.76	-243.72	NH-702B, Orange Garden, Vill Road	VILL-SANGCHEN	94°52'56.38"	26°21'23.28"		
57	57	57/0	DC	BB			20°16'02"LT	1.5	1.5	0	0	0	0	0	0	0	346	1.5	26.61	560.00	280.00	312.47	296.31	608.78	400.76	416.15	816.91	NH-702B, Orange Garden	VILL-SAOSHOU	94°52'58.04"	26°21'34.40"		
58	58	58/0	DC	BB			19°16'14"RT	1.5	0	0	0	0	0	0	0	0	214	1.5	-22.34	611.00	305.50	-82.31	305.02	222.71	-202.15	372.46	170.31	2 Times Vill Road, Orange Garden	VILL-SAOSHOU	94°52'56.48"	26°21'41.28"		
59	59	59/0	DB	BB			00°24'40"RT	1.5	1.5	0	0	0	0	0	0	0	397	1	-23.32	556.00	278.00	91.98	-119.18	-27.21	24.54	-244.95	-220.41		VILL-SAOSHOU	94°52'58.22"	26°21'54.02"		
60	60	60/0	DB	BB	0		12°25'08"LT	9	9	6	6	0	0	0	0	0	159	0	17.42	627.00	313.50	278.18	204.86	483.04	403.95	186.41	590.37	NH-702B	VILL-SAOSHOU	94°52'58.94"	26°21'59.09"		
61	61	61/0	DB	BB	0		04°38'31"LT	9	9	9	9	0	0	0	0	0	468	2.5	7.52	824.00	412.00	263.14	333.32	596.46	281.59	431.63	713.22	2 Times NH-702B	VILL-SAOSHOU	94°52'57.88"	26°22'14.26"		
62	62	62/0	DB	BB			10°42'44"RT	0	1.5	0	0	0	0	0	0	0	356	2	-30.49	504.00	252.00	22.68	103.29	125.97	-75.63	121.82	46.19		VILL-SAOSHOU	94°52'56.23"	26°22'25.77"		
63	63	63/0	DD	BB	0		31°33'30"LT	6	7.5	6	6	0	0	0	0	0	148	0.5	-2.39	316.00	158.00	44.71	416.04	460.75	26.18	626.22	652.40	NH-702B	VILL-SAOSHOU	94°52'56.45"	26°22'30.52"		
64	64	64/0	DC	BB	0	X-Arm Strengthening Suggested	15°12'44"RT	6	9	6	6	0	0	0	0	0	168	1.5	-30.76	337.00	168.50	-248.04	660.20	412.16	-458.22	1024.62	566.40	Nala, Orange Garden	VILL-SAOSHOU	94°52'53.48"	26°22'35.29"		
65	65	65/0	DB	BB		X-Arm Strengthening Suggested	05°31'51"LT	0	1.5	0	0	0	0	0	0	0	169	1.5	-53.65	629.00	314.50	-491.20	229.57	-261.63	-855.62	-229.29	-626.33	Nala, Orange Garden	VILL-SAOSHOU	94°52'52.35"	26°22'40.88"		
66	66	66/0	DC	BB			21°57'59"LT	0	0	1.5	1.5	0	0	0	0	0	460	1.5	0.11	813.00	406.50	230.43	-235.46	-5.03	230.71	-496.24	-265.53	Pond, 2 Nos. Orange Garden	VILL-AUCHING	94°52'50.21"	26°22'55.65"		
67	67	67/0	DD	BB			47°22'49"RT	1.5	0	0	1.5	0	0	0	0	0	353	1	80.19	511.00	255.50	588.46	-285.99	302.47	849.24	-517.03	332.20	2 Nos. Orange Garden, Vill Road, NH-702B	VILL-AUCHING	94°52'43.82"	26°23'05.56"		
68	68	68/0	DB	BB	0	X-Arm Strengthening Suggested	10°07'27"LT	4.5	4.5	3	3	0	0	0	0	0	158	0.5	31.80	375.00	187.50	443.99	320.68	764.67	675.03	455.00	1130.03	NH-702B	VILL-AUCHING	94°52'45.47"	26°23'10.47"		
69	69	69/0	DB	BB	0		10°16'57"LT	6	4.5	3	3	0	0	0	0	0	217	0	-25.39	463.00	231.50	-103.68	195.32	91.63	-238.00	241.10	3.10		VILL-AUCHING	94°52'46.33"	26°23'17.44"		
70	70	70/0	DC	BB	0		28°16'27"LT	4.5	4.5	3	3	0	0	0	0	0	246	0	-9.81	518.00	259.00	50.68	163.67	214.35	4.90	181.18	186.09	Nala	VILL-AUCHING	94°52'45.81"	26°23'25.49"		
71	71	71/0	DB	BB			03°14'27"RT	0	1.5	0	0	0	0	0	0	0	272	0.5	-4.15	600.00	300.00	108.33	261.47	369.81	90.82	323.18	413.99	Nala, Orange	VILL-AUCHING	94°52'40.56"	26°23'32.97"		
72	72	72/0	DC	BB			24°03'18"RT	0	0	0	0	0	0	0	0	0	328	2	-17.63	590.00	295.00	66.53	180.49	247.02	4.82	211.82	216.64		VILL-SAKSHI	94°52'34.90"	26°23'42.31"		



SUBMITTED BY:
SHYAMA POWER(I) LTD.

CHECKED BY:
P.G.C.I.L

K.K. Meher
K.K. Meher
पावरग्रिड, एन.इ.आ. एन.आई.पी., लखनऊ
POWERGRID, NERPSIP, LONGLENG

L.A. Sharma
एल. ए. शर्मा / L.A. Sharma
महाप्रबंधक
एन.इ.आ.पी.एन.ई.पी., लखनऊ
पावरग्रिड/एन.इ.आ.पी.एन.आई.पी.
लखनऊ / KUNWAR
APPROVED BY:
P.G.C.I.L

SL NO	AP NO	TOWER NO	TYPE OF TOWER	CONNE CT WITH	CONNE CT WITH	REMARKS	ANGLE OF DEVIATION	LEG EXTENSION				CHIMNEY EXTENSION				SPAN IN (M)	SEC. LENG.	CUMULTY LENGTH	R.L	C.P.D.	LEVEL DIFF.	SUM OF ADJ.	WIND SPAN	WEIGHT SPAN IN (HOT)			WEIGHT SPAN IN (COLD)			MAJOR CROSSING DETAIL	VILL NAME	GPS CO-ORDINATE WGS-84	
								A	B	C	D	A	B	C	D									LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL			EASTING	NORTHING
23	22	22/0	DC	BB	0		17°52'42"RT	6	9	7.5	6	0	0	0	0	296	5982	857.17	2.5	-11.92	619.00	309.50	185.47	221.03	406.50	200.65	267.26	467.91	2 Times NH-702B, Nala	VILL-TUENSANG	94°49'48.08"	26°17'17.64"	
24	23	23/0	DB	BB	0		10°03'55"LT	9	9	6	6	1.5	1.5	0	0	512	6494	842.75	0	42.70	808.00	404.00	74.97	104.76	179.73	28.74	9.02	37.76	2 Times NH-702B	VILL-TAGHI	94°49'56.36"	26°17'23.77"	
25	25	25/0	DC	BB	0	Used DC tower instead of DB due to Sum of Adj. Span Limit Crossed	11°40'48"RT	9	9	9	9	3	3	0	0	260	6754	865.45	3	-22.90	772.00	386.00	407.24	289.72	696.97	502.98	390.83	893.81	NH-702B, Nala	VILL-TAGHI	94°50'08.17"	26°17'36.74"	
26	26	26/0	DC	BB	0		19°49'31"RT	9	7.5	6	6	0	0	0	0	264	7018	864.05	1.5	42.37	524.00	262.00	-29.72	-159.05	-188.77	-130.83	-343.29	-474.12	NH-702B	VILL-TAGHI	94°50'15.51"	26°17'41.81"	
27	27	27/0	DB	BB	0	X-Arm Strengthening Suggested	04°14'02"RT	9	9	9	9	3	1.5	0	0	174	7102	903.92	2	-2.43	438.00	219.00	423.05	112.33	535.37	607.29	128.36	735.64	2 Times NH-702B	VILL-TAGHI	94°50'24.52"	26°17'44.50"	
28	28	28/0	DC	BB	0		17°07'08"LT	9	9	9	9	1.5	3	0	0	299	7491	901.99	2.5	17.25	473.00	236.50	61.67	44.88	106.55	45.64	-21.35	24.29	2 Times NH-702B	VILL-TAGHI	94°50'30.72"	26°17'45.78"	
29	29	29/0	DD	BB	0		38°35'14"LT	9	9	9	9	0	0	0	0	141	7632	920.24	3.5	0.91	440.00	220.00	254.12	58.80	312.92	320.35	51.39	371.74	2 Times NH-702B	VILL-TAGHI	94°50'40.11"	26°17'50.61"	
30	30	30/0	DC	BB	0		22°19'50"RT	6	9	6	6	0	0	0	0	407	8039	923.15	2.5	-1.49	548.00	274.00	82.20	210.14	292.34	89.61	214.34	303.95	2 Times NH-702B	VILL-TAGHI	94°50'41.79"	26°17'54.90"	
31	31	31/0	DB	BB	0		11°35'52"RT	4.5	4.5	3	3	0	0	0	0	296	8335	923.16	1	10.41	703.00	351.50	196.86	84.22	281.08	192.66	43.85	236.51	2 Times NH-702B	VILL-TAGHI	94°50'51.47"	26°18'04.77"	
32	32	32/0	DC	BB	0		25°26'18"LT	6	4.5	3	4.5	0	0	0	0	214	8549	933.07	0.5	-27.93	510.00	255.00	211.78	343.68	555.46	252.15	493.51	745.66	2 Times NH-702B	VILL-TUENSANG	94°51'00.08"	26°18'10.68"	
33	33	33/0	DD	BB	0		32°09'28"RT	1.5	1.5	0	0	0	0	0	0	333	8882	909.14	1.5	20.24	547.00	273.50	-129.68	56.28	-73.41	-279.51	-13.50	-293.01	2 Times NH-702B	VILL-TUENSANG	94°51'03.64"	26°18'16.64"	
34	34	34/0	DD	BB	0		41°51'25"LT	4.5	6	3	3	0	0	0	0	168	9050	926.38	1.5	-6.89	501.00	250.50	276.72	158.37	435.10	346.50	205.45	551.95	2 Times NH-702B	VILL-TUENSANG	94°51'14.13"	26°18'22.13"	
35	35	35/0	DD	BB	0		32°40'18"LT	1.5	1.5	0	0	0	0	0	0	277	9327	922.49	1.5	-0.30	445.00	222.50	9.63	140.46	150.09	-37.45	141.71	104.25	2 Times NH-702B	VILL-TUENSANG	94°51'16.08"	26°18'27.28"	
36	36	36/0	DB	BB	0		00°34'43"RT	6	7.5	6	6	0	0	0	0	371	9698	916.88	2	24.87	648.00	324.00	136.54	63.93	200.47	135.29	-13.02	122.27	2 Times NH-702B	VILL-TUENSANG	94°51'13.49"	26°18'35.98"	
37	37	37/0	DB	BB	0		11°04'56"RT	1.5	1.5	0	0	0	0	0	0	394	10092	946.06	0.5	-24.70	765.00	382.50	307.07	310.69	617.75	384.02	382.65	766.67	2 Times NH-702B	VILL-TAGHI	94°51'10.19"	26°18'47.84"	
38	39	39/0	DD	BB	0		42°22'20"RT	1.5	1.5	0	0	0	0	0	0	450	10542	922.36	1.5	-45.24	844.00	422.00	83.31	407.31	490.63	11.35	522.72	534.07	Nala	VILL-TAGHI	94°51'09.56"	26°18'00.56"	
39	40	40/0	DC	BB	0		18°04'20"LT	0	0	0	0	0	0	0	0	302	10844	876.92	1	34.87	752.00	376.00	42.69	-58.39	-15.70	-72.72	-190.94	-263.66	Nala	VILL-TAGHI	94°51'19.80"	26°18'11.87"	
40	41	41/0	DB	BB	0		13°49'03"RT	7.5	6	6	6	0	0	0	0	219	11063	905.49	1	36.48	521.00	260.50	360.39	-192.58	167.81	492.94	-383.80	109.14	NH-702B	VILL-SANGCHEN	94°51'23.67"	26°19'20.98"	
41	42	42/0	DB	BB	0	X-Arm Strengthening Suggested	05°47'01"LT	7.5	7.5	6	6	0	0	0	0	333	11396	941.97	1	-73.28	552.00	276.00	411.58	565.57	977.15	602.80	818.19	1420.99	NH-702B	VILL-SANGCHEN	94°51'28.16"	26°19'26.89"	
42	43	43/0	DC	BB	0		24°57'58"RT	0	1.5	0	0	0	0	0	0	268	11664	874.69	1	-34.95	601.00	300.50	-232.57	370.50	137.92	-485.19	520.20	35.01	2 Times NH-702B	VILL-SANGCHEN	94°51'33.95"	26°19'36.25"	
43	44	44/0	DB	BB	0		10°28'21"LT	9	9	9	9	0	0	0	0	348	12012	832.24	2.5	-0.02	616.00	308.00	-102.50	174.10	71.61	-252.20	174.17	-78.03	Nala	VILL-SANGCHEN	94°51'41.70"	26°19'41.54"	
44	45	45/0	DC	BB	0	X-Arm Strengthening Suggested	19°49'60"RT	4.5	6	3	3	0	0	0	0	300	12312	836.22	0.5	-45.96	648.00	324.00	173.90	427.82	601.72	173.83	603.69	777.52	Vill Road	VILL-SANGCHEN	94°51'50.43"	26°19'49.58"	
45	46	46/0	DD	BB	0		40°23'59"LT	6	3	3	3	0	0	0	0	249	12561	790.76	1	0.20	549.00	274.50	-127.82	123.04	-4.78	-303.69	122.12	-181.57	Nala	VILL-SANGCHEN	94°52'00.16"	26°19'54.05"	
46	47	47/0	DC	BB	0		18°54'56"RT	0	0	0	0	0	0	0	0	364	12945	783.96	1	-25.53	633.00	316.50	125.96	312.57	438.52	126.88	388.89	515.77	Nala	VILL-SANGCHEN	94°52'03.68"	26°20'01.39"	
47	48	48/0	DB	BB	0		07°34'44"LT	0	0	0	0	0	0	0	0			768.43	1		755.00	377.50	71.43	-131.64	-60.20	-4.89	-332.39	-337.28	Nala	VILL-SANGCHEN	94°52'12.91"	26°20'10.85"	

Submitted by: SHYAMA POWER(I) LTD.

Checked by: P.G.C.I.L

Ke. Ke. Medhi, Deputy General Manager
 POWERGRID, NERPSIP, LONGLENG

Approved by: L.A. Shama, General Manager
 POWERGRID, NERPSIP, LONGLENG

ANNEXURE – 3

DETAILS OF PUBLIC CONSULTATION

Details of Public consultation

Project	Date	Venue of Meeting	No. of Persons attended	Persons Attended
Public Consultation Meeting				
Establishment of 132/33kV Longleng (New) S/S	15.10.2018	Pongo Village Council Hall	12	Village head, Senior persons and general public of Pongo village, DPN Members, & PGCIL representatives.
	16.11.2018	Pongo Village, Longleng	10	Village head, Senior persons and general public, DPN Members, PGCIL representatives.
	22.11.2018	Pongo Village, Longleng	10	Village Council Chairman/G. B's of Pongo village, PGCIL, Techno Electric representatives and DoP representatives.
	30.11.2018	Pongo Village, Longleng	15	Village Council Chairman/G. B's of Pongo village, PGCIL, Techno Electric representatives and DoP representatives.
	20.03.2019	Pongo Village Council Hall	10	Village Council Chairman/G. B's of Pongo village, PGCIL, Techno Electric representatives and DoP representatives
132 KV S/C (On D/C Tower) Tuensang – Longleng Transmission Line	24.07.2019	Hakchang Village council hall, Longleng	08	Project affected person, village headmen, PGCIL & Shyama Power India Ltd. Representatives
	23.09.2019	Tuensang (C Khel) Village council hall,	09	Project affected person, village headmen of Tuensang village, PGCIL & Shyama Power India Ltd. Representatives
Informal Group Meeting				
Establishment of 132/33kV Longleng (New) S/S	24.12.2018	Pongo village at the SS location	4	Village headmen, PGCIL & Techno Electric Representatives.
	16.05.2019	Pongo village at the SS location	6	Land owner, villagers, PGCIL & Techno Electric Representatives.
132 KV S/C (On D/C Tower) Tuensang – Longleng Transmission Line	22.09.2019	Hakchang Village council hall, Longleng	7	Village headmen, PGCIL & Shyama Power India Ltd. Representatives.



15th Oct.2018 meeting held at Longleng



16th Nov.2018 meeting held at Pongo Village



22nd November 2018 at Pongo Village, Longleng



30th November 2018 at Pongo Village, Longleng



20th March 2019 Public consultation meeting held at Pongo Village, Longleng.





16th May 2019 Informal meeting held at Pongo Village Longleng.



24th July 2019 meeting held at Hakchang village for 132kV Line



Meeting held at Hakchang on 22.09.2019 for 132kV Line



Meeting held at Tuensang Village on 23.09.2019 for 132kV Line



OFFICE OF THE
TUENSANG VILLAGE CHONGPHO CITIZENS'
Tuensang - 798612 : Nagaland.

Ref. No. TVCC/GEN-13/19-20/315-316

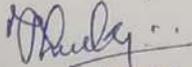
Date: 23rd Sept. '19

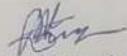
NO-OBJECTION CERTIFICATE

This is to certify that the construction of upcoming 132 KV from Tuensang to Longleng from AP-1/0 to AP-11/0 under its jurisdiction of Chongpho Khel Tuensang village is well known from every location as proposed by your company.

Hence the village authority has duly issue no-objection certificate for execution of work any time as your own convenience.

wishing the project a great success.


(MOSHA KONGMEI)
President
TVCC
Chhel, Tsg. Village


(KOMA YANGBOU)
VCC
Chhel
TVCC
Village Council
Chhel Tsg. Vill.


(SANGKUM)
Hd. GB
Sangkum
TVCC
Chhel Tsg. Vill.



OFFICE OF THE
HAKCHANG VILLAGE COUNCIL
Tuensang-798612, Nagaland

Ref No.....

Date 26-09-19

NO OBJECTION CERTIFICATE

This is to Certify that, The Councils and the GBs of Hakchang Village do not have any Objection regarding the Construction of upcoming **132KV D/C** line of Power Grid Corporation of India Ltd. from **Tuensang to Longleng**. Starting from **AP. 39/0** to **AP. 49/0** which falls under the jurisdiction of Hakchang Village.

Hence, The Village Council has duly issue No Objection Certificate for execution of work anytime as your own convenience.

Yours Sincerely

O.Somba

Chairman

Hakchang Village Council
Chairman
Village Council Hakchang



OFFICE OF THE
MOMCHING VILLAGE COUNCIL

Tuensang-798612, Nagaland

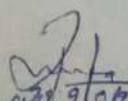
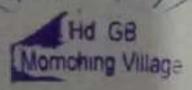
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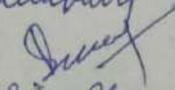
Date: 29/9/019.

No Objection Certificate

This is to certify that the Councils and G.B.s of Momching village do not have any objection regarding the construction of upcoming 132 k.v & /c line of power Grid Corporation of India Ltd. from Tuensang to Longleng starting from Ap. 50/0, 51/0, 51. A/0, 53/0, 54/0, and 56/0, which falls under the jurisdiction of momching village.

Hence, the village council has duly issue No objection Certificate for execution of work anytime as your own convenience.


B. Wangba
(Hd GB)


Yours faithfully

M. Eshu Chang
Chairman
Momching Village
Council

OFFICE OF THE
SANGCHEN VILLAGE COUNCIL

DIST. TUENSANG - 798612, NAGALAND

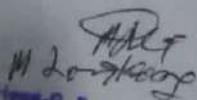
Ref No.

Date 29/9/019

No objection certificate

This is to certify that the Council and the
CDS of Sangchen village do not have any
objection regarding the construction of
upcoming 132 kv D/c line of power Grid
Corporation of India Ltd from Tumbong
to Longleng starting from AP-52/055/057/0
which falls under the jurisdiction of
Sangchen village and 58/0

Hence the village council has duly issued
no objection certificate for execution
of work anytime at your own conveni-
ence


H Longleng
Chairman
SANGCHEN VILLAGE

C. Choba

Chairman
Sangchen Village Council

MOM

Date - 24/07/2019

Meeting with Hockchang village council
at Hockchang council office regarding
land identification for 132KV Tuensang to
Longleng line.

For power grid:

For Shyama Power

For village council

(1) S Shoh

24/07/2019

FS (Elect.), PGCIL,
NERPSP, LONGLENG

(1) Durrainda Munro

24/07/19

1. P. Yanchu

C/Secy

(2) A. Bin Lape

VCM

(2)

X₂₀₁₉
24/07/2019

F.E (Electrical) PGCIL
NERPSP, LONGLENG

(3) T. AKO

Jd GB

(4) A. Nayang

Jnd GB

(5) Y. Chingmak

VCM

Male - 08, Female - 00.

MOM - 2019

Date: 22/09/2019

Meeting with village Council members of Hakschang village at Hakschang Council office regarding NCC for 132kV Tuensang to Kongleng line.

From Power Grid:

From Shyama Power

From Village Council:

1. ~~X~~ ~~Hand~~
22/09/2019
FE (Electrical), PSCIL
NGRPSIP, ~~KONGLENG~~

1. Deekrika Meento
2. Jiarul mika

1. T. Yanchu
c/Becy

(2) O. Somba
VCC

2. Biring Das
22/09/2019
FE (Electrical), PSCIL
NGRPSIP, ~~KONGLENG~~

(3) K. Moba
C/B

(4) T. Ako
M/B/G/B

MOM 1994

Date: 23-09-2019

Meeting with village Council members of Tuensang Village (C.Khel) at office of the Chongpha Khel Citizen, Tuensang Village regarding N.O.C. of 132 kv Tuensang its donglang line.

For Power Grid

For Shyma Power

For Village Council.

1. ~~X~~ ~~Abdul~~
F.E (Electrical), PGCL
LONGLANG,
NERPSIP,

1) Jihmul Mia
2) Debarika MANTAMOSTHA KONGMA
(president) **KONGMA**
President
C/Khel, Tsg. Village

2. Binay Das
FE (Electrical), PGCL
NERPSIP, Longlang
Nagaland

2. KOMA YANGBOY
Chairman
Village Council
C/Khel Tsg. Vill. TVCC

L. Sangkum
Hd. GB
C/Khel Tsg. Vill.

3. SANGKUM
(Hd. GB) TVCC

4. NOKCHING SOMBA
(v/president) TVCC

5. K.S. CHANGBOY
(VDB Secy) TVCC
VDB Secretary
C/Khel
Tuensang Village