COMPENSATION PLAN FOR TEMPORARY DAMAGES (CPTD)

FOR

T & D NETWORK IN IMPHAL EAST, CHURACHANDPUR, THOUBAL & TAMENLONG DISTRICTS, MANIPUR

Prepared By

Environment and Social Management

POWER GRID CORPORATION OF INDIA LTD.

For

Manipur State Power Company Limited (MSPCL)

MANIPUR-1/CPTD/R0/2019 **NOVEMBER, 2019**

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

LIST OF ABBREVIATIONS

ADC	:	Autonomous District Council
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	:	MSPCL'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
MSPCL	:	Manipur State power Company Limited
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 Imphal East, Churachandpur, Thoubal & Tamenlong districts of Manipur 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 Manipur State Power Company Limited (MSPCL).

ii. The project component includes construction of 169.14 km of 132 kV transmission lines & 57.168 km of 33 kV distribution lines with associated substations in Imphal East, Churachandpur, Thoubal & Tamenlong districts of Manipur 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 MSPCL / POWERGRID[1] 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 lines in three stages i.e. after completion of foundation, tower erection and conductor stringing. 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 and updated data on APs shall be disclosed through semi-annual E & S monitoring report submitted by MSPCL/POWERGRID.

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

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

Sr. No	Name of Sub-projects	New / Existing Substation
A. Transmission Scheme		
1	Stringing of 2nd circuit of 132 kV D/C Kakching-Kongba Line (45 km)	Extension of existing 132/33 kV substation at Kakching
2	Stringing of 2nd circuit of 132 kV D/C Yaingangpokpi-Kongba Line (32.75 km)	Extension of existing 132/33 kV substation at Kongba
3	Renovation of Yurembum-Karong-Mao Section of 132 kV S/C Yurembum-Karong-Kohima Line (91.4 km)	Extension of existing 132/33 kV substation at Churachandpur
B. Distribution Scheme		
3	33 kV line from 132/33 kV Thoubal- 33/11 kV Andro substation- 5.364 Km	Establishment of 33/11 kV (New) substation at Andro
4	33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation- 4.5 km	Establishment of 33/11 kV (New) substation at Prompat
		Extension of existing 33/11 kV substation at Khumanlampak
5	33 kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation- 7.793 km	Establishment of 33/11 kV (New) substation at Sanjenbam
		Extension of existing 33/11 kV substation at Napetpalli
6	33 kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation – 39.173 km	Establishment of 33/11 kV (New) substation at Thangal
		Extension of existing 33/11 kV substation at Khoupom
7	33 kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai- 0.342 km	Establishment of 33/11 kV (New) substation at Tuilaphai
		Extension of existing 33/11 kV substation at Mongsangei
		Extension of existing 33/11 kV substation at Iroisemba
		Extension of existing 33/11 kV substation at Nambol

iv. As per existing law, land for tower/pole and right of way is not acquired[2] and agricultural activities are allowed to continue after construction activity. Land requirements for erecting tower for 132 kV transmission lines are quite minimal and require placing of four legs which need an area of 4 to 6 sq.ft. Thereby, the actual impact is restricted to these 4 legs and some constraints in area coming in between these 4 legs of the tower. Further, line alignments are done in such a way so as to avoid settlements, structures etc. Hence, no relocation of affected persons on account of

[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.*

Transmission Line (TL) is envisaged. Most of the impacts are temporary in nature 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 and corridor area to its owner without acquisition or transfer of title as per Govt. of Manipur notification dated 28.03.18 and Entitlement matrix as 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 meter respectively but average affected width/corridor would be limited to maximum 20 meter for 132 kV & 10 meter for 33 kV line. Accordingly, actual impacted area for crops and other damages worked out to be approx. 906.69 acre. Total number of trees to be affected is 786. Private trees will be compensated as per the entitlement matrix. The total number of affected persons is estimated to be 56.

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 MSPCL & POWERGRID's site officials meet people and informed 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 lines and substation sites. The process of such consultation will be 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, MSPCL & POWERGRID's site officials are meeting APs and inform about 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) will be established at two places, one at the project/scheme level and another at corporate/head quarter level. The GRCs shall include members from MSPCL, POWERGRID, Local Administration, Village Panchayat Members, Affected Persons representative and reputed persons from the society and representative from the autonomous district councils selected/decided on nomination basis under the chairmanship of project head. The composition of

GRC shall be 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 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. Further, grievance redressal is also in built tree/crop compensation in the 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 MSPCL's ESPPF. Being a transmission project, the relevant national laws applicable for this project are (i) The Electricity Act, 2003 (ii) The Indian Telegraph Act, 1885 and (iii) Govt of Manipur notification dated 28th March 2018 on RoW Compensation. The compensation principles adopted for the project shall comply with applicable laws and regulations of the Governments of India, MSPCL'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 lines for which compensation will be 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 Authorities. As per policy provision construction contractors shall be encouraged to hire local labor that has the necessary skills.

E-1: Entitlement Matrix

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
1.	Land area below tower base ***(#)***	Owner	85% land cost at market value as ascertained by revenue authorities or based on negotiated settlement without actual acquisition/title transfer.
2	Land coming in corridor of width of Right of Way **(#)**	Owner	15% of land cost as decided by Deputy Commissioner

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
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
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.

(#) Since Govt. of Manipur has adopted MoP guidelines vide notification dated 28.03.18, land compensation @85% land value for tower base and @15% land value for corridor shall be paid to affected farmers/owners

* ***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 MSPCL/ 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

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

tentative and may get revised during the course of implementation. The total indicative cost is estimated to be INR 924.91 Lakhs equivalent to USD 1.424 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.

xi. Monitoring will be the responsibility of both MSPCL & IA. MSPCL/ POWERGRID will submit semi-annual monitoring reports on their implementation performance and submit the reports to The World Bank. If required, MSPCL/ POWERGRID will engage the services of an independent agency/ external monitor 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 Manipur. 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 Ministry of Power (MoP).

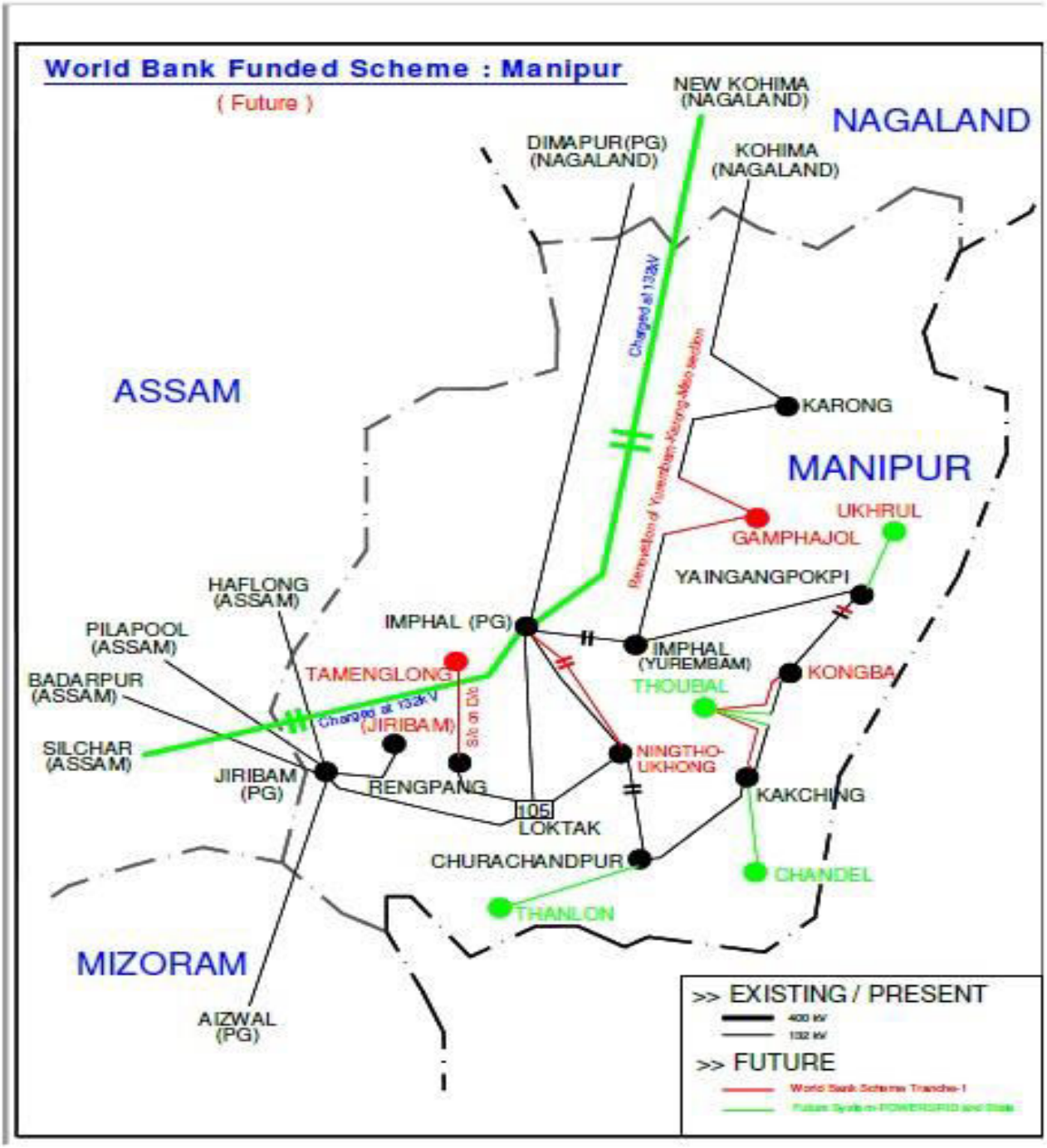
3. Ministry of Power, GoI has appointed POWERGRID as Implementing Agency (IA) to six North Eastern States for the said project. However, the ownership of the assets shall be with the respective State Utilities/State Government which upon progressive commissioning shall be handed over to them for taking 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 Manipur include construction of 317 ckm of 132 kV transmission lines & associated 02 nos. substations and 111 ckm of 33 kV distribution lines & 13 nos. substation along with augmentation & strengthening of transmission and sub-

transmission spread across the State. The power map of Manipur 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 Manipur along with proposed project



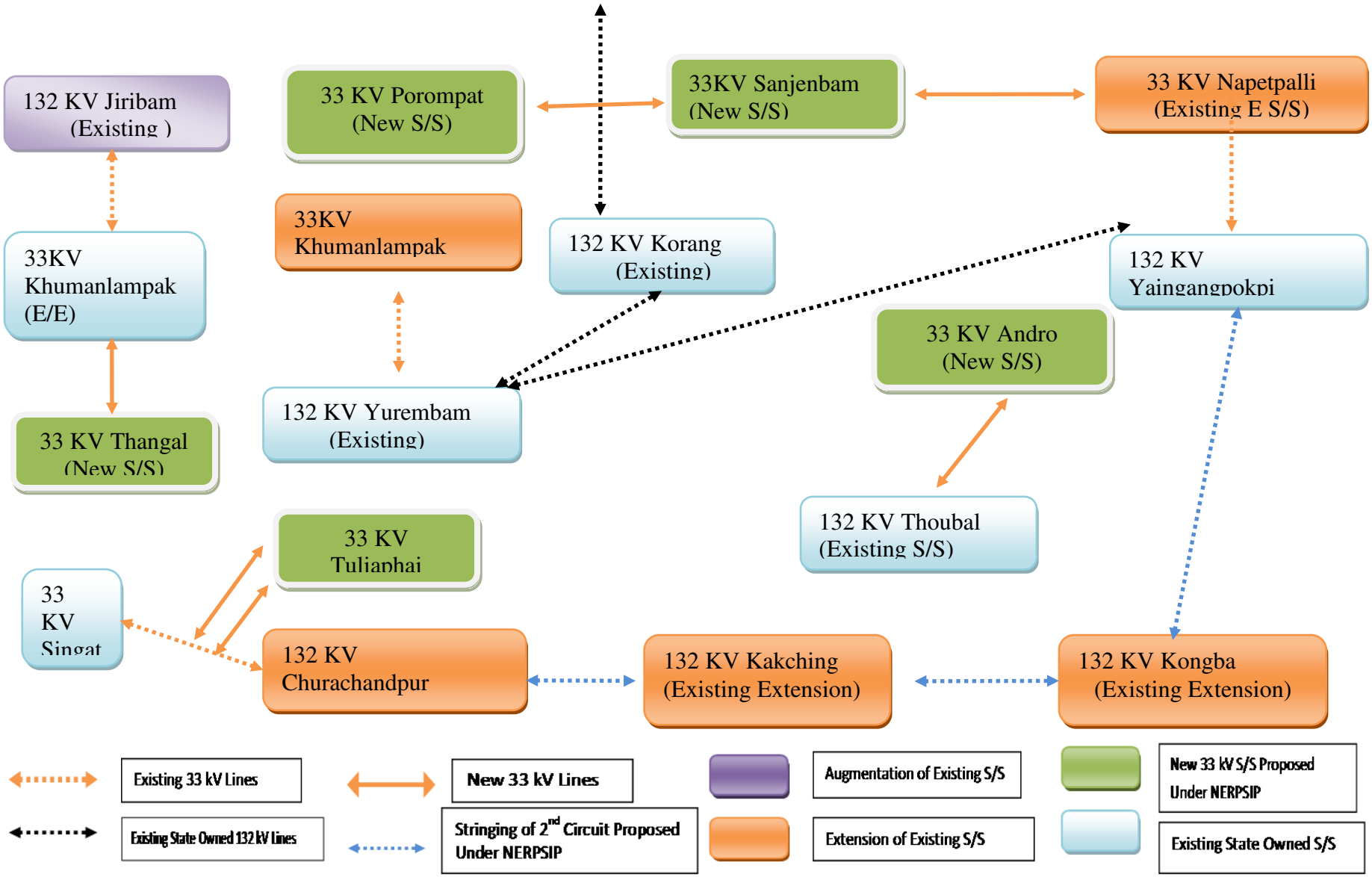
1.2. Project Components

6. The project components under the scope of present CPTD include following transmission/ distribution lines and associated Extra High Voltage(EHV) & Distribution Management System(DMS) substations proposed in Imphal East, Churachandpur, Thoubal & Tamenlong districts of Manipur State.;

Sr.	Name of Sub-projects	New / Existing Substation
A. Transmission Scheme		
1	Stringing of 2nd circuit of 132 kV D/C Kakching-Kongba Line **(45 km)**	Extension of existing 132/33 kV substation at **Kakching**
2	Stringing of 2nd circuit of 132 kV D/C Yaingangpokpi-Kongba Line **(32.75 km)**	Extension of existing 132/33 kV substation at **Kongba**
3	Renovation of Yurembum-Karong-Mao Section of 132 kV S/C Yurembum-Karong-Kohima Line **(91.4 km)**	Extension of existing 132/33 kV substation at **Churachandpur**
B. Distribution Scheme		
3	33 kV line from 132/33 kV Thoubal- 33/11 kV Andro substation- **5.364 Km**	Establishment of 33/11 kV (New) substation at **Andro**
4	33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation- **4.5 km**	Establishment of 33/11 kV (New) substation at **Prompat**
		Extension of existing 33/11 kV substation at **Khumanlampak**
5	33 kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation- **7.793 km**	Establishment of 33/11 kV (New) substation at **Sanjenbam**
		Extension of existing 33/11 kV substation at **Napetpalli**
6	33 kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation – **39.173 km**	Establishment of 33/11 kV (New) substation at **Thangal**
		Extension of existing 33/11 kV substation at **Khoupom**
7	33 kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai- **0.342 km**	Establishment of 33/11 kV (New) substation at **Tuilaphai**
		Extension of existing 33/11 kV substation at **Mongsangei**
		Extension of existing 33/11 kV substation at **Iroisemba**
		Extension of existing 33/11 kV substation at **Nambol**

7. The schematic diagram of proposed transmission and distribution network under Tranche-1 of NERPSIP is shown in **Figure 1.2** below:

Figure 1.2 : Proposed T & D Network in Imphal East, Churachandpur, Thoubal & Tamenlong District 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 project. 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 well as provision of existing laws/ regulations, it has been established that no permanent land acquisition is involved and only temporary impacts on land loss and 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. MSPCL / POWERGRID 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 payment of compensation is a simultaneous and continuous activity. Hence, CPTD updating will be a continuous process during construction and updated data on Aps shall be disclosed through semi-annual E & S monitoring report submitted by MSPCL/POWERGRID.

1.5. Measures to Minimize Impact

10. In keeping with provisions of ESPPF and Bank's Safeguard Policies MSPCL/ POWERGRID has selected and finalized the routes of transmission line with due consideration of avoidance and minimization to the extent possible and same principles shall also 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.

11. 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 19 conferred under section 164 of the Electricity Act 2003 vide Govt. of Manipur, Power Department Notification dated 16th March, 2016, MSPCL has the mandate to place and maintain transmission lines under/ over/ along or across and posts in or upon, any immoveable 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, MSPCL/ 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.

12. 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.

13. 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 available gap in between two crop seasons.

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

15. 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

16. 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.

17. In order to achieve this, MSPCL /POWERGRID undertake route selection for individual line in close consultation with representatives of concerned Forest Department and the Department of Revenue. Although under the law, State Utilities 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.

18. 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.

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

II. SOCIOECONOMIC INFORMATION AND PROFILE

2.1. General

20. 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 Manipur and project districts in particular i.e. Imphal East, Churachandpur, Thoubal & Tamenglong 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 of Manipur

21. Manipur is one of the hilly states of the north eastern part of the country with an area of 21,427 sq km which is 0.68% of country's geographical area. It shares international border with Myanmar and lies between the latitudes of 23°50' N and 25°42' N and the longitudes of 92°59' E and 94°46' E. Geographically, the state comprises flat plateau of alluvial valley and the hill territory. 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	2,142	
Reporting area for land utilization	2,142	100.00
Forests	1,742	81.32
Not available for cultivation	27	01.26
Permanent pastures and other grazing lands	01	00.05
Land under misc. tree crops & groves	06	00.28
Culturable wasteland	01	00.05
Fallow lands other than current fallows	00	00.00
Current Fallows	00	00.00
Net area sown	365	17.04

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

2.2.2 Imphal East, Churachandpur, Thoubal & Tamenglong

22. The Imphal East has total area of 469.44 sq. km and situated between latitude of 23°50' N-25°41' N and longitude 93°2'E-94°47'E. It lies 790 meters above MSL. The District is situated in two separate valleys of the state namely Central Valley and Jiribam Valley.

23. Churachandpur district is situated in the south west part of Manipur. The district is bounded by Senapati district in the north, Bishnupur and Chandel districts in the east, Manipur and Mizoram in the west and Myanmar on the south. The total geographical area of Churachandpur district is 4,570 sq.km. It lies between 23º 55'N and 24º 30'N Latitudes and between 92º 59'E to 93º 50'E longitudes. The topography of the district is hilly and lies 914.4 meters above MSL.

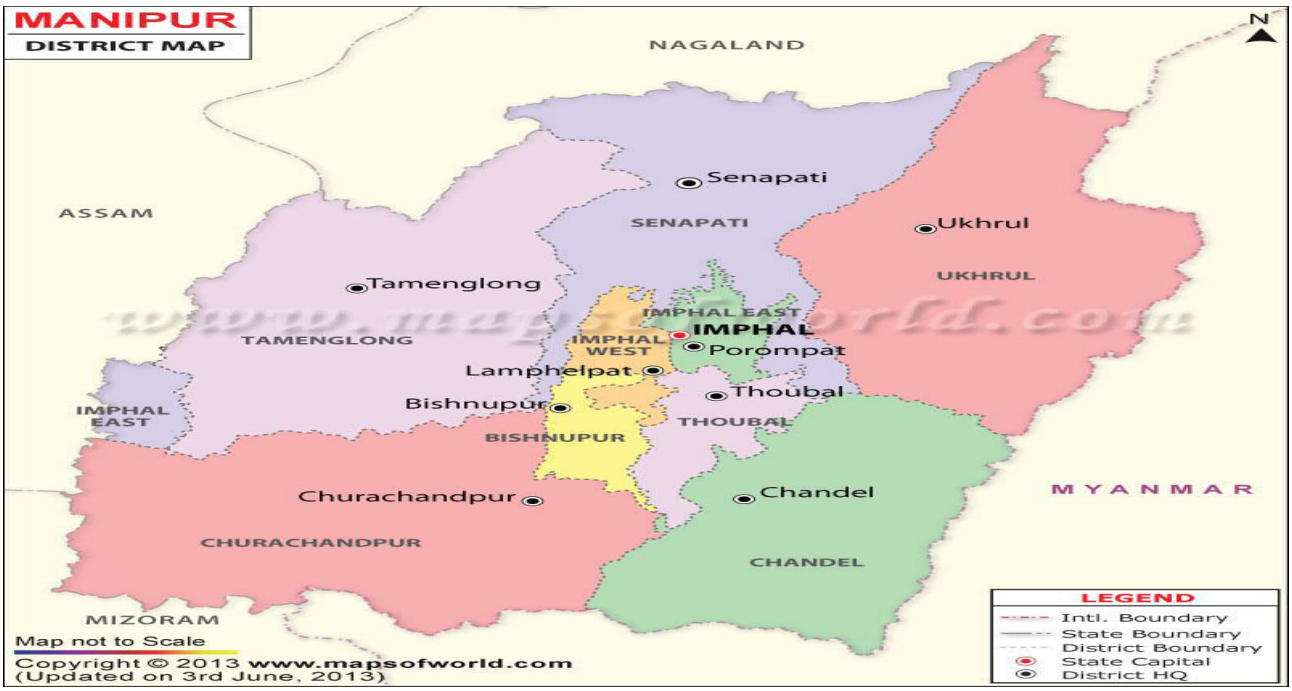


Figure 2.1: District Map of Manipur

24. Thoubal district is situated on the eastern half of the Manipur Valley, lies between 23° 45' N and 24°45' N latitude and 93°45' E and 94°15' E longitude. It is bounded on the north by Imphal district, on the east by Ukhrul and Chandel districts, on the south by Chandel and Churachandpur districts and on the west by the districts of Imphal and Bishnupur. It has an area of 514 sq. kms. The average elevation is not much different from the rest of Manipur valley, about 790 meters on an average above the sea level. Although the district is a part of the valley, the landscape of the district is not entirely plain.

25. The district of Tamenglong is located on the west of Manipur at an altitude of 1,290 m above the sea level and covers a total area of 4,391 sq. km. It lies between 24°30'N and 25°27'N latitudes and of 93°10'E and 94°54'E longitudes. The district is bounded by Nagaland in the North, Churachandpur district in the South, Senapati district in the East and in the West by the state of Manipur.

2.2.2.1 Climate

26. The climate of Manipur is mostly tropical with alpine climate. The northeastern region has an amiable climate and is very cold in the winters. The climate varies according to the elevations of the land forms in the state. The weather in the plains is however, similar to that of the other states in the country. But the hilly regions are different and enjoy a pleasant climate with dry and low temperature. The weather in the state is highly influenced by the winds blowing from the Bay of Bengal and is conducive for heavy rainfall in the rainy season. The state experiences three main seasons i.e. summer, winter and the rainy season. Manipur does not experience extreme climatic conditions with temperature in summers rising upto 32º C, although the winter temperature may go below zero degree. The weather is bright and sunny and the hills experience a dry and warm climate, while the plains are hot and dry like any other part of the country. As the Himalayan region is close by and the hills are actually an extension of the Himalayas, the climate here is similar to the Himalayan region, but not extreme. Winters begin from November and stay on till February. The coldest month is January, as cold winds freeze the atmosphere. The monsoon season begins in May and continues till the mid of October. Average rainfall ranges from 1250 mm to 2700 mm. November to February are the dry months.

27. The climate of the Imphal East is salubrious and Monsoon is tropical. The minimum temperature goes down to 0.6°C in winter and 41 degree Celsius in summer. Average rainfall varies in the range of 1240 mm – 1470 mm.

28. Similarly Churachandpur district has a moderate sub-tropical to temperate monsoon climate varying from place to place depending on the density of rainfall and elevations. The district has maximum temperature of 37°C while minimum is 10°C. The highest rainfall is 3080mm and the lowest is 597mm.

29. The Thoubal district has an equitable and pleasant climate. Rainfall is relatively abundant and widespread. The district is also under the effect of the so-called ' Vagaries of the monsoon' with the alternating droughts and floods. Average rainfall varies in the range of 1243.50 mm to 1391.20 mm. The summer months are never oppressive with the average maximum temperature fluctuating between 32°C to 35°C during April-June, the mercury seldom going beyond 37°C. In December-February with the start of the cold winter months the average minimum temperature fall to 6°C to 4°C, the temperature going below 0°C.

30. Climatically, Tamenglong belongs to sub-tropical zone. Because of high altitude, summer is mild with maximum temperature of 27°C and minimum temperature of 5°C.

2.2.2.2 Water Resources:

31. The The main rivers flowing in the subproject area districts are Barak (Ahu), Manipur, Thoubal, Irang, Makhru (Makhu), Iring, Ijei(Aga), Wangjing, the Arong and the Sekmai, Leimatak, Leinganpokpi, , Khuga, Tuitha and Apah rivers etc. Among these are Manipur & Barak (Ahu) are the biggest rivers and are perennial in nature. However, the subprojects covered under instant scheme have no major river crossings and thus do not have any impact on these water bodies. Manipur is rich in water resources. The annual replenishable ground water resources of the state amount to 0.44 BCM, while net annual ground water availability stands at 0.40 BCM. As per Central Ground Water Board, stage of ground water development has been calculated as 1.02%. The state doesn't have any Over Exploited, Critical or Semi critical region as far as ground water is concerned. Barring certain pockets, quality of ground water has been found satisfactory.

2.2.2.3 Soil

32. The soil cover can be divided into two broad types, viz. the red ferrogenous soil in the hill area and the alluvium in the valley. The soil generally contains small rock fragments, sand and sandy clay and are of varieties. The top soils on the steep slopes are very thin. In the plain areas, especially flood plains and deltas, the soil is of considerable thickness. Soil on the steep hill slopes is subjected to high erosion resulting into formation of sheets and gullies and barren rock slopes. Soils are acidic in nature the normal pH value ranges from 5.4 to 6.8. The soil is conducive for crop and horticulture. Horticultural crops like pineapple, orange, lemon and pears etc can be seen grown in plenty in the state. Due to the geographical reasons, the soil conservation is significant for the ecology of Manipur.

33. The soil type found in subproject area districts mostly fertile and is mainly made up of alluvial soil of recent and older origin. However, in some parts red gravelly sandy and loamy soil and clay soil is also found.

2.2.2.4 Ecological Resources

34. The recorded forest area of the state is 17,418 sq km which is 78.01% of its geographical area. The Reserved Forests constitute 8.42%, Protected Forests 23.95% and Unclassed Forests 67.63% of the recorded forest area. The state has ten forest types as per Champion & Seth Classification system (1968) belonging to five forest type groups, viz. Tropical Semi-evergreen, Tropical Moist Deciduous, Subtropical Broadleaved Hill, Subtropical Pine and Montane Wet Temperate Forests.

35. The proposed transmission and distribution lines shall pass through mainly three district of this state having forest cover ranging from 9.84 % to 88.86 %. The details of forest resources available in the project districts are as follows **(Table 2.2)**:

Table 2.2: District wise Forest Cover

District	Geographic area (in sq. km)	2013 Assessment (Area in Sq. km)				% Forest cover
		Very Dense forest	Mod Dense forest	Open forest	Total	
Imphal East	669	0	53	167	220	32.88
Churachandpur	4,570	37	1,683	2,555	4,275	93.54
Thoubal	514	0	4	52	56	10.89
Tamenglong	4,391	279	1,784	1,839	3,902	88.86

Source: Indian State of Forest Report 2015

2.2.2.5 Crops

36. Agriculture plays an important role in the development of Manipur's economy. It engages about 76% of the total working population. The size of the cultivated area is only 9.41% of the total geographical area of the state. Out of the total cultivated area, 52% is confined to the valley. Half of the total valley area, which accommodates 67% of the total population, is occupied for agriculture purposes. The state produces sizeable quantity of paddy, wheat, maize, pulses, oilseeds such as mustard, groundnut, soybeans, sunflower, ginger, turmeric and fruits like pineapple, lime/lemon, banana, orange, papaya, plum and vegetables like, cauliflower, cabbage, tomato, peas, carrot, pumpkin.

2.2.2.6 Human and Economic Development

37. The 2012-2013 gross state domestic product of Manipur at market prices was about 10188 Crore. Its economy is primarily agriculture, forestry, cottage and trade driven. Manipur acts as India's 'Gateway to the East' through Moreh and Tamu towns, the land route for trade between India and Myanmar and other Southeast Asian countries. Manipur has the highest number of handicrafts units as well as the highest number of craftsperson's, in the entire north-eastern region of India. The state is covered with over 3,000 square km of bamboo forests, making it one of India's largest contributors to its bamboo industry.

38. As per 2011 census, Imphal East district has a population of 4,52,661. The literacy rate of the district stands at 82.81%. The district has a sex ratio of 1011 female per 1000 male, which is better than the corresponding National figures. Agriculture is the main occupation of the people. The main food crops are paddy, potato and vegetables. Among the cash crops are sugar cane,

maize, pulse, oil seed and other vegetables etc. Besides these spices like chilli, onion, ginger, turmeric and coriander of very good quality are grown in the district. The soil and climate favour for mass plantation of horticulture products in the district. Therefore, horticulture products have been acquiring popularity with the people in the district. Apart from this, handloom and handicraft goods are the important cottage and home industries taken up by the people. Handloom products like, Wangkhei Phi, Lashing Phi and Phanek and its different designs made by these weavers are in great demand both in the home and outside markets as well. This occupation provides employment to almost women in the district. This can certainly be developed in the district by upgrading the skills of artisans introducing of improved looms and provision of cheap yarns.

39. According to 2011 census, Thoubal district has a population 420,517. It has population density of 818 people per sq. kms. and ranks as the 2nd most densely populated district in the state. Agriculture is the most important source of livelihood for the people of the district. More than 70 per cent of the total population of the district is directly or indirectly depended on agricultural activities. The valley is fertile and the topography of the district provides good opportunity for natural as well as artificial irrigation. Rice accounts for above 90 percent of the total land area under cultivation. In respect of rice production, Thoubal accounts for 25 percent of the total production of rice in Manipur. The Kakching belt which provides more than 50 percent of the total rice exports of the district may be rightly termed as the 'rice basket of Manipur'. Other crops grown in the district are sugarcane, oilseeds, maize, potatoes, pulses, chilies, vegetable etc. The district is the largest producer of sugarcane in Manipur and cultivation is mainly confined to Thoubal, Wangjing, Kakching, Kakching Khunou and Wabagai. Handloom is an important and traditional activity in the district. The main handloom products are cotton and polyester clothes like- saris, made-up bed sheet, curtain, towel, table cloth, fashion garments with intricate designs, lashingphee (cotton tweed clothes) etc. The district is also famous for its kouna craft. Kouna craft has also been taken up by the people in the district as a gainful economic activity due to high market demands. The district also has a fair amount of activities in sericulture which generates employment for both males and females.

40. Churachandpur district has a population of 271,274. The literacy rate of the district stands at 84.29 % and has a sex ratio of 969 female per 1000 male. Agriculture has been playing a predominant role for contributing the economic growth of the district due to non-availability of infrastructure facilities like power, skilled labour, transport and communication, financial institutions etc and also there is practically no big industries worth naming in the district or state. The total number of employment was estimated to 75.8% in the public sectors and 6.2 % in the private sectors of the district showing an extremely narrowed employment avenue in private sector.

41. According to 2011 census, Tamenglong district has a population of 1,40,143. It has population density of 32 people per sq. km which is lowest in the state. The economy of the district is basically agrarian with paddy as major crop. 76 percent of the total area under paddy cultivation in the district is under jhum while permanent terrace occupies 6.0 percent. 30.56 percent of the households are BPL families in the district as per the latest records of the Food and Civil Supplies Department, Govt. of Manipur. The district has hardly any industrial activity except for a small number of registered small industrial units. Poultry and livestock farming is an important economic activity of the people in this hill district. The livestock and poultry production in the district is fairly high. The district stands 4th in the State in respect of poultry production with 12 percent of total poultry production in the State.

2.2.3 Demography Features

2.2.3.1. Total Population

42. Total population in Manipur stands at 2,855,794 of which total rural population stands at 2,021,640 (70.79 %) and total urban population stands at 834,154 (29.21 %). District wise details of are given in **Table 2.3.**

Table 2.3: Details on Total Population

Name/Particulars	Total Population	Total (Rural)	Total (Urban)	Percentage (Rural)	Percentage (Urban)
Manipur	2,855,794	2,021,640	834,154	70.79	29.21
Imphal East	456,113	272,906	183,207	59.83	40.17
Churachandpur	274,143	255,786	18,357	93.30	6.70
Thoubal	422,168	270,835	151,333	64.15	35.85
Tamanglong	140,651	121,288	19,363	86.23	13.77

Source: Census of India, 2011

2.2.3.2 Male and Female Population

43. Total population in Manipur stands at 2,855,794 of which male population stands at 1,438,586 (50.37%) and female population stands at 1,417,208 (49.63%). District wise details of are given in **Table 2.4.**

Table 2.4: Details on Male/ Female Population

Name /Particulars	Total Population	Total Male	Total Female	Percentage (Male)	Percentage (Female)	Sex Ratio
Manipur	2,855,794	1,438,586	1,417,208	50.37	49.63	985
Imphal East	456,113	226,094	230,019	49.57	50.43	1017
Churachandpur	274,143	138,820	135,323	50.64	49.36	975
Thoubal	422,168	210,845	211,323	49.94	50.06	1002
Tamanglong	140,651	72,371	68,280	51.42	48.58	943

Source: Census of India, 2011

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

44. Total Population in Manipur stands at 2,855,794 of which Scheduled Caste (SC) population stands at 97,328 (3.41 %) and Scheduled Tribe (ST) population stands at 11,67,422 (40.88%). District wise details population of SC/ST are given in **Table 2.5**. This is just the district profile about the scheduled caste and scheduled tribe population; however, the Project will not have any impact on scheduled caste/scheduled tribe population.

Table 2.5: Details on Percentage SC/ST

Name/ Particulars	Total Population	Total SC Population	Percentage of SC Population	Total ST Population	Percentage of ST Population
Manipur	2,855,794	97,328	3.41	11,67,422	40.88
Imphal East	456,113	15,839	3.47	27,657	6.06
Churachandpur	274,143	443	0.16	254,787	92.94
Thoubal	422,168	40,593	9.16	1,808	0.43
Tamanglong	140,651	22	0.016	134,626	95.71

Source: Census of India, 2011

2.2.3.4 Literacy

45. Total Population in Manipur stands at 2,855,794 of which total literate population stands at 1,908,476 (76.94 %) and total illiterate population stands at 9,47,318 (33.16 %). District wise total population total literate population and total illiterate population are given in **Table 2.6**.

Table 2.6 : Literate and Illiterate Population

Name/Particulars	Total Population	Total Literate	Percentage of Literate	Percentage (Male)	Percentage (Female)
Manipur	2,855,794	1,908,476	76.94	52.46	47.54
Imphal East	456,113	324,664	81.95	53.38	46.62
Churachandpur	274,143	195,935	71.47	53.09	46.91
Thoubal	422,168	269,304	63.79	56.67	43.33
Tamenglong	140,651	85,006	70.05	55.76	44.24

Source: Census of India, 2011

2.3.3.5. Total Workers (Male and Female)

46. Total population into work in Manipur stands at 13,04,610 of which total Male (work) population stands at 7,39,408 (56.68 %) and total female (Work) population stands at 5,65,202 (43.32%). District wise total work population, total Male (work) population and total female (Work) population are given in **Table 2.7.**

Table 2.7: Details on Workers

Name/ Particulars	Total Population (Work)	Total Male (Work)	Total Female (Work)	Percentage (Male)	Percentage (Female)

Manipur	13,04,610	7,39,408	5,65,202	56.68	43.32
Imphal East	194,848	117,562	77,286	60.33	39.67
Churachandpur	122,655	70,594	52,061	57.55	42.45
Thoubal	195,319	109,377	85,942	56.00	44.00
Tamanglong	70,675	37,237	33,438	52.69	47.31

Source: Census of India, 2011

2.3.3.6 Households

47. Total households in Manipur stands at 5, 07,152 of which Rural households stands at 3,35,752 (66.02 %) and Urban households stands at 1,71,400 (33.98 %). District wise details of are given in **Table 2.8.**

Table 2.8: Details on Households

Name/ Particulars	Total Households	Total (Rural)	Total (Urban)	Percentage (Rural)	Percentage (Urban)
Manipur	5,07,152	3,35,752	1,71,400	66.02	33.98
Imphal East	91,806	54,014	37,792	58.83	41.17
Churachandpur	49,089	45,787	3,302	93.27	6.73
Thoubal	85,965	54,888	31,077	63.85	36.15
Tamanglong	24,477	21,069	3,408	86.07	13.93

Source: Census of India, 2011

III. LEGAL & REGULATORY FRAMEWORK

3.1. Overview

7. In India, compensation for land acquisition (LA) and rehabilitation/resettlement of project affected persons/ families is governed 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. Since in case of transmission line project, land for tower/pole and right of way is not acquired and ownership of land remains with the owner this act is not applicable. However, as per existing laws6 compensation for all damages is paid to the individual land owner. The relevant national laws applicable for transmission project are (i) The Electricity Act, 2003 and (ii) The Indian Telegraph Act, 1885 and (iii) Govt of Manipur notification dated 28th March 2018 on RoW Compensation. The compensation principles adopted for this project shall comply with applicable laws and regulations of the GOI/ State Govt., World Bank's Safeguard Policies MSPCL's ESPPF.

3.2. Statutory Requirements

48. Transmission lines are constructed under the ambit of 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 MSPCL has been vested with the powers of Telegraph Authority vide Govt. of Manipur, Power Department Notification dated 16th March, 2016 under section 164 of the Electricity Act. As per the provision of Indian Telegraph Act, 1885 under section 10 (b), MSPCL 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.

49. 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):

(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).

3.2.3. MoP guidelines dated 15th October, 2015 for payment of compensation toward damages in regard to RoW

50. Ministry of Power (MoP) vide its order No. 3/7/2015-Trans dated 15th April'15 constituted a Committee comprising of representatives of various State Govt., MoP, Central Electricity Authority (CEA) & POWERGRID under the chairmanship of Special Secretary, MoP to analyze the issues relating to Right of Way for laying of transmission lines in the country and to suggest a uniform methodology for payment of compensation on this account. Based on recommendation of the Committee, Ministry of Power, Govt. of India vide its notification dated 15th Oct'15 has issued guidelines for payment of compensation for damages in regard to RoW Ministry of Power (MoP) has also written to all the States for taking suitable decisions regarding adoption of these guidelines considering that acquisition of land is a State subject. The said guidelines were adopted by Govt. of Manipur vide its notification dated 28th March 2018 for implementation (**Annexure-2**), which is applicable to transmission lines supported by tower base of 66 kV and above only and not for sub transmission & distribution lines below 66 kV. As per the guidelines following compensation shall be paid to all affected farmers/land owners in addition to normal tree and crop damage compensation;

i) **Tower base**: Compensation @ 85% of land value as determined by District Magistrate or any other competent authority based on Circle rate/ Guideline value/ Stamp Act rates for tower base area (between four legs).

ii) **Line corridor**: Compensation @ maximum 15% of land value towards diminution of land value in the width of RoW corridor as determined by District Magistrate or any other competent authority based on Circle rate/ Guideline value/ Stamp Act.

3.3. MSPCL's ESPPF

51. To address the environmental and social issues related to its power transmission and distribution projects under NERPSIP, MSPCL 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.

52. 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.

53. 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 RoWs, 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

54. 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.

55. Additionally, the issues related to the Right of Way (RoW) for the transmission/distribution 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

56. 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 that 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

57. 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 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 including major crossings along with maps of proposed route alignment is placed as **Annexure-3.** 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 lines. The RoW width is 27 and 15 meter for 132kV transmission line & 33 kV distribution line respectively.

58. 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.

59. 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.**

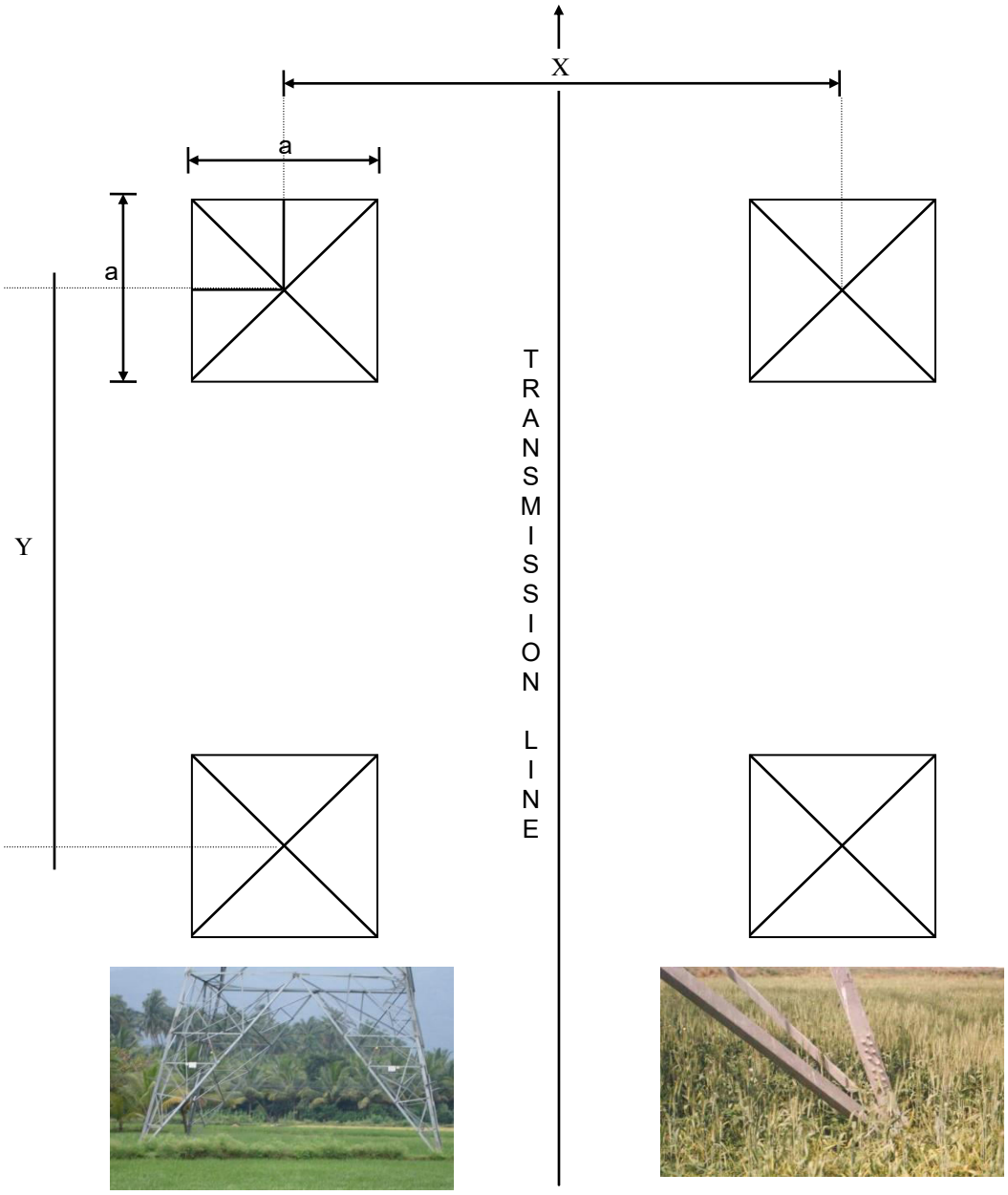
In case of 33 kV distribution line area that becomes unavailable because of the erection of pole is insignificant as approx. 1 sq. ft. land area is occupied for one pole (refer **Figure. 4.2** depicting actual base area impact). Due diligence confirms that land is either agricultural or barren, and current land use is not altered and resumed after construction.

60. 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.

61. 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 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 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.

62. 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 assess 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 headman/ Sarpanch and respective acknowledgements are obtained and POWERGRID/ MSPCL 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



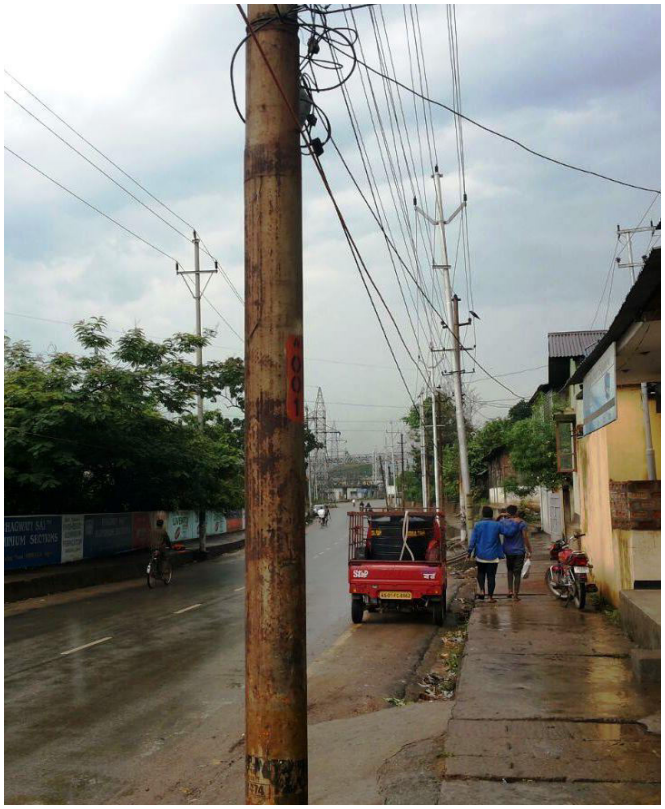
INDICATIVE MEASURES

X & Y = 5-10 METERS

a = 200- 300 mm

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

Actual Impact of 33 kV Pole at Base Area



33 kV line inside city area of Assam

33 kV (H Pole) line inside substation

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

63. The project component consists of establishment of five 33 KV new substation at Andro, Prompat, Sanjenbam, Thangal and Tuilaphai and also extension of three existing 132/33 kV substation at Kakching, Konba and Churachandpur along with six existing 33/11 kV substation at Khumanlampak, Napetpalli, Khoupom, Mongsangei, Iroisemba and Nambol. Lands for new substations have already been purchased on negotiated rates based on "willing buyer-willing seller basis". Bay extensions of the EHV and DMS substations will be done within the existing substations campus and the land belongs to MSPCL. Since no fresh land 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 the 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
Transmission Scheme							
Extension of 132/33 kV substation at Kakching	N/A	Nil	Nil	NA	NA	NA	MSPCL Land
Extension of 132/33 kV substation at Konba	N/A	Nil	Nil				
Extension of 132/33 kV substation at Churachandpur	N/A	Nil	Nil				
Distribution Scheme							
33/11 kV substation at Prompat	Yes	Nil	Nil	1.97	NA	0.197	Govt. Land
33/11 kV substation at Andro	Yes	Nil	Nil	0.5	1	0.335	Direct Purchase through Willing-Buyer Willing-Seller basis on negotiated rate
33/11 kV substation at Sanjenbam	Yes	Nil	Nil	0.62	3	1.029	
33/11 kV substation at Thangal	Yes	Nil	10	0.612	1	0.522	
33/11 kV substation at Tuilaphai	Yes	Nil	12	0.494	1	0.465	
Extension of 33/11 kV substation at Khumanlampak	N/A	Nil	Nil	NA	NA	NA	MSPCL Land.
Extension of 33/11 kV substation at Napetpalli	N/A	Nil	Nil				
Extension of 33/11 kV substation at	N/A	Nil	Nil				

Khoupom							
Extension of 33/11 kV substation at Mongsangei	N/A	Nil	Nil				
Extension of existing 33/11 kV substation at Iroisemba	N/A	Nil	Nil				
Extension of existing 33/11 kV substation at Nambol	N/A	Nil	Nil				

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

64. The lines corridor will pass through mixed land uses which are generally agricultural land, private plantation, forest land, govt. land etc. The calculations are based on detailed survey/ investigation carried out along the route of T & D lines and considering the total line length of the line and its right of way. The total line length of transmission line is 169.14 km which will impact an estimated of 1128.51 acres[4] of land. These include 100.15 km of line passing through agricultural land (668.17 acres of agricultural land), 66.84 km of private plantation (445.93 acres of private plantation), 2.16 km of riverine (14.41 acre of riverine land). However, the total 57.168 km distribution line corridor is passing through 16.953 km (62.83 acre) of agricultural land, 16 km (59.31 acre) of private plantation and 24.215 km (89.76 acre) of government/ barren land. The calculations are based on detailed survey/ investigation carried out along the route of distribution lines and considering the total line length of the line and its right of way. A brief description about the type and use of land in the corridor is given in **Table 4.2.**

Table 4.2: Type and Use of Land within Corridor of RoW (in km/ acres)

Name of the Lines	RoW	Agricultural land	Private Plantation	Riverine	Gov/ Barren	Total
Transmission Line						
Stringing of 2nd circuit of 132 kV D/C Kakching-Kongba Line	27	29 km (193.48 acre)	15.32 km (102.21 acre)	0.68 km (4.54 acre)	NIL	45 km (300.23 acre)
Stringing of 2nd circuit of 132 kV D/C Yaingangpokpi-Kongba Line		14.75 km (98.41 acre)	18 km (120.09 acre)	NIL	NIL	32.75 km (218.50 acre)
Renovation of Yurembum-Karong - Mao Section of 132 kV S/C Yurembum- Karong-Kohima Line		56.4 km (376.28 acre)	33.52 km (223.63 acre)	1.48 km (9.87 acre)	NIL	91.4 km (609.8 acre)
Sub-Total A		**100.15 km (668.17 acre)**	**66.84 km (445.93 acre)**	**2.16 km (14.41 acre)**	**NIL**	**169.14 km (1128.51 acre)**
Distribution Line						
33 kV line from 132/33 kV Thoubal-33/11 kV Andro substation	15	4.16 km (15.42 acre)	NIL	NIL	1.2 km (4.45 acre)	5.36 km (19.87 acre)
33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation		2 km (7.41 acre)	NIL	NIL	2.5 km (9.27 acre)	4.5 km (16.68 acre)

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

33kV line from 33/11 kV Napetpalli-33/11 kV Sanjenbam substation		7.793 km (28.88 acre)	NIL	NIL	NIL	7.793 km (28.88 acre)
33kV line from 33/11 kV Khoupom-33/11 kV Thangal substation		3 km (11.12 acre)	16 km (59.31 acre)	Nil	20.173 km (74.77 acre)	39.173 km (145.2 acre)
33kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai		NIL	NIL	NIL	0.342 km (1.27 acre)	0.342 km (1.27 acre)
Sub-Total B		**16.953 km (62.83 acre)**	**16 km (59.31 acre)**	**NIL**	**24.215 km (89.76acre)**	**57.168 km (211.9 acre)**
Total		**117.103 Km (731.00 acre)**	**82.84 km (505.24 acre)**	**2.16 km (14.41 acre)**	**24.215 km (89.76Ha)**	**226.308 km (1340.41 Ha)**

Source: Detailed Survey

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

65. 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.

66. 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 906.69 acre. Details of estimated impacted area for crop damages are 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)
132 kV D/C Kakching-Kongba Line	20	29	15.32	44.32	219.03
132 kV D/C Yaingangpokpi-Kongba Line		14.75	18	32.75	161.85
132kV S/C Yurembum- Karong-Kohima Line		56.4	33.52	89.92	444.38

33kV line from 132/33 kV Thoubal- 33/11 kV Andro substation	10	4.16	NIL	4.16	10.28
33kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation		2	NIL	2	4.94
33kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation		7.793	NIL	7.793	19.26
33kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation		3	16	19	46.95
33 kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai		NIL	NIL	NIL	NIL
TOTAL		**117.103**	**82.84**	**199.943**	**906.69**

Source: Detailed Survey

4.3.3 Actual loss of land for Tower Base & Pole

67. 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 33 kV surveyed distribution line proposed under the present scheme is estimated to be 0.038 acre and that of 132 kV line is nil as only stringing and renovation work is involved in 132kV lines. 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.)
132 kV D/C Kakching-Kongba Line (Stringing)	45	N/A	N/A	NIL
132 kV D/C Yaingangpokpi-Kongba Line (Stringing)	32.75	N/A	N/A	NIL
132 kV S/C Yurembum- Karong-Kohima Line (Renovation)	91.4	N/A	N/A	NIL
33 kV line from 132/33 kV Thoubal-33/11 kV Andro substation-	5.364	135	0.092	12.42
33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation-	4.5	98	0.092	9.016
33 kV line from 33/11 kV Napetpalli-33/11 kV Sanjenbam substation -	7.792	187	0.092	17.204
33 kV line from 33/11 kV Khoupom-33/11 kV Thangal substation	39.173	1236	0.092	113.712

33kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai	0.342	18	0.092	1.656
Total				**154.008≅0.038**

4.3.4 Land area for RoW compensation as per MoP Guidelines

68. Subsequent to the notification of Govt. of Manipur on adoption of MoP guidelines, compensation toward damages in regard to RoW for proposed 132 kV line @ 85% land value for tower base & @ maximum 15% land value for width of RoW corridor as decided District Commissioner or any other authority shall paid to land owners. Since in the instant case only stringing and renovation works are involved in proposed 132 kV lines, provisions for land compensation as shall not be applicable as per the said guidelines.

4.3.5. Loss of Trees

69. Total numbers of trees likely to be affected due to construction/ stringing/ renovation of line is approx. 786 out of which 141 are private trees and 645 trees in govt. land. However, it may be noted that the actual feeling of trees along the RoW is very limited considering the fact that most of the trees are of Banana and Bamboo species which generally do not require complete felling to maintain required electrical clearance. However, in case of feeling of any private trees, same will be compensated as per the entitlement matrix. Details on number of trees for each line are given in **Table 4.5**.

Table 4.5: Loss of Trees

Name of Line	Trees in Private Area (Numbers)	Trees in Govt. Area (Numbers)	Total Trees (Numbers)
132 kV D/C Kakching-Kongba Line	48	124	172
132 kV D/C Yaingangpokpi-Kongba Line	47	163	210
132 kV S/C Yurembum- Karong-Kohima Line	26	108	134
33kV line from 132/33 kV Thoubal- 33/11 kV Andro	NIL	5	5
33kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation	NIL	8	8
33kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation	8	10	18
33kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation	12	212	224
33 kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai	NIL	15	15
Total	**141**	**645**	**786**

Source: Detailed Survey

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

70. It has been observed during survey that approximately 8 numbers 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. However, efforts shall be made to avoid these structures completely through minor alterations of the route alignment. In case any such structure is unavoidable, that will be compensated as per the entitlement matrix. Details on impacts on small structures are given in **Table 4.6**.

Table 4.6: Loss of Other Assets

Name of Line	Total Number of Cattle sheds/huts
132 kV D/C Kakching-Kongba Line	N/A
132 kV D/C Yaingangpokpi-Kongba Line	
132 kV S/C Yurembum- Karong-Kohima Line	
33 kV line from 132/33 kV Thoubal- 33/11 kV Andro substation	1
33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation	Nil
33 kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation	2
33 kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation	4
33kV line from LILO of 33/11 kV Churachandpur-Singhat line at Tuilaphai	1
Total	**8**

Source: Detailed Survey

4.4 Details of Affected Persons

71. It is estimated that total number of affected persons which may be impacted temporarily will be approximately 56. Details are given in **Table 4.7.** 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 4.7: Number of Affected Persons

Name of Line	Total APs
132 kV D/C Kakching-Kongba Line	2
132 kV D/C Yaingangpokpi-Kongba Line	5
132 kV S/C Yurembum- Karong-Kohima Line	14

33 kV line from 132/33 kV Thoubal- 33/11 kV Andro substation	8
33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation	2
33 kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation	10
33 kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation	15
33 kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai	0
Total	56

Source: Detailed Survey

4.5 Other Damages

72. 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. MSPCL/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

73. 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.

74. 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.

75. Further, under Article 371 C of Constitution of India provides special provision to the State of Manipur for the Constitution and functions of a committee of the Legislative Assembly of the State consisting of members of that Assembly elected from the Hill Areas of the State. Under this Manipur (Hill Areas) District Council Act was enacted in 1971 which has provisions similar to those contained in the Sixth Schedule and has established six Autonomous Hill District Councils, covering 5 hill districts of the State. These Autonomous Hill District Councils (AHDC) are empowered to maintain and manage the property: movable and immovable, and institutions under their jurisdiction (e.g. in the field of agriculture, animal husbandry, community development, social and tribal welfare, village planning, management of any forest except RF, regulation of the Jhum /shifting cultivation or any other matter.) Under this act, the administrations of the Tribal areas is vested in village/district council under supervision of concerned DC at local/district level and Hill area Committee at State level. All activities sited in AHDC area needs their consent.

76. The instant project is being implemented in the Imphal East, Churachandpur, Thoubal and Tamenglong districts. However, Churachanpur and Tamenglong are part of Manipur Hill Areas Autonomous District Council Act, 2000 (Manipur Act 11 of 2000) created by Govt. of Manipur, which has approximately 94.32 % of Scheduled Tribe population. Since, the project under NERPSIP is envisaged for economic upliftment 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 MSPCL's ESPPF.

4.7. Summary of Impacts

77. Based on the above assessment, temporary impacts on loss of crops, trees, other structures and number of APs are summarized below in **Table 4.8**.

Table 4.8: Summary of Impacts

Particulars	Details	
	Transmission Line	Distribution Line
Length in km	169.14	57.168
Number of Towers/ Poles	NA	1674
Total Area of actual land loss under Tower Base (acre)	NA	0.038
Total APs	21	35
Affected Structures (Small Sheds for agricultural purpose)	NIL	12
Area of Temporary Damages for crop compensation (In acre)	825.26	81.43
Total Trees	516	270

Source: Detailed Survey

V. ENTITLEMENTS, ASSISTANCE AND BENEFITS

5.1. Entitlements

78. 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.

79. 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

80. 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	Land coming in corridor of width of Right of Way **(#)**	Owner	15% of land cost as decided by Deputy Commissioner
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

Sl.	Type of Issue/ Impact	Beneficiary	Entitlement Options
			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
(iv)	Tribal/ Vulnerable APs	Vulnerable APs[5]	One time additional lump sum assistance not exceeding 25% of total compensation on recommendation of State Authority/ADC/VC.

(#) Since Govt. of Manipur has adopted MoP guidelines vide notification dated 28.03.18, land compensation @85% land value for tower base and @15% land value for corridor shall be paid to affected farmers/owners

* ***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

81. In exercise of the powers conferred by section 164 of the Electricity Act, 2003, Power Department, Govt. of Manipur vide notification dated 16th March, 2016 has authorized MSPCL 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 immoveable 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, MSPCL/ 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:

82. MSPCL 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.

[5] Vulnerable APs include scheduled tribes residing in scheduled areas/ physically handicapped/ disabled families etc.

83. 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 center 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.

84. 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/SDM, who has been authorized by the Manipur Govt. for the purpose of assessment/valuation and disbursement of compensation to the affected parties.

85. 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.

86. 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 District Collector/ a tree cutting permit to MSPCL to enable removal / damage to the standing tree/crop identified in the line corridor.

87. Once the tree/crop is removed / damaged, MSPCL 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 Center 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.

88. On approval of compensation, the revenue officer shall further intimate the amount payable to the different landowners and MSPCL/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

89. Govt of Manipur adopted the MoP guidelines dated 15th October 2015 for land compensation for tower footing and RoW Corridor on 28th March 2018 which provide payment of @ 85% and @ 15% of land value towards compensation for land coming under tower base and line corridor respectively. Further, as per said guidelines land compensation provisions is only applicable to new or ongoing transmission lines and shall not be applicable in case of existing line, stringing of 2nd circuit, reconductoring/re stringing, repairing, construction of existing towers etc . Since in instance project only stringing and renovation work is involved in proposed 132 kV lines provisions of said guidelines shall not be applicable.

5.5. Compensation for Structure

44. 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, 12 nos. of small structures/sheds 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 MSPCL/ 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 parallel with the construction activity of line.

5.6. Compensation Disbursement Module

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

will be implemented during the project execution.

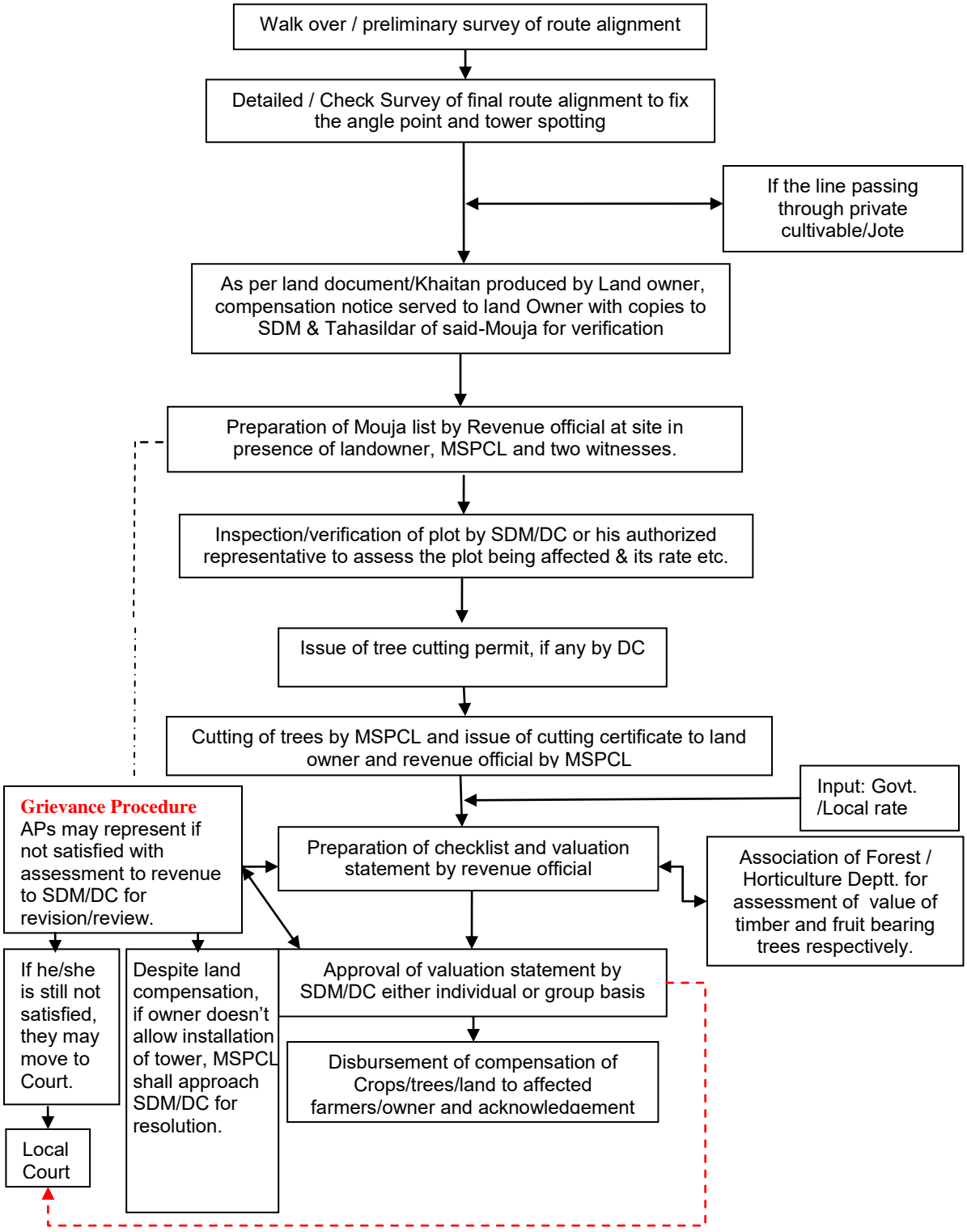
Table 5.2: Compensation Disbursement Module

Activity/Stage	Process	Maximum Time Period from Cut-Off date
Tower Foundation/ Erection/ Stringing	Serving of Notice ***(Cut-off date)***	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.***

Figure-5.1: Tree / Crop Compensation Process



VI. INFORMATION DISCLOSURE, CONSULTATION & PARTICIPATION

6.1. Consultations

91. 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 MSPCL & 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 MSPCL approach to minimizing and solving them;
- Trees and crop compensation process.

92. 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 Council/headman, Senior/respected person of village, interested villagers/general public and representatives from MSPCL & POWERGRID. Besides, gender issues have also been addressed to the extent possible during such consultation process (total 24 female out of 106 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 -4**.

Table 6.1 Details of Consultations

Date of meeting	Venue of Meeting	No. of Persons attended	Persons Attended
Public Consultation Meeting			
11.11.2014	Ningthoukhong	17	Project affected families, Village

			headman & general public, POWERGRID and MSPCL officials
Informal Group Meeting			
23.01.2018	Andro	14	Project affected families, Village headman & general public
23.01.2018	Langdum	08	Project affected families, Village headman
10.11.2018	Thangal	11	Project affected families, Village headman etc.
15.02.2019	Khoupum	12	Project affected families, Village headman & interested general public
16.05.2019	Zujantek	11	Project affected families, Village headman & interested general public
05.01.2019	Napetpalli	13	Project affected families, Village headman & interested general public
11.03.2019	Sanjenbam	10	Project affected families, Village headman & interested general public
12.08.2019	Yaingangpokpi	10	Project affected families, Village headman & interested general public

93. During consultations/interaction processes with people of the localized areas, MSPCL/POWERGRID field staffs explained benefit of the project, impacts of transmission/distribution 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.

94. 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.
- Early disbursement of compensation;

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

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

96. 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

97. The CPTD will be disclosed to the affected households and other stakeholders by placing it on website. To maintain the uninterrupted communication channel, MSPCL & 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 MSPCL & POWERGRID to know about the compensation norms and policies and to discuss their grievances. For wider circulation, executive summary of the CPTD and Entitlement Matrix will be translated in local language and placed at construction offices/ sites. The CPTD will also be disclosed on the World Bank website. TSECL & 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

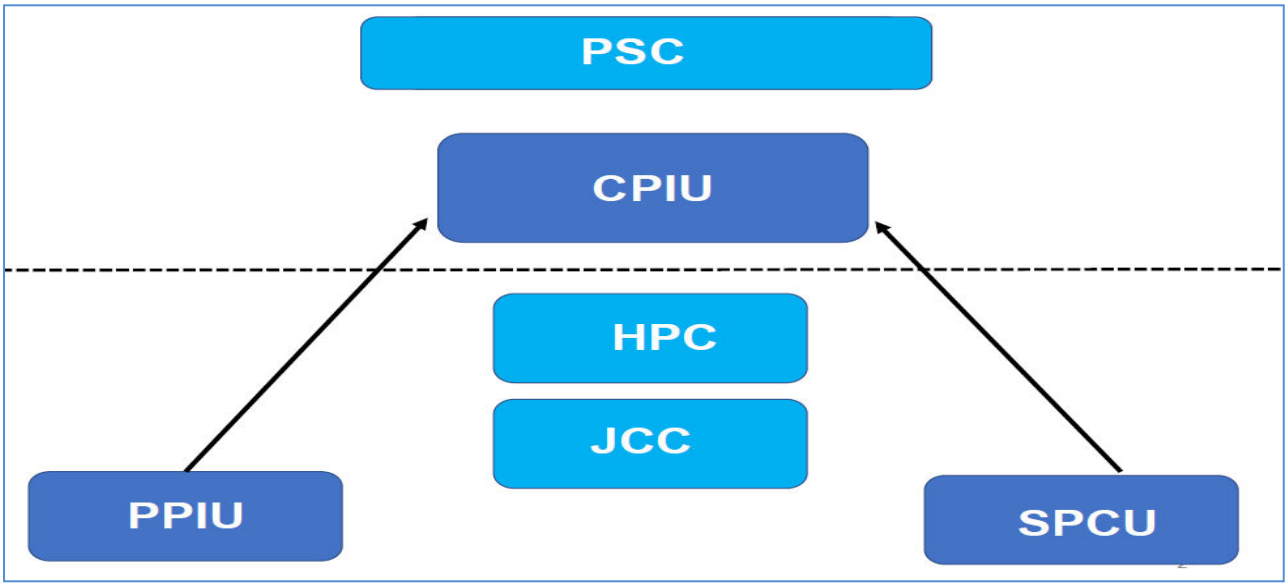
7.1 Administrative Arrangement for Project Implementation

98. 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 (PPIU) – 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:

99. 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, GoI and The Bank may join as and when needed. Minutes of the meeting will be shared with all concerned and if required, with GoI 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 GoI 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

100. 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.

101. 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.

102. In the instant subprojects, POWERGRID will implement the CPTD in close co-ordination with MSPCL 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. State

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

7.4. Responsibility Matrix to manage RoW Compensation

103. 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	MSPCL & IA field staffs	In 3 different Stages i.e. before start of Foundation, Erection & Stringing Works
Serving Notice to APs	MSPCL & IA field staffs	Revenue Dept.,	0 date
Verification of ownership	MSPCL, IA & Revenue Dept.	AHDC (if applicable)	0-15 days
Joint Assessment of damages	Revenue Dept. & APs	MSPCL / IA	16-45 days
Payment (online/DD) of compensation to AP*	MSPCL & IA		46-60 days

b) WTB for Land Compensation** for Tower base and RoW corridor

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

VIII. GRIEVANCE REDRESS MECHANISM

104. 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 MSPCL, 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

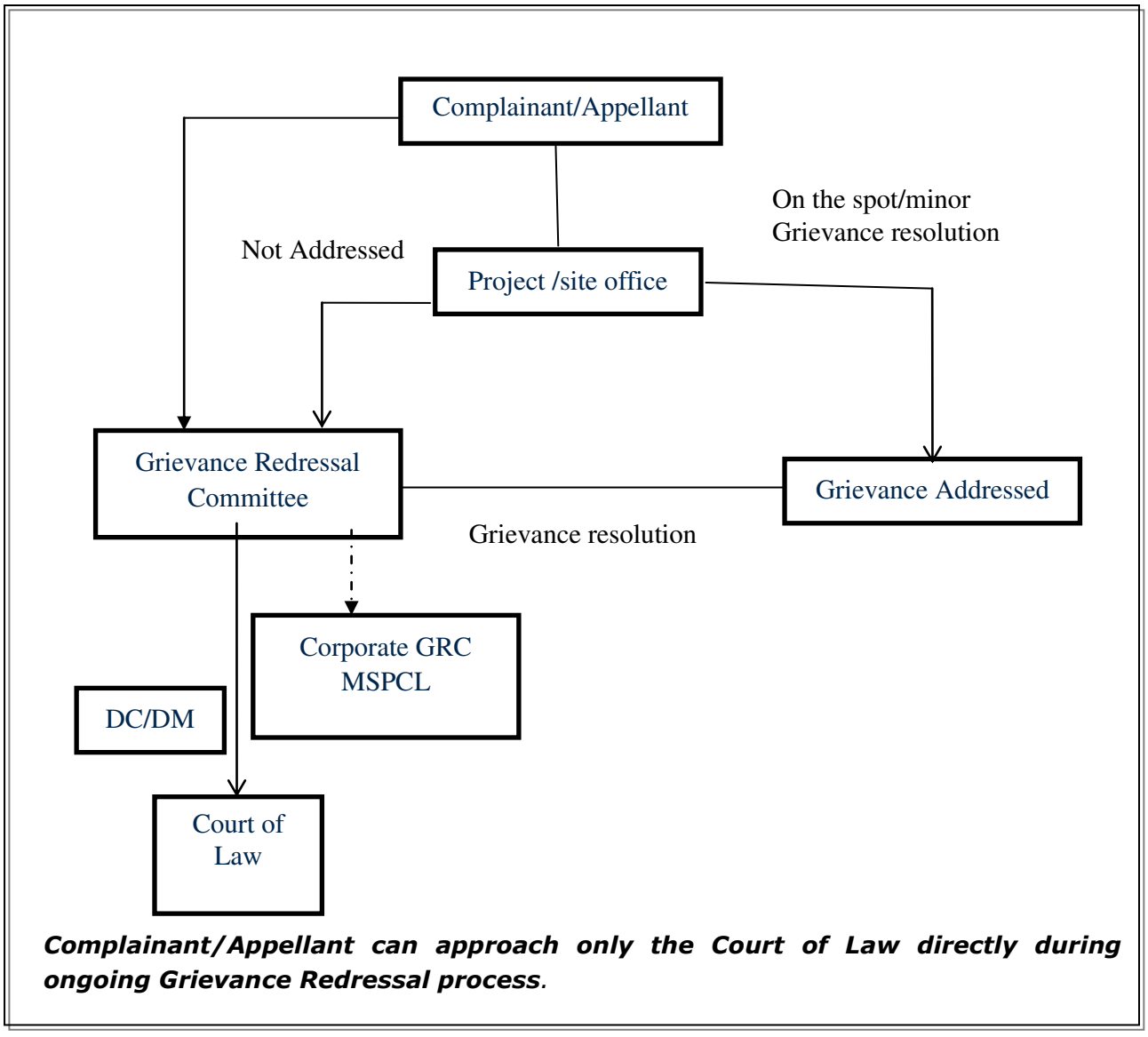
105. The complainant will also be allowed to submit its complaint to local project official who will pass it to GRC immediately but not more than 5 days of receiving such complaint. The first meeting of GRC will be organized within 15 days of its constitution/disclosure to formulate procedure and frequency 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.

106. The corporate level GRC shall function under the chairmanship of Director (Transmission) who will nominate other members of GRC including one representative from corporate ESMC who is 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.

107. 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, MSPCL & POWERGRID 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

108. 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. Although the Govt of Manipur adopted the MoP guidelines vide notification dated 28th March 2018, the provisions of land compensation for Tower Base (85% of the land cost) and RoW Corridor (15% of the land cost) shall not be applicable as the instant project involved only stringing and renovation works in proposed 132 kV lines . Therefore, no cost has been estimated for proposed 132 kV line in the budget by including these provisions. The unit cost for the loss of crop has been derived through rapid field appraisal and based on MSPCL & 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 restrictions, crops losses, other damages etc. As per MSPCL & 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 and along RoW Corridor

109. As already explained in previous chapter Govt of Manipur adopted the MoP guidelines on 28th March 2018 which provides compensation @ 85% and @ 15% of land value for tower base and line corridor respectively. However, as per said guidelines land compensation provisions is only applicable to new or ongoing transmission lines and shall not be applicable in case of existing line, stringing of 2nd circuit, reconductoring/re stringing, repairing, construction of existing towers etc. Since in instance project only stringing and renovation work is involved in proposed 132 kV lines provisions of said guidelines shall not be applicable.

9.2. Compensation for Crops and Trees

110. The crop compensation is calculated 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 9.1** below.

Table 9.1: Cost of Compensation for Crops and Trees

Sl No	Name of the Line	Total Length (Km)	Compensation /Km (In Lakh)	Total compensation cost for Crops & trees (Lakh)
1.	132 kV D/C Kakching-Kongba Line	45	5.0	225.00
2.	132 kV D/C Yaingangpokpi-Kongba Line	32.75	5.0	163.75
3.	132 kV S/C Yurembum- Karong-Kohima Line	91.4	5.0	457.00
4.	33 kV line from 132/33 kV Thoubal-33/11 kV Andro substation	5.364	0.5	2.68
5.	33 kV line from 33/11 kV Prompat-33/11 kV Sanjenbam substation	4.5	0.5	2.25
6.	33 kV line from 33/11 kV Napetpalli- 33/11 kV Sanjenbam substation	7.793	0.5	3.90
7.	33 kV line from 33/11 kV Khoupom- 33/11 kV Thangal substation	39.173	0.5	19.59
8.	33 kV line from LILO of existing 33/11 kV Churachandpur-Singhat line at Tuilaphai	0.342	0.5	0.17
Total				**874.34**

9.3. Summary of Budget

111. The total indicative cost is estimated for surveyed distribution line to be **INR 924.91 Lakhs** equivalent to **USD 1.424** million. Details are given in **Table 9.2**. 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 9.2: Summary of Budget

Item	Amount in Lakh (INR)	Amount in (Million USD)
A. Compensation		
A-1: Loss of Crops and Trees	874.34	1.346

A-2: Land Compensation for Tower Base and RoW Corridor	NIL	NIL
Sub Total-A	**874.34**	**1.346**
B: Implementation Support Cost		
B-1: Man-power involved for CPTD implementation & Monitoring	18.63	0.029
B-2: Independent Audit (LS) if needed	5.00	0.008
Sub Total- B	**23.63**	**0.037**
Total (A+B)	**897.97**	**1.383**
Contingency (3%)	**26.94**	**0.041**
Grand Total	**924.91**	**1.424**

X. IMPLEMENTATION SCHEDULE

112. 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	1st year				2nd Year				3rd year			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
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

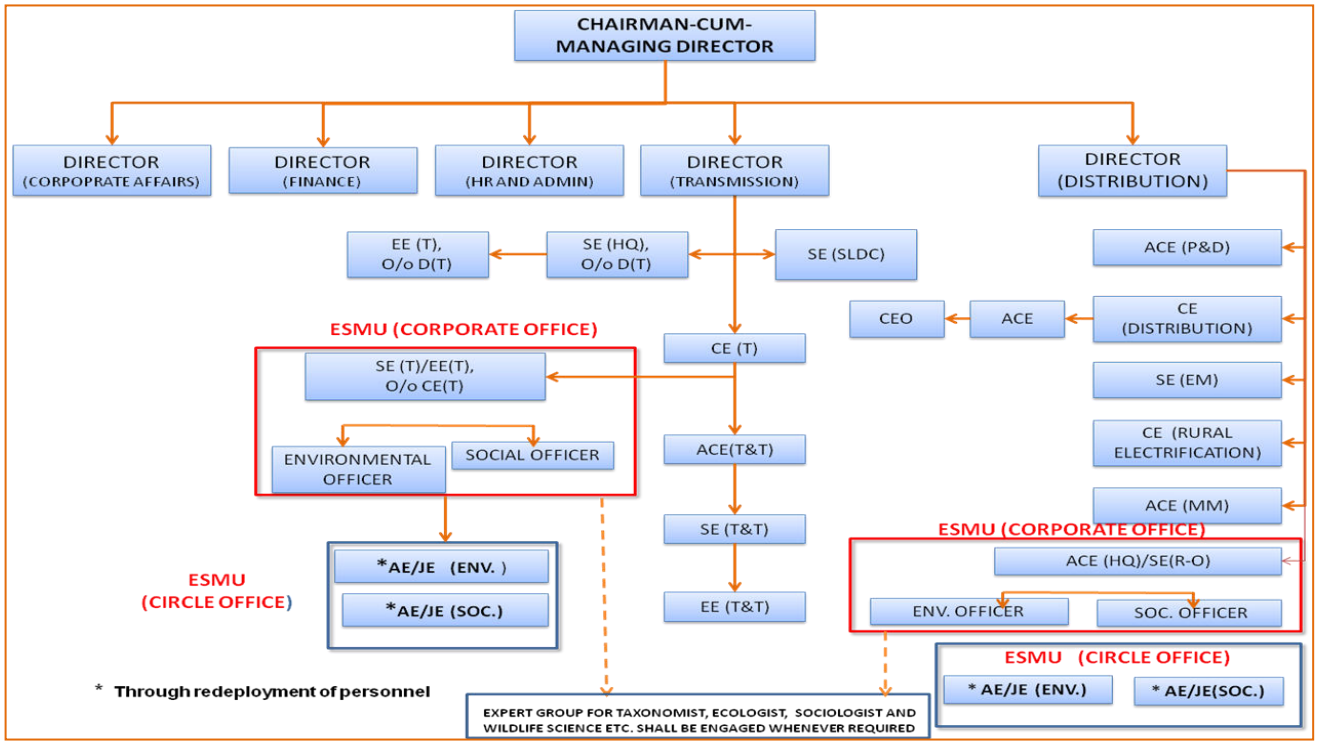
113. Monitoring is a continuous process at all stages of project. Monitoring of CPTD implementation will be the responsibility of POWERGRID as well as the State Utility.

114. 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.

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

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

Figure – 11.1: MSPCL Support Structure for Safeguard Monitoring



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

117. 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. It is pertinent to mention that the project activity for EHV lines involve only stringing of second circuit or replacement of insulator/conductor in already existing EHV lines and hence, no major damages with respect to trees/ crops/ structures as well as land compensation is anticipated as there is no new construction activity involved. Moreover, such activities are being carried out during lean period to avoid any damages to standing crops. Till date, no compensation in respect of tree/crop/land /structure has been paid in against any of the subprojects under implementation.

11.2 Status of Grievances

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

ANNEXURE – 1

EVALUATION OF ALTERNATIVES ROUTE ALIGNMENT

EVALUATION OF ALTERNATIVES ROUTE ALIGNMENT

A TRANSMISSION LINES

The transmission scope includes following subprojects;

1. Stringing of 2nd circuit of 132 kV D/C Kakching-Kongba Line- **45 km**;
2. Stringing of 2nd circuit of 132 kV D/C Yaingangpokpi-Kongba Line -**33 km;**
3. Renovation of Yurembum-Karong-Mao Section of 132 kV S/C Yurembum-Karong-Kohima Line - **91.0 km**

Since it is proposed to undertake stringing of 2nd circuit/renovation activities in existing 132 kV above said transmission lines, no alternative route have been explored in the instant case.

In case of sl. no. 1 & 2, it is proposed to undertake only stringing of 2nd circuit in the existing 132 kV lines of MSPCL which were constructed earlier as single circuit line on double circuit tower considering future provision of up-gradation of the line as double circuit. Since, the activity includes only stringing of electrical conductor in the existing towers within the already available RoW, no interference to the surrounding environment is envisaged. Similarly, in case of Sl. 3 i.e. renovation of Yurembum-Karong-Mao section of 132 kV S/C Yurembum-Karong-Kohima line involve activities like replacement of insulators, strengthening cross arm of tower, change of tower parts & change of conductor etc only within the already available RoW without any civil construction work and therefore, no major environmental and social issues are anticipated**(Plate-1**).

B. DISTRIBUTION LINES

EVALUATION OF ALTERNATIVES ROUTE ALIGNMENT FOR 33 KV LINE FROM 33/11 KV THANGAL (NEW)- 33/11 KV KHOUPOM(EXISTING) SUBSTATION

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. 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 Length:- 11.89 km)**			
i.	Route Length (km)	39.173	42.596	41.7
ii.	Terrain			
	Hilly	100%	100%	100%
	Plain	Nil	Nil	Nil
2.	**Environmental Details**			
i.	Name of District through which the line passes	Tamenglong	Tamenglong	Tamenglong
ii.	Town in alignment	Major settlement area is Khoupom Valley. However, the route touches Leishok, Thangal, Lamdangmei villages	Major settlement is Khoupom Valley market area. However, the route touches Leishok, Thangal, Lamdangmei villages	Major settlement area is Khoupom Valley. However, the route touches Ragilong, Nungsai, Dollang,Namkaolong , Lamdangmei. villages
iii.	House within ROW	To be ascertained during detailed survey	To be ascertained during detailed survey	To be ascertained during detailed survey

S.N	Description	Alternative-I	Alternative-II	Alternative-III
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.	Density of Forests	N.A.	N.A.	N.A.
vii.	Type of flora	Mango (*Mangifera indica*), Eucalyptus(Eucalyptus citriodora) Semal (*Bombax ceiba*), Plum(*Prunus domestics)*, Guava *(Psidium guavaya)*, Tamarind *(Famarindus indica)*, Gamari (*Gmelina arborea*) and many bamboo species like *Bambusa vulgaris*, *Melocanna bambusoides,* etc.	Mango (*Mangifera indica*), Eucalyptus(Eucalyptus citriodora) Semal (*Bombax ceiba*), Plum(*Prunus domestics)*, Guava *(Psidium guavaya)*, Tamarind *(Famarindus indica)*, Gamari (*Gmelina arborea*) and many bamboo species like *Bambusa vulgaris*, *Melocanna bambusoides,* etc.	Mango (*Mangifera indica*), Eucalyptus(Eucalyptus citriodora) Semal (*Bombax ceiba*), Plum(*Prunus domestics)*, Guava *(Psidium guavaya)*, Tamarind *(Famarindus indica)*, Gamari (*Gmelina arborea*) and many bamboo species like *Bambusa vulgaris*, *Melocanna bambusoides,* etc.
viii.	Type of fauna	Sparrow (*Passer domesticus),* Myna **(***Gracula religiosa)* Monitor Lizard (*Veranus benghalensis*), Boar (*Sus scrofa cristatus*), Fowl (*Gallus gallus*) Cuckoo(*Cuculus micropterus*), Civet cat (*Viverricula indica*) etc.	Sparrow (*Passer domesticus),* Myna **(***Gracula religiosa)* Monitor Lizard (*Veranus benghalensis*), Boar (*Sus scrofa cristatus*), Fowl (*Gallus gallus*) Cuckoo (*Cuculus micropterus*), Civet cat (*Viverricula indica*) etc.	Sparrow (*Passer domesticus),* Myna **(***Gracula religiosa)* Monitor Lizard(*Veranus benghalensis*), Boar (*Sus scrofa cristatus*), Fowl (*Gallus gallus*) Cuckoo(*Cuculus micropterus*), Civet cat (*Viverricula indica*) etc.
ix.	Endangered species, if any	Nil	Nil	Nil
x.	Historical/cultural monuments	Nil	Nil	Nil
xi.	Any other relevant information	Part of the line route up to Ragailong village is route along the existing State PWD road and thereafter mostly passing along other village road and also through Jhum cultivation areas and village council/ community owned land having medium dense tree cover	Line is mostly passing through Jhum cultivation areas and village land having medium dense tree cover	Line is mostly passing along the existing Khoupom Valley-Nungsai road and other village roads with negligible involvement of Jhum cultivation areas.

S.N	Description	Alternative-I	Alternative-II	Alternative-III
3	**Compensation Cost (in Lakhs)**			
i.	Crop (Non Forest)	Rs. 0.5 Lakhs/km	Rs. 0.5 Lakhs/km	Rs. 0.5 Lakhs/km
ii.	Forest (CA+NPV)	NA	NA	NA
4.	**No. of Crossings (Nos.)**			
i.	Highway (NH/SH)	Nil	Nil	Nil
ii.	Power line	Nil	Nil	Nil
iii.	Railway line	Nil	Nil	Nil
iv.	River crossing	1	1	2
5.	Overall Remarks	Route is preferred considering easier accessibility from the existing road, and involvement minimum tree felling	Comparatively difficult due to inaccessibility & more tree felling is anticipated	Longer line length

From the above comparative analysis, it may be seen that although the route length of Alt.-II is shortest route, Alternative-I is preferred over other two alternatives as the route alignment is easily accessible through existing approach PWD/village road as lesser degree of environment impact such as minimum tree felling, RoW issues are anticipated. Therefore, Alternative-I is found most optimum and recommended for detailed survey.

ANNEXURE – 2

GOVT. OF MANIPUR NOTIFICATION DATED 28TH MARCH 2016 ON ROW COMPENSATION

GOVERNMENT OF MANIPUR
SECRETARIAT: POWER DEPARTMENT

NOTIFICATION

Dated Imphal, the 28th March, 2018.

No. 14/15/2017- Power: The Governor of Manipur is pleased to notify the following methodology for payment of compensation towards damages in regard to Right of Way for transmission lines in accordance with the Guidelines of Ministry of Power, Govt. of India, Vide Ref. No. 3/7/2015-Trans dated 15.10.2015 for maintaining uniformity in compensation payment to the affected land owners during construction of transmission lines. These guidelines of payment methodology of compensation towards "damages" as stipulated in Section 67 & 68 of the Electricity Act, 2003 read with Section 10 and 16 of Indian Telegraph Act 1885 shall be in addition to the compensation towards normal crop and tree damages. This amount will be payable only for transmission lines supported by tower base of 66 KV and above, and not for sub-transmission and distribution lines below 66KV.

I. Compensation @ 85% of the land value as determined by District Magistrate or any other authority based on Circle rate/ Guideline value/ Stamp Act rates for tower base area (between four legs) impacted severely due to installation of tower/pylon structure.

II. Compensation towards diminution of land value in the width of Right of Way (RoW) corridor due to laying of transmission line and imposing certain restriction which would be decided by the States as per categorization/ type of land in different places of States, subject to a maximum of 15% of land value as determined based on Circle rate/ Guideline value/ Stamp Act rates.

III. In areas where land owner/ owners have been offered/ accepted alternate mode of compensation by concerned corporation/ Municipality under Transfer Development Rights(TDR) policy of State, the licensee/ Utility shall deposit compensation amount as per (i) & (ii) above with the concerned Corporation/ Municipality/ Local body or the State Government.

IV. For this purpose, the width of RoW corridor shall not be more than that prescribed in table below and shall not be less than the width directly below the conductors.

Table for RoW width for different voltage line*

Transmission voltage in kV	Width of Right of Way in metres
66 KV	18
132 KV	27
220 KV	35
400 KV S/C	46
400 KV D/C	46
765 S/C(with delta confirguration)	64
765 D/C	67

* Width of Right of Way is as per Ministry of Environment & Forests (MoEF) guidelines dated 05.05.2014.

These guidelines shall be effective from the date of issue of notification for those new transmission line/ projects and balance uncompleted portion of ongoing transmission lines/ project. This notification shall not be applicable for i) existing transmission lines which are already in service or completed portion of all ongoing transmission lines, ii) maintenance of any existing transmission line, iii) stringing of second circuit on the existing Double Circuit transmission towers, iv) re-conductoring / re-stringing of aged transmission lines and v) repairing/ reconstruction of existing transmission towers etc.

This is issued with the approval of the Cabinet in its meeting held on 12/03/2018 and in consultation with Law Department and Finance Department, Govt. of Manipur.

By order etc,

(Rajani Ranjan Rashmi)
Chief Secretary(Power), Govt. of Manipur.

Copy to :

1. Secretary to Chief Minister, Manipur
2. P.P.S. to Minister (Finance/Power/Revenue), Government of Manipur.
3. The Joint Secretary(Trans), Ministry of Power, Government of India, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001.
4. Managing Director (MSPCL/MSPDCL).
5. The Executive Director, NERTS, Power Grid Corp. of India Ltd. (PGCIL),Dongtieh, Lower Nongrah, Lapalang, Shillong 793006, Meghalaya.
6. Director, Printing & Stationery, Government of Manipur, for publication in the State Gazette Notification.
7. Guard File.

ANNEXURE – 3

DETAILS OF TOWER/POLE SCHEDULE OF PROPOSED LINES ROUTE ALIGNMENT

Name of Line: Renovation of Yurembam- Karong - Mao Section of 132 KV S/C Yurembam - Karong - Kohima Under TW-06 Packages(91.4 Kms. as per LOA)

Joint Survey Report FROM LOCATION NO. 108 TO 252

Sl.No.	LOC. NO.	Type of Tower	Span Length	Hardware Fittings	Crossing	Missing Tower Parts: Section	Length MM	Qty.	Unit Wgt (kg/m)	Total Wgt (kg)	Remarks
1	108/0	B+0		Single tension fittings	Nala	75x75x6	4000	2	6.8	54.4	
						40x40x5	2000	3	3	18	
2	109/0	A+0		Single suspension fittings		75x75x6	4000	8	6.8	217.6	Rusted Members 8 Nos.
						50x50x6	3000	20	4.5	270	
						40x40x5	2000	1	3	6	
						30x30x5	1000	8	2.2	17.6	
3	110/0	A+0		Single suspension fittings		50x50x6	3000	4	4.5	54	Rusted Members 8 Nos.
						40x40x5	2000	10	3	60	
4	111/0	A+0		Single suspension fittings		75x75x6	4000	8	6.8	217.6	
						50x50x6	3000	24	4.5	324	
						40x40x5	2000	16	3	96	
						30x30x5	1000	12	2.2	26.4	
5	112/0	B+0		Single tension fittings	11 KV Line/ River	75x75x6	4000	4	6.8	108.8	
						50x50x6	3000	4	4.5	54	
						40x40x5	2000	14	3	84	
						30x30x5	1000	8	2.2	17.6	
6	113/0	A+0		Single suspension fittings	11 KV Line	75x75x6	4000	1	6.8	27.2	
						50x50x6	3000	8	4.5	108	
						40x40x5	2000	12	3	72	
						30x30x5	1000	16	2.2	35.2	
7	114/0	A+0		Single suspension fittings	11 KV Line	75x75x6	4000	6	6.8	163.2	
						40x40x5	2000	1	3	6	
						30x30x5	1000	1	2.2	2.2	
8	115/0	B+0		Single tension fittings	11 KV Line						Tower OK
9	116/0	A+0		Single suspension fittings	River	75x75x6	4000	8	6.8	217.6	
						50x50x6	3000	8	4.5	108	
						40x40x5	2000	16	3	96	
						30x30x5	1000	8	2.2	17.6	
10	117/0	A+0		Single Suspension Fittings	Villagr Road	75x75x6	4000	4	6.8	108.8	
						50x50x6	3000	6	4.5	81	
						40x40x5	2000	16	3	96	
						30x30x5	1000	8	2.2	17.6	
11	118/0	A+0		Single Suspension Fittings	Villagr Road	75x75x6	4000	8	6.8	217.6	
						50x50x6	3000	20	4.5	270	
						40x40x5	2000	24	3	144	
						30x30x5	1000	16	2.2	35.2	
12	119/0	A+0		Single Suspension Fittings	Villagr Road	75x75x6	4000	8	6.8	217.6	
						50x50x6	3000	16	4.5	216	
						40x40x5	2000	16	3	96	
						30x30x5	1000	12	2.2	26.4	
13	120/0	A+0		Single Suspension Fittings	11 KV / LT Line						Tower ok
14	121/0	A+3		Single Suspension Fittings							Tower ok
15	122/0	A+0		Single Suspension Fittings	River						Tower ok
16	123/0	A+0		Single Suspension Fittings	11 KV Line	50x50x6	3000	8	4.5	108	
17	124/0	A+0		Single Suspension Fittings	11 KV Line						Tower ok
18	125/0	A+0		Single Suspension Fittings	Village Road / LT Line						Tower ok
19	126/0	A+0		Single Suspension Fittings	Village Road						Tower ok
20	127/0	B+3		Single Tension Fittings							Tower ok
21	128/0	B+0		Single Tension Fittings	11 KV / LT Line						Tower ok
22	129/0	B+0		Single Tension Fittings	Village Road						Tower ok
23	130/0	A+3		Single Suspension Fittings	Village Road /11 kv LT Line						Tower ok
24	131/0	A+0		Single Suspension Fittings	11 KV/ LT Line						Tower ok
25	132/0	B+0		Single Tension Fittings	Village Road / LT Line						Tower ok
26	133/0	B+3		Single Tension Fittings	11 KV /33 KV / village Road						Tower ok
27	134/0	C+6		Single Tension Fittings	11 KV Line	40x40x5	2000	6	3	36	
						30x30x5	1000	3	2.2	6.6	
28	135/0	A+3		Single Suspension Fittings	11 KV Line						Tower ok
29	136/0	A+3		Single Suspension Fittings		40x40x5	2000	16	3	96	
						30x30x5	1000	7	2.2	15.4	
30	137/0	A+3		Single Suspension Fittings		75x75x6	4000	4	6.8	108.8	
						50x50x6	3000	12	4.5	162	
						40x40x5	2000	24	3	144	
						30x30x5	1000	16	2.2	35.2	
31	138/0	C+0		Single Tension Fittings	NH /RIVER						Tower ok
32	139/0	B+3		Single Suspension Fittings	NH						Tower ok

Approved
Executive Director (Tech)
Manipur State Power Company Ltd
Keishampat Junction Imphal

ED(Tech) Approved
Kind

Deputy General Manager
Transmission Division No - II
Manipur State Power Company Limited

Amit Kr. Singh
AS (Civil), NERPSIP
02/01/2019

02/01/19
H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Hardware Fittings	Crossing	Missing Tower Parts: Section	Length MM	Qty.	Unit Wgt (kg/m)	Total Wgt (kg)	Remarks
33	140/0	A+0		Single Suspension Fittings							Tower ok
34	141/0	B+0		Single Tension Fittings	LT Line						Tower ok
35	142/0	A+3		Single Suspension Fittings		40x40x5	2000	3	3	18	
						30x30x5	1000	3	2.2	6.6	
36	143/0	A+0		Single Suspension Fittings	11 KV Line	40x40x5	2000	3	3	18	
						30x30x5	1000	4	2.2	8.8	
37	144/0	A+0		Single Suspension Fittings	33 KV/11 KV Line Village Road	75x75x6	4000	4	6.8	108.8	
						40x40x5	2000	6	3	36	
						30x30x5	1000	8	2.2	17.6	
38	145/0	A+0		Single Suspension Fittings	11 KV Line	40x40x5	2000	2	3	12	
						30x30x5	1000	2	2.2	4.4	
39	146/0	C+0		Single Tension Fittings							Tower ok
40	147/0	A+0		Single Suspension Fittings	11 KV Line	40x40x5	2000	2	3	12	
						30x30x5	1000	2	2.2	4.4	
41	148/0	A+0		Single Suspension Fittings	Nala	75x75x6	4000	2	6.8	54.4	
						50x50x6	3000	2	4.5	27	
						40x40x5	2000	8	3	48	
						30x30x5	1000	8	2.2	17.6	
42	149/0	A+0		Single Suspension Fittings	Nala	40x40x5	2000	2	3	12	
						30x30x5	1000	3	2.2	6.6	
43	150/0	B+3		Single Tension Fittings	11 KV line						Tower ok
44	151/0	A+3		Single Suspension Fittings	11 KV Line						Tower ok
45	152/0	A+0		Single Suspension Fittings	33 KV Line						Tower ok
46	153/0	A+0		Single Suspension Fittings	River	40x40x5	2000	1	3	6	
						30x30x5	1000	1	2.2	2.2	
47	154/0	A+3		Single Suspension Fittings		75x75x6	4000	6	6.8	163.2	
						50x50x6	3000	2	4.5	27	
						40x40x5	2000	18	3	108	
						30x30x5	1000	8	2.2	17.6	
48	155/0	A+6		Single Suspension Fittings	River	50x50x6	3000	4	4.5	54	
						40x40x5	2000	4	3	24	
						30x30x5	1000	6	2.2	13.2	
49	156/0	B+0		Single Tension Fittings	11 kv Line/River	75x75x6	4000	4	6.8	108.8	
						50x50x6	3000	4	4.5	54	
						40x40x5	2000	6	3	36	
						30x30x5	1000	4	2.2	8.8	
50	157/0	A+3		Single Suspension Fittings	11 kv Line/River						Tower OK
51	158/0	B+0		Single Tension Fittings		75x75x6	4000	1	6.8	27.2	
						40x40x5	2000	1	3	6	
						30x30x5	1000	1	2.2	2.2	
52	159/0	A+3		Single Suspension Fittings		40x40x5	2000	3	3	18	
						30x30x5	1000	1	2.2	2.2	
53	160/0	A+0		Single Suspension Fittings	33 KV Line/ LT Line						Tower OK
54	161/0	A+3		Single Suspension Fittings	NH/ LT Line						Tower OK
55	162/0	B+3		Single Tension Fittings	NH/ LT Line	75x75x6	4000	2	6.8	54.4	
						40x40x5	2000	4	3	24	
56	163/0	A+6		Single Suspension Fittings	11 KV Line	40x40x5	2000	3	3	18	
57	164/0	B+0		Single Tension Fittings	11 KV / LT Line						Tower OK
58	165/0	A+6		Single Suspension Fittings		50x50x6	3000	10	4.5	135	
						40x40x5	2000	14	3	84	
						30x30x5	1000	6	2.2	13.2	
59	166/0	B+3		Single Tension Fittings							Tower OK
60	167/0	B+3			33kV /11kV /LT Line						Tower OK
61	168/0	C+3		Single Tension Fittings	NH/11 kV LT Line	40x40x5	2000	2	3	12	
						30x30x5	1000	3	2.2	6.6	
62	169/0	A+6		Single Suspension Fittings	NH/11 kV / LT Line						Tower OK
63	170/0	A+3		Single Suspension Fittings	River- 11 kV / LT line	75x75x6	4000	3	6.8	81.6	
						40x40x5	2000	5	3	30	
						30x30x5	1000	3	2.2	6.6	
64	171/0	A+3		Single Suspension Fittings	River / 11 kV / LT Line	50x50x6	3000	1	4.5	13.5	
						40x40x5	2000	1	3	6	
						30x30x5	1000	1	2.2	2.2	
65	172/0	A+3		Single Suspension Fittings	LT Line						Tower ok
66	173/0	B+3		Single Tension Fittings	11 KV/ LT Line						Tower ok
67	174/0	A+6		Single Suspension fittings	River/11 KV/ LT Line						Tower ok
68	175/0	C+3		Single Suspension fittings	River/33kV /11kV						Tower ok
69	176/0	A+0		Single Tension Fittings	LT Line	50x50x6	3000	1	4.5	13.5	
						40x40x5	2000	2	3	12	
						30x30x5	1000	1	2.2	2.2	

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Kerishampal Junction Imphal

Deputy General Manager
Transmission Division No - IV
Manipur State Power Company Limited

Amit Kr. Singha
A.S. (civil), NERPSIP
21/01/2019

21/01/19
RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Hardware Fittings	Crossing	Missing Tower Parts: Section	Length MM	Qty.	Unit Wgt (kg/m)	Total Wgt (kg)	Remarks
70	177/0	A+3		Single Suspension Fittings	River/ LT Line	50x50x6	3000	2	4.5	27	
						40x40x5	2000	8	3	48	
						30x30x5	1000	4	2.2	8.8	
71	178/0	B+0		Single Tension Fittings	11 KV/ LT Line	40x40x5	2000	7	3	42	
						30x30x5	1000	8	2.2	17.6	
72	179/0	B+3		Single Tension Fittings	River/33kV/ 11kV						Tower ok
73	180/0	B+6		Single Tension Fittings	33kV Line	30x30x5	1000	6	2.2	13.2	
74	181/0	C+3		Single Tension Fittings	11 kV/ 3 LT Route Line	75x75x6	4000	8	6.8	217.6	Jungle Clearance required
						40x40x5	2000	16	3	96	
						30x30x5	1000	8	2.2	17.6	
75	182/0	B+0		Single Tension Fittings	33kV Line	50x50x6	3000	6	4.5	81	Jungle Clearance required
						40x40x5	2000	4	3	24	
76	183/0	B+0		Single Tension Fittings	11 kV Line	50x50x6	3000	3	4.5	40.5	Jungle Clearance required
						40x40x5	2000	4	3	24	
77	184/0	D+0		Single Tension Fittings	River/ 11kV Line						Tower ok
78	185/0	D+0		Single Tension Fittings	33kV/11 KV Line						Tower ok
79	186/0	D+0		Single Tension Fittings	River/33kV/11 KV/LT Line						Tower ok
80	187/0	D+0		One Single & One Double Tension Fittings On Both Sides	NH/33KV/11KV/ LT Line						Tower ok

From Loc. No. 1 to Yurembam To Loc. 187 Karong

Cont. From Karong to Mao

Sl.No.	LOC. NO.	Type of Tower	Span Length	Hardware Fittings	Crossing	Missing Tower Parts: Section	Length MM	Qty.	Unit Wgt (kg/m)	Total Wgt (kg)	Remarks
81	188/0	D+0		One Single & One Double Tension Fittings On Both Sides	NH/33KV/11KV/ LT Line						Tower ok
82	189/0	C+3		One Single & One Double Tension Fittings On Both Sides	River/33KV/11KV						Tower ok
83	190/0	A+6		Single Suspension Fittings	River/33KV/11KV						Tower ok
84	191/0	D+3		Single Tension Fittings							Tower ok
85	192/0	B+0		Single Tension Fittings	River						Tower ok
86	193/0	A+3		Single Suspension Fittings	River/ 11kV Line	40x40x5	2000	6	3	36	
						30x30x5	1000	4	2.2	8.8	
87	194/0	A+6		Single Suspension Fittings	River						Tower ok
88	195/0	B+6		Single Tension Fittings	River						Tower ok
89	196/0	B+3		Single Tension Fittings	River	50x50x6	3000	6	4.5	81	Jungle Clearance required
						40x40x5	2000	4	3	24	
						30x30x5	1000	4	2.2	8.8	
90	197/0	~~A+3~~ A+6		Single Suspension Fittings							Tower OK Jungle Clearance required
91	198/0	B+0		Single Tension Fittings	River						Tower OK Jungle Clearance required
92	199/0	A+3		Single Suspension Fittings							Tower OK Jungle Clearance required
93	200/0	B+3		Single Tension Fittings							Tower OK Jungle Clearance required
94	201/0	~~C+0~~ C+3		Single Tension Fittings	River/ 33 kV/ 11kV Line						Tower OK Jungle Clearance required
95	202/0	~~C+0~~ C+3		Single Tension Fittings	NH						Tower OK Jungle Clearance required
96	203/0	C+3		Single Tension Fittings	NH	50x50x6	3000	4	4.5	54	Jungle Clearance required
						40x40x5	2000	8	3	48	
						30x30x5	1000	4	2.2	8.8	
97	204/0	C+0		Single Tension Fittings	NH	50x50x6	3000	4	4.5	54	Jungle Clearance required
						40x40x5	2000	8	3	48	
						30x30x5	1000	4	2.2	8.8	

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Section Imphal

ED (Tech) for kind Approval

Deputy General Manager
Transmission Division No.
Manipur State Power Company Ltd.

Amit Kr. Singha
F.S. (Civil), NERPSIP
02/01/19

02/01/19
H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Hardware Fittings	Crossing	Missing Tower Parts: Section	Length MM	Qty.	Unit Wgt (kg/m)	Total Wgt (kg)	Remarks
98	205/0	C+0 A13		Single Tension Fittings	NH	50x50x6	3000	4	4.5	54	Jungle Clearance required
						40x40x5	2000	12	3	72	
						30x30x5	1000	6	2.2	13.2	
99	206/0	C+0 A13		Single Tension Fittings	LT Line	50x50x6	3000	4	4.5	54	Jungle Clearance required
						40x40x5	2000	8	3	48	
						30x30x5	1000	4	2.2	8.8	
100	207/0	B+3		Single Tension Fittings		50x50x6	3000	3	4.5	40.5	Jungle Clearance required
						40x40x5	2000	16	3	96	
						30x30x5	1000	6	2.2	13.2	
101	208/0	C+6		Single Tension Fittings	LT Line	40x40x5	2000	28	3	168	Jungle Clearance required
						30x30x5	1000	6	2.2	13.2	
102	209/0	B+3		Single Tension Fittings	LT Line	40x40x5	2000	12	3	72	Jungle Clearance required
						30x30x5	1000	8	2.2	17.6	
103	210/0	A+3		Single Tension Fittings	11 Kv Line	40x40x5	2000	12	3	72	Jungle Clearance required
						30x30x5	1000	8	2.2	17.6	
104	211/0	B+0		Single Tension Fittings		75x75x6	4000	12	6.8	326.4	Jungle Clearance required
						40x40x5	2000	2	3	12	
						30x30x5	1000	4	2.2	8.8	
105	212/0	B+3		Single Tension Fittings	NH/11 KV	40x40x5	2000	8	3	48	Jungle Clearance required
						30x30x5	1000	8	2.2	17.6	
106	213/0	B+3		Single Tension Fittings	NH/11 KV	50x50x6	3000	2	4.5	27	Jungle Clearance required
						40x40x5	2000	12	3	72	
						30x30x5	1000	6	2.2	13.2	
107	214/0	C+3		Single Tension Fittings	NH	40x40x5	2000	6	3	36	Jungle Clearance required
						30x30x5	1000	4	2.2	8.8	
108	215/0	B+0		Single Tension Fittings	33KV/NH/11 KV						Tower OK
109	216/0	B+0		Single Tension Fittings	33KV/LT Line						Tower OK
110	217/0	B+0		Single Tension Fittings							Tower OK
111	218/0	A+0		Single Tension Fittings	33KV/NH/11 KV						Tower OK Jungle Clearance required
112	219/0	B+0		Single Tension Fittings		40x40x5	2000	4	3	24	Jungle Clearance required
						30x30x5	1000	4	2.2	8.8	
113	220/0	E+3		Single Tension Fittings	33kV/NH/11 KV	50x50x6	3000	4	4.5	54	Jungle Clearance required
						40x40x5	2000	8	3	48	
						30x30x5	1000	4	2.2	8.8	
114	221/0	E+0		Single Tension Fittings		40x40x5	2000	4	3	24	Jungle Clearance required
						30x30x5	1000	2	2.2	4.4	
115	222/0	B+3		Single Tension Fittings	11 Kv , NH, Lt Line	\					Tower OK
116	223/0	E+3		Double Tension Fittings on both sides	11 KV Line	\					Tower OK
117	224/0	E+0		Double Tension Fittings on both sides	11 KV/LT Line	\					Tower OK
118	225/0	B+3		Single Tension Fittings	Village Road/ LT Line	\					Tower OK
119	226/0	E+6		Single Tension Fittings		40x40x5	2000	23	3	138	Jungle Clearance required
						30x30x5	1000	6	2.2	13.2	
120	227/0	B+3		Single Tension Fittings							Tower OK Jungle Clearance required
121	228/0	E+6		One Side Single & One side Double Tension Fittings	Village Road/ LT Line						Tower OK Jungle Clearance required
122	229/0	B+3		Single Tension Fittings	NH/ 11 KV / LT Line						Tower OK Jungle Clearance required
123	230/0	A+3		Double Suspension Fittings	11KV/LT Line						Tower OK Jungle Clearance required
124	231/0	E+3		Double Tension Fittings	NH/11KV/LT Line	50x50x6	3000	3	4.5	40.5	Jungle Clearance required
						40x40x5	2000	11	3	66	
						30x30x5	1000	5	2.2	11	
125	232/0	E+3		Double Tension Fittings							Tower OK Jungle Clearance required
126	233/0	B+0		Single Tension Fittings	NH/11KV/LT Line						Tower Ok
127	234/0	A+0		Double Suspension Fittings	NH						Tower Ok
128	235/0	A+3		Double Suspension Fittings	NH/LT						Tower OK Jungle Clearance required
129	236/0	B+0		One Side Single & One side Double Tension Fittings							Tower OK Jungle Clearance required

Approved
Executive Director (Tech.)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Deputy ...
Transmission Division
...nipur State Power Company Ltd.

Amit W. Singha
F.S.(Civil), NERPSIP
02/01/019

02/01/19
H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Hardware Fittings	Crossing	Missing Tower Parts			Unit Wgt (kg/m)	Total Wgt (kg)	Remarks
						Section	Length MM	Qty.			
130	237/0	B+6		One Side Single & One side Double Tension Fittings	NH/11KV	75x75x6	4000	4	6.8	108.8	
						50x50x6	3000	2	4.5	27	
						40x40x5	2000	10	3	60	
						30x30x5	1000	6	2.2	13.2	
131	238/0	C+0		Single Tension Fittings		50x50x6	3000	7	4.5	94.5	
						40x40x5	2000	18	3	108	
						30x30x5	1000	6	2.2	13.2	
132	239/0	B+3		One Side Single & One side Double Tension Fittings	11KV Line	50x50x6	3000	3	4.5	40.5	
						40x40x5	2000	5	3	30	
						30x30x5	1000	4	2.2	8.8	
133	240/0	B+6		One Side Single & One side Double Tension Fittings	NH/11KV Line						Tower OK Jungle Clearance required
134	241/0	E+3		Single Tension Fittings	LT Line						Tower OK Jungle Clearance required
135	242/0	B+3		Sing;e Tension Fittings	11 KV line						Tower OK Jungle Clearance required
136	243/0	B+3		Sing;e Tension Fittings	N/H						Tower OK Jungle Clearance required
137	244/0	D+6		Sing;e Tension Fittings							Tower OK Jungle Clearance required
138	245/0	A+0		Sing;e Tension Fittings							Tower OK Jungle Clearance required
139	246/0	B+3		Double Tension Fittings							Tower OK Jungle Clearance required
140	247/0	B+6		Double Tension Fittings	NH/11KV/LT Line						Tower OK Jungle Clearance required
141	248/0	D+0		Double Tension Fittings							Tower OK Jungle Clearance required
142	249/0	C+0		Single Tension Fittings							Tower OK Jungle Clearance required
143	250/0	B+3		Single Tension Fittings		40x40x5	2000	12	3	72	Tower OK Jungle Clearance required
						30x30x5	1000	6	2.2	13.2	
144	251/0	D+6		Single Tension Fittings	11 KV Line						Tower OK Jungle Clearance required
145	252/0	D+0		Single Tension Fittings	11KV Line/Village Road	40x40x5	2000	8	3	48	Tower OK Jungle Clearance required
						30x30x5	1000	6	2.2	13.2	
									TOTAL	9781.1	KG

Note: Actual Survey No. of Tower is 252 .

BOLT NUT QUANTITY TO BE SUPPLIED ON TENTATIVE BASIS			
BOLT NUT	PCS	UNIT WT	TOTAL WT
M16 X 35	1000	0.119	119
M16 X 40	1000	0.126	126
M16 X 45	600	0.134	80.4
			0
PACK WASHER 4 MM THICK	100	0.072	7.2
PACK WASHER 5 MM THICK	100	0.09	9
		TOTAL	341.6

TOTAL WEIGHT WITH B&N	10122.7	KGS

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat ... ition Imphal

Shyama Power India Ltd.

ED(Tech) for Kind Approval

Deputy General Manager
Transmission Division No - IV
Manipur State Power Company Limited

Amit Kr. Singha
F.S. (Civil), NERPSIP
02/01/019.

02/01/19
H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Name of Line: Stringing of second circuit of 132 KV D/C Yaingangpokpi - [illegible]gba Under TW-06 Packages

Joint Survey Report

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Cordinate		Hardware Fittings	Crossing	Missing Tower Parts			Remarks
									Section	Length MM	Qty.	
1	Yaingangpokpi GANTRY				N 24' 54.666'	E 094'07.651'						
2	1/0	D+0	63	63	N 24' 54.663'	E 094'07.675'	Single Tension Fittings Both Sides					Tower OK
3	2/0	D+3	42	42	N 24' 54.643'	E 094'07.706'	Single Tension Fittings One Side Double Tension Fittings One Side	33 KV Line				Tower OK
4	3/0	D+0	70	70	N 24' 54.452'	E 094'07.653'	Single Tension Fittings One Side Double Tension Fittings One Side	33 KV Line / Village Road				Tower OK
5	4/0	C+0	370	370	N 24' 54.320'	E 094'07.660'	Single Tension Fittings Both Sides	Village Road				Tower OK
6	5/0	C+0	250	250	N 24' 54.224'	E 094'07.636'	Single Tension Fittings Both Sides	11 KV Line				Tower OK
7	6/0	C+6	182	182	N 24' 54.064'	E 094'07.533'	Single Tension Fittings One Sides Double Tension Fittings One Sides	11 KV Line				Tower OK
8	7/0	C+0	350	350	N 24' 54.008'	E 094'07.574'	Single Tension Fittings Both Sides					Tower OK
9	8/0	C+0	135	135	N 24' 53.864'	E 094'07.486'	Single Tension Fittings Both Sides					Tower OK
10	9/0	C+0	320	320	N 24' 53.780'	E 094'07.453'	Single Tension Fittings Both Sides	Canal				Tower OK
11	10/0	C+3	170	170	N 24' 53.650'	E 094'07.423'	Single Tension Fittings Both Sides		75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	8 4 7 4	
12	11/0	C+0	260	260	N 24' 53.603'	E 094'07.390'	Single Tension Fittings Both Sides	Canal				Tower OK
13	12/0	C+0	110	110	N 24' 53.547'	E 094'07.354'	Single Tension Fittings Both Sides	11 KV Line	75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	8 6 20 8	
14	13/0	C+0	120	120	N 24' 53.455'	E 094'07.282'	Single Tension Fittings Both Sides	11 KV Line	75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	8 4 20 8	
15	14/0	C+0	210	210	N 24' 53.343'	E 094'07.198'	Single Tension Fittings Both Sides					Tower Ok
16	15/0	C+0	255	255	N 24' 52.284'	E 094'07.153'	Single Tension Fittings Both Sides	Village Road				Tower Ok

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED for approved pl

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No. I
MSPCL, Manipur

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Cordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
17	16/0	C+0	145	145	N 24' 53.157'	E 094'07.068'	Single Tension Fittings Both Sides	Village Road	75x75x6	4000	6	
									50x50x6	3000	4	
									40x40x5	2000	16	
									30x30x5	1000	8	
18	17/0	C+0	286	286	N 24' 52.927'	E 094'07.919'	Single Tension Fittings Both Sides		75x75x6	4000	8	
									50x50x6	3000	4	
									40x40x5	2000	28	
									30x30x5	1000	8	
19	18/0	C+0	510	510	N 24' 52.870'	E 094'06.874'	Single Tension Fittings Both Sides					Tower OK
20	19/0	C+0	142	142	N 24' 52.762'	E 094'06.843'	Single Tension Fittings Both Sides					Tower OK
21	20/0	C+0	215	215	N 24' 52.618'	E 094'06.799'	Single Tension Fittings Both Sides					Tower OK
22	21/0	C+3	305	305	N 24' 52.458'	E 094'06.735'	Single Tension Fittings Both Sides		75x75x6	4000	8	
									50x50x6	3000	4	
									40x40x5	2000	8	
									30x30x5	1000	4	
23	22/0	C+0	325	325	N 24' 52.289'	E 094'06.672'	Single Tension Fittings Both Sides					Tower Ok
24	23/0	C+0	356	356	N 24' 52.169'	E 094'06.583'	Single Tension Fittings Both Sides					Tower Ok
25	24/0	C+0	280	280	N 24' 52.057'	E 094'06.532'	Single Tension Fittings Both Sides					Tower Ok
26	25/0	C+0	235	235	N 24' 51.930'	E 094'06.478'	Single Tension Fittings Both Sides					Tower Ok
27	26/0	C+0	264	264	N 24' 51.779'	E 094'06.400'	Single Tension Fittings Both Sides					Tower Ok
28	27/0	C+0	310	310	N 24' 51.676'	E 094'06.367'	Single Tension Fittings Both Sides					Tower Ok
29	28/0	C+0	210	210	N 24' 51.457'	E 094'06.264'	Single Tension Fittings Both Sides	11 KV Line				Tower Ok
30	29/0	C+3	440	440	N 24' 51.344'	E 094'06.210'	Single Tension Fittings Both Sides	11 KV Line				Tower Ok
31	30/0	C+0	230	230	N 24' 51.166'	E 094'06.144'	Single Tension Fittings Both Sides					Tower Ok
32	31/0	C+0	355	355	N 24' 50.994'	E 094'06.081'	Single Tension Fittings Both Sides					Tower Ok
33	32/0	C+0	340	340	N 24' 50.955'	E 094'06.031'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower OK
34	33/0	C+3	285	285	N 24' 50.687'	E 094'05.903'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower OK
35	34/0	C+0	390	390	N 24' 54.650'	E 094'07.620'	Single Tension Fittings Both Sides					Tower OK

Approved

Executive Director (Tech)
Manipur State Power Company Ltd
Keishampat Junction Imphal

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

H. RAJEN SINGH
Supdt. (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Cordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
36	35/0	C+0	410	410	N 24' 50.407'	E 094'05.792'	Single Tension Fittings One Side Double Tension Fittings One Side					Tower OK
37	36/0	C+0	160	160	N 24' 50.197'	E 094'05.707'	Single Tension Fittings One Side Double Tension Fittings One Side					Tower OK
38	37/0	C+0	425	425	N 24' 49.971'	E 094'05.609'	Single Tension Fittings Both Sides					Tower OK
39	38/0	C+0	472	472	N 24' 49.851'	E 094'05.566'	Single Tension Fittings Both Sides					Tower OK
40	39/0	C+0	250	250	N 24' 49.761'	E 094'05.564'	Single Tension Fittings Both Sides					Tower ok
41	40/0	C+0	180	180	N 24' 49.647'	E 094'05.572'	Single Tension Fittings Both Sides					Tower ok
42	41/0	C+0	220	220	N 24' 49.427'	E 094'05.507'	Single Tension Fittings Both Sides	11 KV Line				Tower ok
43	42/0	C+0	440	440	N 24' 49.350'	E 094'05.441'	Single Tension Fittings Both Sides	11 Kv Line				Tower ok
44	43/0	C+0	190	190	N 24' 49.238'	E 094'05.345'	Single Tension Fittings Both Sides					Tower ok
45	44/0	C+0	274	274	N 24' 49.155'	E 094'05.275'	Single Tension Fittings Both Sides					Tower ok
46	45/0	C+0	210	210	N 24' 48.984'	E 094'05.208'	Single Tension Fittings Both Sides					Tower ok
47	46/0	A+0	345	345	N 24' 48.820'	E 094'05.141'	Single Suspension fittings					Tower ok
48	47/0	A+0	337	337	N 24' 48.674'	E 094'05.083'	Single suspension Fittings					Tower ok
49	48/0	A+0	290	290	N 24' 48.520'	E 094'05.021'	Single suspension Fittings					Tower ok
50	49/0	A+0	310	310	N 24' 48.364'	E 094'04.958'	Single suspension Fittings					Tower ok
51	50/0	A+0	318	318	N 24' 48.209'	E 094'04.895'	Single suspension Fittings					Tower ok
52	51/0	A+0	315	315	N 24' 48.056'	E 094'04.834'	Single suspension Fittings					Tower ok
53	52/0	A+0	318	318	N 24' 47.905'	E 094'04.773'	Single suspension Fittings					Tower ok
54	53/0	C+0	300	300	N 24' 47.775'	E 094'04.718'	Single Tension Fittings Both Sides					Tower ok
55	54/0	C+0	275	275	N 24' 47.586'	E 094'04.656'	Single Tension Fittings Both Sides					Tower ok
56	55/0	A+6	380	380	N 24' 47.422'	E 094'04.601'	Single suspension Fittings					Tower ok
57	56/0	A+0	327	327	N 24' 47.270'	E 094'04.551'	Single suspension Fittings					Tower ok
58	57/0	C+0	300	300	N 24' 47.064'	E 094'04.480'	Single Tension Fittings Both Sides					Tower ok
59	58/0	C+0	410	410	N 24' 50.429'	E 094'04.839'	Single Tension Fittings Both Sides					Tower ok
60	59/0	C+0	343	343	N 24' 50.639'	E 094'04.876'	Single Tension Fittings Both Sides					Tower ok
61	60/0	C+0	390	390	N 24' 46.562'	E 094'04.380'	Single Tension Fittings Both Sides					Tower ok

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No
MSPCL, Manipur

(N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Cordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
62	61/0	C+0	262	262	N 24' 46.354'	E 094'04.292'	Single Tension Fittings Both Sides					Tower ok
63	62/0	C+3	423	423	N 24' 46.200'	E 094'04.227'	Single Tension Fittings Both Sides					Tower ok
64	63/0	A+0	315	315	N 24' 46.052'	E 094'04.162'	Double Suspension fittings	11 KV Line				Tower ok
65	64/0	A+0	300	300	N 24' 45.919'	E 094'04.108'	Double Suspension fittings	11 KV Line				Tower ok
66	65/0	A+0	273	273	N 24' 45.756'	E 094'04.040'	Single suspension Fittings	11 KV Line				Tower ok
67	66/0	A+3	334	334	N 24' 45.583'	E 094'03.967'	Single suspension Fittings					Tower ok
68	67/0	A+0	350	350	N 24' 45.430'	E 094'03.906'	Single suspension Fittings					Tower ok
69	68/0	A+0	310	310	N 24' 45.280'	E 094'03.840'	Single Tension Fittings					Tower ok
70	69/0	C+0	310	310	N 24' 45.171'	E 094'03.756'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower ok
71	70/0	A+3	250	250	N 24' 45.022'	E 094'03.642'	Double suspension Fittings	11 KV Line				Tower ok
72	71/0	A+0	345	345	N 24' 44.877'	E 094'03.532'	Single suspension Fittings					Tower ok
73	72/0	A+0	330	330	N 24' 44.727'	E 094'03.418'	Single suspension Fittings					3 Nos suspension hanger required
74	73/0	A+0	340	340	N 24' 44.587'	E 094'03.311'	Single suspension Fittings					3 Nos suspension hanger required
75	74/0	A+0	326	326	N 24' 44.449'	E 094'03.206'	Single suspension Fittings	11 KV Line				3 Nos suspension hanger required
76	75/0	C+0	315	315	N 24' 44.326'	E 094'03.172'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower ok
77	76/0	A+0	245	245	N 24' 44.176'	E 094'03.124'	Single suspension Fittings					
78	77/0	A+0	300	300	N 24' 44.163'	E 094'03.122'	Single suspension Fittings		50x50x6	3000	4	Top, Middle, bottom X- Arm Missing , 3 Nos suspension hanger required
									40x40x5	2000	12	
									30x30x5	1000	8	
79	45/0	D+0	24	24	N 24' 44.152'	E 094'03.083'	Single suspension Fittings		75x75x6	4000	8	
									50x50x6	3000	8	
									40x40x5	2000	16	
									30x30x5	1000	8	
80	44/0	C+0	75	75	N 24' 44.180'	E 094'02.922'	Single suspension Fittings		75x75x6	4000	6	
									50x50x6	3000	4	
									40x40x5	2000	10	
									30x30x5	1000	4	
81	43/0	A+0	280	280	N 24' 44.210'	E 094'02.745'	Single Tension Fittings		50x50x6	3000	8	
									40x40x5	2000	12	
									30x30x5	1000	8	
82	42/0	A+0	303	303	N 24' 44.238'	E 094'02.584'	Single suspension Fittings					3 Nos suspension hanger required
83	41/0	A+0	287	287	N 24' 44.268'	E 094'02.400'	Single suspension Fittings					3 Nos suspension hanger required

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

CM/ED
For approval

Manager
Transmission Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

SINGH
E.R.P.S.I.P.
Section Officer
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Cordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
84	40/0	D+3	324	324	N 24' 44.350'	E 094'02.269'	Single Tension Fittings One Side Double Tension Fittings One Side	Village Road				Tower ok
85	39/0	D+3	279	279	N 24' 44.404'	E 094'02.128'	Single Tension Fittings One Side Double Tension Fittings One Side	Village Road	40x40x5	2000	16	
86	38/0	A+0	259	259	N 24' 44.459'	E 094'01.986'	Single Suspension Fittings					3 Nos suspension hanger required
87	37/0	A+ 0	268	268	N 24' 44.504'	E 094'01.870'	Single Suspension Fittings					3 Nos suspension hanger required
88	36/0	A+ 0	220	220	N 24' 44.551'	E 094'01.751'	Single Suspension Fittings	Village Road				3 Nos suspension hanger required
89	35/0	A+0	228	228	N 24' 44.624'	E 094'01.563'	Single Tension Fittings	Village Road				3 Nos suspension hanger required
90	34/0	C+0	355	355	N 24' 44.720'	E 093'01.410'	Single Tension Fittings					Tower Ok
91	33/0	C+0	324	324	N 24' 44.731'	E 093'01.249'	Single Tension Fittings					Tower Ok
92	32/0	C+0	298	298	N 24' 44.763'	E 093'01.129'	Single Tension Fittings					Tower Ok
93	31/0	C+0	220	220	N 24' 44.806'	E 093'00.995'	Single Tension Fittings					Tower Ok
94	30/0	C+0	240	240	N 24' 44.768'	E 093'00.864'	Single Tension Fittings					Tower Ok
95	29/0	C+0	235	235	N 24' 44.785'	E 093'00.835'	Single Tension Fittings					Tower Ok
96	28/0	C+0	70	70	N 24' 45.143'	E 093'00.938'	Single Tension Fittings					Tower Ok
97	27/0	C+0	320	320	N 24' 45.128'	E 093'00.152'	Single Tension Fittings					Tower Ok
98	26/0	C+0	360	360	N 24' 45.062'	E 093'00.372'	Single Tension Fittings					Tower Ok
99	25/0	C+0	380	380	N 24' 45.114'	E 093'00.196'	Single Tension Fittings					Tower Ok
100	24/0	C+0	320	320	N 24' 45.112'	E 093'59.055'	Single Tension Fittings					Tower Ok
101	23/0	A+3	248	248	N 24' 45.109'	E 093'59.928'	Double suspension fittings					3 Nos suspension hanger required
102	22/0	A+3	220	220	N 24' 45.107'	E 093'59.813'	Double suspension fittings					3 Nos suspension hanger required
103	21/0	A+0	200	200	N 24' 45.103'	E 093'59.660'	Single suspension fittings					3 Nos suspension hanger required
104	20/0	A+0	260	260	N 24' 45.100'	E 093'59.521'	Single suspension fittings					3 Nos suspension hanger required
105	19/0	A+0	240	240	N 24' 45.096'	E 093'59.378'	Single suspension fittings					3 Nos suspension hanger required
106	18/0	C+0	250	250	N 24' 45.095'	E 093'59.225'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower OK
107	17/0	C+3	260	260	N 24' 45.095'	E 093'59.225'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower OK
108	16/0	C+0	215	215	N 24' 45.253'	E 093'59.049'	Single Tension Fittings	LT Line				Tower OK
109	15/0	C+0	190	190	N 24' 45.325'	E 093'58.965'	Single Tension Fittings					Tower OK

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

Shyama Power India Ltd.

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Cordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
110	14/0	C+3	215	215	N 24' 45.369'	E 093'58.767'	Single Tension Fittings One Side Double Tension Fittings One Side	River				Tower OK
111	13/0	C+6	350	350	N 24' 45.453'	E 093'58.628'	Single Tension Fittings One Side Double Tension Fittings One Side	River				Tower OK
112	12/0	C+0	290	290	N 24' 45.499'	E 093'58.601'	Single Tension Fittings					Tower OK
113	11/0	C+0	100	100	N 24' 45.660'	E 093'58.535'	Single Tension Fittings					Tower OK
114	10/0	A+6	325	325	N 24' 45.803'	E 093'58.476'	Double Suspension fittings	33/ KV Line -11 KV Line				3 Nos Suspension Hanger required
115	09/0	A+3	290	290	N 24' 45.939'	E 093'58.422'	Double Suspension fittings	11 KV Line				3 Nos Suspension Hanger required
116	08/0	A+0	270	270	N 24' 46.055'	E 093'58.373'	Single Suspension fittings					3 Nos Suspension Hanger required
117	07/0	A+0	240	240	N 24' 45.056'	E 093'58.374'	Single Suspension fittings					3 Nos Suspension Hanger required
118	06/0	C+0	270	270	N 24' 46.327'	E 093'58.315'	Single Tension fittings					Tower Ok
119	05/0	C+3	140	140	N 24' 46.379'	E 093'58.339'	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line				Tower Ok
120	04/0	C+3	110	110	N 24' 46.508'	E 093'58.315'	Single Tension Fittings One Side Double Tension Fittings One Side					Tower Ok
121	03/0	C+0	180	180	N 24' 46.569'	E 093'58.302'	Single Tension Fittings One Side Double Tension Fittings One Side					Tower Ok
122	02/0	C+3	110	110	N 24' 46.577'	E 093'58.285'	Single Tension Fittings One Side Double Tension Fittings One Side					Tower Ok
123	01/0	D+3	40	40	N 24' 46.576'	E 093'58.285'	Single Tension Fittings					Tower Ok
124	KONGBA GANTRY		25	25								
Total Km			32754	32754								

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No.I
MSPCL, Manipur

H. RAJAN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

CLIENT:- PGCIL

Name of Line: Stringing of second circuit of 132 KV D/C Yaingangpokpi - Kongba Under TW-06 Packages

BOQ OF CONDUCTOR ,INSULATOR AND HARDWARE FITTINGS

							ACSR Panther Conductor Accessories									
Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
1	Yaingangpokpi GANTRY							6					6	6		
2	1/0	D+0	63	63	Single Tension Fittings Both Sides		190.89	6					6	12		
3	2/0	D+3	42	105	Single Tension Fittings One Side Double Tension Fittings One Side	33 KV Line	127.26	3	3				9	12		
4	3/0	D+0	70	175	Single Tension Fittings One Side Double Tension Fittings One Side	33 KV Line / Village Road	212.1	3	3				9	12		
5	4/0	C+0	370	545	Single Tension Fittings Both Sides	Village Road	1121.1	6					6	12		
6	5/0	C+0	250	795	Single Tension Fittings Both Sides	11 KV Line	757.5	6					6	12		
7	6/0	C+6	182	977	Single Tension Fittings One Sides Double Tension Fittings One Sides	11 KV Line	551.46	3	3				9	12		
8	7/0	C+0	350	1327	Single Tension Fittings Both Sides		1060.5	6					6	12		
9	8/0	C+0	135	1462	Single Tension Fittings Both Sides		409.05	6					6	12		
10	9/0	C+0	320	1782	Single Tension Fittings Both Sides	Canal	969.6	6					6	12		
11	10/0	C+3	170	1952	Single Tension Fittings Both Sides		515.1	6					6	12		
12	11/0	C+0	260	2212	Single Tension Fittings Both Sides	Canal	787.8	6					6	12		
13	12/0	C+0	110	2322	Single Tension Fittings Both Sides	11 KV Line	333.3	6					6	12		
14	13/0	C+0	120	2442	Single Tension Fittings Both Sides	11 KV Line	363.6	6					6	12		
15	14/0	C+0	210	2652	Single Tension Fittings Both Sides		636.3	6					6	12		
16	15/0	C+0	255	2907	Single Tension Fittings Both Sides	Village Road	772.65	6					6	12		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM(E) For approval pl

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Shyam Power India Ltd.

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
17	16/0	C+0	145	3052	Single Tension Fittings Both Sides	Village Road	439.35	6					6	12		
18	17/0	C+0	286	3338	Single Tension Fittings Both Sides		866.58	6					6	12		
19	18/0	C+0	510	3848	Single Tension Fittings Both Sides		1545.3	6					6	12		
20	19/0	C+0	142	3990	Single Tension Fittings Both Sides		430.26	6					6	12		
21	20/0	C+0	215	4205	Single Tension Fittings Both Sides		651.45	6					6	12		
22	21/0	C+3	305	4510	Single Tension Fittings Both Sides		924.15	6					6	12		
23	22/0	C+0	325	4835	Single Tension Fittings Both Sides		984.75	6					6	12		
24	23/0	C+0	356	5191	Single Tension Fittings Both Sides		1078.68	6					6	12		
25	24/0	C+0	280	5471	Single Tension Fittings Both Sides		848.4	6					6	12		
26	25/0	C+0	235	5706	Single Tension Fittings Both Sides		712.05	6					6	12		
27	26/0	C+0	264	5970	Single Tension Fittings Both Sides		799.92	6					6	12		
28	27/0	C+0	310	6280	Single Tension Fittings Both Sides		939.3	6					6	12		
29	28/0	C+0	210	6490	Single Tension Fittings Both Sides	11 KV Line	636.3	6					6	12		
30	29/0	C+3	440	6930	Single Tension Fittings Both Sides	11 KV Line	1333.2	6					6	12		
31	30/0	C+0	230	7160	Single Tension Fittings Both Sides		696.9	6					6	12		
32	31/0	C+0	355	7515	Single Tension Fittings Both Sides		1075.65	6					6	12		
33	32/0	C+0	340	7855	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	1030.2	3	3				9	12		
34	33/0		285	8140	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	863.55	3	3				9			

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl.

Sivaya Power India Pvt. Ltd.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No. I
MSPCL, Manipur

Senior DGM (N.E.R.P.S.(I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
35	34/0	C+0	390	8530	Single Tension Fittings Both Sides		1181.7	3	3				9	12		
36	35/0	C+0	410	8940	Single Tension Fittings One Side Double Tension Fittings One Side		1242.3	3	3				9	12		
37	36/0	C+0	160	9100	Single Tension Fittings One Side Double Tension Fittings One Side		484.8	3	3				9	12		
38	37/0	C+0	425	9525	Single Tension Fittings Both Sides		1287.75	6					6	12		
39	38/0	C+0	472	9997	Single Tension Fittings Both Sides		1430.16	6					6	12		
40	39/0	C+0	250	10247	Single Tension Fittings Both Sides		757.5	6					6	12		
41	40/0	C+0	180	10427	Single Tension Fittings Both Sides		545.4	6					6	12		
42	41/0	C+0	220	10647	Single Tension Fittings Both Sides	11 KV Line	666.6	6					6	12		
43	42/0	C+0	440	11087	Single Tension Fittings Both Sides	11 Kv Line	1333.2	6					6	12		
44	43/0	C+0	190	11277	Single Tension Fittings Both Sides		575.7	6					6	12		
45	44/0	C+0	274	11551	Single Tension Fittings Both Sides		830.22	6					6	12		
46	45/0	C+0	210	11761	Single Tension Fittings Both Sides		636.3	6					6	12		
47	46/0	A+0	345	12106	Single Suspension fittings		1045.35			3				6		
48	47/0	A+0	337	12443	Single suspension Fittings		1021.11						3	6		
49	48/0	A+0	290	12733	Single suspension Fittings		878.7			3		3		6		
50	49/0	A+0	310	13043	Single suspension Fittings		939.3			3		3		6		
51	50/0	A+0	318	13361	Single suspension Fittings		963.54			3		3		6		
52	51/0	A+0	315	13676	Single suspension Fittings		954.45			3		3		6		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl.

Transmission Division-I
Deputy General Manager
Transmission Division No.I
MSPCL, Manipur

H. RAJEN SINGH
Chief DGM (W.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
53	52/0	A+0	318	13994	Single suspension Fittings		963.54			3		3		6		
54	53/0	C+0	300	14294	Single Tension Fittings Both Sides		909	6					6	12		
55	54/0	C+0	275	14569	Single Tension Fittings Both Sides		833.25	6					6	12		
56	55/0	A+6	380	14949	Single suspension Fittings		1151.4			3		3		6		
57	56/0	A+0	327	15276	Single suspension Fittings		990.81			3		3		6		
58	57/0	C+0	300	15576	Single Tension Fittings Both Sides		909	6					6	12		
59	58/0	C+0	410	15986	Single Tension Fittings Both Sides		1242.3	6					6	12		
60	59/0	C+0	343	16329	Single Tension Fittings Both Sides		1039.29	6					6	12		
61	60/0	C+0	390	16719	Single Tension Fittings Both Sides		1181.7	6					6	12		
62	61/0	C+0	262	16981	Single Tension Fittings Both Sides		793.86	6						12		
63	62/0	C+3	423	17404	Single Tension Fittings Both Sides		1281.69	6						12		
64	63/0	A+0	315	17719	Double Suspension fittings	11 KV Line	954.45				3	6		6		
65	64/0	A+0	300	18019	Double Suspension fittings	11 KV Line	909				3	6		6		
66	65/0	A+0	273	18292	Single suspension Fittings	11 KV Line	827.19				3	6		6		
67	66/0	A+3	334	18626	Single suspension Fittings		1012.02				3	6		6		
68	67/0	A+0	350	18976	Single suspension Fittings		1060.5				3	6		6		
69	68/0	A+0	310	19286	Single Tension Fittings		939.3	6					6	6		
70	69/0	A+0	310	19596	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	939.3	3	3				9	12		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM (ED) for approval PR.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Senior Engineer (E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
71	70/0	A+3	250	19846	Double suspension Fittings	11 KV Line	757.5				3	6		6		
72	71/0	A+0	345	20191	Single suspension Fittings		1045.35			3		3		6		
73	72/0	A+0	330	20521	Single suspension Fittings		999.9			3		3		6		
74	73/0	A+0	340	20861	Single suspension Fittings		1030.2			3		3		6		
75	74/0	A+0	326	21187	Single suspension Fittings	11 KV Line	987.78			3		3		6		
76	75/0	C+0	315	21502	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	954.45	3	3				9	12		
77	76/0	A+0	245	21747	Single suspension Fittings		742.35			3		3		6		
78	77/0	A+0	300	22047	Single suspension Fittings		909			3		3		6		
79	45/0	D+0	24	22071	Single suspension Fittings		72.72			3		3		12		
80	44/0	C+0	75	22146	Single suspension Fittings		227.25			3		3		12		
81	43/0	A+0	280	22426	Single Tension Fittings		848.4	6						6		
82	42/0	A+0	303	22729	Single suspension Fittings		918.09			3		3		6		
83	41/0	A+0	287	23016	Single suspension Fittings		869.61			3		3		6		
84	40/0	D+3	324	23340	Single Tension Fittings One Side Double Tension Fittings One Side	Village Road	981.72	3	3				9	12		
85	39/0	D+3	279	23619	Single Tension Fittings One Side Double Tension Fittings One Side	Village Road	845.37	3	3				9	12		
86	38/0	A+0	259	23878	Single Suspension Fittings		784.77			3		3		6		
87	37/0	A+ 0	268	24146	Single Suspension Fittings		812.[illegible]			3		3		6		
88	36/0	A+0	220	24366	Single Suspension Fittings	Village Road	666.6			3		3		6		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED For approval pl.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

SINGH
Senior DGM(N.E.R.P.S.I.P.)
POWERGRID, Imphal

Shyama Power India Ltd.

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
89	35/0	A+0	228	24594	Single Tension Fittings	Village Road	690.84	6					6	6		
90	34/0	C+0	355	24949	Single Tension Fittings		1075.65	6					6	12		
91	33/0	C+0	324	25273	Single Tension Fittings		981.72	6					6	12		
92	32/0	C+0	298	25571	Single Tension Fittings		902.94	6					6	12		
93	31/0	C+0	220	25791	Single Tension Fittings		666.6	6					6	12		
94	30/0	C+0	240	26031	Single Tension Fittings		727.2	6					6	12		
95	29/0	C+0	235	26266	Single Tension Fittings		712.05	6					6	12		
96	28/0	C+0	70	26336	Single Tension Fittings		212.1	6					6	12		
97	27/0	C+0	320	26656	Single Tension Fittings		969.6	6					6	12		
98	26/0	C+0	360	27016	Single Tension Fittings		1090.8	6					6	12		
99	25/0	C+0	380	27396	Single Tension Fittings		1151.4	6					6	12		
100	24/0	C+0	320	27716	Single Tension Fittings		969.6	6					6	12		
101	23/0	A+3	248	27964	Double suspension fittings		751.44				3	6		6		
102	22/0	A+3	220	28184	Double suspension fittings		666.6				3	6		6		
103	21/0	A+0	200	28384	Single suspension fittings		606			3		3		6		
104	20/0	A+0	260	28644	Single suspension fittings		787.8			3		3		6		
105	19/0	A+0	240	28884	Single suspension fittings		727.2			3		3		6		
106	18/0	C+0	250	29134	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	757.5	3	3				9	12		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

CONFIRMED
for approval pl.

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RATEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
107	17/0	C+3	260	29394	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	787.8	3	3				9	12		
108	16/0	C+0	215	29609	Single Tension Fittings	LT Line	651.45	6					6	12		
109	15/0	C+0	190	29799	Single Tension Fittings		575.7	6					6	12		
110	14/0	C+3	215	30014	Single Tension Fittings One Side Double Tension Fittings One Side	River	651.45	3	3				9	12		
111	13/0	C+6	350	30364	Single Tension Fittings One Side Double Tension Fittings One Side	River	1060.5	3	3				9	12		
112	12/0	C+0	290	30654	Single Tension Fittings		878.7	6					6	12		
113	11/0	C+0	100	30754	Single Tension Fittings		303	6					6	12		
114	10/0	A+6	325	31079	Double Suspension fittings	33/ KV Line -11 KV Line	984.75				3	6		6		
115	09/0	A+3	290	31369	Double Suspension fittings	11 KV Line	878.7				3	6		6		
116	08/0	A+0	270	31639	Single Suspension fittings		818.1			3		3		6		
117	07/0	A+0	240	31879	Single Suspension fittings		727.2			3		3		6		
118	06/0	C+0	270	32149	Single Tension fittings		818.1	6					6	12		
119	05/0	C+3	140	32289	Single Tension Fittings One Side Double Tension Fittings One Side	11 KV Line	424.2	3	3				9	12		
120	04/0	C+3	110	32399	Single Tension Fittings One Side Double Tension Fittings One Side		333.3	3	3				9	12		
121	03/0	C+0	180	32579	Single Tension Fittings One Side Double Tension Fittings One Side		545.4	3	3				9	12		

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl.

Shyama Power India Ltd.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

19/01/19
RAJIV SINGH
Senior D[illegible] (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor (ACSR Panther) (m)	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132 KV,70KN	Composite Insulator-132 KV,90KN	VD	Repair Sleeve	Mid-Span Joint
122	02/0	C+3	110	32689	Single Tension Fittings One Side Double Tension Fittings One Side		333.3	3	3				9	12		
123	01/0	D+3	40	32729	Single Tension Fittings		121.2	6					6	12		
124	KONGBA GANTRY		25	32754			75.75	6					6			
TOTAL			32754				99244.62	462	60	81	30	141	582	1242	30	30

Manager
Sub-Division-III
Transmission Division-I MSPCL

GM/ED
For approval pl.

Deputy Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Jha

H. RAJAN SINGH
Senior DGM(E.R.F.S.I.P.)
POWERGRID,Imphal

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Name of Line: Stringing of second circuit of 132 KV D/C Yanggangkopi - Kongba Under TW-06 Packages

TENTATIVE BOM BASED ON JOINT SURVEY REPORT FOR TOWER RECTIFICATION MEMBER

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
1	1/0	D+0								Tower OK
2	2/0	D+3								Tower OK
3	3/0	D+0								Tower OK
4	4/0	C+0								Tower OK
5	5/0	C+0								Tower OK
6	6/0	C+6								Tower OK
7	7/0	C+0								Tower OK
8	8/0	C+0								Tower OK
9	9/0	C+0								Tower OK
10	10/0	C+3	132DC6	75x75x6	4000	8	6.8	27.2	217.6	
			132DC1	50x50x6	3000	4	4.5	13.5	54	
			132DC2	40x40x5	2000	7	3	6	42	
			132DC5	30x30x5	1000	4	2.2	2.2	8.8	
11	11/0	C+0								Tower OK
12	12/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	217.6	Approved
			132DC1	50x50x6	3000	6	4.5	13.5	81	
			132DC2	40x40x5	2000	20	3	6	120	
			132DC5	30x30x5	1000	8	2.2	2.2	17.6	
13	13/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	217.6	Executive Director (Tech) Manipur State Power Company Ltd. Keishampat Junction Imphal
			132DC1	50x50x6	3000	4	4.5	13.5	54	
			132DC2	40x40x5	2000	20	3	6	120	
			132DC5	30x30x5	1000	8	2.2	2.2	17.6	
14	14/0	C+0								Tower Ok
15	15/0	C+0								Tower Ok

Manager
Sub-Division-III
Transmission Division-I, MSP

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
16	16/0	C+0	132DC6	75x75x6	4000	6	6.8	27.2	163.2	
			132DC1	50x50x6	3000	4	4.5	13.5	54	
			132DC2	40x40x5	2000	16	3	6	96	
			132DC5	30x30x5	1000	8	2.2	2.2	17.6	
17	17/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	217.6	
			132DC1	50x50x6	3000	4	4.5	13.5	54	
			132DC2	40x40x5	2000	28	3	6	168	
			132DC5	30x30x5	1000	8	2.2	2.2	17.6	
18	18/0	C+0								Tower OK
19	19/0	C+0								Tower OK
20	20/0	C+0								Tower OK
21	21/0	C+3	132DC6	75x75x6	4000	8	6.8	27.2	217.6	
			132DC1	50x50x6	3000	4	4.5	13.5	54	
			132DC2	40x40x5	2000	8	3	6	48	
			132DC5	30x30x5	1000	4	2.2	2.2	8.8	
22	22/0	C+0								Tower Ok
23	23/0	C+0								Tower Ok
24	24/0	C+0								Tower Ok
25	25/0	C+0								Tower Ok
26	26/0	C+0								Tower Ok
27	27/0	C+0								Tower Ok
28	28/0	C+0								Tower Ok
29	29/0	C+3								Tower Ok
30	30/0	C+0								Tower Ok

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl.

Shyama Power India Ltd.

Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
31	31/0	C+0								Tower Ok
32	32/0	C+0								Tower Ok
33	33/0	C+3								Tower OK
34	34/0	C+0								Tower OK
35	35/0	C+0								Tower OK
36	36/0	C+0								Tower OK
37	37/0	C+0								Tower OK
38	38/0	C+0								Tower ok
39	39/0	C+0								Tower ok
40	40/0	C+0								Tower ok
41	41/0	C+0								Tower ok
42	42/0	C+0								Tower ok
43	43/0	C+0								Tower ok
44	44/0	C+0								Tower ok
45	45/0	C+0								Tower ok
46	46/0	A+0								Tower ok
47	47/0	A+0								Tower ok
48	48/0	A+0								Tower ok
49	49/0	A+0								Tower ok
50	50/0	A+0								Tower ok
51	51/0	A+0								Tower ok
52	52/0	A+0								Tower ok
53	53/0	C+0								Tower ok
54	54/0	C+0								Tower ok
55	55/0	A+6								Tower ok
56	56/0	A+0								Tower OK
57	57/0	C+0								

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Checked
For approval pl.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

H. R.K. SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
58	58/0	C+0								Tower ok
59	59/0	C+0								Tower ok
60	60/0	C+0								Tower ok
61	61/0	C+0								Tower ok
62	62/0	C+3								Tower ok
63	63/0	A+0								Tower ok
64	64/0	A+0								Tower ok
65	65/0	A+0								Tower ok
66	66/0	A+3								Tower ok
67	67/0	A+0								Tower ok
68	68/0	A+0								Tower ok
69	69/0	C+0								Tower ok
70	70/0	A+3								Tower ok
71	71/0	A+0								Tower ok
72	72/0	A+0								3 Nos suspension hanger required
73	73/0	A+0								3 Nos suspension hanger required
74	74/0	A+0								3 Nos suspension hanger required
75	75/0	C+0								Tower ok
76	76/0	A+0								
77	77/0	A+0	132DA3	50x50x6	3000	4	4.5	13.5	54	Top, Middle, bottom X- Arm Missing , 3 Nos hanger required
			132DA1	40x40x5	2000	12	3	6	72	
			132DA4	30x30x5	1000	8	2.2	2.2	17.6	

Approved

Executive Director (Tech)
Manipur State Power Company Ltd
Keishampat Junction Imphal

Approved

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No
MSPCL, Manipur

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
78	45/0	D+0	132DD6	75x75x6	4000	8	6.8	27.2	217.6	
			132DD5	50x50x6	3000	8	4.5	13.5	108	
			132DD4	40x40x5	2000	16	3	6	96	
			132DD3	30x30x5	1000	8	2.2	2.2	17.6	
79	44/0	C+0	132DC6	75x75x6	4000	6	6.8	27.2	163.2	Approved
			132DC1	50x50x6	3000	4	4.5	13.5	54	
			132DC2	40x40x5	2000	10	3	6	60	
			132DC5	30x30x5	1000	4	2.2	2.2	8.8	
80	43/0	A+0	132DA3	50x50x6	3000	8	4.5	13.5	108	Executive Director (Tech) Manipur State Power Company Ltd. Keishampat Junction Imphal
			132DA1	40x40x5	2000	12	3	6	72	
			132DA4	30x30x5	1000	8	2.2	2.2	17.6	
81	42/0	A+0								3 Nos suspension hanger required
82	41/0	A+0								3 Nos suspension hanger required
83	40/0	D+3								Tower ok
84	39/0	D+3	132DD4	40x40x5	2000	16	3	6	96	
85	38/0	A+0								3 Nos suspension hanger required
86	37/0	A+ 0								3 Nos suspension hanger required
87	36/0	A+ 0								3 Nos suspension hanger required

GM/ED for approval pl

Sub-Division-III
Transmission Division-I MSPCL

Transmission Division-I
MSPCL, Manipur

Amit Kumar Singhe

H. KANAN SINGH
Senior DGM (M.E.R.P.S.I.P.)
POWER [illegible] Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
88	35/0	A+0								3 Nos suspension hanger required
89	34/0	C+0								Tower Ok
90	33/0	C+0								Tower Ok
91	32/0	C+0								Tower Ok
92	31/0	C+0								Tower Ok
93	30/0	C+0								Tower Ok
94	29/0	C+0								Tower Ok
95	28/0	C+0								Tower Ok
96	27/0	C+0								Tower Ok
97	26/0	C+0								Tower Ok
98	25/0	C+0								Tower Ok
99	24/0	C+0								Tower Ok
100	23/0	A+3								3 Nos suspension hanger required
101	22/0	A+3								3 Nos suspension hanger required
102	21/0	A+0								3 Nos suspension hanger required
103	20/0	A+0								3 Nos suspension hanger required
104	19/0	A+0								3 Nos suspension hanger required
105	18/0	C+0								Tower OK
106	17/0	C+3								Tower OK
107	16/0	C+0								Tower OK

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval

Sub-Division-III
Transmission Division-I MSPCL, Manipur

Deputy General Manager
Transmission Division No.I
MSPCL, Manipur

Amit Kumar Jaiswal

H. R. SINGH
Senior Engineer (O & M)
POWERGRID, Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
108	15/0	C+0								Tower OK
109	14/0	C+3								Tower OK
110	13/0	C+6								Tower OK
111	12/0	C+0								Tower OK
112	11/0	C+0								Tower OK
113	10/0	A+6								3 Nos Suspension Hanger required
114	09/0	A+3								3 Nos Suspension Hanger required
115	08/0	A+0								3 Nos Suspension Hanger required
116	07/0	A+0								3 Nos Suspension Hanger required
117	06/0	C+0								Tower Ok
118	05/0	C+3								Tower Ok
119	04/0	C+3								Tower Ok
120	03/0	C+0								Tower Ok
121	02/0	C+3								Tower Ok
122	01/0	D+3								Tower Ok
								TOTAL WT	5574	

NOTE :MISSING CROSSARMS WEIGHT NOT INCLUDED (TO BE INCLUDED IN THE FINAL BOM)

BOLT NUT QUANTITY TO BE SUPPLIED ON TENTATIVE BASIS

				BOLT NUT	PCS	UNIT WT	TOTAL WT			

GM/ED For approval pl.

Sub-Division-III Transmission Division-I MSPCL

Deputy General Manager Transmission Division No I MSPCL, Manipur

Approved

Executive Director (Tech) Manipur State Power Company Ltd. Keishampat Junction Imphal

Amit Kumar Singh

H. RAJEN SINGH Senior DGM (N.E.R.P.S.I.P.) POWERGRID, Imphal

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Weight per piece (kg)	Total weight.(kg)	Remarks
				M16 X 35	900	0.119	107.1			
				M16 X 40	900	0.126	113.4			
				M16 X 45	400	0.134	53.6			
	PACK WASHER 5 MM THICK				100	0.09	9			
						TOTAL =	283.1			
					TOTAL WT=		5857	KG		

GM/ED
For approval pl.

Amit Kumar Singh

Sub-Division-III
Transmission Division-I MSPCL

Deputy Gen... Manager
Transmission Division No...
MSPCL, Manipur

19/11/19
H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Shyama Power India Ltd.

Name of Line: Stringing of second circuit of 132 KV D/C Kak...ing - Kongba Under TW-06 Packages

Joint Survey Report

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Missing Tower Parts			Remarks
								Section	Length MM	Qty.	
1	kONGBA GANTRY										
2	1/0	D+0	25	N 24' 46.556'	E 094'58.266'	Single Tension Fittings Both Sides					Tower OK
3	2/0	D+3	26	N 24' 46.549'	E 094'58.295'	Single Tension Fittings Both Sides	Village Road				Tower OK
4	3/0	C+3	277	N 24' 46.403'	E 094'58.323'	One Side Single Tension Fittings One Sides Double Tension Fittings	H/W Road				Tower OK
5	4/0	C+3	290	N 24' 46.254'	E 094'58.272'	One Side Single Tension Fittings One Sides Double Tension Fittings	H/W Road				Tower OK
6	5/0	A+3	320	N 24' 46.094'	E 094'58.338'	Single Suspension fittings					3 Nos. Suspension Hanger required
7	6/0	A+6	325	N 24' 45.934'	E 094'58.402'	Double suspension Fittings	33 KV Line/ 11 KV Line	75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	6 4 8 2	3 Nos. Suspension Hanger required
8	7/0	A+3	324	N 24' 45.769'	E 094'58.471'	Single suspension Fittings					3 Nos. Suspension Hanger required
9	8/0	A+6	325	N 24' 45.608'	E 094'58.537'	Single suspension Fittings					3 Nos. Suspension Hanger required
10	9/0	D+0	360	N 24' 45.428'	E 094'58.610'	Single suspension Fittings		40x40x5	4000	2	
11	10/0	D+3	325	N 24' 45.413'	E 094'58.590'	One Side Single Tension Fittings One Sides Double Tension Fittings	River				Tower OK
12	11/0	C+3	295	N 24' 46.190'	E 094'58.317'	One Side Single Tension Fittings One Sides Double Tension Fittings	River				Tower OK
13	12/0	C+0	195	N 24' 46.057'	E 094'58.373'	Both Side Single Tension Fittings					Tower OK
14	13/0	C+0	220	N 24' 46.190'	E 094'58.318'	Both Side Single Tension Fittings					Tower OK
15	14/0	C+0	120	N 24' 46.328'	E 094'58.317'	Both Side Single Tension Fittings	LT Line				Tower OK

Approved
Ex. ... (TL)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Shyama Power India Ltd.

Transmission Division MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
16	15/0	C+3	190	N 24' 46.381'	E 094'58.341'	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road/ 11 KV Line				Tower OK
17	16/0	C+3	265	N 24' 46.579'	E 094'58.272'	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road				Tower OK
18	17/0	A+0	270	N 24' 46.555'	E 094'58.278'	Single Suspension fittings					3 Nos. Suspension Hanger required
19	18/0	A+0	235	N 24' 46.549'	E 094'58.293'	Single Suspension fittings					3 Nos. Suspension Hanger required
20	19/0	A+0	280	N 24' 46.403'	E 094'58.319'	Single Suspension fittings					3 Nos. Suspension Hanger required
21	20/0	A+0	210	N 24' 46.252'	E 094'58.273'	Single Suspension fittings		50x50x6 40x40x5 30x30x5	3000 2000 1000	4 12 4	3 Nos. Suspension Hanger required.
22	21/0	A+3	220	N 24' 46.092'	E 094'58.338'	Single Suspension fittings	Water Canal				3 Nos. Suspension Hanger required.
23	22/0	C+3	260	N 24' 45.931'	E 094'58.405'	Both Side Single Tension Fittings	Canal				Tower OK
24	23/0	C+0	211	N 24' 45.769'	E 094'58.468'	Both Side Single Tension Fittings.					Tower OK
25	24/0	C+0	380	N 24' 45.607'	E 094'58.537'	Both Side Single Tension Fittings.					Tower OK
26	25/0	C+3	325	N 24' 45.427'	E 094'58.610'	Both Side Single Tension Fittings.					Tower OK
27	26/0	C+0	330	N 24' 45.343'	E 094'58.775'	Both Side Single Tension Fittings.					Tower OK
28	27/0	C+0	40	N 24' 45.309'	E 094'58.942'	Both Side Single Tension Fittings.					Tower OK
29	28/0	C+3	250	N 24' 45.217'	E 094'58.993'	Both Side Single Tension Fittings.					Tower OK
30	29/0	C+0	155	N 24' 45.130'	E 094'59.076'	Both Side Single Tension Fittings.					Tower OK
31	30/0	C+0	325	N 24' 45.118'	E 094'59.143'	Both Side Single Tension Fittings.					Tower OK
32	31/0	C+0	335	N 24' 45.068'	E 094'00.354'	Both Side Single Tension Fittings.					Tower OK
33	32/0	C+3	220	N 24' 45.003'	E 094'00.565'	Both Side Single Tension Fittings.					Tower OK
34	33/0	A+0	260	N 24' 44.885'	E 094'00.703'	Single Suspension fittings					3 Nos. suspension Hanger required
35	34/0	A+0	230	N 24' 44.754'	E 094'00.854'	Single Suspension fittings	Village Road				3 Nos. suspension Hanger required
36	35/0	A+0	240	N 24' 44.710'	E 094'00.992'	Single Suspension fittings					3 Nos. suspension Hanger required
37	36/0	C+0	230	N 24' 44.706'	E 094'01.085'	Single Tension Fittings					Tower OK

Approved

Executive Director (Tech)
Manipur State Power Company Ltd,
Keishampat Junction Imphal

Enrama Power India Ltd.

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singhal

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
38	37/0	D+3	300	N 24' 44.619'	E 094'01.252'	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road				Tower OK
39	38/0	D+3	260	N 24' 44.571'	E 094'01.561'	One Side Single Tension Fittings One Sides Double Tension Fittings					Tower OK
40	39/0	A+0	260	N 24' 44.523'	E 094'01.705'	Single Suspension fittings					3 Nos. suspension hanger required
41	40/0	A+0	270	N 24' 44.483'	E 094'01.830'	Single Suspension fittings		50x50x6	3000	4	3 Nos. suspension hanger required
								40x40x5	2000	16	
								30x30x5	1000	4	
42	41/0	A+0	280	N 24' 44.439'	E 094'01.963'	Single Suspension fittings		75x75x6	4000	8	3 Nos. suspension hanger required
								50x50x6	3000	4	
								40x40x5	2000	16	
								30x30x5	1000	4	
43	42/0	C+3	290	N 24' 44.398'	E 094'02.090'	Single Tension fittings					Tower OK
44	43/0	C+3	260	N 24' 44.329'	E 094'02.244'	Single Tension fittings					Tower OK
45	79/0	A+0	32	N 24' 44.258'	E 094'02.375'	Single Suspension fittings					
46	80/0	A+0	310	N 24' 44.197'	E 094'02.511'	Single Suspension fittings					
47	81/0	C+0	280	N 24' 44.133'	E 094'02.653'	Single Tension fittings		75x75x6	4000	3	
								40x40x5	3000	10	
48	82/0	C+0	215	N 24' 44.067'	E 094'02.797'	Single Tension fittings					Tower OK
49	83/0	C+0	310	N 24' 43.999'	E 094'02.947'	Single Tension fittings					3 Nos. x-arm required for Top Middle & Bottom
50	84/0	C+0	190	N 24' 43.892'	E 094'03.039'	Single Tension fittings					Tower OK
51	85/0	A+0	320	N 24' 43.876'	E 094'03.033'	Single suspension fittings					Tower OK
52	86/0	C+0	330	N 24' 43.724'	E 094'02.987'	Single Tension fittings					Tower OK
53	87/0	C+0	350	N 24' 43.586'	E 094'02.946'	Single Tension fittings					Tower OK
54	88/0	C+0	340	N 24' 43.471'	E 094'02.955'	Single Tension fittings					Tower OK
55	89/0	C+0	360	N 24' 43.299'	E 094'02.986'	Single Tension fittings		75x75x6	4000	8	
								50x50x6	3000	4	
								40x40x5	2000	16	
								30x30x5	1000	4	
56	90/0	C+0	170	N 24' 43.215'	E 094'03.045'	Single Tension fittings		75x75x6	4000	10	
								50x50x6	3000	6	
								40x40x5	2000	16	
								30x30x5	1000	16	
57	91/0	C+0	460	N 24' 43.064'	E 094'03.129'	Single Tension fittings		75x75x6	4000	10	
								50x50x6	3000	6	
								40x40x5	2000	16	
58	92/0	A+0	310	N 24' 43.036'	E 094'03.174'	Single Suspension fittings					Tower OK
59	93/0	C+0	312	N 24' 42.905'	E 094'03.219'	Single tension fittings					Tower OK

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED For approval pl.

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Shyama Power India Ltd.

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
60	94/0	C+3	310	N 24' 42.738'	E 094'03.315'	Single tension fittings		75x75x6	4000	3	
								50x50x6	3000	6	
								40x40x5	2000	8	
								30x30x5	1000	4	
61	95/0	C+0	200	N 24' 42.612'	E 094'00.371'	Single Tension Fittings					Tower OK
62	96/0	A+0	250	N 24' 42.577'	E 094'03.407'	Single Tension Fittings		50x50x6	3000	8	3 Nos. x-arm required for Top Middle & Bottom
								40x40x5	2000	24	
								30x30x5	1000	8	
63	97/0	C+0	390	N 24' 42.416'	E 094'03.526'	Single Tension Fittings		75x75x6	4000	4	
								50x50x6	3000	4	
								40x40x5	2000	8	
								30x30x5	1000	4	
64	98/0	C+0	140	N 24' 42.360'	E 094'03.598'	Single Tension Fittings					Tower OK
65	99/0	C+3	400	N 24' 42.264'	E 094'03.852'	Single Tension Fittings	11 KV Line				Tower OK
66	100/0	C+3	185	N 24' 42.203'	E 094'04.022'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line/Village				Tower OK
67	101/0	C+0	490	N 24' 42.142'	E 094'04.193'	One Side Single Tension Fittings One Sides Double Tension Fittings	Thoubal Road/ 11 KV Line	75x75x6	4000	7	Required Bottom X-Arm 2 No. 40x40x5 = 2000
								50x50x6	3000	14	
								40x40x5	2000	24	
								30x30x5	1000	8	
68	102/0	C+ 0	300	N 24' 42.084'	E 094'04.353'	One Side Single Tension Fittings One Sides Double Tension Fittings	Canal				
69	103/0	D+3	243	N 24' 42.024'	E 094'04.452'	One Side Single Tension Fittings One Sides Double Tension Fittings					
70	104/0	C+0	490	N 24' 41.948'	E 094'05.568'	Single Tension fittings	11 KV Line				
71	105/0	C+0	150	N 24' 41.511'	E 094'04.941'	Single Tension fittings		75x75x6	4000	8	
								50x50x6	3000	4	
								40x40x5	2000	16	
								30x30x5	1000	4	
72	106/0	C+0	320	N 24' 41.259'	E 094'05.019'	Single Tension fittings		75x75x6	4000	2	
								50x50x6	3000	2	
								40x40x5	2000	4	
								30x30x5	1000	4	
73	107/0	A+6	330	N 24' 41.108'	E 094'05.067'	Single Tension fittings		75x75x6	4000	8	
								50x50x6	3000	4	
								40x40x5	2000	16	
								30x30x5	1000	4	
74	108/0	C+0	300	N 24' 40.982'	E 094'05.049'	Single Tension fittings	Village Road	50x50x6	3000	8	
								40x40x5	2000	16	
								30x30x5	1000	4	
75	109/0	D+0	330	N 24' 40.816'	E 094'04.836'	Single Tension fittings	Village Road				Tower OK
76	110/0	A+6	330	N 24' 40.764'	E 094'04.774'	Single suspension fittings	Village Road				Tower OK

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED

for approval pl.

Shyama Power India Ltd.

Sub-Division-III
Transmission Division-I MSPCL

Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
77	111/0	C+0	345	N 24' 40.639'	E 094'04.646'	Single Tension fittings	Village Road/ Canal				Bottom x-arm required
78	112/0	A+0	312	N 24' 40.455'	E 094'04.346'	Single suspension fittings		50x50x6	3000	8	
								40x40x5	2000	16	
								30x30x5	1000	4	
79	113/0	A+0	310	N 24' 40.353'	E 094'04.186'	Single suspension fittings					Tower OK
80	114/0	A+0	308	N 24' 40.189'	E 094'04.120'	Single suspension fittings					Tower OK
81	115/0	A+0	300	N 24' 40.033'	E 094'04.055'	Double suspension Fittings	village road				Tower OK
82	116/0	A+0	275	N 24' 39.873'	E 094'04.022'	Double suspension Fittings	village road / 11 Kv line				Tower OK
83	117/0	A+0	315	N 24' 39.718'	E 094'03.983'	Single suspension fittings					Tower OK
84	118/0	A+0	310	N 24' 39.555'	E 094'03.946'	Single suspension fittings					Tower OK
85	119/0	A+0	300	N 24' 39.397'	E 094'03.911'	Double suspension Fittings	11 KV Line				Tower OK
86	120/0	C+0	330	N 24' 39.252'	E 094'03.878'	Both side double tension fittings	11 KV Line				Tower OK
87	121/0	A+0	300	N 24' 39.090'	E 094'03.845'	Double suspension Fittings	Village Road/ LT Line				Tower OK
88	122/0	C+0	220	N 24' 38.934'	E 094'03.805'	Single tension fittings					Tower OK
89	123/0	C+0	330	N 24' 38.780'	E 094'03.771'	Single Tension Fittings	Village Road				
90	124/0	C+0	260	N 24' 38.609'	E 094'03.731'	Single Tension Fittings	Village Road	50x50x6	3000	4	
								40x40x5	2000	8	
								30x30x5	1000	4	
91	125/0	A+0	315	N 24' 38.456'	E 094'03.702'	Single suspension fittings	Village Road / LT line				3 Nos. Suspension Hanger required
92	126/0	A+0	300	N 24' 38.343'	E 094'03.683'	Single suspension fittings					4 Nos. Suspension Hanger required
93	127/0	C+0	375	N 24' 38.174'	E 094'03.633'	Single tension fittings					Tower ok
94	128/0	A+0	320	N 24' 38.048'	E 094'03.577'	Single suspension fittings					Tower ok
95	129/0	C+0	270	N 24' 37.993'	E 094'02.116'	Single tension fittings					Tower ok
96	130/0	A+0	310	N 24' 37.724'	E 094'03.553'	Single suspension fittings	Canal				Tower ok
97	131/0	A+0	300	N 24' 37.365'	E 094'03.518'	Single suspension fittings	11 KV Line				Tower ok
98	132/0	A+0	280	N 24' 37.221'	E 094'03.504'	Single suspension fittings	Village Road				Tower ok
99	133/0	C+0	230	N 24' 37.067'	E 094'03.441'	Single suspension fittings	village Road/ 11 KV line				Tower ok
100	134/0	A+0	280	N 24' 36.916'	E 094'03.379'	Single tension fittings					Tower ok
101	135/0	C+0	280	N 24' 36.778'	E 094'03.318'	Single tension fittings	Canal				Tower ok
102	136/0	A+0	310	N 24' 36.665'	E 094'03.270'	Single suspension fittings					Tower ok
103	137/0	A+0	310	N 24' 36.523'	E 094'03.237'	Single suspension fittings					Tower ok
104	138/0	A+0	300	N 24' 36.378'	E 094'03.202'	Double suspension Fittings	11 KV Line/Village Road				

Approved

Executive Director (Tech)
Manipur State Power Company Ltd
Keishampat Junction Imphal

Approved for approval pl

Shyam Power India Ltd.

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
105	139/0	A+0	300	N 24' 36.223'	E 094'03.194'	Double suspension Fittings	Village Road				
106	140/0	C+3	330	N 24' 36.061'	E 094'03.185'	Both Side Tension Fittings	Village Road				
107	141/0	C+3	300	N 24' 35.900'	E 094'03.176'	Both Side Tension Fittings	River/ LT Line				
108	142/0	C+3	160	N 24' 35.745'	E 094'03.167'	One Side Single Tension Fittings One Sides Double Tension Fittings	H/W Road				
109	143/0	A+3	330	N 24' 35.570'	E 094'03.156'	Single suspension Fittings					
110	144/0	A+0	300	N 24' 35.432'	E 094'03.078'	Single suspension Fittings		75x75x6	4000	8	
								50x50x6	3000	8	
								40x40x5	2000	16	
								30x30x5	1000	8	
111	145/0	A+0	310	N 24' 35.366'	E 094'03.023'	Single suspension Fittings		75x75x6	4000	3	
								50x50x6	3000	4	
								40x40x5	2000	16	
								30x30x5	1000	4	
112	146/0	A+0	300	N 24' 35.201'	E 094'02.960'	Single suspension Fittings		75x75x6	4000	4	
								50x50x6	3000	4	
								40x40x5	2000	16	
								30x30x5	1000	4	
113	147/0	A+0	300	N 24' 35.050'	E 094'02.903'	Single Suspension Fittings					Tower OK
114	148/0	A+0	290	N 24' 34.896'	E 094'02.842'	Single Suspension fittings	11 KV Line				Tower OK
115	149/0	A+0	270	N 24' 34.746'	E 094'02.785'	Single Suspension fittings	LT Line/ Village Road				Tower OK
116	150/0	C+0	250	N 24' 34.594'	E 094'02.726'	Single Tension Fittings	Village Road				Tower OK
117	151/0	A+0	310	N 24' 34.453'	E 094'02.673'	Double suspension Fittings	11 KV Line	Approved			3 Nos. suspension hanger required
118	152/0	A+0	280	N 24' 34.052'	E 094'02.493'	Double suspension Fittings	11 KV Line	Executive Director (Tech) Manipur State Power Company Ltd. Keishampat Junction Imphal			3 Nos. suspension hanger required
119	153/0	A+0	300	N 24' 33.777'	E 094'02.334'	Single Suspension fittings					3 Nos. suspension hanger required
120	154/0	A+0	310	N 24' 33.629'	E 094'02.250'	Double suspension Fittings	11 KN Line/ 33 KV line				3 Nos. suspension hanger required
121	155/0	A+0	320	N 24' 33.478'	E 094'02.162'	Double suspension Fittings	33 KV Line / Village Road				3 Nos. suspension hanger required
122	156/0	C+0	360	N 24' 33.305'	E 094'02.064'	Both side double tension fittings	11 KV Line				Tower OK
132	157/0	A+0	230	N 24' 33.195'	E 094'02.038'	Double suspension Fittings	33 KV Line				Tower OK
124	158/0	C+0	290	N 24' 33.041'	E 094'02.003'	Single Tension Fittings					Tower OK
125	159/0		290	N 24' 33.042'	E 094'02.005'	Both side Single suspension fittings					Tower OK

GM(E) For approval

Shyama Power India Ltd.

Manager Transmission Division-III MSPCL

Deputy General Manager Transmission Division No I MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH Senior DGM (N.E.R.P.S.I.P.) POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
126	160/0	A+0	310	N 24' 35.301'	E 094'02.171'	Both side Single suspension fittings					Tower OK
127	161/0	C+0	400	N 24' 32.718'	E 094'02.009'	Both side Single Tension Fittings	11 KV Line				Tower OK
128	162/0	C+0	410	N 24' 32.282'	E 094'02.028'	Both side Single Tension Fittings	11 KV Line				Tower OK
128	163/0	C+0	220	N 24' 32.167'	E 094'02.054'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line / Village Road				Tower OK
129	164/0	C+0	220	N 24' 32.053'	E 094'02.025'	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road				Tower OK
130	165/0	C+6	430	N 24' 31.682'	E 094'01.850'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line				Tower OK
131	166/0	A+0	330	N 24' 31.849'	E 094'01.910'	Double Tension Fittings	11 KV Line				Tower OK
132	167/0	C+0	270	N 24' 29.590'	E 094'00.688'	Both Side Single tension fittings		75x75x6 50x50x6 40x40x5	4000 3000 2000	2 2 4	
133	168/0	C+0	315	N 24' 31.317'	E 094'01.813'	Both Side Single tension fittings					Tower OK
134	169/0	C+0	330	N 24' 31.217'	E 094'01.743'	Both Side Single tension fittings					Tower OK
135	170/0	C+0	445	N 24' 31.547'	E 094'01.801'	Single tension fittings		75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	6 8 16 8	
136	171/0	C+0	220	N 24' 31.382'	E 094'01.772'	Single tension fittings					Tower OK
137	172/0	C+0	200	N 24' 30.778'	E 094'01.688'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line				Tower OK
138	173/0	C+3	250	N 24' 30.657'	E 094'01.646'	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road				Tower OK
139	174/0	C+3	240	N 24' 30.538'	E 094'01.621'	Single Tension Fitting					Tower OK
140	175/0	C+0	260	N 24' 30.421'	E 094'01.559'	Both Side Single tension fittings					Tower OK
141	176/0	C+0	255	N 24' 30.308'	E 094'01.482'	Both Side Single tension fittings					
142	177/0	C+0	330	N 24' 30.207'	E 094'01.339'	Both Side Single tension fittings		75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	8 8 16 8	
143	178/0	C+0	300	N 24' 30.083'	E 094'01.236'	Both Side Single tension fittings		75x75x6 50x50x6 40x40x5 30x30x5	4000 3000 2000 1000	8 10 16 8	
144	179/0	C+0	450	N 24' 29.865'	E 094'01.142'	Both Side Single tension fittings					Tower Ok
145	180/0	C+0	255	N 24' 29.744'	E 094'01.091'	Both Side Single tension fittings					Tower Ok
146	181/0	A+3	320	N 24' 29.575'	E 094'01.077'	Single suspension fittings	11 KV line				Tower Ok
147	182/0	A+0	310	N 24' 29.414'	E 094'01.068'	Single suspension fittings					Tower Ok
148	183/0	C+0	370	N 24' 29.221'	E 094'01.057'	Both Side Single tension fittings					Tower Ok

Approved

Executive Director (Tech)
Manipur State Power Company
Keishampat Junction Imph

Shyama Power India Ltd.

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Sinha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Sl.No.	LOC. NO.	Type of Tower	Span Length	Co-Ordinate		Hardware Fittings	Crossing	Section	Length MM	Qty.	Remarks
149	184/0	C+0	270	N 24' 29.136'	E 094'00.770'	Both Side Single tension fittings					Bottom x-arm required
150	185/0	C+0	340	N 24' 28.950'	E 094'00.805'	Single tension fittings	Telephone Cable				Tower OK
151	186/0	C+0	215	N 24' 28.837'	E 094'00.827'	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road				Tower OK
152	187/0	C+0	270	N 24' 28.695'	E 094'00.853'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line/Village Road				Bottom x-arm required
153	188/0	D+3	84	N 24' 28.676'	E 094'00.884'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV/ NH Road				Tower OK
154	189/0	D+0	88	N 24' 28.679'	E 094'00.831'	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV/ NH Road				Tower OK
155	190/0	C+0	32	N 24' 28.694'	E 094'00.829'	Single Tention fittings					Tower OK
156	191/0	D+0	44	N 24' 28.715'	E 094'00.819'	Single Tention fittings					Tower OK
157	KAKCHING GANTRY		25	N 24' 28.695'	E 094'00.824'						
Total Km			43588								

Shyama Power India Ltd.

GM/ED
For approval pl.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

CLIENT:- PGCIL

Name of Line: Stringing of second circuit of 132 KV D/C Kakching - Kongba Under TW-06 Packages

BOQ OF CONDUCTOR ,INSULATOR AND HARDWARE FITTINGS

							ACSR Panther Conductor Accessories										
	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132kV, 70 KN	Composite Insulator-132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
1	KONGBA GANTRY																
2	1/0	D+0	25	43588	Single Tension Fittings Both Sides		75.75	6					6		12		
3	2/0	D+3	26	43563	Single Tension Fittings Both Sides	Village Road	78.78	6					6		12		
4	3/0	C+3	277	43537	One Side Single Tension Fittings One Sides Double Tension Fittings	H/W Road	839.31	3	3				9		12		
5	4/0	C+3	290	43260	One Side Single Tension Fittings One Sides Double Tension Fittings	H/W Road	878.7	3	3				9		12		
6	5/0	A+3	320	42970	Single Suspension fittings		969.6			3		3			3		
7	6/0	A+6	325	42650	Double suspension Fittings	33 KV Line/ 11 KV Line	984.75				3	6			3		
8	7/0	A+3	324	42325	Single suspension Fittings		981.72			3		3			3		
9	8/0	A+6	325	42001	Single suspension Fittings		984.75			3		3			3		
10	9/0	D+0	360	41676	Single suspension Fittings		1090.8			3		3			12		
11	10/0	D+3	325	41316	One Side Single Tension Fittings One Sides Double Tension Fittings	River	984.75	3	3				9		12		
12	11/0	C+3	295	40991	One Side Single Tension Fittings One Sides Double Tension Fittings	River	893.85	3	3				9		12		
13	12/0	C+0	195	40696	Both Side Single Tension Fittings		590.85	6					6		12		
14	13/0	C+0	220	40501	Both Side Single Tension Fittings		666.6	6					6		12		
15	14/0	C+0	120	40281	Both Side Single Tension Fittings	LT Line	363.6	6					6		12		
16	15/0	C+3	190	40161	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road/ 11 KV Line	575.7		3				9		12		
17	16/0	C+3	265	39971	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road	802.95	3	3				9		12		
18	17/0	A+0	270	39706	Single Suspension fittings		818.1			3		3			6		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl

Shyama Power India Ltd.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar

H. [illegible]
for DGM (N.E...)
POWERGRID, Imphal

	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132kV, 70 KN	Composite Insulator-132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
19	18/0	A+0	235	39436	Single Suspension fittings		712.05			3		3			6		
20	19/0	A+0	280	39201	Single Suspension fittings		848.4			3		3			6		
21	20/0	A+0	210	38921	Single Suspension fittings		636.3			3		3			6		
22	21/0	A+3	220	38711	Single Suspension fittings	Water Canal	666.6			3		3			6		
23	22/0	C+3	260	38491	Both Side Single Tension Fittings	Canal	787.8	6					6		12		
24	23/0	C+0	211	38231	Both Side Single Tension Fittings.		639.33	6					6		12		
25	24/0	C+0	380	38020	Both Side Single Tension Fittings.		1151.4	6					6		12		
26	25/0	C+3	325	37640	Both Side Single Tension Fittings.		984.75	6					6		12		
27	26/0	C+0	330	37315	Both Side Single Tension Fittings.		999.9	6					6		12		
28	27/0	C+0	40	36985	Both Side Single Tension Fittings.		121.2	6					6		12		
29	28/0	C+3	250	36945	Both Side Single Tension Fittings.		757.5	6					6		12		
30	29/0	C+0	155	36695	Both Side Single Tension Fittings.		469.65	6					6		12		
31	30/0	C+0	325	36540	Both Side Single Tension Fittings.		984.75	6					6		12		
32	31/0	C+0	335	36215	Both Side Single Tension Fittings.		1015.05	6					6		12		
33	32/0	C+3	220	35880	Both Side Single Tension Fittings.		666.6	6					6		12		
34	33/0	A+0	260	35660	Single Suspension fittings		787.8			3		3			6		
35	34/0	A+0	230	35400	Single Suspension fittings	Village Road	696.9			3		3			6		
36	35/0	A+0	240	35170	Single Suspension fittings		727.2			3		3			6		
37	36/0	C+0	230	34930	Single Tension Fittings		696.9	3					3		12		
38	37/0	D+3	300	34700	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road	909	3	3				9		12		
39	38/0	D+3	260	34400	One Side Single Tension Fittings One Sides Double Tension Fittings		787.8		3				9		12		
40	39/0	A+0	260	34140	Single Suspension fittings		787.8			3		3			6		
41	40/0	A+0	270	33880	Single Suspension fittings		818.1			3		3			6		
42	41/0	A+0	280	33610	Single Suspension fittings		848.4			3		3			6		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM(E)
For approval pl.

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singha

H. Ra...
...ior DGM (N.E.R...
...NERGRID, Imphal

	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132kV, 70 KN	Composite Insulator-132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
43	42/0	C+3	290	33330	Single Tension fittings		878.7	3					3		12		
44	43/0	C+3	260	33040	Single Tension fittings		787.8	3					3		12		
45	79/0	A+0	32	32780	Single Suspension fittings		96.96			3		3			6		
46	80/0	A+0	310	32748	Single Suspension fittings		939.3			3		3			6		
47	81/0	C+0	280	32438	Single Tension fittings		848.4	3					3		12		
48	82/0	C+0	215	32158	Single Tension fittings		651.45	3					3		12		
49	83/0	C+0	310	31943	Single Tension fittings		939.3	3					3		12		
50	84/0	C+0	190	31633	Single Tension fittings		575.7	3					3		12		
51	85/0	A+0	320	31443	Single suspension fittings		969.6			3		3			6		
52	86/0	C+0	330	31123	Single Tension fittings		999.9	3					3		12		
53	87/0	C+0	350	30793	Single Tension fittings		1060.5	3					3		12		
54	88/0	C+0	340	30443	Single Tension fittings		1030.2	3					3		12		
55	89/0	C+0	360	30103	Single Tension fittings		1090.8	3					3		12		
56	90/0	C+0	170	29743	Single Tension fittings		515.1	3					3		12		
57	91/0	C+0	460	29573	Single Tension fittings		1393.8	3					3		12		
58	92/0	A+0	310	29113	Single Suspension fittings		939.3			3		3			6		
59	93/0	C+0	312	28803	Single tension fittings		945.36	3					3		12		
60	94/0	C+3	310	28491	Single tension fittings		939.3	3					3		12		
61	95/0	C+0	200	28181	Single Tension Fittings		606	3					3		12		
62	96/0	A+0	250	27981	Single Tension Fittings		757.5	3					3		6		
63	97/0	C+0	390	27731	Single Tension Fittings		1181.7	3					3		12		
64	98/0	C+0	140	27341	Single Tension Fittings		424.2	3					3		12		
65	99/0	C+3	400	27201	Single Tension Fittings	11 KV Line	1212	3					3		12		
66	100/0	C+3	185	26801	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line/Village	560.55	3	3				9		12		

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Kershampat Junction Imphal

Suryama Power India Ltd.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID,Imphal

	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator- 132kV, 70 KN	Composite Insulator- 132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
67	101/0	C+0	490	26616	One Side Single Tension Fittings One Sides Double Tension Fittings	Thoubal Road/ 11 KV Line	1484.7	3	3				9		12		
68	102/0	C+ 0	300	26126	One Side Single Tension Fittings One Sides Double Tension Fittings	Canal	909	3	3				9		12		
69	103/0	D+3	243	25826	One Side Single Tension Fittings One Sides Double Tension Fittings		736.29	3	3				9		12		
70	104/0	C+0	490	25583	Single Tension fittings	11 KV Line	1484.7	3					3		12		
71	105/0	C+0	150	25093	Single Tension fittings		454.5	3					3		12		
72	106/0	C+0	320	24943	Single Tension fittings		969.6	3					3		12		
73	107/0	A+6	330	24623	Single Tension fittings		999.9	3					3		6		
74	108/0	C+0	300	24293	Single Tension fittings	Village Road	909	3					3		12		
75	109/0	D+0	330	23993	Single Tension fittings	Village Road	999.9	3					3		12		
76	110/0	A+6	330	23663	Single suspension fittings	Village Road	999.9			3		3			6		
77	111/0	C+0	345	23333	Single Tension fittings	Village Road/ Canal	1045.35	3					3		12		
78	112/0	A+0	312	22988	Single suspension fittings		945.36			3		3			6		
79	113/0	A+0	310	22676	Single suspension fittings		939.3			3		3			6		
80	114/0	A+0	308	22366	Single suspension fittings		933.24			3		3			6		
81	115/0	A+0	300	22058.	Double suspension Fittings	village road	909				3	6			6		
82	116/0	A+0	275	21758	Double suspension Fittings	village road / 11 Kv line	833.25				3	6			6		
83	117/0	A+0	315	21483	Single suspension fittings		954.45			3		3			6		
84	118/0	A+0	310	21168	Single suspension fittings		939.3			3		3			6		
85	119/0	A+0	300	20858	Double suspension Fittings	11 KV Line	909				3	6			6		
86	120/0	C+0	330	20558	Both side double tension fittings	11 KV Line	999.9		6				12		12		
87	121/0	A+0	300	20228	Double suspension Fittings	Village Road/ LT Line	909				3	6			6		
88	122/0	C+0	220	19928	Single tension fittings		666.6	3					3		12		
89	123/0	C+0	330	19708	Single Tension Fittings	Village Road	999.9	3					3		12		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd
Keishampat Junction Imphal

GM/ED approved

Shyama Power India Ltd.

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Sinha

H. RAJEN SINGH
Chief DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132kV, 70 KN	Composite Insulator-132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
90	124/0	C+0	260	19378	Single Tension Fittings	Village Road	787.8	3					3		12		
91	125/0	A+0	315	19118	Single suspension fittings	Village Road / LT line	954.45			3		3			6		
92	126/0	A+0	300	18803	Single suspension fittings		909			3		3			6		
93	127/0	C+0	375	18503	Single tension fittings		1136.25	3					3		12		
94	128/0	A+0	320	18128	Single suspension fittings		969.6			3		3			6		
95	129/0	C+0	270	17808	Single tension fittings		818.1	3					3		12		
96	130/0	A+0	310	17538	Single suspension fittings	Canal	939.3			3		3			6		
97	131/0	A+0	300	17228	Single suspension fittings	11 KV Line	909			3		3			6		
98	132/0	A+0	280	16928	Single suspension fittings	Village Road	848.4			3		3			6		
99	133/0	C+0	230	16648	Single suspension fittings	village Road/ 11 KV line	696.9			3		3			12		
100	134/0	A+0	280	16418	Single tension fittings		848.4	3					3		6		
101	135/0	C+0	280	16138	Single tension fittings	Canal	848.4	3					3		12		
102	136/0	A+0	310	15858	Single suspension fittings		939.3			3		3			6		
103	137/0	A+0	310	15548	Single suspension fittings		939.3			3		3			6		
104	138/0	A+0	300	15238	Double suspension Fittings	11 KV Line/Village Road	909				3	6			6		
105	139/0	A+0	300	14938	Double suspension Fittings	Village Road	909				3	6			6		
106	140/0	C+3	330	14638	Both Side Tension Fittings	Village Road	999.9	6					6		12		
107	141/0	C+3	300	14308	Both Side Tension Fittings	River/ LT Line	909	6					6		12		
108	142/0	C+3	160	14008	One Side Single Tension Fittings One Sides Double Tension Fittings	H/W Road	484.8	3	3				9		12		
109	143/0	A+3	330	13848	Single suspension Fittings		999.9			3		3			6		
110	144/0	A+0	300	13518	Single suspension Fittings		909			3		3			6		
111	145/0	A+0	310	13218	Single suspension Fittings		939.3			3		3			6		
112	146/0	A+0	300	12908	Single suspension Fittings		909			3		3			6		
113	147/0	A+0	300	12608	Single Suspension Fittings		909			3		3			6		
114	148/0	A+0	290	12308	Single Suspension fittings	11 KV Line	878.7			3		3			6		
115	149/0	A+0	270	12018	Single Suspension fittings	LT Line/ Village Road	818.1			3		3			6		

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM(ED) For approval pl

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Sinha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator- 132kV, 70 KN	Composite Insulator- 132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
116	150/0	C+0	250	11748	Single Tension Fittings	Village Road	757.5	3					3		12		
117	151/0	A+0	310	11498	Double suspension Fittings	11 KV Line	939.3				3	6			6		
118	152/0	A+0	280	11188	Double suspension Fittings	11 KV Line	848.4				3	6			6		
119	153/0	A+0	300	10908	Single Suspension fittings		909			3		3			6		
120	154/0	A+0	310	10608	Double suspension Fittings	11 KN Line/ 33 KV Line	939.3				3	6			6		
121	155/0	A+0	320	10298	Double suspension Fittings	3 KV Line / Village Roa	969.6				3	6			6		
122	156/0	C+0	360	9978	Both side double tension fittings	11 KV Line	1090.8		6				12		12		
132	157/0	A+0	230	9618	Double suspension Fittings	33 KV Line	696.9				3	6			6		
124	158/0	C+0	290	9388	Single Tension Fittings		878.7	3					3		12		
125	159/0	A+0	290	9098	Both side Single suspension fittings		878.7			3		3			6		
126	160/0	A+0	310	8808	Both side Single suspension fittings		939.3			3		3			6		
127	161/0	C+0	400	8498	Both side Single Tension Fittings	11 KV Line	1212	6					6		12		
128	162/0	C+0	410	8098	Both side Single Tension Fittings	11 KV Line	1242.3	6					6		12		
128	163/0	C+0	220	7688	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line / Village Road	666.6	3	3				9		12		
129	164/0	C+0	220	7468	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road	666.6	3	3				9		12		
130	165/0	C+6	430	7248	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line	1302.9	3	3				9		12		
131	166/0	A+0	330	6818	Double Tension Fittings	11 KV Line	999.9		6				12		6		
132	167/0	C+0	270	6488	Both Side Single tension fittings		818.1	6					6		12		
133	168/0	C+0	315	6218	Both Side Single tension fittings		954.45	6					6		12		
134	169/0	C+0	330	5903	Both Side Single tension fittings		999.9	6					6		12		
135	170/0	C+0	445	5573	Single tension fittings		1348.35	3					3		12		
136	171/0	C+0	220	5128	Single tension fittings		666.6	3					3		12		
137	172/0	C+0	200	4908	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line	606	3	3				9		12		
138	173/0	C+3	250	4708	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road	757.5	3	3				9		12		

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl.

Shyama Power India Ltd.

Manager
Sub-Division-III
MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

	LOC. NO.	Type of Tower	Span Length	Cummulative Span Length	Hardware Fittings	Crossing	Conductor	Single Tension Fitting	Double Tension Fitting	Single Susp Fitting	Double Susp Fitting	Composite Insulator-132kV, 70 KN	Composite Insulator-132kV, 90 KN	Pilot Insulator	VD	Repair Sleeve	Mid-Span Joint
139	174/0	C+3	240	4458	Single Tension Fitting		727.2	3					3		12		
140	175/0	C+0	260	4218	Both Side Single tension fittings		787.8	6					6		12		
141	176/0	C+0	255	3958	Both Side Single tension fittings		772.65	6					6		12		
142	177/0	C+0	330	3703	Both Side Single tension fittings		999.9	6					6		12		
143	178/0	C+0	300	3373	Both Side Single tension fittings		909	6					6		12		
144	179/0	C+0	450	3073	Both Side Single tension fittings		1363.5	6					6		12		
145	180/0	C+0	255	2623	Both Side Single tension fittings		772.65	6					6		12		
146	181/0	A+3	320	2368	Single suspension fittings	11 KV line	969.6			3		3			6		
147	182/0	A+0	310	2048	Single suspension fittings		939.3			3		3			6		
148	183/0	C+0	370	1738	Both Side Single tension fittings		1121.1	6					6		12		
149	184/0	C+0	270	1368	Both Side Single tension fittings		818.1	6					6		12		
150	185/0	C+0	340	1098	Single tension fittings	Telephone Cable	1030.2	3					3		12		
151	186/0	C+0	215	758	One Side Single Tension Fittings One Sides Double Tension Fittings	Village Road	651.45	3	3				9		12		
152	187/0	C+0	270	543	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV Line/Village Road	818.1	3	3				9		12		
153	188/0	D+3	84	273	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV/ NH Road	254.52	3	3				9		12		
154	189/0	D+0	88	189	One Side Single Tension Fittings One Sides Double Tension Fittings	11 KV/ NH Road	266.64	3	3				9		12		
155	190/0	C+0	32	101	Single Tention fittings		96.96	3					3		12		
156	191/0	D+0	44	69	Single Tention fittings		133.32	3					3		12		
157	Kakching GANTRY		25	25													
Total Km			43588				131995.89	378	84	138	36	210	546	0	1500	30	30

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

APPROVED
For approval

Shyama Power India Ltd.

Manager
Sub-Division-III
Transmission Division MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Name of Line: Stringing of second circuit of 132 KV D/C Kakching - Kongba Under TW-06 Packages

TENTATIVE BOM BASED ON JOINT SURVEY REPORT FOR TOWER RECTIFICATION MEMBER

				Missing Tower Parts						
Sl.No.	LOC. NO.	Type of Tower	PREFIX	Section	Length MM	Qty.	Unit wt	Wt. per piece (KG)	Total wt. (KG)	Remarks
1	1/0									Tower OK
2	2/0									Tower OK
3	3/0	C+3								Tower OK
4	4/0	C+3								Tower OK
5	5/0	A+3								3 Nos. Suspension Hanger required
6	6/0	A+6	132DA2	75x75x6	4000	6	6.8	27.2	184.96	3 Nos. Suspension Hanger required
			132DA3	50x50x6	3000	4	4.5	13.5	60.75	
			132DA1	40x40x5	2000	8	3	6	18	
			132DA4	30x30x5	1000	2	2.2	2.2	4.84	
7	7/0									3 Nos. Suspension Hanger required
8	8/0									3 Nos. Suspension Hanger required
9	9/0	D+0	132DD1	40x40x5	4000	2	3	12	36	
10	10/0	D+3								Tower OK
11	11/0	C+3								Tower OK
12	12/0	C+0								Tower OK
13	13/0	C+0								Tower OK
14	14/0	C+0								Tower OK
15	15/0	C+3								Tower OK
16	16/0	C+3								Tower OK
17	17/0	A+0								3 Nos. Suspension Hanger required

GM/ED
For approval N.

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Shyama Power India Ltd.

Manager
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singha

H. RAJEN SINGH
DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

18	18/0	A+0								3 Nos. Suspension Hanger required
19	19/0	A+0								3 Nos. Suspension Hanger required
20	20/0	A+0	132DA3	50x50x6	3000	4	4.5	13.5	60.75	3 Nos. Suspension Hanger required.
			132DA1	40x40x5	2000	12	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	
21	21/0	A+3								3 Nos. Suspension Hanger required.
22	22/0	C+3								Tower OK
23	23/0	C+0								Tower OK
24	24/0	C+0								Tower OK
25	25/0	C+3								Tower OK
26	26/0	C+0								Tower OK
27	27/0	C+0								Tower OK
28	28/0	C+3								Tower OK
29	29/0	C+0								Tower OK
30	30/0	C+0								Tower OK
31	31/0	C+0								Tower OK
32	32/0	C+3								Tower OK
33	33/0	A+0								3 Nos. suspension Hanger required
34	34/0	A+0								3 Nos. suspension Hanger required
35	35/0	A+0								3 Nos. suspension Hanger required
36	36/0	C+0								Tower OK
37	37/0	D+3								Tower OK
38	38/0	D+3								Tower OK
39	39/0	A+0								3 Nos. suspension hanger required
40	40/0	A+0	132DA3	50x50x6	3000	4	4.5	13.5	60.75	3 Nos. suspension hanger required
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM (E) For approval

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL Manipur

Amit Kumar Jagla

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

Shyama Power India Ltd.

41	41/0	A+0	132DA2	75x75x6	4000	8	6.8	27.2	184.96	3 Nos. suspension hanger required
			132DA3	50x50x6	3000	4	4.5	13.5	60.75	
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	
42	42/0	C+3								Tower OK
43	43/0	C+3								Tower OK
44	79/0	A+0								
45	80/0	A+0								
46	81/0	C+0	132DC6	75x75x6	4000	3	6.8	27.2	184.96	
			132DC2	40x40x5	3000	10	3	9	27	
47	82/0	C+0								Tower OK
48	83/0	C+0								3 Nos. x-arm required for Top Middle & Bottom
49	84/0	C+0								Tower OK
50	85/0	A+0								Tower OK
51	86/0	C+0								Tower OK
52	87/0	C+0								Tower OK
53	88/0	C+0								Tower OK
54	89/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	184.96	
			132DC1	50x50x6	3000	4	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	4	2.2	2.2	4.84	
55	90/0	C+0	132DC6	75x75x6	4000	10	6.8	27.2	184.96	
			132DC1	50x50x6	3000	6	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	16	2.2	2.2	4.84	
56	91/0	C+0	132DC6	75x75x6	4000	10	6.8	27.2	184.96	
			132DC1	50x50x6	3000	6	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
57	92/0	A+0								Tower OK
58	93/0	C+0								Tower OK
59	94/0	C+3	132DC6	75x75x6	4000	3	6.8	27.2	184.96	
			132DC1	50x50x6	3000	6	4.5	13.5	60.75	
			132DC2	40x40x5	2000	8	3	6	18	

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

Shyama Power India Ltd.

Manager
Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPGCL, Manipur

Amit Kumar Singha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

			132DC5	30x30x5	1000	4	2.2	2.2	4.84
60	95/0	C+0							Tower OK
61	96/0	A+0	132DA3	50x50x6	3000	8	4.5	13.5	60.75	3 Nos. x-arm required for Top Middle & Bottom
			132DA1	40x40x5	2000	24	3	6	18	
			132DA4	30x30x5	1000	8	2.2	2.2	4.84	
62	97/0	C+0	132DC6	75x75x6	4000	4	6.8	27.2	184.96	
			132DC1	50x50x6	3000	4	4.5	13.5	60.75	
			132DC2	40x40x5	2000	8	3	6	18	
			132DC5	30x30x5	1000	4	2.2	2.2	4.84	
63	98/0	C+0								Tower OK
64	99/0	C+3								Tower OK
65	100/0	C+3								Tower OK
66	101/0	C+0	132DC6	75x75x6	4000	7	6.8	27.2	184.96	Required Bottom X- Arm 2 No. 40x40x5 = 2000
			132DC1	50x50x6	3000	14	4.5	13.5	60.75	
			132DC2	40x40x5	2000	24	3	6	18	
			132DC5	30x30x5	1000	8	2.2	2.2	4.84	
67	102/0	C+ 0								
68	103/0	D+3								
69	104/0	C+0								
70	105/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	184.96	Approved
			132DC1	50x50x6	3000	4	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	4	2.2	2.2	4.84	
71	106/0	C+0	132DC6	75x75x6	4000	2	6.8	27.2	184.96	Executive Director (Tech) Manipur State Power Company Ltd. Keishampat Junction Imphal
			132DC1	50x50x6	3000	2	4.5	13.5	60.75	
			132DC2	40x40x5	2000	4	3	6	18	
			132DC5	30x30x5	1000	4	2.2	2.2	4.84	
72	107/0	A+6	132DA2	75x75x6	4000	8	6.8	27.2	184.96	
			132DA3	50x50x6	3000	4	4.5	13.5	60.75	
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	
73	108/0	C+0	132DC1	50x50x6	3000	8	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	4	2.2	2.2	4.84	

GM/ED For approval

Shyama Power India Ltd.

Manager Sub-Division-III Transmission Division-I MSPCL

Deputy General Manager Transmission Division No I MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH Senior DGM (N.E.R.P.S.I.P.) POWERGRID, Imphal

74	109/0	D+0								Tower OK
75	110/0	A+6								Tower OK
76	111/0	C+0								Bottom x-arm required
77	112/0	A+0	132DA3	50x50x6	3000	8	4.5	13.5	60.75	
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	
78	113/0	A+0								Tower OK
79	114/0	A+0								Tower OK
80	115/0	A+0								Tower OK
81	116/0	A+0								Tower OK
82	117/0	A+0								Tower OK
83	118/0	A+0								Tower OK
84	119/0	A+0								Tower OK
85	120/0	C+0								Tower OK
86	121/0	A+0								Tower OK
87	122/0	C+0								Tower OK
88	123/0	C+0								
89	124/0	C+0	132DC1	50x50x6	3000	4	4.5	13.5	60.75	
			132DC2	40x40x5	2000	8	3	6	18	
			132DC5	30x30x5	1000	4	2.2	2.2	4.84	
90	125/0	A+0								3 Nos. Suspension Hanger required
91	126/0	A+0								4 Nos. Suspension Hanger required
92	127/0	C+0								Tower ok
93	128/0	A+0								Tower ok
94	129/0	C+0								Tower ok
95	130/0	A+0								Tower ok
96	131/0	A+0								Tower ok
97	132/0	A+0								Tower ok
98	133/0	C+0								Tower ok
99	134/0	A+0								Tower ok
100	135/0	C+0								Tower ok
101	136/0	A+0								Tower ok

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM/ED
For approval pl.

Shyama Power India Pvt. Ltd.

Manager
SUB-DIVISION-III
TRANSMISSION DIVISION-I MSP

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singh

H. RAJEN SINGH
Chief DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

102	137/0	A+0								Tower ok
103	138/0	A+0								
104	139/0	A+0								
105	140/0	C+3								
106	141/0	C+3								
107	142/0	C+3								
108	143/0	A+3								
109	144/0	A+0	132DA2	75x75x6	4000	8	6.8	27.2	184.96	
			132DA3	50x50x6	3000	8	4.5	13.5	60.75	
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	8	2.2	2.2	4.84	
110	145/0	A+0	132DA2	75x75x6	4000	3	6.8	27.2	184.96	
			132DA3	50x50x6	3000	4	4.5	13.5	60.75	
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	
111	146/0	A+0	132DA2	75x75x6	4000	4	6.8	27.2	184.96	
			132DA3	50x50x6	3000	4	4.5	13.5	60.75	
			132DA1	40x40x5	2000	16	3	6	18	
			132DA4	30x30x5	1000	4	2.2	2.2	4.84	
112	147/0	A+0								Tower OK
113	148/0	A+0								Tower OK
114	149/0	A+0								Tower OK
115	150/0	C+0								Tower OK
116	151/0	A+0								3 Nos. suspension hanger required
117	152/0	A+0								3 Nos. suspension hanger required
118	153/0	A+0								3 Nos. suspension hanger required
119	154/0	A+0								3 Nos. suspension hanger required
120	155/0	A+0								3 Nos. suspension hanger required
121	156/0	C+0								Tower OK

Approved

Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

GM ED
For approval pl.

Shyama Power India Ltd.

Sub-Division-III
Transmission Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

122	157/0	A+0								Tower OK
123	158/0	C+0								Tower OK
124	159/0	A+0								Tower OK
125	160/0	A+0								Tower OK
126	161/0	C+0								Tower OK
127	162/0	C+0								Tower OK
128	163/0	C+0								Tower OK
129	164/0	C+0								Tower OK
130	165/0	C+6								Tower OK
131	166/0	A+0								Tower OK
132	167/0	C+0	132DC6	75x75x6	4000	2	6.8	27.2	184.96	
			132DC1	50x50x6	3000	2	4.5	13.5	60.75	
			132DC2	40x40x5	2000	4	3	6	18	
133	168/0	C+0								Tower OK
134	169/0	C+0								Tower OK
135	170/0	C+0	132DC6	75x75x6	4000	6	6.8	27.2	184.96	
			132DC1	50x50x6	3000	8	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	8	2.2	2.2	4.84	
136	171/0	C+0								Tower OK
137	172/0	C+0								Tower OK
138	173/0	C+3								Tower OK
139	174/0	C+3								Tower OK
140	175/0	C+0								Tower OK
141	176/0	C+0								
142	177/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	184.96	
			132DC1	50x50x6	3000	8	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	8	2.2	2.2	4.84	
143	178/0	C+0	132DC6	75x75x6	4000	8	6.8	27.2	184.96	
			132DC1	50x50x6	3000	10	4.5	13.5	60.75	
			132DC2	40x40x5	2000	16	3	6	18	
			132DC5	30x30x5	1000	8	2.2	2.2	4.84	
144	179/0	C+0								Tower Ok

Approved
Executive Director (Tech)
Manipur State Power Company Ltd,
Keishampat Junction Imphal

GM/ED
For approval DP

Shyama Power India Ltd.

Manager
Sub-Division-III
Division-I MSPCL

Deputy General Manager
Transmission Division No I
MSPCL, Manipur

Amit Kumar Sinha

H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

145	180/0	C+0								Tower Ok
146	181/0	A+3								Tower Ok
147.	182/0	A+0								Tower Ok
148	183/0	C+0								Tower Ok
149	184/0	C+0								Bottom x-arm required
150	185/0	C+0								Tower OK
151	186/0	C+0								Tower OK
152	187/0	C+0								Bottom x-arm required
153	188/0	D+3								Tower OK
154	189/0	D+0								Tower OK
155	190/0									Tower OK
156	191/0									Tower OK
								TOTAL WT	5574	

NOTE :MISSING CROSSARMS WEIGHT NOT INCLUDED (TO BE INCLUDED IN THE FINAL BOM)

BOLT NUT QUANTITY TO BE SUPPLIED ON TENTATIVE BASIS

	BOLT NUT	PCS	UNIT WT	TOTAL WT
	M16 X 35	900	0.119	107.1
	M16 X 40	900	0.126	113.4
	M16 X 45	400	0.134	53.6
PACK WASHER 5 MM THICK		100	0.09	9
			TOTAL =	283.1

Approved
Executive Director (Tech)
Manipur State Power Company Ltd.
Keishampat Junction Imphal

TOTAL WT = 5857 KG

GM/ED For approval Pl

Shyama Power India Ltd.

Sub-Division-III
Transmission Division-I MSPCL

Dept.
Transmission Division No I
MSPCL, Manipur

Amit Kumar Singha

19/01/19
H. RAJEN SINGH
Senior DGM (N.E.R.P.S.I.P.)
POWERGRID, Imphal

ANNEXURE – 4

DETAILS OF PUBLIC CONSULTATION

OFFICE OF THE EXECUTIVE DIRECTOR (TECH)
MANIPUR STATE POWER COMPANY LIMITED (MSPCL): GOVT. OF MANIPUR
IMPHAL : 795001

Minutes / proceedings of Public consultation held on 11th November, 2014 at Ningthoukhong, Bishnupur District, Manipur under North Eastern Region Power System Improvement Project (NERPSIP) in Manipur

Subject - ***Construction of 132 KV D/C IMPHAL – NINGTHOUKHONG Transmission Line and associated 33 KV distribution lines under the scope of NERPSIP in Manipur.***

Annexure – Signatures of members of the Village council / general public and officials of MSPCL, Govt. of Manipur and Power Grid Corporation of India Limited (PGCIL) who attended the meeting. *(Photographs of the public meeting is also enclosed)*

Venue of the Meeting: - 132 KV NINGTHOUKHONG S/S (MSPCL OWNED)

The Dy. General Manager (S/s), MSPCL welcomed all the representatives of village council, general public and officials who had spare their valuable time to attend the hearing.

Thereafter, the Executive Director (Tech) MSPCL, gave a brief account about the North Eastern Region Power System Improvement Project (NERPSIP) and informed that the project will be funded jointly by Govt. of India and the World Bank. He explained the detail scope to be covered under NERPSIP for Manipur He informed that a 132 KV D/C transmission line connecting 400 KV IMPHAL (PGCIL) S/s to 132 KV NINGTHOUKHONG S/s (State Owned) is proposed to be constructed under the scheme for strengthening the existing transmission network. He also informed that various associated 33 KV distribution lines will also be constructed connecting proposed 33 KV Prompat, Takyel, Pishum (GIS), Hiyangthang, Usoipokpi, Sanjenbam, Chandel, Thangal, Thoubal, Andro, Kwakta, Leimaopokpam S/s for strengthening the existing distribution network and to ensure that the common public are directly benefited by the Project. He also informed that care will be taken to construct the line in such way as to avoid human habitat, but in case it is unavoidable, sufficient compensation will be paid by PGCIL as per State Government Assessment for which adequate provision has

been kept in the project cost. He sought the co-operation of all the public to make this project successful.

Since most of the public attending the meeting belong to Meitai Community, therefore all the deliberations were made in Manipuri Meitai language.

The public enquired various issues regarding compensation to be paid, final route of the line vis-à-vis affected persons, need for further consultation with the villagers etc.

In this regard, the Executive Director, other Senior Officials of MSPCL and POWERGRID representative explained that at present only a tentative route is identified for the line. However, a detail survey/check survey will be carried out before construction and accordingly each and every affected landowner / person will be identified for assessment of compensation. The compensation will be paid at par with Govt. rate after joint survey of the damages. It was also explained that every care will be taken to avoid any human habitation during final survey of the line and in case if it cannot be avoided the damages caused to the public will be adequately compensated.

In conclusion, the public has unanimously agreed that the construction of the transmission line and sub-stations and associated distribution lines is for the sole benefit of the State and the public, provided care should be taken to inflict minimum damage to crops, forests and any structure during construction.

The hearing concluded with the vote of thanks from the Dy. General Manager (S/s), MSPCL and also assured that all stake holder will be taken into confident during the construction.

MANIPUR STATE POWER COMPANY LIMITED (MSPCL):

OFFICE OF THE EXECUTIVE DIRECTOR (TECH)
MANIPUR STATE POWER COMPANY LIMITED (MSPCL): GOVT. OF MANIPUR
IMPHAL : 795001

North Eastern Region Power System Improvement Project(NERPSIP) গী মখাদা মণিপুরদা পাইখতকদবা থবক থৌরমশিংগী মতাংদা নিংথৌখোংদা নভেম্বরগী তাং ১১ দা পাংথোকখিবা মীয়ামগা খল্ল-লৈল্লবগী থৌরম অমদা খল্লখিবা ৱাফমশীং।

খল্লখিবা ৱাফমঃ NERPSIP গী মখাদা পাইখৎকদবা 400KV সব-স্তেসন (PGCIL) দগী নিংথৌখোংফাওবা তিংগদবা 132KV ট্রান্সমিসণ্ লাইন অমদি অসিগা লোইনবা 33KV দিস্ত্রিবিউসন্ লাইনশীং।

এন্নেক্সরঃ মীতিং অদুদা শরুক য়াখিবা Village Council গী মেম্বরশীং,মীয়ামগী মায়কৈদগী লাকপা মীহুৎশীং, MSPCL অমদি PGCIL গী ওফফিসিয়েলশীংগী সহি য়াওবা চেশীং (মীতিং চখরিঙৈদা লৌবা ফোটশীং)।

মফমঃ MSPCLগী 132kv নিংথৌখোং সব-স্তেশন।

Dy. General Manager সব-স্তেশন নিংথৌখোং, MSPCL না মীতিং অদুদা মশাগী মতম কাইখোক্লুনা শরুক য়াবা লাকখিবা Village Council গী মেম্বরশীং,মীয়ামগী মায়কৈদগী লাকপা মীহুৎশীং, MSPCL অমদি PGCIL গী ওফফিসিয়েলশীংবু তরাল্লা ওকখি।

মতুং তানা Executive Director(Tech),MSPCL না North Eastern Region Power System Improvement Project(NERPSIP)কি মতাংদা শল্লপ্পা হাইখি অমদি মসিগী শেনফম ভারত ম্রকার অমদি ৱর্ল বেঙ্কনা খুৎশ্মন্না পুথোক্কদবনি হায়না ফোংদোকখি। মণিপুরদা NERPSIPকী মখাদা পায়খৎকদবা থবকশীংগী মতাংদা শন্দোকনা থংহনখি।হৌজিক পায়খৎকনি খল্লরিবা 400KV সব-স্তেসন (PGCIL) দগী নিংথৌখোংফাওবা তিংগদবা 132KV ট্রান্সমিসণ্ লাইন অসি লৈরিবা ট্রান্সমিসন্গী ফিভম ফগৎহনবনবগী শরুক অমনি।মসিগা লোয়নগদবা 33kv লাইনশিং পায়খত্তুনা 33kv পোরোম্পাৎ,তাকয়েল,পিশুম (GIS),হিয়াংথাং,ঊষয়পোকপী,যণজেনবম,চাওেল,থঙ্গাল,থৌবাল,অওো, ক্বাক্টা, লৈমপোকপম সব-স্তেশনশীংগা শল্লহলগা দিস্ত্রিবিউসনগী ফীভম ফগৎহলগনি হায়নশু ফোংদোকখি।লাইনশিং অসি তিংন্দা য়ারিবমখৈ মীয়াম তাবা মফম খৈদোকনবা হোৎনগনি অদুবু তঙাইফদবা লৈরগদি স্তেত সরকারনা লেপ্পগা মতিক চাবা স্কেটিপুরণ PGCIL না পীগনি মসিগী ওকনবা শেনফম থাক্কুনা থল্লে হায়ণসু ফোংদোকখি। পায়খৎলকলিবা থবকশিং অসি মায় পাকনা লোইশিনবা ঙম্লবা মীয়াম্না মতেং পাংবিনবসু হায়জখি।

মীতিং অদুদা শরুক য়াখিবা মীওইশীং মৈতৈনা অয়াম্বা অইবনা মীতিং অদু মৈতৈলোন্দা অসুম পাংথোকখি।

ক্ষেটিপুরণগী মতাং , লাইনশিং অসি পুদুনা চৎকদবা চপচাবা মফমশিং, মসিনা শোক্কদবা মীওইশীংগী মতাংদা মীয়ামগী মরক্তগী থংনিংবগা লোইননা মথা তানা মরি লৈনবা খুঞ্জাশীংগা থন্ন নৈনবা মথৌ তাগনি হায়বা ফোংদোকনরকখি।

ৱাফমসিগী মতাংদা Executive Director, শকনাইরবা MSPCL অমদি PGCIL গী ওফফিসিয়েলশীংনা থঙহল্লকখি মদুদিঃ হৌজিক হৌজিক্কি ওইনদি লাইনশিং পুদুনা চৎকদবা মনফমশীং শরক্কী ওইরি অদুবু থবকশীং পায়খত্রিঙৈগী মাংওইননা ডিটইল-সের্ব/চেক-সের্ব তৌদুনা শোক্কদবা মফমশীং অমদি মীওইশীংগী তাংদাংবা অম থংদোক্কনি।মাং তাকপা থোক্কদবশীং অদু মরি লৈনবা খুঞ্জাশীংগা পুন্না থংদোক্খীন্নরগা সরকারগী চৎনবী মতুং ঈন্না ক্ষেটিপুরণ পীথোক্কনি। মথক্তা হায়থিবাওন্না, য়ারিবমখৈ মীয়াম তাবা মফম খৈদোকনবা হোৎনগনি অদুবু তঙাইফদবা লৈরগদি অমাং অতা থোকপশীং অদুগী মতিক চাবা ক্ষেটিপুরণ পীথোক্কনি।

অরোইবদা, পায়খৎলকদৌরিবা ট্রান্সমিসণ্ লাইন অমদি সব-স্তেশনশীংগী থবকসিনা য়ারিবমখৈ মীয়ামগী মহৈ-মরোং, ঊ-ৱা অমদি অতৈ মরন-মখুম শোকহনবীদ্রগদী মীয়ামদা হকথেংননা খুদোংচাবা,কান্নবা ফংহনগনি হায়বা পুন্না ভাব তামিন্নখি। (MSPCL)

হকথেংননা নত্রগা নাকোইননা মরি লৈন্নবা মওই খুদিংমক্কি থাজবা মাংহন্দনা হায়রিবা থবকশীং অসি পায়খৎকনি হায়বা ৱাফম থল্লদুনা Dy. General Manager সব-স্তেশন (MSPCL) না তিল্লিবা মীয়াম্বু থাগৎপা ফোংদোম্বগা লোইননা মীয়ামগা থন্ন-নৈন্নবগী থৌরম অদু লোইশিনখি।

MANIPUR STATE POWER COMPANY LIMITED (MSPCL):

OFFICE OF THE EXECUTIVE DIRECTOR (TECH)
MANIPUR STATE POWER COMPANY LIMITED (MSPCL): GOVT. OF MANIPUR
IMPHAL : 795001

Minutes / proceedings of Public consultation held on 11th November, 2014 at Ningthoukhong, Bishnupur District, Manipur under North Eastern Region Power System Improvement Project (NERPSIP) in Manipur

Subject - ***Construction of 132 KV D/C IMPHAL – NINGTHOUKHONG Transmission Line and associated 33 KV distribution lines under the scope of NERPSIP in Manipur.***

Annexure – Signatures of members of the Village council / general public and officials of MSPCL, Govt. of Manipur and Power Grid Corporation of India Limited (PGCIL) who attended the meeting. *(Photographs of the public meeting is also enclosed)*

Venue of the Meeting: - 132 KV NINGTHOUKHONG S/S (MSPCL OWNED)

The Dy. General Manager (S/s), MSPCL welcomed all the representatives of village council, general public and officials who had spare their valuable time to attend the hearing.

Thereafter, the Executive Director (Tech) MSPCL, gave a brief account about the North Eastern Region Power System Improvement Project (NERPSIP) and informed that the project will be funded jointly by Govt. of India and the World Bank. He explained the detail scope to be covered under NERPSIP for Manipur He informed that a 132 KV D/C transmission line connecting 400 KV IMPHAL (PGCIL) S/s to 132 KV NINGTHOUKHONG S/s (State Owned) is proposed to be constructed under the scheme for strengthening the existing transmission network. He also informed that various associated 33 KV distribution lines will also be constructed connecting proposed 33 KV Prompat, Takyel, Pishum (GIS), Hiyangthang, Usoipokpi, Sanjenbam, Chandel, Thangal, Thoubal, Andro, Kwakta, Leimaopokpam S/s for strengthening the existing distribution network and to ensure that the common public are directly benefited by the Project. He also informed that care will be taken to construct the line in such way as to avoid human habitat, but in case it is unavoidable, sufficient compensation will be paid by PGCIL as per State Government Assessment for which adequate provision has

been kept in the project cost. He sought the co-operation of all the public to make this project successful.

Since most of the public attending the meeting belong to Meitai Community, therefore all the deliberations were made in Manipuri Meitai language.

The public enquired various issues regarding compensation to be paid, final route of the line vis-à-vis affected persons, need for further consultation with the villagers etc.

In this regard, the Executive Director, other Senior Officials of MSPCL and POWERGRID representative explained that at present only a tentative route is identified for the line. However, a detail survey/check survey will be carried out before construction and accordingly each and every affected landowner / person will be identified for assessment of compensation. The compensation will be paid at par with Govt. rate after joint survey of the damages. It was also explained that every care will be taken to avoid any human habitation during final survey of the line and in case if it cannot be avoided the damages caused to the public will be adequately compensated.

In conclusion, the public has unanimously agreed that the construction of the transmission line and sub-stations and associated distribution lines is for the sole benefit of the State and the public, provided care should be taken to inflict minimum damage to crops, forests and any structure during construction.

The hearing concluded with the vote of thanks from the Dy. General Manager (S/s), MSPCL and also assured that all stake holder will be taken into confident during the construction.

MANIPUR STATE POWER COMPANY LIMITED (MSPCL):

OFFICE OF THE EXECUTIVE DIRECTOR (TECH)
MANIPUR STATE POWER COMPANY LIMITED (MSPCL): GOVT. OF MANIPUR
IMPHAL : 795001

North Eastern Region Power System Improvement Project(NERPSIP) গী মখাদা মণিপুরদা পাইখতকদবা থবক থৌরমশিংগী মতাংদা নিংথৌখোংদা নভেম্বরগী তাং ১১ দা পাংথোকখিবা মীয়ামগা খল্ল-লৈল্লবগী থৌরম অমদা খল্লখিবা ৱাফমশীং।

খল্লখিবা ৱাফমঃ NERPSIP গী মখাদা পাইখৎকদবা 400KV সব-স্তেসন (PGCIL) দগী নিংথৌখোংফাওবা তিংগদবা 132KV ট্রান্সমিসণ্ লাইন অমদি অসিগা লোইনবা 33KV দিস্ত্রিবিউসন্ লাইনশীং।

এন্নেক্সরঃ মীতিং অদুদা শরুক য়াখিবা Village Council গী মেম্বরশীং,মীয়ামগী মায়কৈদগী লাকপা মীহুৎশীং, MSPCL অমদি PGCIL গী ওফফিসিয়েলশীংগী সহি য়াওবা চেশীং (মীতিং চখরিঙৈদা লৌবা ফোটশীং)।

মফমঃ MSPCLগী 132kv নিংথৌখোং সব-স্তেশন।

Dy. General Manager সব-স্তেশন নিংথৌখোং, MSPCL না মীতিং অদুদা মশাগী মতম কাইখোক্লুনা শরুক য়াবা লাকখিবা Village Council গী মেম্বরশীং,মীয়ামগী মায়কৈদগী লাকপা মীহুৎশীং, MSPCL অমদি PGCIL গী ওফফিসিয়েলশীংবু তরাল্লা ওকখি।

মতুং তানা Executive Director(Tech),MSPCL না North Eastern Region Power System Improvement Project(NERPSIP)কি মতাংদা শল্লপ্পা হাইখি অমদি মসিগী শেনফম ভারত ম্রকার অমদি ৱর্ল বেঙ্কনা খুৎশ্মন্না পুথোক্কদবনি হায়না ফোংদোকখি। মণিপুরদা NERPSIPকী মখাদা পায়খৎকদবা থবকশীংগী মতাংদা শন্দোকনা থংহনখি।হৌজিক পায়খৎকনি খল্লরিবা 400KV সব-স্তেসন (PGCIL) দগী নিংথৌখোংফাওবা তিংগদবা 132KV ট্রান্সমিসণ্ লাইন অসি লৈরিবা ট্রান্সমিসন্গী ফিভম ফগৎহনবনবগী শরুক অমনি।মসিগা লোয়নগদবা 33kv লাইনশিং পায়খত্তুনা 33kv পোরোম্পাৎ,তাকয়েল,পিশুম (GIS),হিয়াংথাং,ঊষয়পোকপী,যণজেনবম,চাওেল,থঙ্গাল,থৌবাল,অওো, ক্বাক্টা, লৈমপোকপম সব-স্তেশনশীংগা শল্লহলগা দিস্ত্রিবিউসনগী ফীভম ফগৎহলগনি হায়নশু ফোংদোকখি।লাইনশিং অসি তিংন্দা য়ারিবমখৈ মীয়াম তাবা মফম খৈদোকনবা হোৎনগনি অদুবু তঙাইফদবা লৈরগদি স্তেত সরকারনা লেপ্পগা মতিক চাবা স্কেটিপুরণ PGCIL না পীগনি মসিগী ওকনবা শেনফম থাক্কুনা থল্লে হায়ণসু ফোংদোকখি। পায়খৎলকলিবা থবকশিং অসি মায় পাকনা লোইশিনবা ঙম্লবা মীয়াম্না মতেং পাংবিনবসু হায়জখি।

মীতিং অদুদা শরুক য়াখিবা মীওইশীং মৈতৈনা অয়াম্বা অইবনা মীতিং অদু মৈতৈলোন্দা অসুম পাংথোকখি।

ক্ষেটিপুরণগী মতাং , লাইনশিং অসি পুদুনা চৎকদবা চপচাবা মফমশিং, মসিনা শোক্কদবা মীওইশীংগী মতাংদা মীয়ামগী মরক্তগী থংনিংবগা লোইননা মথা তানা মরি লৈনবা খুঞ্জাশীংগা থন্ন নৈনবা মথৌ তাগনি হায়বা ফোংদোকনরকখি।

ৱাফমসিগী মতাংদা Executive Director, শকনাইরবা MSPCL অমদি PGCIL গী ওফফিসিয়েলশীংনা থঙহল্লকখি মদুদিঃ হৌজিক হৌজিক্কি ওইনদি লাইনশিং পুদুনা চৎকদবা মনফমশীং শরক্কী ওইরি অদুবু থবকশীং পায়খত্রিঙৈগী মাংওইননা ডিটইল-সের্ব/চেক-সের্ব তৌদুনা শোক্কদবা মফমশীং অমদি মীওইশীংগী তাংদাংবা অম থংদোক্কনি।মাং তাকপা থোক্কদবশীং অদু মরি লৈনবা খুঞ্জাশীংগা পুন্না থংদোক্খীন্নরগা সরকারগী চৎনবী মতুং ঈন্না ক্ষেটিপুরণ পীথোক্কনি। মথক্তা হায়থিবাওন্না, য়ারিবমখৈ মীয়াম তাবা মফম খৈদোকনবা হোৎনগনি অদুবু তঙাইফদবা লৈরগদি অমাং অতা থোকপশীং অদুগী মতিক চাবা ক্ষেটিপুরণ পীথোক্কনি।

অরোইবদা, পায়খৎলকদৌরিবা ট্রান্সমিসণ্ লাইন অমদি সব-স্তেশনশীংগী থবকসিনা য়ারিবমখৈ মীয়ামগী মহৈ-মরোং, ঊ-ৱা অমদি অতৈ মরন-মখুম শোকহনবীদ্রগদী মীয়ামদা হকথেংননা খুদোংচাবা,কান্নবা ফংহনগনি হায়বা পুন্না ভাব তামিন্নখি। (MSPCL)

হকথেংননা নত্রগা নাকোইননা মরি লৈন্নবা মওই খুদিংমক্কি থাজবা মাংহন্দনা হায়রিবা থবকশীং অসি পায়খৎকনি হায়বা ৱাফম থল্লদুনা Dy. General Manager সব-স্তেশন (MSPCL) না তিল্লিবা মীয়াম্বু থাগৎপা ফোংদোম্বগা লোইননা মীয়ামগা থন্ন-নৈন্নবগী থৌরম অদু লোইশিনখি।

MANIPUR STATE POWER COMPANY LIMITED (MSPCL):

Attendance Sheet

Serial no.	Name.	Father's name.	Address.	Age.	Signature
1.	L. Naocha Gil	L. Bormangol Gil	Leimaram-W5	25	L. Naocha
2.	M. Engocha Singh	M. Lukhoi Singh	Hleiroubok-W1	36	M. Engocha
3.	M. Robi Singh	late. M Kulla Singh	Heiroubok-W1	42	M. Robi Singh
4.	Th. Sanatomba Singh	Th. Yumsnaoybi Devi	Heiroubok-W2	36	Th. Sanatomba
5.	Th. Gbochouba Singh	Th. Yaima Singh	Heiroubok W2	40	Th. Ibochouba Sg
6.	Th. Okchonu Robi Singh	Th. Gmo Singh	Ningthoukhong-W1	35	TH. Robi Singha
7.	A. Gnaocha Singh	A. Gnouthoiba Singh	Ningthoukhong-W1	38	A. Gnaocha Sing
8.	T. Boleiswor Singh	T Keshow Singh	Bishnupur W-11	30	T. Boleiswor Singh
9.	L. Risikanta Singh	L. (L) Gopem Singh	Bishnupur W-9.	29	L. Risikanta
10.	N. Dipo Singh	N. Nillamani Singh	Bishnupur W-12	26	N. Dipo Singh
11.	R.K(D) Tomisana Devi	R.K. Subachandra Singh	Ningthoukhong-12	57	R.K(D) Tomisana
12.	R.K.(D) Prema Devi	R.K. Ranjit Singh	Ningthoukhong-11	48	R.K Prema
13.	S. Memshakhi Devi	S.(L) Jatiswor Singh	Ningthoukhong-3	60	S. Memshakhi
14.	S. Jawambi Singh	S. Khera	Thorjeng Nakha		S. Jawambi Singh
15.	Ch. Nabakumar Singh	(L) Kanlal	Maniabal Awang		Ch. Nabakumar
16.	S. Romesh Singh	(L) S. Nimaichand	Khajuri Maning		S. Romesh Singh
17.	S. Dinta Singh	S Gopal Singh	Kairoi		S. Dinta Singh
18.	Ng. Binakaki Singh	Ng Abung Kabi			Ng. Binakaki Singh

Attendance Sheet.

	Name.	Sign.
(1)	N. G. Sarat Singh - E.D - MSPCL	
(2)	N. Bijil Singh - GM. MSPCL	
(3)	H. Shanti Kumar Singh - DGM. MSPCL	
(4)	S. Chandradhaja Singh - DGM - MSPCL	
(5)	A. Shanti Keshwar Sharma - DGM - MSPCL	
(6)	Ty. Gokul Singh - DGM - TCD(2)	
(7)	Ty. Kamini mohan Singh - DGM - TCD(1)	
(8)	~~M. Budhachandra Sharma DGM SSD(4)~~	
(8)	M. Budha Chandra Sharma DGM SSD-II	
(9)	H. R. Choudhury Chief Manager PGCIL	Hrchoudhury
(10)	Raktim Konwar Executive Trainee PGCIL.	Raktim Konwar

Public Consultations

1. Stringing of 2nd Circuit of 132kV D/C Kakching-Kongba

At Kakching 22-08-2019

At Kongba 22-07-2019

2. Stringing of 2nd Circuit of 132kV D/C Yaingangpokpi-Kongba

At Yaingangpokpi 12-08-2019

At Yaingangpokpi 12-08-2019

3. Renovation : Yurembam-Karong-Mao Section of 132 kV S/C Yurembam-Karong-Kohima TL

Public Consultation Meeting at Karong 22-04-2019

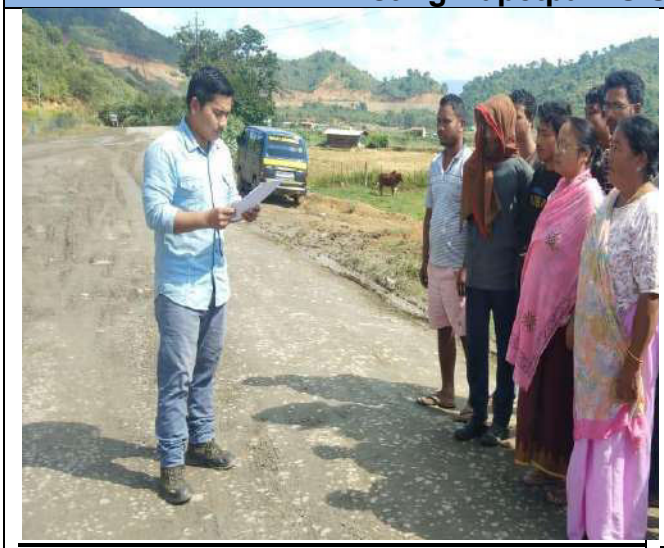
Public Consultation Meeting at Mao 11-05-2019

1. 33 kV Line from Existing Khoupum S/S to Thangal S/S

At Khoupum 15-02-2019

At Zujantek on 16-05-2019

2. Existing Napetpalli S/S to Sanjenbam New S/S TL



at Sanjenbam 11-03-2019

At Napetpalli 05-01-2019

3. Sanjenbam (New S/S) to Porompat (New S/S) 33 Kv TL

At Sanjenbam 11-03-2019

At Porompat 07-05-2019