भारत सरकार**Government of India**

विद्युत मंत्रालय**Ministry of Power**

उत्तरपूर्वी क्षेत्रीय विद्युत समिति**North Eastern Regional Power Committee**

AGENDA NOTES FOR DISCUSSION

OF

23rd TCC MEETING

(UNDER THE AEGIS OF nHPC)

Venue : **Hotel Double Tree by Hilton, Panaji, Goa**

Date (TCC) : **18th November 2022**

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1. MEETING SCHEDULE

SN	Meeting	Date	Time	Venue
1	TCC	18.11.2022	10:00 AM	"Hotel Double Tree by Hilton" Panaji, Goa
2	NERPC	19.11.2022	10:00 AM	"Hotel Double Tree by Hilton" Panaji, Goa

2. CONFIRMATION OF THE MINUTES OF 22ND TCC MEETING & 22ND NERPC MEETING

The minutes of the 22nd TCC & 22nd North Eastern Regional Power Committee (NER Power Committee) meetings held on 26th March, 2022 & 28th March, 2022 respectively in Guwahati were circulated vide letter no. NERPC/OP/Committee/ 2022/*497-571* dated 12thApril, 2022.

No comments or observations were received from any constituents, the TCC and NER Power Committee may confirm the minutes of above meetings.

ARRANGEMENT OF AGENDA OF 22NDTCC MEETING:

SN	DESCRIPTION	CATEGORY
1	ITEMS FOR DISCUSSION	A
2	ITEMS FOR APPROVAL	B
3	COMMERCIAL ISSUES	C
4	ITEMS FOR INFORMATION	D
5	ITEMS RECOMMENDED FOR REFERRAL TO SUB-COMMITTEE	E

1. CATEGORY - A : ITEMS FOR DISCUSSION

ITEM NO. A.01 : MERCHANT POWER ALLOCATION OF OTPC TO TSECL. - TSECL

TSECL is managing demand of the State including Cross Border commitment through IEX Purchase during any kind of outage of ISGS as well as state Generation. To mitigate the power management criticality considering increase of State demand in near future, TSECL has already communicated to OTPC for allocation of 40 MW Merchant power. In the Commercial forum, the matter was discussed in the 45th and 46th Commercial Committee Meeting. OTPC may expedite for allocation of merchant power to TSECL as per CERC tariff.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.02 : CONSTRUCTION OF 2ND TRANSMISSION LINE TO TUIRIAL POWER STATION OF NEEPCO– NEEPCO

NEEPCO is facing problem in operating 2x30 MW power station with only one power evacuation line i.e. 132 KV single Circuit Bawklang (Kolasib) - Tuirial line. The matter has been discussed with Power and Electricity Dept. Govt of Mizoram on various occasions in the past and the Govt. of Mizoram has agreed to construct the same.

However, NEEPCO has observed that till date no progress on ground has been made for construction of the second circuit. It may please be noted that a generating station which is based on reservoir operation cannot operate for long with a single evacuation transmission line and is also not fulfilling the N minus 1 condition. There should be redundancy in power evacuation system as per the Grid code.

It may please be noted that NEEPCO has sufficient numbers of line bays in its switch yard for smooth evacuation as per requirement. It has been observed that during rainy season, in the event of the lone line outage, load throw off of the Units takes place and the reservoir may spill over for non-availability of power evacuation, which is an avoidable national loss.

NEEPCO requests through this forum for early construction of the 2nd evacuation transmission line for Tuirial HPS by Mizoram for safe and smooth operation of the Tuirial Hydro Electric power station.

It is to be noted that in the 1st NERPCTP meeting held on 08th November, 2019 it was decided that second circuit of 132kV Tuirial – Kolasib shall be constructed by P&ED Govt. of Mizoram under intra-state transmission system.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.03	**:**	**CONSTRUCTION OF 132KV MONARCHAK-SURJAMANINAGAR TRANSMISSION LINE. – NEEPCO**

The proposed evacuation system from 110 MW TGBPS to Surjamaninagar is yet to be commissioned. Due to poor existing evacuation system, frequent tripping of both the Units have been experienced by NEEPCO. Though the matter has time and again been discussed in several Operation Coordination Committee Meetings of NERPC, M/s TSECL has still not indicated the proposed commissioning date.

Due to frequent tripping of existing lines and subsequent tripping of Units, NEEPCO has already observed major damages in the critical components of machines which in turn will reduce the expected life of the Units of TGBPS.

View of NERLDC - Due to tripping of Monarchak Units, loading of 132 kV Surjamaninagar – Surjamaninagar increases which leads to vulnerable situation in Tripura system and may lead to cascade tripping. Also due to tripping, Bangladesh drawal is reduced to 130 MW to maintain the loading the 132 kV SMNagar – SMNagar within limit. So NERLDC requests for early commissioning of the line.

In view of above, TSECL may please be requested to complete the construction work of the said line at the earliest.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.04 : STRENGTHENING OF EVACUATION SYSTEM OF PARE HEP OF NEEPCO AND CAPITALIZATION OF THE EXPENDITURE TO BE INCURRED FOR IT FOR THE IMPLEMENTATION OF THE SCHEME: -NERPC

The agenda was discussed in the 192ndOCC Meeting, dated 21.07.2022 and as per the MoM, all beneficiaries are requested to give their consent on the capitalization of expenditure to be incurred for the implementation of the scheme. The total financial involvement for the Strengthening of the evacuation system of Pare HEP (i.e., upgradation of LILO portion) stands at Rs. 4.31 Crores (inclusive of all taxes& duties) and the amount of the charges would be nominal on the beneficiaries for the span of 40 years. The relevant para of the MOM of the 192nd of OCC Meeting is reproduced as follows:

QUOTE

"*DD, NERPC noted that as NEEPCO is a generating utility the transmission works undertaken by NEEPCO cannot be booked under Transmission Tariff and has to be shared by the beneficiaries of Pare HEP.*

AGM (Comml), APDCL informed the forum that Final tariff of Pare HEP is yet to be approved by Hon'ble CERC. He also informed that as part of the Tariff Petition Agreement of APDCL with NEEPCO dated 16.08.2021 was submitted to the Hon'ble CERC, in which NEEPCO and APDCL have agreed for tentative levelized tariff of ₹ 5.75/unit for 40 years with no escalation. However, he stated that APDCL is open to reviewing the agreement and submit the same to Hon'ble CERC.

DoP Nagaland agreed with the view of APDCL. While other State utilities decided to await for directions of Hon'ble CERC in this regard.

The forum in principle agreed to the requirement of the above works and requested NEEPCO to go ahead with the work.

It was also decided that:

(i)Assam and Nagaland would revise their agreements with NEEPCO and submit the same to Hon'ble CERC.

(ii)NEEPCO would submit Supplementary copy to its Original Tariff Petition of Pare HEP to Hon'ble CERC.

(iii)NEEPCO would place the agenda in the next CCM/RPC for approval."

UNQUOTE.

Further to the above, the issue was also discussed in the 6thStanding Committee Meeting of NER held at Imphal dated 03.10.2016 and following additional/ modification in the transmission system associated with Pare HEP was agreed as a part of NERSS -IX (Agenda No. 6) – related pages are enclosed at **Annexure –A.04 A.**

a. Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line – ISTS by NEEPCO.

b. Pare HEP (from LILO point) – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra conductor) along with 2 no. 132 kV line bays at North Lakhimpur – ISTS (implementation through TBCB/RTM to be decided by empowered committee).

c. LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra) at Nirjuli substation – ISTS (implementation through TBCB/RTM to be decided by empowered committee).

d. Re-conductoring of LILO portion at Pare end (of Ranganadi – Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP – ISTS by NEEPCO.

Under 6.4 of the above items, Director, CEA stated that to recover additional investment in the transmission and bay equipment modification as suggested above, M/ s NEEPCO may file revised tariff petition in CERC.

Out of above 4(four) scopes, b & c are being executed by M/s Sterlite Power Transmission Ltd as TBCB contractor.

For (a) & (d), Chairman and Managing Director of NEEPCO communicated with Chairperson, CEA on 05.11.2020 requesting the scopes allocated to NEEPCO may kindly be carried out through the TBCB contractor or the expenditure may be granted from PSDF/MoDONER as the same is under strengthening scheme. The letter is enclosed as **Annexure-A.04 B**.

Subsequently, several meetings were held on the issue but CEA did not agree to the request (**Annexure – A.04 C &4 D**) and asked NEEPCO to execute the work as per

modalities as discussed in the meeting dated 18. 11.2021 (**Annexure –A.04 E**).

The scheme of execution of work was discussed and approved in presence of CEA, NERPC and M/s Sterlite Power Transmission Ltd. in the meeting dated. 08.04.2022. (**Annexure –A.04 F**).

Based on above, an offer was collected from M/s Sterlite Power Transmission Ltd. for both (a) & (d) scopes amounting to Rs. 3,65,20,119.00 which is exclusive of F&I and taxes and duties. With GST, financial involvement stands at Rs. 4,30,93,740.00 (**Annexure –A.04 G**).

Since TBCB contractor is M/s Sterlite Power Transmission Ltd., it is prudent to execute the small portion of work which is entrusted to NEEPCO through the same executing agency otherwise there is every chance of mismatching of commissioning schedules of these three lines if a third party is engaged by NEEPCO. Moreover, longer outages of the three lines may also be required.

In view of the above and as per the decision of the 6thStanding Committee Meeting of NER and MoM of the 192ndOCC Meeting of NERPC and as suggested by CEA, the forum is requested their consent to recover the above-mentioned additional investment in the transmission system at Pare HEP end as explained above.

The matter was discussed in the 46th CCM held on 28.09.2022 as below:

QUOTE

"*AGM, APDCL stated that as part of the Tariff Petition Agreement of APDCL with NEEPCO filed to the Hon'ble CERC, NEEPCO and APDCL have agreed for levelized tariff of ₹ 5.75/ unit for 40 years which does not have any scope for Additional Cap. NEEPCO informed that for the benefit of beneficiaries, the tariff of Pare HEP has been decreased from ₹ 7.23 to ₹ 5.75. However, this strengthening is a requirement which needs to be executed.*

Member Secretary, NERPC appreciated APDCL's view, however, he emphasized that NER constituents are the beneficiaries of Pare HEP and the work is important which needs to be taken up at the earliest. After much deliberation, the Sub-committee decided to refer the matter to TCC/RPC."

UNQUOTE

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.05	**:**	**INSTALLATION OF TRANSMISSION LINE SURGE ARRESTERS (TLSA) IN 132 KV KHLIEHRIAT-LESHKA D/C AND SPS AT LESHKA HEP– NERLDC.**

The 132 kV Khliehriat – Leshka D/C is traversing through Jaintia Hills District of Meghalaya which falls under high isokeraunic level and the soil is found to be very resistive in nature as well. Due to such high isokeraunic level, repeatedly lightning strikes with heavy intensity occurs during thunderstorm due to which both these circuits have experience excessive tripping since commissioning and thus affecting generation from Leshka Power Station to large extent. The quarter wise number of tripping due to lighting during 2021 & 2022 is given below-

Year	Jan-March	Apr-Jun	Jul-Sep	Oct-Dec
2021	1	4	10	0
2022	1	23	6	1 (till date)

The issue was highlighted in 189th OCCM of NERPC. In the meeting, the forum requested MePTCL to submit a combined DPR to PSDF to install TLSA and SPS in these lines before the onset of monsoon season.

As per 193rd OCCM minutes, EE, MePTCL informed that multiple locations were treated for improvement of TFR. Further improvement of TFR in all the locations of the line has been proposed. He also informed that subsequent to receipt of report of MePGCL, the combined DPR of SPS, TLSA will be sent for PSDF funding.

MePTCL and MePGCL is requested to expedite the installation of TLSA in 132 kV Khliehriat- Leshka DC and implementation of SPS at Leshka HEP.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.06 : EARLY COMMISSIONING OF BUS REACTOR AT BYRNIHAT (MEPTCL): -NERLDC

Voltage rise issue is witnessed at Byrnihat throughout the year and gets more severe during the lean hydro period leading to difficulty in grid operation. The 63 MVAR Bus Reactor at Byrnihat is under prolonged outage. Commissioning of Bus Reactor at Byrnihat will mitigate the high voltage problem.

As per the deliberations in 193rd OCCM, MePTCL informed that negotiation reached and approval from Board of Directors, MePTCL is required.

Sl No	Year	Total Hours for which Bus voltage of Byrnihat Bus above IEGC band (420 kV and above)
1	2021	1.73
2	2022	2.09

MePTCL is requested to update the latest status and expedite the installation process.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.07 : IMPLEMENTATION OF LINE DIFFERENTIAL PROTECTION OF 400 KV NEW THOUBAL-IMPHAL D/C- NERLDC

As per 47th PCC meeting, the following criterion was decided for adoption for identification of short line for differential protection: -

- All 132 kV transmission lines of length < 5 Kms.
- All 220 kV transmission lines of length < 10 Kms
- All 400 kV transmission lines of length < 50 Kms
- All 132 kV & above dedicated transmission lines of Generators with installed capacity > 50 MW

The distance of 400 kV Imphal (PG) - Thoubal D/C lines is 45.11 km. Hence, differential protection scheme is required.

The clearance for FTC of the lines was given by NERLDC based on consent from NERPC that MSPCL has submitted undertaking for installation of differential relay and the 400 kV Imphal-Thoubal D/C may be presently made operational with distance relays.

The latest status of commissioning of Line Differential Protection in 400 kV Imphal – Thoubal D/C may be intimated by MSPCL.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.08	**:**	**UTILIZATION OF 132 KV BAYS AT SILCHAR (PG) SUBSTATION AFTER UPGRADATION OF VOLTAGE LEVEL OF 132 KV SILCHAR – IMPHAL D/C TO 400 KV LEVELS AND 132 KV SILCHAR – PK BARI D/C TO 400 KV LEVELS: - NERLDC**

132 kV Silchar – Imphal D/C have been charged at 400 kV levels during 2018-19. Similarly, 132 kV Silchar – PK Bari D/C have been charged at 400 kV levels in 2021.

Consequently, upon this upgradation of lines to 400 kV levels, 4 number of 132 kV Bays at 400/132 kV Silchar Substation are unutilized.

On the other hand, Haflong (PG) Bus is connected via two interconnections to the rest of the grid via 132 kV Jiribam (PG) – Haflong (PG) line and 132 kV Haflong (PG) - Umrangshu line as depicted in **Figure 1**. Haflong is an important town and headquarters of Dima Hasao district (formerly North Cachar Hills district) in the state of Assam. For strengthening the Haflong Area, another interconnection to Haflong (PG) is essential.

Also, the loading of 132 kV Silchar – Badarpur D/C reaches 47 MW in each circuit and is not N-1 complaint.

Utilization of the above-mentioned 4 number of 132 kV Bays at Silchar Substation is essential for appropriate resource utilization.

With the intend to optimally utilize the available regional resources at hand, it is proposed to construct a new interconnection viz. 132 kV Silchar (PG) – Haflong S/C with LILO at Badarpur (PG) utilizing the existing 132 kV Bays at Silchar Substation. The same is depicted in **Figure 2.**

This would increase the reliability and strengthen the Haflong Area of Assam Power System and also ensure N-1 compliance during contingency of any one of the circuits of 132 kV Silchar – Badarpur circuits.

It is proposed to implement the above interconnection for a safe and integrated grid operation.

Members may please discuss.

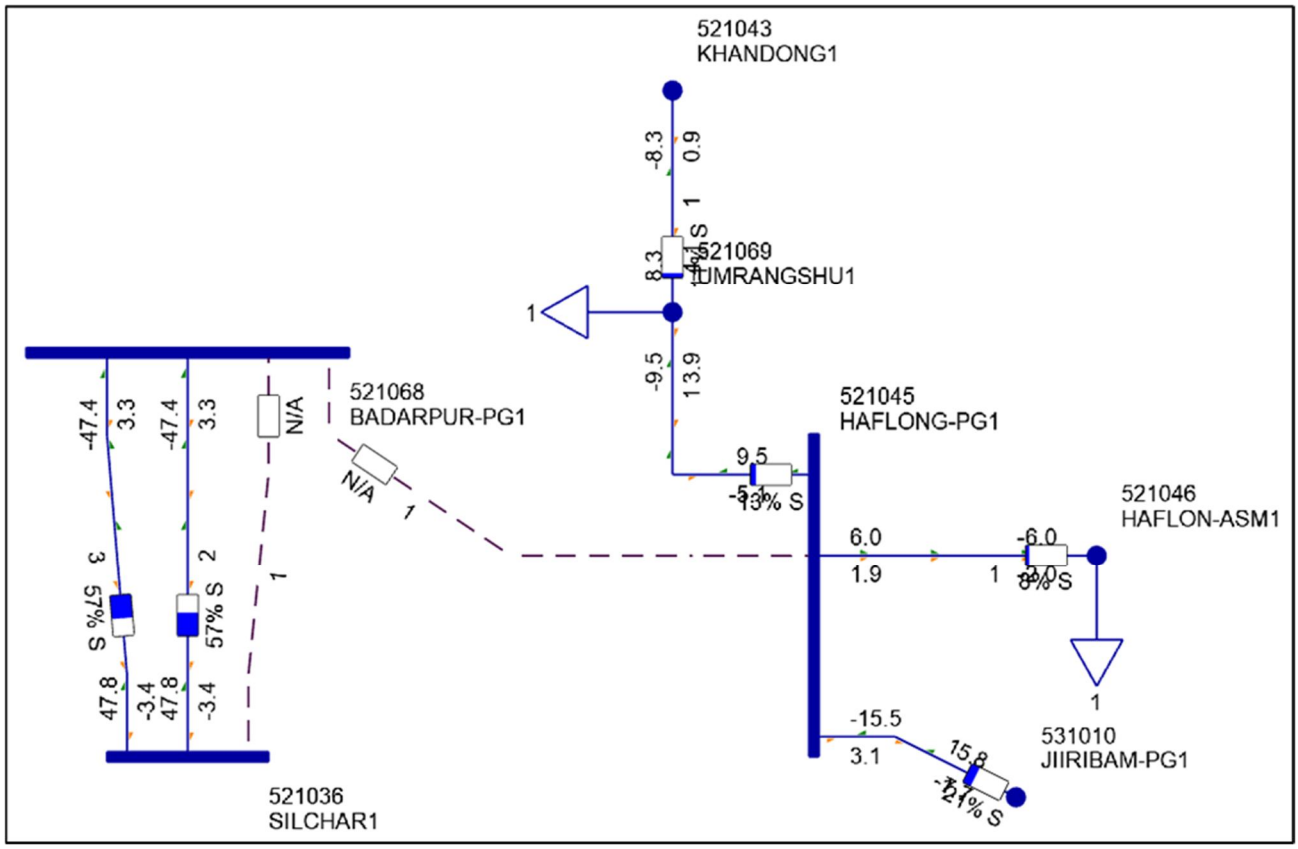


Figure 1: Before charging 132 kV Silchar – Haflong line with LILO at Badarpur (Present Case)

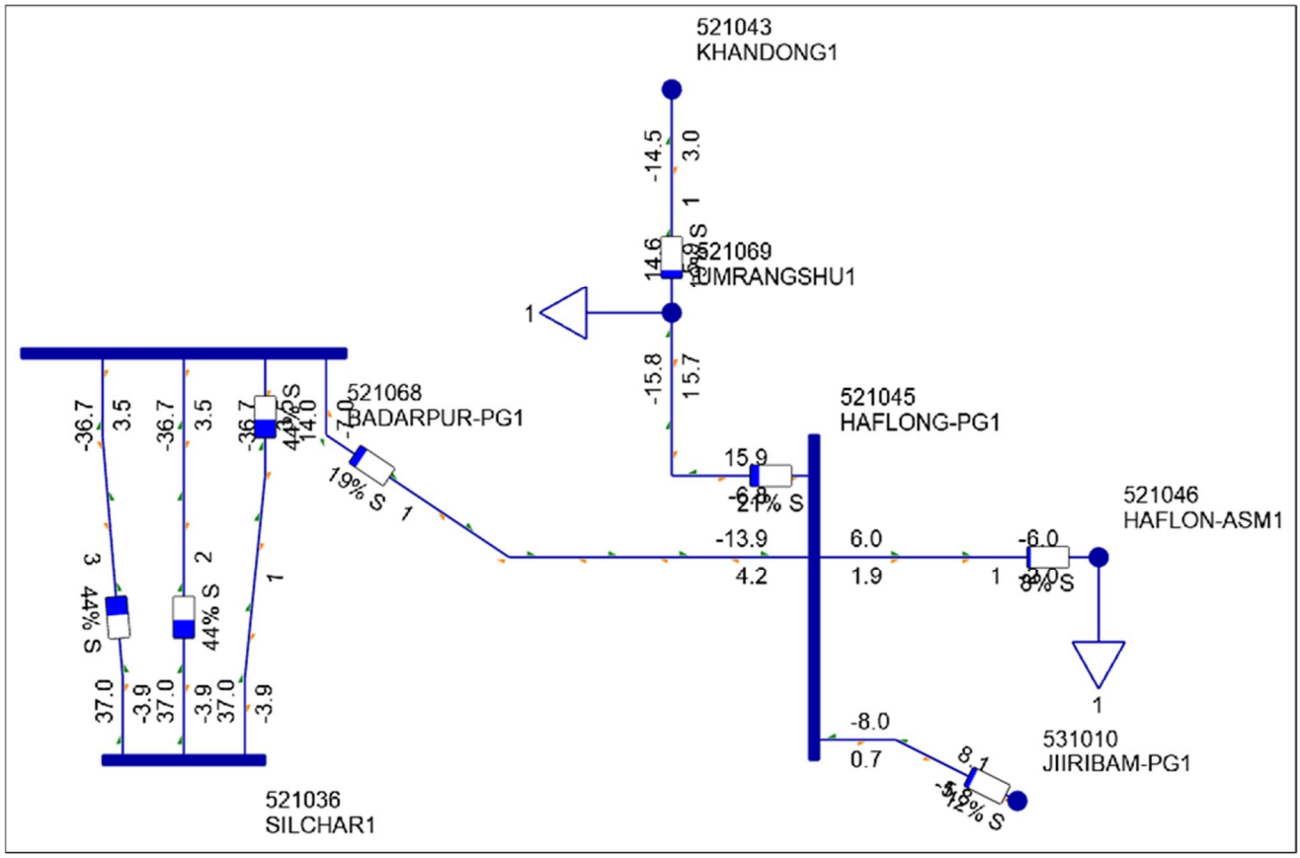


Figure 2: After charging 132 kV Silchar – Haflong line with LILO at Badarpur

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.09	**:**	**REGARDING REQUIREMENT OF 400 KV LINE REACTORS AT BALIPARA END FOR 400 KV BALIPARA – BISWANATH CHARIALI CIRCUIT I AND II: - NERLDC**

50 MVAR 400 kV Biswanath Chariali II Line Reactor at Balipara (PG) is under continuous shutdown till 28th Feb 2023. One more 50 MVAR line reactor is available for Balipara - Biswanath Chariali I at Balipara (PG). Due to very stable voltage profile at Balipara round the year, these reactors are rarely used for grid operation.

On the other hand, 400/220 kV Killing Substation has high voltage profile, especially during lean hydro periods as shown in the Figure a below.

System Studies show that shifting 50 MVAR reactor to Killing Substation will bring down the voltage at 400 kV Killing Bus by 4 kV.

It is therefore, proposed to shift one 400 kV Line Reactor at Balipara (PG) to 400 kV Killing Substation for better reactive power management in the NER Grid.

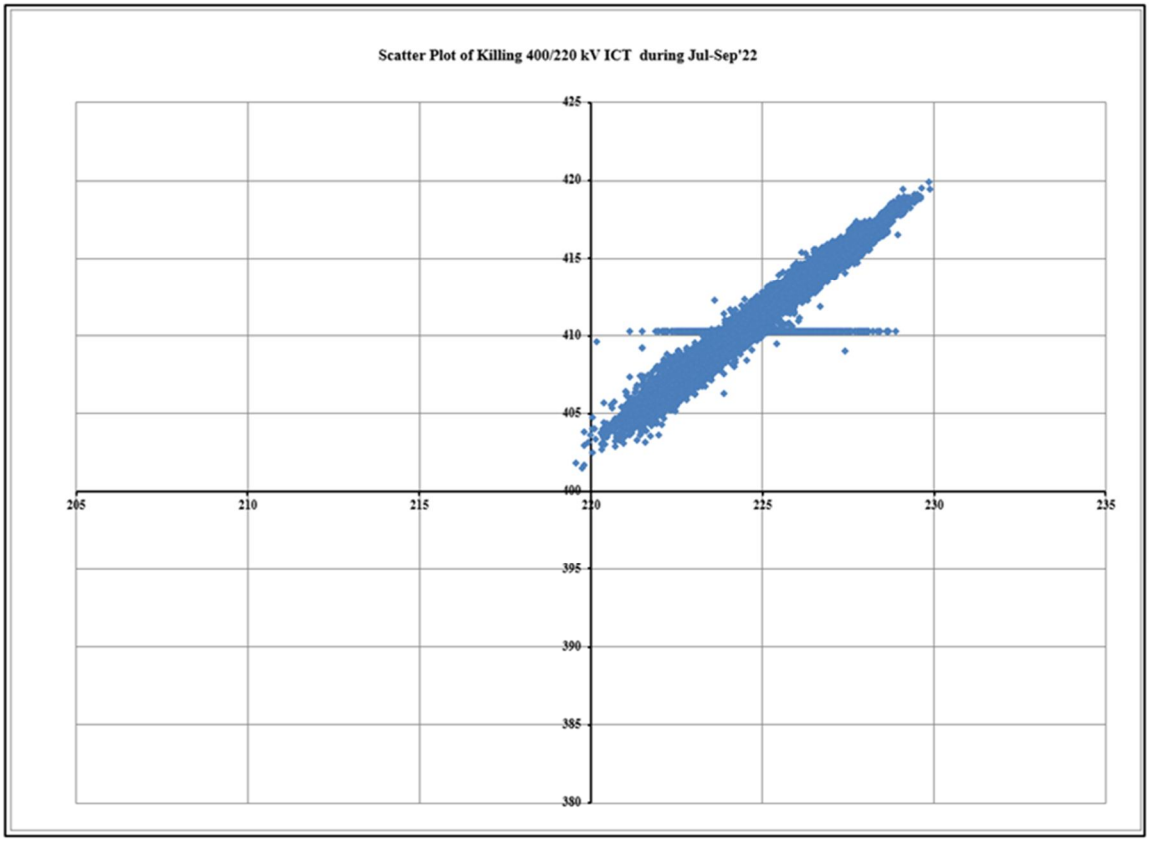


Figure a: Voltage Profile of 400/220 kV ICT at Killing during last quarter

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.10 : ADDITIONAL EVACUATION PATHS FOR KAMENG HEP AND RANGANADI HEP- NERLDC

Kameng HEP (4x150 MW) having high annual dependable generation period is connected to the NER Grid via lone 400 kV Kameng – Balipara D/C. As the transmission lines pass through hilly terrain, the transmission lines are vulnerable to landslides and other natural phenomenon. Therefore, during any tower collapse, the entire generation of Kameng HEP will be out of service.

Keeping the safe and secure operation of the grid in the forefront, it is proposed to construct another interconnection from Kameng HEP to any other 400 kV node in the North Eastern Region.

Accordingly, system studies have been conducted by NERLDC and it has been found that Ranganadi HEP should be the best alternative for formation of another interconnection from 400 kV Kameng HEP. The proposed interconnection is of 150 km and is proposed to be constructed with Twin Moose Conductor. This arrangement can bring about electrical redundancy in both the HEPs.

Figure i shows the present scenario where Kameng HEP (600 MW) is in full generation. It is seen that entire generation of Kameng HEP is being evacuated via 400 kV Kameng – Balipara D/C.

Figure ii shows that on account of outage/tripping of 400 kV Kameng – Balipara D/C, the entire generation of Kameng HEP (600 MW) will be out of service.

Figure iii shows that with the new inter-connection, the generation of Kameng HEP is being evacuated via the proposed 400 kV Kameng – Ranganadi D/C, thereby increasing the reliability of the NER Grid.

Figure iv the new inter-connection provides an additional benefit where Ranganadi Generation can be evacuated safely via the new inter-connection during the outage/tripping of 400 kV Ranganadi – Biswanath Chariali D/C.

It is therefore, proposed to form a new interconnection i.e. 400 kV Kameng – Ranganadi D/C (approximate line length is 150 km) using Twin Moose Conductors.

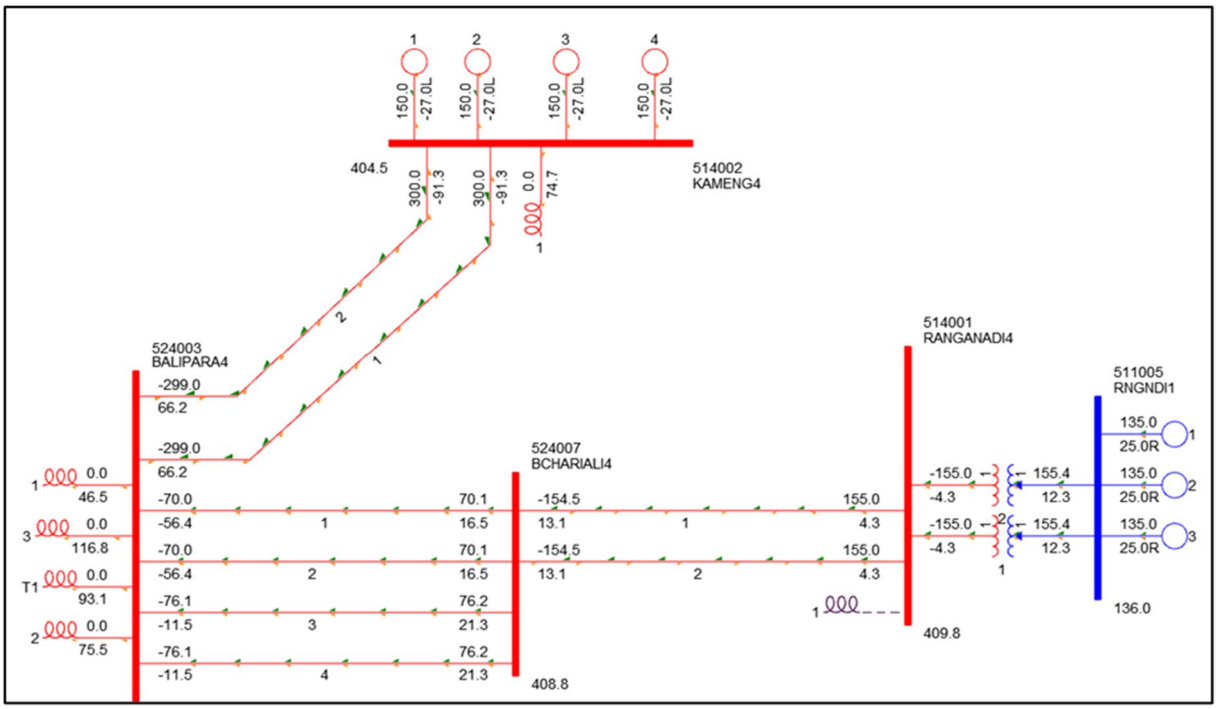


Figure i: Present Scenario (Kameng HEP being evacuated via 400 kV Kameng – Balipara D/C)

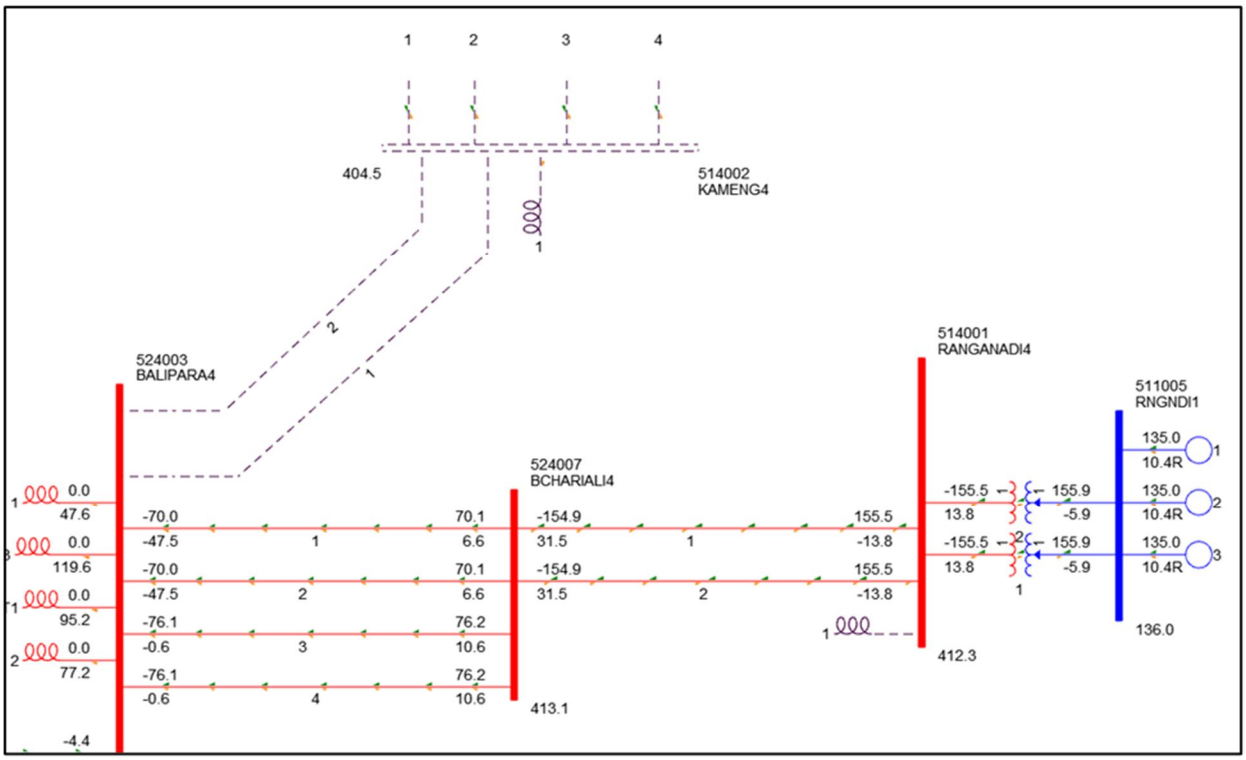


Figure ii: During outage of 400 kV Kameng – Balipara D/C, entire generation of Kameng HEP is Out.

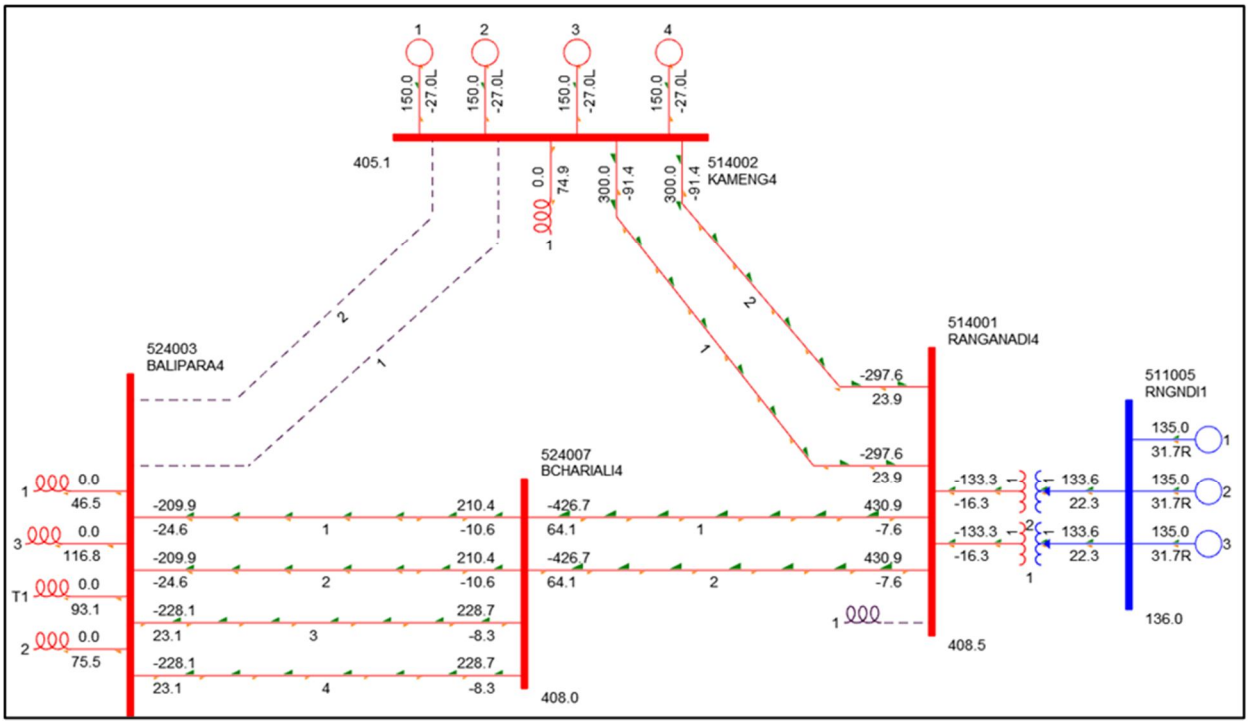


Figure iii: During outage of 400 kV Kameng – Balipara D/C, Kameng HEP is evacuated via the proposed 400 kV Kameng – Ranganadi D/C.

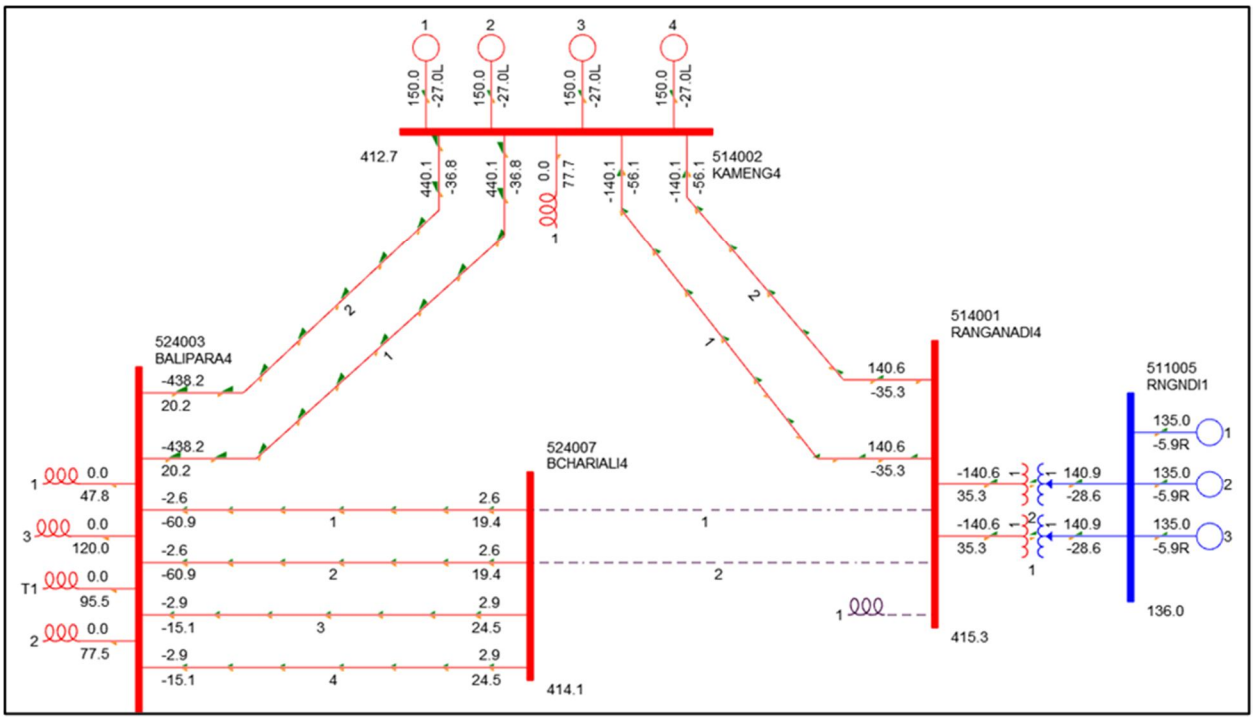


Figure iv: The new interconnection will provide additional benefit of safe evacuation of Ranganadi HEP during outage of 400 kV Ranganadi – Biswanath Chariali D/C

It is to be noted that in the 3rd NERPCTP held on 19th July'2021 under Chairmanship of Member(Power System), CEA, it was agreed that there is no requirement of additional evacuation lines from 600MW Kameng HEP.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.11	**:**	**STRENGTHENING OF LAST MILE FIBER-OPTIC CONNECTIVITY TO OBTAIN BETTER RELIABILITY AT NERLDC, SHILLONG AND BACKUP NERLDC, GUWAHATI: - NERLDC**

NERLDC, Shillong is currently connected to 132 kV NEHU (MeECL) sub-station over fiber-optic media which is more than 15 years old and has crossed its lifespan leading to deterioration of associated optical-fibers. Since the optical-fiber carries important real-time power system operational data and voice; hence, the fiber-optic should be replaced between "NEHU and NERLDC Shillong (partially overhead and partially underground) preferably with a 2x24-fiber redundant arrangement".

Similarly, Backup NERLDC at Kahilipara, Guwahati is connected over OPGW of 132 kV Kahilipara-Sarusajai and 132kV Kahilipara – Umiam Stg. III – Umiam Stg. I – NEHU which is a twelve (12) fiber link and same has exceeded its life-span of 15 years since its installation under ULDC Phase-1 scheme. In order to maintain reliability of communication system at mission-critical establishment of NERLDC as well as regional communication backbone network, it will be beneficial to replace the OPGW on above-mentioned lines with at least twenty-four (24) fibres.

As several OPGW projects in NER are already under tendering/execution stage by POWERGRID; hence, the aforesaid links can be included in such projects (i.e., NER Reliable Communication Scheme or other similar projects or any new project, as per feasibility by POWERGRID) for faster completion.

TCC/NERPC may kindly approve the replacement of three sections namely "NERLDC Shillong – NEHU", "132 kV Kahilipara – Sarusajai" and "132 kV Kahilipara – Umiam Stg. III – Umiam Stg. I – NEHU" under any of the POWERGRID projects (such as NER Reliable Communication Scheme or other similar projects or any new project, as per feasibility by POWERGRID) being executed by ULDC team of POWERGRID-NERTS.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.12	:	FIBER CONNECTIVITY FOR CRITICAL CENTRAL-SECTOR TAIL-END GENERATING STATIONS: - NERLDC

Some of the generating stations currently connected over single fiber-optic link are as follows –

a) Kameng Hydro Station (600 MW): Currently, fiber-optic connectivity is being done with 400 kV Kameng-Balipara OPGW only. It may be noted that OPGW works of 132 kV Kameng-Khupi are already under progress; hence, in order to establish physical redundancy for establishing secondary communication channel of Kameng, an OPGW should be laid over 132 kV Khupi – Tenga – Balipara section also. Kindly refer to the **Annexure-A.12** for details.

b) Kathalguri Gas Power plant (291 MW): Currently, Kathalguri is connected over fiber-optic link of 220 kV Kathalguri – Mariani (PG) only. To establish its redundant fiber-optic link, an OPGW should be laid over 220 kV Kathalguri – Tinsukia. Kindly refer to the **Annexure-A.12** for details.

TCC/NERPC may kindly approve establishing fiber-optic communication channels of two sections i.e. “132 kV Khupi – Tenga – Balipara” and “220 kV Kathalguri – Tinsukia” under any of the POWERGRID projects (such as NER Reliable Communication Scheme or other similar projects or any new project, as per feasibility by POWERGRID) being executed by ULDC team of POWERGRID-NERTS.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.13	:	FIBER CONNECTIVITY FOR GUWAHATI ISLANDING SCHEME: - NERLDC

As per direction of MoP, GoI Islanding scheme for Guwahati has to be established in near future. To ensure successful operation of this Islanding Scheme, suitable fiber-optic connectivity is imperative at each identified node of the scheme. After detailed discussions and analysis, OPGW along with associated end-equipment are required in the list of transmission lines as detailed in **Annexure-A.13**.

TCC/NERPC may kindly approve the OPGW works incl. end-equipment as necessary and listed in appropriate Annexure to facilitate successful operation of Guwahati Islanding Scheme.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.14 : GUWAHATI ISLANDING SCHEME - NERPC

MoP vide O.M. dated. 09.11.2021 had approved for 100% funding from PSDF of Guwahati Islanding Scheme. The logic involving at least two units of BgTPP generating at or greater than Technical Minimum prior to Island formation was endorsed in 43rdCCM of NERPC held on 17th December'2021. Accordingly DPR has been prepared in consultation with AEGCL/APGCL/APDCL/NERTS/NTPC/NERLDC and the same is put up for discussion &approval.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.15 : STATUS OF OPTICAL-FIBER COMMUNICATION LINKS UNDER ON-GOING NERPSIP AND COMPREHENSIVE ARUNACHAL PRADESH SCHEMES-NERLDC

Under world-bank funded NERPSIP project and Comprehensive Arunachal Pradesh scheme, OPGW cables of 5,200 kms. and 4,350 kms. respectively are being laid at various sections along with associated end-equipment. However, the progress of project is slow due to various reasons since the period of inception of project i.e. around 2014.

POWERGRID (consultant of project) may be urged to expedite the project at the earliest for benefit of the NER constituents as well as regional power system operation. The list of such OPGW links is attached as **Annexure-A.15**.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.16 : IMPLEMENTATION OF AUTO-RECLOSURE IN INTRA-STATE LINES: - NERLDC

As per 57th PCC, the forum decided that a list of Intra-state lines for Arunachal Pradesh, Manipur, Mizoram, Nagaland and Tripura shall be prepared and circulated by NERLDC for implementation of A/R.

The same was prepared and distributed by NERLDC given as **Annexure A.16** (NERLDC Ref Letter No. NERLDC/SOII/2022/20/3027, Dated 13.04.2022)

The transmission licensees are requested to intimate the status of implementation of Auto-Reclosure in Intra-state lines.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.17 : ENHANCEMENT OF CAPABILITY OF 132 KV PANCHGRAM – LUMSHNONG, 132 KV HAILAKANDI – DULLAVCHERRA, 132 KV PANCHGRAM – HAILAKANDI LINE AND 132 KV SRIKONA-PAILAPOOL LINE: - NERLDC

The following lines have crossed the useful life of 35 years of age and need upgradation.

Sl.No.	Name of the Line	Year of Commissioning
1	132 kV Panchgram – Lumshnong line	1969 (Approx)
2	132 kV Hailakandi – Dullavcherra line	1970 (Approx)
3	132 kV Panchgram – Hailakandi line	1970 (Approx)
4	132 kV Srikona - Pailapool line	1970 (Approx)

It has been observed that the above-mentioned lines are unable to carry power to the tune of the thermal rating of the ACSR Panther conductor (79 MW approx.). The above elements are therefore not able to provide grid security and reliability in the case of tripping of any parallel path. Also, due to low capability of the lines, reliability of power supply to Tripura, Meghalaya and South Assam Power System is reduced. NERLDC vide letter to AEGCL dated 17.02.22 already highlighted the same.

As per minutes of 22nd TCC & 22nd NERPC Meeting held on 26th & 28th March, 2022 at Guwahati, the forum opined that the item is are to be first discussed in Sub-Committee meetings of NERPC for detailed study and is therefore referred back to the Sub-Committee(s) of NERPC.

It is requested to take up necessary steps to enhance the Capability of the abovementioned transmission lines for the strengthening the North Eastern Regional Grid of India.

It is to be noted that as per discussion in 189th OCC meeting of NERPC held on 19th April'22:

132kV Panchgram – Lumshnong – Already under upgradation by MePTCL for entire 132kV Khliehriat-Lumshnong – Pangram.

132kV Hailakandi – Durlavcherra – DPR to be prepared for 132kV Hailakandi-Durlavcherra & 132kV Durlavcherra – Dharmanagar(Mission Tilla) on similar lines of 132kV Khliehriat – Lumshnong – Panchgram and to be sent to PSDF.

132kV Panchgram – Hailakandi & 132kV Srikona – Pailapool: Included under CEA's 2030 Augmentation Scheme

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.18	**:**	**INSTALLATION OF AWS BY IMD, GUWAHATI: - NERLDC**

It was informed in 158th OCCM that RMC, IMD, Guwahati would install Automatic Weather Station (AWS) in NER. As per the proposed list of stations by the constituents, IMD has surveyed the stations and has mentioned the requirement of NoC for the suitable stations.

In 191st OCC, some states had expressed the need for entering into MoUs with IMD in order to clarify on various issues. In 194th OCC, regarding NoC and MoU, Assam and Arunachal Pradesh clarified that NOC will only be given after signing of MoU between IMD and individual states. After detailed deliberation, the forum requested

NERLDC to co-ordinate with IMD and request them to present the draft MoU in the next meeting.

During 195th OCCM of NER, representative from IMD in his presentation mentioned that following status:

Tripura: AWS Installation is completed in Tripura. 7 New AWS have been installed either in Power stations or nearby to proposed locations

Mizoram: AWS Installation is going in Mizoram. 8 New AWS have been installed covering 8 districts of Mizoram.

Meghalaya: AWS Installation will begin from first week of November. Among the 4 sites whose NOC is available, 3 AWS are already installed in nearby location. 4th one will be installed at Mynkre by November end. 3 more will be installed in Mawkyrwat, Resubelpara and Ampati by Nov'22.

Manipur: Undergoing

Nagaland: Undergoing

Assam: Yet to be started

Arunachal Pradesh: Yet to be started

During the 195th OCCM, the forum requested that for the benefit of other states the said draft MoU prepared by Assam may be circulated among all the states and requested all the other states to provide inputs on the draft MoU prepared by Assam so that the same may be finalized as early as possible.

It is requested to all the remaining constituents to provide the NoC to IMD so that the installation of AWS can be done at the earliest in the remaining states. This would improve the weather data availability and would further improve the load forecasting of the states.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.19	**:**	**SHIFTING OF PALATANA - SURAJMANINAGAR (TSECL) 400 KV D/C LINE (OPERATED AT 132KV) TO THE 400/132KV ISTS S/S AT SURAJMANINAGAR: - NERLDC**

During 22nd TCC & 22nd NERPC Meeting held on 26th & 28th March, 2022 at Guwahati, the TCC forum decided the following:

a) The scope of LILO of 400kV Palatana – Surajmaninagar (ISTS) at Surajmaninagar (TSECL) by POWERGRID under RTM to be deleted upon confirmation of dropping of 400kV upgradation of Surajmaninagar (TSECL) by Tripura. However, tariff for this work as admissible shall be provided to POWERGRID.

b) HTLS upgradation of 132kV Surajmaninagar (ISTS) – Surajmaninagar (TSECL) to be expedited by TSECL

c)TSECL to select one of the suggested alternatives i.e. additional circuit of 132kV Surjamaninagar – Surjamaninagar OR LILO of 132 kV (2nd) Surjamaninagar (TSECL) – Bodhjungnagar (TSECL) at Surjamaninagar (ISTS) with HTLS upgradation of Surjamaninagar (ISTS) – Surjamaninagar (TSECL) and revert back at the earliest to NERPC

Regarding diversion of Bangladesh power supply to Surjamaninagar (ISTS) the forum noted that as power supply from Tripura to Bangladesh has been extended upto 2026, Bangladesh interconnection will remain connected from Surajmaninagar (TSECL) and shifting proposal may be dropped.

During the same meeting, following are the highlights after deliberation at RPC:

a) The Upgradation of 132kV Surjamaninagar (TSECL) to 400 kV will be awarded by JV company being set up with POWERGRID and JV formation will take around 6-8 months

b) Member Secretary, NERPC stated that the scope of LILO of 400 kV Palatana – Surjamaninagar (ISTS) at Surjamaninagar (TSECL) by POWERGRID under RTM to be dropped for the time being, however, the tariff for upgradation work (undertaken in NERSS XIV) of 132 kV Palatana – Surjamaninagar to 400 kV and termination at

Surjamaninagar (ISTS) shall be allowed to POWERGRID as admissible

c) Further, Member Secretary, NERPC mentioned that power supply to Bangladesh may be continued from Surjamaninagar (TSECL) till 2026 as decided in the 22nd TCC Meeting. Regarding upgradation of 400 kV Surajmaninagar (TSECL) by Tripura, he sought the view of the forum.

d) Hon'ble Chairman, NERPC stated that since Tripura will upgrade the existing 132 kV Surjamaninagar S/S to 400 kV after JV formation, the same may be kept in abeyance and review in next TCC/NERPC Meeting.

It is requested for review the following during 23rd TCC/NERPC Meeting:

i) Formation of the JV

ii) HTLS upgradation of 132 kV Surajmaninagar (ISTS) – Surajmaninagar (TSECL) line

iii) Additional circuit of 132 kV Surjamaninagar – Surjamaninagar OR LILO of 132 kV (2nd) Surjamaninagar (TSECL) – Bodhjungnagar (TSECL) at Surjamaninagar (ISTS) with HTLS upgradation of Surjamaninagar (ISTS) – Surjamaninagar (TSECL)

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.20	**:**	**LILO of 400kV Palatana –Surjamaninagar(ISTS) at Surjamaninagar(TSECL) by POWERGRID under NERSS XIV.: - POWERGRID**

Construction works related to LILO of 400kV Palatana –Surjamaninagar(ISTS) at proposed 400KV Surjamaninagar(TSECL) is taken up by POWERGRID under NERSS XIV project & accordingly the works related to transmission line & substation extension were awarded.

Further, since upgradation of Surjamaninagar(TSECL) Substation to 400KV by TSECL is yet to be implemented, works related to construction of Bays at Surjamaninagar(TSECL) Substation covered under scope of NERSS-XIV project under execution by POWERGRID too could not be commenced & has been kept on abeyance.

During the 22nd TCC & 22nd NERPC Meeting, it was discussed that the scope of LILO of 400kV Palatana –Surjamaninagar(ISTS) at Surjamaninagar(TSECL) by POWERGRID under RTM to be dropped for the time being, however, the tariff for upgradation work (undertaken in NERSS XIV) of 132kV Palatana – Surjamaninagar to 400kV and termination at Surjamaninagar(ISTS) shall be allowed to POWERGRID as admissible.

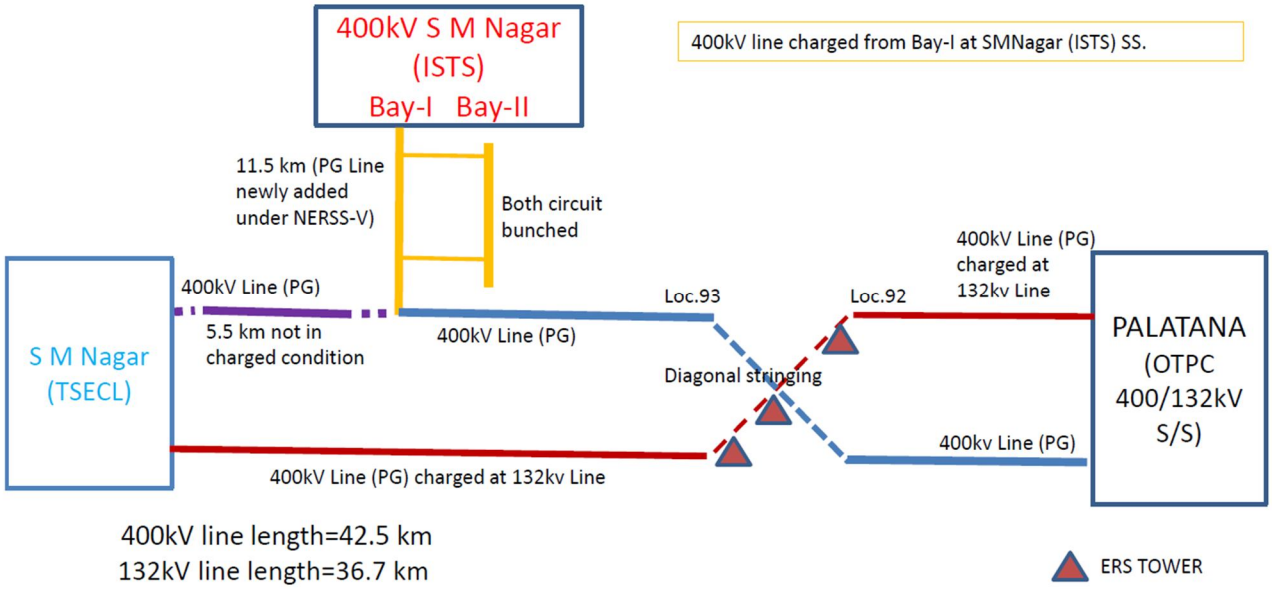
The transmission line section forming part of the LILO arrangement is in advanced stage of completion & is now expected to be completed by December'2022. After completion, it is proposed to keep the said line section (both the circuits) charged through suitable bunching arrangement (**as shown in Figure A below**).

Further, presently connectivity between Pallatana(OTPC) & Surjamani Nagar (TSECL) is maintained through special arrangement using ERS towers as agreed in the meeting during the meeting held on 18.05.2021 attended by Member (Power System), CEA, NERPC, NERLDC, CTU, POWERGRID & TSECL. This was envisaged to be an interim arrangement till LILO of Pallatana-Surajmanai Nagar (ISTS) at Surajmanai Nagar(TSECL) under NERSS XIV is implemented.

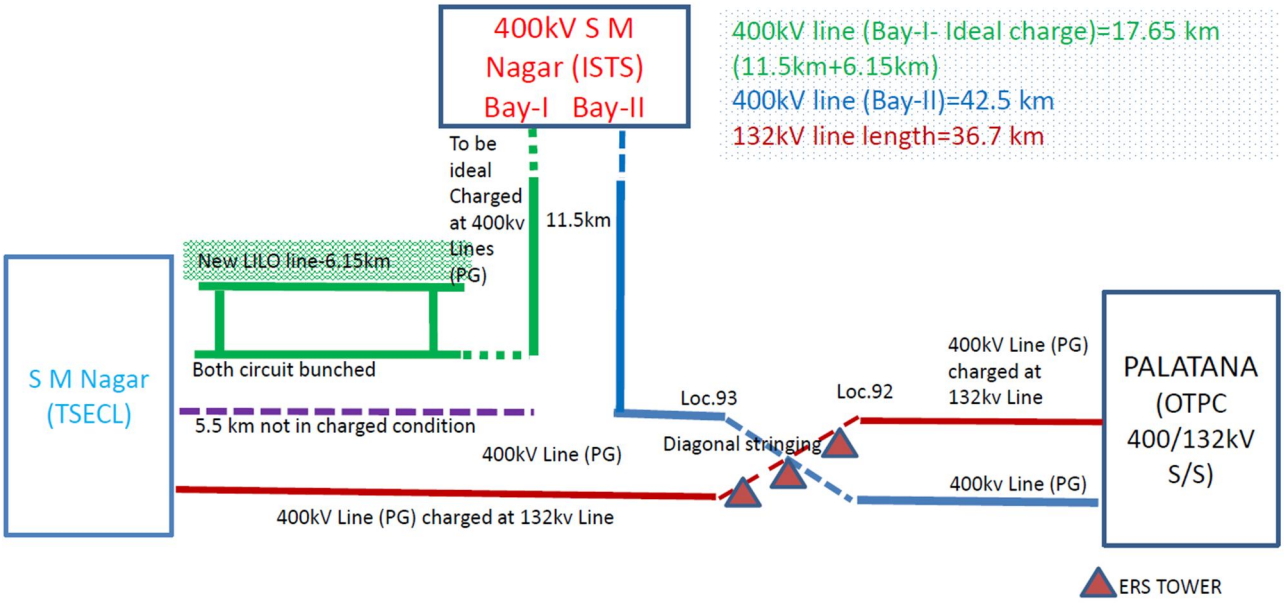
Since implementation of scope of NERSS XIV is now kept in abeyance, it is proposed that the interim arrangement so made using ERS towers may now be converted into a permanent arrangement (i.e. on tower structures) considering various vulnerabilities to which ERS towers are subjected. This would primarily involve installation of 3 No. new towers/ Gantry structures & is proposed to be carried out as an additional scope under NERSS V project.

Figure (A)

Present Arrangement



Proposed arrangement



TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.21	**:**	**REQUIREMENT OF BUILDING AT UMRANGSHO TOWNSHIP FOR ESTABLISHMENT OF OFFICE AND RESIDENTIAL SETUP BY POWERGRID FOR O&M OF POWERGRID BAYS AT KHANDONG & KOPILI - POWERGRID**

On completion of NERSS III at Kopili and restoration of POWERGRID bays at Khandong following assets will be required to be maintained by POWERGRID: -

AT KOPILI –

1. 220/132kV 160MVA ICT#1&2 (220kV Side AIS, 132kV side GIS)
2. 132kV Khandong#1&2 Line bays (GIS type)
3. 132kV Station Transformer Bay (GIS Type)
4. 132kV Bus Coupler (GIS Type)

AT KHANDONG –

1. 132kV Khlerihat#2 (AIS Type)
2. 132kV Kopili#2 (AIS Type)

Apart from above, following transmission lines are also associated with Khandong & Kopili HEPs.

1. 132kV Khandong Kopill#1&2
2. 132kV Khlerihat Khandong#1&2
3. 220kV Misa Kopili#1,2&3

In order to carry out O&M of above assets, there is requirement of Office & Residential set up at Umrangsho Township as detailed below: -

1. Office Set up – 4 Rooms (2 – Office, 2 – T&Ps / Testing Instruments etc.)
2. Staff accommodation – 7 Rooms, Kitchen & Dining space

The issue was discussed in 195th OCCM wherein NEEPCO informed that they will revert back after discussion with Management. Refer Item No. B.8 C 3 of 195th OCCM.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.22	**:**	**132KV DOUBLE CIRCUIT ROING-CHAPAKHOWA TRANSMISSION LINE- SUPPORT REQUIRED FROM GOVT. OF AR. PRADESH.: - POWERGRID**

The 132KV D/C Roing-Chapakhowa Transmission Line is presently under execution by POWERGRID. Support of Government of Arunachal Pradesh & Assam is received from time to time in resolution of Right of Way issues for enabling continued progress of ongoing construction works. Considering the target for commissioning of the line, assistance of Govt. of Ar. Pradesh is requested in the following critical areas for facilitating timely completion of the project:

(i) Foundation Works at following sections(Non Forest Areas) are held up on account of severe Right of Way issues:

a) Loc. 26/0 to 32/4 in Jia & 7-Kilo area - 08 loc. affected.

b) Loc. 41 to 44 - 13 loc. affected.

(ii) Obstructions to works in Deopani Reserve Forest (20 Locations): Forest Clearance has been obtained from Regional MOEF on 10.06.2022 & work commenced in the Reserve Forest section. However, severe Right of Way Issues/ obstructions from Forest dwellers in the area have been frequently affecting the progress. With support of the Administration, foundation at 8 locations could be completed as on date. Foundation at the balance 12 locations, erection (20 locations) & stringing(5.5km) is critical to completion of the line.

(iii) Early finalization of Land & Surface Damage Compensation in connection with the ongoing construction works is requested for enabling disbursement to landowners in order to assuage obstructions to ongoing construction works in Ar. Pradesh portion of the line. The line is targeted to be commissioned within 2 months from resolution of the above issues.

Arunachal Pradesh may be impressed for providing necessary support for early commissioning of lines.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.23	**:**	**SCADA/EMS Upgradation Schedule of North Eastern Region for ULDC Phase 3.: - POWERGRID**

The procurement process for upgradation of SCADA/EMS system in other regions is underway. During the process the SCADA/EMS vendors have submitted that the procurements may be done in phased manner among Regions so that they can participate in effective manner. As the vendors for these kind of projects are limited in numbers, it will be prudent to have tendering of SCADA/EMS Projects in all Regions in phased manner.

In view of above, the constituents of NER may share the schedule of the upgrade of their SCADA/EMS system for better planning of tender process.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.24	**:**	**RECONSTRUCTION OF RESIDENTIAL AND NON-RESIDENTIAL BUILDING AT VARIOUS STATIONS OF NERTS DUE TO VERY DILAPIDATED/NON-LIVEABLE CONDITION: - POWERGRID**

Residential and Non-Residential buildings were constructed at Haflong, Jiribam, Aizawl, Kumarghat, Salakati, Misa, Dimapur & Imphal under Additional Transmission for Gohpur Itanagar (ATGI), Chukkha project, Transmission System associated with Doyang HEP (Combined Element) and Transmission system associated with Loktak HEP respectively. These buildings were constructed in year starting from 1983 and have completed around 28-39 years

It is observed that due to ageing, these buildings have developed cracks and deteriorated and are not in liveable condition. In order to ascertain Structural Strength of these buildings, Structural Assessment of Residential & Non-residential buildings was carried out at Salakati, Haflong, Jiribam, Aizwal and Kumarghat

through third party e.g. Bineswar Brahma Engineering College, Assam(Govt. institute AICTE approved.

Based on their assessment, it is found that the structures are quite unsafe and not in liveable condition. Further, it is mentioned that renovation may also not lead to any improvement in the strength of the buildings. In view of safety and security of employees (which are also a part of the system), it is not advisable to use these buildings for residential/non-residential use.

As manpower deployed in substations is an integral part of the system and since round the clock availability of manpower is essential for smooth O&M of these important Sub-stations, it is prudent that the residential/non-residential buildings are to be reconstructed as per present requirement.

Accordingly, as per present requirements, it is proposed for demolition and reconstruction of 16 nos quarters each at Haflong, Jiribam, Aizawl & Kumarghat, 08 nos quarters at Salakati substation, 20 nos. Residential quarters each at Misa, Dimapur and Imphal Substation under O&M ADDCAP 2019-24 tariff block. Moreover, 1 no Transit camp, and Admin building each at Haflong, Jiribam, Aizawl, Kumarghat, Dimapur and Imphal substation are also needs to be demolished and reconstructed under ADDCAP.

Accordingly, it is proposed for construction/demolition of buildings as per following details:

Name of Substation	Const. Year	No of Quarters to be demolished	Nos of quarters to be Constructed	Estimated Cost (Rs. In Cr.)
ATGI PROJECT				
Haflong	1987	16	16	4.36
Jiribam	1985	16	16	4.52
Aizawl	1988	16	16	4.21
Kumarghat	1989	16	16	4.38
TRANSMISSION SYSTEM ASSOCIATED WITH DOYANG HEP				
Misa	1994	20	20	5.48

Name of Substation	Const. Year	No of Quarters to be demolished	Nos of quarters to be Constructed	Estimated Cost (Rs. In Cr.)
Dimapur	1995	20	20	5.48
TRANSMISSION SYSTEM ASSOCIATED WITH LOKTAK HEP				
Imphal	1983	20	20	5.48
CHUKKHA TS				
Salakati	1987	08	08	2.12

Name of Substation	Year	No of Non Residential Building to be demolished	Nos of Non Residential Building to be Constructed	Estimated Cost (Rs. In Cr.)
ATGI PROJECT				
Haflong	1987	1 each	1 each	1.4 Cr
Jiribam	1985	1 each	1 each	1.4 Cr
Aizawl	1988	1 each	1 each	1.4 Cr
Kumarghat	1989	1 each	1 each	1.4 Cr
TRANSMISSION SYSTEM ASSOCIATED WITH DOYANG HEP				
Dimapur	1996	1 each	1 each	1.4 Cr
TRANSMISSION SYSTEM ASSOCIATED WITH LOKTAK HEP				
Imphal	1983	1 each	1 each	1.4 Cr

** Non-Residential Building – 1 no Transit camp, and Admin building each

Estimated Cost for Demolition/Reconstruction for Residential & Non-Residential buildings is as under: -

SN	Project	Amount (In Cr.)
1	ATGI	23.07
2	Transmission System associated with Doyang HEP	12.36
3	Transmission system associated with Loktak HEP	6.88
4	Chukkha TS	2.12
	TOTAL =	44.43

The agenda was discussed in 45th CCM, 192nd OCCM and 194th OCCM. After detailed deliberation in 194th OCCM, the forum referred the matter to 46th CCM for through discussion and further referral to TCC/RPC for final approval. Accordingly, the issue was discussed in 46th CCM and the forum referred the matter to next TCC/RPC. Refer Item No. C.14 of MOM of 194th OCCM and Item No. 2.4.3 of MOM of 46th CCM Meeting.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.25	**:**	**MOBILE BAYS FOR EMERGENCY RESTORATION OF EHV SYSTEM IN NER: - POWERGRID**

In 21st NERPC meeting, procurement of 01 No each 220kV and 132kV Mobile GIS bays along with control & protection system with estimated cost of INR 8.42 Cr (excl. taxes & duties) was discussed and it was approved that expenditure shall be booked under PSDF/NEC.

Matter was taken up for booking of expenditure under PSDF. In this regard, it is to mention here that during a meeting held on 25/06/22 in Ministry of Finance regarding funding of projects under PSDF, it was discussed that ongoing projects in PSDF are small in size and funds are being utilized sub optimally. Further, it was suggested that PSDF may be utilized for financing large size critical & strategic infrastructure projects such as projects under Green Energy Corridor, RDSS etc.

In view of above, matter has been taken up again in 192nd OCC wherein the forum agreed in-principle to the requirement of Mobile GIS Bays as Regional Spare and referred to the next TCC/RPC for deliberation. Refer Item No. C.24 of MOM of 192nd OCCM. So far as funding is concerned, provision of procurement exists under RCE of ongoing NERSS XIII scheme.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.26 : FREQUENT FAILURE OF TRANSFORMER AT 132KV ZIRO S/S: - NERPC

Since commissioning of 132/33kV Ziro Sub Station by POWERGRID, repeated downstream faults are occurring in 33kV Lines at Ziro Sub Station. List of tripping of previous couple of years as given below: -

SN	NAME OF THE LINE	NO. OF TRIPPING	
		2021	2022 (UPTO SEP22)
1	Kurung Kumey	433	353
2	Kimin	437	318
3	Old Ziro	73	106

Now, there are 05 Single phase units provided at Ziro S/s (03 Nos Main Units, 01 No as Cold Spare & 01 no Regional Spare). In addition 1 no of unit also procured for additional support.

Due to frequent 33kV line tripping, there had been 05 instances of failure ofTransformer units during 2010, 2013, 2014, 2019 & 2021 at regular intervals where the faulty units have been replaced with the available spare / repaired unit. At present, out of 03 running units 02 units are already repaired upon failure and their expected life already reduced. It is to mention here that 02 Nos are under procurement as 3 Units have to be scrapped because of failure beyond repair.

As instances of repeated tripping is still ongoing, there are very high chances of breakdown of Transformer again at Ziro Sub Station.

Since there is only one bank of Transformer at Ziro S/s, in case of breakdown, all the connected areas through these 33kV Lines shall be without power till restoration.

The issue was discussed in details during 195th OCC Meeting and during deliberation NERTS showed concern and highlighted that due to very large number of tripping on 33kV lines, the O&M of the transformers has become difficult and challenging too. In the event of breakdown, all connected areas through 33kV lines shall be without power till restoration.

The forum opined the requirement of one more transformer to fulfil N-1 criterion, referred the issue for detail deliberation in 23rd TCC/NERPC.

Installation of additional ICT will have a financial implication of approx. Rs. 5 Cr. The feasibility study for availability of space shall also be required.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.27	**:**	**DISBURSEMENT OF ENCASHED CBG AMOUNT TO DICS PENDING SETTLEMENT OF LEGAL DISPUTES ON RELINQUISHMENT CHARGES: - CTUIL**

In line with CERC Order dated 8.3.2019 passed in Petition No.92/MP/2015, CTU calculated relinquishment charges for LTAs relinquished by various generators and uploaded the same on its website from time to time.However, the relinquishment charges computed and notified by CTU in line with above CERC Order 08.03.2019 in Petition No. 92/MP/2015 was disputed by more than 20 relinquishing IPPs, who had filed appeals in APTEL which are pending adjudication. In view of pending disputes and GST issues concerning the raising of invoices, CTU issued demand letters to concerned relinquishing LTA customers pending disposal of appeals in APTEL.

During the proceedings in the matter, APTEL vide its order dated 08.10.2020 in Appeal no 251 of 2019, had restrained CTU from raising invoices with respect to the relinquishment charges during pendency of similar Appeals except where insolvency proceedings are faced by the generators.All the appeals on relinquishment charges are yet to be decided as on date and matter is being pursued by CTU. Further, where the IPPs are undergoing insolvency proceedings, CTU had filed claims before RPs/Liquidators for recovery of relinquishment charges.

Meanwhile, CTU encashed the CBGs of some of the IPPs who have abandoned their projects or undergoing insolvency proceedings and the encashed BG amount of approx. Rs 400 Crores was kept in FDs since the legal proceedings on relinquishment charges are still to be concluded and the BG amount may have to be refunded to IPPs along with interest in case of judgements in their favour in future.

The status of relinquishment charges and treatment of encashed BG amount has been reviewed in recent 42nd SRPC meeting held in Jun'22 and it was desired by the state utilities of SRPC that the BG amount be disbursed to all the DICs pending settlement of disputes on relinquishment charges. CTU informed that it is common money of all the five regions and cannot be given state-wise or region-wise and hence it needs to be taken up with all the RPCs for their consent. CTU further informed that, in case the BG amount is disbursed to the DICs in the pool and the disputes are settled in favor of the relinquishing IPPs later, the amount so disbursed in the pool shall be collected from respective DICs alongwith interest to refund to the IPPs. Copy of relevant extract of MOM of 42nd SRPC meeting is enclosed.

The NRPC / WRPC / ERPC / NERPC members may deliberate on the above and provide their consent on disbursing the encashed BG amount to the DICs in the pool with the conditions mentioned above, pending settlement of legal disputes on relinquishment charges.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.28 : PENDING HANDING OVER OF KHUPPI-KIMI 132 KV TRANSMISSION LINE: ARUNACHAL PRADESH

It was agreed in the 7th Meeting of Standing Committee on Power System Planning of North Eastern Region on 17.05.2018, at Guwahati, to hand over the following assets created by NEEPCO for drawl of construction power to Kameng HEP through POWERGRID on deposit work to Arunachal Pradesh through a modality to be decided in a separate meeting in CEA:

A. Transmission Lines:

   a. Balipara-Khupi 132 kV S/C line.

   b. Khupi-Kimi 132 kV S/C line.

B. 2x50 MVA, 220/132 kV transformer with all associated bays at Balipara.

C. 4x5 MVA, 132/33 kV Sub-Station with all associated bays and ancillaries at Khupi

Pursuant to above, Central Electricity Authority took a meeting on 10.10.2018, and

firmed up with the decision for handing over of the assets to Department of Power, Arunachal Pradesh on mutually agreed terms.

After a great deal of efforts, Department of Power, Arunachal Pradesh (DoP:GoAP), took over all the elements on 15/12/2020, except the Khupi-Kimi 132 kV S/C line; which was decided to be handed/taken over at its charged rated voltage of 132 kV, that is presently charged at 33 kV.

So far NEEPCO has not been able to render the line to be charged at the rated voltage, and hence has not handed over the same for which the power supply system at Khupi, East Kameng, West Kameng, Tawang and adjoining areas including the evacuation of the local Dikshi HEP generations are hugely impacted. NERPC have also been intervening on the matter through various meetings of OCC forum entailing NEEPCO for immediate handing over of the Khupi-Kimi 132 kV line to Department of Power, Arunachal Pradesh, by rectifying all the deficiencies of the line, associated bays and their equipment and ancillaries.

Further, for communication and protection of the Khupi-Kimi 132 kV transmission system, POWERGRID (Comprehensive Scheme) had agreed in a meeting taken by NERPC at Itanagar on 18.02.2022, to take suitable action in laying of OPGW on the Khupi-Kimi line, which too is pending.

Due to the above unusual delays, not only the western Arunachal Pradesh is subjected to suffering for want of reliable power supply in absence of alternate grid connectivity in the event of (frequent) disruption of the Balipara-Dukumpani-Khuppi 132 kV S/C Transmission line, but also cause huge perennial generation losses to local Dikshi HEP and even the Kameng HEP. This is an impact to the Region as well the Nation. Considering the above fact, the forum may like to prevail and impress upon NEEPCO and POWERGRID for immediate completion of their respective pending works in a timebound manner, and hand over the 132 kV transmission line charged at rated voltage as decided and agreed earlier to address the supply stability and system reliability issue of the area.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.29	**:**	**NORTH EASTERN REGION STRENGTHENING SCHEME-XV (NERSS-XV): {KATHALGURI (NEEPCO) - NAMSAI (POWERGRID) 220 KV D/C LINE INCLUDING UPGRADATION OF NAMSAI SUB-STATION TO 2X160 MVA, 220/132 KV ICTS: ARUNACHAL PRADESH**

The proposal of Arunachal Pradesh on the requirement of alternative interconnections at higher voltage levels was taken up in the First Meeting of North Eastern Region Standing Committee on Transmission (NERSCT) on 29.11.2018; and after a subsequent joint study meeting on 05.08.2019, the proposal was recommended for inspection of Kathalguri and Tinsukia Sub-Stations for ascertaining of space for bays by a team comprising of concerned stake holders lead by NERPC and to submit the report. Accordingly, pursuant to the report submitted by the team on 03.03.2020 after their visit to Kathalguri, Namsai and Tinsukia Sub-Stations, the . by discussions and decision in the Second Meeting of North Eastern Regional Power Committee (Transmission Planning) {NERPCTP}, a team comprising of all the stake holders lead by NERPC visited the Kathalguri, Namsai and Tinsukia Sub-Stations submitted the report to CEA, on 03.03.2020, based on which MoP, Government of India, accorded approval for development of the proposed Transmission Scheme through TBCB route vide Gazette Notification No. S.O. 2873(E), Dated 19th July, 2021. After completion of the statutory bid processes, M/s Power Grid Corporation of India Limited had been selected and recommended by the Bid Evolution Committee (BEC) for award of the work as the Transmission Service Provider, the work of which is mandated to be completed within 36 months of the transfer of the Special Purpose Vehicle (SPV).

The project is of utmost importance to state of Arunachal Pradesh as a redundant interconnectivity from the NER grid to enable reliable power supply to Central Eastern part of the state which is subjected to frequent supply disruption and outages in view of the lone and lengthy 132 kV radial line from RHEP to Namsai via Ziro, Daporijo, Aalo, Pasighat, Roing and Teju. Considering the priority importance and urgency of requirement, the status of the project may be apprised and the forum may take a view to constrict the completion timeframe suitably.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.30	:	REQUIREMENT OF CONSTRUCTION POWER FOR DIBANG MULTIPURPOSE PROJECT (DMP) (2880 MW), ARUNACHAL PRADESH BY NHPC: ARUNACHAL PRADESH

Vide letter Dated 19.08.2017, NHPC requisitioned to DoP:GoAP, for construction power requirement of 30 MW for the DMP by informing DPR provision of 132/66 kV bay at Roing with 41 kMs of 66 kV transmission line up to Pathar Camp including 66/11 kV Sub-Station at the project site. It was also sought to be confirmed in the communication as to whether it was possible to extend 132 kV transmission line from Roing upto the project for tapping construction power, so that the same line could be used for meeting up the local power requirement of Arunachal Pradesh after the commissioning of DMP.

Vide their subsequent confirmatory letter Dated 01.12.2017, NHPC reiterated and confirmed their requirement of 30 MW construction power at 132 kV level; and accordingly, requested Transmission, Planning & Monitoring Zone (TP&MZ) of DoP:GoAP for submission of the DPR so that they would deposit the fund to TP&MZ for further execution of the work, with the subsequent letter Dated 31.08.2018, conveying of specific transformer requirement specification of 3 numbers of Single Phase (1Pi) 20 MVA, 132/33 kV Transformer for maximum utilization of power; with followed up reminder letter Dated 22/07/2019 for submission of the DPR with additional requirement scopes therein.

After a lot of hard work and efforts, the DPR as required in the scope were submitted to NHPC vide forwarding No. CE/TPMZ/W-130/2019-20/1884-86, Dated 1/11/2019.

On learning that instead of responding to DoP:GoAP, NHPC was contemplating to get the works executed through other agency based on the estimate framed by DoP:GoAP, communication letters from DoP:GoAP Dated 5th May 2020, and 12th June 2020 were made with NHPC about the status of deposit of the fund. NHPC chose to remain silent on the communications.

However, on 09 June 2022 at 5:00 PM, the Central Transmission Utility (CTU),

abruptly mailed a Notice for a meeting on the next day, 10 June 2022 at 11:00 AM on the above subject matter of 30 MW construction power requirement by NHPC for DMP in Arunachal Pradesh. In the meeting on the appointed day, the CTU called off the meeting with the decision that NERPC would convene a separate meeting on the subject meter.

Consequently, the matter was discussed and deliberated in a Special Meeting convened by NERPC on 11 July 2022 in participation of the representatives of NHPC and DoP:GoAP, wherein it was agreed that, the construction power demand being less than 100 MW, and that being required in the state of Arunachal Pradesh, NHPC had no other option but only to approach DoP:GoAP for the power supply and associated requirement.

Pursuant to above decision, NHPC vide No. NH/DMP/ED/2022/4126, Dated 13.07.2022, once again requested TP&MZ of DoP:GoAP for confirmation of availability of 30 MW at 132 kV level at Pathar Camp of NHPC Dam site. The matter was clarified to the NHPC by DoP:GoAP vide their communications Dated 15th July 2022 and 20th July 2022, for immediate placement of the fund against the DPR already submitted and put in a formal application for load sanction of the demanded 30 MW construction power requirement.

However, instead of immediate implementation of the already agreed decision, NHPC vide their communication Dated 22.07.2022, conveyed requirement of some more review of the DPR etc. and proposed for a meeting to firm up the proposal. Accordingly, a joint meeting of DoP:GoAP and NHPC was held on 04.08.2022; vide which it was agreed and decided as under:

A. 132 kV Transmission System for the Construction Power:

i. As proposed by NHPC, the scope of the DPR was to be recast with change of Transformer voltage ratio from 132/33 kV to 132/11 kV with the firmed up route and length of the line route after a joint survey.

ii. Meanwhile NHPC was to convey final modifications, if any further, viz., numbers of 11 kV feeders, their ratings and accessories etc.

iii. Based on above finalization, the DPR was to be recast based on the latest

Schedule of Rates of DoP:GoAP.

B. Power Availability:

NHPC to apply with year-wise peak power requirement for sanction of their such load demand; which would be conveyed by DoP:GoAP after the assessment.

However, once again, instead of complying with and sticking to the already agreed decision as above, for the joint survey and finalization of the proposed transmission line route, NHPC deviated by informing vide their communication Dated 29.09.2022, to the concern Transmission Division of TP&MZ of DoP:GoAP that the matter is under review and accordingly would revert back after the firm up.

But astonishingly, the Executive Director, NHPC, DMP, vide his letter Dated 13.10.2022, abruptly & unilaterally changed the entire modus operandi of the complete subject matter, unmindful of the fact of the intervention position of NERPC in it and without taking into account the view of NERPC, requisitioned to Roing Electrical Division of Eastern Distribution Zone of DoP:GoAP, with the manipulatively altered quantum of load demand of 10 MVA at voltage level of 33 kV against the earlier 30 MW at 132 kV, with the most deceptive apparent abnormal requirement of 7 (seven) numbers of 33 kV feeders, seemingly not only for further future abnormal manipulative alteration of the appropriate Regulations, but also depriving the earlier earmarked stand for local and regional aspirational rights for use of the 132 kV transmission system to be used for meeting up the local power requirement of Arunachal Pradesh after the commissioning of DMP system.

In view of the above nonchalant disposition of NHPC in complete disregard to concerns and sensitivity of the Regional and Locale aspirations, and their hard attempt being exerted to deprive even the basic collateral benefit to be accrued to locality of the host state in development of the huge project and neglect the sanctity of the decisions of this august Regional Forum, the irresponsible party may be impressed upon to uphold the respect and dignity of decisions and commitment made earlier in the Special Meeting taken by NERPC and desist from such repeated deviations and create unnecessary confusions and conflicts.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.31 : REVISION OF BASE PRICE FOR AMC OF SCADA:- MSPCL

A contract was signed between MSPCL and GE T&D India Ltd (formerly known as Alstom T&D India Ltd) on 2nd April 2014 for Annual Maintenance for SCADA systems implemented at SLDC for the period of seven years (one year Defect Liability Period(DLP) and 6 years Annual Maintenance Contract(AMC)) starting from November 2016.

The AMC price has 3 components viz. base price, variable price (which depends on Labour Index published by Labour Bureau of India) and tax. A sample of "Price calculation to derive base price of GE and NER states are shown below. At the time of signing the contract, the service tax was 12.36%. However, it has come to our notice that there is difference in base price for AMC with GE T&D Ltd. for "Replacement/Upgradation of existing SCADA/EMS system of NERLDC and SLDCs of NER" for the constituent w.r.t NERLDC base price (adjusted after the introduction of GST 18%).

Comparison of Base Price of AMC (Quaterly Basis) of RLDC & NER States (Including Manipur):

	For RLDC			For Manipur		
Calculated	INR	Taxes	INR	INR	Taxes	INR
DLP	755525.42	18%	891520.00	793449.63	12.36	891520.00
6 Yrs	14036385.	18%	16562935.01	14740953.1	12.36	16562935
		Total	17454455.01		Total	17454455.01
	Base Price			Base Price		
Quaterly AMC	584849.40			614206.383		

Base Price of GE AMC for SCADA of RLDC and NE States :

SL. No.	State	Base Price(in ₹)	Remark
1	RLDC	5,84,849.40	Base price adjusted from ₹ 6,14,206.383 to ₹5,84,849.4
2	Manipur	6,14,206.38	Not adjusted

3	Tripura	6,14,206.38	Not adjusted
4	Nagaland	6,14,206.38	Not adjusted
5	Meghalaya	6,14,206.38	Not adjusted

Since the AMC is covered under the same scheme for all the utilities concern, the base price should be uniform and should be adjusted accordingly for the all the constituents too.

The forum may please advise for the same.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.32 : IMPLEMENTATION OF SECURITY OPERATION CENTER: -MSPCL

During the 18th meeting of Monitoring committee of PSDF, held on 26th July 2022, it was decided that 100% of the project cost for the implementation of Security Operations Center (SOC) at SLDCs for real time cyber security monitoring may be funded through PSDF for the period from 2021-22 to 2025-26. In this regard, the letter regarding the Provision for Implementation of Security Operations Centre (SOC) through PSDF Funding is attached as Annexure - I.

SOC is a facility that houses security team responsible for monitoring and analyzing and defending an organization security posture on real-time basis. It at as hub or central command post, collecting telemetry from across an organization's IT infrastructure, including network devices, appliances and information stores whenever those assets reside. Essentially the SOC is the correlation point for every event logged within the organization that is being monitored.

Following this a discussion meeting was organized by NERLDC for the SLDC's of NER region on 12 Oct 2022 to understand the technical requirements and implementation challenges for SOC. There were two important challenges in the implementation of SOC:-

1) The maintenance cost (AMC) for the project may increase the financial liability of SLDC's.

2) The requirement to have 24x7 IT staffs to monitoring SOC. This will increase the burden on SL DC which are already facing manpower shortage the existing operations.

The forum may please advise on the necessary course of action.

TCC Deliberation :

NERPC Deliberation :

ITEM NO. A.33 : DEVELOPMENT OF RENEWABLE ENERGY PROJECTS IN NER STATES: NTPC

GOIs NDC for Climate Change

In line with GOI Nationally Determined Contributions of reaching 50% of installed capacity by RE sources Ministry of Power has revised the RPO obligations for all states from 24.61% in 2022-23 to 43.33% by 2029-30

Penalties for not meeting RPO obligations

States who are not able to meet the RPO obligations will have to buy RE certificates which at present are ranging from Rs. 1.00 to Rs. 2.20 per unit.

The present waiver of ISTS charges shall not be available for projects commissioned beyond March 2025.

RE potential in NER States

As per MNRE report the RE potential in various states of NE is to the tune of 65000 MW against which only 570MW is installed capacity in NER States. A huge potential still lies untapped.

There is a need for NER states to expeditiously come up with progressive RE policies To achieve this Target all NER states need to come up with progressive RE Policies in line with other states such as Jharkhand and UP so that investors are incentivized to invest in RE projects in these states and the RE projects become financially viable. Some of the incentives that RE policies may include are:

- Single window registration and approvals for RE projects
- Identification and allotment of suitable land for RE projects at nominal rates
- Deemed conversion of land for non-agricultural purpose
- Conduct feasibility study for all identified Solar land bank
- Providing connectivity to nearest Grid Substation/ Reimbursement of transmission line connection

- Waiver/exemption of Stamp duty/ Electricity duty, court fees
- exemption of Cross subsidy surcharge and Wheeling charges/ Transmission charges for Intrastate Transmission system
- Augmentation of communication infrastructure by state at RE project sites.

NER states to proactively bring out the RE policies and take further steps to bring in RE projects in the NER states.

TCC Deliberation :

NERPC Deliberation :

2. CATEGORY - B : ITEMS FOR APPROVAL

ITEM NO. B.01 : TRANSMISSION SYSTEM FOR PROVIDING CONNECTIVITY TO DIBANG HEP - NERPC

M/s NHPC Ltd. had requested for grant of 2880MWconnectivity for its Dibang HEP (12x240MW) generation project in Arunachal Pradesh. Arunachal Pradesh has huge hydro potential. CEA has developed a Master Plan for power evacuation of about37GW hydro projects in Arunachal Pradesh to other parts of the country through 7 no. ±800kV, 7000MWHVDC bipole lines. The hydro projects in different basins are being taken up in phases. With phased development of hydro project, various high capacity EHV substations are required to be established in border areas of Arunachal Pradesh and Assam for pooling of hydropower, and further establishment of high-capacity evacuation lines from these pooling points are necessary for power evacuation. Such transmission systems need to be developed in ISTS for seamless integration of various hydro projects at pooling points located in Arunachal Pradesh or Assam. Due toabsence of any pooling point in upper Assam or Arunachal Pradesh, Dibang HEP needs to be pooled at a new poling point such that the same pooling point could also be utilized for pooling of other hydro projects in future. Also, there was requirement of a new 400kV substation in Upper Assam (North of Brahmaputra River) to augment power supply to areas in upper Assam and Arunachal Pradesh. Considering the availability of land in upper Assam (North of Brahmaputra River) and Arunachal Pradesh, terrain and Row of Way (RoW)

requirement in that area for future transmission lines, optimization of transmission system is very essential. Accordingly, it is planned to provide Connectivity to Dibang HEP at its switchyard through ISTS line so that as per requirement this immediate evacuation line under ISTS can also be used for power evacuation from other HEPs in future. In view of the above, a new 400kV substation has been planned at Gogamukh through LILO of one D/c (ckt-1 &ckt-2 of D/c line-1) of Lower Subansiri – Biswanath Chariali 400kV (Twin Lapwing) 2xD/c lines, which are being taken up for implementation under NERES-XVI scheme (expected by Mar 2025). The Dibang HEP has been planned to be pooled at Gogamukh through 400kV2xD/c (Quad) ISTS lines. For further power evacuation, Gogamukh – Biswanath Chariali 400kV (Quad) D/c line has been planned.

Name of the Scheme: Transmission system for providing connectivity to Dibang HEP

Scope of the Scheme

i. Dibang – Gogamukh 400kV 2xD/c (Quad) line

ii. Extension works at Gogamukh S/s at 400kV level

• 4 no. of 400kV line bays for termination of Dibang – Gogamukh 2xD/c lines

• 4x63MVAr switchable line reactors at Gogamukh end of Dibang – Gogamukh 400kV 2xD/c lines, one in each circuit

Upstream network associated with the scheme

Upstream network to be implemented under ISTS:

- Establishment of Gogamukh 400/220/132kVsubstation under NERES-XVI by Mar 2025.

Upstream network to be implemented by Dibang HEP developer:

- 4 no. of 400kV line bays at Dibang HEP switchyard for termination of Dibang – Gogamukh 400kV D/c2xD/c (Quad) lines along with 4x63MVAr switchable line reactors at Dibang end, one in each line.

To be implemented matching with Dibang HEP (expected by May 2029) and after completion of Gogamukh S/S (expected in Mar 2025).

Inclusion of wildlife/protected area: The transmission line route may infringe Mehao wild life sanctuary in the state of Arunachal Pradesh. However, for details of forest/protected areas survey is required to be done.

Estimated Cost: INR 1650 Cr.

Impact on Annual Transmission Charges (considering levelized tariff @ 15% of estimated cost): INR 247.50Cr.

Name of the Scheme: Transmission system for power evacuation from Dibang HEP
Scope of the Scheme
i. Gogamukh – Biswanath Chariali 400kV D/c(Quad) line

ii. Extension works at Biswanath Chariali(POWERGRID) S/s at 400kV level

2 no. of 400kV line bays for termination ofGogamukh – Biswanath Chariali 400kV D/c(Quad) line at Biswanath Chariali

Extension works at Gogamukh S/s at 400kV level

2 no. of 400kV line bays for termination of Gogamukh – Biswanath Chariali 400kV D/c(Quad) line

2x80MVAr switchable line reactors at Gogamukh end of Gogamukh –Biswanath Chariali 400kV D/cline, one in each circuit
Upstream network associated with the scheme
Upstream network to be implemented under ISTS:

- Establishment of Gogamukh 400/220/132kVsubstation under NERES-XVI by Sep 2025.

To be implemented matching with Dibang HEP (expected by May 2029) and after completion of Gogamukh S/S (expected in Sep 2025).
Estimated Cost: INR 852Cr.
Impact on Annual Transmission Charges (ATC): INR 127.80Cr.

Assets under this scheme – **Table 1**

Name of the Asset		From Station	To Station	Scope
Line	400kV Quad Moose 2xD/C Line	Dibang HEP	Gogamukh	TBCB
	400kV Quad Moose D/C Line	Gogamukh	Biswanath Chariali	
Bays	400kV bays at Dibang HEP – 4nos	Dibang		NHPC
	400kV bay extension – 4 nos	Gogamukh		TBCB
	400kV bay extension – 2nos	Biswanath Chariali		TBCB

	400kV bay extension – 2nos	Gogamukh		TBCB
Reactors	4x63MVAR switchable Line Reactors at Dibang for Gogamukh	Dibang		NHPC
	4x63MVAR switchable Line Reactors at Gogamukh for Dibang	Gogamukh		TBCB
	2x80MVAR switchable Line Reactors At Gogamukh for BNC	Gogamukh		TBCB

Approved link assets – **Table B**

Name of the asset		From Station	To Station	Scope
Line	LILO of 400kV Twin Lapwing Lower Subansiri – BNC D/C- I	Lower Subansiri	Gogamukh	TBCB
		Gogamukh	BNC	TBCB
Station	400/220/132kV GSS at Gogamukh			TBCB

In 22nd TCC/RPC held in Mar'22 the forum was of the view that further study is required to exactly assess the location of link Sub-station(i.e. Gogamukh) and connectivity to best serve the load centers in Assam and Arunachal Pradesh. Hence TCC requested AEGCL to submit the supporting data to CEA for further studies.

TCC decided to take up Transmission Planning for Dibang HEP after completion of the above exercise.

In the Special Meeting held under Chairmanship of Member Secretary, NERPC on 11th July'2022 at Shillong the forum approved in-principle the Scheme listed at **Table 1** for Evacuation of Power from Dibang HEP at a total estimated cost of INR 852 Cr. and referred to the next TCC/RPC meeting for approval.

Placed for approval of TCC

ITEM NO. B.02	**:**	**RE-CONDUCTORING BY PROVIDING HTLS CONDUCTOR WITH ALLIED ACCESSORIES AT EXISTING 132 KV INTRA-STATE TRANSMISSION LINE SECTIONS OF TSECL. – TSECL**

Power flow through 132 KV network in the State of Tripura has increased considerably with addition of new generating stations in the system. Re-strengthening of some intra-state transmission line sections by replacing old aged conductor, hardware etc. with HTLS conductor having ampacity of 800 Amperes with suitable insulator & hardware fittings being essentially required is envisaged in the proposal for stability of the intra-state grid.

i) The existing 132 KV intra-state connectivity from Udaipur to Palatana Generating Station is presently having ACSR Panther conductor. The said link is proposed for re-conductoring with HTLS conductor which shall strengthen intra-state transmission system in terms of adequate power flow with more reliability and improved voltage profile which will be beneficial not only for the Gomati and South Districts but the State as a whole considering the future load growth.

ii) Rokhia Generating Station is presently connected with two major intra-state transmission lines at 132 KV 79 Tilla Agartala Grid sub-station and 132 KV Udaipur sub-station. The existing 132 KV double circuit link from 79 Tilla Agartala Grid to Rokhia has been already provided with HTLS conductor.

The 132KV single circuit transmission line from Udaipur to Rokhia GTP was constructed and commissioned long back with ASCR “PANTHER” conductor. Since commissioning the line has gone through different wear-tear condition and overtime the power flow through this line has also been increased, mechanical strength of the power conductors & IR value of the existing disc insulators of the said line have deteriorated to a great extent due to overlong use. As a result there has been frequent occurrence of snapping of old aged conductors, insulator failures and outage of jumpers due to flashing which has caused major disruption in Tripura power system and disturbances in intra-state grid with current flowing above thermal limit through some intra-state line sections creating congestion in adequate power flow.

As such, providing of HTLS conductor in both the existing 132 KV transmission line sections from Palatana to Udaipur and Udaipur to Rokhia is very much essential for adequate power evacuation from Palatana Generating Station and Rokhia GTP and to maintain grid reliability, stability as well as to improve the voltage profile.

iii) The re-conductoring proposals of TSECL have been earlier placed in the 22nd TCC and 22nd NERPC meetings held on 26th-28th March, 2022, where the proposals have been referred to the respective sub-committees. Subsequently, the proposals were put up in the 190th OCC meeting of NERPC held on 20th May, 2022, where the proposal has been referred to the CMETS– NER (Consultation Meeting for Evolving Transmission Schemes in North Eastern region) of Ministry of Power, Govt. of India.

iv) In the 9th CMETS-NER meeting held on 22nd July, 2022, reconductoring of the following existing 132 kV intra-state line section with HTLS Conductor (800 Amp) along-with augmentation/replacement of bay equipment commensurate with rating of HTLS conductor at both ends as may be required was agreed:

(a) Palatana – Udaipur 132kV S/c line (KM)

It was also decided that a joint study will be carried out to assess the requirement of reconductoring of other proposed intra-state lines of TSECL based on load forecast.

v) Subsequently, in the 10th CMETS-NER meeting held on 29th August, 2022, after detailed deliberations and based on joint studies, strengthening work was agreed for reconductoring of following existing additional 132kV lines with HTLS conductor (800 Amp) along with augmentation/replacement of bay equipment commensurate with rating of HTLS conductor at both ends, as may be required:

(a) Rokhia – Udaipur 132kV S/c line (KM)

(b) Ambasa – Kamalpur 132kV S/c line (KM)

(c) Rabindranagar – Monarchak 132kV D/c line (KM)

Based on the recommendations of 9th and 10th CMETS-NER, the following 132 kV intra-state transmission line sections are proposed for re-conductoring by providing HTLS conductor of ampacity 800 Amp along-with allied accessories:

Sl.	132 KV Line section	Circuit	Length (CKm)
i)	Palatana – Udaipur	S/C	12
ii)	Udaipur – Rokhia GTP	S/C	47
iii)	Ambassa - Kamalpur	S/C	31
iv)	Rabindranagar - Monarchak	D/C	5.2
	Total		**95.2 CKM**

Detail Project Report (DPR) of the proposal will be submitted for consideration of funding through 100 % Grant from Power System Development Fund (PSDF).

The Agenda is hereby placed before the 23rd TCC meeting & 23rd NERPC meeting for consideration and approval.

Placed for approval of TCC

ITEM NO. B.03 : MODERNISATION AND UP-GRADATION OF PROTECTION SYSTEM IN 132 KV EHV SUB-STATIONS OF TSECL.– TSECL

Presently there are 13 nos. 132 KV EHV sub-stations of TSECL in the State. Out of these 13 nos. 132 KV sub-stations, renovation & up-gradation of protection system have already been implemented under PSDF scheme in the following 6 nos. 132 KV sub-stations:

1. 79 Tilla Agartala Grid
2. Dhalabil
3. P.K. Bari
4. Gournagar (Kailashahar)
5. Ambassa
6. Udaipur

In addition, augmentation of the following 5 nos. existing 132 KV sub-stations have been envisaged in the scope of work of Govt. of India and World Bank funded NER Power System Improvement Project (NERPSIP) and are presently in progress by Power Grid Corporation of India Limited (Implementing Agency of NERPSIP)

1. Udaipur

2. Jirania
3. Dhalabil
4. Gournagar (Kailashahar)
5. Ambassa

The below-mentioned 5 (five) nos. existing 132 KV EHV sub-stations being not covered either in NERPSIP or under R & U Scheme of PSDF are left-out :

1. Surjamaninagar
2. Bodhjungnagar
3. Gamaitilla
4. Kamalpur
5. MissionTilla (Dharmanagar)

Modernisation & Renovation by replacing old aged, obsolete equipments / switchgears and Protection system in the above balance 5 (five) nos. 132 KV sub-stations of the State viz, Surjamaninagar, Bodhjungnagar, Gamaitilla, Kamalpur, Missiontilla (Dharmanagar) respectively is very much essential to be implemented.

In addition, left out portions of certain protection components in 79 Tilla 132 kV Agartala Grid S/S, P.K. Bari 132 KV sub-station and 132 kV Udaipur sub-station respectively in respect of up-gradation of protection system also need be considered to achieve most reliable power transmission system in the State.

Major left out portions of protection scheme are appended here-in below:

1) Bus Bar protection
2) Line Differential Protection
3) Implementation of Auto Recloser & Carrier Aided Protection in 132 KV lines
4) 132 KV Substation Automation System (SAS)
5) Renovation of earthing system
6) Transfer bus with bus-coupler arrangement
7) Installation of Numerical Relays by replacing Electro-mechanical relays
8) Implementation of Back Up D.C. system
9) Black Start DG system

The proposal was placed before CMETS –NER for acceptance, but, CMETS –NER has communicated that the proposal pertains to Renovation & Up-gradation of Protection System of TSECL's Intra – State network and accordingly, the same is not required to be deliberated in the CMETS –NER.

Detail Project Report (DPR) will be submitted for the proposal of Renovation & Up-gradation of Protection System in the 5(five) nos. EHV Sub-Stations of TSECL (viz, Surjamaninagar, Bodhjungnagar, Gamaitilla, Kamalpur and Missiontilla) along-with left out portions of 3 nos. 132 KV sub-stations (79 Tilla Agartala Grid, P.K Bari and Udaipur) for consideration of funding through 100 % Grant from Power System Development Fund (PSDF).

The Agenda is hereby placed before 23rd TCC meeting & 23rd NERPC meeting for consideration and approval.

Placed for approval of TCC

ITEM NO. B.04	**:**	**UPGRADATION OF 132KV BADARPUR & 132KV KHLIEHRIAT SUBSTATIONS FROM SINGLE MAIN AND TRANSFER BUS SCHEME TO DOUBLE MAIN BUS SCHEME BY CONVERTING FROM AIS TO GIS: - POWERGRID**

In NER, upgradation of 132kV Aizawl, Haflong, Jiribam, Kumarghat and Dimapur substations from Single Main and Transfer Bus Scheme to Double Main Bus Scheme by converting from AIS to GIS done on completion of 25 Years. In line with above, upgradation of 132kV Nirjuli and Imphal substations from Single Main and Transfer Bus Scheme to Double Main Bus Scheme by converting from AIS to GIS also agreed 1st NERPC Transmission Planning meeting held on 08/11/19. However, upgradation of 132kV Khliehriat and Badarpur substations from Single Main and Transfer Bus Scheme to Double Main Bus Scheme by converting from AIS to GIS was kept in abeyance in said 01st NERPC TP meeting on 08.11.2019 due to considerable time was left out for completion of 25 years which is by February 2024.

Considering minimum 2 years of lead time for detail engineering, tendering and implementation of the project and less than 2 years left out for completion of 25 years of life for Badarpur and Khliehriat, the issue was discussed in 195th OCC Meeting on 18.10.2022 for according approval for upgradation of Bus Bar Scheme from SMT to DM with conversion from AIS to GIS for Badarpur and Khliehriat Sub Station by POWERGRID on RTM basis as done for above stated stations. Approximate expenditure towards the same shall be INR 60.00 Cr. For both the stations (Approx. Rs. 30.00 Cr. Per station).

During deliberation, the forum gave the in-principle approval for the said upgradation works in line with earlier approval accorded for Imphal, Nirjuli, Jiribam, Haflong, Aizawl, Kumarghat & Dimapur Sub Station and referred the item to TCC/RPC Meeting. Refer Item No. C.13 of MOM of 195th OCC Meeting.

Further, considering the increasing urgent need to achieve decarbonization in all sectors worldwide, it is proposed to consider upgradation of Badarpur Sub-station to Green Sub-station by using green gas instead of SF6.

Placed for approval of TCC

ITEM NO. B.05	**:**	**REPLACEMENT/ REFURBISHMENT OF CONVENTIONAL CONTROL & PROTECTION SYSTEM AT MISA, BALIPARA & BONGAIGAON S/S IN VARIOUS TRANSMISSION SYSTEM PROJECT UNDER O&M ADD CAP 2019-24: - POWERGRID**

400kV Substations Misa, Balipara & Bongaigaon Substations have been commissioned under Ranganadi Balipara Transmission Line, Kathalguri Transmission Line Project and Doyang Transmission Line Project. The stations have been commissioned in the different – different time frames as detailed below: -

SN	STATION NAME	DOCO
1.	400/220kV Misa	30/06/1995
2.	400/220/132kV Balipara	16/03/1998
3.	400/220kV Bongaigaon	21/08/1998

These stations have been commissioned with conventional control & protection panels wherein Control & Relay panels are placed in Control Room whereas control cables from CT, CVT & CB have been laid between Switchyard to Control Room.
As the system have been commissioned around 25 years back, following issues have been observed in the installed asset base: -

1. Quite a few relays are static type. Failures have been noticed in them due to ageing of components.
2. Cables laid have got worn out due to inclement weather condition which results in occurrence of frequent DC Earth fault in the system.
3. Technologically the relays have become obsolete.
4. SCADA Systems are not available due to which complete SOE after any event could not be obtained.
5. Old and obsolete Bus bar Protection system is installed resulting in complete threat to the Substation Bus Bar Protection System.

On account of above, there had been cases of mal-operation due to which reliability of the Grid gets reduced.

Hence, complete replacement of these conventional CRP has been taken up under O&M Add cap 2019-24. Benefits of the upgradation to SAS based is as given below:

1. Latest Technology Numerical Relays for better reliability during faults
2. New cables shall helpful to avoid the DC Earth faults
3. State-of-Art latest SCADA system will help in proper monitoring and analysis of the system.

Accordingly in order to execute the upgradation work the project wise estimated expenditure proposed to Hon'ble CERC for C&R panel and got approved as given below: -

SN	STATION NAME	ESTIMATE EXPENDITURE (IN LAKH)
1.	Ranganadi Balipara Transmission Line and Kathalguri Transmission Line Project	1124.67
2.	Doyang Transmission Line Project	189.87
	TOTAL =	**1314.54**

Now, while preparing the detailed cost estimate, it is observed that some of the items (viz. Cables, Switchyard panel room etc.) not considered inadvertently in above approved estimate. It is to mention that without missed items upgradation work cannot be completed. Hence, in order to execute the upgradation work following is the revised the estimated expenditure got revised as per the details given below: -

SN	STATION NAME	PROPOSED EXPENDITURE (IN LAKH)
1.	Ranganadi Balipara Transmission Line & Kathalguri Transmission Line Project	2117.09
2.	Doyang Transmission Line Project	982.38
	Total	**3099.47**

Approximate cost estimate for the project works out to be INR 3099.47 Lakhs only. During Add cap approval for RBTL project, Hon'ble CERC recommended to take consent of RPC forum. In line with the same, as there is revision in the cost towards the CRP upgradation works, the matter was discussed in 193rd OCCM and after detailed deliberation the forum accorded in-principle approval for replacement of conventional CRP with SAS based CRP under O&M Add Cap. 2019-24 for betterment of the system and for ensuring reliability of the grid. Further, forum referred the agenda to CCM/TCC/RPC for approval. However, inadvertently, the agenda item could not be taken up in next 46th CCM.

In view of the above, proposal is put up here for further deliberation as recommended by OCC forum and approval of CCM/TCC/RPC for revised cost of INR 30.99 Cr. under O&M add cap 19-24. Refer Item No. C.5 of MOM of 193rd OCC Meeting.

Placed for approval of TCC

ITEM NO. B.06	:	REQUIREMENT OF SAS BASED CONTROL & RELAY PANELS FOR 220KV SIDE OF ICT#1 (NEW) AND 132KV KHANDONG KOPILI#1 LINE BAY AT KOPILI (S/Y) OF NEEPCO: - POWERGRID

Under NERSS III, 01 No 220/132kV 160MVA ICT along with GIS on 132kV Side was provided. The assets under NERSS III were ready for charging. However, due to unfortunate incidence of flooding of Kopili Power House in Oct'19, there have been heavy damage to the assets.

Restoration of the assets under POWERGRID Scope is under progress. As complete CRP of NEEPCO portion got damaged, hence, complete R&M of the switchyard along with SAS based CRP was taken up by NEEPCO.

During the visit of a committee of senior officials from NERPC / NERLDC / NEEPCO / MeECL / POWERGRID at Kopili in connection with restoration, POWERGRID was asked to replace the conventional panels with SAS based panels to integrated with upcoming NEEPCO SAS based system. Thus, conventional panels of following elements / bays installed at NEEPCO Control room got washed out and hence needs to be replaced with SAS based panels along with integration in NEEPCO/existing SAS: -

1. 220kV Side bay of ICT#1 (new) provided under NERSS III
2. 132kV Line bay of Khandong Kopili#1

Now, the additional financial implication for installation of SAS based panels and integration with system will be approximately INR 50 Lakh which is additional item for the ongoing contract. Hence, it is proposed to approve the additional scope under NERSS III.

Placed for approval in TCC

ITEM NO. B.07	:	UPGRADATION OF 33KV INDOOR SWITCHGEAR AT 132/33KV ZIRO S/S FROM AIS BASED TO GIS: - POWERGRID

132/33kV Ziro Substation was commissioned in the year 2004. On 33kV Side AIS type Indoor switchgear panel scheme is implemented. Substation is situated at an altitude of 1700 above msl. There are following feeders connected on 33kV Side: -

1. 33kV Ziro – Old Ziro
2. 33kV Ziro – Kurung Kumey
3. 33kV Ziro – Kimin

Now, due to high altitude and humidity, the 33kV AIS insulations and equipment are suffering frequent flashover / failure which is causing unwanted outage of power supply.

Presently, there is hardly any service support from OEM and also, OEM recommends for replacement of 33kV AIS system with GIS for trouble-free operation. It is understood that DoP, AP has already replaced the 33kV System with GIS in contemporary stations at Daporijo and Along.

In view of above, the issue was discussed during 195th OCC Meeting on 18.10.2022 for replacement of 33kV AIS indoor switchgear by 33kV GIS indoor switchgear by POWERGRID on POC Mechanism for reliable power supply to the downstream consumers at Ziro Sub Station. Approximate expenditure towards the same shall be INR 2 Cr.

During deliberation the forum endorsed the proposal and referred the same to next TCC/NERPC meeting for the approval. Refer Item No. C.14 of MOM of 195th OCC Meeting.

Placed for approval in TCC

ITEM NO. B.08 : CONVERSION FROM CONVENTIONAL STATION TO SAS BASED STATION - MePTCL

For increasing system stability, reliable and accurate collection and control of data, also for cost reduction of deployment and operation, it is proposed to convert conventional substation to SAS based S/s for effective management of transmission assets. The following grid substation are being identified for SAS implementation in Phase-I considering the communication system and logistics being in place.

(i) 132KV Mawlai Substation
(ii) 132KV NEHU Substation
(iii) 132KV Mawphlang Substation
(iv) 132KV Khliehriat Substation
(v) 132KV Mawlyndep Substation
(vi) 132KV NEIGRIHMS Substation
(vii) 132KV Lumshnong Substation
(viii) 132KV EPIP-I Substation
(ix) 132KV EPIP-II Substation
(x) 132KV Rongkhon Substation
(xi) 132KV Ampati Substation
(xii) 132KV Nangalbibra Substation and
(xiii) 132KV Mendipathar Substation.

Put for approval of TCC/RPC with 100% funding from PSDF.

Placed for approval in TCC

ITEM NO. B.09 : RE-CONDUCTORING AND STRENGTHENING OF AGED 132 kV LINES IN MANIPUR WITH HTLS: MSPCL

In 3rd NERPC-TP meeting held on 19th July, 2022 upgradation of the following lines (With HTLS) along with bay equipments at both ends were approved and placed for approval of TCC/N ERPC:

a) 132kV Imphal — Yurembam D/C Line
b) Existing 132 kV Leimatak — Ningthoukhong S/C Line
c) 132 kV Yurembam —Yaingangpokpi D/C line

Subsequently, in 22nd TCC and 22nd NERPC Meeting held on 26th & 28th March, 2022 at Guwahati the three 132kV transmission lines were approved for upgradation to HTLS.

With the advent of railways, trans-highway, e-vehicles and tourism in the state of Manipur, the demand of power would further increase. Further, Manipur is also feeding Tamu (Myanmar) radially via 11kV transmission line and demand from Tamu (Myanmar) is also expected to increase. Accordingly, the demand is expected to grow to about of 600-650 MW in the next 3-4 years as per EPS projection. Therefore, the capacities of the existing 132kV transmission lines need to be increased to commensurate with increase in the demand of power.

The total capacity of Sub-Stations in each system 400kV, 132kV and 33kV are about 1000 MVA each and sufficient to cater with ever increasing demand of the state, whereas the ATC of the 132kV lines to draw power are quite less because all the existing 132kV transmission lines are constructed with normal conductors. The state could meet the increasing demand comfortably once the existing 132kV transmission systems are strengthened, reconductoring and changed with HTLS

Furthermore, obtaining of forest and environmental clearances for the Right of Way (ROW) for construction of new transmission lines is a big hurdle. And the cost also may shoot up because of the compensation to be paid. By re-conductoring the remaining old 132 kV lines with high capacity (High Temperature Low Sag, HTLS) conductors the problems of finding new ROWs can be avoided and the capacities of the lines can be increased to more than two ti mes their original capacities. '

MSPCL certifies that the aged/old towers of the following 132kV transmission lines are technically fit for stringing of the I inas with HTLS Conductor.

1. Yaingangpokpi - Kongba D/C 132kV lines
2. Kongba- Thoubal D/C 132kV lines
3. Thoubal- Kakching-D/C 132kV lines
4. Kakching- Elangkhangpokpi-D/C 132kV lines
5. Elangkhangpokpi- Churachandpur-D/C 132kV lines
6. Imphal (PG)-Ningthoukhong S/C 132kV line

7. Ningthoukhong—Churachandpur D/C 132kV lines

8. Yurembam-Karong S/C 132kV line

Considering the above facts and circumstances, MSPCL proposes to strengthen and re-conductor the remaining old 132 kV above lines with HTLS conductor.

TCC may kindly deliberate the request of MSPCL and approve the proposal for the execution by MSPCL with possible funding from PSDF or other funding Agencies, in the interest of NER Grid Security and smooth power supply management in Manipur.

Placed for approval in TCC

3. CATEGORY - C : COMMERCIAL ISSUES

ITEM NO. C.01 : OUTSTANDING DUES OF MIZORAM FOR PAYMENT TO TSECL AND RENEWAL OF LC. -TSECL

As on date, an amount of Rs 11.72 Cr. is outstanding excluding the surcharge with Mizoram. TSECL has to make timely payment to GAIL/ ONGC regularly to avoid surcharge etc as well as to avoid regulation of Gas supply. Therefore, Mizoram may ensure monthly payment to TSECL to avail rebate as well as to avoid surcharge etc.

Moreover, LC of Mizoram has already expired on 10th October, 2022renewal of LC is required.

Mizoram may update the status.

ITEM NO. C.02 : OUTSTANDING DUES OF OTPC AGAINST NER BENEFICIARIES – OTPC

The current total outstanding dues of OTPC against the NER beneficiary states (as on 09-11-2022) are as under:

(Amount in Rs Crores)

Sl.No.		Beneficiary	Outstanding Dues (>45 Days)	Total Outstanding
1		Manipur	5.16	20.35
		Total	**5.16**	**20.35**

As per Ministry of Power, Govt of India scheme, OTPC had agreed for payment in installments for outstanding dues from Manipur without levy of any surcharge amount for the benefit of Manipur state. Still Manipur state is not liquidating the current dues and the outstanding dues amount is again increasing. Whereas other beneficiary states of Palatana are clearing their dues without even availing this scheme. The forum is requested to impress upon Manipur to clear its current dues within due date of the bills.

MSPDCL may update the status.

ITEM NO. C.03 : OUTSTANDING DUES - POWERGRID

The total outstanding dues (pertaining to both PoC as well as non-PoC billing) payable by NER beneficiaries to CTUIL/POWERGRID as on 04.11.2022 is detailed below: -

(All Figures in Rs Crores)

STATE/DIC	OUTSTANDING DUES > 45 DAYS	TOTAL OUTSTANDING DUES	REMARKS
Ar. Pradesh	0.00	11.57	*Approx. 01 month receivable*
APDCL, Assam	0.00	124.03	*Approx. 02 months receivable*
MSPDCL, Manipur	**15.78**	31.05	*Approx. 05 months receivable (Rs. 9.42 Cr. being paid in EMI under LPS Rules,2022)*
MSPCL, Manipur	**0.71**	0.90	*Approx. 09 months receivable*
MeECL, Meghalaya	**5.43**	23.16	*Approx. 04 months receivable*
Mizoram	**19.00**	29.06	*Approx. 4 months receivables & Bilateral bills (approx. Rs. 14.49Cr.)*
Nagaland	0.00	0.00	
TSECL, Tripura	0.00	14.18	*Approx. 01 month receivable*
NEEPCO	**82.13**	84.59	*Bilateral bills*

Concerned DICs with >45 days outstanding dues, viz. Mizoram, MSPDCL, MeECL, NEEPCO & MSPCL may be impressed upon to clear the outstanding dues immediately since POWERGRID and other transmission licensees (on behalf of whom CTUIL does the billing & collection) are facing financial constraints due to accumulation of such huge outstanding dues.

Concerned DICs may update the status

ITEM NO. C.04 : STATUS OF LC OF NER BENEFICIARIES (AS PER NEW REQUIREMENT) - POWERGRID

As it is known to all concerned, Central Transmission Utility of India Ltd (CTUIL), a subsidiary of POWERGRID, has started functioning as CTU w.e.f. 01.04.2021 as per notification dated 09.03.2021 issued by MoP, GoI and accordingly, the Billing, Collection and Disbursement of transmission charges (*for PoC billing*), a function of CTU, is being undertaken by CTUIL with effect from **01.04.2021**.

Consequent to above, separate LCs in favour of CTUIL (*for PoC Billing*) and POWERGRID (*for non-PoC billing*) in place of existing LCs, which are in favour of POWERGRID, are to be maintained by DICs in line with provisions of Regulation 19 of CERC Sharing Regulations, 2020 and to avail CTUIL rebate scheme for FY 2022-23.

The status of LCs (***as per above new requirement***) of NER DICs as on **04.11.2022** is as follows:-

STATE/DIC	LC IN FAVOUR OF CTUIL (FOR POC BILLING)	LC IN FAVOUR OF POWERGRID (FOR NON-POC BILLING)
Arunachal Pradesh	Available (***enhancement required for Rs.5.34Cr.***)	**Not Available**
APDCL	Available	Available
MSPDCL	Available (***enhancement required for Rs.1.52Cr.***)	-

MSPCL	NA	**Not Available**
MeECL	Available	Available
Mizoram	Available	Available
Nagaland	Available	Available
TSECL	Available	Available

Arunachal Pradesh and **Manipur** may be impressed upon to enhance their LCs to the requisite amounts.

Concerned DICs may update the status

4. CATEGORY - D : ITEMS FOR INFORMATION

ITEM NO. D.01 : BOARD FUND AUDIT – NERPC

The Board Fund of NERPC for FY 2021-22 and 2022-23 (Mid-year upto Sep'22) has been audited by constituents of NERPC which are based in Shillong i.e. MeECL, NERTS & NEEPCO.

This is for kind information of members.

ITEM NO. D.02 : IMPORTANCE OF DEVELOPING SMALL HYDRO PROJECTS IN THE NER STATES UNDER MNRE, GOI:SHP SCHEME

The 22nd RPC decided that a Resolution will be adopted to request Govt. of India to revive the earlier scheme from MNRE or any fund to tap the small hydro projects in the region as a special consideration for NER.

Accordingly, Chairman of NERPC has conveyed the resolution to the Hon'ble Union Power Minister vide letter dated 13th June 2022. (**Annexure-D.02**)

This is for kind information of members.

ITEM NO. D.03	:	PROVIDING SPARE MATERIALS IN TRANSMISSION LINE, EHV SUB-STATION AND DMS PACKAGES UNDER NERPSIP

In the 22nd TCC/NERPC meeting, POWERGRID was directed to take-up with MoP for inclusion of the additional equipment/spare materials since these are the requirements by the States. Chairman, NERPC assured that in case any assistance is required the forum will take up with MoP.

Status as updated by POWERGRID/NERPSIP

Spare for EHV substations have already been included in the awarded packages and same are being supplied by executing agencies which shall be handed over to the respective utilities.

Further spares of EHV transmission lines and DMS packages were not provisioned in the awarded packages. However same has been formulated as per request of the state utilities along with testing equipment for substation as well as transmission lines which is under approval.

ITEM NO. D.04	:	REQUIREMENT OF MANPOWER UNDER NERPSIP/ COMPREHENSIVE SCHEME

In the 22nd NERPC meeting, POWERGRID was directed to assist the NER States for the initial period of 3 (three years) or till the finalization by MoP/CEA whichever is earlier.

The matter was subsequently followed up with CEA/MoP and Member (PS), CEA has conveyed to all States that the required manpower may be recruited by the States and the same can be recovered by filing petitions to respective regulatory commissions. (Copy of letter enclosed at **Annexure-D.04**)

ITEM NO. D.05 : ESTABLISHMENT OF STATE-OF-THE-ART TRAINING CENTRES

Hon'ble Chairman, NERPC directed POWERGRID to take up with MoP for construction of the building and equip the State-of-the-Art training Center in each state within the CBIS Project.

Status as updated by POWERGRID/NERPSIP

POWERGRID is in the process of setting up State-of-the-Art Classroom training Center in all states. However, approval for Civil Works is yet to be obtained.

5. CATEGORY - E : ITEMS RECOMMENDED FOR REFERRAL TO SUB-COMMITTEE

ITEM NO. E.01 : INSTALLATION OF TWO NUMBERS GENERATOR TRANSFORMER FOR MYNTDU LESHKA HEP – MePGCL

PROPOSAL: Procurement of (2) nos. of Generator Transformers 17.5 MVA, 11/3132 KV with accessories etc. as spares for MLHEP Power Station.

Explanatory Note:

Myntdu Leshka Power Station is a generating station has three units 42 MW each, with 9 nos. of 17.5 MVA, 11/132 KV single phase Generator Transformers (3 nos for each unit). A 10th spare Generator Transformer has been kept as a provision, in the event of failure of any of the single phase Generator Transformers.

Since commissioning of the Myntdu Leshka Power station in 2011, 2 (two) nos of Generator Transformers had failed due to various factors. These GTs have been repaired twice. One of the repaired GTs is put in service and the other has been kept as spare. As the reliability and dependability of the repaired GTs are very unpredictable, it is proposed that 2 (two) new single phase GTs 17.5 MVA, 11/132 KV with accessories etc. are procured to replace the repaired GT in service and the latter to be kept as spare.

Since the power supply depends on reliability and availability of the GTs, any breakdown is fatal. Considering the importance to optimize maximum generation during high hydro monsoon season at the MLHEP area, to cater and maintaining/regulating un-interrupted power generation for grid stability throughout the year, it is very vital for procurement of 2 (two) new single phase GT, 17.5 MVA, 11/132 kV with accessories etc. for the MLHEP Power Station, to meet the ever growing System Demand.

Tentative Cost Estimate: 6.5 Crores.

Due to paucity of fund constraints, MePGCL is requesting the forum to consider recommending the funding of this project from PSDF.

ITEM NO. E.02	**:**	**INSTALLATION OF RACCOON COVERED CONDUCTOR FOR 33KV POWER SUPPLY FROM MYNTDU LESHKA STAGE-1 POWER STATION TO MLHEP DAM.: - MePGCL**

PROPOSAL: Proposal for Installation of 33Kv Raccoon covered conductor with accessories etc. for 33KV power supply from Myntdu Leshka Power Station to MLHEP Dam.

Explanatory Note:

The source of power supply to the MLHEP Dam Control Room is through a 10 Km long, 16 years old overhead 33KV line from the Myntdu Leshka Power Station. Since, this line is very unreliable and dependable, especially during the peak monsoon season, which is prone and frequently tripped failed, due to very bad inclement weather conditions accompanied with heavy thunderstorm, lightning and strong winds in the region.

In light of the above and to mitigate outage and maintain uninterrrupted 33KV Power Supply to MLHEP Dam, which is requires for continuous operation of the sluice gates for safety purposes during the peak monsoon season, and as a vital requirement for the Run of the River Dam, it is proposed for installation of 33KV power supply from MuntduLeshka Power Station to MLHEP Dam. Tentative Cost Estimate: 4 Crores

Due to paucity and fund constraints, MePGCL is requesting the forum to consider recommending the funding of this project from PSDF.

ITEM NO. E.03	**:**	**INSTALLATION OF OPEN LOOP COOLING WATER SYSTEM AND IMPROVEMENT OF DEWATERING FOR MYNTDU LESHKA STAGE-I POWER STATION: - MePGCL**

PROPOSAL: Proposal for installation of Open loop cooling water system for Myntdu Leshka Stage-I Power Station.

Explanatory Note:

The Myntdu Leshka Stage-I Power Station being Run of the River scheme, has been designed with a plant load factor of 44% and is expected to generate around 484 MU by design per annum.

The existing Cooling System for the three units of 42 MWs each of the Myntdu Leshka Power Station is of a closed loop system which include the primary and secondary cooling water pumps.

The breakdown of these pumps during their continuous operation usually contributes to the outages of the units. With the proposal Cooling System in place it will mitigate the outages due to the failure of cooling water pumps grid disturbances and clogging of heat exchangers reduction in maintenance cost of the primary cooling water system consisting of pipes, flanges valves pumps filters and heat exchangers due to exposure to acidic nature of the water. This will be vital for the maintaining the availability of Power Generation in the region and in particular the state of Meghalaya.

The Power House is also equipped with 4 Nos of Drainage Pump and 6 Nos of Dewatering Pumps. These Pumps are of VT shaft type. These pumps are unreliable and not dependable as they are prone to fail due to deformed shaft or broken coupling. To prevent and avoid flooding of power House, it is proposed that the existing Dewatering and Drainage Pumps be replaced with Submersible Type of Pumps in line with the guidelines of CEA.

Further the existing system for Dewatering of the tail race water in the even of any emergency planned or forced maintenance of the underwater components of the T&G set is only through the Primary Cooling, Drainage and Dewatering System of U3

wherein its delivery outlet Pumps the water to the Lynriang River. This system takes around approximately 60 hours to deliver the tail race water (approx 50,00,000 ltrs) to the river. By modification of the system, and extending the primary, Drainage and Dewatering Water conductor piping system of unit 1 & 3 to the Lynriang River, this will greatly reduce the dewatering of Tail Race Water to around 24 Hrs and outage Hours of the whole Power Station by around 36 Hours.

In line with the above, it is proposed that an open looped cooling system and Improvement of the Dewatering System for the benefit of the MyntduLeshka Stage – I Power Station and the stability of the grid as a whole. Tentative Cost Estimate: 7.6 Crores

Due to paucity and fund constraints, MePGCL is requesting the forum to Consider recommending the funding of this project from PSDF.

ITEM NO. E.04 : ERECTION, PROCUREMENT AND COMMISSIONING OF 33Kv BUS IN VARIOUS GSS- MePTCL

Meghalaya Power Transmission Corporation Limited (MePTCL) proposed for construction of 33 KV Bus and outgoing 33 KV feeders with all terminal equipments along with Control and Protection System where 33 KV bus are not available in the following 132 KV Grid Sub Stations:-

1. 132/33 KV Umiam Grid Sub Station- 33 KV bus with 2 outgoing 33 KV feeders
2. 132/33 KV EPIP-I Grid Sub Station- 33 KV bus with 1 outgoing 33 KV feeder
3. 132/33 KV Khliehriat Grid Sub Station- 33 KV bus with 3 outgoing 33 KV feeders
4. 132/33 KV Lumshnong Grid Sub Station- 33 KV bus with 2 outgoing 33 KV feeders

ITEM NO. E.05 : RE-CONDUCTORING OF 132KV MAWPHLANG-MAWLAI S/C LINE BY HTLS CONDUCTOR.: - MePTCL

To cater to the increase power flow towards the capital city and surrounding areas of Shillong in the event of bus shutdown of Stage-I Power Station, it is proposed for re-conductoring of 132KV Mawphlang-Mawlai S/C line by HTLS Conductor.

Funding of the above proposal can be obtained from PSDF.

ITEM NO. E.06	:	INSTALLATION OF CAPACITOR BANKS IN 132kV SUSTATIONS: - MePTCL

Due to low voltage problem during peak hours at these Substations, it is proposed for installation of Capacitor Banks at the following 132KV Substation:

(i) 132KV Rongkhon Substation

(ii) 132KV Ampati Substation

(iii) 132KV NEHU Substation

(iv) 132KV Mawlyndep Substation.

Funding of the above proposal can be obtained from PSDF.

ITEM NO. E.07	:	REQUIREMENT OF 132/33KV, 2X25MVA SUB-STATION AT NONGPOH: - MEPTCL

Requirement of 132/33 kV, 2X25 MVA Sub Station at Nongpoh with LILO of 132 kV Stage-III - Umtru Line. This district has been declared as Asp rational District by NITI Aayog. It is also the most industrialized district of the State of Meghalaya contributing to the economy and development of the State and the region. It has the maximum number of Hydro stations in the state and also the oldest Hydro Power Station in the region. Besides this district lies between Shillong and Guwahati. Although a number of Grid stations have been installed in the industrial area of the district but the head quarter is not having any 132KV substation to cater to the growing load demand and power supply reliability for the common public.

Further areas adjacent to Byrnihat 400/220/132kV substation which are contiguous to Guwahati city do not have a single 132/33kV substation rendering poor quality of power supply to residents of Chariapara and its adjoining areas.

It is therefore proposed that following Grid substations and associated lines be set up in the interests of the general public.

i. 132/33KV Substation at Nongpoh with LILO of Stage III- Umtru line.

ii. 132/33kV Substation at the existing 400/220/132kV Killing Substation with LILO of 132 kV Umtru - Kahelipara D/C.

The same proposal was put up to CEA as part of 2030 Augmentation plan. After studies CEA has approved 132/33kV 2x25MVA Substation at Nongpoh with 132kV New Shillong – Nongpoh D/C line.

ITEM NO. E.08	**:**	**REQUIREMENT OF 132/33KV, 2X25MVA SUB-STATION AT SHANGPUNG: - MEPTCL**

For N-1 of Khliehriat and load growth of Laskein Block and to ensure system stability, it is proposed to set up a 132/33 kV 2X25 MVA Sub Station at Shangpung with LILO of 132 kV NEIGRIIIMS-Khliehriat Line.

ITEM NO. E.09	**:**	**REQUIREMENT OF 132/33KV, 2X25MVA SUB-STATION AT UMIEW: - MEPTCL**

To cater to the growing demand of Upper Shillong and its adjoining areas a 132/33 kV 2X25 MVA Sub Station at Umiew (which includes Director General, Assam Rifles & Eastern Air Command) with LILO of 132 KV Sohra - New Shillong Line is proposed.

ITEM NO. E.10	**:**	**RECONDUCTORING OF 132kV NEHU-MAWLYNDEP-MUSTEM-KHLIEHRIAT LINE: - MePTCL**

In order that snapping of conductors due to overloading and de-capping can be avoided, it is proposed to reconductor the 132kV NEH1J-Mawlyndep- Mustem-Khliehriat S/C line with high temperature and low sag (I-ITI_S) conductor using the same towers. With this enhanced capacity the grid will be more flexible and this will lead to fewer disturbances in the grid.

ANNEXURES

– Itanagar 132kV D/c line at Gohpur. The LILO along with bays at Gohpur would be implemented by AEGCL.

5.3 GM, POWERGRID said that the existing 132 kV sub-station at Gohpur has single main bus switching arrangement, which can impact reliability of the system. DGM, AEGCL said that to improve reliability, the switching scheme at Gohpur 132 kV S/s would be modified from single main bus to double main bus scheme.

5.4 Chief Engineer, CEA stated that Biswanath Chariali (PG) – Itanagar 132kV D/c line is an ISTS line being implemented as a part of NERSS-II through TBCB and LILO of an ISTS line should preferably be implemented as ISTS work. He requested AEGCL to confirm the availability of space for 2 no. 132 kV bays at Gohpur for the proposed LILO and implementing double main bus switching scheme at Gohpur.

5.5 DGM, AEGCL stated that the availability of space for 2 no. 132 kV bays at Gohpur and implementing double main bus switching scheme at Gohpur would be informed to CEA after the site visit.

5.6 GM, POWERGRID informed that RfP for the scheme NERSS-II Part-B and NERSS-V has been issued in Sep. 2016 and bidders are to be informed about the change in scope before the bid submission date.

5.7 After further discussion, it was decided that the LILO of one circuit of Biswanath Chariali (PG) – Itanagar 132kV D/c at Gohpur (AEGCL) would be implemented through TBCB as ISTS work as a part of NERSS-II Part-B and the scope of works of NERS-II Part-B would be modified accordingly. It was also decided that AEGCL would implement the double main bus switching scheme at Gohpur 132 kV S/S along with 2 no. 132 kV bays at Gohpur before Dec., 2019.

5.8 Subsequently, AEGCL vide its letter no. AEGCI/MD/13th Plan/Tech -593/2014-15/9 dated 30-11-2016 (copy enclosed at Annexure-II) has informed that due to space constraint at Gohpur for accommodating double main bus switching scheme, they have proposed to switch over from AIS to GIS at Gohpur 132 kV S/S along with implementation of 2 no. 132 kV GIS bays for the LILO of one circuit of Biswanath Chariali (PG) – Itanagar 132kV D/c at Gohpur (AEGCL).

6.0 Strengthening of evacuation system of Pare HEP of NEEPCO

6.1 Director, CEA stated that Pare HEP by NEEPCO is expected to be commissioned by Dec., 2016. Evacuation system from Pare HEP consist of

i) LILO of Ranganadi-Naharlagun / Nirjuli 132 kV S/C line at pare HEP

ii) LILO of one circuit of Ranganadi-Itanagar 132 kV D/C line at Pare HEP.

6.2 He added that out of four 132 kV lines evacuating from Pare HEP, two are connected to Ranganadi HEP and remaining two to the load centres viz. Naharlagun and Itanagar. System studies have been carried out for 2018-19 time-frame corresponding to high hydro and low hydro conditions. It is observed that Ranganadi HEP injects power at Pare HEP through Pare – Ranganadi 132kV 2xS/c lines, thereby leaving only 2 no. 132kV S/c lines i.e. Pare – Itanagar and Pare – Naharlagun / Nirjuli for evacuation of 110MW power

from Pare HEP and additional power injected at Pare HEP from Ranganadi HEP. This causes overloading of Pare – Naharlagun / Nirjuli 132kV S/c line (Pare – Naharlagun: 129MW, Naharlagun – Nirjuli: 91MW). In order to overcome this situation, following transmission system modification is proposed to be implemented as NERSS-IX:

(i) Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line - ISTS by NEEPCO

(ii) Pare HEP (From LILO point) – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra conductor) – along with 2 no. 132 kV bays at North Lakhimpur ISTS through TBCB

(iii) LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra) at Nirjuli substation – ISTS through TBCB

(iv) Re-conductoring of LILO portion at Pare end (of Ranganadi – Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP – by NEEPCO.

6.3 DGM, NEEPCO stated that 132 kV bay equipment at Pare HEP had already been erected.

6.4 Director, CEA stated that to recover additional investment in the transmission and bay equipment modification as suggested above, M/s NEEPCO may file revised tariff petition in CERC. He enquired about the availability of space at North Lakhimpur 132 kV S/S for termination of Pare-North Lakhimpur 132 kV D/C line and at Nirjuli for LILO of one circuit of Pare-North Lakhimpur 132 kV D/C line.

6.5 DGM, AEGCL informed that space for two number 132kV line bays at North Lakhimpur is available. GM, POWRGRID also confirmed the availability of space for 2 no. 132 kV line bays at Nirjuli S/S.

6.6 After further discussion, following additional / modification in the transmission system associated with Pare HEP was agreed as a part of NERSS-IX.

a. Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line – ISTS by NEEPCO.

b. Pare HEP (from LILO point) – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra conductor) along with 2 no. 132 kV line bays at North Lakhimpur – ISTS (implementation through TBCB/RTM to be decided by empowered committee).

c. LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra) at Nirjuli substation – ISTS (implementation through TBCB/RTM to be decided by empowered committee).

d. Re-conductoring of LILO portion at Pare end (of Ranganadi – Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP – ISTS by NEEPCO

e. 2 no. 132 kV bays at Nirjuli S/S for termination of LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra) – ISTS by POWERGRID.

7.0 Augmentation of 2x30MVA, 220/132kV substation at Mokokchung (PG)

7.1 Director, CEA stated that Mariani (PG)-Mokokchung (PG) 220 kV D/C line supplies power to 2x30 MVA 220/132 kV S/S at Mokokchung (PG) SS, which in turn feeds power to Mokokchung & other downstream areas of Nagaland. Thus, Mokokchung (PG) substation is a vital node for supplying power to Nagaland. He added that under N-1 contingency of ICT at Mokokchung the other ICT would be over loaded and loading has to be restricted to 30 MW. So it was proposed to enhance the transformation capacity at Mokokchung (PG) by installation of third 220/132 kV ICT of 30MVA (3x10MVA) single phase units.

7.2 Director, CEA stated that Mokokchung (PG) belongs to POWERGRID, so augmentation should be done by POWERGRID. The tariff policy in vogue does not exempt implementation of augmentation of sub-station from TBCB. Empowered Committee will take the decision whether the project will be done by POWERGRID or it goes through TBCB.

7.3 GM, POWERGRID informed that the Mokokchung is a GIS station.

7.4 After further discussions, augmentation of 220/132 kV Mokokchung (PG) S/S by 30 MVA (3x10 MVA single phase) was agreed to be implemented as ISTS work with GIS bays as a part of NERSS-VIII. Executing agency for the augmentation would be decided by the Empowered Committee on transmission.

8.0 Conversion of 2 nos. 63 MVAR Line Reactors at Bishwanath Chariali end of Biswanath Chariali – Lower Subansiri 400kV (1st) D/c line to Bus Reactors

8.1 Director, CEA stated that power evacuation system from Lower Subansiri HEP inter-alia, consist of Lower Subansiri - Biswanath Chariali 400 kV 2xD/C lines along with 4x80 MVAR line reactors at Biswanath Chariali. POWERGRID has informed that due to delay in the commissioning of Lower Subansiri HEP, construction of Lower Subansiri - Biswanath Chariali lines have been deferred and the 4 nos. 420kV, 63MVAR line reactors at Biswanath Chariali of the lines are not being used at this moment.

8.2 He added that due to high voltages observed at 400kV level at Biswanath Chariali, Balipara and Ranganadi substations, numbers of 400 kV lines from Bongaigaon, Balipara, Biswanath Chariali, Ranganadi are being kept open in off peak hours to maintain the nodal voltages within stipulated limits.

8.3 He also said that presently 420 kV 2x80MVAR Bus Reactors are in service at Biswanath Chariali. So, in order to contain high voltage in upper Assam and Arunachal Pradesh, POWERGRID has proposed that two out of four 63 MVAR Line Reactors at Biswanath Chariali may be utilized as Bus Reactors.

8.4 GM, POWERGRID suggested that in order to have better control of the over voltages all the four line reactors may be converted as bus reactors.

ANNEXURE A.04 (B)

ISO 9001 & 14001
OHSAS 18001

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
(भारत सरकार का उद्यम)
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
(A Government of India Enterprise)

No. CMD/ND/120/ 1546

दिनांक/Dated: 05.11.2020

सेवा में/To,

The Chairperson
Central Electricity Authority,
Sewa Bhawan,
R. K. Puram,
New Delhi-100066.

विषय/Sub: Strengthening of evacuation system of Pare HEP of NEEPCO.

महोदय/ Dear Sir,

Reference is invited to the minutes of 6th Meeting of Standing Committee on Power System Planning of North Eastern Region wherein a new evacuation system has been formulated for Pare HE Plant keeping in mind the strengthening of the evacuation system as a part of the North Eastern Region Strengthening Scheme – IX (NERSS-IX) as follow:

a) Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line –by NEEPCO.

b) Pare HEP (from LILO point) – North Lakhimpur (Assam Electricity Grid Corpn.Ltd AEGCL) 132kV D/C line (with ACSR Zebra conductor) along with 2 no. 132 kV line bays at North Lakhimpur – ISTS (implementation through Tariff-Based Competitive Bidding (TBCB)/ Regulated Tariff Mechanism (RTM) to be decided by empowered committee).

c) LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) 132kV D/C line (with ACSR Zebra) at Nirjuli substation – ISTS (implementation through TBCB/RTM to be decided by empowered committee).

d) Re-conductoring of LILO portion at Pare end (of Ranganadi – Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP – by NEEPCO.

e) 2 no. 132 kV bays at Nirjuli S/S for termination of LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra) – ISTS by POWERGRID

From the discussion held in the 2nd meeting of North Eastern Regional Power Committee (Transmission Planning) (NERPCTP), it is revealed that the work under the scope of sl. no. at (b) and (c) above are allotted under TBCB and presently in progress.

While acknowledging the effort of CEA in regard to reliable and effective transmission planning in the Country as a whole and for NE Region in particular, we would like to bring the following submission for your kind consideration: -

ISO 9001 & 14001
OHSAS 18001

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
(भारत सरकार का उद्यम)
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
(A Government of India Enterprise)

1. You are aware that the 2X55 MW Pare HE Plant in the State of Arunachal Pradesh was commissioned by NEEPCO in May 2018 with a time overrun of 70 months which in turn led to cost overrun for reasons beyond the control of the Corporation.
2. The evacuation system from the Plant was executed as per the approved scheme of CEA.
3. The present normative tariff based on the cost allowed by CERC stands at Rs. 7.23 per unit which is considered to be on the higher side by the beneficiary States of the Plant. NEEPCO was compelled to relook at the tariff structure and are trying to lower down the tariff to a comfortable level of beneficiaries for smooth operation of the Plant with partial recovery of capital cost and utilization of the natural resources to the fullest extent. This has led to absorption of substantial financial burden in the form of under recovery.
4. Further addition of the capital cost involved with the revised transmission scheme as stated above, shall either add burden to the beneficiaries or to the Corporation.
5. NEEPCO generally is not involved with the execution of transmission line and hence it is not possible to take up the work under the scope at sl. nos. (a) & (d) on its own. Engagement of other agency again, will lead to increase in the completion cost.

Sir, you will appreciate that commissioning of hydro projects in NE Region, itself is a challenging job. Being an organization with business area restricted to NE Region only, NEEPCO has to absorb a lot of challenges including financial losses. NEEPCO is not at all in a position to take further financial burden at this juncture.

Under the compelling circumstances, we would like to request you to kindly relieve NEEPCO from further investment against Pare HE Plant and hence, the work under the scope at sl. no.- (a) and (d) may be taken up through the successful TBCB agencies or otherwise expenditure may be granted from Power System Development Fund (PSDF)/ MoDONER as the same is under system strengthening scheme.

This is for your kind review and consideration please.

With regards,

भवदीय/yours faithfully

05/11/2020

(V. K. Singh)
Chairman and Manging Director

Copy for kind information to: -

1. Joint Secretary (H), Ministry of Power, Govt. of India, Shram Shakti Bhawan, New Delhi

ANNEXURE A.04 (C)

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II
Power System Planning & Appraisal Division-II

सेवा में / To
As per list of Addresses

विषय/**Subject**: **Minutes of meeting held on 17.08.2021 to discuss issues related to Strengthening of evacuation system of Pare HEP of NEEPCO.**

महोदय/Sir,

To discuss the issues related to strengthening of evacuation system of Pare HEP of NEEPCO, a meeting was held under the chairmanship of Chief Engineer (PSPA-II), CEA on 17.08.2021. The minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

Encl.: As above.

Signature Not Verified
Digitally signed by
B.S.BAIRWA
Date: 2021.08.18 18:06:55 IST

(बी.एस. बैरवा/ B.S. Bairwa)
निदेशक/Director

List of Addresses:

1	The Member Secretary, North Eastern Regional Power Committee(NERPC), Meghalaya State Housing Finance Co-Operative Society Ltd. Building Nongrim Hills, Shillong (Meghalaya) – 793003	2	COO(CTU), Power Grid Corporation of India Ltd., “Saudamini” Plot no-2, Sector-29, Gurugram-122001, Haryana
3	Executive Director National Load Despatch Centre B-9, Qutab Institutional Area New Delhi-110016	4	Executive Director , North Eastern Load Despatch Centre (NERLDC), Power System Corporation Operation Limited (POSOCO) POWERGRID Complex, Dongteih, Lower Nongrah, Lapalang, Shillong- 793006, Meghalaya, India
5	The Chairman and Managing Director North Eastern Electric Power Corporation Ltd. Brookland Compound, Lower New Colony, Shillong (Meghalaya)- 793003		

Copy to:

PPS to Member (PS), Central Electricity Authority, Sewa Bhawan, R. K. Puram, New Delhi.

Minutes of the meeting held on 17.08.2021 to discuss issues related to Strengthening of evacuation system of Pare HEP of NEEPCO

A meeting to discuss the issues related to strengthening of evacuation system of Pare HEP of NEEPCO was held on 17.08.2021 via video conferencing which was participated by CEA, CTU and NEEPCO. NERPC and NERLDC could not participate due to non-availability of internet in Shillong during this time. List of Participants is enclosed at **Annexure-I.** Chief Engineer (PSPA-II), CEA welcomed the participants in the meeting. He requested Director (PSPA-II), CEA to brief the agenda.

1. Director (PSPA-II), CEA stated that in the 06th meeting of SCM-NER held on 03.10.2016, for strengthening of evacuation system of Pare HEP of NEEPCO, following additional/ modification in the transmission system associated with Pare HEP were to be carried out by NEEPCO as a part of NERSS-IX:

    i. Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line.

    ii. Re-conductoring of LILO portion at Pare end (of Ranganadi – Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP.

    He, further stated that NEEPCO vide their letter dated 19.07.2021 has intimated their difficulty to carry out the above works because of financial hardship. He requested NEEPCO to state the issue in implementation of the works which were agreed in 2016.

2. Representative of NEEPCO stated that the present normative tariff based on the cost allowed by CERC stands at Rs. 7.23 per unit which is considered to be on the higher side by the beneficiary States in NER. NEEPCO was compelled to relook at the tariff structure and are trying to lower down the tariff to a comfortable level of beneficiaries for smooth operation of the Plant with partial recovery of capital cost and utilization of the natural resources to the fullest extent which is of the order of Rs. 5/unit. This has led to absorption of substantial financial burden in the form of under recovery. Therefore, NEEPCO is not in a position to do any further investment w.r.t. works agreed under NERSS-IX.

3. Chief Engineer (PSPA-II), CEA enquired whether NEEPCO had estimated the scope of works to be implemented by NEEPCO and its cost estimates.

4. Representative of NEEPCO informed that they had not carried out the detailed exercise of estimating the scope of the works to be done and its cost implication. However, roughly, it is estimated that reconductoring works (with HTLS Zebra conductor) of around 1.5 km for D/c line from Pare HEP to LILO point and its stringing is pending. Bus, 2 circuit breakers and isolators at Pare HEP are rated at capacity of 1600A. All the CTs are with CTs ratio of 800A. As such, if HTLS is carried out with Zebra equivalent, then all the CTs of these two bays (around 07 including 01 spare) may also need to be replaced.

5. Representative of CTU stated that in NER, as per the estimates of their engineering team, reconductoring of 132kV S/c line costs around Rs. 30-35 lacs per km per circuit. He also stated that for Zebra conductor, the ampacity is only 770A (at 85°C considering ambient temperature of 45°C) as given in recent RFP. As such, the CTs of 800A may not need replacement. NEEPCO need to definitely carry out the works of Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line. Otherwise, the works carried out by the TSP i.e. Pare HEP (from LILO point) – North Lakhimpur (AEGCL) 132kV D/c line (with ACSR Zebra conductor) along with 2 no. 132 kV line bays at North Lakhimpur, will remain idle.

6. Representative of CTU presented the system study and implication of not reconductoring the lines (enclosed at **Annexure-II**). He stated that in base case (wherein planned system is assumed to be taken up), with Pare HEP generation at 110MW and Ranganadi HEP generation at 360MW, flow on Pare-N.Lakhimpur and Pare-Nirjuli 132kV S/c lines is of the order of 62-67 MW. However, in case of N-1 contingency of Pare-N.Lakhimpur 132kV S/c line, flow on Pare-Nirjuli 132kV S/c line becomes 93 MW which is more than the thermal limit of the line. This was the reason of planning reconductoring of LILO portion with HTLS Zebra line. To reduce the flow below 90MW, generation at Pare HEP needs to be reduced from 110MW to 80 MW.

7. Chief Engineer (PSPA-II), CEA stated that in case only reconductoring of LILO portion is to be carried out, then it should not cost more than Rs. 1.5 Crores. He suggested that this small investment by NEEPCO can be recovered through tariff or some alternate arrangement like fund pooling by NER states can be considered, which may be supported by NERPC, if possible. He further stated that as evident from the studies, if the system is not implemented by NEEPCO, they may have to back down generation of Pare by about 30MW to keep the line loading within limits. The commercial decision of implementing this scheme v/s backing down the generation needs to be taken by NEEPCO.

8. Representative of NEEPCO stated that straightening of line would also require erection of new towers and may need some more funds. However, they will put up these suggestions to their management which will take the final decision.

Chair thanked all the participants for valuable time and suggestions.

*****

Annexure-I

List of participants to the meeting

CEA:

1. Shri Pardeep Jindal, Chief Engineer (PSPA-II)
2. Shri B.S. Bairwa, Director (PSPA-II)
3. Shri Deepanshu Rastogi, Deputy Director (PSPA-II)
4. Sh. Manish Maurya, Assistant Director (PSPA-II)

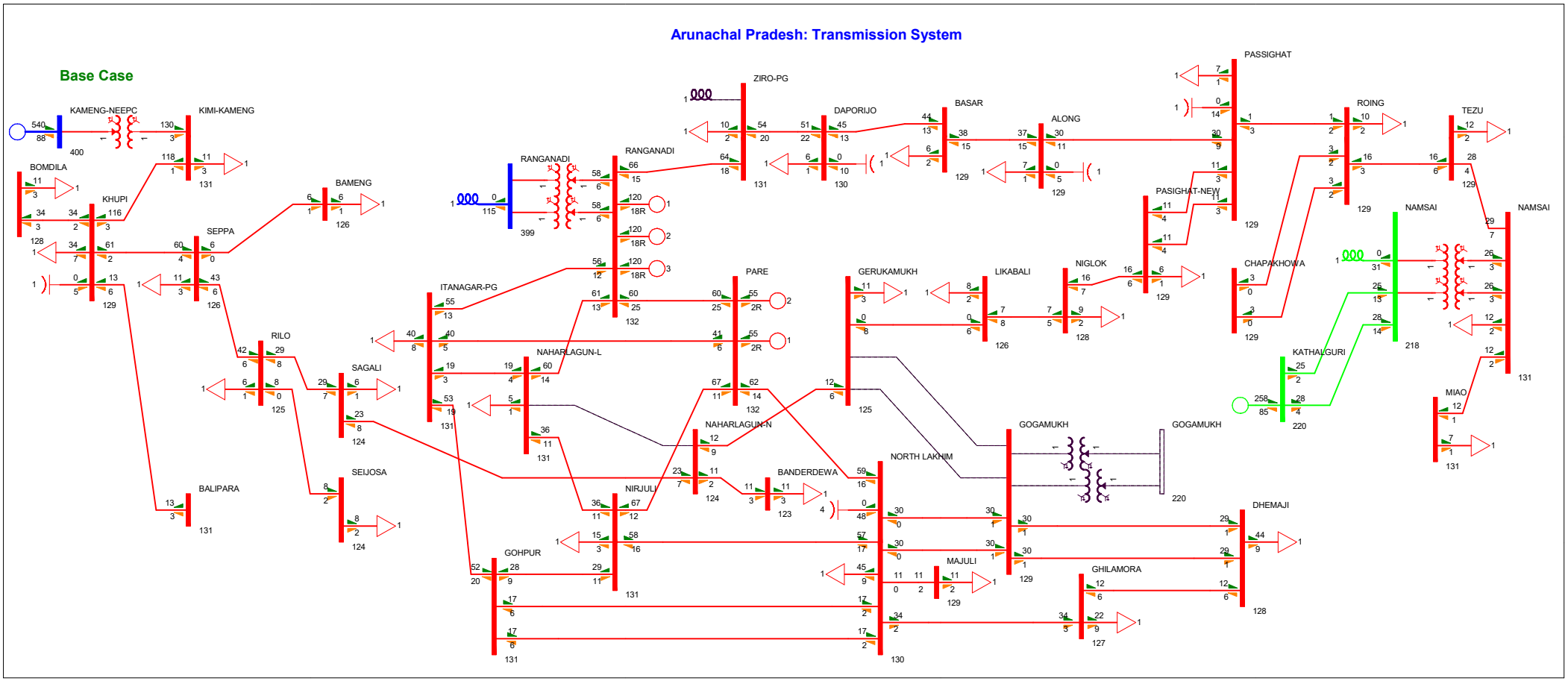
CTUIL:

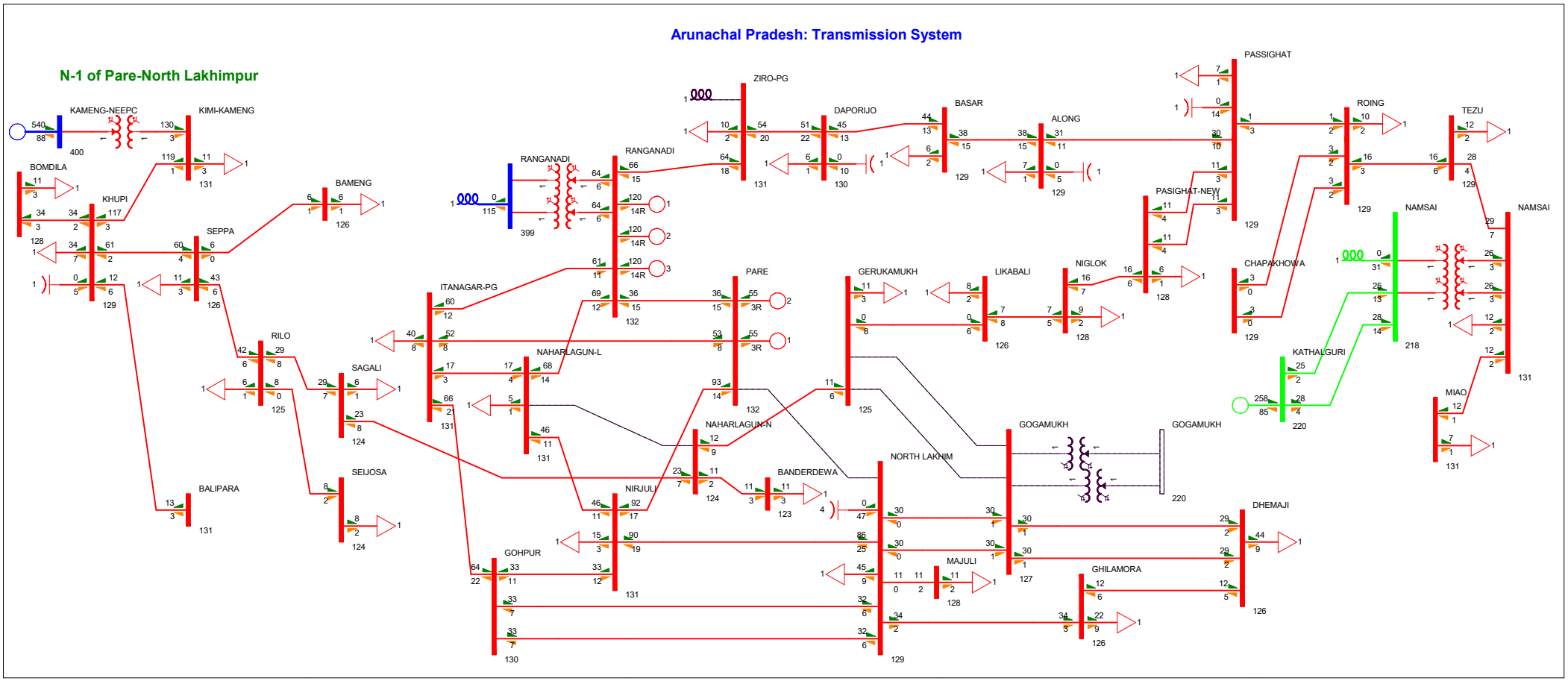
1. Shri Ashok Pal, CGM (CTU)
2. Shri Manish Ranjan Keshari, Manager (CTU)

NEEPCO:

1. Shri Saamarjit Chakravarty, ED-O&M
2. Shri Bhaskar Goswami, DGM, O/O ED (O&M)
3. Shri Joypal Roy, DGM, O/O ED-O&M

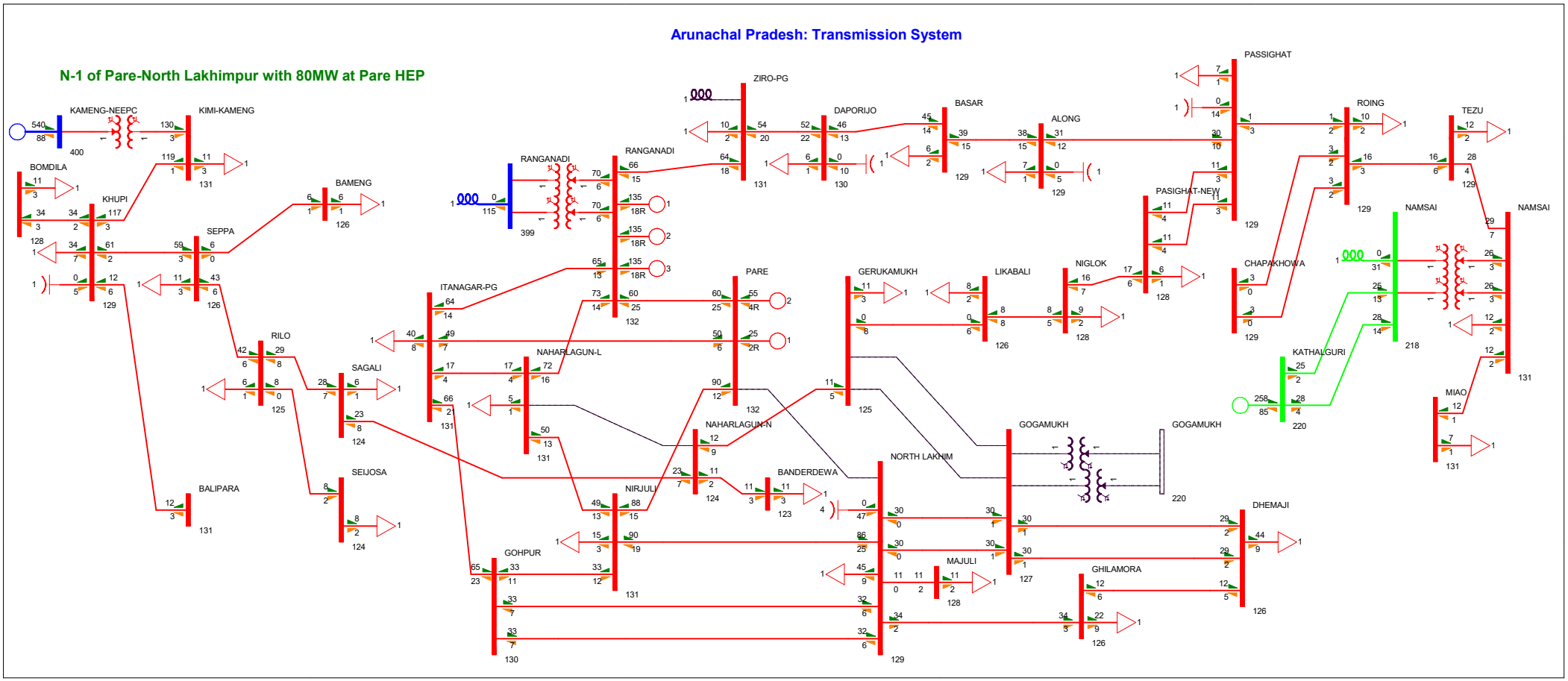
Annexure-II


Arunachal Pradesh: Transmission System
Base Case
KAMENG-NEEPC
KIMI-KAMENG
BOMDILA
KHUPI
BAMENG
SEPPA
RILO
SAGALI
SEIJOSA
BALIPARA
ITANAGAR-PG
RANGANADI
ZIRO-PG
DAPORIJO
BASAR
ALONG
PASSIGHAT
PASIGHAT-NEW
ROING
TEZU
NAMSAI
CHAPAKHOWA
KATHALGURI
MIAO
PARE
NAHARLAGUN-L
NAHARLAGUN-N
NIRJULI
GOHPUR
BANDERDEWA
GERUKAMUKH
LIKABALI
NIGLOK
NORTH LAKHIM
MAJULI
GOGAMUKH
GHILAMORA
DHEMAJI


Arunachal Pradesh: Transmission System
N-1 of Pare-North Lakhimpur
KAMENG-NEEPC
KIMI-KAMENG
BOMDILA
KHUPI
SEPPA
BAMENG
BALIPARA
RILO
SAGALI
SEIJOSA
ITANAGAR-PG
RANGANADI
ZIRO-PG
DAPORIJO
BASAR
ALONG
PASSIGHAT
PASIGHAT-NEW
ROING
TEZU
NAMSAI
CHAPAKHOWA
KATHALGURI
MIAO
PARE
NAHARLAGUN-L
NAHARLAGUN-N
NIRJULI
GOHPUR
BANDERDEWA
NORTH LAKHIM
MAJULI
GERUKAMUKH
LIKABALI
NIGLOK
GOGAMUKH
GHILAMORA
DHEMAJI

Arunachal Pradesh: Transmission System

N-1 of Pare-North Lakhimpur with 80MW at Pare HEP



ANNEXURE A.04 (D)

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II
Power System Planning & Appraisal Division-II

सेवा में / To

Sh. H.K. Deka
Director (Technical)
North Eastern Electric Power Corporation Ltd.
Brookland Compound, Lower New Colony,
Shillong (Meghalaya)- 793003

विषय/**Subject**: New Evacuation system for 110 MW Pare HE Plant, Arunachal Pradesh, under the North Eastern Region Strengthening Scheme -IX (NERSS - IX) -reg.

सन्दर्भ/**Reference**: NEEPCO letter No. NEEPCO/D(T)/PHEP-7/2021-22/185 dated 19.07.2021

महोदय/Sir,

This has reference to NEEPCO letter dated 19.07.2021 requesting to relieve NEEPCO from further investment against Pare HEP for the following scope of works (agreed under NERSS-IX):

- Bypassing of LILO of Ranganadi - Naharlagun / Nirjuli at Pare HEP so as to form direct Ranganadi - Naharlagun / Nirjuli 132 kV S/C line.
- Re-conductoring of LILO portion at Pare end (of Ranganadi – Naharlagun / Nirjuli 132kV S/c line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP.

In this regard, it is to mention that scheduled commissioning date of Pare HEP (NEEPCO) (from near LILO point)– North Lakhimpur (AEGCL) 132 kV D/c line (with ACSR Zebra conductor) along with 2 no. 132 kV line bays at North Lakhimpur end by TSP i.e. Sterlite is 22.06.2023.

In case, scope of reconductoring works is not completed by NEEPCO, the line section being implemented by TSP will have to be connected to existing LILO point. This will result in reduction of the capacity of Pare-North Lakhimpur 132kV D/c line via Nirjuli.

To assess the implication of restricted capacity of transmission line, system studies were carried out by CTU and discussed in a meeting held under the chairmanship of Chief Engineer (PSPA-II), CEA on 17.08.2021 with participation from CEA, CTU and NEEPCO (Minutes of the meeting are enclosed at Annexure). It was found that in case of N-1 contingency of Pare-North Lakhimpur 132kV S/c line, flow on Pare-Nirjuli 132kV S/c line becomes more than the thermal limit of the line. To reduce the flow on the transmission line for safe operation of NER grid, the generation of Pare HEP will have to be reduced to 80 MW from 110MW.

In the meeting, it was also brought out that the commercial decision of implementing this scheme v/s backing down the generation needs to be taken by NEEPCO.

Therefore, you are requested to inform your decision in this regard.

भवदीय/Yours faithfully,

संलग्न/Encl.: As above.

23/08/2021

(प्रदीप जिंदल/ Pardeep Jindal)
मुख्य अभियंता/Chief Engineer

प्रतिलिपि/Copy to:

1. Director (Trans.), MoP, New Delhi
2. ED, NERLDC, Shillong
3. COO, CTU, Gurugram

North Eastern Regional Power Committee

MINUTES OF SPECIAL MEETING TO DISCUSS IMPORTANT ISSUES PERTAINING TO 132kV PARE-NORTH LAKHIMPUR

Date : 18/11/2021 (Thursday)

Time : 11:00 hrs

Venue : NERPC Shillong (over Video-Conferencing).

The List of Participants in the Meeting is attached at **Annexure – I**

Sh. B. Lyngkhoi, Member Secretary(i/c), NERPC welcomed all the members to the meeting. He informed that in follow-up to CEA Special Meeting held on 17th August 2021 this meeting has been convened. Further he intimated the members that minor modification has been sought by NEEPCO regarding HTLS upgradation of LILO portion, for which discussion is still ongoing with CEA. He requested the members to discuss in detail the following issues:

1. Pare evacuation via approved 132 kV Pare- North Lakhimpur D/C
2. Upgradation of LILO portion of 132 kV Ranganadi - Lekhi at Pare.
3. Straightening of 132 kV Ranganadi-Nirjuli Lekhi line.

He appreciated the presence of participants from NEEPCO, NERTS and M/s STERLITE for discussion & requested DD, NERPC to take up the agenda item(s).

ITEM NO. 1 : PARE EVACUATION VIA APPROVED 132KV PARE-NORTH LAKHIMPUR D/C

The status of 132kV Pare- Nirjuli – N. Lakhimpur T/L and 132kV Pare – North Lakhimpur T/L

Deliberation in the meeting:

Representative of M/s STERLITE stated that the lines are in various stages of completion as follows:

Foundation: 14 out of 91 foundations for main line completed, all 57 foundations for LILO portion (S/C LILO at Nirjuli) to be done.

Arunachal Pradesh portion – From 16th Jan'22 (for Main line) material shifting will be done

He requested the forum to highlight the arrangement for termination at Pare HEP.

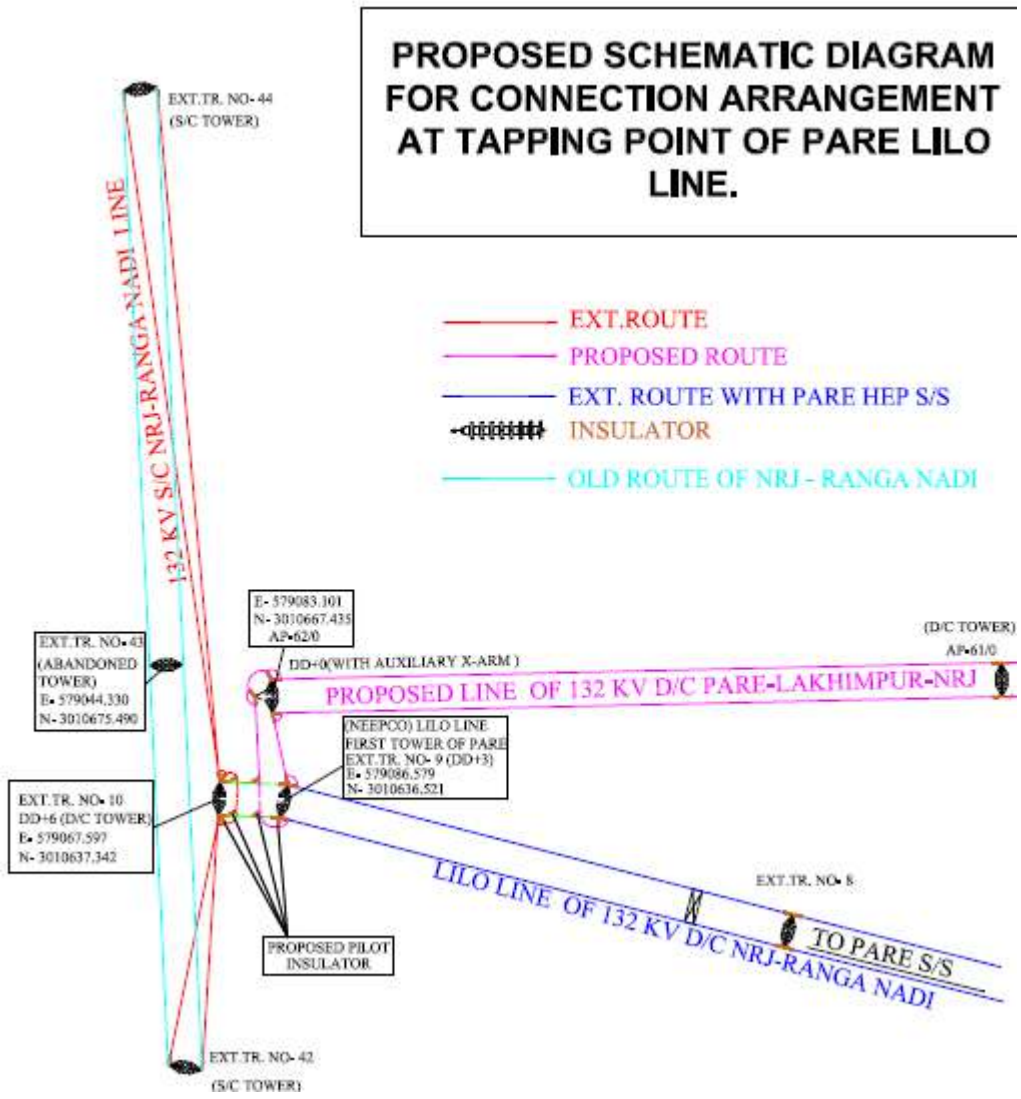


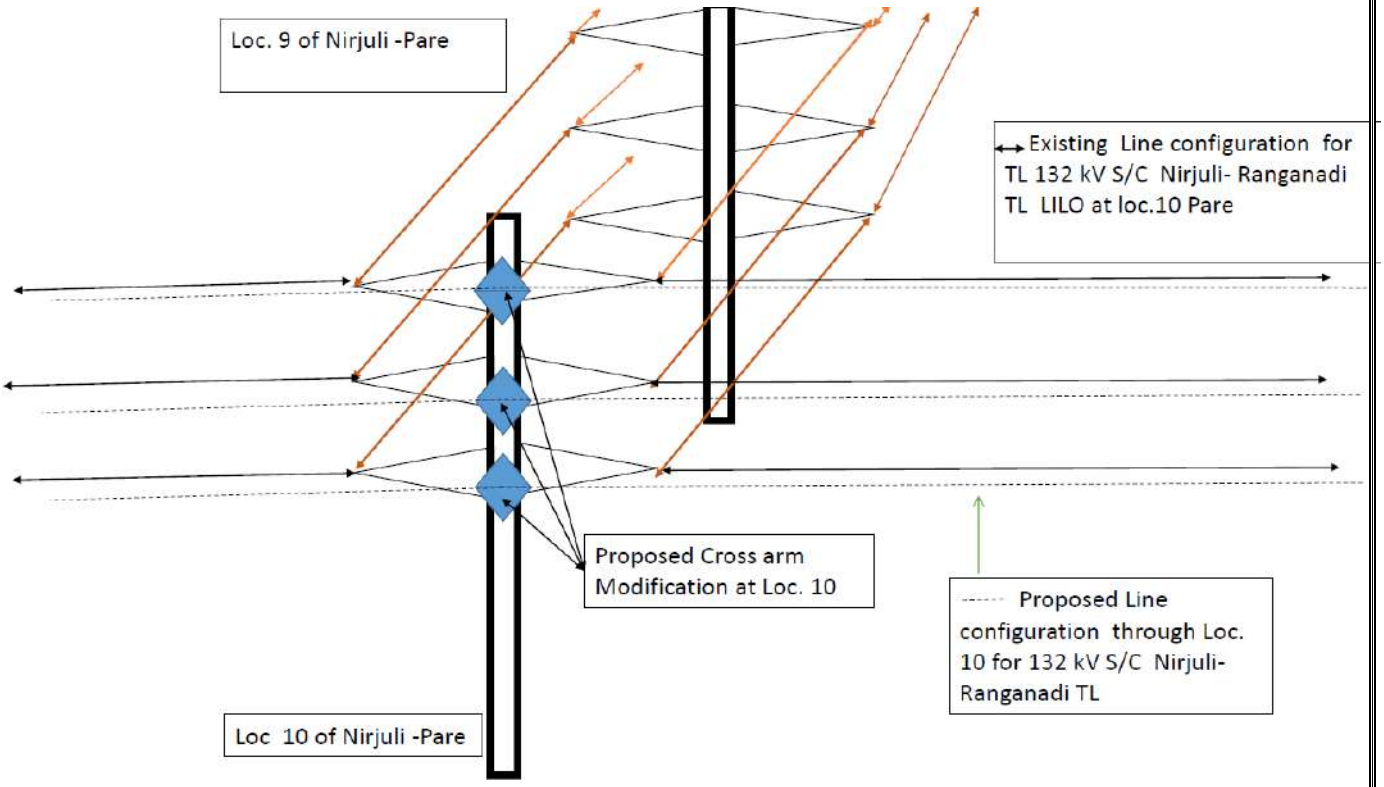
Fig.1.

Sr.GM(AM), NERTS stated that erstwhile NDTL line when LILO'ed at Pare one tower Loc 43 (of the original line) was abandoned and the line was terminated via two new towers Loc 10 and Loc 9 to Pare HEP. The same is shown in Fig.1 above.

On suggestion of the forum M/s STERLITE had submitted (on 15th Dec'21) the detailed engineering drawing with their proposed solution. The same is attached at **Annexure-I.**

Thereafter, a joint visit was carried out by NERTS-POWERGRID and M/s STERLITE and the following solution was agreed to:

(i) To provide additional Auxiliary cross arms in 132kV Tower(DD type) at Loc 10 of the LILO portion so that Line will go directly from Nirjuli -Lekhi to Ranganadi via Loc 10, without any connection with 132kV D/C Pare-Lakhimpur line of M/s STERLITE. Necessary strengthening (if any) may be taken care of by NEEPCO Ltd. Arrangement proposed is shown in the sketch below:



(ii) Connection of 132kV Pare-N.Lakhimpur and 132kV Pare-Nirjuli via Tower at Loc 9 as suggested by M/s STERLITE.

Also, mechanical strength verification of the towers/ conductors due to the proposed scheme of tapping from mid span between Loc 9 & Loc 10 to be looked into by M/S STERITE.

After detailed deliberation, the above solution was referred to NCT/CEA for approval.

The forum noted as above.

Action: NERTS, M/s STERLITE, NERPC.

ITEM NO. 2 : UPGRADATION OF LILO PORTION OF 132 KV RANGANADI - Lekhi AT PARE

At 6th Standing Committee Meeting held at Imphal on 03-10-2016 the following were decided(amongst others) under NERSS-IX:-

- *Bypassing of LILO of Ranganadi – Lekhi at Pare HEP so as to form direct Ranganadi – Lekhi 132kV S/C line – ISTS by NEEPCO*
- *Re-conductoring of LILO portion at Pare end (of Ranganadi – Lekhi 132kV S/C line) with HTLS (HTLS equivalent to ACSR Zebra) along with modification of 132kV bay equipment at Pare HEP – ISTS by NEEPCO*

Deliberation in the meeting

ED(O&M), NEEPCO intimated the forum regarding difficulties (to be faced) by NEEPCO in adjustment of tariff due to additional works. Further he intimated that NEEPCO has not received any offer from M/s STERLITE

GM(SO-II), NERLDC stated that (i)Thermal limit of the line(LILO portion) will be exceeded in event of full generation from Pare HEP without HTLS upgradation. Hence generation might have to be curtailed without upgradation, (ii)Existing CTR of 800/1 is sufficient, (iii)other bay equipments are to be upgraded.

The forum noted that the approximate cost under the above scope is around INR 2 Crores.

After detailed deliberation the forum suggested that once CEA approved the solution for termination of 132 Pare- North Lakhimpur D/C, the scope executing agency under this item shall be decided by NCT/CEA.

The forum noted as above.

Action: NERPC.

ITEM NO. 3 : STRAIGHTENING OF 132 KV RANGANADI-Lekhi LINE

Deliberation in the meeting

Representative of M/s STERLITE stated that in addition to straightening of 132kV RHEP- Lekhi line by bypassing of LILO at Pare HEP following additional issues must be addressed:

(i) Continuance of fiber connectivity of Pare HEP

(ii) PLCC for the two new lines to be terminated at Pare HEP

(iii) Voice and data communication at Pare HEP

GM, NEEPCO stated that presently Pare HEP is communicating via OPGW laid on 132kV RHEP-Pare (NDTL) and the same is used for LDP of both circuits from 132kV RHEP-Pare HEP. He requested that the arrangement be not disturbed and in event of any changes due to bypassing alternative may be decided by the forum. Manager, NERTS stated that presently OPGW is laid till Pare HEP from RHEP. After detailed deliberation the forum decided to take up the above issues after finalization of above issues at Item No. 1&2.

The forum noted as above.

Action: NERPC.

******

Annexure-I

List of Participants in the Special Meeting held on 18.11.2021

SN	Name & Designation	Organization	Contact No.
1	Sh. S. Patel, Sr. GM(AM)	NERTS	-
2	Sh. Navin Mahato, CM(AM)	NERTS	-
3	Sh. P. Nandi, Manager (AM)	NERTS	-
4	Sh. Nabarun Roy, CGM (I/c)	NERLDC	-
5	Sh. Samar Chandra De, GM	NERLDC	-
6	Sh. Sourav Mandal, Dy. Mgr. (SO-I),	NERLDC	-
7	Sh. Chitra Thapa, SO-II	NERLDC	-
8	Sh. B. Lyngkhoi, MS(i/c)	NERPC	-
9	Sh. S. Mukherjee, Dy. Director	NERPC	-
10	Sh. Narottam Chakraborty	M/s STERLITE	
11	Sh. Arindam Kar	M/s STERLITE	
12	Sh Bhuwanesh Joshi	M/s STERLITE	
13	Sh. Sandip Maity	M/s STERLITE	

ANNEXURE A.04 (F)

भारत सरकार

Government of India

विद्युतमंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युत प्रणाली अभियांत्रिकी एवं प्रौद्योगिकी विकास प्रभाग

Power System Engineering & Technology Development Division

To,

1. **Executive Director (Engg),**
   Power Grid Corporation of India Limited,
   "Saudamini", Plot no.2, Sector-29, Gurugram-122001.'
   Haryana

2. **Narottam Chakraborty**
   Project Head-WRNER, Part-D
   M/s. Sterlite Power

विषय: Minutes of Meeting held on 08.04.2022 under Chairmanship of Chief Engineer (PSETD),CEA to discuss the issue of Straightening of 132 kV Ranganadi-Pare-Nirjuli line-reg.

Reference: NERPC's letter no. NERPC/OP/Committee/2022/08 dated 01.04.2022

महोदय**,**

The minutes of the Meeting, held on 08.04.2022 under Chairmanship of Chief Engineer (PSETD), CEA to discuss the issue in detail and evaluate the available alternative arrangements for straightening of 132 kV Ranganadi-Pare-Nirjuli line, are attached herewith for information and necessary action please.

संलग्न /Encl. - उपरोक्त / as above.

भवदीय,

मोहित मुदगल

मोहित मुदगल
उप निदेशक

Minutes of the Meeting taken by Chief Engineer (PSETD) on 08.04.2022 in CEA to discuss the issue of straightening of 132 kV Ranganadi-Pare-Nirjuli line with POWERGRID and M/s Sterlite.

List of Participants is attached an **Annex.**

1. Chief Engineer (PSETD), CEA welcomed all the participants and mentioned that NERPC vide its letter dated 01.04.2022 had invited reference to the discussions held during the 22nd TCC/RPC meeting on 26th March 2022 and requested CEA to examine and suggest the suitable alternatives for straightening of 132 kV Ranganadi-Pare-Nirjuli line so that the works can be executed by NEEPCO. He informed that this meeting has been called to discuss the issue in detail and requested participants to deliberate on the possible alternatives for straightening of 132 kV Ranganadi-Pare-Nirjuli line to finalise an all acceptable solution.

2. Powergrid representatives proposed the following two alternatives for straightening of 132 kV Ranganadi-Pare-Nirjuli line for deliberations. An indicative sketch for the following arrangements was also provided by Powergrid for reference. (Attached as Annexure-I)

   a. **Option 1:** To restore the 132kV Ranganadi-Nirjuli line on original arrangement i.e., via the spare tower at location no 43 which is at present abandoned, provided that this is feasible and no ROW issue is involved. This option will ensure isolation of this line from tower at location 10.

   b. **Option-2**: Dismantle tower no. 10 upto butt joint below cross arm level and re-erect the tower by rotating the cross arm/ tower by 90 degree so as to connect POWERGRID Line directly from Nirjuli to Ranganadi via Loc 10 and this line shall be completely isolated from LILO line.

      Further, to connect the line from loc. No- 9 to loc. 62, additional Auxiliary cross arms shall be provided on the tower at loc. No -9. The BOM, Drawing and Shop Floor Drawing for Auxiliary cross-Arm shall be provided by POWERGRID.

3. The above mentioned proposals were discussed in detail and all the participants were generally in agreement to the proposed options. After deliberations, following was concluded:

   a. The abovementioned proposals of POWERGRID are technically feasible and can be adopted for straightening of 132 kV Ranganadi-Pare-Nirjuli line.

   b. One of the options mentioned above for implementation shall be explored based on the feasibility and techno-economic analysis.

   c. While execution of the proposed arrangements, it shall be ensured that the all the necessary Safety and Electrical clearances, as specified in relevant regulations, are maintained.

d. Only technical feasibility of the available options has been deliberated in the meeting and all the commercial/financial aspects of the proposals shall be mutually decided by the affected parties.

Meeting ended with a vote of thanks to the Chair.

****

ANNEX

List of Participants

CEA

1.	Shri. A. K. Thakur	Chief Engineer, PSETD
2.	Shri Y. K. Swarnkar	Director, PSETD
3.	Shri Mohit Mudgal	Deputy Director PSETD
4.	Shri. Manoj	Assistant Director PSETD

POWERGRID

1.	Shri. Nitesh Kumar Sinha	DGM (Engg-TL)
2.	Neeraj Singh Gautam	DGM (Engg-TL)

M/s. Sterlite Power

1. Shri. Chandan Kalra
2. Shri. Amit Mahajan
3. Shri. Keshav Chandra

Sterlite Power

BESPOKE SOLUTIONS & CUTTING-EDGE PRODUCTS TO ENHANCE POWER TRANSMISSION CAPABILITIES

132 KV D/C NEEPCO PARE LINE

Contents

1. **Offer letter:** 2
2. **Annexure A Commercial Proposal** 3
   A. **Scope:** 3
   B. **Major Commercial Terms** 3
3. **Annexure B Bill of Quantities** 5
4. **Notes**.....5

Reconductoring Proposal

1. Offer letter:

SPTL/FY 21-22/PARE/003

Date: 28/06/2022

To,

Tseten Sange

Dy. General Manager (E/M)

Pare HEP, NEEPCO Ltd

Sub: - Budgetary Proposal for Reconductoring of 132 KV D/C NEEPCO Pare Line

Dear Sir,

We take this opportunity to share with you that Sterlite Power Transmission Ltd is a leading global solution provider of Transmission projects, OPGW, Power cables and Power Transmission conductors and major player in HTLS conductors.

We hereby submit our offer for 132 KV D/C NEEPCO Pare Line: Reconductoring with ACCC along with necessary hardware, insulators and accessories.

Yours Sincerely

For Sterlite Power Transmission Limited.

Jayavant Bhamare

AVP- Sales & Business Development

2. Annexure A Commercial Proposal

A. Scope:

I. Destringing and Restringing of 132 KV D/C NEEPCO Pare Line 2.25 Ckm Portion: Reconductoring with ACCC Casablanca conductor along with necessary hardware, insulators and accessories.
II. Changing relay setting parameter using updated line configuration relay setting calculation to be done accordingly and implemented.
III. Straightening of Ranganadi -Nirjuli line by changing cross arm orientation at Tower No.10 of LILO line of Pare.

The scope is limited to aforesaid only and does not include any scope towards ROW, transmission towers, substation works, bay works or any commissioning works related to any transmission line or substation.

B. Major Commercial Terms

#	Terms	Details
1	Payment Terms	**Supply** • 10% Advance • 85% on Dispatch of Materials • 5% on commissioning **Services** • 10% Advance • 85% against RA bills • 5% on commissioning All payments to be made within 30 days of receipt of the invoice. Any delay in payment beyond 30 days shall lead to late payment surcharge @ rate of 14% per annum for the outstanding amount till the date of receipt of full payment.
2	Warranty Period	12 months from completion of Reconductoring works.
3	ROW & Way Leave	Shall be responsibility of the Utility. All approval, permissions, compensations and other cost related to ROW & Way leave shall be in scope of the Utility. Utility shall provide free and hindrance free access to site for carrying out the reconductoring works.
4	Change in Law	Any increase in cost or taxes due to Change in Law shall be compensated to SPTL at actuals.

5	Offer Validity	45 days from the date of the offer.
6	Shutdown	Shutdown required for Reconductoring shall be provided by the Utility.
7	Delays not attributable to Contractor	Suitable time extension and reimbursement of demonstrable cost shall be given to Contractor for suspension of work or delays not attributable to contractor.
8	Additional / Extra Item	In case of any additional items beyond the BOQ given in Annexure-II below, the same shall be executed by the Contractor as per mutually agreed rates.
9	Limitation of Liability	The contractor shall not be liable to client for any indirect or consequential loss or damage and the aggregate liability of the Contractor under the contract shall not exceed the contract price.
10	Governing Law	The contract shall in all respects be construed and interpreted in accordance with the laws in force in India.
11	Completion Period	3 months from the date of release of advance
14	Cancellation/Termination	In case of cancellation or termination of Contract for any reasons other than termination due to default of the Contractor, the following shall be paid by the Client :- a) For Work completed till the date of termination. b) Cost incurred by Contractor for demobilization including any losses to Contractor resulting due to order cancellation will be to CLIENT's account including any claims raised by suppliers, service providers, equipment providers & labour related cost. Any unpaid claims raised by the Contractor under the Contract.

3. Annexure B Bill of Quantities

Project : - 132 kV D/C Neepco Line					
Sl No.	**Supply BOQ**	**Qty**	**Unit**	**Unit Rate (INR)**	**Total Unit Rate (INR)**
1	Carbon Fibre Composite Core type HTLS Conductor	7.1	KM	1763879	12479271
2	Single Suspension Pilot fitting for Carbon Fibre Composite Core type HTLS Conductor	14.0	Nos	14413	201781
3	Vibration Damper suitable for Carbon Fibre Composite Core type HTLS Conductor	114.0	Nos	4409	502663
4	120KN Single Tension Fitting for Carbon Fibre Composite Core type HTLS Conductor	111.0	Nos	73025	8105765
5	Terminal Pad without hole	27.0	Nos	7062	190683
6	Relay Setting & Control System Integration	1	Set	2519108	2519108
7	T Connectors	9	Nos.	10580	95222
8	ACSR Panther Dead-end	6	Nos.	39676	238056
9	ACSR Panther MSJ	6	Nos.	31741	190445
10	ACSR Panther Repair sleave	4	Nos.	26451	105803
	TOTAL SUPPLY (Exc. GST)				**24628796**
Sl No.	**Service BOQ**	**Qty**	**Unit**	**Unit Rate (INR)**	**TotalUnit Rate (INR)**
1	Destrining & Restringing	2.246	Per Ckt KM	5038216	11315833
2	Dismantling of ACSR conductor	0.052	Per Ckt KM	251911	13099
3	Stringing of ACSR Conductor	0.293	Per Ckt KM	629777	184525
4	Dismantling of crossarm & installation	1	Per Ckt KM	377866	377866
	Total Services (Exc. GST)				11891324
	Total (Supply & Services) Exc. GST				**36520119**
Rupees Three Crore Sixty Five Lacs Twenty Thousand One Hundred Nineteen Only					

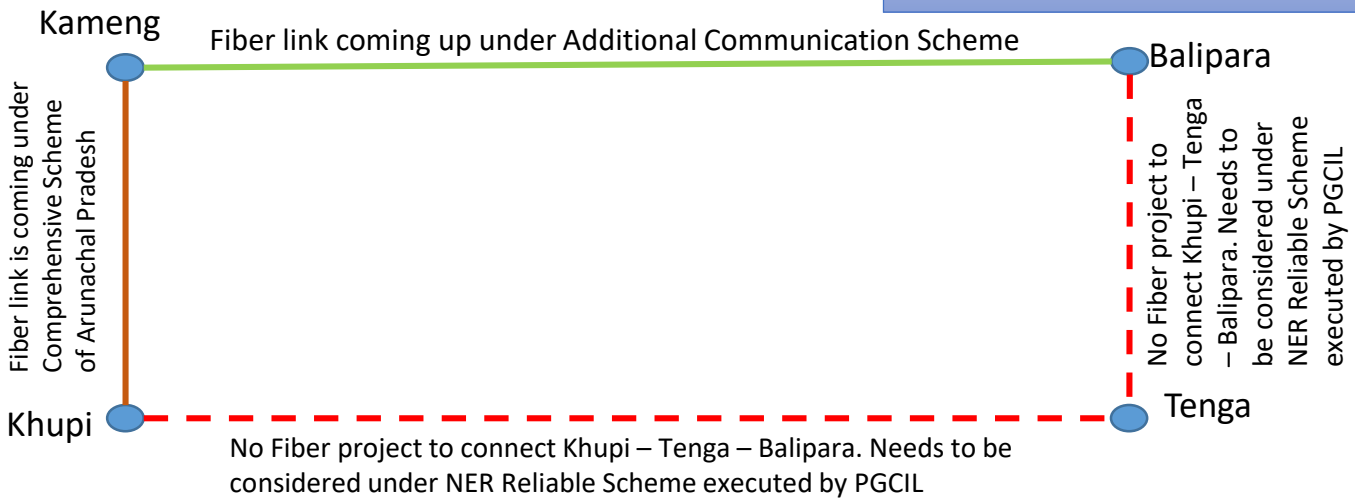
4. Notes:

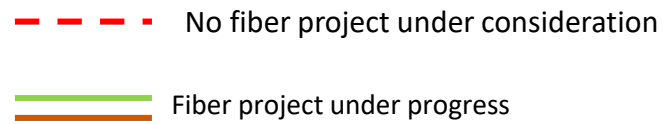
a) Our offer is excluding GST @ 18%. Any change in rates of taxes, duties, levies shall be reimbursed at actuals by the Client.
b) Our offers exclude any cost towards ROW and Tower Strengthening.
c) The above Offer is fixed except for Conductor which is being offered on variable basis and price variation shall be as per weight to weight formula, considering LME Aluminium of USD 3664/MT and USD/INR exchange rate of INR 76.22 /USD. The conductor shall be payable based on actual LME and Exchange rate as on date of metal booking after award of the contract.
d) Detailed terms and conditions shall be mutually agreed at the time of signing of the contract.

Annexure-2: **Fiber connectivity for central sector tail end generating stations**

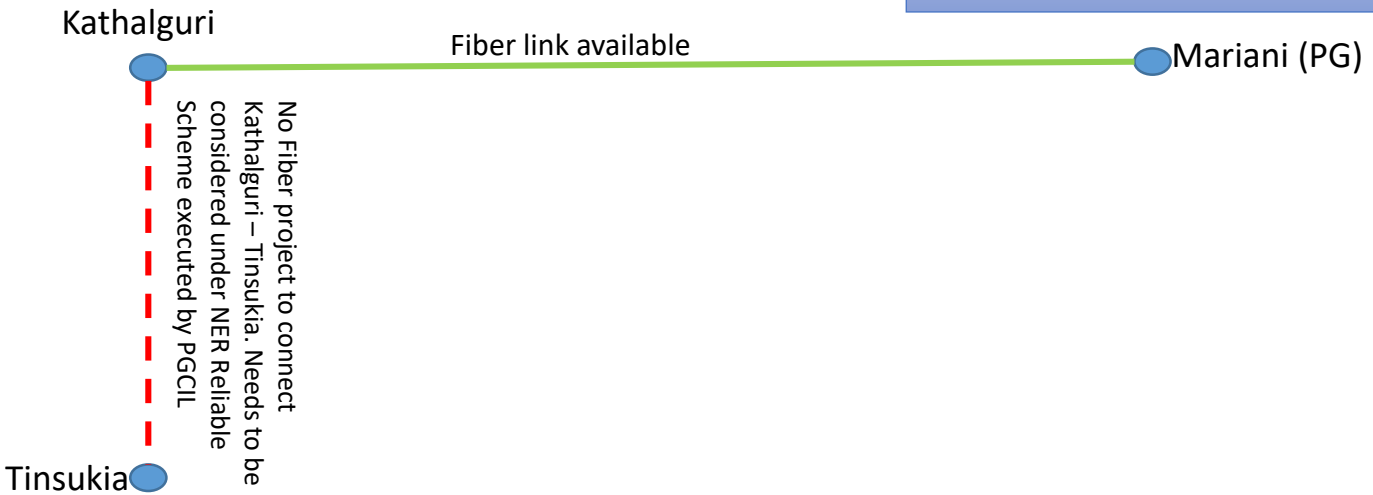
Fiber Connectivity of Kameng

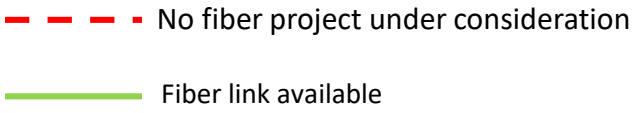
ANNEXURE A.12





Fiber Connectivity of Kathalguri





Annexure 3: List of Transmission Lines without OPGW Connectivity under Guwahati Islanding Scheme

Sl. No.	Name of link	Current status of OPGW	Length in KM	Remarks
1	Karbi Langpi (APGCL)- Sarusajai (AEGCL)	OPGW Not available		
2	Jawharnagar(AEGCL)-Samaguri(AEGCL)	OPGW Not available		
3	Jawharnagar(AEGCL)-Sarusajai (AEGCL)	OPGW Not available		
4	Jawharnagar(AEGCL)-Samaguri(AEGCL)	OPGW Not available		
5	Kamakhaya(AEGCL)-Sishugram(AEGCL)	OPGW Not available		
6	Kamakhaya(AEGCL)-Sarusajai (AEGCL)	OPGW Not available		
7	Dispur(AEGCL)-Chandrapur(AEGCL)	OPGW Not available		
8	Chandrapur(AEGCL)-Sonapur(AEGCL)	OPGW Not available		
9	Sonapur(AEGCL)-Sarusajai(AEGCL)	OPGW Not available		
10	Dispur(AEGCL)-Kahilipara(AEGCL)	OPGW Not available		
11	Narengi(AEGCL)-Kahilipara(AEGCL)	OPGW Not available		
12	Narengi(AEGCL)-Sonapur(AEGCL)	OPGW Not available		
13	Sonapur(AEGCL)-Samaguri(AEGCL)	OPGW Not available		

ANNEXURE A.15

List of FO Links under NERPSIP- Assam

SN	Name of Links		FO Scope (Kms.)
EHV LINES UNDER TOWER PKGS			
A.	**New Lines**		
1	220kV Rangia	Amingaon	33
2	220kV Tinsukia	Behiating	55
3	132kV Kahilipara	Guwahati Med College	3
4	132kV Amingaon	Hazo	16
5	132kV Rupai	Chapakhowa	53
6	132kV Dhemaji	Silapathar	36
7	LILO of Rangia-Rowta line at Tangla		10
8	LILO of132 kV S/C Kamalpur - Sishugram at Amingaon		1
9	LILO of132 kV S/C Kamalpur - Khamahkya at Amingaon		1
10	LILO of Golaghat-Bokajan line at Sarupathar		5
11	132kV Sonabil	Tezpur	15
12	LILO of Jorhat-Nazira line at Teok		5
13	UGFO Paltanbazar-Kamakhya		5
	Sub-Total (A) =		**238**
B.	**Existing Lines**		
1	220kV Sonabil	Balipara	28
2	132kV Rangia	Rowta	108
3	132kV Rupai	Tinsukia	31
4	132kV Dhemaji	N. Lakhimpur	77
5	132kV N. Lakhimpur	Gohpur	63
6	132kV Bokajan	Golaghat	66
7	132kV Golaghat	Mariani	45
8	132kV Mariani	Jorhat	20
9	132kV Jorhat	Nazira	22
10	132kV Sankardev Nagar	Samaguri	60
11	LILO of Rangia-Kahilipara at Kamakhya		2
12	LILO of Rangia-Kahilipara at Kamalpur		1
	Sub-Total (B)=		**523**
	Total under Tower Pkgs for EHV lines (A +B) =		**761**
33kV LINES UNDER DMS PKGS			

List of FO Links under NERPSIP- Assam

SN	Name of Links		FO Scope (Kms.)
A.	**New Lines**		
1	Silapathar (New)	Silapathar-II (New)	11.06
2	Silapathar (New)	Silapathar (Existing)	3.3
3	Samaguri s/s	Hathimurah-2 (New)	19.13
4	132/33kV Shakardevnagar	Mailo (New)	21.50
5	Tezpur (New)	LGM hospital (New)	14.83
6	Tezpur (New)	Parowa Existing	5.04
7	Tezpur (New)	Dolabari Existing	4.72
8	Dibrugarh (Ex.)	Romai (New)	17
9	Behiating (New)	Bogibil (New)	10
10	Behiating (New)	Dibrugarh (New)	15
11	Chapakhowa (New)	Chapakhowa (Ex)	10
12	Sarupathar (New)	Barapathar Existing	12
13	Sarupathar (New)	Sarupathar (Ex.)	5
14	Sarupathar (New)	Sariajhan (Ex.)	20
15	Teok (New)	Teok (Ex.)	5
16	Teok (New)	Kakojaan (Ex.)	15
17	Teok (New)	Zangi (Ex.)	15
18	Teok (New)	Pragati	22
19	Tangla (New)	harsingha (New)	12
20	Tangla (New)	Paneri (Ex.)	20
21	Tangla (New)	Kalaigaon (Ex.)	20
22	Tangla (New)	Khairabari (Ex.)	10
23	Tangla (New)	Tangla (Ex.)	10
24	Hazo (New)	Sesa (New)	15
25	Hazo (New)	Ramdiya (New)	12
26	Hazo (New)	Domdoma (Hazo)	10
27	Hazo (New)	Mukalmuwa (Ex.)	25
		Sub-Total (OPGW)=	**359.58**
B.	**UGFO**		
1	Guwahati M.C. new s/s	GS Road new GIS s/s	14
2	Guwahati M.C. new s/s	GMC-2- new GIS s/s	10
3	Guwahati M.C. new s/s	Tarun Nagar (New)	10
4	Guwahati M.C. new s/s	Arya College(New)	12
5	Guwahati M.C. new s/s	Guhawati Med College (Ex.)	5
6	Guhawati Med College (New)	Ulubari (Ext.)	10
7	Paltan Bajar (New)	Chabipool (New)	4
8	Paltan Bajar (New)	Paltan Bajar (Ex.)	2
9	Paltan Bajar (New)	Judes Field (Ex.)	5
10	Paltan Bajar (New)	Jail Fency Bajar (Ex.)	4
11	Paltan Bajar (New)	Ulubari (Ext.)	11
		Sub-Total(UGFO) =	**87**
		Total under DMS Pkgs for DMS lines (A +B+C) =	**446.58**

Total FO Links (Kms) =	**1207.58**

List of FO Links under NERPSIP- Meghalaya			
SN	**Name of Links**		**FO Scope (in Kms.)**
EHV LINES UNDER TOWER PKGS			
A.	**New Lines**		
1	220 kV Kiling (Bymihat) - Mawngap - New Shillong		132.9
2	LILO of 132kV MLHEP - Khliehriat at Mynkre		27.1
3	132 kV Phulbari	Ampati TL	50
		Sub-Total (A) =	**210**
B.	**Existing Lines**		
1	132 kV Ampati	Rongkhon	33
2	132 kV Rongkhon	Nangalbibra	69
3	132 kV Nangalbira	Nongstoin	57
4	132 kV Nongstoin	Mawngap	54
5	132 kV Mawngap	Sumer Stage-I	33
6	132 kV Shillong (Mawlai)	NEHU (WB)	9
7	132kV Mawngap	Shillong (Mawlai)	23
		Sub-Total (B)=	**278**
		Total under Tower Pkgs for EHV lines (A +B) =	**488**
33kV LINES UNDER DMS PKGS			
A.	**New Lines**		
1	Mynkre 132/33 (New)	Mynkre (NEW)	3.20
2	Mynkre 132/33 (New)	Rymbai (NEW)	15.56
3	Mynkre 132/33 (New)	Lumshnong(NEW)	9.36
4	Mynkre 132/33 (New)	Latyrke (NEW)	20.78
5	Phulbari 132/33kV (New)	Rajballa Bhaitbari (NEW)	10.00
6	Phulbari 132/33kV (New)	Chibinang (NEW)	2.00
7	Tikrila (Existing)	Raksambre (NEW)	11.00
8	Phulbari 132/33kV (New)	Phulbari (Existing)	7.40
9	220/132/33kV New Shillong	Mawpat (new)	10.00
10	Existing SE Falls	Mawpat (new)	2.80
11	220/132/33kV New Shillong	33kV New Shillong(new)	3.70
12	220/132/33kV New Shillong	Mawryngkneng (new)	17.50
13	LILO of Jowai - Landnongkrem at Mawryngkneng		4.00
14	Existing Jongksha	Mawkynrew (new)	8.50
		Sub-Total (OPGW)=	**125.80**
B.	**Existing Lines**		
1	Phulbari	Tikrila	30
2	Existing Jowai-Landonogkrem - Jongksha line		35
		Sub-Total(ADSS) =	**65**
		Total under DMS Pkgs for DMS lines (A +B) =	**190.8**

Total FO Links (Kms) =	**678.8**

List of FO Links under NERPSIP- Manipur

SN	Name of Links		FO Scope (in Kms.)
	EHV LINES UNDER TOWER PKGS		
A.	**132kV New Lines**		
1	LILO of 132 kV Yurenbam(Imphal)-Karong at Gamphajol S/S		6
2	Renovation of Yurenbum-Karong-Mao Section (Only Karong to Mao)		31
3	132 kV LILO of Kakching-Kongpa at Thoubal S/S		16
4	132 kV Imphal (Powergrid)- Ningthoukhong		34
5	132 kV S/C(on D/C tower) Rengpang- Tamenlong		35
	Sub-Total (A) =		**122**
B.	**132kV Existing Lines**		
1	Rengpang - Jiribam		43
2	Yurembam(Imphal) - Yaingangpokpi		44
3	Jiribam(POWERGRID) - Jiribam (State)		1
	Sub-Total (B) =		**88**
	Total under Tower Pkgs for EHV lines (A +B) =		**210**
	33kV LINES UNDER DMS PKGS		
A.	**33kV New Lines**		
1	132/33kV Thoubal S/S	Andro	15
2	132/33 kV Yurembam S/S	Keithelmanbi	15
3	Existing 33/11kV Mongsangei S/S	Pishum (GIS) (5km U/G)	10
4	132/33 kV Kongba S/S	Khonganggkhong	7
5	LILO of existing 33 kV Yurembam - Mayang Imphal	line at Hiyangthang S/S	4
6	Existing 33/11kV Iroisemba S/S	Takyel	7
7	33/11kV Iroisemba S/S	Lamphel	5.2
8	LILO of existing 33kV Moirang - Moirang Khunow	Kwakta	10
9	From existing 33/11kV Nambol s/s	Leimapokpam	10
10	Sanjenbam S/S	Porompat	4
11	From existing 33/11kV Khoupom s/s	Thangal	40
12	From existing 33/11kV Napetpalli s/s	Sanjenbam	10
13	LILO of existing 33kV Churachanpur-Thinkew	Tuilaphai (48f)	10
	Sub-Total (OPGW)=		**142.2**
	Sub-Total (UGFO)=		**5**
	Total (OPGW+UGFO)=		**147.2**
B.	**33kV Existing Lines**		
1	Iroisemba	Khuman Lampak	8.15
2	Nambol	Yurembam (Imphal)	5
3	Yurembam (Imphal)	Mayang Imphal	23.8
4	Yurembam (Imphal)	Mongsangei	10.4
5	Ningthoukhong	Moirang	6.5
6	Moirang	Moirang Khunou	6.5
7	Khoupon	Rengpang	20
8	Khuman Lampak	Napetpalli	28.4
9	Napetpalli	Yangangpokpi	10
10	Churachandpur	New Lamka	15
11	New Lamka	Singhat	36.5
12	Churachandpur	Thinkew	41.5
	Sub-Total(ADSS) =		**211.75**
	Total under DMS Pkgs for DMS lines (A +B) =		**358.95**
	Total FO Links (Kms) =		**568.95**

List of FO Links under NERPSIP- Mizoram

SN	Name of Links		FO Scope (in Kms.)
EHV LINES UNDER TOWER PKGS			
A.	**New Lines**		
1	132 kV West Phaileng	Marpara	59
2	132 kV Lungsen	Chawngte	39
3	132 kV Chawngte	S.Bungtlang	45
4	Interconnection of Lunglei	Lungen	1
	Sub-Total (A) =		**144**
B.	**Existing Lines**		
1	W. Phaileng	Zembawak	5
2	Zembawak	Aizawl (PG)	7
3	Zembawak	Serchip	54
4	Serchip	Lunglai	69
5	Lunglei	Lungen	37
	Sub-Total (B)=		**172**
		Total under Tower Pkgs for EHV lines (A +B) =	**316**
33kV LINES UNDER DMS PKGS			
A.	**33kV New Lines**		
1	Lungsen (132/33 kV)	Lungsen (33kV)	5
	Sub-Total(OPGW) =		**5**
		Total under DMS Pkgs for 33kV line (A) =	**5**
Total FO Links (Kms) =			**321**

List of FO Links under NERPSIP- Tripura

SN	Name of Links		FO Scope (in Kms.)
	EHV LINES UNDER TOWER PKGS		
A.	**New Lines**		
1	132kV Bagafa	Belonia	14
2	Udaipur	Bagafa	32
3	132 kV S/C(on DC tower Bagafa	Satchand	40
4	132kV interconnecting portion of Sabroom - Satchand at Satchand end		1
5	Rabindra Nagar	Belonia	40
6	Rabindra Nagar	Rokhia	24
7	Belonia	Sabroom	42
8	LILO of Surajmaninagar- Rokhia at Gokulnagar		5
9	132kV interconnecting portion of Sabroom - Satchand at sabroom end		1
10	LILO of Ambasa- PK Bari at Manu		4
11	Kailashahar	Dharamnagar	24
12	LILO of Agartala (79 Tilla) - Dhalabil at Mohanpur		2
13	Udaipur	Amarpur	30
14	132kV interconnection portion from Manu(old) to Manu (New) S/s for charging of 132kV Manu-Chawmanu TL		1
	Sub-Total (A) =		**260**
B.	**Existing Lines**		
1	PK Bari	Kailashar	18
2	PK Bari	Kamalpur	31
3	Kamalpur	Dhalabil	31
4	LILO of Agartala- Teliamura at Bodhjungnagar		3
5	LILO of Agartala- Teliamura at Jirania		2
6	Surajmaninagar	Rokhia	62
7	Rabindranagar	Monarchak	3
8	Agartala Grid	Teliamura	51
9	Agartala	Surajmaninagar	23
10	PK Bari	Ambasa	22
11	Dhalabil	Agartala Grid	18
12	LILO of Agartala- Teliamura at Baramura		1
	Sub-Total (B)=		**265**
	Total under Tower Pkgs for EHV lines (A +B) =		**525**
	33kV LINES UNDER DMS PKGS		
A.	**33kV New Lines**		
1	LILO of existing Tirthamukh - Silachari line at Karbook		6
2	LILO of existing Jolaibari-Bagafa line at Muhuripur		16
3	Proposed Amarpur 132/33 KV S/S	Dalak(Chelagang)	15
4	Jatanbari Existing 33/11 kV S/s	Dalak(Chelagang)	12
5	Belonia Existing 33/11 kV S/s	Chittamara	8
6	Garjee	Chittamara	20
7	Existing Udaipur 132/33 kV s/s	Maharani	8
8	Garjee	Maharani	20
9	Proposed Amarpur 132/33 KV S/S	Chechua	16
10	Proposed Sabroom 132/33 KV S/S	Manughat	10
11	Proposed Manughat 33/11 kV S/s	Srinagar	20
12	Proposed Satchand 132/33 KV S/S	Srinagar	22
13	Tapping point on existing Belonia - Hrishyamukh line at Srinagar		25
14	Proposed Satchand 132/33 KV S/S	Rupaichari	10
15	Rajnagar Existing 33/11 kV S/s	Ekinpur	20
16	LILO of existing Belonia - Rajnagar line at Barpathari		10
17	Jolaibari Existing 33/11 kV S/s	Silachari Existing 33/11 kV S/s	30

List of FO Links under NERPSIP- Tripura

SN	Name of Links		FO Scope (in Kms.)
18	Jolaibari Existing 33/11 kV S/s	Proposed Satchand 132/33 KV S/S	18
19	Proposed Rupaichari 33/11 KV S/S	Proposed Sabroom 132/33 KV S/S	12
20	LILO of existing Suraj Mani Nagar -Takarjala line at Gabardi		4
21	LILO of existing Badharghat -Jangalia line at Sekerkote		10
22	Proposed Gokul Nagar 132/33 KV S/S	Golaghati	15
23	Takarjala existing 33/11 kV S/s	Golaghati	15
24	Proposed Gokul Nagar 132/33 KV S/S	Durganagar	15
25	Madhupur existing 33/11 kV S/s	Durganagar	14
26	Kathalia Existing 33/11 kV S/s	Nidaya	12
27	Melagarh Existing 33/11 kV S/s	Nalchar	10
28	Bishramganj Existing 33/11 kV S/s	Nalchar	10
29	Bishramganj	Jangalia	15
30	Rajnagar Existing 33/11 kV S/s	Nidaya	20
31	Dhalabil existing 132/33 kV s/s	Khowai	8
32	Ampura s/s (under RGGVY)	Khowai	16
33	Hezamara existing 33/11 kV S/s	Simna	22
34	Tapping point on Mohanpur - Hezamara existing at Simna		16
35	Hezamara existing 33/11 kV S/s	Barkathal	12
36	Proposed Mohanpur 132/33 KV S/S	Barkathal	14
37	Durjoynagar existing 33/11 kV S/s	Bamutia	14
38	Proposed Lembucherra 33/11 kV S/s	Bamutia	6
39	LILO of existing Agartala - Mohanpur line at Lembucherra		4
40	Jirania Existing 132/33 kV S/s	Champak Nagar	8
41	LILO of existing Khayerpur - Jirania line at Ranirbazar		8
42	Jirania Existing 132/33 kV S/s	ADC Head Qtr	5
43	Champak Nagar 33/11 kV S/s	ADC Head Qtr	9
44	Hezamara existing 33/11 kV S/s	Dhalabill	22
45	LILO of existing Ambassa - Teliamura line at Mungiakami		2
46	Existing 132/33 kV Teliamura s/s	Taidu	12
47	Chechua	Taidu	20
48	Ambassa existing 132/33 kV s/s	Jawhar Nagar	13
49	LILO of existing Chhamanu-Manu line at Chailengta		8
50	Proposed Jawhar Nagar 33/11 kV S/s	Dhumachhera	20
51	Proposed Manu 132/33 KV S/S	Dhumachhera	25
52	Proposed Manu 132/33 KV S/S	82 mile	21
53	P K Bari Existing 132/33 kV S/s	82 mile	13
54	Kalaisahar existing 132/33 kV s/s	Tilla Bazar	14
55	Manu 132/33kV S/S	Tapping at Chawmanu - Manu line	5
56	LILO of existing Salema - kamalpur Line line at Durga Chowmohani		14
		Sub-Total(OPGW) =	**769**

List of FO Links under NERPSIP- Tripura

SN	Name of Links		FO Scope (in Kms.)
B.	**Existing Lines**		
1	Jolaibari	Bagafa	20
2	Silachari	Tirthamukh	40
3	Belonia	Hriyshmukh	20
4	Belonia	Rajnagar	25
5	Badharghat	Jangalia	20
6	Rabindranagar 132/33kV S/S	Kathalia	20
7	Rabindranagar 132/33kV S/S	Melaghar	26
8	Badharghat	SM Nagar	14
9	SM Nagar	Takarjala	27
10	Teliamura	Kalyanpur	15
11	Dhalabill	Kalyanpur	18
12	Mohanpur	Hezamara	12
13	Mohanpur	Agartala	20
14	Khayerpur	Jiranai	14
15	Durjoynagar	AGT Grid	10
16	AGT Grid	Jirania	20
17	LILO of AGT Grid- Jirania at Khayerpur		5
18	Ambassa	Teliamura	35
		Sub-Total (ADSS) =	**361**
		Total under DMS Pkgs for DMS lines (A +B) =	**1130**
Total FO Links (Kms) =			**1655**

List of FO Links under NERPSIP- Nagaland

SN	Name of Links		FO Scope (in Kms.)
EHV LINES UNDER TOWER PKGS			
A.	**New Lines**		
1	220kV New Kohima	Mokokchung	92
2	Wokha	Zunheboto	52
3	Zunheboto	Mokokchung	42
4	LILO of 132kV Mokokchung - Mariani at Longnak		4
5	Tuensang	Longleng	36
6	LILO of 132kV Kohima- Wokha at New Kohima		15
7	LILO of both circuits 132kV Kohima- Meluri(Kipire) at Pfutsero		16
8	New Kohima	New Secretatiat Complex	28
	Sub-Total (A) =		**285**
B.	**Existing Lines**		
	Mokokchung	Tuensung	50
	Meluri (Khipire)	Kohima (WB)	74
	Kohima (WB)	Wokha	58
	Sub-Total (B)=		**182**
		Total under Tower Pkgs for EHV lines (A +B) =	**467**
33kV LINES UNDER DMS PKGS			
A.	**33kV New Lines**		
1	Tapping point on 33kV existing Mokokchung-Mariani line to 33kV Longtho S/S		0.5
2	132/33kV Longleng S/S	33kV S/S at Longleng Town	5
3	LILO of 33kV existing Mokokchung - Mariani line at 33/11kV Longnak S/S		2
1	Mokochung	Mokochung Town Power House	12
2	Mokochung	Mokochung Town Hospital Area	16
3	Zunheboto	Zunheboto south point	4
4	Suruhuto	Akuloto	18
5	Pughoboto	Torogonyu	4
1	New Kohima (U/C by State)	Zhadima (New Kohima)	1
2	132/33 KV S/S at Pfutsero	Proposed 33kV S/S at Pfutsero	4
1	Nagarjan 132/66/33 kv (existing) S/s	33kV S/s at Padam Pukhri	10
	Sub-Total (OPGW)=		**76.5**
B.	**Existing Lines**		
1	Mariani	Mokokchung	50
1	Mokokchung	Tuensang	67
2	Akulo	Zunheboto	10
3	Pughoboto	Kohima	10
1	Nagarjan	Kohima	20
	Sub-Total(ADSS) =		**157**
		Total under DMS Pkgs for DMS lines (A +B) =	**233.5**
Total FO Links (Kms) =			**700.5**

List of FO Links under Comprehensive - Arunachal Pradesh

SN	Name of Links		Voltage Level	FO Scope (in Kms.)
A.	**New 132kV Lines**			
1	Likabali	Niglok	132	75
2	Pasighat Old	Mariyang	132	80
3	Niglok	Pasighat New(napit)	132	30
4	Pasighat New(Napit)	Pasighat (Old)	132	22
5	Khupi	Seppa	132	60
6	Seppa	Rilo	132	56
7	Rilo	Seijosa	132	60
8	Seppa	Bameng	132	60
9	Sagali	Naharlagun	132	45
10	Naharlagun	Banderdewa	132	25
11	Chimpu (Itanagar)	Holongi	132	20
12	Rilo	Sagali	132	55
13	Geukamukh	Likabali	132	60
14	Naharlagun	Gerukamukh	132	90
15	Ziro	Palin	132	50
16	Palin	Koloriang	132	70
17	LILO of Daporijo-Along 132 kV S/C at Basar		132	5
18	Ziro (PG)	Ziro New	132	4
19	Daporijo	Nacho	132	85
20	Along	Kambang	132	40
21	Kambang	Mechuka	132	130
22	Deomali	Khonsa	132	40
23	Khonsa	Changlang	132	45
24	Khonsa	Longding	132	40
25	Changlang	Jairampur	132	60
26	Jairampur	Miao	132	40
27	Miao	Namsai	132	45
28	Tezu	Hailapani	132	100
29	Roing	Anini	132	125
30	Roing	Dambuk	132	40
31	Along	Yingkiong	132	100
32	Yingkiong	Tuting	132	125
33	Tawang	Lumla	132	40
		Total New 132kV Lines		**1922**
B.	**Existing Lines**			
1	Tinsukia	Khatalguri	132	25
2	Kathalguri	Deomali	132	25
3	Along	Pasighat (O)	132	76
4	Daporijo	Along	132	80
5	Ziro(PG)	Daporijo	132	90
6	Balipara	Nechipu	132	27
7	Khupi	Nechipu	132	40
8	Tawang	Bomdila	132	107
9	Bomdila	Khupi	132	52
		Sub-Total Existing Lines (B) =		**522**
		Total (NEW + Existing)		**2444**

List of FO Links under Comprehensive - Arunachal Pradesh

SN	Name of Links		Voltage Level	FO Scope (in Kms.)
A.	**New 33kV Lines**			
1	Passighat	Napit	33	4
2	Napit	All India Radio, Passighat	33	9
3	Old Passighat	Mebo	33	10
4	Niglok	Ruksin	33	10
5	Ruksin	Oyan	33	15
6	Passighat	Oyan	33	25
7	Ngopok	Mebo	33	30
8	Old Passighat	Jeying	33	40
9	Niglok	Nari	33	40
10	Ziro	Hapoli	33	8
11	Rina	Koyu	33	9
12	Liromoba	Tirbin	33	12
13	Tamin	Raga	33	15
14	Niglok	Koyu	33	25
15	Basar	Igo	33	32
16	Ziro	Yazali	33	35
17	Basar	Tirbin	33	35
18	Igo	Gensi	33	35
19	Passighat	Koyu	33	45
20	Likabari	Igo	33	55
21	Koyu	Igo	33	65
22	132/33 kV Tenzing Gaon S/s	Balemu	33	60
23	LILO of Seppa - khuppi line	Bana	33	2
24	33/11 kV existing S/s at Bameng	Khenwa	33	25
25	132/33kV Seppa S/s	Pipu	33	30
26	33/11 kV existing S/s at Khuppi	Thriziono	33	50
27	132kV Tawang S/s	Klimtao(Bumla)	33	40
28	33/11 kV existing S/s at Jang	Mukta	33	20
29	33/11 kV existing S/s at Jang	Thimbu	33	45
30	Existing 132/33 kV Chimpu S/s	AP Secretariate	33	7
31	Existing 132/33 kV Chimpu S/s	Raj Bhawan	33	8
32	Existing 132/33 kV Chimpu S/s	Gohpur Tinali	33	7
33	33/11kV Jote S/s	Gohpur Tinali	33	22
34	132/33 kV Naharlagun S/s	Pappu Nallah	33	12
35	132/33 kV Naharlagun S/s	Doimukh	33	12
36	33/11 kV existing S/s at Sagali	Leporiang	33	28
37	132/33kV Miao S/s	Diyun	33	15
38	132/33kV Namsai(PG) S/S	Diyun	33	30

List of FO Links under Comprehensive - Arunachal Pradesh

SN	Name of Links		Voltage Level	FO Scope (in Kms.)
39	132/33kV Miao S/s	Kharsang	33	40
40	132/33kV Changlang S/s	Khimiyong	33	40
41	132/33 kV Jairampur S/S	Manmao	33	25
42	132/33kV Namsai(PG) S/S	Choukham	33	25
43	132/33kV Namsai(PG) S/S	Namsai	33	10
44	Existing 220/132/33kV Deomali s/s	Kanubari	33	50
45	132/33 kV Khonsa S/s	Longding	33	45
46	Existing 132/33 kV Daporijo s/s	Sippi	33	18
47	132/33 kV Koloriang S/s	Kush HEP	33	25
48	33/11 kV existing S/s at Sangram	Nyapin	33	30
49	33/11 kV Giba S/s	Sippi	33	30
50	Existing 132/33 kV Daporijo s/s	Murimugli	33	30
51	33/11 kV Tahila S/s	Sippi	33	35
52	Existing 132/33 kV Daporijo s/s	Maro	33	45
53	Proposed 132/33 kV Palin S/s	Tali	33	60
54	Geku HEP (via Boleng S/s)	Koreng	33	17
55	Existing 132/33 kV Along S/s	Rumgong	33	25
56	132/33 kV Yingkyong S/s	Jengging	33	30
57	132/33 kV Yingkyong S/s	Maryang	33	35
58	132/33 kV Kambang S/s	Kaying	33	40
59	132/33 kV Yingkyong S/s	Geku	33	45
60	LILO of Passighat - Along existing 33kV line at Koreng		33	5
61	33/11 kV Boleng S/s	Koreng	33	18
62	LILO of Gengging - Along Line	Boleng	33	5
63	132/33kV Tezu(PG) S/S	33/11kV existing Wakro S/s	33	15
64	132/33kV Roing(PG) S/S	Bolung	33	30
65	132/33 kV Halaipani S/s	Hawai	33	30
66	132/33 kV Halaipani S/s	33/11kV existing Hayuliang S/s	33	35
67	132/33 kV Dambuk S/s	Bijari	33	45
68	33/11 kV Wallong S/s	Hawai	33	50
69	132/33kV Tezu(PG) S/S	33/11kV existing Simari S/s	33	7
70	132/33kV Roing(PG) S/S	33/11kV existing Tezu S/s	33	10
	Sub-Total (OPGW)=			**1915**
	Sub-Total(ADSS) =			
		Total under DMS Pkgs for 33kV lines =		**1915.0**
		Total FO Links (Kms) =		**4359.0**

Annexure I

List of Intra- State Lines of DoP, Arunachal Pradesh

Sl No	Name of Element (Emanating - Terminating)	Ckt ID	Name of Owners	Agency at End 1	Agency at End 2	AR Details (SPAR/3-Ph AR/Not Available/Information not Available	Remarks
1	132 kV Daporizo - Along	1	DoP, Arunachal Pradesh	DoP, Arunachal Pradesh	DoP, Arunachal Pradesh	Not Available	
2	132 kV Along - Pasighat	1	DoP, Arunachal Pradesh	DoP, Arunachal Pradesh	DoP, Arunachal Pradesh	Not Available	
3	132 kV Itanagar-Lekhi	1	DoP, Arunachal Pradesh	DoP, Arunachal Pradesh	DoP, Arunachal Pradesh		
4	132 kV Pare- Itanagar	1	DoP, Arunachal Pradesh & NEEPCO	NEEPCO	DoP, Arunachal Pradesh		
5	132 kV Ranganadi- Itanagar	1	DoP, Arunachal Pradesh	POWERGRID	DoP, Arunachal Pradesh	Information not available	
6	132 kV Lekhi - Nirjuli	1	DoP, Arunachal Pradesh & POWERGRID	DoP, Arunachal Pradesh	POWERGRID	Information not available	
7	132 kV Balipara - Tenga	1	POWERGRID	POWERGRID	DoP, Arunachal Pradesh		
8	132 kV Tenga - Khupi	1	NEEPCO & DoP, Arunachal Pradesh	DoP, Arunachal Pradesh	NEEPCO	Not Available	
9	132 kV Ziro - Daporizo	1	DoP, Arunachal Pradesh & POWERGRID	POWERGRID	DoP, Arunachal Pradesh	Not Available	

Annexure I

List of Intra- State Lines of MSPCL

Sl No	Name of Element (Emanating - Terminating)	Ckt ID	Name of Owners	Agency at End 1	Agency at End 2	AR Details (SPAR/3-Ph AR/Not Available/Information not Available	Remarks
1	132 kV Imphal (MSPCL) - Imphal (PG)	1	POWERGRID	MSPCL	POWERGRID	Not available	
2	132 kV Imphal (MSPCL) - Imphal (PG)	2	POWERGRID & MSPCL	MSPCL	POWERGRID	Not available	
3	132 kV Imphal (MSPCL) - Imphal (PG)	3	POWERGRID & MSPCL	MSPCL	POWERGRID	Not available	
4	132 kV Imphal (MSPCL) - Karong	1	MSPCL	MSPCL	MSPCL	Not Available	
5	132 kV Imphal (PG) - Ningthoukong	1	MSPCL	POWERGRID	MSPCL	Not Available	
6	132 kV Jiribam(PG) - Jiribam(MA)	1	MSPCL	POWERGRID	MSPCL	Not available	
7	132 kV Loktak - Ningthoukhong	1	MSPCL	NHPC	MSPCL	Not available	
8	132 kV Loktak - Rengpang	1	MSPCL	NHPC	MSPCL	Not available	
9	132 kV Churachandpur - Kakching	1	MSPCL	MSPCL	MSPCL	Not available	
10	132 kV Churachandpur - Kakching	2	MSPCL	MSPCL	MSPCL	Not available	
11	132 kV Churachandpur - Elangkanpokpi	1	MSPCL	MSPCL	MSPCL	Not available	
12	132 kV Churachandpur - Ningthoukhong	1	MSPCL	MSPCL	MSPCL	Not Available	
13	132 kV Churachandpur - Ningthoukhong	2	MSPCL	MSPCL	MSPCL	Not Available	
14	132 kV Imphal(MSPCL) - Yaingangpokpi	1	MSPCL	MSPCL	MSPCL	Not available	
15	132 kV Imphal(MSPCL) - Yaingangpokpi	2	MSPCL	MSPCL	MSPCL	Not available	
16	132 kV Kakching - Thoubal	1	MSPCL	MSPCL	MSPCL	Not available	
17	132 kV Kakching - New Thoubal	1	MSPCL	MSPCL	MSPCL	Not available	
18	132 kV Thoubal - New Thoubal	1	MSPCL	MSPCL	MSPCL	Not available	
19	132 kV Kongba - New Thoubal	1	MSPCL	MSPCL	MSPCL	Not Available	
20	132 kV Kongba - New Thoubal	2	MSPCL	MSPCL	MSPCL	Not Available	
21	132 kV Kakching - Elangkanpokpi	1	MSPCL	MSPCL	MSPCL	Not available	
22	132 kV Kongba - Yaingangpokpi	1	MSPCL	MSPCL	MSPCL	Not available	
23	132 kV Kongba - Yaingangpokpi	2	MSPCL	MSPCL	MSPCL	Not available	
24	132 kV Jiribam (MSPCL) - Rengpang	1	MSPCL & POWERGRID	POWERGRID	MSPCL	Not available	
25	132 kV Kakching - New Moreh	1	MSPCL	MSPCL	MSPCL	Not available	

Annexure I

List of Intra- State Lines of P&ED, Mizoram

Sl No	Name of Element (Emanating - Terminating)	Ckt ID	Name of Owners	Agency at End 1	Agency at End 2	Auto Reclose (Single Phase/ Three Phase)	Remarks
1	132 kV Aizawl - Luangmual	1	P&ED, Mizoram	POWERGRID	P&ED, Mizoram		
2	132 kV Melriat(PG) - Zuangtui	1	POWERGRID	POWERGRID	P&ED, Mizoram		
3	132 kV Bairabi - Kolasib	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		
4	132 kV Khazawl - Saitual	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		
5	132 kV Lunglei - Serchip	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		
6	132 kV Saitual - Zuangtui	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		
7	132 kV Serchip - Zuangtui	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		
8	132 kV Turial - Kolasib	1	P&ED, Mizoram	NEEPCO	P&ED, Mizoram		
9	132 kV Melriat - Luangmual	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		
10	132 kV Melriat - Lunglei	1	P&ED, Mizoram	P&ED, Mizoram	P&ED, Mizoram		

Annexure I

List of Intra- State Lines of DoP, Nagaland

Sl No	Name of Element (Emanating - Terminating)	Ckt ID	Name of Owners	Agency at End 1	Agency at End 2	AR Details (SPAR/3-Ph AR/Not Available/Information not Available	Remarks
1	132 kV Kohima - Meluri	1	DoP, Nagaland	DoP, Nagaland	DoP, Nagaland	Not Available	
2	132 kV Kohima - Wokha	1	DoP, Nagaland	DoP, Nagaland	DoP, Nagaland	Not Available	
3	132 kV Sanis-Wokha	1	DoP, Nagaland	DoP, Nagaland	DoP, Nagaland	Not Available	
4	132 kV Dimapur (PG) - Dimapur (DoP, Nagaland)	1	DoP, Nagaland	POWERGRID	DoP, Nagaland	Not Available	
5	132 kV Dimapur (PG) - Dimapur (DoP, Nagaland)	2	DoP, Nagaland	POWERGRID	DoP, Nagaland	Not Available	
6	132 kV Dimapur (PG) - Kohima	1	DoP, Nagaland	POWERGRID	DoP, Nagaland	Not Available	
7	132 kV Doyang - Mokokchung (DoP, Nagaland)	1	DoP, Nagaland	NEEPCO	DoP, Nagaland	Not Available	
8	132 kV Doyang-Sanis	1	DoP, Nagaland	NEEPCO	DoP, Nagaland	Not Available	

Annexure I

List of Intra- State Lines of TSECL

Sl No	Name of Element (Emanating - Terminating)	Ckt ID	Name of Owners	Agency at End 1	Agency at End 2	AR Details (SPAR/3-Ph AR/Not Available/Information not Available	Remarks
1	132 kV Agartala - Bodhjannagar	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
2	132 kV Agartala - Mohanpur	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
3	132 kV Mohanpur - Dhalabil	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
4	132 kV Agartala - Rokhia	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
5	132 kV Agartala - Rokhia	2	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
6	132 kV Ambasa - Gamaitila	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
7	132 kV Ambasa - Kamalpur	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
8	132 kV Ambasa - P K Bari	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
9	132 kV Baramura - Gamaitilla	1	TSECL	TSECL	TSECL	Distance Relay(P442) is not erected.132 KV breaker are 3-ph. gang operated.	
10	132 kV Baramura - Jirania	1	TSECL	TSECL	TSECL	Distance Relay(P442) is not erected.132 KV breaker are 3-ph. gang operated.	
11	132 kV Bodhjannagar - Jirania	1	TSECL	TSECL	TSECL	Distance Relay(P442) commissioned.Hardware connection is going on.132 KV breaker are 3-ph. gang operated.	
12	132 kV Budhjangnagar - Surjamaninagar	1	TSECL	TSECL	TSECL	Not available	
13	132 kV Budhjangnagar - Surjamaninagar(ST)	1	TSECL & Sterilite	TSECL	Sterilite		
14	132 kV Surjamaninagar - Surjamaninagar(ST)	1	TSECL & Sterilite	TSECL	Sterilite		
15	132 kV Dhalabil - Kamalpur	1	TSECL	TSECL	TSECL	Not available	
16	132 kV Dharmanagar - P K Bari	1	TSECL	TSECL	TSECL	Distance Relay(P442) is not erected.132 KV breaker are 3-ph. gang operated.	
17	132 kV Kamalpur - P K Bari	1	TSECL	TSECL	TSECL	Distance Relay(P442)is not erected.132 KV breaker are 3-ph. gang operated.	
18	132 kV Kumarghat - P K Bari	1	POWERGRID	TSECL	TSECL	Not Available	
19	132 kV Monarchak - Rokhia	1	NEEPCO	NEEPCO	TSECL	Not available	
20	132 kV Monarchak - Udaipur	1	NEEPCO	NEEPCO	TSECL	Not available	
21	132 kV Palatana - Udaipur	1	TSECL	OTPC	TSECL	Not Available	
22	132 kV Agartala - PK Bari	1	TSECL	NEEPCO	TSECL	Not Available	
23	132 kV Agartala - PK Bari	2	TSECL	NEEPCO	TSECL	Not Available	
24	132 kV PK Bari - PK Bari(ST)	1	TSECL & Sterilite	TSECL	Sterilite	Not Available	
25	132 kV Agartala - Surajmaninagar	1	TSECL	TSECL	TSECL	Not Available	
26	132 kV Agartala - Surajmaninagar	2	TSECL	TSECL	TSECL	Not Available	

ANNEXURE D.02

CHIEF MINISTER
NAGALAND
KOHIMA

13th June, 2022

D.O. NO. CMN/30/POWER/2022

Sub: Resolution adopted by the Power Ministers of North Eastern Region during the 22nd NERPC meeting held at Guwahati on 28th March 2022.

Dear Shri R.K. Singh ji,

On behalf of NER, I would like to express our deep gratitude to Government of India for unwavering support in the development of the region. In light of India's push for Renewable, we hope that further support from Government will enable the region to contribute in the journey towards carbon neutrality.

North Eastern Regional Power Committee (NERPC), Ministry of Power, Government of India held its 22nd Meeting in Guwahati on 28th March 2022. The Power Ministers of NER along with the members of NERPC took a resolution to urge the Government of India to consider following issue pertaining to Funding of Small Hydro Projects in the NER for development of the region.

IMPORTANCE OF DEVELOPING SMALL HYDRO PROJECTS IN THE NER STATES UNDER MNRE, GOI:SHP SCHEME

The NE (North Eastern) States of the country is endowed with vast hydropower potentials to provide clean renewable energy without affecting much of the river ecosystems and the environments. The HEPs (Hydro Electric Projects) in this region require considerably smaller space and have minimal impact of displacement and rehabilitation as it involves less land area due to favourable topography.

The development of HEPs is not only important in the North Eastern states to enhance renewable capacity addition in line with the Govt of India's road map to achieve 175 GW, but also it will be a move towards fulfilment of Renewable Purchase Obligation (RPO).

The development of HEPs is capital intensive and hence, it becomes difficult for the States to develop such projects independently due to resource constraint and are left with the alternative of importing power from outside incurring huge financial burden on the State resources.

Chief Minister's Office, Kohima, Nagaland. Ph. 0370-2270000/13 Fax : 0370-2270015 email: cm_nagaland@yahoo.com

CHIEF MINISTER
NAGALAND
KOHIMA

Earlier till the 12th 5 Year Plan (2007-2012), the MNRE (Ministry of New & Renewable Energy) was supporting the development of SHPs (Small Hydro Projects) to the NE States through SHP schemes @ INR 7.5 Crore/MW, which indeed has helped many projects come into picture in the North East States. However, with the discontinuance of the said SHP Scheme by the MNRE from April 2017 onwards, the most important and viable revenue generating sector of the NE States is left alone.

It is also imperative to note that the North East states being resource crunch states needs support of the MNRE, GOI to develop revenue generating SHPs as many rivers are still yet to be exploited of their potential and harnessing renewable energy from hydro potential sites is a sustainable goal which needs to be achieved.
The MNRE, GOI may therefore reconsider the implementation of SHP scheme to support the potential and viable hydropower projects.

With this background in mind and considering the poor financial conditions of NER States, we request your good self to intervene into the matter personally to revive the Scheme or grant 100% funding from Govt. of India, as a special consideration for the NER.

With regards,

Yours sincerely,

13/6

(NEIPHIU RIO)
Chairman,
North Eastern Regional Power Committee

Shri. R.K. Singh,
Union Minister of Power & MNRE,
Government of India,
Shram Shakti Bhawan,
Rafi Marg, New Delhi – 110 001

ANNEXURE D.04

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सदस्य विद्युत प्रणाली
तथा पदेन अपर सचिव भारत सरकार
केन्द्रीय विद्युत प्राधिकरण
सेवा भवन, रामाकृष्णा पुरम्

सत्यमेव जयते

गौतम रॉय
Goutam Roy

MEMBER POWER SYSTEM
& EX-OFFICIO ADDL. SECRETARY TO THE GOVERNMENT OF INDIA
CENTRAL ELECTRICITY AUTHORITY
SEWA BHAWAN, R.K. PURAM

DO.No.CEA-PS-13-13(15)/1/2022-PSPM Divn नई दिल्ली - 110066 31.08.2022
NEW DELHI – 110066

Dear Shri Tayengji ,

You may be aware that Hon'ble Union Minister of Power and New & Renewable Energy had reviewed the progress of ongoing Schemes of the Ministry of Power on 07.02.2022, wherein he directed CEA to ensure adequate capacity building of staff of NER states to satisfactorily operate and maintain the assets being created by PGCIL under present schemes of North Eastern Region Power System Improvement Project (NERPSIP) and Comprehensive Scheme for Strengthening of transmission and distribution system in Arunachal Pradesh and Sikkim.

In this regard, several rounds of review meetings held between CEA, PGCIL & NER States wherein PGCIL expressed serious concerns that States are not taking handover of these assets (lines & substations) which have already been commissioned. Therefore, PGCIL is maintaining these assets till handing over taken by the States, this involves additional expenditures. In this respect, most of the NER states informed CEA that they may not be in the position to take over the assets constructed by PGCIL under above Schemes for the reason that they are not having sufficient manpower to operate & maintain the above assets, as all their existing staffs are already utilized. Therefore, the only option left with them is to request for financial assistance from the Government of India for appointment of the required manpower on regular appointment basis or from outsourcing. The States also requested for hand-holding from Govt. of India for initial periods of at least 3 years.

The above mentioned points were discussed during above review meetings held between CEA, PGCIL & NER States and based on the deliberation/inputs from the NER States, a **'Report on the Capacity Building of NER states regarding NERPSIP and Comprehensive Scheme'** was prepared by CEA and was submitted to Ministry of Power. In this regard, MoP has requested CEA to advise the states to recruit additional required manpower to man the new assets created under NERPSIP & Comprehensive Schemes, based on their manpower norms and considering specific geographical conditions of these States. Further, followings decisions of MoP are reproduced & conveyed for compliance:

a. States may be impressed upon to take over the completed assets under NERPSIP and Comprehensive Scheme from POWERGID for their O&M.

b. States may be requested to carry out recruitment of additional man-power for taking over the completed assets and expenditure against such man-power may be recovered through filing tariff petition with the respective Electricity Regulatory Commissions.

c. POWERGRID can impart training to the man-power of the States for O&M of the completed/handed over assets under these schemes.

In light of above, I would request to kindly instruct the concerned officials to take immediate steps for the compliance at the earliest.

Yours Sincerely,

(Goutam Roy) 31/8/12

Shri K.Tayeng
Commissioner (Power) , Govt. of Arunachal Pradesh ,
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Copy to: (1) **Shri Raghuraj Madhav Rajendran**
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सदस्य विद्युत प्रणाली
तथा पदेन अपर सचिव भारत सरकार
केन्द्रीय विद्युत प्राधिकरण
सेवा भवन, रामाकृष्णा पुरम्

सत्यमेव जयते

गौतम रॉय
Goutam Roy

MEMBER POWER SYSTEM
& EX-OFFICIO ADDL. SECRETARY TO THE GOVERNMENT OF INDIA
CENTRAL ELECTRICITY AUTHORITY
SEWA BHAWAN, R.K. PURAM

DO.No.CEA-PS-13-13(15)/1/2022-PSPM Divn नई दिल्ली - 110066 31.08.2022
NEW DELHI – 110066

Dear Shri Niraj Verma ji,

You may be aware that Hon'ble Union Minister of Power and New & Renewable Energy had reviewed the progress of ongoing Schemes of the Ministry of Power on 07.02.2022, wherein he directed CEA to ensure adequate capacity building of staff of NER states to satisfactorily operate and maintain the assets being created by PGCIL under present schemes of North Eastern Region Power System Improvement Project (NERPSIP) and Comprehensive Scheme for Strengthening of transmission and distribution system in Arunachal Pradesh and Sikkim.

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c. POWERGRID can impart training to the man-power of the States for O&M of the completed/handed over assets under these schemes.

In light of above, I would request to kindly instruct the concerned officials to take immediate steps for the compliance at the earliest.

Yours Sincerely,

(Goutam Roy) 21/8/22

Shri Niraj Verma
Principal Secretary (Power), Govt. of Assam,
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Dear Shri Rajesh Agrawalji,

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Yours Sincerely,

(Goutam Roy) 31/8/22

Shri Rajesh Agrawal
Principal Secretary (Power),
Govt. of Manipur,
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DO.No.CEA-PS-13-13(15)/1/2022-PSPM Divn नई दिल्ली - 110066 31.08.2022
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Dear Shri Shakil Ahamedji,

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Yours Sincerely,

(Goutam Roy) 31/8/12

Dr. Shakil P. Ahammed
Principal Secretary (Power),
Govt. of Meghalaya, Shillong – 793001
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DO.No.CEA-PS-13-13(15)/1/2022-PSPM Divn नई दिल्ली - 110066 31.08.2022
NEW DELHI – 110066

Dear Shri Lalengmawiaji,

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Yours Sincerely,

(Goutam Roy) 31/8/11

Shri. H. Lalengmawia
Commisioner & Secretary (Power), Govt. of Mizoram ,
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Dear Shri Vijoji,

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(Goutam Roy) 31/8/11

Shri K.D. Vizo
Principal Secretary (Power), Govt. of Nagaland,
Kohima – 797001
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Dear Shri Pandeyji,

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Shri. Brijesh Pandey
Secretary (Power), Govt. of Tripura,
Agartala – 799001
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