सत्यमेव जयते
भारत सरकार
Government of India
विद्युत् मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत् समिति
Eastern Regional Power Committee

सं./NO. ERPC/TCC&ERPC Committee/2025/2096 दिनांक /DATE:17/03/2025

सेवा में / To

संलग्न सूची के अनुसार / As per list enclosed.

विषय : दिनांक – 11.02.2025 को गोपालपुर, ओडिशा में **आयोजित 53वीं** ईआरपीसी **बैठक का कार्यवृत्त ।**
Sub: Minutes of the 53rd ERPC Meeting held on 11.02.2025 at Gopalpur, Odisha

महोदय/ महोदया,

11.02.2025 (मंगलवार) को गोपालपुर, ओडिशा में आयोजित 53वीं ईआरपीसी बैठक के कार्यवृत्त को अपनी जानकारी और आवश्यक कार्रवाई के लिए संलग्न पाएं। यह ईआरपीसी की वेबसाइट (http://www.erpc.gov.in/) पर भी उपलब्ध है।

यह सीएमडी, ओपीटीसीएल की स्वीकृति के साथ जारी किया जा रहा है।

Please find enclosed the minutes of the **53rd ERPC Meeting** held on **11.02.2025(Tuesday) at Gopalpur, Odisha for your kind information and necessary action.** The same is also available at ERPC website (**http://www.erpc.gov.in/**).

This issues with approval of CMD, OPTCL.

भवदीय / Yours faithfully,

17.3.25

(पी. पी. जेना/**P P Jena**)
सहायक सचिव/**Assistant Secretary**

ERPC Members

1. Chairperson, ERPC & Principal Chief Engineer-cum-Secretary, Energy & Power Department, Govt. of Sikkim, Kazi Road, Gangtok – 737101, Sikkim.
2. Member (GO&D), Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. Chairman, GRIDCO Ltd., Janpath, Bhubaneshwar-751022.
4. Chairman-cum-Managing Director, Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar- 751022.
5. Chairman-cum-Managing Director, OHPC Ltd., Orissa State Police Housing & Welfare Corporation Bldg. Vanivihar, Janpath, Bhubaneswar- 751022.
6. Managing Director, OPGC Ltd., Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
7. Chairman-cum-Managing Director, Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
8. Chairman-cum-Managing Director, Jharkhand Urja Utpadan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
9. Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
10. Managing Director, Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi- 834004.
11. Managing Director, Tenughat Vidyut Nigam Ltd., Hinoo, Doranda, Ranchi – 834002
12. Chairman-cum- Managing Director, Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800001.
13. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
14. Managing Director, South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
15. Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
16. Managing Director, West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
17. Chairman & Managing Director, West Bengal Power Development Corporation Ltd., Bidyut Unnayan Bhavan, 3/C, Block LA, Sector-III, Bidhannagar, Kolkata-700098.
18. Chairman, Damodar Valley Corporation, DVC Towers, VIP Road, Kolkata -700054.
19. Director (Commercial), NTPC Ltd., Core-7, SCOPE Complex, Lodhi Road, New Delhi -110003.
20. Director (Technical), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad, Haryana-121003.
21. Director (Operations), Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon-122001.
22. Director(SO), GRID-INDIA, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016
23. Executive Director, ERLDC, GRID-INDIA, 14 Golf Club Road, Tollygunge, Kolkata – 700033.
24. COO, CTUIL, Saudamini, 1st Floor, Plot-1, Sector-29, Gurgaon-122001
25. Chief Executive Officer, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
26. Managing Director (Generation), CESC Ltd., CESC House, 1 Chowringhee Square, Kolkata- 700001.
27. Chief Executive Officer, Maithon Power Ltd., Village-Dambhui, P.O. Barbindia, Dist.-Dhanbad, Jharkhand- 828205.
28. V.P (Plant Head), GMR Kamalanga Energy Ltd., AT/PO-Kamalanga, PS-Kantabania, Via- Meramundali, Dist.- Dhenkanal, Odisha-759121.
29. Chief Executive Officer, Jindal India Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.
30. Managing Director, Sikkim Urja Limited, 2nd Floor, Vijaya Building, 17 Barakhamba Road, New Delhi- 110001.
31. CEO, BRBCL, Nabinagar, Dist- Aurangabad, Bihar-824303.
32. Head-Power Sales & Trading, Adani Enterprises Ltd.(AEL), Adani Corporate House, Shantigram,Near Vaisnav Devi Circle,SG Highway,Ahmedabad-382421
33. CEO, DMTCL Ltd., 504 & 505, Off CST Road, Kalina, Santacruz(E), Mumbai-400098

TCC Members

1. Chairperson, TCC & Principal Chief Engineer-II, Energy & Power Dept., Govt. of Sikkim, Kazi Road, Gangtok-737101.
2. Chief Engineer (GM), CEA, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. Managing Director, GRIDCO Ltd., Janpath, Bhubaneswar-751022.
4. Director (Operation), Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
5. Director (Operation), Orissa Power Generation Corporation Ltd, Zone-A, 7th floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
6. Director (Operation), Orissa Hydro Power Corporation Ltd, Orissa State Police Housing & Welfare Corporation Building, Vanivihar Chowk, Janpath, Bhubaneswar-751022.
7. Executive Director (Tech),, Jharkhand Urja Utpadan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
8. Director (Project), Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi- 834004.
9. Chief Engineer (S&D-JBVNL), Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
10. Chief Engineer (S&D), Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
11. General Manager, Tenughat TPS, Lalpania, Dist- Bokaro, Jharkhand-829149.
12. Director (Tech.), Bihar State Power Generation Company Limited, Vidyut Bhavan, Bailey Road, Patna-800001.
13. Chief Engineer (Commercial), Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800001.
14. Director (Project), North Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna-800001.
15. Director (Operations), West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
16. Director (R&T), West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
17. Director (O&M), WBPDCL, Bidyut Unnayan Bhavan, 3C, Block-LA, Sector-III, Bidhannagar, Kolkata- 700098.
18. Executive Director (Commercial), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
19. Regional Executive Director (ER-I), NTPC Ltd., 2nd floor, Lok Nayak Jai Prakash Bhawan, Dak Bunglow Chowk, Patna-800001.
20. Regional Executive Director (ER-II), NTPC Ltd., 3rd Floor, OLIC Building, Plot No.N-17/2, Nayapalli, Bhubaneswar-751012.
21. Executive Director (O&M), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad-121003, Haryana.
22. Executive Director (ER-I), Power Grid Corporation of India Ltd, Board Colony, Shastri Nagar, Patna- 800023.
23. Executive Director (ER-II), Power Grid Corporation of India Ltd, CF-17, Action Area-I, Newtown, Rajarhat, Near Axis Mall, Kolkata-700091.
24. Executive Director (Odisha Project), Power Grid Corporation of India Ltd, Plot No-4, Unit 41, Niladri Vihar, Chandrasekharpur, Bhubaneswar, Odisha-751021.
25. Head, National Load Dispatch Center, GRID-INDIA, B-9 Qutab Institutional Area, Katwaria Sarai,New Delhi-110016.
26. Executive Director, ERLDC, GRID-INDIA, 14 Golf Club Road, Kolkata –700 033.
27. Dy COO, CTUIL, Saudamini, 1st Floor, Plot-1, Sector-29, Gurgaon-122001
28. Chief General Manager, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
29. Sr. Vice President (System Operation), CESC Ltd, CESC House, 1 Chowringhee Square, Kolkata-700001.
30. Station Head & General Manager (O&M), Maithon Power Ltd., Village-Dambhui, P.O. Barbindia, Dist.- Dhanbad, Jharkhand-828205.
31. GM (Head-Electrical), GMR Kamalanga Energy Ltd., AT/PO-Kamalanga, PS-Kantabania, Via-Meramundali, Dist.-Dhenkanal, Odisha-759121.
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35. Head-Power Sales & Trading, Adani Enterprises Ltd.(AEL), Adani Corporate House, Shantigram,Near Vaisnav Devi Circle,SG Highway,Ahmedabad-382421
36. Chief Operating Officer, DMTCL Ltd ,504 & 505, Off CST Road, Kalina, Santacruz(E), Mumbai-400098

Non-Member Participants

1. Managing Director, Haldia Energy Limited, Haldia, West Bengal-721658
2. Director, JSW Energy (Utkal) Ltd, Sahajbahal, Jharsguda, Odisha-768211
3. Managing Director, Adhunik Power & Natural Resources Ltd., Lansdowne Towers, 5th Floor, 2/1A Sarat Bose Road, Kolkata-700020.
4. Managing Director, DANS Energy Pvt Ltd, DLF Cyber City, Phase-II, GURGAON – 122 002
5. Director, Shiga Energy Pvt. Ltd., 5th Floor, DLF Building No. 8, Tower-C, DLF Cyber City, Phase-II, Gurgaon – 122002
6. CEO, Sneha Kinetic Power Projects Pvt.Ltd. #31 -A, Behind SNOD building, Deorali, Gangtok, Sikkim-737102
7. CEO, Rongnichu HEP, MBPCL, Sikkim-737102.
8. Senior Vice President, Sikkim Power Transmission Limited, B2/1A, Safdarjung Enclave, Africa Avenue, New Delhi-110066
9. CEO, IndiGrid Limited, Mumbai-400079
10. CEO, Cross Boarder Power Transmission Limited, 3rd Floor, Niryat Bhawan, New Delhi-110057
11. CEO, Alipurdar Transmission Limited, 101, Part-III, G.I.D.C Estate, Gandhinagar, Gujrat-382028
12. CEO, SJVN Thermal Pvt Ltd, 169. Pataliputra Colony, Patna-800013
13. MD, Tata Steel UISL, Jamshedpur, Jharkhand-831001
14. CEO, Vedanta Ltd., 1st Floor Fortune Towers, Nandan Kanan road, Jharsuguda-751022
15. Vice-President , North Karanpura Transmission Ltd., Adani Corporatr House,3rd Floor, Shantigram, Ahmedabad-382421
16. Head, GI Hydro Private Limited, Legend Platinum, Kondapur, Hyderabad-500084, Telengana
17. Managing Director, India Power Corp. Ltd., Kolkata.

GOVERNMENT OF INDIA

MINISTRY OF POWER

Eastern Regional Power Committee

MINUTES

OF

53rd MEETING OF

EASTERN REGIONAL POWER COMMITTEE

Date: 11.02.2025

Time: 10:00 Hrs

Mayfair Palm Beach Resort, Gopalpur, Odisha

Contents

Eastern Regional Power Committee, Kolkata

MINUTES OF THE 53rd MEETING OF EASTERN REGIONAL POWER COMMITTEE

Date: 11th February,2025 (Tuesday) at 10:00 Hrs **Gopalpur, Odisha**

- **In Chair: Shri Bhaskar Jyoti Sarma(IAS),CMD, OPTCL (ODISHA POWER TRANSMISSION CORPORATION LIMITED)**

- **Host: GRIDCO, OPTCL,OPGC and OHPC.**
  - *Meeting was convened physically at Gopalpur, Odisha.*
  - *List of participants is attached at **Annexure-A.***

***Member Secretary, ERPC** in his inaugural address expressed his gratitude to Shri Bhaskar Jyoti Sharma(IAS),CMD, OPTCL for sparing his valuable time and for being present in the meeting despite his busy schedule. He welcomed other ERPC Members, TCC members, Special Invitees and other participants present in the meeting. He also thanked entire team of Odisha for making nice arrangements for the meeting.*

- *Thereafter a concise presentation(**Annexure-A1**) was delivered encompassing key facets and recent happenings of ER power sector as follows:*

☐ *Status of upcoming thermal projects as well as newly proposed thermal capacity addition in Eastern region.*

☐ *Performance of Thermal units in terms of average PLF: Eastern region recorded highest PLF of 78% among all five regions against All India PLF of 70%.*

☐ *Implementation of AGC in intra-state generators.*

☐ *Cross-border energy transactions in last Fiscal year.*

☐ *Status of upcoming Green energy projects in form of Solar, PSP and BESS.*

***Member (GO & D), CEA** on extending warm welcome to all the delegates, emphasized the following aspects:*

✓ *All ER utilities were requested to share the proposals seeking PSDF funding with all necessary documents and relevant justification to aid in expeditious processing and subsequent timely disbursement from PSDF. In this regard, SOC (Security Operation Centers) implementation in all SLDCs was highlighted that needs to be implemented by all ER states with available PSDF grant.*

✓ *Strict timeline shall be maintained to complete the scheme/projects granted under PSDF. Each project entity shall use its best effort to utilize the disbursed grant within the scheduled timeframe which will in turn help to get more fund to sanction new projects under the PSDF.*

✓ *All generating utilities were urged for regular update of daily generation data on National Power Portal(NPP).*

✓ *All generating utilities were requested to coordinate with Operation Performance Monitoring (OPM) division, CEA at least one month in advance of upcoming units to facilitate seamless registration on NPP with valid login credentials.*

Shri Bhaskar Jyoti Sarma(IAS),CMD, OPTCL *in his keynote address welcomed all the delegates to the 53rd Meeting of the Eastern Regional Power Committee. He further extended his sincere gratitude to all the participants for their valuable contributions towards the development of power sector in the Eastern region. He thereby emphasized the following:*

- *Eastern Region holds a unique place in national power landscape having predominance of thermal and hydel power at affordable cost and serving as a pivotal link in seamless trans-national exchange of energy with Nepal, Bhutan and Bangladesh.*
- *Eastern Regional Power Committee plays instrumental role in resolving disputes amongst ER constituents, evolving consensus and making valuable contribution in regional as well as national perspective.*
- *Significance of prudent energy conservation strategies in successfully navigating the phase of escalation in demand and per capita energy consumption in line with nation's economic growth.*

With permission of the Chair the Agenda of the meeting was taken up.

1. PART-A: Confirmation of Minutes

A1. Confirmation of Minutes of 52nd ERPC Meeting held on 6th September 2024 physically at Goa

The minutes of 52nd ERPC meeting held on 06.09.2024 physically at Goa was circulated vide letter no. ERPC/ TCC & ERPC COMMITTEE/2024/1083 dated 26.09.2024.

Deliberation in 53rd ERPC Meeting

Members confirmed the minutes of 53rd ERPC meeting.

2. PART-B: ITEMS FOR DISCUSSION

B.1: Issues referred to ERPC during its TCC meeting held on 10.02.2025

The issues referred to ERPC by the TCC are placed below:

B1.1: Recovery of Relinquishment Charges as per the direction of CERC in order dated 08.03.2019.

A letter has been received from the Chairperson, SRPC on this subject citing below points:

CERC Order dated 08.03.2019 in Petition No. 92/MP/2015, directed CTU to assess the stranded transmission capacity and calculate the charges payable towards relinquishment and the relinquishment charges paid by LTA customers shall be used for reducing transmission charges payable by other long term and medium term customers in the year in which such compensation is due in the ratio of transmission charges payable for that year by such long term customers and medium term customers. Accordingly, the relinquishment charges had been computed by CTUIL and uploaded on its website (Before the CERC Order, many IPPs/generators had relinquished the

LTA and the charges were being recovered from the beneficiaries).

II. It is noted that some of the generators filed appeal in APTEL against the recovery. Insolvency proceedings (CIRPL) of some generators, among the above generators have been completed. Insolvency proceedings of some generators are currently underway. CTUIL informed that APTEL stayed raising of invoices against generators who are not under insolvency proceedings.

III. The current litigations led to delays in the recovery of charges and have impacted the beneficiaries across regions. CTUIL has been actively pursuing the vacation of the APTEL stay order and requested the support of all stakeholders, including DISCOMs through representation in the APTEL case.

In light of the discussions and recommendations of SRPC members in the meeting held on 18.11.2024, it is requested that each RPC may actively participate in the matter and the following suggestions are forwarded for further needful:

1. Representation: Encourage all DISCOMs in the Region to actively participate in the Judicial proceedings. This collective action can emphasize the liabilities of beneficiaries and the financial impact on the pool.
2. Expert Legal Consultation: Obtain and share expert legal opinions on the judicial relinquishment charge recovery to strengthen the case, across platforms.
3. Awareness and Preparedness: CUIL has assured the sharing of hearing schedules and the list of appeals with constituents. It is suggested that this practice be adopted by all RPCs to ensure better preparedness for court proceedings.
4. Coordination across RPCs: Propose regular communication among RPCs to exchange updates and formulate a unified approach to address the matter of recovery of relinquishment charges and stay order/legal issues effectively. It is felt that by collectively engaging in this matter, the resolution of the challenges can be expedited and ensure equitable recovery, as early as possible, that would protect the interests of all stakeholders.

It is requested that each RPC may deliberate on the above points and initiate suitable actions.

Deliberation in 53rd TCC meeting

On request of MS ERPC, Member Secretary, SRPC briefly explained the issue to the forum. He intimated that current litigations in APTEL led to delays in the recovery of relinquishment charges and have impacted the beneficiaries across regions. Further he mentioned that there is a limited representation by state DISCOMs in the judicial proceedings of this matter. As the recovery of charges will reduce transmission charges burden of the discoms across the country, the discoms may actively participate in the proceedings of APTEL by including themselves as party in the petition.

Member Secretary, NRPC supported the case and intimated that the matter will be actively pursued in their forum for participation of member states in the proceedings.

Director(RT), WBSEDCL suggested that if state-wise financial quantification of the charges can be determined, it would help state discoms to take appropriate decisions. CTU agreed to work out the state-wise quantification and share with the RPCs.

After detailed deliberation,

- *TCC opined that they are aligned with the views of SRPC. TCC suggested that West Bengal, Odisha & Bihar being the major utilities in ER may take necessary steps on this issue.*

- *TCC advised CTU to share the state-wise bifurcation of the relinquishment charges to the RPCs.*

- *It was agreed that if required a separate meeting may be convened with the state discoms along with CTU to deliberate on the issue.*

- *Further TCC suggested that the matter may be deliberated in other RPCs and a unified approach may be devised on this issue.*

Deliberation in 53rd ERPC meeting

CTUIL updated that they already have the state-wise bifurcation of the relinquishment charges and the same would be shared with the RPCs soon.

ERPC advised that state discoms may take a decision based on the data received from CTUIL for their participation in the proceedings of APTEL on the issues of relinquishment of LTA charges .

B1.2: New ER-SR Interregional Link: Proposal for 765 kV Angul-Srikakulam 2nd D/C line—CTU

The transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area, Andhra Pradesh was discussed in the 33rd CMETS-SR for ISTS proposals held on 25.07.2024 and the Angul – Srikakulam 765 kV 2nd D/c link shall be required for supply of power to Green Hydrogen / Ammonia projects at Kakinada under Phase-I (3000 MW).

52nd SRPC approved the proposal of 765 kV Angul-Srikakulam D/C and recommended that the line shall be considered under National Component as it would be used to meet the GH&GA loads.

The Inter-Regional Strengthening between SR Grid and ER Grid i.e. Angul – Srikakulam 765 kV 2nd D/c line (about 275 km) is discussed and agreed in the 34th CMETS-SR held on 24.09.2024. The scheme was also deliberated and agreed in the 37th CMETS-ER held on 29.11.2024. During the 37th CMETS-ER, in addition to the Angul – Srikakulam 765 kV 2nd D/c line, 330 MVAr bus reactor at Angul 765/400kV S/s was also agreed for implementation. The proposal is attached at **Annexure-B.2.2**.

Scope of the Scheme:

1) Angul – Srikakulam 765 kV 2nd D/c line (about 275 km) with 240 MVAR SLR at both ends on both circuits.
2) 1x330 MVAR, 765kV bus reactor (3rd) at Angul Substation

Estimated Cost : Rs 2580 Crore

Impact on the total ATC in % along with the existing ATC : 0.843 %

Deliberation in 53rd TCC meeting

CTU briefly explained the proposal of setting up new inter-regional link and apprised that the same will be put up for NCT approval subsequent to views/opinion being received from all RPCs. In this regard, SRPC has recommended for considering the proposal under national component.

After deliberation,

- ✓ *TCC opined that the ER-SR link should not be considered as national component as the scheme has been planned for granting connectivity to the projects located in the Southern Region. Instead, the 765 kV Angul-Srikakulam link may be considered under AC component as per extant methodology of CERC sharing regulations.*
- ✓ *TCC referred to ERPC for further deliberation.*

Deliberation in 53rd ERPC meeting

ERPC agreed with the technical requirement of the scheme for new ER-SR interregional link. ERPC opined that in absence of any regulatory mandate to declare the transmission schemes conceived for granting connectivity to Green Hydrogen/Green Ammonia Hubs as national component, all such schemes planned and implemented shall be considered as per the extant methodology of CERC Sharing Regulations 2023.

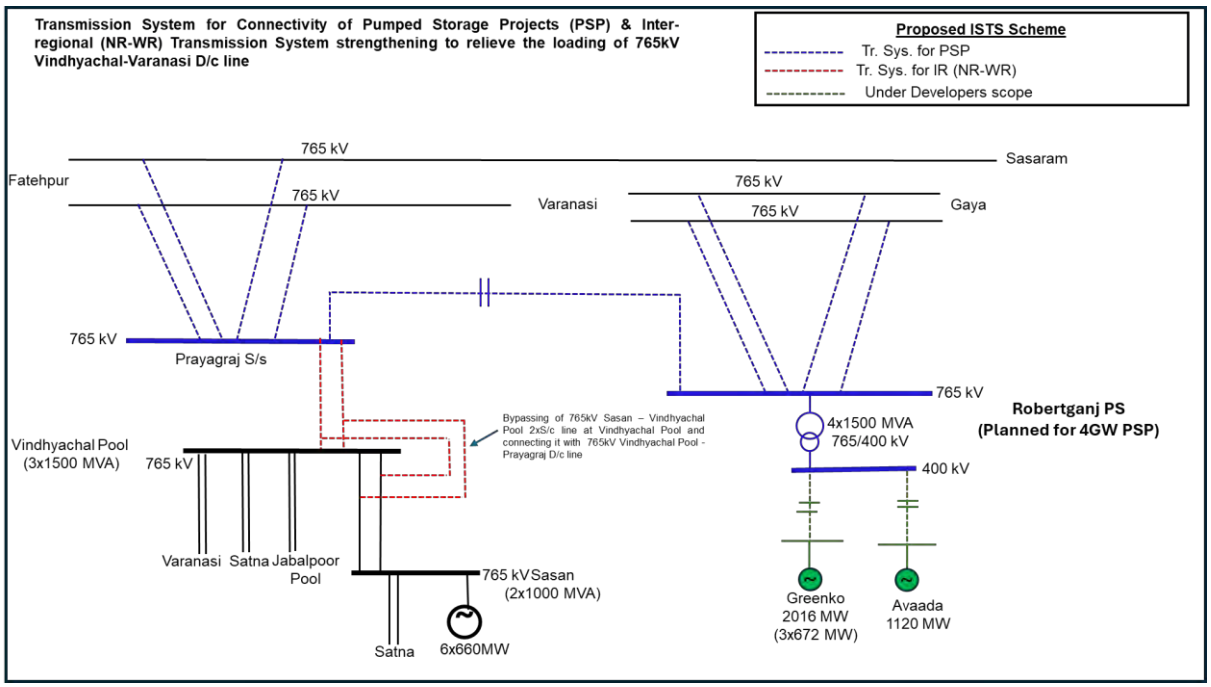
B1.3: Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra District. Uttar Pradesh—CTU

The connectivity applications of cumulative quantum of 5152 MW from two developers i.e. M/s Greenko (6 nos. of applications with cumulative quantum of 4032 MW) & M/s Avaada WB (1 application of 1120MW) near Robertganj area in Sonbhadra district, Uttar Pradesh was discussed in the 31st CMETS-NR meeting held on 27.06.24. As per the schedule indicated in the applications, these PSP projects are expected to be commissioned progressively from Nov'26 upto Mar'28.

Accordingly comprehensive transmission scheme was planned by CTU including the future requirements.

Transmission system for evacuation of power from Pumped Storage Projects was agreed in 34th CMETS-NR held on 20.09.2024. & 36th CMETS-ER meeting held on 29.10.2024.

The SLD of the proposed scheme is given below:



CTU may explain. TCC may discuss.

Deliberation in 53rd TCC meeting

CTU informed:

- ✓ *The proposed transmission system is envisaged to facilitate power evacuation from upcoming pumped storage projects in Uttar Pradesh and enhance resource availability in non-solar hours.*
- ✓ *They further update that the scheme was discussed in NCT meeting held on 06.02.2025 and it was agreed to implement the above proposal in two different schemes namely 1) NR-WR Interregional Transmission System strengthening scheme 2) Transmission system for evacuation of PSPs in Sonbhadra, UP. The details are enclosed at AnnexureB2.3.*
- ✓ *On query from the members on cost implications, it was clarified by CTU that the cost implications for the proposed scheme on ER beneficiaries will be as per CERC Sharing Regulations.*

After detailed deliberation, TCC consented to the above proposals and referred to ERPC for concurrence.

Deliberation in 53rd ERPC meeting

ERPC agreed for the proposed transmission scheme which will be implemented under the schemes namely 1) NR-WR Interregional Transmission System strengthening scheme 2) Transmission system for evacuation of PSPs in Sonbhadra, UP.

B1.4: LILO of both circuits of 400kV Sipat-Ranchi D/c line (an ISTS line) for establishment of 400/132/33kV Kunkuri S/s by CSPTCL under intra-state scheme—CSPTCL/CTU

CSPTCL is planning construction of new 400/132 KV Substation Kunkuri (Village-Harradand), District – Jashpur (C.G.). 01 No. 400 KV ISTS line viz. 400 KV Sipat (NTPC) - Ranchi D/c line is passing nearby the location identified for 400 KV SS Kunkuri (Village-Harradand).As per preliminary survey tentative route length of construction of LILO of this line at proposed 400 KV SS Kunkuri (Village-Harradand) is 8.00 KM & forest involvement of this LILO line is nil.

CSPTCL vide letter dtd 24.07.2024 has requested CEA & CTUIL for permission for LILO of aforesaid 400 KV Sipat (NTPC) - Ranchi D/c line at proposed 400 KV SS Kunkuri (Village-Harradand).
A meeting was held on dtd 13.11.2024 amongst CEA, CTUIL, Grid-India & CSPTCL. Further, CEA, vide email dtd 25.11.2024 has conveyed Minutes of the meetings held on 13.11.2024 and intimated that " *CSPTCL's proposal of LILO of establishment of Kunkuri 400/132 KV (intra-state) S/s by LILO of both circuits of 400 KV Sipat-Ranchi D/c line (an ISTS line) was agreed with the condition that the proposal should be presented before both the RPCs i.e. WRPC and ERPC by CSPTCL*."

In 222nd OCC meeting, OCC consented to the proposal of LILO of both circuits of 400 kV Sipat - Ranchi D/C for establishment of 400/132 kV S/S at Kunkuri.

Deliberation in 53rd TCC meeting

TCC consented to the proposal of LILO of both circuits of 400kV Sipat-Ranchi D/C line and referred to ERPC for approval.

Deliberation in 53rd ERPC meeting

ERPC concurred with the proposal.

B1.5: Connectivity issues for upcoming projects of Damodar Valley Corporation.

Ministry of Power has given target towards setting-up Koderama Thermal Powert plant (KTPS II - 2x800 MW), Raghunathpur Thermal Power plant (RTPS II-2X660MW) & Durgapur Thermal Power Plant (DTPS- 1X800 MW) all of them are brown field projects. All the three projects are required to be set-up within 2027-29 ((i) RTPS- PH II , 1st unit by Nov 2027 (ii) KTPS-PH II , 1st unit by Feb 2028 (iii) DTPS (1X800MW) , by Aug 2028) as per timeline set by MOP.
The connectivity issues were discussed in the 52nd ERPC meeting held on 06th Sept 2024 and the following decision was made:

1. "ERPC opined that all possible measures should be taken to avoid bottling up of power evacuation from generating stations.
2. In view of ROW issues and unnecessary burden on consumers, ERPC recommended for optimal utilization of existing transmission network for power evacuation rather than construction of DTL.
3. CTU was directed to conduct a joint study with DVC and update the outcome in next CMETSER for deliberation."

The issues were discussed in subsequent CMETS – ER meeting and the summary of the subsequent CMET-ER meeting along with concerns of DVC is depicted below:-

1. RTPS Ph-II:

In 35th CMETS-ER, CTU proposed two alternatives for Connectivity of RTPS Ph-II

Alt-1: Rearrangement of Existing ISTS interconnections of RTPS Ph-I
Alt-2: ISTS connectivity at Bishnupur can be established through RTPS Ph-II – Bishnupur 400kV D/c line as Dedicated Transmission Line (DTL).

- In case Alt-1 is adopted, there will not be any interconnection between the Ph-I & Ph-II at 400kV level by any means. CTU argued that the Ph-I Generating Station is an ISTS connected Generator as per the GNA Regulations. However, Ph-II will be a Dual connected Generator and allowing connection between an ISTS and a dual connected generations would lead to techno-commercial and operational issues such as – (a) ISTS connected generation getting indirectly connected to intra-state system through dual connected generator; (b) increase in fault level at STU system; (c) overloading of STU network in base case & contingency i.e. in case of complete disconnection from ISTS, both generators would be momentarily get connected to STU network jeopardizing the STU system etc.

- Thus as per Alt-1, CTU agreed to provide ISTS connectivity by shifting the existing 400kV RTPS-Ranchi PG D/c (Quad Moose) from Ph-I Bus to Ph-II Bus without having any electrical interconnection with Ph-I Bus at 400kV level.

- DVC has chosen the Alt-1 to interconnect RTPS Ph-II with the existing ISTS interconnection of Ph-I. However, DVC has requested for allowing interconnection of the Ph-I & Ph-II Buses for the sake of reliability of Power evacuation.
  Meanwhile, CTU has held the processing of the application on ground of getting clarification on the above from CERC for which they have filed rejoinder against the petition filed by DVC on Scheduling of DVC Stations (279/MP).

2. KTPS Ph-II :

CTU proposed the following in respect of the above Application:

- The Ph-II of KTPS can be connected either to GAYA PG through existing 400kV KTPS-Gaya PG D/c (Quad) or to Biharsariff PG through existing 400kV KTPS-Gaya PG D/c (Quad). But in Both cases the Ph-II generating Station to be kept separated from Ph-I Generating Station on the same ground as in case of RTPS issue .
- In order to address the reliability of evacuation system to ISTS from Ph-II Generating Project, it was proposed by CTU subsequently to shift one Ckt each of 400kV KTPS-Gaya PG D/c & 400kV KTPS-B'sariff PG D/c lines to the Ph-II Bus.
- DVC argued against the above plan proposed by CTU citing the issues of Reliability aspects, unnecessary financial burden as highlighted in RTPS case.
- DVC & ERLDC were of the opinion that as per approved scheme of DVC one tie breaker is provided between Phase-I & Phase-II and in case of technical & Grid reliability DVC shall be allowed to switch ON the tie breaker with the permission of ERLDC which CTU denied citing the GNA Regulation.

3. DTPS :

The Durgapur Thermal Power Station (DTPS) will be a dual connected Generator as 241 MW will be evacuated through STU network of DVC comprising of 2 nos of 400/220kV 2X315MVA ICTs.DVC Sought ISTS connectivity of DTPS (1X800MW) through construction of DTL upto the nearest ISTS node at 400kV Parulia PG. However, the same will require a little reorientation of connected existing lines at Parulia PG Bus, which is at present operating at Split mode.

- CTU has proposed ISTS connectivity of DTPS(1X800MW) to Bishnupur PG Switching Station through construction of new DTL from 400kV DTPS(DVC) – Bishnupur(ISTS) D/c in line with earlier discussion while disposing DVC 's application of 400MW ISTS connectivity (appl no2200000805 dt 08-05-2024, 2200001572 dt 18-12-2024).
- The proposal of connectivity at Bishnupur was not acceptable to DVC since it requires construction of lines through forest and restricted areas and will lead to severe ROW issues.

Eventually, Transmission project will get delayed and chances will be there that it may not get completed prior to expected COD (Aug 2028) of the Station.

- In view of the above, an alternate proposal has been prepared by DVC for interconnection at Parulia PG (ISTS). CTU subsequently has agreed for a Joint Study meeting involving WBSETCL, DVC, Powergrid, ERLDC & ERPC to carry our preliminary study and site survey for feasibility of the proposed scheme.

With the above deliberations and future discussion on GNA connectivity for Koderma, Raghunathpur & Durgapur the following is proposed to be discussed-

- Provision for electrical inter-connection between Ph-I & Ph-II of both KTPS and RTPS may be allowed in view of system reliability aspects, economy and ease of implementation.

- In case of DTPS, connectivity may be allowed to the nearest ISTS node at 400kV Parulia PG.

DVC may explain. TCC may discuss.

Deliberation in 53rd TCC meeting

DVC representative highlighted the issue and informed that switchyard along with outgoing lines at both Koderma and Raghunathpur were originally conceived considering the provision of future expansion at both the project locations at a suitable time in future. Moreover, as on date there is enough margin available for evacuation of power from both the Project locations which is evident from the load flow study (PSSE base case).

They requested for allowing electrical inter-connection between Ph-I & Ph-II of both KTPS and RTPS in view of system reliability aspects, economy and ease of implementation.

CTUIL updated that the connectivity proposals of KTPS-II & RTPS-II has been finalized after considering all the regulatory and operational challenges and informed that they have filed rejoinder in the petition of DVC on scheduling issue.

After detailed deliberation, TCC decided following:

- *TCC opined that considering DVC as special case and their mandate under DVC act, CTU may reexamine the case of DVC.*
- *TCC advised CTU & DVC to hold bilateral meeting within 15 days to resolve the issue mutually.*
- *TCC also referred to ERPC for further deliberation.*

Deliberation in 53rd ERPC meeting

It was decided that a meeting may be organized by CTUIL with DVC to resolve the above issues and Member Secretary, ERPC may be invited in the said meeting.

B1.6: Approval for HTLS Project implementation in Jharkhand: JUSNL

The DPR of the said project was first submitted and deliberated in 207th OCC dated 15.09.2023. In 222nd OCC Meeting, JUSNL updated:

- 132 KV Namkum - Sikidri and 132 kV Jaduguda-Ramchandrapur have been withdrawn from the proposal of HTLS reconductoring due to availability of more T/Ls to the NAMKUM GSS.
- 220 kV Maithon Dumka T/L (73.3 km) is also proposed for HTLS reconductoring as present loading pattern is violating N-1 contingency.
- 132kV D/C Chandil - Golmuri Transmission Line S/C was added to the existing list of HTLS Project T/L

- OCC agreed to the proposal of JUSNL for HTLS reconductoring of following transmission lines:
  1. Adityapur(Gamariya) to Ramchandrapur 132 KV D/C
  2. Hatia old - Hatia new 132 KV D/C
  3. Dumka 220/132 to Dumka/Maharo 132KV DC
  4. Adityapur - Rajkharsawa 132 KV S/C
  5. Rajkharsawa - Chandil line via kandra 132 KV S/C

- For reconductoring of 220 kV Maithon - Dumka & 132kV D/C Chandil - Golmuri T/L, JUSNL was advised to share the relevant study reports within a month for consideration of the proposal.

JUSNL vide email dated 17.01.2025 submitted the study reports for the remaining two lines. The report is enclosed at **Annexure B.2.7**.

JUSNL may update. TCC may discuss.

Deliberation in 53rd TCC meeting

JUSNL submitted :

- ✓ *220 kV Maithon-Dumka D/C line is not meeting N-1 contingency in real time operation with average maximum demand of 430 MW and year on year escalation of 35 MW.*
- ✓ *132 kV D/C Chandil - Golmuri T/L has completed 39 years of operation and needs enhancement in loading capacity to safeguard reliability of intra-state network.*

After detailed deliberation, TCC in principally agreed to proposal of reconductoring of 5 transmission lines with HTLS as already recommemded in OCC forum as well as the proposal of HTLS reconductoring of 220 kV Maithon-Dumka D/C and 132 kV D/C Chandil – Golmuri line.

JUSNL was advised to complete HTLS reconductoring of all seven transmission lines in time bound manner and may approach PSDF with the proposal.

TCC referred to the proposal to ERPC for concurrence.

Deliberation in 53rd ERPC meeting

ERPC accorded concurrence to the proposal of JUSNL for reconductoring of the intra-state lines.

On PSDF funding of the proposal, Member(GO&D), CEA emphasized on submission of technical justification for each of the line considered for reconductoring and time bound submission of any clarification sought from PSDF for timely approval of the scheme.

B1.7: Implementation of Patna Islanding scheme

The Patna islanding scheme would be formed with Units of NPGCL along with loads of Patna city. As per **223rd OCC** deliberation:

ERLDC updated:

- ✓ The feeder list shared by Bihar has adequate load quantum in line with the proposed islanding logic.
- ✓ BOQ preparation is under progress in coordination with M/S Siemens. Once the quotation is received, cost implications will be finalized in DPR.

OCC Decision

- OCC consented to the islanding logic as proposed by ERLDC for implementation in the NPGC units to be islanded with loads of Patna city.
- OCC referred the issue to upcoming TCC for deliberation.
- OCC advised Bihar SLDC to submit the finalized DPR with cost implications in TCC meeting. ERLDC was advised to coordinate and assist Bihar in DPR preparation.

ERLDC vide mail dated 31.01.2025 has shared Draft DPR along with BOQ on the islanding scheme with SLDC Bihar for necessary approval.

Deliberation in 53rd TCC meeting

SLDC Bihar apprised that DPR of the Patna islanding scheme has been prepared with tentative cost implications of around 5.5-6 Cr.

TCC recommended the Patna Islanding Scheme and referred to ERPC for concurrence. TCC advised Bihar to put up the proposal for funding from PSDF.

Deliberation in 53rd ERPC meeting

ERPC agreed with the proposal of Patna Islanding Scheme and advised Bihar to go ahead with the implementation scheme in a time bound manner and they may approach for PSDF funding.

B1.8: Dual reporting (2+2) of ISTS stations to Main RLDC and Backup RLDC: ERPC Secretariat

- ✓ Presently SCADA data channels are reporting in main and backup mode (1+1) with 1 main channel to RLDC and 1 backup channel to Backup RLDC. To increase the redundancy in the system Grid-India requested that both main and backup channels should report to RLDCs as well as back up RLDCs (in dual mode). In this regard meetings were held among POWERGRID, Grid-India, CTU and CEA dated 09.05.2023 and 27.06.2023 (MoM attached at **Annexure-B.2.16.1**) where dual reporting of SCADA Chanels to main RLDC & Backup RLDC were deliberated.
- ✓ Further, CERC has issued Guidelines on "Interface Requirements" under the CERC (Communication System for inter-State transmission of Electricity) Regulations, 2017 (Attached at **Annexure-B.2.16.2**) in Jan'24. Which also mandated that users shall provide communication

interfaces with multiple ports, cards, gateways etc. to avoid failure of single hardware element.

- ✓ To meet this requirement for new ISTS stations, CTU has started to include this requirement in the RFP inputs for the TBCB projects from Aug'23 onwards. For the existing substations CEA-PCD vide letter dtd.22.07.2024 (attached at **Annexure-B.2.16.3**) also confirms these requirement of 2+2 channels to main and backup RLDC.
- ✓ For existing ISTS sub stations, CTU has requested all the TSPs e.g. POWERGRID, Adani, Sterlite, Indigrid, Aparaava, Renew Power etc. to provide status for readiness of 2+2 channels upto RLDC. As per inputs received POWERGRID, Indigrid, Sterlite existing SAS gateway / RTUs needs upgradation or replacement. Further TSPs stated that this requirement has cost implications, and they require a separate scheme to upgrade their existing substations.
- ✓ As per discussions held within CTU (Engg & Communication departments), the Engg team suggested that as SAS upgradation comes under substation related work, this type of work can be carried out under O&M /AddCap as no separate transmission schemes are generally required at element level.
- ✓ Agenda in this regard was also sent by CTU to NPC for deliberation and seeking their views and issuing guidelines, however NPC is of the view, that this agenda first needs to be put up in RPC level for consensus of all stakeholders. Thereafter CTU has forwarded the same to all the RPCs vide letter dtd. 11.09.2024 (attached at **Annexure-B.2.16.4**)
- ✓ Further, as per decision of 14th and 15th ERTeST meeting, POWERGRID has completed the PoC test for Jamshedpur S/s and has submitted the draft test report. The draft PoC report is attached as **Annexure-B.2.16.5**. The proposed architecture is attached in **Annexure-2.16.6.**
- ✓ For this purpose, four channels are to be configured - one channel for RTU-1/gateway-1 reporting to ERLDC Main-1, second for RTU-1/gateway-1 to ERLDC Main-2, third for RTU-2/gateway-2 to ERLDC Main-1 and the fourth for RTU-2/gateway-2 to ERLDC Main-2 The aspect of dual channel reporting has been discussed in 14th and 15th Test Meeting, CTUIL communication planning meeting.
- ✓ These four channels are in addition to the two existing channels reporting to the present SCADA system at ERLDC MCC and ERLDC BCC. The existing channel will remain in service till taken over by New SCADA implementation in Eastern region which is expected to be completed by March 2026.

Key points for deliberation:

- ☐ Forum is requested to deliberate this requirement of SAS/RTU Upgradation/ Replacement for existing substations in **Additional Capitalization for RTM** substations and under **Change in Law of TSA** for the **TBCB** substations in line with CERC order on petition no. 94/MP/2021
- ☐ All ISGS/IPPs/private transmission licensees are requested to check feasibility for dual channel provisions at respective ends to ensure that the requirements for dual reporting of RTUs/SAS gateways can be achieved before commissioning of the upcoming SCADA/EMS upgradation project. An email communication to all utilities have been shared from ERLDC. List of dual reporting feasibility is attached as **Annexure B.2.16.7**

16th TeST Decision

- TeST committee technically consented to the proposal and referred to TCC/ERPC meeting for finalization of the implementation mode with consensus of all ER constiuents. CTU was advised to furnish detailed cost estimate and BOQ of the scheme in upcoming TCC meeting for deliberation.

- TeST committee advised all generating utilities to ensure the prompt availability of additional analog and digital signals to ERLDC in line with IEGC 2023.

- TeST Forum advised all ISTS transmission licensees and ISGS/IPP generating utilities to assess the feasibility of dual-channel reporting to ERLDC and confirm their progress to ERPC and ERLDC.
- Further, all utilities were advised to promptly initiate actions to replace old RTUs under the following conditions and communicate the same to ERPC and ERLDC:

o RTUs with limitations in reporting all required analog/digital data to ERLDC.

o RTUs with obsolete technology or those that have completed their useful life of 7 years (as per CERC Tariff Regulation 2024–29).

o RTUs still reporting in the IEC 101 protocol and not supporting the IEC 104 protocol.

Deliberation in 53rd TCC meeting

TCC in principally agreed with the proposal and advised CTU/Powergid to submit the cost estimate in the ERPC Meeting.

TCC referred the issue to ERPC for approval.

Deliberation in 53rd ERPC meeting

ERPC accorded in-principle approval and advised to go ahead with the proposal. Regarding the cost implication, decision may be taken in lower forums of ERPC.

B1.9: Laying of OPGW on Transmission lines in Eastern Region :CTU

Revised OPGW list for laying of 48F OPGW on these links is tabulated below:

S.N.	Description	Link Length (km)	Design Attenuation(dB)	Actual Attenuation (dB)	Year of Commissioning	FOTE Requirement
1	400kV Prayagraj (Allahabad)–Sasaram	214.42	53.61	71.82 ↑ (+18.21)	2004	Covered in Congestion Scheme
2	400kV Farakka – Sagardighi II -Jeerat	(84.71+ 219.45)304	59.21	73.43 ↑ (+14.62)	2004	1 no STM-64 for Sagardighi. (Farakka, Jeerat covered in Congestion Scheme)
3	400kV Indravati-Rengali-Talcher	377.31	94.33	122.22↑ (+27.89)	2005	2 nos. STM-16 One each at Indravati, Rengali. (Talcher covered in AGC scheme.)
4	400kV Malda - Purnea & 400kV Purnea - Binaguri	367.34 (176.89+190.47)	52.73	75.10↑ (+22.37)	2004	1 no. STM-64 for Malda. (Binagudi, Purnea covered in Congestion Scheme)
5	400kV Binagauri-Bongaigaon	239.81	25.94	78.94↑ (+53)	2004	No requirement at Bongaigaon as per POWERGRID input.

	Total=	Approx. 1503 km				2 nos.- STM 16 2 nos. STM 64

16th TeST Decision

- To ensure continued reliability and performance of the communication infrastructure, TeST committee technically agreed to OPGW replacement on aforementioned 5 links that have completed their designated useful lifespan(15 years) as per CERC norms .
- TeST committee referred the proposal to CCM for commercial vetting.
- TeST committee suggested that the requirement of DTPC as proposed by WBSLDC may be considered.

In **52nd CCM**

- WBSETCL submitted that DTPC at Sagardighi end may be included in the scope of the work.
- The Commercial committee agreed with the proposed cost estimate of **Rs. 84.74 Crore** and referred for concurrence of 53rd TCC & ERPC. **Committee advised Powergrid/CTU to explore inclusion of DTPC at Sagardighi in the present scope and submit the cost implication of the same in the forthcoming TCC Meeting.**
- It is now informed that Farakka-Sagardighi-Subhashgram OPGW link is commissioned on dt. 18.12.2024. Accordingly, OPGW laying requirement on 400kV Farakka-Sagardighi II-Jeerat may be further deliberated.
- **After successful commissioning of Farakka-Sagardighi-Subhasgram OPGW link,** if OPGW on 400kV Farakka Sagardighi II-Jeerat and associated FOTE at Sagardighi may not be required, the estimated cost gets revised to **Rs. 67.28 crores**.(revised scheme from CTU attached at **Annex B.2.16**)
- After RPC recommendation, scheme will be put up for approval of NCT.

Deliberation in 53rd TCC meeting

TCC decided to go ahead with implementation of OPGW in 400 kV Farakka-Sagardighi-Jeerat link.

Regarding DTPC at Sagardighi end, Powergrid intimated that PLCC at Sagardighi end belongs to WBPDCL and the replacement my be done by West Bengal. TCC advised Power grid & West Bengal to discuss and settle the issue bilaterally.

TCC agreed with the above proposal with cost estimate of Rs. 84.74 cr and referred to ERPC for concurrence.

Deliberation in 53rd ERPC meeting

ERPC accorded consent to the above proposal of laying of OPGW on transmission lines with cost estimate of Rs. 84.74 cr .

B1.10: Agenda Items referred by sub-committees for concurrence/approval.

Sl No.	Proposal	Cost Implication	Decision of Sub-Committee
1.	Replacement of Old Data Concentrator Unit (DCU) for AMR, in compliance with regulations.: Powergrid ER-II.	Rs. 1,23,42,375/- (Rs. One crore twenty-three lacs forty-two thousand three hundred seventy-five only) excluding taxes	➢ 223rd OCC consented the proposal. ➢ 52nd Commercial Committee agreed with proposed Cost estimate.
2.	Proposal for keeping SAS at Durgapur S/S under Package-Y as spare at SAS Lab of Rajarhat—Powergrid ER-II	₹ *30,00,000* /-(Rupees Thirty Lakhs)	➢ 222nd OCC accorded in-principle approval to the proposal. ➢ 52nd Commercial Committee agreed with the proposed cost estimate.
3.	Upgradation of Substation Automation System at Rangpo 400/220/132KV Substation: Powergrid ER-II	Tentative Cost Implication of ₹*40,00,000/-* (Rupees Forty Lakh) excluding GST.	➢ 222nd OCC accorded in-principle approval to the proposal. ➢ 52nd Commercial Committee agreed with the proposed cost estimate.
4.	Conducting VAPT assessment for AMR Asset in ERLDC (in Compliance of Cyber security guidelines): Powergrid ER-II	₹ 2,60,000 /- (Rupees Two Lakh Sixty Thousand) excluding GST	➢ 222nd OCC accorded in-principle approval to the proposal. ➢ 52nd Commercial Committee agreed with the proposed cost estimate.
Total Cost Implications		₹ 1,96,02,375 /- excluding tax	

Deliberation in 53rd TCC meeting

Powergrid updated the cost estimate of the proposal mentioned under sl no 2 & 3 and cost depicted in the table is revised cost.

TCC accorded concurrence to the above four proposals and referred to ERPC for approval.

Deliberation in 53rd ERPC meeting

ERPC approved the proposals with respective cost estimates as depicted in the table.

B1.11: Support Service for Protection Database Project of ER : ERPC Secretariat

In 51st TCC & ERPC Meeting, the proposal of continuing support service for the Protection Database Project of ERPC with the original vendor was discussed and approved. The support service will expire on March-25. It is pertinent to mention that as per clause 14(3a) of CERC(IEGC)-2023, RPCs are required to maintain a centralized database of relay and protection settings of their concerned region.

To ensure reliable and up-to -date database, continuation of support service of the project is necessary. As the software service is proprietary in nature, it is proposed to renew the support service of the protection database with the vendor for FY 2025-26.

It is further proposed that PDMS(Protection Database Management System) portal may be enhanced to include features such as sorting relay settings by type, generating summary reports for quick reference, and enabling automated checks for deviations from the standard protection philosophy. These enhancements will facilitate timely audits, ensure adherence to protection standards, and help to prevent incidents caused by incorrect settings. This agenda was discussed in 143rd PCC Meeting held on 20th Jan 2025 and members agreed for the modification/enhancement in the existing database portal.

Deliberation in 53rd TCC meeting

It was intimated by ERPC Secretariat that the tentative cost for the proposed support service of the protection database for one year would be around Rs 71 lakh. The cost has arrived considering the inflation and labour price index over the last year price.

TCC agreed with the proposal for continuing support service of the protection database for FY 2025-26 with estimated cost of Rs 71 lakh(inclusive of GST) and referred it to ERPC for approval.

For the proposed enhancement in the protection database management system portal, TCC suggested that the requirement and cost implication may be finalized and put up in next TCC meeting for consideration.

Deliberation in 53rd ERPC meeting

ERPC approved the proposal for support service of protection database for FY 2025-26 with an estimated cost of Rs 71 lakh(inclusive of GST).

B.2: Workforce adequacy at SLDCs: ERLDC

- ✓ The Initiative to strengthening of manpower at SLDCs has been highlighted during the 46th and 47th ERPC meetings. Consequently, a committee was constituted, comprising of SLDC heads from the Eastern Region, ERPC, and ERLDC representatives. Following the committee's resolution, various activities need to be undertaken. While some improvement has been observed in a few SLDCs regarding manpower, with the implementation of new IEGC-2023 introducing additional responsibilities, there is a need to strengthen manpower at SLDCs.

- ✓ Additionally, a letter dtd. 25.11.2024 was also issued by Jt. Secretary, Ministry of Power (GoI) which advised all Secretaries/Principal Secretaries (Energy/Power) of All States/UTs to maintain sufficient manpower in LDCs, aligning with the "Workforce Adequacy Guidelines for Load Despatch Centres" report. The report echoes the recommendations of the CaBIL and highlights the need for increased

manning at SLDCs to ensure efficient grid management.

✓ Recently, CERC also emphasized manpower shortages in SLDCs in MOM dated 05.11.2024 in Suo-Motu Petition No. 9/SM/2024.

Name of the SLDCs	SLDC category	As on 10.02.23	As on 31.01.25	Sanctioned Manpower	CaBIL recommendation	Workforce Adequacy Guidelines
Bihar	Medium	46	59	70	70- 100	103
Jharkhand	Emerging	22	33	-	30-50	62
DVC	Medium	25	29	64	70- 100	103
Odisha	Medium	42	47	75	70- 100	103
Sikkim	Emerging	21	34	-	30-50	62
WB	Large	39	46	57	100-150	144

All states are requested to formulate an action plan to address manpower shortages in SLDCs and ensure compliance with workforce adequacy guidelines.

Deliberation in 53rd ERPC meeting

ERLDC presented an assessment on manpower adequacy at SLDCs, highlighting existing gaps and challenges. The presentation is enclosed at Annexure B2.

ERPC opined following:

- *Without adequate workforce in SLDCs , implementation of upcoming SCADA project in ER may not yield the desired objectives . Upgradation carried out in all SLDCs will serve the intended purpose only when sufficient manpower are in place.*
- *SLDCs being nodal agency i.r.o individual states, lack of sufficient manpower may have adverse impact not only in intra-state system management but on ER grid management as whole.*
- *Manpower posted in SLDC may be retained for a considerable period so that their expertise can be utilized effectively*

Chairperson of ERPC emphasized the need for all states to formulate an action plan to address manpower shortages and ensure compliance with workforce adequacy guidelines.

B.3: Short term exposure program for Load Despatch Centres:ERLDC

A short-term exposure programme of 2-10 days has been envisaged in 'Workforce Adequacy Guidelines for Load Despatch Centres , issued by MoP to all States on dated 30.10.24. The objective of the programme is to facilitate peer to peer knowledge exchange, propagate best practices between SLDCs & RLDC. Rotational assignments will be done on reciprocity basis. LDCs need to prepare an Annual Rotation Plan for officials they wish to rotate to other LDCS and officials they can host in their LDC. The rotation will be in the areas of System Operation, Market Operation, System Logistics and REMC functions.

Members may discuss.

Deliberation in 53rd ERPC Meeting

ED, ERLDC stated that as per the guidelines, manpower exchange between RLDCs and SLDCs should be implemented to enhance skill development and improve understanding of operational

procedures. This exchange program is set to commence from April 1, 2025. As an initial step, the first deputation of SLDCs personnel to RLDC to be undertaken. To facilitate this process, ERLDC, in consultation with the concerned SLDCs, will discuss and prepare a detailed deputation plan of SLDC executive at ERLDC.

B.4: Decommissioning of existing 50 MVAR bus reactors and installation of new 125 MVAR reactor at Jeerat (WB) S/S: Powergrid ER-II

- The ERES-45 scheme inter alia comprising of "Decommissioning of existing 50 MVAR (3x16.67 MVAR) + 50 MVAr (three phase) ISTS Bus Reactors and Installation of new 420kV, 125MVAr bus reactor in bay provided by WBSETCL at Jeerat (WBSETCL) S/s" was agreed to be implemented under ISTS.
- For implementation of the said scheme, it is proposed that POWERGRID may take up the approval of the ERES-45 scheme in ERPC as capital expenditure under the original project.

TCC may discuss.

Deliberation in 53rd TCC meeting

Powergrid apprised that decommissioning of existing as well as installing new bus reactor at Jeerat(WB) S/S is being carried out in RTM mode.

TCC noted and referred to ERPC for concurrence.

Deliberation in 53rd ERPC Meeting

ERPC concurred the execution of the proposal in RTM mode.

B.5: Proposal for Sponsorship in National Workshop on "Energy Transition in India and Beyond" to be organized by NPTI

NPTI is going to organize a two day National Conference(Residential) on "Energy transition in India and beyond-Challenges, Opportunities & way forward" in association with ERPC tentatively on 20th & 21st March 2025 at Vishakhpatnam. The total expected delegates in residential mode may be 100 out of which 40 delegates from different constituents of ER may be sponsored by ERPC and rest 60 delegates may be invited from other related organizations outside ER.

The proposal letter received from NPTI is attached at Annexure B5. Estimated delegate fee will be @Rs 75, 000/- + GST per participant.

The total sponsorship amount for 40 delegates of ERPC towards participation In the conference will be Rs 30 lakhs(Rupees Thirty Lakhs) + GST as applicable.

ERPC may discuss and approve.

Deliberation in 53rd ERPC Meeting

ERPC approved the proposal of sponsorship for 40 delegates of constituents of ERPC in National workshop to be organized by NPTI-ER.

B.6: Contribution to ERPC Establishment Fund for FY 2025-26 by Members.

- For the FY 2024-25, contribution of Rs.16 Lakh per member was approved by ERPC towards membership contribution fee.
- It is proposed to keep the contribution unchanged for the FY 2025-26.
- ERPC Secretariat shall issue a Demand Note to the respective Members which may be deposited to the ERPC Establishment Fund within 3 Months from the issue of the note.

ERPC may approve contribution of Rs.16 Lakh per member for the FY 2025-26.

Deliberation in 53rd ERPC Meeting

ERPC approved contribution of Rs.16 Lakh per member for the FY 2025-26.

B.7: Contribution to ERPC Establishment Fund for the FY 2025-26 by Non-Member Participant.

- On request of various utilities, in the 33rd ERPC meeting held on 25th June 2016, it was decided that apart from Members, all other Users/Utilities intending to avail services of ERPC have to pay 'Participation Fee' by contributing to 'ERPC Establishment Fund' and 'ERPC Fund' at an equal yearly contribution fixed for ERPC Members. Same was subsequently amended during 43rd ERPC meeting and it was decided that 50% of the contribution amount of the members of ERPC towards ERPC establishment Fund and 100% of the contribution amount of the members of ERPC towards ERPC Fund ERPC to be deposited by Non-Member participants. Later at 52nd ERPC Meeting, it was decided that contribution amount of Rs 8 Lakh may be approved for Non-Member participation.
- It is proposed to keep the contribution fee as Rs 8 lakh for non-member participants of ERPC for FY 2025-26.
- ERPC Secretariat shall issue a Demand Note to the respective Members which may be deposited to the ERPC Establishment Fund within 3 Months from the issue of the note.

Members may approve contribution of Rs.8 Lakh per member for the FY 2025-26**.**

Deliberation in 53rd ERPC Meeting

ERPC approved contribution of Rs.8(eight) Lakh per member for the FY 2025-26.

B.8: Membership of ERPC on annual basis for the FY 2025-26.

i. Membership of Electricity Trader:

- As per GoI Resolution on ERPC, one electricity trader is eligible to become member of ERPC representing electricity traders in the region on yearly basis. As per existing practice, CEA recommends the name of the trader.
- In this context, it is to inform that for the FY-2025-26, CEA will notify the same and letter will be issued accordingly.

Members may note.

Deliberation in 53rd ERPC Meeting

ERPC noted.

ii. Membership of Private Transmission Licensee:

- As per GoI Resolution on ERPC, one private transmission licensee is eligible to become member of ERPC in the region on yearly basis.
- As per direction of CEA , ENICL was approached for the membership of ERPC for the FY-2025-26. Subsequently ENICL(IndiGrid) has agreed to become a member of ERPC for FY 2025-26. However formal notification from CEA is yet to be issued.
- Members may note.

Deliberation in 53rd ERPC Meeting

ERPC noted.

iii. Membership of Private Distribution Company:

- As per GoI Resolution on ERPC one Distribution Company by alphabetical rotation out of the private distribution companies functioning in the region is eligible to become new member on yearly basis. The private distribution companies functioning in the region are IPCL in West Bengal, TPCODL, TPNODL, TPSODL, TPWODL in Odisha and TSUIL (JUSCO) in Jharkhand. The names of the private distribution companies in alphabetical order are IPCL, JUSCO(TSUISL), TPCODL, TPNODL, TPSODL, TPWODL.
- For FY 2023-24, Tata Steel Utilities & Infrastructure Services Limited (TSUISL), formerly JUSCO has become member of ERPC.
- For FY 2025-26, TPCODL will be requested to become the Member of ERPC.

Members may note.

Deliberation in 53rd ERPC Meeting

ERPC noted.

iv. Clarification on membership of ERPC—BSPHCL

As per Ministry of Power resolution dated 3rd December, 2021, the following entities are members of ERPC:

I. State Generating Companies
II. State Transmission Utilities
III. State Load Despatch Centre
IV. One State owned distribution company nominated by the state Government
V. One distribution Company chosen alphabetically from private distribution companies operation in the region.

In this regard, BSPHCL(Bihar State Power Holding Company) has requested for clarification on their membership of ERPC in line with the GoI resolution.

ERPC may discuss.

Deliberation in 53rd ERPC Meeting

It was decided that necessary clarification in this regard will be sought from Competent Authority. Till the time the matter gets clarified, BSPHCL will continue to be a member of ERPC.

B.9: Informal Deputation of Middle Level officers from State Constituents/CPSU:

- GoI Resolution no.F.No.23/1/2004-R&R dated 25th May 2005 and subsequent amendments has established ERPC where the ERPC Secretariat is primarily manned by CEA. It has been seen that many a times some posts both in Executive and Non-executive against the sanctioned post remains vacant which makes it difficult for ERPC Secretariat to deliver its functions in time bound manner.
- It is also to mention that there is a need for close interaction and communication between ERPC secretariat and States utilities. Earlier also state utilities deputed their officers to ERPC as informal posting.
- Engineers stationed at ERPC Secretariat from State utilities, acting as liaison with State, would get wider exposer on power system operation, commercial issues, protection related issues etc.
- Thus, in view of the aforesaid it is proposed to posting one or two engineers from State organization/CPSU who would work as liaison with ERPC Secretariat along with the works assigned by ERPC.
- In addition to above, the audit team has suggested that considering the huge corpus fund involved, person having accounts background may be appointed on regular basis or on deputation from State Organization.

Members may discuss.

Deliberation in 53rd ERPC Meeting

MS, ERPC stated that work of Secretariat has increased to many folds in recent times due to additional role and responsibilities entrusted to RPC secretariat by CERC/CEA. It would also be highly beneficial for the executives of state utilities/CPSUs to get an insight of functioning of RPC secretariat in dealing with techno-commercial issues related to ER grid by deputing the officers of their organisation to ERPC Secretariat. He requested members from state utilities/CPSUs to depute some of their engineers to ERPC Secretariat on fixed tenure basis.

ERPC advised state constituents/CPSUs that they may consider deployment of their officers at ERPC Secretariat on informal fixed tenure basis.

B.10: Revised Budget of ERPC Secretariat for FY 2024-25

The internal budget of ERPC Secretariat was approved in 51st ERPC Meeting.

A. **Re-apportionment of Budget of FY 2024-25**

The re-apportionment is proposed in the budget for FY 2024-25 as per the following:

Name of Head	Approved BE of 2024-25 (in ₹)	BE after proposed reapportionment (in ₹)
RRT	12,00,000 /-	18,50,000 /-
Minor Civil & Electrical Work	15,00,000 /-	8,50,000 /-

Deliberation in 53rd ERPC Meeting

ERPC approved the reapportionment as proposed, under internal budget of ERPC Secretariat.

B. **Approval for the expenditure incurred towards payment of KMC Service Charges**

The total arrear dues towards service Charges of KMC was Rs 2,09,12,580 /- . The matter was discussed in 50th ERPC Meeting in which ERPC advised that the arrear fees in respect of ERPC Office Complex & ERPC Residential Complex for the period 2010-11 to 2022-23 would be paid to KMC in first instance. For the fees of the remaining period of ERPC Residential Complex (1997-98 to 2009-10), matter to be taken up with KMC for one time settlement of the fees. Based on the outcome of the negotiation, the rest amount would be released to KMC.

Accordingly, amount of Rs. 1,30,172,90/ was released to KMC. For the balance amount, request was made to KMC for negotiation of the amount. However, KMC vide letter dated 03.06.2024 replied that no scope of consideration was found for the request and advised to release the payment at the earliest.

Accordingly, the balance amount of Rs. 78,95,290 /- was released to KMC. Post-facto approval for **Rs. 78,95,290 /-** may be accorded under the head "Rent Rates & Taxes" for FY 2024-25.

ERPC may approve.

Deliberation in 53rd ERPC Meeting

ERPC accorded post-facto approval for the expenditure of Rs. 78,95,290 /- towards arrear KMC Service Charges under RRT head of FY 2024-25.

B.11: Budget Estimate of ERPC Secretariat for FY 2025-26

The proposed Budget Estimate (BE) for financial year 2025-26 is placed below:

Sl No.	Head	Estimated Amount (in Rs)
1.	Reimbursement to Govt of India	4,71,34,957
2.	Medical Treatment	3,00,000
3.	Training Expenses	6,00,000
4.	DTE	17,00,000
5.	Office Expenses	1,50,00,000
6.	Fuel and Lubricants	1,00,000
7.	Rent, Rates and taxes for Land and buildings	12,00,000
8.	Professional Services	5,00,000
9.	Printing and Publications	1,00,000
10.	Digital equipment and ICT	20,00,000
11.	Material and supplies	2,50,000
12.	Minor Civil and Electrical works	15,00,000
13.	Repair and Maintenance	65,70,000
14.	Installation of Fire Safety Equipment	10,00,000

15.	Other Expenditure	5,00,000
16.	Furniture and Fixtures	10,00,000
17.	Welfare and recreation	2,50,000
18.	OE- Meeting/Workshop/Seminar etc.	50,00,000
19.	Rooftop Solar	30,00,000
20.	Support Service of Protection Database and Management System	80,00,000
21.	Income Tax	20,00,000
Total		9,77,04,957

(Rupees Nine Crore Seventy-seven Lakh Four Thousand Nine Hundred Fifty Seven only).

Details are enclosed at Annexure B11.

ERPC may approve.

Deliberation in 53rd ERPC Meeting

ERPC approved the budget estimate of ERPC Secretariat for FY 2025-26.

B.12: Corporate Net Banking facility for ERPC Establishment Fund

ERPC Establishment fund account is maintained at Indian Bank, Tollygunge Branch. At present for all transactions of ERPC Establishment Fund, NEFT slip is forwarded to bank physically and subsequently payment is released by bank. The process is quite hectic and time consuming. In order to ease this process, it is proposed that payment of bill upto Rupees five lakhs may be made through Corporate Net Banking facility. ERPC may authorize Member Secretary to issue order in this regard.

ERPC may approve.

Deliberation in 53rd ERPC Meeting

ERPC approved the proposal of net banking facility for ERPC Establishment Fund account and authorized Member Secretary, ERPC to issue necessary order in this regard.

B.13: Reclassification of quarters at ERPC Residential Complex

52nd ERPC approved the proposal of ERPC Secretariat on reclassification of staff quarters of ERPC Residential Complex.

During implementation, requests were made by staffs staying in existing type-I quarters for additional plinth area/room as per recent OM of MoHUD. Accordingly, the internal committee earlier constituted in this regard reviewed the proposed reclassification and suggested minor changes to it.

The committee has suggested the reclassification as per the following:

Sl. No.	Type of Quarters	Plinth Area after proposed modification (in sq. meter)	Number of quarters after proposed modification

1.	Type-I	57.55	5
2.	Type-II	70.08	5
3.	Type-III	79.37/83.4	5
4.	Type- IV	105.22/114.41/121.07	6
5.	Type -V	149.45/162.77	2
6.	Duplex	203.88	2

ERPC may approve the modified proposal for reclassification of staff quarters.

Deliberation in 53rd ERPC Meeting

ERPC approved the revised proposal for reclassification of ERPC Staff Quarters.

B.14: Nomination of Chairperson, ERPC for the Year 2025-26

The incumbent Chairperson, ERPC i.e. Principal Chief Engineer-cum-Secretary, Power Dept, Govt of Sikkim will complete his term on 31st March 2025.

As per GoI Resolution "Chairperson of ERPC would represent the States of the region by rotation in alphabetical order. Members of ERPC from the particular State would nominate the Chairperson of ERPC from amongst themselves. Term of Chairperson would be for a period of one year."

The names of the States in alphabetical order are Bihar, Jharkhand, Odisha, Sikkim & West Bengal. Now it is the turn of West Bengal. The following designated officers are the member of ERPC from West Bengal:

1. Chairman & Managing Director, West Bengal State Electricity Distribution Company Limited.
2. Managing Director, West Bengal State Electricity Transmission Company Limited.
3. Chairman & Managing Director, West Bengal Power Development Corporation Limited.

Members of ERPC from West Bengal are requested to nominate the Chairperson, ERPC for the year 2025-26.

Deliberation in 53rd ERPC Meeting

Members from West Bengal noted. It was decided that ERPC Secretariat will issue necessary communication to West Bengal in this regard.

B.15: Finalisation of dates and venue for the next ERPC & TCC meetings.

The roster for hosting of ERPC meetings is given below:

Sl.No.	Host Organization	Remarks

1	ODISHA	31st ERPC Mtg. on 14.11.2015
2	JHARKHAND	32nd ERPC Mtg. on 20.02.2016
3	BIHAR	33rd ERPC Mtg. on 25.06.2016
4	CESC	34th ERPC Mtg. on 19.11.2016
5	TPTCL	35th ERPC Mtg. jointly on 25.02.2017
6	MPL	35thERPC Mtg. jointly on 25.02.2017
7	GMRKEL	36th ERPC Mtg. on 26.08.2017
8	POWERGRID	37th ERPC Mtg. on 17.03.2018
9	DVC	38th ERPC Mtg. on 30.06.2018
10	NVVN	39th ERPC Mtg. Om 17.11.2018
11	NHPC	40th ERPC Mtg. on 16.03.2019
12	NTPC	41st ERPC Mtg. on 27.03.2019
13	PTC	42ndERPC Mtg. on 13.12.2019
14	ERPC Sectt.	43rd, 44th, 45th ERPC Mtg. during 2021-2022
15	WEST BENGAL	46th ERPC Mtg. on 06.08.2022
16	ERPC Sectt.	47th on 25.11.2022 & 48th (Online) ERPC Mtg.
17	Power Dept, Sikkim & Sikkim Urja Limited jointly hosted	49th ERPC Meeting on 24.03.2023
18	ERPC Sectt.	50th ERPC Mtg on 11.08.2023
19	ERPC Sectt.	51st ERPC Mtg (Online) on 12.01.2024
20	NTPC	52nd ERPC Mtg. on 06.08.2024
21	ODISHA	Organized 53rd ERPC Meeting

ERPC may finalize the venue and organiser of the 54th TCC and ERPC meeting.

Deliberation in 53rd ERPC Meeting

It was decided that ERPC Secretariat will coordinate and intimate the host as well as date and venue of the next meeting in due course.

****

Annexure-A

Sl.No.	Organisation	Name	Designation
1	OPTCL	Shri Bhaskar Jyoti Sarma, IAS	CMD, OPTCL
2	CEA	Hemant Jain	Member GO&D
3	JUUNL	Ranjeet Kumar Lal, IAS	Managing Director
4	TVNL	Anil Kumar Sharma	Managing Director
5	Sikkim	Sonam Rinchen Bhutia	Chairperson, TCC cum Principal Chief Engineer-II,Power Department, Govt. of Sikkim
6	ERPC	N S Mondal	Member Secretary, ERPC
7	SRPC	Asit Singh	Member Secretary
8	NRPC	V.K.Singh	Member Secretary
9	CEA	BRIEFLEE LYNGKHOI	CHIEF ENGINEER (GM)
10	CEA	Rishika Sharan	Chief Engineer (NPC)
11	NHPC	Suprakash Adhikari	ED(O&M)
12	NHPC	Surendra Kumar Mishra	GM(El.)
13	NHPC	Deepak Kumar Rawat	DGM(El.)
14	NHPC	Jaganath Pani	Senior Manager(El.)
15	DMTCL	Nimish Sheth	COO
16	DMTCL	Viral Dholakia	Chief Technology Officer
17	CESC	Arunava Sengupta	GM(System Operations)
18	CESC	Koushik Banerjee	GM(System Operations)
19	WBPDCL	Kausik Datta	Exe. Director (OS)
20	WBPDCL	Manoj Podder	AGM (OS)
21	WBPDCL	Rajat Kumar Koley	SM (OS)
22	WBSEDCL	Preetam Banerjee	Additional Chief Engineer
23	WBSEDCL	Shyamal Kanti Das	Additional Chief Engineer
24	WBSEDCL	Ajay Pandey	Director (RT)
25	Sikkim Urja Ltd	Y. Ganga Rao	ED-Finance & CFO
26	Sikkim Urja Ltd	Jaideep Lakhtakia,	ED (PS&R)

Sl.No.	Organisation	Name	Designation
27	Sikkim Urja Ltd	Prabhat Kumar	CGM
28	Maithan Power Ltd.	Sudip Kumar Dash	Head - Commercial & Regulation
29	BSPHCL	Chandrashekhar Prasad Barnwal	ESE, PMC Cell, BSPHCL
30	BSPTCL (SLDC)	Arun Kumar Chaudhary	CE SO
31	BSPTCL	B N Singh	ESE
32	BSPTCL	Abdesh Kumar Singh	Director (Operation)
33	DVC	Arup Sarkar	Member (Finance)
34	DVC	Sanjiv Srivastava	ED(Commercial)
35	DVC	Sanjay Kumar Sharma	Sr GM & Head SLDC
36	DVC	Samit Mondal	Sr GM(commercial)
37	OPTCL	P K Pattnaik	Director(Operation)
38	OPTCL	Santosh Kumar Das	DGM(Ele.)
39	OPTCL	Chitta Ranjan Mishra	GM(Ele.)
40	JUSNL	M K Karmali	Director(projects)
41	JUSNL	Praween Kumar	GM (STU) cum ED JUSNL
42	JUSNL	A K Bhartiyam	GM (Engineering)
43	JUSNL	Arun Kumar	GM (SLDC)
44			
45	JUUNL	Rakesh Pandey	Sr. Mng (Tech.)
46	NTPC	Sudip Nag	RED(ER-I)
47	NTPC	Arindam Sinha	RED(ER-II)
48	NTPC	Manish Jain	Head (Commercial), ER-1 HQ, Patna NTPC Ltd.
49	NTPC	Subodh Kumar Pradhan	Head (Commercial), ER-II HQ, Bhubaneshwar, NTPC Ltd.
50	NTPC	G. C. Mohapatra	AGM(Commercial), ER-II HQ, Bhubaneshwar, NTPC Ltd.
51	NTPC	Prashant Chaturvedi	AGM(Commercial), NTPC Ltd.Noida
52	BRBCL	Bimal K Saha	GM (Operations)
53	JIPL	Vijaya Bhaskar Reddy Duggempudi	CEO
54	JIPL	Sanjay Mittal	Director
55	JIPL	Shubhang Nandan	VP
56	GMR Kamalanga Energy Ltd.	Pradeep Kumar Mohanty	Principal Associate
57	GMR Kamalanga Energy Ltd.	Sushil Kumar Swain	AGM-Operation

Sl.No.	Organisation	Name	Designation
58	OHPC	Ashish Mohanty	Director(Operation)
59	OHPC	Amiya Kumar Mohanty	CGM (El.)
60	OHPC	Sangram Keshari Das	GM (El.)
61	OHPC	Samir Mahapatra	DGM (El.)
62	ERPC	Shyam Kejriwal	SE (Op.)
63	ERPC	P K De	SE (Comml.)
64	ERPC	PP Jena	EE (Comml.)
65	ERPC	Abhinaba Basu	EE
66	ERPC	S R Swain	AEE
67	ERPC	Agniva Chatterjee	AEE
68	ERPC	Kumar Satyam	AEE
69	CTUIL	Manju Gupta	Deputy COO
70	CTUIL	Rajesh Kumar	Senior GM (TP-III & CP)
71	CTUIL	Manish Ranjan Keshari	Chief Manager (TP-III & CP)
72	TVNL	Niraj Kumar	Electrical Superitending Engineer
73	NRPC	V.K.Singh	Member Secretary
74	Member)	Abhishek Kukreja	Lead O&M
75	Member)	Nihar Raj	Sr Vice President & Head O&M
76	Member)	Anoop Kr Bhatnagar	COO
77	Member)	Vimal Saxena	Vice President
78	Sikkim Power Trans. Ltd.(Non Member)	V K Bhaskar	Director (Projects)
79	tic Power Projects Pvt Ltd. Greenko (Non	D.P Bhargava	Advisor GAM Hydro)
80	tic Power Projects Pvt Ltd. Greenko (Non	Mohd Aarif	Sr.Manager (Dikchu)
81	JUVNL	Rakesh Lakhotia	DGM (F&A)
82	JUVNL	Kumar Sambhav	Estate Officer
83	WBSETCL	Sabyasachi Roy	Director (Operation)
84	WBSETCL	Debashis Chaki	C.E., CPD
85	WBSETCL	Rita Chakraborty	C.E., SLDC
86	WBSETCL	Shouvik Banerjee	A.C.E., SLDC
87	ERLDC	Rajib Sutradhar	Executive Director
88	ERLDC	Sajan George	CGM (SO & CS)
89	ERLDC	Debabrata Biswas	GM (SL)
90	ERLDC	Anup Das	(SO)
91	ERLDC	Debashis Mondal	Manager (SO)
92	ERLDC	Samim Mondal	Ast. Manager (MO)
93	SJVN	Rajeev Agarwal	
94	SJVN	Pintu Das	

Sl.No.	Organisation	Name	Designation
95	OPGC	Kedar Ranjan Pandu	MD
96	OPGC	Manasa Ranjan Rout	Director(O)
97	OPGC	Gagan Swain	Director(F)
98	OPGC	K. C. Samntray	AGM
99	OPGC	Madhumita Soren	AGM
101	NPDCL	Md. Nasim Eqbal	Director (Operations)
102	Adani Eneterprise Ltd.	Anshul Garg	Head Power Sales & Trading
103	JBVNL	Satyajeet Ghosh	GM
104	GRIDCO	Trilochan Panda	MD
105	GRIDCO	U.K. Sahoo	Director(Trading)
106	GRIDCO	Srikanta Sahu	CFO
107	GRIDCO	B. K. Das	CGM
108	PGCIL	Siddhartha Jyoti Lahiri	Chief GM (AM), ER-II
109	PGCIL	R. L. Panda	Senior GM (AM), Odisha
110	PGCIL	Partha Gosh	DGM (AM), ER-II
111	SLDC Odisha	B. B. Mehta	Director
112	SLDC Odisha	Subhash Dash	GM
113	SLDC Odisha	Sanjay Mishra	GM
114	SBPDCL	Shri Irshad Akhtar	ESE (Comml.)
115	SBPDCL	Shri Manish Kumar	ESE (Comml.)

Annexure-A1

53rd ERPC Meeting

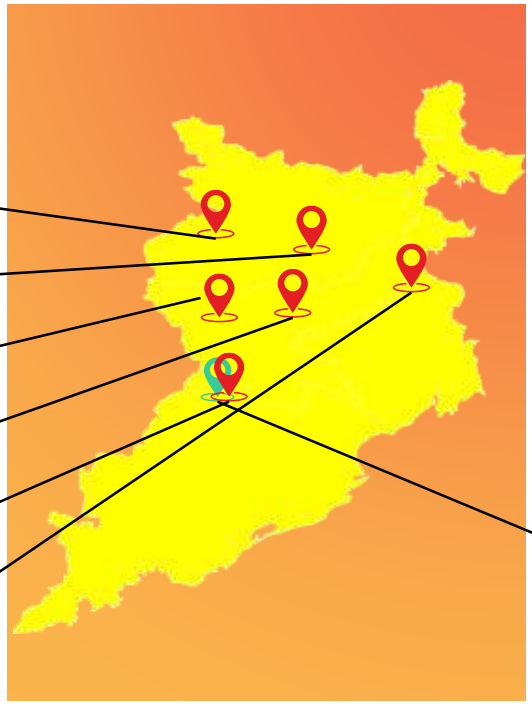
11th February 2025

Gopalpur, Odisha

1

Upcoming Capacity Addition FY 26

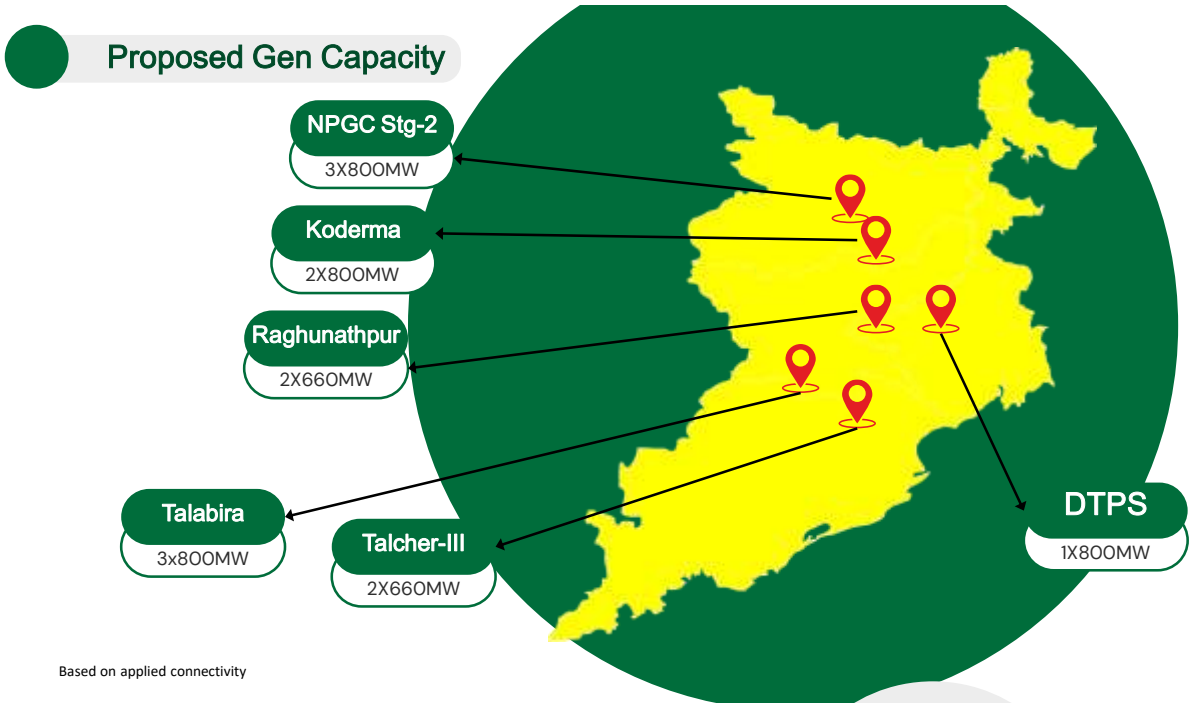
- **Buxar Unit-1** CAPACITY: 660MW
- **Barh Unit-3** CAPACITY: 660MW
- **N. Karanpura Unit-3** CAPACITY: 660MW
- **Patratu Unit-1** CAPACITY: 800MW
- **JSW-IBEUL Unit-2** CAPACITY: 350MW
- **Sagardighi Unit-5** CAPACITY: 660MW



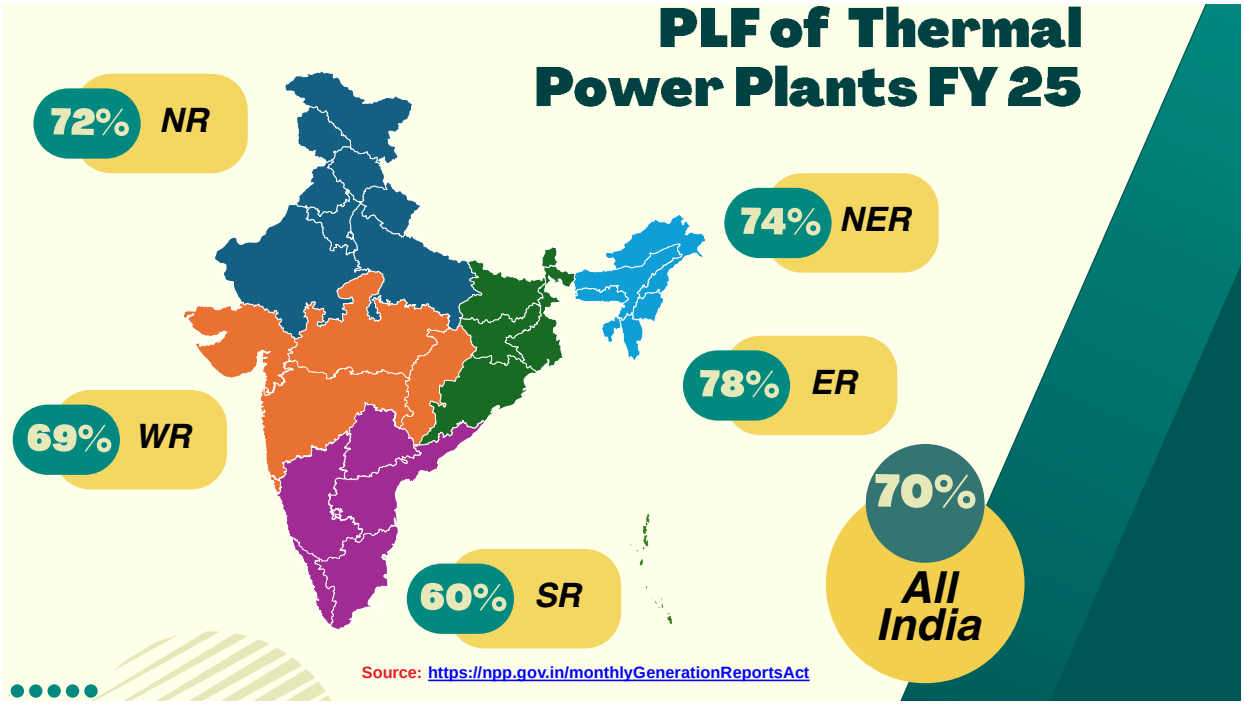
New Generation Capacity Addition FY25

- **JSW-EUL Unit-1** CAPACITY: 350MW COD: 13th January 2024

2


Proposed Gen Capacity
NPGC Stg-2
3X800MW
Koderma
2X800MW
Raghunathpur
2X660MW
Talabira
3x800MW
Talcher-III
2X660MW
DTPS
1X800MW
Based on applied connectivity

3


PLF of Thermal Power Plants FY 25
72% NR
74% NER
78% ER
69% WR
60% SR
70% All India
Source: https://npp.gov.in/monthlyGenerationReportsAct

4

Intra-State AGC

DVC

1st State to have intra-state AGC

Tender awarded for Plants - **3000MW** Capacity (Mejia, Durgapur & Koderma

Likely to be commissioned soon

West Bengal

Plan for Pilot project for Bakreswar TPS

Ancillary Service Regulation issued by **SERC**

Bihar

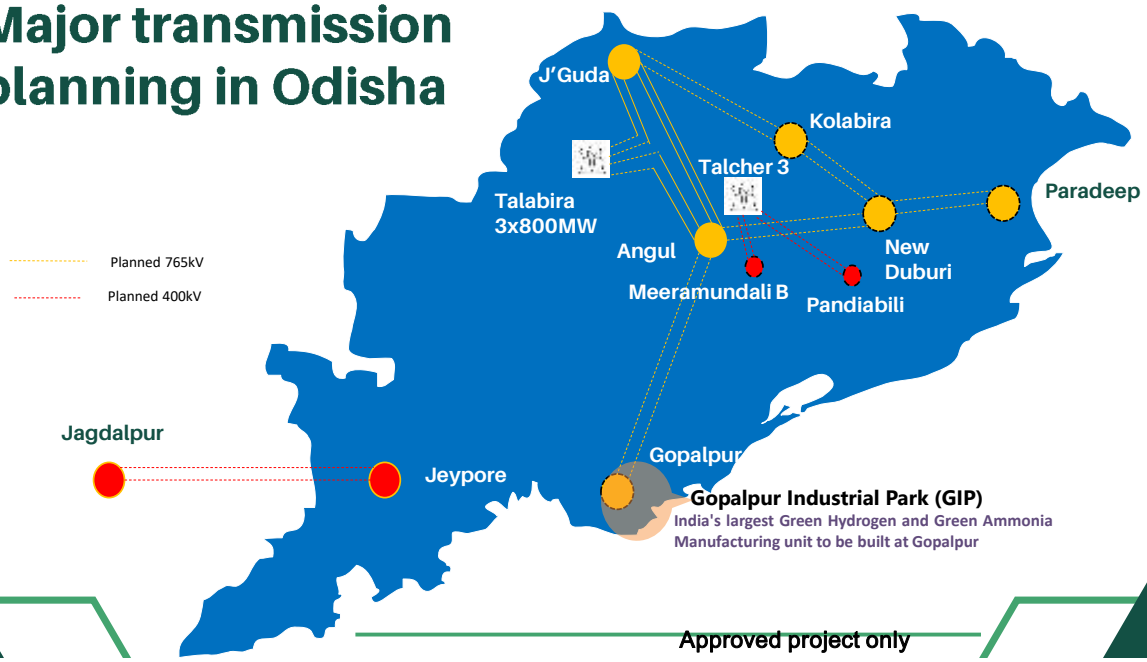
SLDC & NTPC are exploring profit sharing formula for Barauni Plant

Odisha

Odisha is exploring for installation in OPGC Stg-2 (1320MW)

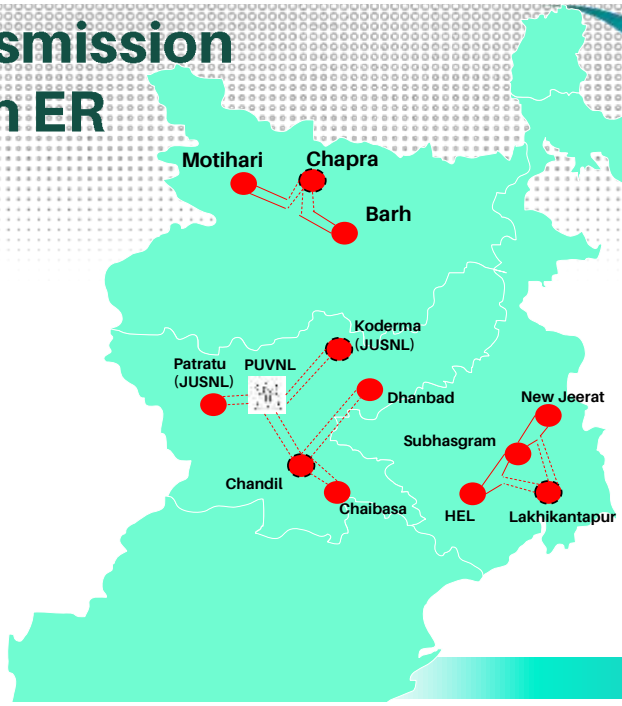
5

Major transmission planning in Odisha



6

Major transmission planning in ER



Approved project only

7

Cross Border - Bangladesh

Transfer of Power from Nepal to Bangladesh

Schedule

15th Nov 24

40 MW

8

CROSS BORDER: BHUTAN

Bhutan under DSM — 1st May 24

Generation Capacity Addition

Nikachu — 25th Jan 24

118MW

80MW contract with Assam

38MW Marchant

Punatsangchu St-II — 27th Dec 24

(U – 1 &2): 2X170= 340 MW

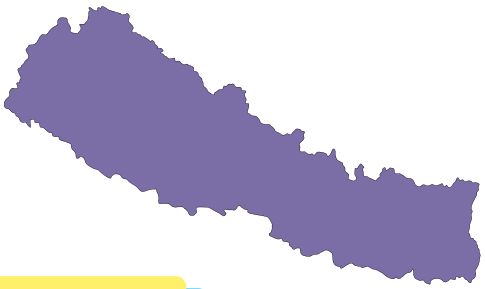
100% ISGS

Beneficiaries:

Manipur, Nagaland, Assam, Bihar, Odisha, West Bengal, Sikkim, Jharkhand

9

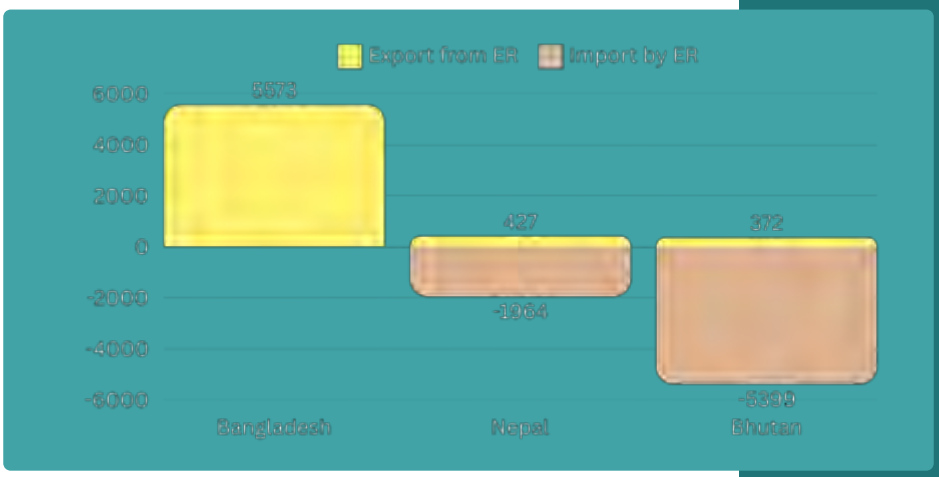
Cross Border - Nepal



Bihar STU to Nepal Power Transfer under **Scheduling & DSM** — 26th Apr 24

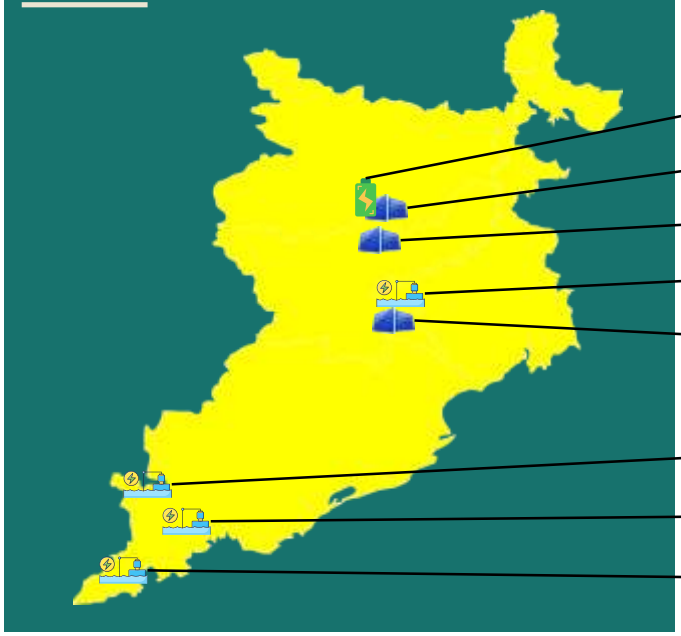
10

Transnational Exchange



11

UPCOMING GREEN GENERATION



Kajra BESS	116 MW
Banka Solar	200 MW
Nawada Solar	300 MW
Turga PSP	1000 MW
Panchet Solar	2000 MW
Indravati PSP	600 MW
Kolab PSP	500 MW
Balimela PSP	320 MW

12

THANK YOU!

धन्यवाद

13

Annexure-2.2

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)
(भारत सरकार का उद्यम)
CENTRAL TRANSMISSION UTILITY OF INDIA LTD.
(A wholly owned subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref: CTU/E/00/Angul-Srikakulam

Date: 20-01-2025

Member Secretary
Eastern Regional Power Committee (ERPC)
14, Golf Club Road, Tollygunge
Kolkata-700033

Subject: New SR-ER inter-regional ISTS link for deliberation in the forthcoming meeting of ERPC – reg.

Dear Sir,

As you are aware, the proposal of Angul – Srikakulam 765kV 2nd D/c line (inter-regional) under ISTS was agreed in the 34th Consultation Meeting for Evolving Transmission Schemes in Southern Region (CMETS-SR) held on 24th Sep 2024 and 37th CMETS-ER held on 29th Nov 2024.

Details of the said scheme as per requisite format are annexed herewith. It is requested that ERPC may forward their views in respect of the above ISTS scheme at the earliest, so that the transmission scheme may be taken up promptly for consideration in the NCT meeting along with the views of ERPC.

Thanking you.

Yours faithfully,

(Manju Gupta)
Dy. COO (CTUIL)

Encl: As Above

Copy to:

1. Chief Engineer (PSP&A-I) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi – 110066	**2. Chief Engineer I/c (PSP&A-II)** Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi – 110066

ISTS Network Expansion scheme for views of Southern Region Power Committee (SRPC) and Eastern Region Power Committee (ERPC)

1. Inter-Regional Strengthening between SR Grid and ER Grid

The present peak demand of SR as on March, 2024 is 68,094 MW and expected peak demand of SR as per the 20th EPS during 2029-30 timeframe is about 97.5 GW. The present TTC for import of power from NEW grid to SR Grid is about 24,500 MW and it is expected to be enhanced to 25,000 MW with the commissioning of Narendra-Pune 765kV D/c line. The present limiting constraint for import of power from ER to SR is Angul-Srikakulam 765kV D/c line and from WR to SR is Nizamabad 765/400kV, 1500MVA ICT under contingency. Southern Region has already imported about 22 GW from NEW grid during the peak demand period in March, 2024. Further, the import requirements is expected to increase further during 2029-30 timeframe.

Further, as per MNRE OM dated 01.11.2023, Green Hydrogen / Ammonia demand (by 2030) in Southern Region is about 23,450 MW. This demand is expected to be over and above the peak demand projections of 97.5 GW as per 20th EPS in 2029-30 timeframe. Therefore, total demand is expected to be over 120 GW. The existing / under implementation Inter Regional links between NEW Grid and SR Grid shall not be adequate to meet the above demand. Therefore, the ISTS / STU transmission requirements need to be identified including additional Inter-regional links for meeting the demand including Green Hydrogen / Green Ammonia manufacturing alongwith additional RE potential sites in SR, if any.

Accordingly, as per the mandate in the 50th SRPC meeting held on 16.03.2024, Joint Studies were conducted from 2 - 4th May, 2024 at Hyderabad for identification of Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of additional power for meeting demand by 2029-30 time frame. The proposals agreed during the Joint Study meeting were submitted to SRPC which were deliberated in the 52nd SRPC meeting held on 03.08.2024 wherein it was decided that the shortest link(s) may be implemented at the earliest. Accordingly, it was agreed 765 kV Parli New (WR) - Bidar D/c link and 765 kV Angul(ER) - Srikakulam 2nd D/c link may be taken-up.

Further, the Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area, Andhra Pradesh was discussed in the 33rd CMETS-SR for ISTS proposals held on 25.07.2024 and the Angul – Srikakulam 765 kV 2nd D/c link shall be required for supply of power to Green Hydrogen / Ammonia projects at Kakinada under Phase-I (3000 MW).

Following was decided during the 52nd SRPC meeting for above IR links :

- ✓ *SRPC approved the two inter regional links 765 kV Parli-Bidar D/C & 765 kV Angul-Srikakulam D/C. SRPC recommended that both the links shall be considered under National Component as 765 kV Parli-Bidar link would be used for RE evacuation and 765 kV Angul-Srikakulam link would be used to meet the GH&GA loads.*

- ✓ *CTUIL would furnish the formal proposal to SRPC Secretariat and comments would be collected through mail and separate SRPC meeting may not be required.*

Further, in the meeting held on 19.04.2024 under the chairmanship of Hon'ble Minister of Power and NRE, it was decided that Transmission charges for the Transmission system built for supply of power to Green Hydrogen / Green Ammonia manufacturing hubs may be declared as National Component.

The Inter-Regional Strengthening between SR Grid and ER Grid i.e. is Angul – Srikakulam 765 kV 2nd D/c line (about 275 km) is discussed and agreed in the 34th CMETS-SR held on 24.09.2024. The scheme was also deliberated and agreed in the 37th CMETS-ER held on 29.11.2024. During the 37th CMETS-ER, in addition to the Angul – Srikakulam 765 kV 2nd D/c line, 330 MVAr bus reactor at Angul 765/400kV S/s was also agreed for implementation.

Details of the scheme is summarized as below:

(i) Inter-Regional Strengthening between SR Grid and ER Grid

<table>
<tr><th>Sl. No.</th><th>Items</th><th>Details</th></tr>
<tr><td>1.</td><td>Name of Scheme</td><td>Inter-Regional Strengthening between SR Grid and ER Grid</td></tr>
<tr><td>2.</td><td>Scope of the scheme</td><td>
<table>
<tr><th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity /km</th></tr>
<tr><td>1.</td><td>Angul – Srikakulam 765 kV 2nd D/c line (about 275 km) with 240 MVAR SLR at both ends on both circuits</td><td>~ 275 km
• 765kV line bays – 2 nos. GIS (at Srikakulam)
• 765kV line bays – 2 nos. AIS (at Angul)
• 765 kV, 240 MVAr SLR at Srikakulam – 2 nos. (6x80 MVAr switchable units)
• 765 kV, 240 MVAr SLR at Angul – 2 nos. (6x80 MVAr switchable units)</td></tr>
<tr><td>2.</td><td>1x330 MVAR, 765kV bus reactor (3rd) at Angul Substation</td><td>• 765kV bus reactor – 1 no. (3x110 MVAr switchable units)
• 765kV bus reactor bay – 1 no.</td></tr>
</table>
</td></tr>
<tr><td>3.</td><td>Depiction of the scheme on Transmission Grid Map</td><td>Annexure-I</td></tr>
<tr><td>4.</td><td>Upstream/downstream system associated with the scheme</td><td>Not applicable</td></tr>
</table>

Sl. No.	Items	Details
5.	Objective / Justification	The present peak demand of SR as on March, 2024 is 68,094 MW and expected peak demand of SR as per the 20th EPS during 2029-30 timeframe is about 97.5 GW. The present TTC for import of power from NEW grid to SR Grid is about 24,500 MW and it is expected to be enhanced to 25,000 MW with the commissioning of Narendra-Pune 765kV D/c line. The present limiting constraint for import of power from ER to SR is Angul-Srikakulam 765kV D/c line and from WR to SR is Nizamabad 765/400kV, 1500MVA ICT under contingency. Southern Region has already imported about 22 GW from NEW grid during the peak demand period in March, 2024. Further, the import requirements is expected to increase further during 2029-30 timeframe. Further, as per MNRE OM dated 01.11.2023, Green Hydrogen / Ammonia demand (by 2030) in Southern Region is about 23,450 MW. This demand is expected to be over and above the peak demand projections of 97.5 GW as per 20th EPS in 2029-30 timeframe. Therefore, total demand is expected to be over 120 GW. The existing / under implementation Inter Regional links between NEW Grid and SR Grid shall not be adequate to meet the above demand. Therefore, the ISTS / STU transmission requirements need to be identified including additional Inter-regional links for meeting the demand including Green Hydrogen / Green Ammonia manufacturing alongwith additional RE potential sites in SR, if any. Accordingly, as per the mandate in the 50th SRPC meeting held on 16.03.2024, Joint Studies were conducted from 2 - 4th May, 2024 at Hyderabad for identification of Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of additional power for meeting demand by 2029-30 time frame (MoM of Joint Studies attached at **Annexure-II**). The proposals agreed during the Joint Study meeting were submitted to SRPC which were deliberated in the 52nd SRPC meeting held on 03.08.2024 wherein it was decided that the shortest link(s) may be implemented at the earliest. Accordingly, it was agreed 765 kV Parli New (WR) - Bidar D/c link and 765 kV Angul(ER) - Srikakulam 2nd D/c link may be taken-up (MoM of 52nd SRPC attached at **Annexure-III**). Further, the Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area, Andhra Pradesh was discussed in the 33rd CMETS-SR for ISTS proposals held on 25.07.2024 and the Angul – Srikakulam 765 kV 2nd D/c link shall be required for supply of power to Green Hydrogen / Ammonia projects at Kakinada under Phase-I (3000 MW). Following was decided in the 52nd SRPC meeting for above IR links : ✓ *SRPC approved the two inter regional links 765 kV Parli-Bidar D/C & 765 kV Angul-Srikakulam D/C. SRPC recommended that both the links shall be considered under National Component as 765 kV Parli-*

Sl. No.	Items	Details
		Bidar link would be used for RE evacuation and 765 kV Angul-Srikakulam link would be used to meet the GH&GA loads. ✓ *CTUIL would furnish the formal proposal to SRPC Secretariat and comments would be collected through mail and separate SRPC meeting may not be required.* Further, in the meeting held on 19.04.2024 under the chairmanship of Hon'ble Minister of Power and NRE, it was decided that Transmission charges for the Transmission system built for supply of power to Green Hydrogen / Green Ammonia manufacturing hubs may be declared as National Component. The Inter-Regional Strengthening between SR Grid and ER Grid i.e. is Angul – Srikakulam 765 kV 2nd D/c line (about 275 km) is discussed and agreed in the 34th CMETS-SR held on 24.09.2024 (MoM attached at **Annexure-IV**). The scheme was also deliberated and agreed in the 37th CMETS-ER held on 29.11.2024 (MoM attached at **Annexure-V**). During the 37th CMETS-ER, in addition to the Angul – Srikakulam 765 kV 2nd D/c line, 330 MVAr bus reactor at Angul 765/400kV S/s was also agreed for implementation.
6.	Estimated Cost	**Rs. 2580 Crore**
7.	Impact on the total Annual Transmission charges in % along with the existing ATC	A. ATC (considering Levelized Tariff @15% of estimated cost): Rs. 387 Crore B. Present ATC: Rs. 45903.10 Crore * C. A/B (%): 0.843 %
8.	Need of phasing, if any	Not Applicable
9.	Implementation timeframe	24 months
10.	Inclusion of any wild life/protected area along the transmission line route	No major National Park, Wildlife Sanctuary or other protected areas observed. However, for details of forest/protected areas, survey is required to be done.
11.	System Study for evolution of the proposal	Transmission System was agreed in the Joint Study meeting of SR held from 2 - 4th May, 2024, 52nd SRPC held on 03.08.2024, 34th CMETS-SR held on 24.09.2024 and 37th CMETS-ER held on 29.11.2024.

**Total YTC allowed for Oct'24, as per notification of transmission charges payable by DICs for Billing Month of December, 2024 dated 25.11.2024 published on NLDC website.*

Updates on agenda Item 2.3 i.e. "Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra Dist. Uttar Pradesh" of the 53rd meeting of the TCC of ER to be held on 10-02-2025

In the 52nd TCC/77th NRPC meeting held on 27th - 28th Dec'24, "Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra Dist. Uttar Pradesh" (estimated cost of Rs. 4141 Cr.) inter alia comprising of 765kV substations at Prayagraj & Robertganj and "Inter-regional (NR-WR) Transmission System strengthening to relieve the loading of 765kV Vindhyachal-Varanasi D/c line" inter alia comprising of 765kV D/c line section from Prayagraj to Vindyachal pool to bypass Sasan-Vindyachal pool line at Vindyachal pool so as to form Sasan-Prayagraj 765kV D/c line (estimated cost of Rs. 1876 Cr), were deliberated. Simultaneously, the PSP scheme was also forwarded to ERPC for deliberations as it involved LILO of inter-regional ER-NR lines.

In the NRPC meeting, it was noted that Prayagraj switching station has been included in the PSP scheme as it was evolved earlier. However, strengthening scheme to relieve the critical loading of 765kV Vindhyachal-Varanasi D/c line requires the Prayagraj switching station. Therefore, establishment of Prayagraj switching may be considered under the Vindhyachal scheme as there may be chances of delay in PSP commissioning. NRPC had decided following – *"Forum accorded technical concurrence to the Transmission system scheme proposed by CTUIL for evacuation of power from Pumped Storage Projects in Sonbhadra District, Uttar Pradesh along with redressal of concern raised by NRLDC regarding overcompensation on 765kV Fatehpur – Prayagraj section with existing line reactor configuration after finalization its length based on location of Prayagraj Substation location. Further, CTUIL was also requested to take the inputs from UP regarding its intra state transmission scheme to be developed for RE plants and may consider the same during final approval from NCT"*.

Considering the above, the 765kV Prayagaraj switching station and associated LILOs (LILO of 765kV Fatehpur-Varanasi & 765kV Fatehpur-Sasaram) which were earlier agreed as part of "Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra Dist. Uttar Pradesh" was taken up in the 27th meeting of NCT held on 06-02-2025 for implementation as part of "Inter-regional (NR-WR) Transmission System strengthening to relieve the loading of 765kV Vindhyachal-Varanasi D/c line". Further, the "Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra Dist. Uttar Pradesh" inter alia comprising of Robertganj S/s was also deliberated in the meeting of the NCT.

Commissioning schedules of PSP considered under the "Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra Dist. Uttar Pradesh" are as under:

- Greenko UP01 IREP Pvt. Ltd. - April'28 onwards

- Avaada Waterbattery Pvt. Ltd. - Dec'30

Accordingly, in the 27th meeting of NCT (minutes awaited) following two schemes have been agreed:

A. Inter-regional (NR-WR) Transmission System strengthening to relieve the loading of 765kV Vindhyachal-Varanasi D/c line (with the inclusion of 765kV Prayagaraj switching station and associated LILOs viz. LILO of 765kV Fatehpur-Varanasi & 765kV Fatehpur-Sasaram)

- **Estimated Cost:** Rs. 2368.26 Cr.
- **Impact on present ATC (₹46119.02 Cr.):** 0.7702%
- **24 months** from allocation of project
- Detailed scope is at **Enclosure-I.**

B. Transmission system for evacuation of power from Pumped Storage Projects in Sonbhadra Dist. Uttar Pradesh

- **Estimated Cost:** Rs. 3625.97 Cr.
- **Impact on existing ATC (₹46119.02 Cr.):** 1.179%
- **32 months** from allocation of project
- Detailed scope is at **Enclosure-II.**

Enclosure-I

Inter-regional (NR-WR) Transmission System strengthening to relieve the loading of 765kV Vindhyachal-Varanasi D/c line

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
1	Establishment of 765 kV Prayagraj S/s near Prayagraj (Uttar Pradesh) along with 2x330 MVAr 765 kV Bus reactors **Future provisions:** **Space for:** ➢ 765/400kV ICTs along with bays- 4 nos. ➢ 765 kV line bays along with switchable line reactors – 4 nos. ➢ 765kV Bus Reactor along with bay: 1 nos. ➢ 400 kV line bays along with switchable line reactor –4 nos. ➢ 400kv line bays : 2 nos. ➢ 400 kV Bus Reactor along with bays: 2 no. ➢ 400kV Sectionalization bay: 1 set	Prayagraj S/s -AIS • 330 MVAr Bus Reactor-2 nos. (7x110 MVAr, including one spare unit) • 765 kV Bus reactor bays-2 no.
2	LILO of 765 kV Fatehpur-Varanasi S/c line at Prayagraj	Line Length ~15 km (LILO length 15km) • 765 kV line bays -2 nos. (at Prayagraj S/s end)
3	LILO of 765 kV Fatehpur-Sasaram S/c line at Prayagraj	Line Length ~14 km (LILO length 14km) • 765 kV line bays-2 nos. (at Prayagraj S/s end)
4	765kV Vindhyachal Pool - Prayagraj D/c line along with 330MVAr line reactor (switchable) at Prayagraj end on each ckt of 765kV Vindhyachal Pool - Prayagraj D/c line	Line Length – (~220 km) • 765 kV line bays at Prayagraj S/s – 2 nos. • 765 kV, 330 MVAr switchable line reactors at Prayagraj end – 2 nos. • Switching equipment for 765kV 330 MVAr switchable line reactors at Prayagraj S/s – 2 nos.
5	Bypassing of both ckts of 765kV Sasan – Vindhyachal Pool 2xS/c line at Vindhyachal Pool and connecting it with 765kV Vindhyachal Pool - Prayagraj D/c line, thus forming 765kV Sasan - Prayagraj D/c line	Line Length - 1km (~0.5x2)

Enclosure-II

Transmission System for connectivity of Pumped Storage Projects in Sonbhadra District in UP

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
1	Establishment of 4x1500 MVA 765/400 kV Robertsganj Pooling Station near Robertsganj area in Sonbhadra distt. (Uttar Pradesh) along with 2x240 MVAr 765 kV & 2x125 MVAr 400 kV bus reactors **Future provisions:** **Space for:** ➢ 765/400kV ICTs along with bays- 2 nos. ➢ 765 kV line bays along with switchable line reactors – 6 nos. ➢ 765kV Bus Reactor along with bay: 1 no. ➢ 400 kV line bays along with switchable line reactor –6 nos. ➢ 400kV line bays : 6 nos. ➢ 400 kV Bus Reactor along with bays: 1 no. ➢ 400kV Sectionalization bay: 2 sets	Robertsganj PS - AIS • 765/400 kV 1500 MVA ICT- 4 nos. (13x500 MVA including one spare unit) • 765 kV ICT bays-4 no. • 400 kV ICT bays- 4 no. • 240 MVAr Bus Reactor-2 no. (7x80 MVAr, including one spare unit) • 765 kV Bus reactor bays-2 no. • 125 MVAr Bus Reactor-2 nos. • 400 kV Bus reactor bays- 2 no. • 400kV line bays– 2 nos. (for PSP interconnection)
2	LILO of both circuits of 765 kV Varanasi- Gaya 2xS/c line at Robertsganj PS along with 240MVAr switchable line reactor at each ckt of Robertsganj PS end of 765 kV Robertsganj PS - Gaya 2xS/c line (after LILO)	a. Line Length ckt1 ~ 65 km (LILO length) b. Line Length ckt2 ~ 75 km (LILO length) • 765 kV line bays-4 nos. (at Robertsganj PS end) • 240 MVAr switchable line reactors at Robertsganj PS end – 2 nos. • Switching equipment for 240 MVAr switchable line reactors at Robertsganj PS end – 2 nos.
3	Robertsganj PS – Prayagraj S/s 765 kV D/c line along with 330 MVAr line reactor at each circuit of Robertsganj end of Robertsganj PS – Prayagraj S/s 765 kV D/c line	Line Length – (~185 km) • 765 kV line bays at Robertsganj PS – 2 nos. • 765 kV line bays at Prayagraj S/s – 2 nos. • 765 kV, 330 MVAr switchable line reactors at Robertsganj PS – 2 nos. • Switching equipment for 765kV 330 MVAr switchable line reactors at Robertsganj PS – 2 nos. • 110 MVAr (765 kV) spare reactor single phase unit at Robertsganj PS end – 1 no.

Annexure-2.7

झारखण्ड ऊर्जा संचरण निगम लिमिटेड
JHARKHAND URJA SANCHARAN NIGAM LIMITED

(CIN No. – U40108JH2013SGC001704)
Regd. Office – JUSNL (SLDC) Building, Kusai Colony, Doranda, Ranchi – 834 002
E-mail: uldc.jusnl@gmail.com **Web:** www.jusnl.in

Letter No. ....30..... GM (SLDC)/JUSNL Dated ....14.01.2025.....

From,

Arun Kumar
General Manager (SLDC)

To,

Member Secretary,
Eastern Regional Power Committee,
14, Golf Club Road, Tollygunge,
Kolkata, West Bengal – 700 033.
e-mail id: mserpc-power@nic.in

Sub: **Regarding submission of study report of 132 kV D/C Chandil – Golmuri Trans. Line S/C LILOed at Mango GSS and 220 kV D/C Dumka (Madanpur) GSS to Maithon (PGCIL) Trans. Line for HTLS Project of JUSNL.**

Ref.:
1. Email of ERPC, dated 12.10.2023,
2. This Office Letter No. 528, dated 04.12.2024,
3. This Office Letter No. 586, dated 26.12.2024, and
4. This Office Letter No. 06, dated 03.01.2025.

Sir,

With reference to the above subject, the following mentioned Transmission Lines have been proposed for HTLS reconductoring under HTLS Project of JUSNL:

1. 132 kV D/C Chandil – Golmuri Transmission Line S/C LILOed at 132/33 kV Mango GSS, and
2. 220 kV D/C Dumka (Madanpur) GSS to Maithon (PGCIL) Transmission Line

As per Minutes of Meeting of 222nd OCC Meeting (ERPC) held on dated 23.12.2024 at Kolkata, West Bengal, the study reports of the above said transmission lines are being submitted with a request to kindly consider the above said transmission lines for HTLS reconductoring under HTLS Project of JUSNL.

Encl.: As Above.

Yours faithfully

14.01.25

(Arun Kumar)
General Manager (SLDC)

Assessment Report of 220 kV D/C Maithon (PG) – Dumka (Madanpur) Transmission Line

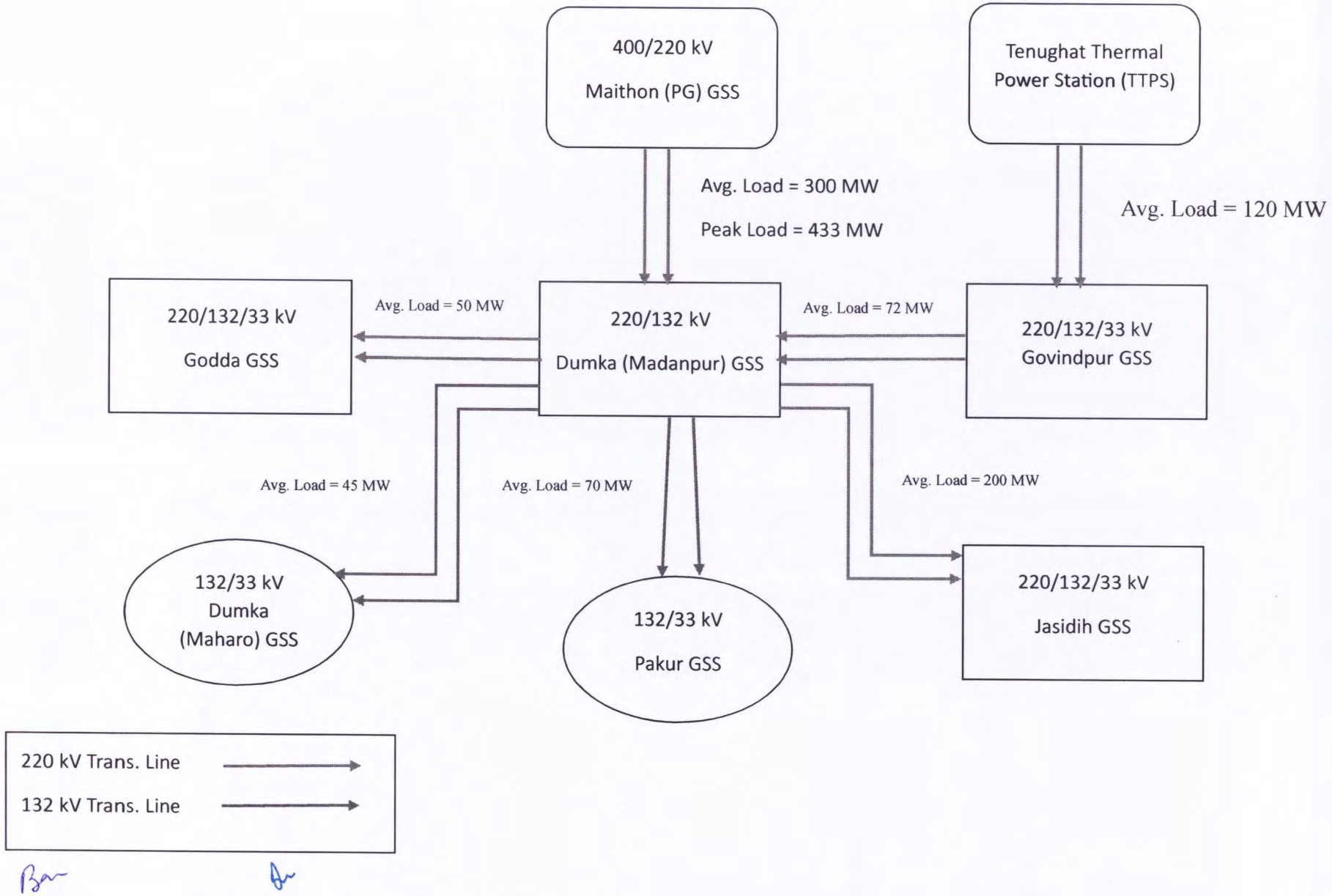
- Description of Transmission Line:
  - 220 kV D/C Maithon (PG) – Dumka (Madanpur) Transmission Line
  - Total Towers - 244
  - Total Length - 73.29 KM
- Source of 220/132 kV Dumka (Madanpur) GSS:
  1. Maithon (PG) GSS
  2. TTPS via Govindpur GSS
- Downstream of 220/132 kV Dumka (Madanpur) GSS:
  1. 220/132/33 kV Jasidih GSS
  2. 220/132/33 kV Godda GSS
  3. 132/33 kV Pakur GSS
  4. 132/33 kV Dumka GSS
  5. 220/132/33 kV Govindpur GSS
- Observation:

  At present, Average load of 220 kV D/C Maithon (PG) – Dumka (Madanpur) Transmission Line is approx. 300 MW and Peak load is approx. 433 MW, which will not hold in N-1 condition. (Load Pattern enclosed)
- Recommendation:

  220 kV D/C Maithon (PG) – Dumka (Madanpur) Transmission Line may be reconductored with HTLS Conductor as both Circuits are at their maximum capacity.

In view of above, 220 kV D/C Maithon (PG) – Dumka (Madanpur) Transmission Line may be included in the list of Transmission Lines in HTLS Project of JUSNL funded by PSDF for implementation of reconductoring of Existing Line by HTLS Conductor for Relieving Congestion in JUSNL under Jharkhand State.

Single Line Diagram of 220 kV D/C Maithon (PG) – Dumka (Madanpur) Transmission Line



Assessment Report of 132 kV D/C Chandil - Golmuri TL S/C LILOed at Mango GSS

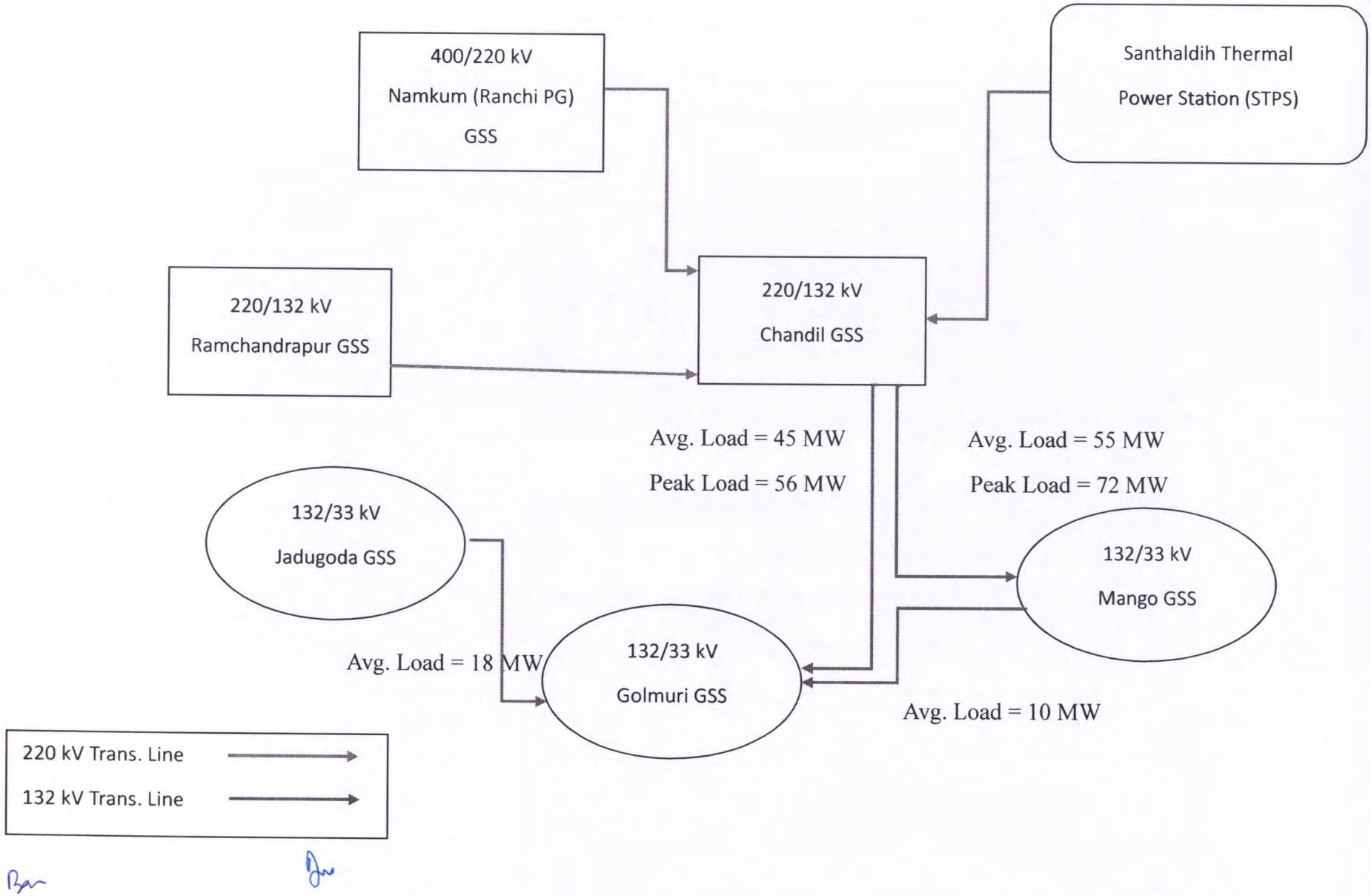
- Description of T/L:
  - 132 kV D/C Chandil - Golmuri Transmission Line S/C LILOed at 132/33 kV Mango GSS
  - Total Towers - 111 Nos.
  - Total Length - 32 KM
- Source of 220/132 kV Chandil GSS:
  1. 220/132 kV Ramchandrapur GSS
  2. 400/220 kV Namkum (Ranchi PG) GSS
  3. Santhaldih Thermal Power Station (STPS)
- Source of 132/33 kV Golmuri GSS:
  1. 220/132 kV Chandil GSS
  2. 220/132 kV Ramchandrapur GSS via 132/33 kV Jadugoda GSS
- Observation:

  At present, Average load on 132kV S/C Chandil - Golmuri T/ Line and 132kV S/C Chandil - Mango T/L is approx. 100 MW and Peak load is approx. 128 MW, which will not hold in N-1 condition.
- Recommendation:

  There is need of reconductoring of ACSR Panther Conductor with HTLS Conductor in 132 kV D/C Chandil - Golmuri Transmission Line S/C LILOed at 132/33 kV Mango GSS as this transmission line is at it's maximum capacity.

In view of above, 132 kV D/C Chandil - Golmuri Transmission Line S/C LILOed at 132/33 kV Mango GSS may be included in the list of T/Ls in HTLS Project of JUSNL funded by PSDF for implementation of reconductoring of Existing Line by HTLS Conductor for Relieving Congestion in JUSNL under Jharkhand State.

Single Line Diagram of 132 kV D/C Chandil - Golmuri TL S/C LILOed at Mango GSS



Minutes of the Meeting(Virtual mode) held on 09.05.2023 (Tuesday)regarding dual reporting of RTU, PMU, VOIP, AGC etc. applications

A meeting on the subject was held on 09.05.23 at 11:00 AM with participants from CEA, RLDCs, CTUIL, Grid-India, and POWERGRID. List of the participants is enclosed at Annexure-I. 2. At the outset Sr. .DGM (CTU) welcomed the participants and explained the agenda to all the participants. He requested all the participants to contribute their valuable suggestion for agenda to reach at some conclusion.

Agenda: Dual reporting of RTU, PMU, VOIP, AGC etc. applications on 2+2 channel to main RLDC and Backup RLDC

Presently, one data channel and one voice channel are routed for reporting to main RLDC and similarly one data & one Voice channel is reporting at backup RLDC.

It is proposed by GRID INDIA that to increase of the redundancy in the system at least two data channels and two voice channels shall be routed for reporting to main RLDC and another two data & two Voice channels shall report at backup RLDC.

A detailed deliberation in meeting dated 05/04/23 was done among RLDCs, POWERGRID, CEA for evolving a common planning philosophy for all regions.

In the meeting GRID INDIA stated that as per communication regulation 2017/IEGC dual channel reporting for all communication applications from each ISTS station is required for both main and back up RLDCs. This requirement has also been conveyed by ED, NLDC to ED, GA & C vide letter dtd.16.03.2020

It was stated in the meeting that present channel configuration operational at different RLDCs for main and back up CC respectively is as follows:

a) NRLDC:1+1 & 2+1(for few stations)

b) SRLDC:1+1

c) WRLDC:2+1

d) ERLDC:1+1

e) NERLDC:1+1

POWERGRID stated that they are designing the ISTS Communication system with 1+1 channel configuration i.e. one channel for main RLDC and one channel for back up RLDC.

However, CEA recommended as follows: Manual of Communication Planning in Power System Operation clause 4.1.2 states:- “To ensure redundancy with route diversity, each communication channel (working path) planned for the Users shall be provided with alternate channel (protection path) in different routes, i.e., the working path and protection path should be resource disjoint. For last mile connectivity to load dispatch center(s), additional redundancy in different route may be considered. In case of failure of the working path, the protection path shall be available for the required communication services.”

Therefore, dual redundancy may be planned for both main and back-up load dispatch centers.

At present following services are working on ISTS communication network:

- **i.** SCADA
- **ii.** PMU
- **iii.** Tele protection
- **iv.** Telecontrol
- **v.** AGC
- **vi.** Voice
- **vii.** Automated Metering Application
- **viii.** Telemetering
- **ix.** Video conferencing
- **x.** ICCP (between control canters)
- **xi.** PDC
- **xii.** PDC to PDC
- **xiii.** Supervision of communications System
- **xiv.** Video Surveillance
- **xv.** Data Sync between MCC & BCC

The above applications need to be deliberated for dual redundancy requirement.

POWERGRID shall implement this redundancy for both main and backup Regional load dispatch center(s) in all the regions wherever possible with the existing resources in coordination with GRID INDIA.

In case of any additional requirement for implementation of redundancy POWERGRID may update the details region wise i.e. availability of SAS gateway ports, spare ethernet ports in existing FOTE, new FOTE if any etc. . POWERGRID shall quantify these requirements along with tentative costs on Regional basis.

The action to be taken up by TSPs, IPPs, ISTS, ISGS besides POWERGRID also needs to be discussed.

Deliberations: CGM(SRLDC) explained that Main and Backup control centre is old terminology and now Main-I &Main-II control centre terminology is being used and at each control centre one main & one backup channel is required. Grid India(NRLDC) explained that at present data is being transmitted to respective main & Backup RLDCs using 101 protocol through terminal server/DCPC for old RTUs and by using 104 protocol for SAS. Grid India agreed to share this detail in a week time. Further, POWERGRID informed that RTUs are being replaced with SAS (104 PROTOCOL) as soon as their life is completed. POWERGRID shall share the plan for replacement of RTUs communicating on 101 Protocol.

POWERGRID queried that in CEA planning manual, only route redundancy is mentioned and no where port redundancy is stated. Hence it needs to be clarified whether port level redundancy is also required. CEA clarified that path should be resource disjoint and so both path and ports should be resource disjoint. POWERGRID (NR-ULDC), stated that there is constraint of ports for dual redundancy of SCADA data in the RTUs procured under sub-station package and agreed for upgradation of same subject to approval. POWERGRID further clarified that RTUs with sufficient ports for dual redundancy are being planned recently as requested by ED(NLDC) -GRID INDIA vide letter dated 16.03.2020.

At present PMU data is reporting to single location i.e. Main RLDC as per current planning under URTDSM project. Grid India further stated that PMU data is transmitted on dual channel through switch to main RLDC. Grid India require multi ports at PMU for dual redundancy. Further redundant communication between SLDC PDC to RLDC PDC, RLDC PDC to Main/backup NLDC PDC shall also be required.

Tele protection & Telecontrol are operated by TSPs and should be in dual redundancy.

For AGC services dual redundancy is already considered & being implemented by TSPs . Dual channels to Main and Backup NLDC are required for AGC.

For Voice dual redundancy is also required. For the same, exchange to exchange dual redundancy shall be planned. Exchanges are placed at all SLDCs &RLDCs. At present Substation to Exchange link level protection is already available.

For AMR dual redundancy is also required. At present single channel is reporting to RLDC. For video conferencing Grid India is requested to justify the requirement of dual redundancy as per industry practice as mentioned in ‘Manual For Communication Planning’ as suggested by CEA.

For ICCP dual redundancy is required for main RLDC to Backup RLDC, Main RLDC to main SLDC, Main RLDC to backup SLDC, Backup RLDC to Main SLDC, Backup RLDC to backup SLDC as planned under new SCADA system.

For PDC to PDC dual redundancy is also required. CTU requested Grid India to share the architecture of new SCADA,PDC communication, ICCP.

Supervision of communication channels & Video Surveillance are not used by Grid India. However, TSPs/ CTU may plan as per their requirement.

For data sync dual redundancy between MCC and BCC is also required.

ERLDC, Grid India suggested that planning for terminal equipment(SDH/PDH)at dual redundancy is also required. However, it is suggested that dual redundancy of terminal equipment may be planned for critical locations such as AGC, SPOFs(Single point of failures).

As per discussion, following applications are summarised below for dual redundancy up to existing and upcoming control centres of Grid India.

i. SCADA
ii. PMU
iii. AGC
iv. Voice
v. Automated Metering Application
vi. ICCP (between control canters)
vii. PDC to PDC
viii. Data Sync between MCC & BCC

Conclusion

1. Grid India shall share the data for all the RTUs/SAS , their connectivity type(single or dual redundancy) & all other relevant data for all the TSPs(IPPs, ISGS, TBCB,RTM etc.) within a week time.
2. POWERGRID shall analyse the existing system for dual redundancy and implement the dual redundancy with existing resources wherever possible.
3. POWERGRID shall further state the additional requirements of ports/cards/equipment etc. along with cost for implementation of dual redundancy to above mentioned services on priority where dual redundancy cannot be implemented because of resource constraints. Same shall be discussed at respective RPC forum and shall be finally approved in NCT.

Annexure-I

List of participants of the meeting

- **CEA**

1. Sh. Prateek Srivastava, Assistant Director, PCD
2. Sh. Akshay Dubey,
3. Ms. Priyam, Dy. Director, PSPA-I

- **CTUIL**

1. Sh. Shiv Kumar Gupta, Sr.DGM, CTUIL
2. Sh. Tej Prakash Verma, Ch.Mgr., CTUIL
3. Kalpana Shukla,DGM, CTUIL
4. Kaushal Suman, Manager, CTUIL

- **Powergrid**

1. Sh. Ajaya Kumar P, Sr.GM, ULDC
2. Sh. Satish Kr Sahare, GM, ULDC
3. Smt. Shyama Kumari, DGM, GA&C
4. Sh. Kapil Gupta, DGM, GA&C
5. Sh. Mahesh M, Ch. Mgr, ULDC
6. Sh. Narendra Kumar Meena, Ch. Mgr. ULDC
7. Sh. Santanu Rudrapal, Ch. Mgr, ULDC
8. Sh. Vishal Badlas, Mgr, GA&C
9. Sh. Kashif Bakht Muhammad Nabi, Dy. Mgr, ULDC
10. Sh. Ashish Kumar Das, Asst Mgr, ULDC

- **GRID- India**

1. Sh. MK Ramesh, CGM, SRLDC
2. Sh. Harish Kumar Rathour, GM, NLDC
3. Sh. Sanjeev, GM, WRLDC
4. Sh. L. Murlikrishna, Sr. DGM
5. Sh. Ankur Gulati, DGM, NRLDC
6. Sh. Sakal Deep, Engineer, NERLDC
7. Sh. Koti Naveen
8. Sh. Ananthakrishnan
9. Sh. Rakesh
10. Sh. Sudeep M
11. Bijender Singh Chhoer
12. P Doungel

RNOD (Recoded Notes of the discussion) of the virtual meeting held on 27.06.2023 (Tuesday) regarding dual redundancy of RTU, PMU, VOIP, AGC etc.

A meeting on cited subject was held on 27.06.2023 at 10:30 A.M. with the participants from CEA, RLDCs, CTUIL, GRID-India and POWERGRID. The list of the participants is enclosed at Annexure-I. At the outset Sr. GM (CTUIL) welcomed the participants and stated the requirement of two channels each at main and backup control centres, already discussed in the meeting held on 09.05.2023 and confirmed by PCD(CEA) subsequently. In view of this CTU requested the participants to provide their valuable views/suggestions for each application for the said redundancy.

Deliberation:

CTU stated that at present one data channel and one voice channel are routed for reporting to main RLDC and similarly one data & one voice channel is reporting at backup RLDC. However, during the meeting held on 09.05.2023, GRID-India requested for at least two data channels and two voice channels for reporting to each RLDC i.e. main RLDC and backup RLDC, to increase the redundancy in the system.

Further CTU stated to deliberate on all the data and voice applications being used from stations to control centres (CC) and among CCs viz SCADA,PMU, AGC,VOIP etc.. CEA suggested that the redundancy shall be developed in a phased manner and the constraints on the existing communication network shall be explicitly reviewed and taken up accordingly.

Detailed deliberations were held among GRID-INDIA-RLDCs, POWERGRID, CEA, CTU for the same and ISTS communication system was proposed for different services with redundancy:

1. SCADA

2. PMU

3. AGC

4. VOIP

5. Automated Metering Application(AMR)

6. ICCP (Between control centers)

7. PDC to PDC

8. Data sync between MCC & BCC

GRID-INDIA has submitted the data regarding present status of redundancy of these services which is enclosed as Annexure-I. POWERGRID has also submitted the data of utilization of optical fiber network for some links of Eastern region which is enclosed as Annexure-II. CTU again requested POWERGRID to provide requisite data for the implementation of said redundancy scheme.

It was also felt to analyze the enhancement required for the above mentioned 8 services on 2+2 redundancy as discussed below:

1. **SCADA :-** Currently SCADA is reporting through 1+1/2+1/2+2/1+0 (radial) channel in different regions. For 2+2 redundancy of SCADA data, it requires extra ethernet ports at RTU, SAS Gateway & FOTE along with suitable bandwidth in optical fiber network. CTU stated that POWERGRID shall provide data of utilized and spare ethernet ports for existing RTUs, SAS Gateways and FOTE and shall also asses the data for additional requirement of the said redundancy. POWERGRID agreed the same.
2. **PMU :-** POWERGRID stated that presently one port of central sector PMUs is split into two channels at MUX (SDH) level from where onwards one channel reports to NTAMC (PG) and other reports to PDC (RLDC). GRID-India stated that as at present there is no plan of backup PDC, hence PMU data may be sent to PDC at RLDC in 1+1 mode only. Accordingly, one additional channel is required from PMUs to RLDCs. POWERGRID is requested to check availability of additional port on PMU and FOTE along with bandwidth requirement for configuration of additional backup channel to RLDC. POWERGRID agreed the same.
3. **AGC :-** GRID-India-NLDC stated that **c**urrently 2 channels are reporting from generators up to HMI of the station and there after through fibre optic network to NLDC Main Control Centre (MCC). GRID-India explained that a separate RTU is provided to integrate the generator data and route it further through the existing FOTE. This is in addition to existing RTU/SAS Gateway reporting to RLDCs.. As per redundancy requirements of control centre, 2 additional channels for AGC from generator station (in addition to the SCADA data) are required for data reporting to Backup Control Centre (BCC). GRID-INDIA also

stated that AGC signal to generator is being planned from RLDC in future. POWERGRID is requested to check availability of ports on RTU (both SCADA and Generation), SAS Gateway of AGC system and FOTE for implementation of same. POWERGRID agreed the same.

4. **VOIP :-** POWERGRID stated that currently VOIP is communicating through single channel only. GRID-India stated that they require redundancy on Port level and additional port shall be required at VOIP phone, exchange & FOTE. As present VOIP exchange has completed its life, it is suggested that requisite features for VOIP phones & exchange shall be included during system upgradation/ replacement. POWERGRID agreed to provide relevant data for the same.
5. **AMR :-** GRID-India stated that new AMR architecture is in planning phase and they will provide required inputs after looking in architecture.
6. **ICCP :-** GRID-India stated that currently ICCP (Between NLDC, RLDC and SLDC) is working on 2 communication channels for main-to-main control center and 2 communication channels for backup to backup control center only. For redundancy, GRID-India requires 4 extra channels, 2 channels for main RLDC to backup SLDC communication and 2 channels for backup RLDC to main SLDC communication. POWERGRID is requested to provide additional requirements (if any) for implementation of same. POWERGRID agreed the same.
7. **PDC to PDC :-** GRID-India stated that at present '1' channel is provided between PDC(SLDCs) to PDC (RLDC), for redundancy in PDC(SLDCs) to PDC(RLDC) communication additional 1 channel is required as discussed in PMU above.
8. **Data Sync between MCC & BCC :-** GRID-India stated that presently 1 channel is working for data sync between Main Control Center and Backup Control Center i.e. main SLDC to backup SLDC, main RLDC to backup RLDC, main NLDC to backup NLDC, further it is required to provide 1 additional channel for redundancy.

As per above discussion POWERGRID is requested to provide the requisite data for implementation of redundancy of services as discussed above within 21 days. POWERGRID agreed for the same. Meeting ended after vote of thanks by SR.GM(CTU).

List of participants of the meeting

- **CEA**

1. Sh. Prateek Srivastava, Assistant Director, PCD
2. Ms. Priyam, Dy. Director, PSPA-I

- **CTUIL**

1. Sh. H.S. Kaushal, CGM, CTUIL
2. Sh. Shiv Kumar Gupta, Sr.DGM, CTUIL
3. Sh. Tej Prakash Verma, Ch.Mgr., CTUIL
4. Sh. Divesh Kamdar, AET, CTUIL

- **POWERGRID**

1. Sh. Satish Kr Sahare, GM, ULDC
2. Smt. Shyama Kumari, DGM, GA&C
3. Sh. Kapil Gupta, DGM, GA&C
4. Sh. Mangesh Shriram Bansod, DGM, IT
5. Sh. Sundeep Kumar Gupta, Ch. Mgr, GA&C
6. Sh. Narendra Kumar Meena, Ch. Mgr. ULDC
7. Sh. Santanu Rudrapal, Ch. Mgr, ULDC
8. Sh. Vishal Badlas, Mgr, GA&C
9. Sh. Hemanth Kumar, Asst. Mgr, ULDC

- **GRID- India**

1. Sh. Harish Kumar Rathour, GM, NLDC
2. Sh. Aukur Gulati, Ch. Mgr, NRLDC
3. Sh. Sakal Deep, Engineer, NERLDC
4. Sh. Akhil Singhal, NERLDC
5. Sh. P. Doungel, NERLDC
6. Sh. Amba Prasad Tiwari, NERLDC
7. Sh. Mohneesh Rastogi, NLDC
8. Sh. Ganesh, SRLDC
9. Sh. Rakesh, SRLDC
10. Sh. Ashutosh Pagare
11. Sh. Koti Naveen, WRLDC

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

No.- L-1/210/2016/CERC

CORAM:

Shri Jishnu Barua, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri P. K. Singh, Member

Date of Order: 19th January, 2024

In the matter of:

Approval of Guidelines on "Interface Requirements" under the Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017.

Order

The Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 (hereinafter referred to as the 'Communication Regulations') were published on 29.05.2017 in the Gazette of India Extraordinary (Part-III, Section-4, No. 218).

2. Regulation 7.4, read with Regulation 14.2 of the Communication Regulations requires NLDC to prepare Guidelines on "Interfacing Requirements" in consultation with the stakeholders and submit the same for approval of the Commission.

3. Accordingly, NLDC has submitted the Guidelines on "Interfacing Requirements" after stakeholder consultation for approval of the Commission.

3.4. The communication media being used for data transfer and data rate shall be in accordance with the Central Electricity Authority(Technical Standards for Communication System in Power System Operations) Regulations, 2020.

4. Communication Interface

The Users shall support at least the following facilities and plan for communication interfaces accordingly at the time of implementation:

1. Real time data exchange including AGC/Control signal with Control Centre (Main & Backup).
2. Phasor data exchange
3. Meter data exchange
4. Protection signal transmission (SPS, Direct Tripping and Permissive Tripping Carrier Signal etc.)
5. Voice communication
6. Video Communication

Other requirements, if any, users may include while designing the local communication interface requirement.

The required communication interfaces shall be provided for both sending and receiving ends based upon jurisdiction/ownership. All the interfaces shall be provided with audio-visual status indication to indicate its normal operation as per relevant standards.

Users shall have functionality to support any of the interfaces given below based on requirement of data flow as per CEA/CERC guidelines from their respective end to control centres.

Interfaces are classified as following: -

1. Remote Station Interfaces
2. Control Centre Interfaces
3. Terminal Equipment Interfaces

4.1. Remote Station

"Interfacing Requirements" in respect of terminal equipment, Remote Terminal Unit (RTUs)/ Substation Automation System (SAS), Supervisory Control and Data Acquisition System (SCADA), Phasor Measurement Unit (PMU) /Phasor Data Concentrators (PDC), Automatic Generation Control

(AGC), Station Protection / System Protection Schemes (SPS), Automatic Meter Reading (AMR), Advanced Metering Infrastructure (AMI), etc. and for data communication is decided based on communication protocol used for transfer of data between user and respective control centres through dedicated and redundant communication channel with route diversity.

Remote end equipment like RTUs, PMUs, SAS, Metering Gateways, Meter Data Collection Unit, PLCs for AGC etc. shall report through communication protocol which is supported at the reporting Control Centre.

While designing the interface requirement of the remote locations, all the interfaces required for data (power system parameter, meter data, AGC/Control Signal), voice, video, protection signal shall be considered and shall be compatible with respective control centre as well as intervening Communication System equipment.

A typical General Arrangement drawing for a Remote Station is enclosed as ***Annexure-III***.

The interfaces shall be designed to operate under single contingency failure condition. Equipment should support interfaces with multiple ports, cards, gateways etc. and configured in redundant mode so that failure of single hardware element, i.e. communication port, card, gateway etc. of the users shall not lead to failure of data communication. Communication system shall be designed as per planning criterion to be notified by CEA.

Availability of communication links shall be maintained as per the CERC Communication Regulations, 2017. Further, the communication channel provided/configured for the real time data communication shall be made error free and shall not lead to intermittency in real time data at respective Control Centre.

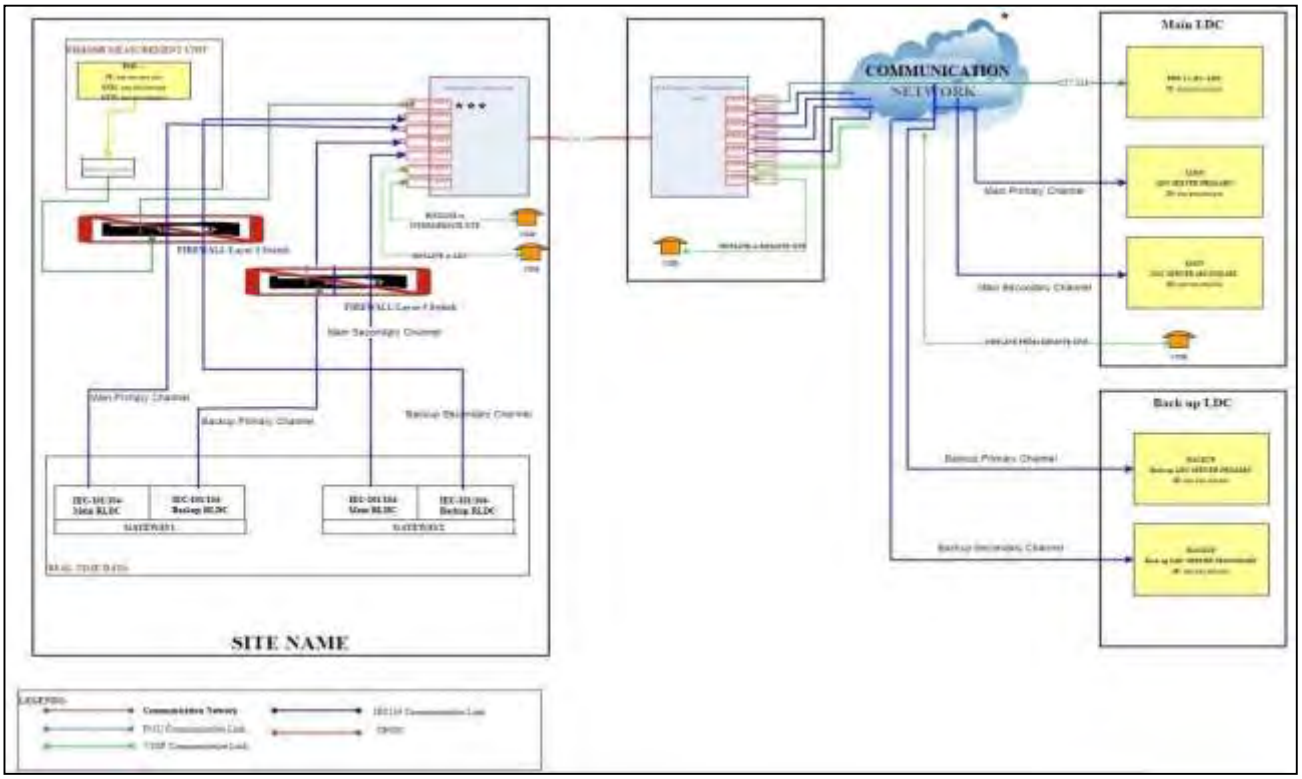
4.1.1. Remote Terminal Unit (RTU)/Substation Automation System (SAS)/PLCs

"Remote Terminal Units" (RTU) / Substation Automation System (SAS) is the device suitable for measuring, recording and storing the consumption of electricity or any other quantity related with electrical system and status of the equipment in real time basis and exchanging such information with the data acquisition system for display and control.

The RTU/SAS System /device should communicate with Control Centre front end system in either

ANNEXURE-III

Typical Remote Station General Arrangement Diagram having IEC-101/104 RTU



Annexure-2.16.3

सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली संचार विकास प्रभाग
Power System Communication Development Division

सेवा में / To,

Chief Operating Officer, CTUIL,
Saudamini Plot, Gurgaon

Subject: **Requirement of Dual redundancy of communication services – regd**

Reference: CTU email dated 07.06.2024

CTU vide above mentioned reference has forwarded SRPC's email seeking clarifications in respect of requirement of dual redundancy of communication services for the existing stations (TBCB/RTM).

1.1. In this regard, it may be noted that ensuring redundancy with route diversity is the requirement stipulated in CEA's Manual of Communication Planning in Power System Operation. Further, it was proposed by GRID INDIA that to ensure redundancy with route diversity, at least two data channels and two voice channels shall be routed for reporting to main RLDC and another two data & two Voice channels shall report at backup RLDC.

1.2. Also, with issuance of Guidelines on "Interface Requirements" under the CERC (Communication System for inter-State transmission of Electricity) Regulations, 2017, it has been made amply clear that suitable redundancy at port, card and gateway level needs to be ensured to avoid any single point of failure which may lead to interruption in real-time grid operation.

1.3. CTUIL has already convened meetings amongst POWERGRID, POSOCO, CTUIL and CEA (PCD) on 09.05.2023 and 27.06.2023, for examining the availability of two channels each from the ISTS stations to Main & Back-up Control Centers and to deliberate on the need for the same. Various applications of data, phasor and voice were deliberated during these meetings and requirement of the dual redundancy for different communication services used for ISTS was agreed as below:

i. SCADA
ii. PMU
iii. AGC

iv. Voice
v. Automated Metering Application
vi. ICCP (between control canters)
vii. PDC to PDC
viii. Data Sync between MCC & BCC

1.4. This called for modifications in the existing ISTS infrastructure, besides inclusion of the same in the scope of the upcoming TBCB/ RTM schemes.

1.5. The technical inputs for RfP of the upcoming TBCB/RTM schemes have been updated based on decision taken in meeting convened by PCD, CEA on 28.06.2023, to ensure the compliance of dual redundancy.

1.6. For the existing system, CTUIL, Powergrid and Grid India were requested to coordinate in identifying the immediate measures/upgradations to be undertaken to ensure the dual channel reporting, for the identified communication applications, from each ISTS station to main and back up RLDCs.

भवदीय
Signed by Suman Kumar Maharana
Date: 22-07-2024 14:20:59

(एस.के.महाराणा / **S. K. Maharana**)
मुख्य अभियन्ता /**Chief Engineer (PSCD)**

Copy to:

1. Member Secretary, SRPC

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
(पावर ग्रिड कारपोरेशन ऑफ इण्डिया लिमिटेड के स्वामित्व में)
(भारत सरकार का उद्यम)
CENTRAL TRANSMISSION UTILITY OF INDIA LTD.
(A wholly Owned Subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref: C/CTU/COMM **Date:** 11/09/2024

To,
As per distribution list

Sub: Regarding RPCs view on the agenda to be put up in upcoming 15th NPC meeting.

Dear Sir/Madam,

This is with reference to the agenda sent by CTUIL for the upcoming 15th NPC meeting (Agenda attached at ***Annexure-I***). NPC after reviewing the agenda suggested CTU to seek the views of RPCs on the following two agenda:

A.3. Methodology for replacement of old ISTS communication elements e.g. OPGW and FOTE who have lived their useful life as per CERC tariff regulation.

A.4. Dual reporting of ISGS/RE Remote stations to RLDC Main and Backup Control centers.

In view of the above, RPCs are requested to give their valuable views/comments/suggestions within fortnight in order to take up the same for the deliberation in the subject NPC meeting.

Thanking you,

Yours faithfully,

(H.S. Kaushal)
Sr. GM (CTUIL)

List of Addresses:

1.	Member Secretary, Northern Regional Power Committee 18-A, Qutab Institutional Area, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110 016	2.	Member Secretary, Southern Regional Power Committee 29, Race Course Cross Road Bangalore – 560 009
3.	Member Secretary, Western Regional Power Committee MIDC area, Marol, Andheri East , Mumbai -400093	4.	Member Secretary, Eastern Regional Power Committee 14, Golf Club Road, Tollygunge Kolkata-700033
5.	Member Secretary, North Eastern Regional Power Committee (NERPC) Meghalaya State Housing Finance Co-operative Society Ltd. Building Nongrim Hills, Shillong, Meghalaya – 793003		

Annexure 2.16.5

Proof of Concept (PoC) of Dual Channel Redundancy for SCADA Data reporting to ERLDC SCADA\EMS system

Contents

1. Background

As per MoM of 14th Test Sub-Committee meeting of ERPC held on 24.04.2024 the following decision was made:

"TeST committee advised PowerGrid to carry out POC on pilot basis for dual reporting via SCADA to ERLDC (main and backup). PowerGrid agreed to carry out the POC at Berhampur station."

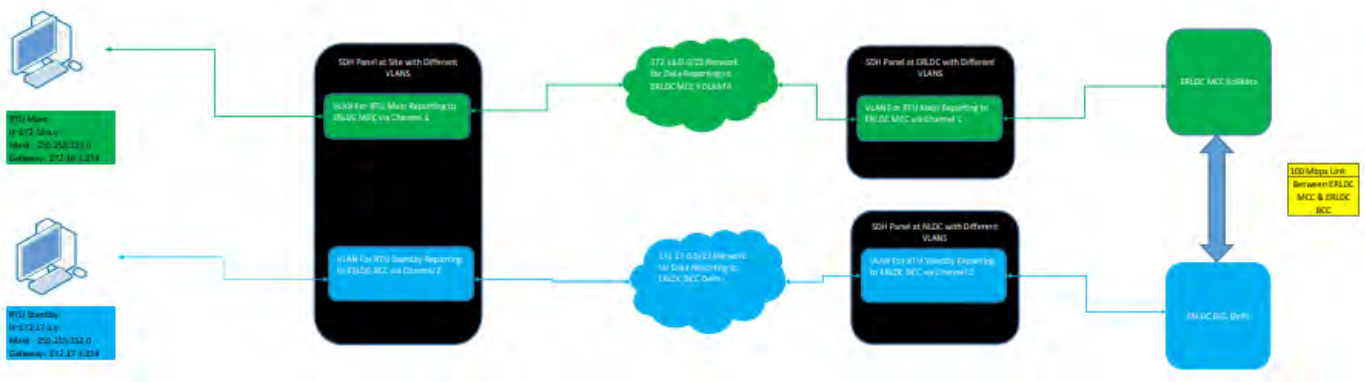
Based on this, POC for dual channel reporting to ERLDC SCADA\EMS system was conducted during RTU upgradation and migration from IEC 101 to IEC 104 protocol work of Jamshedpur_PG station as RTU team was present there during testing time.

2. Network Architecture

A. **Present Network architecture** for Data reporting to ERLDC SCADA\EMS system via

i. Main Channel to ERLDC MCC Kolkata (IP Series: 172.16.0.0; Subnet Mask: 255.255.252.0)

ii. Backup Channel to ERLDC BCC New Delhi (IP Series: 172.17.0.0; Subnet Mask: 255.255.252.0)



B. **Proposed Network architecture** for Dual Channel reporting to ERLDC MCC & BCC SCADA\EMS system. IP series for Dual channel reporting of Data to ERLDC SCADA\EMS system is detailed below: -

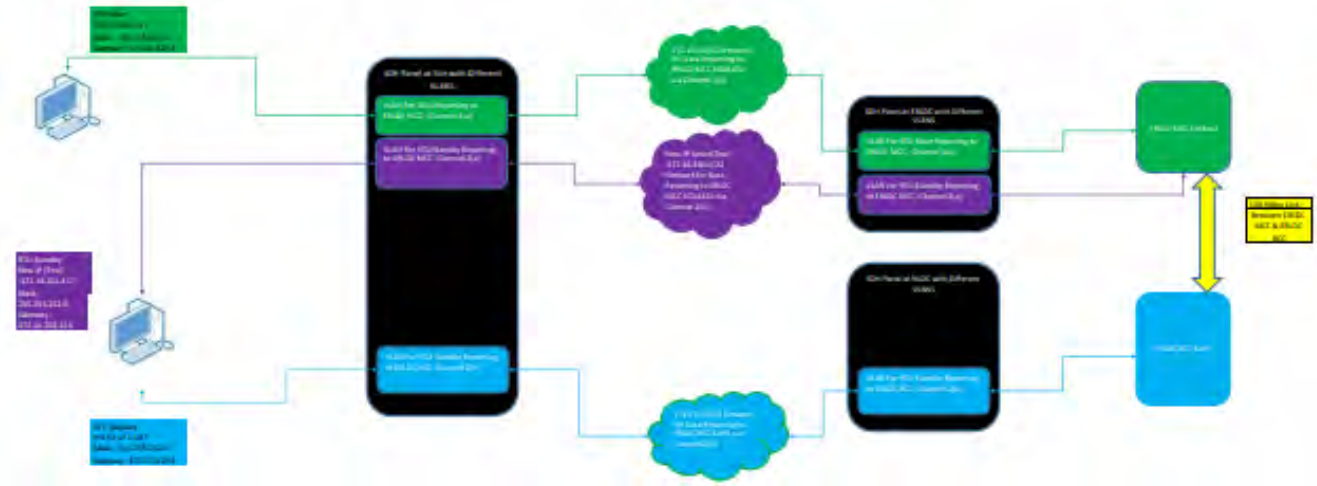
i. **Main Channel "1(a)"** for Data reporting by **RTU Main** to ERLDC MCC Kolkata *(IP Series: 172.16.0.0; Subnet Mask: 255.255.252.0)* (Already Existing for all Central Sector RTUs)

ii. **Main Channel "1(b)"** for Data reporting by **RTU Main** to ERLDC BCC New Delhi *(IP Series: 172.17.200.0; Subnet Mask: 255.255.252.0)* (Newly Proposed)

iii. **Standby Channel "2(a)"** for Data reporting by **RTU Standby** to ERLDC MCC Kolkata *(IP Series: 172.16.200.0; Subnet Mask: 255.255.252.0)* (Newly Proposed)

iv. **Standby Channel "2(b)"** for Data reporting by **RTU Standby** to ERLDC BCC Kolkata *(IP Series: 172.17.0.0; Subnet Mask: 255.255.252.0)* (Already Existing for all Central Sector RTUs)

C. **Test Setup for Proof of Concept** as per Proposed Network architecture in 2.1.(a) for Data reporting to ERLDC.

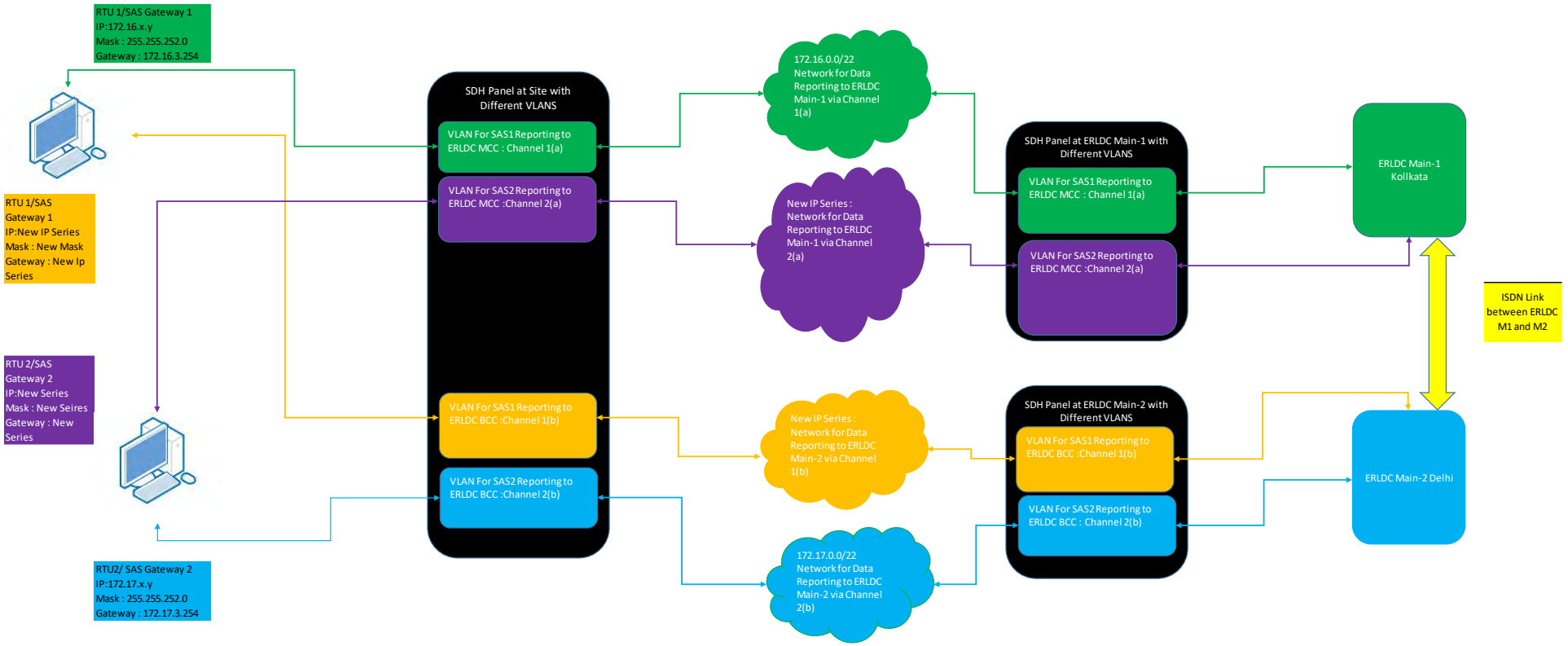


3.Conclusion

a. Proof of Concept of Dual Channel Redundancy was completed successfully for Jamshedpur_PG station on 29.08.2024 on joint effort by POWERGRID ULDC and ERLDC SCADA Team.

b. Testing of Data reporting redundancy was done by 3 of the 4 channels configured in RTU: -
    1) 172.16.1.137: - Main Channel 1(a) for Data reporting to MCC ERLDC by RTU Main.
    2) 172.17.1.137: - Standby Channel 2(b) for Data reporting to BCC ERLDC by RTU Standby.
    3) 172.16.201.137: - Standby Channel 2(a) for Data reporting to MCC ERLDC by RTU Standby.
    4) 172.17.201.137: - Since the PoC is done successfully for Standby Channel 2(a); There will not be any issue in Data reporting by RTU Main via Channel 1(b) to ERLDC BCC after configuration in: -
        i. Configuration in ERLDC BCC SCADA for Main Channel 1(b) (i.e., reporting by RTU Main to ERLDC BCC) (which is envisaged in Upcoming SCADA).
        ii. Configuration at SDH Level by PowerGrid ULDC Team for Channel 1(b) to BCC ERLDC (which is up to NLDC in present scenario and will be up to NERLDC Guwahati in Upcoming SCADA)

Annexure 2.16.6



Substation/Power Plant	Utility	Update on Dual Channel reporting feasibility
NTPC Farakka	NTPC	
NTPC Kahalgaon	NTPC	
NTPC Barh	NTPC	
NTPC BRBCL	NTPC	
NTPC KBUNL	NTPC	
NTPC NPGC	NTPC	
NTPC North Karanpura	NTPC	
NTPC Darlipalli	NTPC	
NTPC Talcher Stage I	NTPC	
NTPC Talcher Stage II	NTPC	
NHPC Rangit	NHPC	
NHPC Teesta V	NHPC	
MPL	Tata Power	
APNRL	Adhunik	
Chujachen HPS	IPP	
Rongnichu HPS	IPP	
Dikchu HP	IPP	
Jorethang HPS	IPP	
Tashiding HP	IPP	
Teesta III	IPP	
EUL	IPP	
GMR	IPP	
JITPL	IPP	
Motihari and Darbhanga	DMTCL	
Dhanbad	NKTL	
Any other ISTS/IPP/ISGS		

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED
(Wholly Owned Subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Annexure-2.17

Ref. No. C/CTU/COMM/TCCERPC/53rd **Date:** 03.02.2025

To

Member Secretary,
Eastern Regional Power Committee
14, Golf Club Road,Tollygunge
Kolkata-700033

Kind Attn: Shri N.S Mondal

Sub: Scheme for laying of OPGW on ISTS lines in Eastern Region

Dear Sir,

CTU has studied the existing ISTS communication system based on the inputs and feedback received from POSOCO and other constituents. This agenda of replacing the OPGW was deliberated in 6th CPM of ER region held on 27.08.2024 and 7th CPM meeting of ER region held on dt-17.01.2025. Deliberations for this agenda was also held in the 14th ERTeST meeting held on 24.04.2024 and 16th ERTeST meeting held on dt. 22-01-2025 and accordingly the following scheme is being proposed by CTUIL as under:

'Scheme for laying of OPGW on ISTS lines in Eastern Region'.

In line with MoP office order no. 15/03/2017-Trans-Pt (1) dated 09.03.2022 regarding "*Guidelines on Planning of Communication System for Inter-State Transmission System (ISTS)- reg*", as per clause 5 for Category (B) Communication Schemes/Packages proposed by CTUIL for upgradation/modification of existing ISTS Communication System shall be put up to RPC for their views. RPC to provide their views on the Schemes/Packages proposed by CTUIL within 45 days of receipt of the proposal from CTUIL.

Clause 5 for category (B) is stipulated below:

"*Communication Schemes/Packages proposed by CTUIL for upgradation/modification of existing ISTS Communication System, standalone projects, adoption of new technologies shall be put up to RPC for their views. RPC to provide their views on the Schemes/Packages proposed by CTUIL within 45 days of receipt of the proposal from CTUIL*".

In consideration of above, it is requested that ERPC may forward their views in respect of the scheme attached herewith at the earliest, so that the scheme may be taken up promptly for consideration in the NCT meeting along with the views of ERPC.

Thanking you,

Yours faithfully,
3/2/25
H S Kaushal
Sr. General Manager (CTUIL)

Encl: a/a.

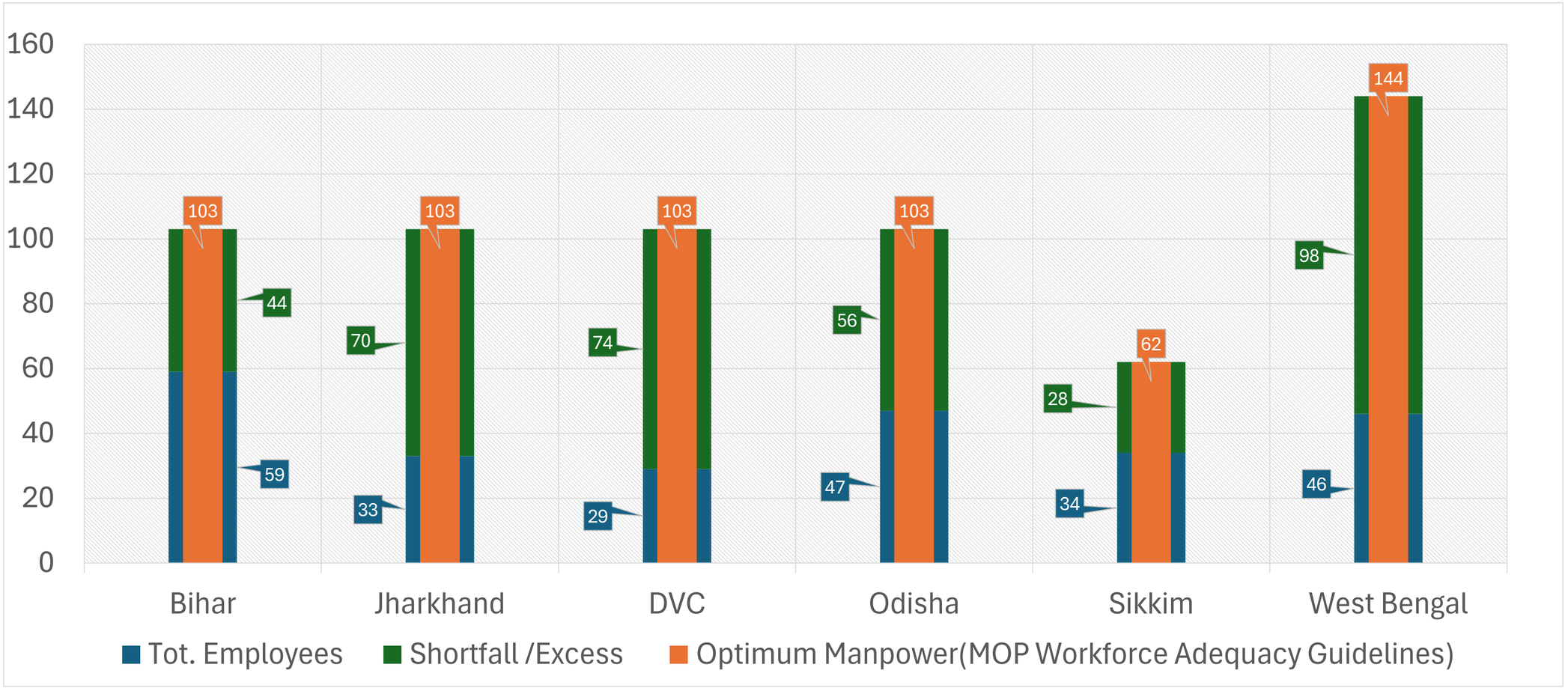
Scheme for laying of OPGW on ISTS lines in Eastern Region

S. No.	Items	Details
1.	Scope of the scheme	**(i)** Laying of 48F OPGW on the following transmission lines for total length of approx. 1503 kms: **(a)** 400kV Prayagraj (Allahabad)–Sasaram (214.42 km) **(b)** 400kV Farakka –Sagardighi II -Jeerat (304.16 km) **(c)** 400kV Indravati-Rengali-Talcher (377.31 km) **(d)** 400kV Malda - Purnea & 400kV Purnea -Binaguri (367.36 km) **(e)** 400kV Binagauri-Bongaigaon (239.81 km) **(ii)**Supply and installation of two no. STM-64 FOTE one each at Sagardighi and Malda and two no. STM-16 FOTE one each at Indravati and Rengali.
2.	Depiction in diagram	N.A
3.	Objective / Justification	OPGW on above mentioned lines have been installed & commissioned by POWERGRID during the period 2004-2005. The links were commissioned by POWERGRID telecom dept (PDT). These links are being utilised for sensitive and critical grid management data to RLDC/NLDC from sub-stations and SLDCs. POWERGRID told that useful life of these links of 15 years is completed as per CERC norms. Further, POWERGRID informed that the OPGW and fiber condition is deteriorating day by day. Optical Attenuation has increased beyond the design limits as mentioned. The detail of lines is enclosed as **Annexure I**. In view of above, POWERGRID proposed to replace the existing OPGW on these lines . However, it is proposed to lay new 48F OPGW along with required FOTEs as mentioned above on the free peak of these lines. Further, the scheme shall be taken up as a new scheme for laying of OPGW on the above mentioned links rather than replacement of OPGW as the existing OPGW was laid under PDT project and not under the ISTS scheme. After implementation of the above scheme, the shared usage of the existing PowerTel links for ISTS purpose shall be discontinued and PowerTel usage for the new ISTS OPGW links, if any, shall be governed by CERC norms.
4.	Estimated Cost	Deliberation at Sr. No. 7 may be referred.

5.	Implementation time frame	30 months from date of allocation.
6.	Implementation agency	To be implemented by POWERGRID in RTM mode
7.	Deliberations	This agenda of replacing the OPGW was deliberated in 6th CPM of ER region held on 27.08.2024(MoM attached as **Annexure II**) and 7th CPM meeting of ER region held on dt-17.1.2025(Minutes awaited). Deliberations for this agenda was also held in the 14th ERTeST meeting held on 24.04.2024(MoM attached as **Annexure III**) and 16th ERTeST meeting held on dt. 22-01-2025(Minutes awaited). However, ERLDC has informed via email dated 28.01.2025 that Farakka-Sagardighi-Subhashgram OPGW link is commissioned on dt. 18.12.2024. Accordingly, OPGW laying requirement on 400kV Farakka-Sagardighi II-Jeerat may be further deliberated. The estimated cost of the scheme with mentioned scope is Rs. 84.74 crores. However, if OPGW on 400kV Farakka-Sagardighi II-Jeerat and associated FOTE at Sagardighi is not required due to commissioning of Farakka-Sagardighi-Subhashgram OPGW link then the estimated cost shall be revised to Rs. 67.28 crores. After RPC recommendation, scheme will be put up for approval of NCT approval.

Manpower status: SLDC wise

Annexure-B2



Short term exchange program

Eligibility

- All LDC officials working in System Op., Market Op., Logistics & REMC
- All LDC officials having min. 1 year regular service

2-10 days Assignments

Eligible functions: System Op., Market Op., Logistics

LDCs will share Annual Rotation Plan to FOLD

Classroom session along with hands-on activities

MoP Letter on “Workforce Adequacy Guidelines for Load Despatch Centres”:
22-1306/4/22 – OM E 262577 dated 30th October 2024

एन पी टी आई
NPTI
प्रावीण्य परोपवृत्तिश्च

राष्ट्रीय विद्युत प्रशिक्षण प्रतिष्ठान
National Power Training Institute
An ISO 9001 : 2015 & 14001 : 2015 Organisation
(Ministry of Power, Govt. of India)
Eastern Region, Durgapur (W.B.)
सिटी सेंटर, दुर्गापुर -713216 (पश्चिम बंगाल) दूरभाष : (0343) 2546237, 2545888
City Centre, Durgapur-713216 (WB) Ph : (0343) 2546237, 2545888
E-mail : durgapur.nptier@gmail.com, Website : www.npti.gov.in / www.nptidurgapur.co.in

LiFE Lifestyle for Environment

Annexure-B5

NPTI(ER)/BDG/NC-IETI-2025/ 2024-25/ 3250 Dated: 29-01-2025.

To,
Sh. N.S. Mondal
Member Secretary
Eastern Regional Power Committee
Central Electricity Authority
14, Golf Club Rd, Golf Gardens, Tollygunge,
Kolkata, West Bengal 700033

Sub: REVISED Proposal for sponsorship in National Conference on **"Energy Transition in India & Beyond- Challenges, Opportunities & way Forward"** in association with ERPC-CEA to be conducted on 20th & 21st March 2025 (Tentative)

Sir,
With reference to our earlier proposal vide this office letter No. NPTI(ER)/BDG/NC-IETI-2025/2024/2103(A) dated 05.12.2024, regarding the 2-day National Conference (Residential) to be conducted in association with ERPC-CEA on "Inclusive Energy Transition in India & Beyond" scheduled for 6th & 7th March 2025, we wish to inform you that due to certain reasons discussed during the online meeting held today, we propose the following changes:

(1) Revised Conference Dates:
20th & 21st March 2025 (Check-in: 19/03/2025 after 3.00PM & Check-out: 22/03/2025,11.00 am.)
(2) Revised Conference Title:
"Energy Transition in India & Beyond- Challenges, Opportunities & way Forward"

We hope the proposed changes align with the objectives of the conference. Further, this is to inform that the total expected delegates in residential mode may be 100 (One hundred), out of which 40 delegates from different constituents of Eastern Region may be sponsored by ERPC-CEA and rest 60 delegates may be invited from other related organizations outside Eastern Region. Delegates may be offered Executive Room alongwith food arrangements for 3 Nights (Day-1: Check-in, Day-2 & Day-3: Conference and Day-4: Check-out). Keeping in view all the arrangements to be made in good standard location/Venue with up-to-date amenities, we have estimated the Delegate fee @ Rs 75,000/- per participant + GST as applicable.

Accordingly, the total sponsorship amount for 40 delegates from ERPC towards participation from constituent utilities shall be Rs 30.00 Lakhs /- (Rs Thirty Lakhs only) + GST as applicable. A line of confirmation in this regard will be highly solicited to start necessary actions at this end for smooth conduction of the Conference. A list of schedule is attached herewith as **ANNEXURE-I** for your kind reference.

With regards,

Yours Sincerely,

(S.K. SRIVASTAVA)
DIRECTOR

ANNEXURE-I

एनपीटीआई दुर्गापुर (पश्चिम बंगाल)

2 Days National Conference in association with ERPC-CEA

"Energy Transition in India & Beyond

- Challenges, Opportunities & way forward"

20th & 21st March 2025, Venue: Vishakhapatnam (Vizag, Andhra Pradesh)

No. of Participants: 100 (One Hundred)

19th March 2025	3.00PM onwards	Hotel Check-in. (Check-in before 3.00 PM is not allowed)
	7.30 PM onwards	Inaugural Function followed by cultural program
20th March 2025	10.00 AM to 11.30 AM	Technical Session -I
	11.30AM to 01.00PM	Technical Session-II
	01.00PM to 02.00PM	Lunch
	2.00PM to 3.30PM	Technical Session -III
	3.30PM to 5.00PM	Technical Session -IV
	7.30 PM Onwards	Cultural Program
21st March 2025	9.00AM to 10.30AM	Journey from Vizag to NTPC Simhadri
	10.30AM to 12.00 Noon	Technical visit to **25 MW Floating Solar** at NTPC Simhadri.
	12.00 Noon to 02.00PM	Technical visit to **Sea Water Treatment Plant** at NTPC Simhadri.
	02.00 PM to 03.00PM	Lunch
	03.00PM to 04.00 PM	PPT Presentation on Floating Solar & Sea Water Treatment Plant at NTPC Simhadri
	04.00PM to 04.30 PM	Q&A Session at NTPC Simhadri
22nd March 2025	09.30AM to 10.30AM	Feedback & Valedictory
	11.00AM	Hotel Check-out.

S.No.	Head	Description	Proposed Budget for FY 2025-26
1	**Reimbursement to Govt of India**	Salaries - Basic pay, Leave encashment etc	₹ 2,44,82,309.00
		Allowances - DA, TPTA, HRA etc	₹ 2,17,52,648.00
		Rewards - Bonus	₹ 1,00,000.00
		LTC - Leave Travel Concession of officials	₹ 8,00,000.00
2	**Medical Treatment**	Reimbursement of medical bills of officials	₹ 3,00,000.00
3	**Training Expenses**	Expenses related to Training of officers, staffs etc	₹ 6,00,000.00
4	**DTE**	Expenses related to domestic offcial tour /transfer	₹ 17,00,000.00
5	**Office Expenses**	**Hiring of outsource staffs -** like security guard, housekeping , MTS, Driver, Electrican, Cleaners, Cook, Supervisior etc	₹ 1,20,00,000.00
		Hospitality expenses - including entertainment of delegates, gifts and souvenirs etc	₹ 1,00,000.00
		Reimburesement of Hosptaility, Telephone and internet charges for officers	₹ 3,00,000.00
		Electricity bill for ERPC office, ERPC Quarter common area and ERPC Guest House	₹ 21,00,000.00
		Telephone and Internet bill for ERPC ERPC office, ERPC Quarter common area and ERPC Guest House	₹ 4,00,000.00
		Purchase of stationary items for office	₹ 1,00,000.00
6	**Fuel and Lubricants**	Fuel and lubricants for office vehicle	₹ 1,00,000.00
7	**Rent, Rates and taxes for Land and buildings**	Municipal rates, taxes, lease charges, insurance, all other taxes and fees related to this	₹ 12,00,000.00
8	**Professional Services**	Expenses on engagement of professionals, consultants, artists, legal services, audit fees, teaching and training fees	₹ 5,00,000.00
9	**Printing and Publications**	Printing of valuables, audit and accounts reports, forms, stationary, manual, newspapers, magazines, emagazines etc	₹ 1,00,000.00
10	**Digital equipment and ICT**	Purchase of Computer and its assesories, Server, Firewall, Printer, Cartridges etc.	₹ 20,00,000.00
11	**Material and supplies**	Supplies of educational purpose	₹ 50,000.00
		Supplies of cleaning purpose	₹ 50,000.00
		Supplies of other material	₹ 1,50,000.00
12	**Minor Civil and Electrical works**	Minor civil and electrical works of office, quarter ,	₹ 15,00,000.00

S.No.	Head	Description	Proposed Budget for FY 2025-26
13	**Repair and Maintenance**	**Elevators** - For renovation of 01 nos elevator at ERPC residential building and AMC of elevators at	₹ 30,00,000.00
		Motor Vehicles - Maintenance of 01 nos. ERPC office vehicle which inlcudes Insurance along with servicing of the vehicle. (This includes cost for:- Hiring of Vehicle/Outsouring of	₹ 1,50,000.00
		Firefighting system - Maintenance charges of firefighting system at ERPC office and ERPC	₹ 4,00,000.00
		Horticulture - Maintenance charges of Garden area including weeding, trimming, cutting etc. lawn moving, fountains, watering, apply of medicine as and when required including all	₹ 6,00,000.00
		Digital equipment and ICT -Repair and Maintenance of Laptop, Printer, Computer etc	₹ 10,00,000.00
		Guest House - Repair and Maintenance of Guest	₹ 1,00,000.00
		Gym - Repair and Maintenance of Gym Accessories	₹ 20,000.00
		VRF/AC Maintenance -	₹ 10,00,000.00
		Miscellaneous maintenance	₹ 3,00,000.00
14	**Installation of Fire Safety Equipment**		₹ 10,00,000.00
15	**Other Expenditure**		₹ 5,00,000.00
16	**Furniture and Fixtures**	Purchase of furniture, fixtures for ERPC Office and ERPC Quarter	₹ 10,00,000.00
17	**Welfare and recreation**	Diwali Celebration, Organizing for 26th Jan and 15th August, Workshop etc.	₹ 2,50,000.00
18	**OE- Meeting/Workshop/Seminar etc.**		₹ 50,00,000.00
19	**Rooftop Solar**		₹ 30,00,000.00
20	**Support Service of Protection Database and Management System**		₹ 80,00,000.00
21	**Income Tax**		₹ 20,00,000.00
Total			₹ 9,77,04,957.00