भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee
14, गोल्फ क्लब रोड, टालीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033

Tel. No.: 033-24239651,24239658 FAX No.:033-24239652, 24239653 Web: **www.erpc.gov.in**

No: ERPC/TCC&ERPC COMMITTEE/2023/ 38 **Date: 11.04.2023**

To:

As per list

Sub: Minutes of 49th TCC Meeting held on 23rd March'2023 at Gangtok-reg.

Sir/Madam श्री/श्रीमती,

The minutes of 49th TCC Meeting held on 23.03.2023 at Chintan Bhawan, Gangtok, Sikkim, has been issued and uploaded on ERPC website (erpc.gov.in). As per decision of ERPC, distribution of hard copies of the minutes of the meeting has been discontinued as Go-green initiative.

23.03.2023 को चिंतन भवन, गंगटोक, सिक्किम में आयोजित 49वें टीसीसी सम्मेलन की विवरण सूची (मिनट्स) जारी की गई और ईआरपीसी वेबसाइट (erpc.gov.in) पर अपलोड की गई है। ईआरपीसी के निर्णय के अनुसार, सम्मेलन के मिनट्स की हार्ड कॉपियों का वितरण Go-Green उपक्रम के तहत बंद कर दिया गया है।

एन. एस. मंडल
11.4.2023

(N. S. Mondal/ एन एस मोंडल)
Member Secretary/ सदस्य सचिव

Encl: As above

Distribution: ERPC Members

1. Chairperson, ERPC & Chairman-cum-Managing Director, Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
2. Chairman-cum-Managing Director, Jharkhand Urja Utpadan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
3. Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
4. Managing Director, Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi- 834004.
5. Managing Director, Tenughat Vidyut Nigam Ltd., Hinoo, Doranda, Ranchi – 834002
6. Chairman-cum- Managing Director, Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800001.
7. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
8. Managing Director, South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
9. Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
10. Managing Director, West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
11. Chairman & Managing Director, West Bengal Power Development Corporation Ltd., Bidyut Unnayan Bhavan, 3/C, Block LA, Sector-III, Bidhannagar, Kolkata-700098.
12. Managing Director, Durgapur Projects Ltd., Administrative Building, Durgapur-713201, West Bengal.
13. Principal Chief Engineer-cum-Secretary, Energy & Power Department, Govt. of Sikkim, Kazi Road, Gangtok – 737101, Sikkim.
14. Chairman-cum-Managing Director, Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar- 751022.
15. Chairman, GRIDCO Ltd., Janpath, Bhubaneshwar-751022.
16. Chairman-cum-Managing Director, OHPC Ltd., Orissa State Police Housing & Welfare Corporation Bldg. Vanivihar, Janpath, Bhubaneswar- 751022.
17. Managing Director, OPGC Ltd., Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
18. Chairman, Damodar Valley Corporation, DVC Towers, VIP Road, Kolkata -700054.
19. Member (GO&D), Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
20. Director (Commercial), NTPC Ltd., Core-7, SCOPE Complex, Lodhi Road, New Delhi -110003.
21. Director (Technical), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad, Haryana-121003.
22. Director (Operations), Power Grid Corporation of India Ltd., Saudamini, Plot No. 2,Sector-29, Gurgaon-122001.
23. COO, CTUIL, Saudamini, 1st Floor, Plot-1, Sector-29, Gurgaon-122001
24. Executive Director, ERLDC, POSOCO, 14 Golf Club Road, Tollygunge, Kolkata – 700033.
25. Chairman-cum- Managing Director, POSOCO, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016
26. Director (C&O), PTC India Ltd., 2nd floor, NBCC Tower,15 Bhikaji Cama Place, New Delhi- 110066.
27. Chief Executive Officer, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
28. Managing Director, Tata Power Trading Company Limited, B12/13, 2nd Floor, Shatabdi Bhavan, Sector-4, Noida-201301, Uttar Pradesh.
29. Managing Director (Generation), CESC Ltd., CESC House, 1 Chowringhee Square, Kolkata- 700001.
30. Chief Executive Officer, Maithon Power Ltd., Village-Dambhui, P.O. Barbindia, Dist.-Dhanbad, Jharkhand- 828205.
31. VP(Plant Head), GMR Kamalanga Energy Ltd., AT/PO-Kamalanga, PS-Kantabania, Via- Meramundali, Dist.- Dhenkanal, Odisha-759121.
32. Chief Executive Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.
33. Managing Director, Teesta Urja Limited, 2nd Floor, Vijaya Building, 17 Barakhamba Road, New Delhi- 110001.
34. CEO, Alipurdar Transmission Limited, 101, Part-III, G.I.D.C Estate, Gandhinagar, Gujrat-382028
35. CEO, BRBCL, Nabinagar, Dist- Aurangabad, Bihar-82430
36. Head (Procurement & Sale), IPCL, Salt Lake, Kolkata-700091
37. Managing Director (Generation), Haldia Energy Limited

Distribution: TCC Members

1. Chairperson, TCC & Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
2. Executive Director (Tech),, Jharkhand Urja Utpadan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
3. Director (Project), Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi- 834004.
4. Chief Engineer (S&D-JBVNL), Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
5. Chief Engineer (S&D), Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
6. General Manager, Tenughat TPS, Lalpania, Dist- Bokaro, Jharkhand-829149.
7. Director (Tech.), Bihar State Power Generation Company Limited, Vidyut Bhavan, Bailey Road, Patna-800001.
8. Chief Engineer (Commercial), Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800001.
9. Director (Project), South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna-800001.
10. Director (Operations), West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
11. Director (R&T), West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
12. Director (O&M), WBPDCL, Bidyut Unnayan Bhavan, 3C, Block-LA, Sector-III, Bidhannagar, Kolkata- 700098.

12. General Manager (Technical), Durgapur Projects Ltd., Administrative Building, Durgapur, West Bengal- 713201.
13. Principal Chief Engineer-II, Energy & Power Dept., Govt. of Sikkim, Kazi Road, Gangtok-737101.
14. Director (Operation), Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
15. Managing Director, GRIDCO Ltd., Janpath, Bhubaneswar-751022.
16. Director (Operation), Orissa Power Generation Corporation Ltd, Zone-A, 7th floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
17. Director (Operation), Orissa Hydro Power Corporation Ltd, Orissa State Police Housing & Welfare Corporation Building, Vanivihar Chowk, Janpath, Bhubaneswar-751022.
18. Executive Director (Commercial), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
19. Chief Engineer (GM), CEA, Sewa Bhawan, R.K. Puram, New Delhi-110066.
20. Regional Executive Director (ER-I), NTPC Ltd., 2nd floor, Lok Nayak Jai Prakash Bhawan, Dak Bunglow Chowk, Patna-800001.
21. Regional Executive Director (ER-II), NTPC Ltd., 3rd Floor, OLIC Building, Plot No.N-17/2, Nayapalli, Bhubaneswar-751012.
22. COO, CTUIL, Saudamini, 1st Floor, Plot-1, Sector-29, Gurgaon-122001
23. Executive Director (O&M), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad-121003, Haryana.
24. Executive Director (ER-I), Power Grid Corporation of India Ltd, Board Colony, Shastri Nagar, Patna- 800023.
25. Executive Director (ER-II), Power Grid Corporation of India Ltd, CF-17, Action Area-I, Newtown, Rajarhat, Near Axis Mall, Kolkata-700091.
26. Executive Director (Odisha Project), Power Grid Corporation of India Ltd, Plot No-4, Unit 41, Niladri Vihar, Chandrasekharpur, Bhubaneswar, Odisha-751021.
27. Executive Director, ERLDC, POSOCO, 14 Golf Club Road, Kolkata –700 033.
28. Executive Director, National Load Dispatch Center, POSOCO, B-9 Qutab Institutional Area, Katwaria Sarai,New Delhi-110016.
29. Executive Director (Marketing), PTC India Ltd., NBCC Tower, 15 Bhikaji Cama Place, New Delhi-110066.
30. Chief General Manager, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
31. Head (Marketing), Tata Power Trading Company Limited, B-12/13, 2nd Floor, Shatabdi Bhavan, Sector-4, Noida-201301, Uttar Pradesh.
32. Vice President (System Operation), CESC Ltd, CESC House, 1 Chowringhee Square, Kolkata-700001.
33. Station Head & General Manager (O&M), Maithon Power Ltd., Village-Dambhui, P.O. Barbindia, Dist.- Dhanbad, Jharkhand-828205.
34. GM (Head-Electrical
35.), GMR Kamalanga Energy Ltd., AT/PO-Kamalanga, PS-Kantabania, Via-Meramundali, Dist.- Dhenkanal, Odisha-759121.
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39. Head (Comml), IPCL, Salt Lake, Kolkata-700091
40. Managing Director (Generation), Haldia Energy Limited

Distribution: Others

1. Member Secretary, NRPC, New Delhi-110016.
2. Member Secretary, WRPC, Mumbai-400093
3. Member Secretary, SRPC, Bangalore-560009
4. Member Secretary, NERPC, Shillong-793006
5. Member Secretary, NPC, CEA, New Delhi- 110066.
6. Chief Engineer, TPRM Division, CEA, Sewa Bhawan, R.K. Puram, New Delhi-110066
7. Chief Engineer, IT Division, CEA, Sewa Bhawan, R.K. Puram, New Delhi-110066
8. Director, Ministry of Coal, Govt. of India, New Delhi
9. Director (Marketing), Coal India Limited, Coal Bhawan, Kolkata-700156
10. Director General, Department of Hydropower & Power Systems, Ministry of Economic Affairs, Post Box No.106, Thimpu, Bhutan
11. Managing Director, DGPC, Thimpu, Bhutan
12. Managing Director, DANS Energy Pvt Ltd, DLF Cyber City, Phase-II, GURGAON – 122 002
13. Director, Shiga Energy Pvt. Ltd., 5th Floor, DLF Building No. 8, Tower-C, DLF Cyber City, Phase-II, Gurgaon – 122002
14. CEO, Sneha Kinetic Power Projects Pvt.Ltd. #31 -A, National Highway, Behind SNOD building, Deorali, Gangtok, Sikkim-737102
15. CEO, Rongnichu HEP, MBPCL, Sikkim-737102
16. CEO, DMTCL, Sekura Energy Limited, Mumbai-400098
17. Senior Vice President, Teesta Valley Power Transmission Limited, New Delhi-110066
18. CEO, IndiGrid Limited, Mumbai-400079
19. CEO, Cross Boarder Power Transmission Limited, Ambience Mall Complex, Gurgaon, Haryana-122001
20. CEO, Powerlinks Transmission Limited
21. Managing Director, Adhunik Power & Natural Resources Ltd., Lansdowne Towers, 5th Floor, 2/1A Sarat Bose Road, Kolkata-700020.

Minutes

of

49th TCC Meeting

of

EASTERN REGIONAL POWER COMMITTEE

Date: 23th March'2023

Time: 10:00 Hrs

Chintan Bhawan, Gangtok, Sikkim

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EASTERN REGIONAL POWER COMMITTEE, KOLKATA
AGENDA FOR 49th TCC MEETING

Date: 23rd March, 2023(Thursday), at 10:00 Hrs **Gangtok, Sikkim**

Inauguration of 49th TCC & ERPC Meeting:

The 49th TCC & ERPC Meeting was inaugurated by the Guest of Honour, Shri Prem Singh Tamang, Hon'ble Chief Minister of Sikkim in presence of Shri M.N. Sherpa, Hon'ble Minister of Energy & Power, Govt of Sikkim and other distinguished dignitaries.

Hon'ble Chief Minister in his inaugural address expressed his delight in inaugurating the 49th TCC & ERPC Meeting, organized under the aegis of Sikkim Urja Limited and the Department of Power, Government of Sikkim. He emphasized that Sikkim is a small state with enormous potential for hydropower generation and Govt of Sikkim is working hard to provide affordable and reliable power to its people. Further, he highlighted the importance of Eastern Regional Power Committee in ensuring reliable and secure operation of the power system in the region. He extended his warmest welcome to all the participants and wished all the delegates a productive and fruitful meeting and pleasant stay in the state.

Technical Session: The 49th TCC Meeting was chaired by Shri M.K. Karmali, Director (Project), JUSNL.

ED, ERLDC in his address highlighted that in Eastern Region the peak demand is expected to touch 28500 MW in the month of April'2023. He emphasized on the necessity of maintaining more reserve (secondary as well as tertiary) for stabilizing frequency variation. He highlighted that utilities should chalk out proper plan for meeting their peak demand requirement and explore all possible options for procuring power. He further highlighted the importance of Cyber Security in Power Sector and requested all the utilities to have their CII (Critical Information Infrastructure) and CCMP (Cyber Crisis Management Plan) in place. He further added that DPR of SOC (Security Operations Centre) for PSDF funding may be submitted at the earliest. He emphasized that VAPT for OT system (SCADA, URTDSM) at least once a year and that of IT system at least once for every 6 months should be carried out by all the utilities.

Member Secretary, ERPC in his address extended warm greetings to all the participants. He further thanked Power Department, Government of Sikkim and M/s Sikkim Urja Limited for hosting the meeting and expressed his hope for meaningful deliberation and grand success of the meeting. He further highlighted the following:

- Bakreswar TPS, Sagardighi TPS, Santaldih TPS of WBPDCL; Talcher STPS, Muzaffarpur TPS of NTPC and Bokaro TPS of DVC have achieved cumulative PLF higher than 85%.
- Notable capacity addition in the Eastern Grid includes the declaration of COD of Unit - 1 of North Karanpura STPP, NTPC on 01.03.2023.
- 815 MVA of transformation capacity has been added under the Central Sector and 2026 MVA under the State Sector.
- Under Central Sector 292Ckt.Km new 400kV transmission lines have been commissioned and 63Ckt.km re-conductoring of transmission lines have been completed.
- Under State Sector 393 Ckt.km new 400kV transmission lines have been commissioned
- A total of 1843 Ckt.km 220kV transmission lines have been commissioned in the region from April 2022 to February 2023, with 650 Ckt.km under the Central Sector and 1167 ckt.km under the State Sector.

- Rising shortfall for energy supplied and peak unrestricted demand has been observed mainly in Bihar and Jharkhand, it needs to be addressed by the respective states.
- Many spurious trippings, especially in Bihar System, have occurred from April 2022 to February 2023, including a total blackout in Barauni TPS twice.
- Hon'ble Union Minister of Power and Renewable Energy Sh. R.K. Singh Ji has inaugurated the PUShP portal for requisition of surplus power in the country. The portal has been developed with an objective, that beneficiary states can requisition surplus power from the generating stations and meet their requirement pan-India basis. He requested states to utilize the portal.

Chairperson, TCC in his address expressed his pleasure to be present at the 49th TCC Meeting of the Eastern Regional Power Committee, organized under the aegis of Sikkim Urja Limited and the Department of Power, Government of Sikkim. He highlighted that TCC plays an important role in ensuring the smooth functioning of the power system, and urged all the participants to actively engage in the discussion for fruitful outcome. He then requested Member Secretary, ERPC to take up the agenda of the meeting.

List of participants is enclosed at **Annexure-A.**

ITEM NO. A1:	**CONFIRMATION OF THE MINUTES OF 47th & 48th TCC MEETING**

The minutes of the 47th TCC meeting held on 24th November, 2022 at Kolkata was circulated vide letter no. ERPC/TCC&COMMITTEE/2022/1153 dated 07.12.2022 and the minutes of 48th TCC meeting held on 17.02.2023 through virtual mode was circulated vide letter no. ERPC/TCC&COMMITTEE/2023/1513 dated 22.02.2023. The MoM of 48th TCC & ERPC is enclosed at **Annexure-A1**.

Members may confirm the minutes of 47th & 48th TCC meeting.

Deliberation in the 49th TCC Meeting:

TCC confirmed the minutes of 47th & 48th TCC Meetings with the following modifications in the MoM of 47th TCC Meeting:

Item No B10

C) Teesta-III Node:

Deliberation in the 47th TCC Meeting:

CTU representative informed that at present condition, Teesta III is connected through Teesta III – Rangpo PLCC link. First fiber path is under implementation through Teesta III – Rangpo -2. He further added that since Teesta III – Rangpo -1 is LILOed at Dikchu, redundant path for Teesta III connectivity may be planned through LILO of Teesta III – Rangpo -1 for which OPGW installation is required for Teesta III – Dikchu portion (approval required) having length of approximately 26 km. Regarding Dikchu– Rangpo portion, he informed that OPGW had already been approved.

TCC concurred and referred it to ERPC for approval.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B1: Surplus Power Portal (PUShP)

Hon'ble Minister of Power launched PUShP portal on 09.03.2023 for flexibilization of PPA for optimal utilisation of resources & reduction in cost of power for consumers.

Distribution Companies have tied up long term PPAs for power supply. They have to pay fixed charges even when they do not schedule the power. Now the DISCOMs will be able to indicate their surplus power in times blocks / days / months on portal. Those DISCOMs who need power will be able to requisition the surplus power. The new buyer will pay both variable charge (VC) and fixed cost (FC) as determined by Regulators. Once power is reassigned, the original beneficiary shall have no right to recall as entire FC liability is also shifted to the new beneficiary. Financial liability of new buyer shall be limited to quantum of temporary allocated / transferred power. This will reduce the fixed cost burden on the DISCOMs relinquishing excess power and will also enable available generation capacity to be utilized by needy Discoms at pre-determined price.

In this regard, CEA organized a national level workshop on 15.03.2023 & the presentation is enclosed at **Annexure-B1**.

TCC may note/discuss.

Deliberation in the 49th TCC Meeting:

Representative of ERPC briefly explained the key features of the scheme.

The following deliberations took place in the meeting:

1. *TCC advised all the utilities to go through the presentation attached (**Annexure-B1**) in the agenda so as to get familiarized with the working of the portal.*
2. *A workshop on Surplus Power Portal (PUShP) may be organized by ERPC. Hands-on training of the portal may also be provided in the workshop. The date and venue of the workshop will be intimated in due course.*
3. *URJA portal will also continue to be in service.*

TCC referred the issue to ERPC for information.

ITEM NO. B2: Preparation for Uninterrupted Power Supply During High Demand Period 2023-24

As the Country approaches the high demand period of 2023-24, various measures have been taken to ensure reliable power supply. On 10th March 2023, under the Chairmanship of Hon'ble Minister for Power & NRE, a special meeting was also taken for Uninterrupted Power Supply During High Demand Period. During the meeting following load projections were shown for April & May 23.

	Apr-23		May-23	
	Solar	**Non-Solar**	**Solar**	**Non-Solar**
Peak Demand(a) (incl ISTS loss)	**231.9**	**216.9**	**216.4**	**208.4**
Time of Occurrences	**15:00**	**23:00**	**15:00**	**23:00**
Nuclear Generation (b)	3.6	3.6	3.9	3.9
Gas Generation* (c)	4.2	7.0	3.5	7.0
Hydro Generation (d)	14.8	23.5	16.9	24.9
Wind (e)	4.7	8.0	12.5	15.2
Solar (f)	34.4	0.0	33.5	0.0
Other RES (g)	2.0	2.0	2.0	2.0
Ex-bus Thermal requirement (h = a- b-c-d-e-f-g)	168.2	172.8	144.2	155.4
Gross Thermal requirement (i = h*1.03/.92)	**188.3**	**193.5**	**161.4**	**174.0**
Expected Shortage	**-0.7**	**-5.1**	**0**	**0**

During the meeting, measures taken to increase the availability from the Gas and Thermal generators were also highlighted.

- Measures taken for ensuring more power from Gas based power plants.
    - Operationalization of 5000MW power from NTPC plants:
        - Total NTPC Gas Capacity 6511 MW (4017 MW own +2494 MW JV & Subsidiary)
        - For 18 days during crunch period (Apr-May 23) is approved by MoP on 15th November 2022.
        - Plants will run 8 hours-Full load, 16 hours-Technical minimum.
        - Gas supply agreed to by GAIL.
    - Bidding Scheme for 4000 MW gas-based capacity (other than NTPC):
        - During the crunch period (Apr-May 23) proposed through bidding.
        - Nodal Agency - NVVN
        - Operation of the selected power plants will be similar to NTPC plants
- Measures taken for enhancing the availability of thermal power plants.
    - No Planned Maintenance for coal based power plants during the crunch period
    - Ministry of Power directed Gencos to import coal @ 6% of their requirement for April to September, 2023.
    - Ministry of Railways requested to ensure the availability of rakes.
    - 14.2 GW of Imported Coal Based power plant is envisaged to be available Out of 17.3 GW
    - 201 MT coal available against 222 MT of domestic Coal required by thermal power plant from April-June 2023.
- Introduction of HP- DAM
    - Seller with Variable Cost > Rs 12/Units
    - Range :- 0 to Rs 50 per Unit
    - Price discovery for HP-DAM will be Double-Side Closed Auction (Same as DAM, RTM, and G-DAM)
- Secondary Reserve Ancillary Service – SRAS
    - As per the estimate of Nodal Agency total 4500 MW of Secondary reserved required at all India level.
    - At present Maximum 800-900 MW Secondary reserve available at Pan India level
    - More State generator needs to be brought under SRAS purview.
        - Input submitted by WBSLDC to WBSERC for SRAS implementation in state.
        - Implementation in Odisha and DVC is also under discussion
- Tertiary Reserve Ancillary Service-TRAS
    - Will commence from 1st April 2023

- A draft detailed procedure has been formulated by NLDC and has been circulated among the stakeholders. https://posoco.in/wp-content/uploads/2023/02/Consolidated_Draft_Detailed_Procedure_TRAS_Nodal_Agency_Stakeholder_Consultation_20Feb2023.pdf
- 10130 MW of TRAS Reserve required at all India level for Q-1 of FY 2023-24 published by NLDC https://posoco.in/download/publishing-of-quantum-of-reserves-of-sras-and-tras-at-regional-level-for-q-1-of-fy-2023-24/?wpdmdl=50185

- Eastern Region perspective
  - Summer preparedness meeting held on 11th March 2023
  - Expected regional peak demand of 28500 MW in the month of April 2023

	April-2023						
Constituent	Expected Peak Demand	Own Generation	ISGS Allocation (Considering 80% Availability) +IPP	ISGS Hydro (100 % peaking support) + Bhutan (20%)	LTA from Wind Plant (70%)	Export Commitment (if any)	Dependency on Market
Bihar	6955	741	4920	201	509	0	584
Jharkhand	1800	415	704	78	210	0	393
DVC	3300	5738	407	63	0	2778	0#
Odisha	6146	4100	1578	115	164	0	189*
West Bengal	10450	6804	1343	167	18	0	2118**
Sikkim	110	0	22	76***	0	0	12

DVC has excess generation capacity of 130 MW.
* Also depends on the Unit availability at SEL or other CPPs
** Last year WB Purchased a Maximum 3155 MW with an average of 2359 MW from the market.
*** Excluding state-free power from Hydro IPPs in the state, which Sikkim avails as per requirement

TCC may discuss.

Deliberation in the 49th TCC Meeting:

*ED, ERLDC made a brief presentation (attached at **Annexure-B2**) highlighting the following points with respect to Eastern Region.*

1. *Expected regional peak demand would be 28500 MW in the month of April'2023.*
2. *Owing to the market volatility, utilities having shortfall should not be solely dependent on market for procurement of power. Proper planning and tie up power should be in place.*
3. *More reserve (secondary as well as tertiary) should be there which will help in stabilizing frequency variation.*

MS ERPC opined that all the states may take appropriate actions and do proper planning to meet their future demand growth in the coming years too. He also requested concerned utilities to update their status of ongoing projects.

Representative of DVC apprised the forum that the expected peak demand of DVC would be around 3400 MW. So, excess generation capacity of 130MW may not be available.

TCC referred the issue to ERPC for information.

ITEM NO. B3: Urgent Requirement of One Reserve 400/220 KV Interconnecting Transformer (ICT) available in Eastern Region for 400/220 KV GSS at Patratu (JUSNL)

The 400/220 KV Grid Sub-Station at Patratu of JUSNL was commissioned on dated 29.12.2021 with 2X315 MVA 400/220 KV ICTs. This Grid Sub-station has constructed by M/s Powergrid Corporation of India under Jharkhand Consultancy Project.

Events of ICTs Failure after Commissioning:

I. ICT-1, 315 MVA 400/220 KV tripped on 30.04.22, 21.07.22, & 01.08.22 Buchholz relay. After tripping, an internal inspection was carried out by M/s CGL Transformer Division Bhopal Team and it was found that the due to damage of Tertiary bottom lead. Therefore, the said Transformer has been shift to workshop of M/s CGL Bhopal in the month of Dec'2022 for carry out rectification work.

II. ICT-2, 315 MVA 400/220 KV tripped on 12.09.2022 & 13.09.2022 respectively due to moisture found in OSR at B-phase. The said Transformer has been taken into precautionary shut down on 27.09.2022 due to alarming high value of formation of dissolved gases as per DGA test report.

After conducting various test like DFRA, SFRA,Tan Delta etc. and inspection done by M/s CGL Team on said Transformer, it has been reported that ICT-2 also required to shift to workshop of M/s CGL Bhopal for carry out rectification work.

Present Status of failed ICTs are as follows:

ICT-1: The current status of ICT-1 is that the un-tanking of the active part and top yoke removal have been completed. The winding removal from the core coil assembly is -in progress and is expected to be completed by end of April'2023. After that, it will be dispatched from M/s CG Power Works in Mandideep.

ICT-2: ICT-2 is under dismantling and the same will be sent to M/s CG Power works on priority, once repair bay/berth is available over there.

Urgency of Installation of ICT from Eastern Region Grid

i. Reliable power supply to Ranchi

The urgency of installing ICTs at the 400/220 kV Patratu substation is due to the fact that the GSS is not operational, as both ICTs at this substation have been taken offline and are undergoing rectification. This has result in the shifting of loads back to the ICTs at the Ranchi substation. This has led to the entire Ranchi City demand being fed by 2X315 MVA ICTs at the Ranchi (PG) substation.

Currently, the loading of the Ranchi ICTs is between 160-190 MW/ICT. In this network configuration, the outage sensitivity of the other ICT at Ranchi is more than 90%. Therefore, it is essential to install at least one ICT at the 400/220 kV Patratu substation in order to ensure reliable power supply to Ranchi.

ii. Providing startup power for Construction of 3x800 MW PUVNL Super _Thermal Power

Plant JUSNL has planned for providing startup power through following network:-

a. 400 KV Quad Moose PUVNL - Patratu Transmission Line: - The Construction work of this line is under progress and expected to be completed by July 2023, although startup power is required by May-2023.

b. 400 kV TTPS-PTPS Transmission Line: - Presently this line is charged at 220 kV Voltage level. In order to provide start up power to PUVNL, modification work as well as termination arrangement at PUVNL end & Tenughat end are under construction.

Since, unmodified arrangement facilitates about 50-60 MW power to Ranchi & Patratu area. Therefore, modification or shutdown of the line is not allowed by Outage coordination Meeting held on 13/01/2023 until the 400/220 kV Patratu ICTs are restored.

As per the meeting with PGCIL dated 22 /02/2023, Powergrid intimated that both the transformers are within defects liability period(DLP) and the same will be repaired and re-commissioned as per contract by the agency at the earliest possible time i.e, till 15.06.2023 for ICT-1. POWERGRID further suggested that due to delay in repair, re-erection & re-commissioning of the ICTs at Patratu GSS, utilization of reserve transformer available in Eastern Region during the said outage period may be taken up with ERPC by JUSNL till at least one ICT is re-commissioned.

In 201st OCC meeting, the issue was deliberated as follows:

- Expected timeline for revival of 400kV/220kV 315MVA ICT-1 At Patratu is June'2023.
- Expected timeline for transporting 400kV/220kV 315MVA ICT-2 at Patratu is April'2023.

- Powergrid representative submitted that the spare ICT at Muzaffarpur is of same make. MS ERPC advised Powergrid to submit a detailed report regarding feasibility of getting the spare ICT of Muzaffarpur to be installed at Patratu. The matter was referred to TCC Meeting for further discussion.

Powergrid may update. TCC may discuss.

Deliberation in the 49th TCC Meeting:

The following deliberations took place:

1. *Representative of Powergrid informed that:*
   a. *315 MVA ICT-1 would be ready for testing by 18th April'2023.*
   b. *By 28th April'2023 it would be dispatched.*
   c. *By 15th May'2023 the ICT will be available at site.*
   d. *By end of May'2023 the said ICT will be put in service.*
2. *TCC advised Powergrid to carry out necessary activities at Patratu end to make the site ready for installation of the ICT. TCC further advised Powergrid to provide weekly progress report to ERPC, ERLDC and Jharkhand.*
3. *TCC also advised Powergrid to arrange for transport of ICT-2 in such a way that once the bay at M/s CGL workshop in Bhopal gets empty after shifting of ICT-1 to Patratu, rectification work of the ICT-2 may be started.*
4. *Representative of DVC apprised the forum that early restoration of the ICTs is also essential for enabling Jharkhand to provide power assistance of around 30-35 MW through 132 KV Tie line Patratu (JUSNL) - Patratu (DVC) for reconductoring work of 132 kV D/C Ramgarh - Patratu line.*

5. *Representative of NTPC submitted that start-up power for 3*800 MW PUVNL Super Thermal Power Plant would be required by May-2023. Early restoration of 2*315MVA 400/220kV ICTs is required so that s/d of 400kV TTPS-PTPS may be facilitated which is currently charged at 220KV voltage level and to be charged at 400kV level (after necessary modification) to provide start-up power to PUVNL.*

TCC referred the issue to ERPC for information.

ITEM NO. B4: Creation of 220 kV Bus at 400/132 kV Powergrid Lakhisarai S/s

BSPTCL had proposed for the creation of 220kV voltage level at existing 400/132 kV substations at Banka (PG) and Lakhisarai (PG).

In the 2nd ERPCT Meeting dated 30th Sept 2020, BSPTCL revised their proposal and requested to consider for creation of 220 kV Bus at Banka (PG) at present and Lakhisarai (PG) at later stage. Subsequently 220 KV Bus creation was undertaken in ERSS-XXV scheme.

Now, vide Letter dated 06.01.2023 from Energy Minister, GoB has requested for creation of 220 KV Voltage level at Lakhisarai.

Construction of 250 MW Solar Power at Kajra, Bihar has been undertaken by GoB. Considering, the same, additional connectivity is required/requested by Honorable Energy Minister, GoB for 220/132/33 KV Haveli Kharagpur (Munger).

Since, nearest source for said connectivity i.e. POWERGRID, Lakhisarai is operating at 400 & 132 KV Voltage level, creation of 220 KV Bus and associated ICT augmentation is required. Space for the said augmentation is available at existing POWERGRID, Lakhisarai S/S. (Substation Layout & Letter of GoB are enclosed at **Annexure-B4**).

Powergrid may explain. TCC may discuss.

Deliberation in the 49th TCC Meeting:

Representative of Bihar apprised the forum that construction of 250 MW Solar Power at Kajra, Bihar has been undertaken by GoB. For evacuation of the same, additional connectivity is required for 220/132/33 KV Haveli Kharagpur (Munger). Since, nearest source for the said connectivity i.e. POWERGRID, Lakhisarai is operating at 400 & 132 KV Voltage level, creation of 220 KV Bus and associated ICT augmentation is needed.

On query, representative of Bihar informed that the evacuation scheme has not been planned yet. The proposal for the same would be submitted to appropriate authority at the earliest. Powergrid representative informed that for getting the bay ready it would approximately 6-8 months.

MS, ERPC advised BSPTCL to provide the status of the evacuation scheme to ERPC and ERLDC.

TCC was of the view that the agenda may be put up in upcoming CMETS-ER meeting for further deliberation.

ITEM NO. B5: Renovation of 220 kV switchyard Equipment of 220/132 kV Purnea SS commissioned in the year of 1985 under Chukha Transmission projects

A. Assets Detail at Purnea ss:

Sr. No	Asset Detail	Year of Commissioning	Remarks
1	220 kV Purnea-Dalkhola Ckt-I & II-	1985	Chukha Project
2	220 kV Purnea-New Purnea ckt-I & II	2002	
3	132 kV GIS	2018	
5	03 nos. 220/132 kV ,160 MVA ICT	2014, 2015 & 2016	All 03 ICTs replaced with 160 MVA

B. Sub-Station Transmission Assets replaced till date:

a) 220/132 kV ICT-I, II & III upgraded from 100 MVA to 160 MVA as mentioned above under ATCE (Augmentation of transformer capacity in Eastern Region) and ERSSXII.

b) Complete 132 kV AIS system converted to GIS system in the year of 2018 under ERSS XII.

C. Issues being faced at Purnea ss:

a) C1. The control room of the substation is in dilapidated conditions. Structural deformation of control room building being observed. In order to assess healthiness of the building, structural audit of the building was carried from NIT Patna. NIT Patna has suggested to re-construct the building as it is not safe for system. Structural deformation of control room building has also been pointed out by CEA during routine audit.

b) C2. C&R panels are quite old and obsolete. control and power cables become brittle due to ageing which cause frequent earth fault in the system.

c) C3. CEA has also observed that the villagers have constructed houses very close to boundary wall near to the sub-station Gantry and therefore boundary wall near the gantry needs to be raised in order to protect houses in case of failure of LAs.

d) C4. Base structure of switchyard equipment also getting weaken due to ageing of approx. 38 years of service life. Strengthening of base structure of some equipment have been carried out to withstand the load of the equipment. However, for smooth operation of sub-station, the base structure of switchyard equipment needs to be replaced due to ageing of structures.

e) C5. The sub-station is most vulnerable in respect to earthquake as it falls under Seismic zone 5.

D. In view of above, followings are proposed for renovation /replacement/upgradation under O&M addcap for smooth operation of sub-station:

a) Re-construction of Control Room/Panel Room.

b) Replacement of aged CT, CVT and isolators along with support structure and foundation for Dalkhola-I &II, Bus Coupler and Transfer Bus bays.

c) Uprating of isolators of 220 kV Purnea-New Purnea-I & II at both ends due to replacement of conductor from Zebra to HTLS.

d) Replacement/Renovation of C&R panels of 220 kV system.

e) Replacement of ACDB and DCDB panels.

f) Raising height of boundary wall near the sub-station Gantry.

g) Renovation of switchyard drainage system and cable trench.

In 201st OCC Meeting, Representative of Powergrid delivered a brief presentation on the asset details, upgradation/replacement of transmission assets done till date and the issues being faced at Purnea S/s. OCC advised Powergrid to:

1. Submit the cost estimate of the said renovation project.
2. Submit the study report by NIT Patna and also the report of CEA.
3. Submit the relevant pics/videos of Purnea S/s.

The issue is referred to TCC for further deliberation.

TCC may discuss.

Deliberation in the 49th TCC Meeting:

Following deliberations took place:

1. *Representative of Powergrid apprised the forum about the necessity of renovation of 200kV switchyard equipment of 220/132kV Purnea S/s which was commissioned in the year of 1985 under Chukha Transmission projects.*
2. *He submitted that the estimated cost of Civil work would be 415.33 lakhs and the same for Electrical work would be 554.27 lakhs. So total cost would be around 969.55 lakhs.*
3. *He further intimated that the cost would be recovered as ADD-CAP through tariff.*
4. *TCC advised Powergrid to optimize the cost to the extent possible.*

TCC concurred and referred it to ERPC for approval.

ITEM NO. B6: Reliability in evacuation of Barauni TPS Generation

Barauni TPS (2 X 250 MW) is connected with grid via 220 kV Barauni-Begusarai D/C, 220 kV Barauni-Mokama-Biharshariff D/C and 220 kV Barauni-Hajipur D/C. The availability of Barauni power plant is important from the Pan-India resource adequacy point of view.

In May-July' 22, there were three incidents of total black out at Barauni TPS. The matter was discussed in various OCC meeting as well as 46th TCC meeting held in Aug'22. The short term and long term measures were discussed in the meeting and Bihar had updated the measures they have taken to ensure reliability in evacuating the power generation from BTPS.

In Feb-23, there was an incident where a disturbance at 220 kV Hazipur S/s again led to total power failure at Barauni TPS. During analysis of the incident in 124th PCC meeting the following points were observed:

1. Discrepancy in protection operation of distance relays at Hazipur end: which led to unwanted tripping of feeders.
2. Operational discrepancy by opening the 220 kV Mokama-Biharshariff link thereby forcing the generator to into islanding mode

In this regard, BSPTCL/SLDC Bihar may update the following:

1. Ensure proper protection coordination and healthiness of protection system in 220 kV Hazipur, 220 kV Begusarai, 220 kV Mokama, 220 kV Amnour, 220 kV Biharshariff S/s.
2. Status of Busbar Protection at Hazipur, Begusarai, Biharshariff S/s.

3. SOP may be prepared by SLDC Bihar on operational methodology for ensuring reliability of evacuation of BTPS generation which would guide the control room personnel during real time disturbances.

BSPTCL may update. TCC may discuss.

Deliberation in the 49th TCC Meeting:

Representative of Bihar submitted the following:

1. *Tender for bus bar protection at 220kV S/s has already been invited. Tentative timeline for implementation of bus bar protection is Dec'2023.*
2. *DPR preparation for bus bar protection at downstream is also under process.*
3. *HTLS reconductoring of 220kV Barauni-Begusarai D/C has already been completed on 21.03.2023. Both circuits can evacuate up to 800 MW now after HTLS conversion.*

TCC advised SLDC Bihar to prepare an SOP on operational methodology for ensuring reliable evacuation of BTPS generation in case of any disturbances and get it vetted by ERLDC.

ITEM NO. B7: Restoration of 220KV Farakka-Lalmatia S/C Line

The 220 kV Farakka-Lalmatia S/C was out of service since April 2021 due to tower collapse. The 220/132/33 kV Lalmatia substation is relying on only 132 kV lines. At present the local load at 220 kV Dumka and Godda S/S were being radially fed from 400/220 kV Maithon S/S through 220 kV Maithon-Dumka D/C and 220 kV Dumka-Godda D/C.

In 200th OCC meeting, representative of Jharkhand submitted foundations for 17 nos of tower have been completed. Foundation of 2 towers is under progress. Foundations for 3-4 towers are left. Stringing and erection activities to commence after 10th March. OCC advised JUSNL to complete the work by May'23.

JUSNL may update. TCC may advise.

Deliberation in the 49th TCC Meeting:

The following deliberations took place:

1. *Representative of JUSNL assured that erection and stringing of the line would be completed by May'2023.*
2. *TCC advised JUSNL to provide weekly update along with photographs to ERPC and ERLDC.*
3. *On query, representative of JUSNL informed that security personnel have been deployed in the theft prone areas of the said line.*

TCC referred the issue to ERPC for information.

ITEM NO. B8: Restoration of 132kV Sagbari–Melli.

Sikkim vide mail dated 09.06.2021 updated the following status:

1. In loc 82,83 & 84 we have low ground clearance which need hill cutting but if needed TL can be charged after putting temporarily barbed wire fencing.
2. In loc 98-99 a house had been constructed just below the line and warning had been issued to the owner for not to do vertical extension of the house till any such arrangement is made.
3. In loc 116 &117 land owner demanding for intermediate tower and not allowing for us to clear the jungles.
4. Loc 128 is in dilapidated condition due to sinking effect posing threat to lives and properties.
5. Local public are asking to shift the tower in safe place before restoration of supply in the TL.
6. 80% of jungle clearance has been completed and remaining 20% is in Forest area most of it is under west district and waiting for permission from Forest department. The delay in obtaining permission for following trees in forest land is that it cannot be ascertained whether FCA clearance during construction of TL was obtained as the record is not available either in power department or in DFO Office. Regarding this it had been told by ERPC that once obtaining environment clearance at the time of construction there need not to take permission for further clearance of ROW from Forest dept and this matter is been conveyed to the Forest department but they informed us as per Forest Act of Sikkim state permission has to be obtained for fresh felling with payment of compensation. File for approval is being send to conservator of Forest from DFO on 16.06.2021.

In the 196th OCC Meeting, representative of Sikkim briefly explained the issue and highlighted the reasons behind delaying of the project. He submitted that the expected timeline for restoration is November'2022.
Representative of Sikkim was not available during 197th, 198th, 199th, 200th and 201st OCC Meeting.

Sikkim may update. TCC may advise.

Deliberation in the 49th TCC Meeting:

Representative of Sikkim assured that the said line would be restored by 15th April'2023.

TCC referred the issue to ERPC for information.

ITEM NO. B9: Repeated tripping of transmission lines

It has been observed that majority of the repeated tripping is due to non-maintenance of lines/ vegetation issues. After detailed analysis it has been found that most of these lines belong to more than one transmission licensee. Lack of coordination between two parties along with non-maintenance of lines are resulting into multiple tripping of same line. Attention is needed for regular maintenance of transmission lines. List of repeated tripping of lines is attached as below.

Sl No	Element Name	Utility	2021	2022	Remarks
1	132KV-SULTANGANJ-DEOGHAR-1	BSPTCL/JUSNL	49	29	Fault due to vegetation, non-maintenance
2	220KV-CHANDIL-STPS(WBPDCL)-1	JUSNL/WBSETCL	29	12	Fault due to vegetation around 20 km from Santaldih and around 18 km from

					Chandil,A/r not functioning properly
3	132KV-RIHAND-GARWAH-1	JUSNL/BSPTCL/ UPPTCL	27	31	Radial feeder tripped most of the time from Rihand only. Fault at multiple locations.
4	132KV-KAHALGAON(BSEB)-LALMATIA-1	BSPTCL/JUSNL	25	36	Line charged within an hour in most of the instances. Seems vegetation issue
5	132KV-Nagaruntari-SONENAGAR-1	JUSNL/BSPTCL	23	35	Line charged within an hour in most of the instances. Fault at multiple locations
6	132KV-RAXAUL-PARWANIPUR-1	BSPTCL/NEA	19	18	Line charged within an hour in most of the instances.
7	220KV-TENUGHAT-BIHARSARIFF-1	JUSNL/BSPTCL	19	19	Majority of the fault in 2-3 particular location. Seems to be vegetation, Maintenance issue. A/r not functional
8	220KV-JODA-RAMCHANDRAPUR-1	OPTCL/JUSNL	18	18	A/r not functional, most of the fault around 120-125 km from Ramchandrapur
9	132KV-MAITHON-JAMTARA-1	DVC/JUSNL	16	14	Fault around 2-3 km from Maithon for numerous occasions
10	132KV-SONENAGAR-JAPLA-1	BSPTCL/JUSNL	21	24	Maintenance issue, line charged within an hour in most of the instances
11	132KV-RIHAND-Nagaruntari-1	UPPTCL/BSPTCL/JUSNL	14	32	Radial feeder tripped most of the time from Rihand only. Fault at multiple locations.
12	132KV-BANKA (PG)-SULTANGANJ-1	BSPTCL	28	20	Majority of the fault in 15-25 km from Sultanganj
13	132KV-KHSTPP-SABOUR-1	BSPTCL	26	19	Most faults around 11 km from KhSTPP
14	132KV-BANKA (PG)-SULTANGANJ-2	BSPTCL	24	23	Line charged within an hour in most of the instances.

					Seems vegetation issue
15	400KV-PPSP-BIDHANNAGAR-1	WBSETCL	8	17	Fault in 2-3 particular location. Line charged within half an hour in most of the instances. A/r kept disabled as per OEM advise
16	400KV-PPSP-BIDHANNAGAR-2	WBSETCL	15	11	
17	220KV-DALTONGANJ-CHATRA-1	JUSNL	7	20	A/r not functioning properly at Chatra. Faults due to line clearance, vegetation
18	220KV-DALTONGANJ-CHATRA-2	JUSNL	7	23	
19	132KV-LAKHISARAI(PG)-LAKHISARAI(BSEB)-1	BSPTCL	6	13	Majority of faults around 15 km from PG end.

Members may discuss.

Deliberation in the 49th TCC Meeting:

The followings were deliberated in the meeting:

1. *Representative of ERLDC apprised the forum that repeated tripping in the said lines was observed mainly due to vegetation issues.*
2. *Representative of Bihar submitted that they are using advanced technologies like LiDAR, Signature Analysis, Drone etc for surveying the transmission lines and issues present, if any, in the transmission lines e.g., vegetation encroachment, insulator de-capping etc can be detected and rectified subsequently. He further added that the survey may be done by other concerned utilities too and the mutual data sharing among the utilities is very important. Representative of Jharkhand agreed with the same.*
3. *Representative of DVC informed that Tower Footing Impedance may be measured for the locations where frequent insulator failures are being observed and steps may be taken to improve the TFI/TFR wherever necessary. He further added that insulator replacement may also be done in order to decrease insulator failures.*

TCC advised all the concerned utilities the following:

1. *At least one nodal officer from each concerned utility may be nominated and updates regarding repeated tripping of transmission lines may be taken from the nominated officers at OCC/PCC forum.*
2. *Proper coordination among the utilities regarding maintenance of the lines should be there.*
3. *Latest technology like satellite imaging etc may be used for survey of the transmission lines to identify any issues and technology sharing among the utilities is also required.*
4. *Vegetation issues, wherever prevalent, may be eliminated on priority basis.*
5. *Any other measures like improvement of TFI/TFR, insulator replacement may be taken up wherever deemed necessary in order to improve the reliability of the lines.*

ITEM NO. B10: Installation of Transmission Line Arrestor in 220kV Lines in North Bengal.

220kV D/C Siliguri-Kishanganj TL (erst 220kV D/C Siliguri-Dalkhola TL), 220kV D/C Birpara-Chukha TL, 220kV D/C Birpara-Alipurduar TL (erst 220kV D/C Birpara-Salakati TL) and 220kV S/C Birpara-Malbase TL were commissioned in the year 1986 under Chukha Transmission System.

All the above-mentioned lines are located in the Himalayan Foothills and encounter severe lightning incidents during the monsoon period starting from April-Oct. As stated by NASA, The Himalayan Foreland is declared as Principal Lightening Hotspot zone.4

Due to lightening frequent de-capping/failure of installed Porcelain insulators were occurring in above mentioned lines. Subsequently in order to prevent repeated de-capping, in the year 2018 the earlier installed Porcelain insulators were replaced with Polymer Insulators. After replacement of Porcelain insulators there was a considerable reduction in Auto-reclosures and tripping incidents but still the tripping/AR rate is quite high. This season several instances of tripping/Auto-reclosures have occurred in those lines. This repeated Auto-reclosures/tripping is not only creating disturbance for the Grid but also putting stress on connected terminal equipment.

A year wise tripping & Auto-reclosure incidents in above mentioned lines w.e.f. 01.04.2017 till date are as per the following: -

220kV D/C Siliguri-Kishanganj TL (erst 220kV D/C Siliguri-Dalkhola TL):-

2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip
1	4	0	1	0	1	7	1	7	1	15	3

220kV D/C Birpara-Chukha TL:-

2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip
2	8	0	6	1	2	1	2	4	4	11	14

220kV D/C Birpara-Alipurduar TL (erst 220kV D/C Birpara-Salakati TL):-

2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip
0	6	1	3	2	0	2	3	2	1	4	7

220kV S/C Birpara-Malbase TL:-

2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip	AR	Trip
0	7	0	0	1	1	1	2	1	3	0	5

TFR measurement were carried out on the towers as well as section of line identified during Post Fault Tripping Analysis. Tower Footing Impedance measurement shows high values in most of the tower locations in the said lines.

All the above-mentioned lines were commissioned under CTS scheme and all tower earthing were done as per prevailing earthing practice viz. counter-poise earthing, additional earthing after 7-8 KM span etc. But considering changes in weather conditions over the years, lightning phenomenon have now increased drastically in North-Bengal. Several newspaper publication also justifies severity of lightning in North-Bengal.It seems that the prevailing earthing design used in the towers are not sufficient to arrest the frequent tripping/auto-reclosures.
It has been felt necessary to adopt installation of Transmission Line Arresters as per latest practices adopt world wide in certain stretches of lines where instances of auto-reclosures and tripping are high. Independent studies carried out by Technical Institutions in North-Bengal have also suggested for installing lightening arrestors as weather pattern changes.

Sl No.	Name of Line	Total Tower considered for TL LA	Total No of TL Las proposed
1	220 KV D/C Siliguri Kishanganj TL	132	500
2	220 D/C KV Birpara-Chukha TL	40	136
3	220 D/C KV Birpara-Alipurduar TL	36	118
4	220 S/C KV Birpara-Malbase TL	38	76
	TOTAL	246	830

The tentative cost estimate for installation of 830 Nos. of Transmission Line Arrestors in 246 Nos. of Towers of said lines shall be around 6.5 Crores incl GST.

Considering the increase in lightning phenomenon over North-Bengal area, it seems that existing Tower Earthing system seems not sufficient and as such as a system improvement measure it is requested to kindly consider the TL LA installation as per above at an estimated cost in the ongoing ADDCAP 2019-2024 tariff block of Chukha Transmission System. On approval same shall be produced before truing up petition.
Powergrid representative submitted a report highlighting the relevance of installation of Lightning Arrestors in minimizing tripping due to severe lightning and requested for approval for installation of TLA in 220 KV lines in North Bengal.
Upon enquiring whether Powergrid was planning to install TLA elsewhere except the above-mentioned 4 lines, it was informed that studies related to tripping phenomenon have been carried out for lines in North Bengal with severe lightning phenomenon. The locations identified for installation of LA were chosen based on the IEEE 81 2012 guidelines and incidents of repeated trippings.
Moreover, in these locations no scope of improvement in TFR value was possible through additional earthing or chemical earthing except for installation of TLA.
ERLDC representative advised Powergrid to submit the detailed list of considerations while identifying the locations for installation of TLA.
OCC agreed to the proposal and advised Powergrid to submit the detailed list of locations to ERPC and ERLDC. Further, OCC referred the above issue to the upcoming CCM meeting of ERPC.
In 48th CCM, Powergrid representative highlighted the relevance of installation of Lightning Arrestors in minimizing tripping due to severe lightning in the transmission lines located in the Himalayan Foothills under Chukha Transmission System and in these locations no scope of

improvement in TFR value was possible through additional earthing or chemical earthing except for installation of TLA.

Further he informed that the location details have already been shared with ERPC and ERLDC on 1st Feb'2023.

After detailed deliberations, CCM approved the cost of Rs 6.5 crores for installation of 830 Nos. of Transmission Line Arrestors in 246 Nos. of Towers location on above transmission lines and referred the issue to upcoming TCC/ERPC for approval.

TCC may approve.

Deliberation in the 49th TCC Meeting:

TCC agreed and referred it to ERPC for approval.

ITEM NO. B11: Shutdown Requirement for the 400KV Talcher-Meramundali D/C line passing through the GMR Powerplant, Kamalanga

A. 400KV Talcher-Meramundali D/C line of POWERGRID was commissioned on 01.12.2003 and after commissioning of the line, M/s GKEL (GMR Kamalanga Energy Ltd.) was established at Kamalanga village of Dhenkanal district of Odisha in April'2013.

B. During installation of the Power plant by GMR, it was found that 6 (six) Nos. towers of 400KV Talcher-Meramundali D/C line (i.e. from Loc.121 to Loc.125) were coming inside the GMR plant premises. Out the six towers, 2 (Two) Nos. towers (Loc.124 & 125) were coming in the ash pond area. In this respect, an agreement Dated: 09.06.2010 was signed between M/s GMR Kamalanga Energy Limited (GMR) and POWERGRID, where it was agreed by GMR to divert these 6 Nos. towers inside GMR plant premises by constructing of 11 Nos. new towers. In this agreement, construction & resolving of ROW issues were in the scope of GMR and supervision was in the scope of POWERGRID.

C. These 11 Nos. Diverted towers have been constructed by GMR but the final stringing work of the line could not be carried out due to local/ROW issues.

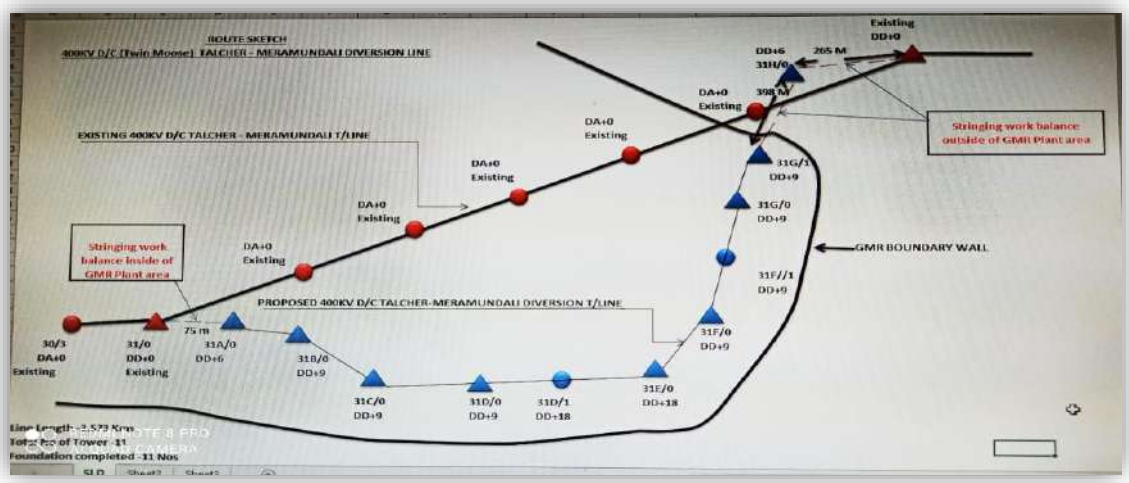
D. Now M/s GMR has intimated ROW issues have been resolved and ready to take up the balance pending works.

E. As per the ERPC clearance accorded in the OCC meeting for taking up the works in the month of February '23 / March '23, but, the same work could not be taken up due to denial of clearance of SRPC.

F. It is to mention that, the towers of 400KV Talcher-Meramundali D/C Line passing through the premises of the GMR Plant are in vulnerable condition due to submerge in ash slurry and not accessible to take up any maintenance works due to ash pond. At any time, tower may collapse and has become more susceptible to fault due to degradation of insulators owing to fly ash deposit.

G. As a critical line for Power Evacuation, the said line is required to be attended in order to avoid any Long Outage of the line and ERPC and SRPC both may agree for the required S/D. In the event of any failure of Collapse of Towers due to same POWERGRID will not be held responsible.

H. Powergrid has requested intervention of ERPC in the matter in order to ensure requisite Shutdown concurrence from both ERPC & SRPC for taking up the above works for Diversion of the said line from the Ash pond area inside the premises of M/s GMR in the month of March/April'2023.



TCC may guide.

Deliberation in the 49th TCC Meeting:

Representative of ERPC briefly explained the issue. He further added that owing to high demand in Southern Region, s/d permission of the said line was denied at SRPC forum.

On query representative of GMR informed that s/d would be required for 2-3 days. He further submitted that advance intimation would be required before facilitating the shutdown.

TCC advised ERPC Secretariat to take up with SRPC for facilitating the said shutdown in the month of May'2023.

TCC further advised Powergrid to carry out washing of the insulators and other necessary maintenance activities of the said towers for the time being.

ITEM NO. B12: Issue in implementation of differential protection in 220kV Darbhanga (DMTCL) – Darbhanga (BSPTCL) D/C line

As per deliberation in 45th TCC Meeting, TCC agreed with proposal that differential protection should be implemented for short lines having length < 10 km and cost sharing related to implementation of fiber based differential protection scheme at either end will be borne by bay owner of respective end. It was also clarified that in case different bay owners are present on either side then implementation may be done by single entity and cost can be shared by both utilities.

With reference to this deliberation, BSPTCL vide letter dated 21.07.2022 had requested DMTCL to implement differential protection in 220kV Darbhanga - Darbhanga D/C as bays at DMTCL end are maintained by DMTCL. DMTCL vide letter dated 05/12/2022 addressed to ERPC stated

that for transmission licensee who are operating under TBCB route, scope of project is considered final as per bid documents and accordingly tariff stream is finalized through regulatory process of tariff adoption by CERC hence any additional requirement imposed on account of change in scope cannot be carried out under existing provisions of transmission service agreement. In such case DMTCL is unable to implement differential protection in 220kV Darbhanga - Darbhanga D/C however necessary support required can be provided by DMTCL at its bay end.

IN 121st PCC meeting held on 16.12.2022, the matter was discussed On a query from ERPC secretariat regarding methodology of cost sharing for new installation of any equipment at DMTCL end if the same is mandated under grid standards or statutory regulations, DMTCL representative replied that if there is necessity of installing any equipment due to guideline/regulations by CEA/CERC then in that case provision for change in law will be considered and accordingly proceedings will be done however installation of differential protection in 220kV Darbhanga - Darbhanga D/C cannot be considered in provision of change in law and it comes under change in scope. They will face difficulty in recovering their incurred cost in case relay is implemented by them at their end. On enquiry from PCC regarding availability of OPGW in 220kV Darbhanga - Darbhanga D/C BSPTCL representative replied that OPGW is available in 220kV Darbhanga - Darbhanga D/C. There is no consensus achieved in PCC Meeting subsequently PCC referred this agenda to next TCC Meeting.

TCC may guide.

Deliberation in the 49th TCC Meeting:

Representative of ERPC apprised the forum that in Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 it has been mandated that for lines having length less than 10km should have differential protection implemented. He further added that as per the prevalent practice respective bay owners share the cost for installation of the relays.

On query, representative of Bihar informed that the tentative cost involvement for implementation of differential protection in 220kV Darbhanga (DMTCL) – Darbhanga (BSPTCL) D/C line would be around Rs 1 Crore. Further, representative of SLDC Bihar informed that relays at both ends for implementing differential protection may be procured and installed by a single utility.

TCC suggested that as the ownership of the line lies with BSPTCL, they may procure relays for both BSPTCL and DMTCL ends and implement differential protection in 220kV Darbhanga (DMTCL) – Darbhanga (BSPTCL) D/C line. TCC further advised BSPTCL to take up the matter with their higher authority for necessary approval.

ITEM NO. B13: Fuel security for sustainable operation of NTPC North Karanpura (CCL land handover for coal pipe conveyor)

NTPC has declared CoD of North Karanpura Unit #1 w.e.f 01.03.2023. Coal conveyer of external CHP (Coal Handling Plant) of North Karanpura plant shall pass through CCL land. As per MoU between NTPC and CCL, signed in July 2018, CCL to hand over encumbrance free land with Forest Clearance. However, the land is yet to be handed over by CCL to NTPC due to

which the erection of designed system for coal transportation i.e. pipe conveyor work could not be started. The issue has already been flagged at PMG-GoI portal.

The said land handover from CCL to NTPC is critical for erection of designed pipe conveyor to ensure sustainable power supply to the beneficiaries.

NTPC may elaborate. TCC may guide.

Deliberation in the 49th TCC Meeting:

TCC opined that NTPC may mutually settle the issue with CCL to ensure smooth and uninterrupted coal supply to the plant in most economical and environment friendly manner.

ITEM NO. B14: Non-payment of incremental Variable Charges by DISCOMs to JITPL due to blending of imported coal

Jindal India Thermal Power Limited (JITPL) has 2x600 MW thermal power plant located in the village of Derang, District Angul, State Odisha. JITPL has a Long-Term PSA with SBPDCL & NBPDCL and KSEBL for supply of power to Bihar and Kerala State respectively, Medium - Term APP with GUVNL for supply of power to Gujarat State and Pilot - II scheme APP with KSEBL for supply of power to Kerala State. MOP vide its notification dated 01.06.2022 and 09.01.2023 directed GENCOs/IPPs to purchase imported coal for blending purposes. JITPL has purchased and started blending of imported coal and raised the Energy Bills in the month of Feb'23 including the charges incurred for blending the imported coal. But GUVNL, KSEBL had denied to reimburse the extra charges incurred for blending the imported coal and BSPHCL has not given any reply on the aforementioned subject.

In 48th CCM, JITPL representative submitted that as per Ministry of Power, Govt of India directions dated 22.05.2022 and 09.01.2023 to GENCOs/IPPs, JITPL had started blending of imported coal and raised the Energy Bills in the month of Feb'23 including the charges incurred for blending the imported coal as per the methodology finalized (for coal based Generating stations under Section 63 of the Act) in consultation with CEA and the stakeholders in the meeting dated 20.05.2022. He further informed that GUVNL & KSEBL had denied to reimburse the incremental energy charges incurred for blending the imported coal and BSPHCL has not given any reply on the issue. DVC representative intimated that KSEBL did not pay for the period June'2022 & July 2022 and from August'2022 they are paying the Energy charge escalation value as per CERC order issued in August 2022 for generating station under Section-62 for blending of imported coal. BSPHCL informed that the bill raised by JITPL for with blended coal is being analysed at their end and their decision will be communicated shortly.

CCM referred the issue to upcoming TCC meeting for further discussion.

TCC may discuss.

Deliberation in the 49th TCC Meeting:

Representative of ERPC apprised the forum that as per MOP notification dated 01.06.2022 and 09.01.2023, JITPL had started blending of imported coal and raised the Energy Bills including the charges incurred for blending the imported. However, some of the utilities like GUVNL had denied to reimburse the incremental energy charges incurred for blending the imported coal. Further, BSPHCL is analyzing the bill and decision from their end would be communicated to JITPL shortly.

Representative of JITPL submitted that imported coal blending was done based on MoP direction dated 01.06.2022 and 09.01.2023 as per Section 11 of Electricity Act 2003. He further informed that they raised the Energy Bills including the charges incurred for blending the imported coal as per the methodology finalized (for coal based Generating stations under Section 63 of the Act) in consultation with CEA and the stakeholders in the meeting held on 20th May 2022. He further added that due to non-payment of dues by the concerned utilities they are unable to meet their working capital requirement.

Representative of Bihar informed that they are awaiting the direction from Regulatory Commission.

TCC opined that as this is a policy issue, all the concerned utilities need to comply with the direction of MoP.

TCC suggested that JITPL may approach MoP for redressal of their grievance.

ITEM NO. B15: Scheduling of Chuzachen HEP

In the 38th TCC & ERPC meeting, it was advised Chuzachen HEP and Tashiding HEP (THEP) to file a petition with CERC for obtaining NOC for scheduling of generation by ERLDC. Subsequently, Chuzachen HEP had file a petition (petition no 175/MP/2021) to the Hon'ble Commission. In the Commission's order dated 07.03.2023 on the said petition, ERLDC was directed to schedule power from Chuzachen HEP till the time SAMAST framework is set up at SLDC Sikkim. Commission has also directed Sikkim to take up the modalities of changeover of scheduling from ERLDC to SLDC Sikkim at ERPC forum, once SLDC, Sikkim is in a position to take up the scheduling activity.

ERLDC had prepared the draft SAMAST DPR and handed over the Detailed Project Report (DPR) to Power Secretary, Sikkim and other dignitaries of Sikkim Energy and Power Department on 13th June 2022.

As per Hon'ble Commissions order as mentioned above, Sikkim may update the status of SAMAST implementation.

In 48th CCM, ERLDC informed that Hon'ble CERC vide order dated 07.03.2023 directed ERLDC to schedule power from Chuzachen HEP till the time SAMAST framework is set up at SLDC Sikkim.

No representative from Sikkim present during the meeting.

CCM advised for placing the agenda before upcoming TCC/ERPC for update about the SAMAST implementation at SLDC, Sikkim.

Sikkim may update.

Deliberation in the 49th TCC Meeting:

Representative of Sikkim informed the forum that DPR for SAMAST has already been prepared and submitted for PSDF funding.

TCC advised Sikkim to follow up the matter expeditiously in order to implement SAMAST as early as possible.

ITEM NO. B16: Man-day rates to be charged to various utilities for installation of Interface Energy Meters by Powergrid on behalf of CTUIL.

This is in reference to the agreement signed between CTUIL and Powergrid on 09.02.2022 for Powergrid services to carry out the procurement and installation of IEMs and accessories on behalf of CTUIL.

In 200th OCC Meeting, representative of Powergrid apprised the forum that it is always advisable to install the energy meters by the utilities themselves. However, if Powergrid does the installation of IEMs at the premises of the utilities (non-Powergrid ISTS points) on behalf of CTUIL, it'll be on chargeable basis. The details of man-day charges are given in **Annexure-B16.**

On query, representative of ERPC informed the forum that the methodology, as given in Annexure-B16, is being followed in all the regions.
OCC advised all the concerned utilities to follow the methodology as mentioned in Annexure-B16 and approach CTUIL to explore the possibility of price negotiations, if any.

In 201st OCC Meeting, Representative of NTPC submitted that installation of meters by Powergrid on behalf of CTU should not be on chargeable basis. He further added that the same is in violation to Grid Code/Regulations.

OCC opined that the agenda may be referred to TCC for further deliberation.

TCC may deliberate.

Deliberation in the 49th TCC Meeting:

The following deliberations took place:

1. *Representative of NTPC submitted that as per regulations, installation of SEMs at all interconnection points between regional entities and at other identified points is the responsibility of CTUIL. However, there is no provision for billing the charges to regional entities for installation of SEMs.*
2. *Representative of CTU submitted the following:*
    a. *Although the existing regulation does not mention regarding the charges of IEM installation but service charges for installing the same shall be recovered from all generators & ISTS licensees. The same has been identified, quantified and brought out by CTUIL in the methodology as deliberated in all RPC forums, subsequent to CTUIL formation.*
    b. *Upon formation of CTUIL, procurement & installation of IEM need to be carried out by CTUIL and this being a crucial & high importance activity for sectoral development, timely installation & smooth DOCO, clarity has been brought through the methodology. As CTUIL does not have regional manpower/ setup for procurement and installation across the regions, it has entered into an agreement with POWERGRID and has requested POWERGRID to continue to procure and install IEMs with necessary hardware/software & AMR facility, for and on behalf of CTUIL, on chargeable basis.*
    c. *The methodology is an interim measure and has been shared across the regions at RPC forums and the utilities are following the same, hence the same may be continued.*
    d. *They will also take up the matter with CERC and would give their input to draft IEGC for bringing more clarity in regulations on IEM installation charges & its*

recovery. CTUIL also requested RPC forum to take up with CEA & CERC for necessary amendments in metering regulations for IEM installation charges & its recovery.

3. *TCC opined that the submissions by CTUIL need further deliberation.*

4. *However, clarification regarding the man-day rates to be charged to various utilities for installation of Interface Energy Meters by Powergrid on behalf of CTUIL may be obtained from appropriate authority. After getting the necessary clarification, the charges for installation of SEMs would be reimbursed to Powergrid.*

5. *TCC was of the view that existing practice of SEMs installation in Eastern Region may be continued by Powergrid without any installation charges w.e.f 01.04.2023.*

TCC referred the issue to ERPC for further deliberation/guidance.

ITEM NO. B17: Issues related to OPGW installation in 132 kV Rangpo - Chuzachen Line

Power Grid had been entrusted with establishing Fiber Optic network (OPGW) over 132 kV Rangpo - Chuzachen TL of EPDS, Sikkim under Eastern Region Fibre Optic Expansion Project (Additional Requirement) for smooth communication of Chuzachen HEP power generating station to Regional Load Dispatch Centre (ERLDC) at Kolkata. The ownership of said transmission line 132 kV Rangpo - Chuzachen TL belongs to Energy & Power Dept., Govt of Sikkim. Out of 20.727 km of scope of work, Fiber Optic Installation of 17.912 km had been completed till April 2020 after which work had been stopped by villagers of village Kamarey Bhasmey, Pendam, East Sikkim. The ROW details in between T.no. 37 to 42 falling under Kamarey village is tabulated below.

List of Agitating Landowners in Kamarey village with details

S.No	Name & Contact of Landowner	Location No. details
1	Name: Ashok chettri S/o L.t. shiva lall chettri Contact.No: 9593223955	Village kamarey PW PO & PS - Rangpo, Pendam East Sikkim-737132
2	Name: Nandu kumarpradhan Contact.No: 9635686942	
3	Name: kumar chetari Contact.no: 9635664370	
4	Name: Mani Kr. Pradhan	
5	Name: Mangal Singh S/o Singh Bir Tamang	
6	Name: Tularam Sharma S/o Gauri Shankar	

7	Name: Dili Ram S/o Lt. Pushpa Lall Khatiwara	
8	Name: Dhan Maya W/o Chandra Bahadur Tamang	
9	Name: Bharat Laxuman	
10	Name: Dhiraj Sharma S/o Tika Ram Sharma	

After multiple meeting with District Authorities and local villagers of Kamarey, work finally resumed in January 2023 with help and support of Energy & Power Dept., Govt of Sikkim.

After completing 19.327 km OPGW installation, work was again stopped in Padamchay village due to public complaint over induction problem faced between tower no. 35 and 36 of 132 kV Rangpo-Chuzachen TL due to very ground low clearance issue. The list of agitating landowner in Padamchay village is tabulated below.

List of Agitating Landowners in Padamchay village with details

l.No.	**ROW Person details**	**ROW Issue**
1.	Bishnu Lall Sharma	Low ground clearance from conductors in between T.no. 35 and 36 of 132 kV Rangpo-Chuzachen TL.
2.	Punya Pd. Sharma	
3.	Bharat Kumar Sharma	
4.	Yogendra Sharma	
5.	Ram Pd. Sharma	
6.	Gyan Pd. Sharma	

The matter was informed to Energy & Power Dept., Govt of Sikkim. The Officials of Energy & Power Dept., Govt of Sikkim held meeting with local landowners and public representatives to resolve the issue. However, matter is yet to be resolved.

In this regard, it is requested that, Energy & Power Dept., Govt of Sikkim (being owner of the line) may provide necessary support for resolving the ROW issue. It may be noted that now only 1.4 km OPGW installation is pending in the said Link.

Sikkim my update.

Deliberation in the 49th TCC Meeting:

The following deliberations took place:

1. *Representative of Powergrid apprised the forum that 19.327km OPGW installation work out of total 20.727km has been completed. However, due to severe RoW issue, 1.4km OPGW installation work is still pending. He further submitted that as the owner of the said line is Energy & Power Dept., Govt of Sikkim, necessary support may be provided by them in resolving the RoW issue.*
2. *Representative of Sikkim submitted that the OPGW installation work has stopped in Padamchay village due to public complaint over induction problem being faced between tower no. 35 and 36 of 132kV Rangpo-Chuzachen TL due to very low ground clearance.*
3. *He further added that conductor snapping has also occurred in the same span. Considering the above, rerouting of the line has to be done. DPR regarding the same has also been prepared and put up for approval to Govt. of Sikkim.*

4. *TCC advised Sikkim to expedite the installation of OPGW after meeting with local landowners and public representatives. Line diversion work, as approved by Govt. of Sikkim, may be taken up subsequently.*

TCC referred the issue to ERPC.

ITEM NO. B18: Requirement of OPGW/DTPC based carrier-aided protection scheme and ensuring PLCC healthiness for improved reliability of Protection system

A. During protection & tripping analysis in monthly PCC meetings, it has been observed that majority of discrepancy in protection operation is attributed to following reasons:

- Tripping of lines without fault.
- Delayed tripping due to Failure of carrier schemes
- Non-operation of Auto reclosure.

Unwanted tripping or non-operation of auto reclose and delayed clearances due to failure of carrier schemes are related to healthiness of communication scheme. To improve this, it is crucial to ensure healthiness of the PLCC and perform regular end-to-end testing during shutdowns. Alternatively, OPGW/DTPC based scheme may be implemented, which will exceptionally improve the reliability and major problems as mentioned above can be resolved.

In this regard, all the utilities were requested to provide the following:

- list of 220 kV and above lines where OPGW based communication scheme have already been implemented.
- Upgradation to OPGW has been planned/OPGW work is under progress.
- Further, wherever OPGW have been installed, plan for PLCC replacement with DTPC.

In rest of the lines, OPGW with DTPC may be installed at the earliest to improve reliability and availability of the lines.
It is pertinent to mention that as per recently notified CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, **as per clause 48.5.a, OPGW shall be provided on transmission lines of 110 kV & above for speech, data transmission as well as for line protection**.

Further **as per clause 48.5.b, the primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on PLCC or predefined physically diversified OPGW paths**.

List of lines with status of OPGW/DTPC shared by some of the utilities is attached at **Annexure-B18**.

TCC may discuss.

B. Non-availability of PLCC in some of Inter-state lines at 220 kV level.

During discussion of line tripping incidents, it was noticed that for some of the 220 kV lines where the ownership lies with more than one state utility, PLCC is not in operating condition since long. The same was also observed by protection audit team of ERPC during 3rd party protection audit of the substations. The list of such lines is given below:

Sl No.	Name of Line	Line owners	PLCC/OPGW status
1	220 kV Tenughat-Biharsharif	JUSNL & BSPTCL	PLCC not available.
2	220 kV Jindal-Jamshedpur	OPTCL & DVC	PLCC not available.
3	220 kV Joda-Ramchandrapur	OPTCL & JUSNL	PLCC not available. OPGW in the line have been completed, DTPC is yet to be commissioned.
4	220 kV Budhipadar-Korba circuit I & II	OPTCL & CSPTCL	PLCC not in working condition.
5	220 kV Karmanasa-Sahupuri	BSPTCL & UPPTCL	PLCC not in working condition.

Members may update the status.

Deliberation in the 49th TCC Meeting:

TCC referred the issue to the next TeST Meeting of ERPC.

ITEM NO. B19: Replacement of PLCC with OPGW for cross border lines

The 7th Operation Coordination Meeting was held between NLDC, ERLDC, NERLDC, CEA, ERPC, NERPC, Powergrid and NVVN from India and Bhutan Power System Operator (BPSO), Druk Green Power Corporation Limited (DGPC), Bhutan Electricity Authority (BEA), and Mangdechhu Hydroelectric Project Authority (MHPA) from Bhutan on 12th October 2021 through web conference.

The meeting discussed and agreed to replace obsolete PLCC with OPGW tele-protection for all 132kV and above transmission lines. Powergrid requested Bhutan to include same DPC for both end of lines (cross border links) and the additional cost for DPC on the Indian side will be reimbursed by Powergrid after management approval to BPC. The Minutes of 7th India-Bhutan Operational Coordination meeting is attached for kind reference.

Based on the decision, BPSO is in process of revamping the telecommunication network with MPLS-TP in Bhutan and cost of the equipment within Bhutan shall be borne by the DGPC and BPC respectively. Now, BPSO would like to request Powergrid to formally communicate to BPC to procure MPLS-TP in order to have smooth operation of cross border links.

BPSO, Bhutan may explain. TCC may advise.

Deliberation in the 49th TCC Meeting:

Representative of Bhutan requested Powergrid to formally communicate to BPC to procure MPLS-TP in order to have smooth operation of cross border links.

Representative of CTU informed that as the MPLS technology is new to Indian Grid, the same needs to be discussed first at Communication forum.

TCC opined that the same agenda may be referred to ISTS communication Planning Meeting for Eastern Region.

ITEM NO. B20: Removal of Internet Connectivity from AMR Server at ERLDC as per compliance against Cyber Security guidelines.

Presently total 163 No's SS are connected in AMR system, and total 142 No's stations are now communicating over LAN, and remaining 21 No stations are communicating over GPRS which require internet connectivity at AMR server at ERLDC.

As per CEA directive, segregation to be done between IT/OT network for cyber security compliance and to maintain that Public IP based internet connectivity (Very much vulnerable) to be removed immediately from AMR server.

If all the stations are communicating over LAN then there is no requirement of internet connection at AMR server but following locations are either not having OPGW connection or not shared the port details yet for further actions:

SL NO	UTILITY NAME	NAME OF SS	REMARKS
1	IPP	CHUZACHEN	OPGW WORK GOING ON BUT HAVING HUGE ROW ISSUES & LIKELY TO BE TAKE MORE THAN 3-4 MONTHS TO COMPLETE.
		DIKCHU	PRESENTLY NO OPGW LAYED.
		JITPL (Jindal)	PRESENTLY NO OPGW LAYED.
		STERLITE (SEL)	PRESENTLY NO OPGW LAYED.
2	SIKKIM	RAVANGLA	PORT NOT SHARED BY SIKKIM.
3	JHARKHAND	GARWA(GAR)	PRESENTLY NO OPGW LAYED.
		JAMTARA(JMT)	PRESENTLY NO OPGW LAYED.
		JAPLA(JAP)	PRESENTLY NO OPGW LAYED.
		KENDOPOSI(KEN)	PRESENTLY NO OPGW LAYED.
		NAGARUNTARI	PRESENTLY NO OPGW LAYED.
		DEOGARH	PRESENTLY NO OPGW LAYED.
		PATRATU(PTJ)	PRESENTLY NO OPGW LAYED.
4	NTPC	NABINAGAR	PRESENTLY NO OPGW LAYED.
		TALCHER SOLAR	NO INFORMATION ABOUT PORT AVAILABILITY OR OPGW AVAILABILITY.
5	GRIDCO	JINDAL (JIN)	PRESENTLY NO OPGW LAYED.
	TOTAL	15	

Recently Port details shared & LAN configuration U/P:-

1. DLATONGANJ- JHARKHAND. (LAN ACTIVITY U/P).
2. TISCO- DVC. (LAN ACTIVITY U/P).
3. BANGRIPOSI/BALASORE/GMR- GRIDCO. (FOTE AT GMR YET TO BE COMMISSIONNED). PORT SHARED IN LAST TEST MEETTING.
4. ADHUNIK (APNRL)- (LAN ACTIVITY U/P).

In view of above, for compliance of CEA directive, it is proposed to remove GPRS connectivity from above locations and alternative data sending method (Through VSAT, as already proposed in last TeST meeting or manual sending through mail) to ERLDC may be discussed.

In 201st OCC meeting the followings were deliberated:

1. Data would be sent parallelly through GPRS as well as through mail from 15.04.2023-30.04.2023.
2. Hands-on training for sending the data through mail would be provided to the concerned utilities latest by 15.04.2023.
3. The internet connectivity from AMR Server would be disconnected w.e.f 01.05.2023.

4. All the concerned utilities are advised to send the weekly meter data strictly by Tuesday for corresponding week.

TCC may discuss/note.

Deliberation in the 49th TCC Meeting:

TCC approved and referred to ERPC for information.

ITEM NO. B21: Taking over of assets associated with CSSTDS in Sikkim by Energy & Power Dept, Sikkim

As on date 06 elements under CSSTDS have already been charged as per availability of charging voltages and further 13 elements are targeted to be charged at rated voltage. Power Dept Sikkim is requested to takeover these elements for regular operation and maintenance works. The list of elements with charging/ proposed charging date is attached for ready reference.

S.no	Name of element	Charging date	Remarks
1	220kV D/c New Melli -Legship Pool TL	12-10-2017	Line is under operational
2	220kV New Melli Bay Extn	20-02-2021	Operational
3	66/11kV Sichey SS (Bay Extn.)	16-11-2021	Test charged
4	66/11kV Mamring Bay Extn	01-11-2022	Test charged
5	66 KV D/C Rorathang LiLo Point on Pakyong- Rongli Line	10-12-2023	Test charged once with Rorathang ss
6	66/11kV Rorathang SS	10-12-2023	Test charged.

Powergrid may explain. Sikkim may update.

Deliberation in the 49th TCC Meeting:

Representative of Sikkim apprised the forum that for taking over the above mentioned assets, additional manpower would be required. The proposal for the same has been put up before Govt of Sikkim and some time would be required in getting the approval.

TCC referred the issue to ERPC.

ITEM NO. B22: Cyber Security Issues related to Sikkim

A) CII and CCMP Implementation:

Identification of CII i.e., Critical Information and Infrastructure had been completed for Bihar, Jharkhand, WB, Odisha, and DVC SLDC, while it is under vetting by Sikkim SLDC.

CCMP document had been approved for Bihar, DVC, Odisha and West Bengal. It is under vetting for Sikkim SLDC.

Sikkim may update.

Deliberation in the 49th TCC Meeting:

Representative of Sikkim submitted that they already have CISO and alternate CISO in place. CII and CCMP have been submitted to CERT-IN. There were some observations from CERT-IN. After incorporating necessary changes, the revised CII and CCMP have also been submitted. She further submitted that a meeting on Cyber Security will be convened shortly.

ED ERLDC advised Sikkim to submit the DPR of SOC for PSDF funding.

B) VAPT audit

As per the amendment in CEA (Cyber Security in Power Sector) Guidelines 2021, VA-PT for OT system (SCADA, URTDSM etc.) needs to be carried out at least once a year and for IT system at least once for every 6 months. Constituents have reported that submission of VA-PT reports (conducted during Jan 22- June 22) is pending from SCADA vendor end. Further, it is reported that VA-PT for 2023 is pending for all the constituents.

Sikkim may update

Deliberation in the 49th TCC Meeting:

TCC advised Sikkim to carry out VAPT for OT system (SCADA, URTDSM) at least once a year and that of IT system at least once for every 6 months.

ITEM NO. B23: Status of SAMAST, ABT implementation and certification of system operators in states.

Implementation of SAMAST and ABT in all the states is a prerequisite for improving the reliability of grid considering the complexities involved in managing the large interconnected Indian grid. Further skilled, certified manpower is the key to operate the grid safely and securely. Various initiatives are being taken mutually by ERLDC and the states for successful implementation of the SAMAST/ABT in the states.

The status of SAMAST, ABT implementation and certification of system operator of various states of eastern region is given below:

Name of the state	Status of implementation of SAMAST	Number of Certified Operator
Bihar	Completed	4
Jharkhand		Nil
Odisha		11
DVC		Nil
West Bengal		2
Sikkim		1

Concerned States may update.

Deliberation in the 49th TCC Meeting:

TCC referred the issue to ERPC.

ITEM NO. B24: Manpower availability at SLDCs for Cyber Security activities

Dedicated manpower availability at SLDCs is crucial for carrying out the activities related to Cyber Security. Presently SLDCs are operating with very skeletal manpower for Cyber Security activities as can be seen from given details:

Constituents	CISO	Alt. CISO	Number of Manpower dedicatedly engaged for cyber security related works (other than CISO/Alt CISO)
Bihar	Sh. Nishant Kumar Singh	Rahul Kumar	1
Jharkhand	Sh. Arun Kumar	Sh. Ashish Kumar	0
Odisha	Sh. K.T. R. Achari	Mr. Prasanta Kumar Beura	0 (5 manpower with additional responsibility)
West Bengal	Sh. Sandip Basak	Sh. B. Mohanta	0
DVC	Sh. Manowar Ismail	Shri Abhijit Chakraborty	0
Sikkim	Sh. Sonam Wongchuk	Sh. Ravi Pradhan	0

TCC may discuss.

Deliberation in the 49th TCC Meeting:

Representative of NPTI may deliver a brief presentation on the status and future plan regarding cyber security training of RLDC and SLDC officers of Eastern Region.

TCC referred the issue to ERPC.

ITEM NO. B25: Revised connectivity for Laxmikantpur 400/132 KV S/s and split bus arrangement at Laxmikantpur S/s.

In 47th TCC/ ERPC meeting, TCC advised HEL to expedite the process in completing the study report and further consultation with the OEM for getting their feedback/consent. In the meantime, TCC suggested that the proposal of WBSETCL regarding an additional connectivity arrangement may be forwarded to CTU for their comment/consideration. TCC also suggested that a committee may be formed under chairmanship of Director (Op) WBSETCL with members from the concerned wings of WBSETCL, HEL & ERLDC to fortnightly monitor & discuss the progress with regard to the above matter and submit to ERPC. A committee under chairmanship

of Director(O), WBSETCL was formed vide letter dated 08.12.2022 with members from WBSETCL, HEL, ERLDC & ERPC Secretariat to discuss the above issue.

Committee may update. TCC may discuss.

Deliberation in the 49th TCC Meeting:

The Committee submitted the following:

1. *Two meetings have been conducted on 20.12.2022 and on 24.01.2023 to discuss revised connectivity for Laxmikantpur 400/132 KV S/s. The final report is under preparation.*
2. *Two measures have been recommended by the Committee:*
   a) *Final arrangement: One circuit of 400kV New Jeerat-Subhasgram D/C to be LILOed at 400/132 KV Laxmikantpur S/s. Necessary load flow study has to be conducted by CTU for this arrangement.*
   b) *Interim arrangement: One circuit of 400kV HEL-Subhasgram D/C to be LILOed at 400/132 KV Laxmikantpur S/s. Transient study has already been conducted by HEL and the same has been submitted to OEM for suggestions/feedback. However, the same is awaited from OEM.*
3. *The Committee requested TCC for extension of timeline for submission of the final report.*

TCC advised the following:

1. *HEL to expedite the matter with OEM in getting their feedback.*
2. *CTU to conduct the load flow study at the earliest.*
3. *Committee to submit the final report by April'2023.*

ITEM NO. B26: MHEP balance payment for energy bill of June – August 2019

In the 47th TCC Meeting of ERPC held on November 24, 2022, vide Agenda Item No. B19, the issue regarding non-receipt of balance payment of Rs. 599,517,712.64 from PTC India Limited on account of energy exported to India by Mangdechhu Hydro Electric Project (MHEP) from June -August 2019 was submitted. During the meeting DGPC representative requested for the early release of the balance amount.

PTC representative had submitted that they had been following up with CEA & MoP. TCC advised PTC to resolve the issue expeditiously and PTC representative had assured to expedite the issue and revert.

DGPC now has intimated that they had neither received the balance payment nor any update from the PTC India Ltd. till date.

PTC may update.

Deliberation in the 49th TCC Meeting:

Representative of Bhutan submitted that payment of Rs. 599,517,712.64 from PTC India Limited on account of energy exported to India by Mangdechhu Hydro Electric Project (MHEP) from June -August 2019 is yet to be received by DGPC. He further added that in the 47th TCC & ERPC Meeting, PTC had assured to clear the outstanding dues.

Representative of PTC apprised the forum that they had already taken up the matter with the O/o Member(PS), CEA.

TCC advised PTC to expedite matter for early liquidation of the dues.

ITEM NO. B27: Default details of Deviation Pool Account/ Reactive Pool Account etc.

The details of major defaulters as on 13.03.2022 considering the bill up to 19.02.2023 for DSM charges and up to 05.02.2023 for Reactive charges are tabulated below:

BSPTCL	
DSM (in Cr)	₹ 39.22 Cr /-
Reactive (in Cr)	₹ 6.87 Cr /-
JUVNL	
DSM (in Cr)	₹ 70.38 Cr /-
Reactive (in Cr)	₹ 7.22 Cr /-
Sikkim	
DSM (in Cr)	₹ 8.09 Cr /-
Reactive (in Cr)	0

Further, the details of other pool members are enclosed as **Annexure-B27.A**.

BSPHCL, JUVNL, & SIKKIM may update the status of clearing the outstanding dues.

Deliberation in the 49th TCC Meeting:

TCC referred the issue to ERPC.

B. Interest due to delayed payment of deviation charges

Due to the delayed payment of deviation charges in the DSM Pool, interest was computed for all the DSM Pool Members for FY 2020-21. The major outstanding is GMR of ₹ 173.96 lakhs. Further, the details of other pool members are enclosed as **Annexure-B27.B**.

Members may update the latest status.

Deliberation in the 49th TCC Meeting:

TCC referred the issue to ERPC.

ITEM NO. B28: Support Service for the project "Creation & Maintaining a web-based Protection database and desktop based Protection setting calculation tool for Eastern Regional Grid"

The PSDF funded project of ERPC "Creation & Maintaining a web-based Protection database and Desktop based Protection Setting calculation tool for Eastern Regional Grid" was implemented and declared Go-line on 31.10.2017. As per the contract of the project, the support service would be provided for 5 yrs after declaration of the Go-Live of the project which was till 31.10.2022.

The online database(PDMS) as well as the offline PSCT tool are being utilized by all utilities of ER for analysing the grid disturbances, carrying out various studies i.e. load flow, short circuit, relay coordination, DR analysis etc., sharing the disturbance report/DR/EL through online portal for compliance etc.

44th ERPC authorized ERPC Secretariat to prepare a DPR for support service for future updation of the Protection Database for another 5 years and place it for PSDF funding. In 45th ERPC meeting, it was noted that the DPR for additional MiP-PSCT licenses was submitted to nodal agency on 22.03.2022 for PSDF funding. The techno-economic subgroup (TESG) of PSDF discussed the DPR in its 63rd meeting held on 10.06.2022 & 67th meeting held on 12.10.2022.

In 47th TCC & ERPC Meeting, the proposal of continuing support service with the original vendor was discussed. It was clarified that the proposal under discussion was for an interim period till the time the outcome of PSDF decision on funding of support service is known. After the final decision of PSDF on funding of the DPR, the matter will be again placed before ERPC to decide further course of action. ERPC approved the proposal for interim period of one year with the estimated cost of Rs. 50 lakh (including GST) as one year support service charges.

The one-year support service of protection database has been started from Jan-23.

The nodal agency of PSDF vide letter dated 12.01.2022 intimated that the as per the decision of 27th meeting of Appraisal Committee of PSDF, the DPR of ERPC on "Procurement of additional PSCT License and Updation & support service for web-based Protection Database" has been deemed-returned. The letter is enclosed at **Annexure-B28**.

TCC may discuss.

Deliberation in the 49th TCC Meeting:

TCC noted and referred to ERPC.

ITEM NO. B29: Time extension for "AMR data center hardware and software application refreshment

Regarding project for "AMR data center hardware and software application refreshment" which was approved in 191st OCC meeting and accordingly LOA placed to M/S TCS on 24th June'2022. The scope includes procurement and installation of Windows Servers, Network components and development of new AMR application.

As per the LOA timeline given, the above-mentioned scope was supposed to be completed by 23rd March'2023. Due to recent unrest between Ukraine and Russia there has been a significant delay in hardware shipment globally. Unfortunately, this has impacted delivery of hardware as well as software licenses. The Microsoft licensed software delivery chain has been disrupted for several of their customers in various locations all over the world including TCS. This is completely beyond control of both TCS & POWERGRID as global effects influenced the delay.

Part of hardware supply has been completed so far. Also, one round of demonstration of new AMR application has been shown to PGCIL and ERLDC. Post the demonstration some new requirements were asked of M/S TCS which their development team has been working on.

Considering the above situation, it is requested for an extension of 3 months to complete the total scope of work as per the LOA to M/S, TCS. It is hereby requested to OCC committee to allow 3 months' time extension i.e till 30th June'2023, without any imposition of LD.

In 200th OCC Meeting, Representative of Powergrid apprised the forum that delivery of hardware as well as software has been impacted for reasons beyond the control of both TCS and Powergrid. He further requested the forum for an extension of 3 months i.e. till 30th June 2023 to complete the total scope of work as per the LOA to M/S, TCS. Considering the situation involving the unrest between Ukraine and Russia, as explained by Powergrid, OCC allowed extension of up to 30th June 2023 without any imposition of LD. to complete the total scope of work as per the LOA to M/S, TCS.

TCC may note.

Deliberation in the 49th TCC Meeting:

TCC noted.

ITEM NO. B30: Renovation & Augmentation of Transmission & Distribution system of DVC: Additional Agenda

DVC has submitted a DPR for renovation & augmentation of their transmission & distribution system to CEA for review & consideration.

CEA vide letter dated 23.11.2022 intimated that the proposal regarding R &A of transmission & distribution system of DVC are in order and they have suggested few points to include in the final DPR. The letter of CEA along with the proposed list of transmission & distribution system is enclosed at **Annexure-B30**.

DVC has asked for concurrence of ERPC on the above proposal.

Deliberation in the 49th TCC Meeting:

Representative from BSPTCL submitted that as per decision of 45th ERPC meeting, proposal related to renovation & establishment of new substation of intra-state system of Bihar has been submitted to ERPC secretariat for discussion in ERPC sub-committee eon transmission planning & approval.

Member Secretary informed that as per the communication issued by CEA vide letter dated 25.10.2022(copy enclosed at Annexure-B30A), CEA has constituted standing committee for ensuring coordinated planning and development of Inter-state and Intra-state transmission network. Accordingly, all the proposal of intra-state transmission system shall be submitted to CEA for study & consideration.

TCC agreed and referred to ERPC for concurrence/information.

PART C: ITEMS FOR INFORMATION

The following items are placed before TCC for noting and compliance:

ITEM NO. C.1: Issues related to OPGW installation in Teesta III – Kishanganj Line

Powergrid is implementing OPGW on Teesta III-Kishanganj TL under Fiber Optic Expansion Package (Additional Requirement). Out of total 215 Km, 179 Km work has been completed. However following issues are causing hindrance towards completion of the work.

A) **Non-availability of A/R in non-auto mode:** A/R permission was not allowed from 25/02/2023 to 03/03/2023 due to Circuit Breaker Replacement work in Bay associated with other circuit at Dikchu end. Therefore, work was kept on hold in mentioned period.

B) **ROW issues / Old compensation issues:** Severe ROW issues are being faced during execution of the work because of which work is getting delayed. In all locations, local villagers are demanding payment of old pending compensation or compensation for shifting of houses due to induction. ROW issues occurred till date is detailed as under:

Sl. No.	ROW Tower No.	ROW affected Drum No.	ROW Person details	ROW issue
5	Tower No. 115/0	17	**Name of the landowner:** Gajendra Chettri (Mob: 8436105960). Village: Mamley PS: Namchi PO: Namchi Dist.: South Sikkim	Boulders kept near wall of landowner which hadn't been removed by M/s TPTL Induction related problems faced by landowner
12	Tower No. 122 to 126	16B	**Name of the landowner:** Purna Bahadur Rai (Mob: 9593739944) Village: Lower Tingrithang PW PS: Namchi PO: Namchi Dist.: South Sikkim Pin: 737126	Induction related issues. Land owner claims wires too close to house and therefore claims compensation for housing property.
13	Tower No 55 to 60	9	**Phal Bahadur (Mob: 8001630095/9647872113)** Village: Tumin & Kokaley P.S: Singtam P.O: Tumin Dist: East Sikkim	Previous Compensation related issues during Construction
14	Tower No 68 to 74	11	**9) Person didn't disclose name**	

			Village: Singbel P.S: Singtam P.O: Makha Dist.: East Sikkim	
15	Tower No. 74 to 81	12	**10) Person didn't disclose name** Village: Ralap P.S: Singtam P.O: Makha Dist.: East Sikkim	
16	Tower No. 195-197/1	27B	**11) Satish Pokhrun (Mob.: 7872446069)** Village:Relling P.S: Relling Dist.: Darjeeling	Previous Compensation related issues during Construction
17	Tower No. 197/1 - 201/1	28		
18	Tower No. 201/1 - 209/1	29		

Several Meetings has been done with District administration and M/s TPTL (being owner of the line) for resolving the above issues. District Administration at Sikkim is providing support for resolving the issue.

The above is for information and record of all concerned.

TCC may note.

Deliberation in the 49th TCC Meeting:

TCC noted.

ITEM NO. C.2: Disbursement of encashed CBG Amount to DICs pending settlement of legal disputes on relinquishment charges.

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

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

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

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

In the 47th TCC meeting, representative of CTU explained the issue briefly and requested for the consent of members of ER utilities for disbursement of encashed BG amount of approx. Rs 400Cr to the DICs with a condition that in case the APTEL judgement goes in favour of relinquishing IPPs, the amount so disbursed shall be collected from the DICs along with applicable interest.

Director (R & T), WBSEDCL raised concern about the difference in interest accrued on the FDs in which the encashed BG amount is kept and the applicable interest rate that may have to be paid to the relinquishing IPPs in case APTEL judgement goes in their favour.

After detailed deliberation, TCC observed that the issue needs to be first discussed threadbare in the lower forum of ERPC and referred to CCM.

In 48th CCM, CTU representative informed that in line with CERC Order dated 8.3.2019 passed in Petition No.92/MP/2015, CTU calculated relinquishment charges for LTAs relinquished by various generators. Meanwhile, 20 relinquishing IPPs had filed appeals in APTEL against the CERC order. Further informed that encashed the CBGs of some of the IPPs who have abandoned their projects or undergoing insolvency proceedings and the encashed BG amount of approx. Rs 400 Crores are kept in FDs as legal procedings are pending before Hon'ble APTEL. All pleadings are completed and they are persuing for early hearing of the matter.

Further, CTU representative informed that the issue already been taken up in NRPC, WRPC, NERPC meetings, the constituent members agreed for keeping the BG amounts of approx. 400 crores in FDs till the final judgement of Hon'ble APTEL.

It was opined that this agenda may be placed before NPC in its next meeting provided the judgement of APTEL is still pending.

CCM advised CTU to keep the encashed CBGs of some of the IPPs who have abandoned their projects or undergoing insolvency proceedings and the encashed BG amount of approx. Rs 400 Crores in FDs till the final judgement of Hon'ble APTEL.

This issue has been referred to upcoming TCC/ERPC meeting for information.

TCC may note.

Deliberation in the 49th TCC Meeting:

TCC noted.

ITEM NO. C.3: Reactive VAR charges for Transnational entity.

As per the Central Electricity Regulatory Commission (Cross Border Trade of Electricity) Regulations, 2019, Clause 4 (3) states that:

Quote

"Settlement Nodal Agency shall be responsible for settling all charges pertaining to grid operations including operating charges, charges for deviation and other charges related to transactions with a particular neighboring country in the course of cross border trade of electricity. The Settlement Nodal Agency shall be a member of the deviation pool, reactive energy pool and other regulatory pools for payment and settlement of the corresponding charges in the pool accounts of the region having connectivity with any neighboring country"

Unquote.

& Clause 26(4) states that –

Quote

"Reactive Energy Charges shall be paid by the Settlement Nodal Agency in accordance with Grid Code, and the said charges shall be collected from the selling entity or buying entity of the neighboring countries, as the case may be "

unquote.

Member may discuss regarding accounting of Reactive charges for the neighboring countries.

In 48th CCM, ERLDC representative submitted that as per the Central Electricity Regulatory Commission (Cross Border Trade of Electricity) Regulations, 2019 and IEGC regulation, the Reactive energy charges of the cross border entity to be issued.

After detaild deliberation, CCM advised ERPC secretariat to issue reactive energy charges accounts of the cross-border entity w.e.f. 03.04.2023 in line with the existing methodology approved in Eastern Region as per 43rd ERPC meeting dated 26.03.2021 and as per prevaing CERC regulations.

This is to be placed before the upcoming TCC/ERPC for information.

TCC May note.

Deliberation in the 49th TCC Meeting:

TCC noted.

ITEM NO. C.4: Launch of High Price DAM

Because of the high prices of gas in the international market; the electricity made by using gas was expensive – more than Rs.12 per unit – and this capacity could not be sold on the market. Similarly, the imported coal-based plants and the Renewable Energy stored in battery-energy storage systems could not be brought into operation, as their generation cost was high.

This year it is expected that the demand will be much higher than last year therefore, the gas-based plants and the imported coal-based plants will be needed to be scheduled – and that is why a separate segment called HP DAM has been carved out for those generation systems where the cost of generating power – from gas / imported coal / RE plus storage – may cross Rs.12.

Through HP—DAM it would be ensured that all available power capacity is utilized for supplying the power to consumers.

TCC may note.

Deliberation in the 49th TCC Meeting:

TCC noted.

ITEM NO. C.5: Shifting of 132 KV Barhi-Rajgir & 132 KV Barhi-Nalanda transmission line from the premises of "Mahabodhi International Cultural Centre, Bodhgaya".

A request from Power Department , Govt. of Bihar was received for shifting / diversion of 132 KV Barhi-Rajgir & 132 KV Barhi-Nalanda transmission lines which fall on the premises of Mohabodhi Cultural Centre, Bodhgaya, citing the reason that many VVIPs are regularly visiting the Cultural Centre, Bodhgaya, which is of international importance.

In this regard, it is to inform you that a decision has been taken to shift the 132 KV Barhi-Rajgir & 132 KV Barhi-Nalanda transmission lines from the premises of Mahabodhi Cultural Centre after discussion in various fora of ERPC. Several meetings were conducted to discuss the issue, and it was unanimously agreed upon in the 200th OCC Meeting of ERPC that immediate dismantling of tower at loc no 227,228 & 229 should be done from the premises of Mahabodhi Cultural Centre. This decision was taken considering the safety concerns and the international importance of the cultural centre.

The deliberations of the 200th OCC Meeting of ERPC held on 24.02.2023 are provided below:

1. Dismantling of tower at loc no 227,228 & 229 from the premises of Mahabodhi Cultural Centre, Bodhgaya may be done at the earliest considering the safety of national/international tourists visiting the place.
2. Representative of Bihar apprised the forum that a joint Technical Feasibility Survey between DVC and BSPTCL was conducted on 16.02.2023 wherein it was decided that the line/towers in the section between tower number 218 & 237 are to be dismantled with providing proper counter stays. OCC took note of it and agreed to the same.
3. The dismantling of line and towers up to the recommended span is to be carried out by BSPTCL at their own cost and the dismantled line and towers are to be handed over to DVC at a location, as communicated by DVC.
4. Responsibility of maintenance, safety and security of the portion of the line from 238 onwards (especially up to loc 246 which is under jurisdiction of DVC at present) will be upon BSPTCL.
5. Commercial issue, if any arises, is to be settled between DVC and BSPTCL bilaterally.
6. DVC shall communicate the dismantling clearance of the above-mentioned span to BSPTCL at the earliest.

7. Representative of BSPTCL assured that sufficient connectivity shall be available at 132kV voltage level for GSS Rajgir, Nalanda and Biharsharif even after disconnection of the 132kV Barhi-Biharsharif transmission tie line.
8. Representative of DVC confirmed that there will not be any issue from DVC side in case of disconnection of the said tie line.
9. The tie line status of 132kV Barhi-Biharsharif line shall cease to exist and the same will be intimated to CEA.

This is for information.

Deliberation in the 49th TCC Meeting:

TCC noted.

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A to E

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Sl. No.	Name	Designation	Company Name	Mobile No.	Email ID	Signature	Remarks
1	Shri Nihar Raj	Vice President O&M	Alipurduar Transmission Limited	9724334162	nihar.raj@adani.com		
2	Shri Nitesh Ranjan	Associate Vice President – O&M	Alipurduar Transmission Limited	9050009692	nitesh.ranjan@adani.com		
3	Mr. Sonam Phuntsho	Chief Engineer	Bhutan Power Coprporation Limited	+975-77204412	sonamphuntsho@bpc.bt		
4	Ms. Tshering Choden	Senior Engineer	Bhutan Power System Operator, Thimpu	+975-17411806	tsheringchoden@bpso.bt		
5	Shri Kumar Prasant	CE/ P&E	Bihar State power Transmission Company Limited (BSPTCL)	7763817730	ceplanningbsptcl@gmail.com abhishek.bsptcl@hotmail.com		
6	Shri Arun Kumar Chaudhary	CE (SO)	Bihar State power Transmission Company Limited (BSPTCL)	7763817733	so.dept@bsptcl.bihar.gov.in ce.sysop@gmail.com		
7	Shri Satya Narayan Kumar	CE(O&M)	Bihar State power Transmission Company Limited (BSPTCL)	776381 7721	cetransom1.bsptcl@gmail.com		
8	Shri A. Basu	AEE	BSPTCL (Posted at ERPC)	7033091492	abasu.14bsptcl@gmail.com		
9	Shri Sandip Pal	Sr. Vice President-System Operation	CESC Limited	9831054651	sandip.pal@rpsg.in		
10	Shri Koushik Banerjee	Dy. General Manager-System Control	CESC Limited	9831003281	koushik.banerjee@rpsg.in	23/3	
11	Smt. Nutan Mishra	Sr. GM	CTUIL	9873918449	nutan@powergrid.in		
12	Ajay Upadhyay	DGM	CTUIL	8826896857	ajayupadhyay@powergrid.in		
13	Mr. Arup Sarkar	Member Finance	Damodar Valley Corporation (DVC)	9425294115			
14	Mr. Asim Nandy	Executive Director.	Damodar Valley Corporation (DVC)	9432165236	asim.nandy@dvc.gov.in		
15	Mr. Subrata Ghoshal	Principal Chief Engineer	Damodar Valley Corporation (DVC)	9432677003	subrata.ghoshal@dvc.gov.in		
16	Mr. Jayanta Dutta,	Chief Engineer,	Damodar Valley Corporation (DVC)	9431515717	jayanta.dutta@dvc.gov.in		
100	BB Sharma Additional CE	Sikkim Power Department		8016430780	sharmabhanu89@yahoo.in		
101	Krishna kr pradhan SE	"		9593385398	Krishna Pradhan		

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Sl. No.	Name	Designation	Company Name	Mobile No.	Email ID	Signature	Remarks
17	Mr. D.P.Puitandi	Chief Engineer SLDC	Damodar Valley Corporation (DVC)	9434745905	deli.prasad.puitandi@dvc.gov.in		
18	Shri Shishir Sharma	Vice President	Dans Energy	9871177212	Shishir.sharma@dansenergy.com		
19	Mr. Neeraj Kumar Verma	DGM-Sekura	Darbanga-Motihari Transmission Power Ltd.	9599221848	neeraj.verma@energy-sel.com		
20	Mr. Nishant Kumar	AGM	Darbanga-Motihari Transmission Power Ltd.	7987210324	Nishant.Kumar@energy-sel.com		
21	Mr. Kencho Gyeltshen	Head-O&MSC	Druk green Power Corporation Limited	+975-17902947	k.gyeltshen780@drukgreen.bt		
22	Mr. Younten Jamtsho	Head-THP	Druk green Power Corporation Limited	+975-17609242	y.jamtsho784@drukgreen.bt		
23	Shri Rajib Sutradhar	Executive Director	Eastern Regional Load Dispatch Centre (ERLDC)	9431302714	rajibsutradhar@grid-india.in		
24	Shri Ankit Jain	Chief Manager	Eastern Regional Load Dispatch Centre (ERLDC)	9436335381	ankitjain@grid-india.in		
25	Shri Alok Pratap Singh	Manager	Eastern Regional Load Dispatch Centre (ERLDC)	9007285390	apsingh@grid-india.in		
26	Shri N.S. Mondal	Member Secretary	ERPC	9958389967	mserpc-power@nic.in		
27	Shri S. Kejriwal	Director	ERPC	9831919509	shyam.kejriwal@gov.in		
28	Shri S. Mukherjee	Dy Director	ERPC	8794277306	srijit.mukherjee@gov.in		
29	Shri P. P. Jena	Dy Director	ERPC	9776198991	ppjena.erpc@gov.in		
30	Shri A. Das	Dy Director	ERPC	9681214774	anup.das0007@gmail.com		
31	Shri S. K. Pradhan	Dy Director	ERPC	8249244719	sk.pradhan15@gov.in		
32	Shri A. De	Dy Director	ERPC	9681932906	alik.erpc@gov.in		
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TCC MEETING, GANGTOK, 23RD MARCH 2023

Sl. No.	Name	Designation	Company Name	Mobile No.	Email ID	Signature	Remarks
33	Shri Manoj Mishra	Plant-Head	GMR Kamalanga Energy Ltd	8550953421	manoj.mishra@gmrgroup.in		
34	Shri Pradeep Kumar Mohanty	General Manager	GMR Kamalanga Energy Ltd	7894450332	pradeep.mohanty@gmrgroup.in	23/3/23	
35	Shri Prashant Kumar Das	CGM	GRIDCO Limited	~~9438030016~~ 9438907408	prashantk_das@yahoo.co.in	23/03/23	
36	Shri Srikanta Kumar Sahoo	Sr. G.M.	GRIDCO Limited	9438030016			
37	Ms. Susmita Mohanty	D.G.M.	GRIDCO Limited	9437232456	Susmita Mohanty ele.smohanty@gmail.com		
38	Shri Susobhan Patra	General Manager	Haldia Energy Limited	9007008219	susobhan.patra@rpsg.in		
39	Shri Indu Bhusan Chakraborty	Sr. Vice President	India Power Corporation Limited	9836384567	indu.chakraborty@indiapower.com		
40	Shri Amit Prakash	Vice President	India Power Corporation Limited		amit.prakash@indiapower.com		
41	Shri Arun Kumar	GM-SLDC	Jharkhand SLDC	7070816390	sldcranchi@gmail.com		
42	Shri M K Karmali	Director-Projects	Jharkhand Urja Sancharan Nigam Limited	8987581081	dir.p.jusnl@gmail.com		
43	Shri Praween Kumar	GM (C&M)	Jharkhand Urja Sancharan Nigam Limited	8987421011	praween.jseb@gmail.com		
44	Shri Umesh Prasad Singh	GM-CRITL	Jharkhand Urja Sancharan Nigam Limited	8987634706	cecritl.jusnl@rediffmail.com		
45	Sri Shailesh Pathak	CA Manager (F&A	Jharkhand Urja Vikas Nigam Ltd.	9934597346	shlshpathak@gmail.com		
46	Shri Vijay Bhaskar Reddy	Chief Executive Officer	Jindal India Thermal Power Limited	9701008282	Vijayabhaskar.d@Jindalgroup.com)		
47	Shri Shubhang Nandan	Head Powersales and Regulatory	Jindal India Thermal Power Limited	9931842606	head.powersales@Jindalgroup.com		
48	Shri Sanjay Mittal	Director Powersales & Regulatory	Jindal India Thermal Power Limited	9811314080	sanjay_mittal@Jindalgroup.com		

TCC MEETING, GANGTOK, 23RD MARCH 2023

Sl. No.	Name	Designation	Company Name	Mobile No.	Email ID	Signature	Remarks
49	Shri Kumud Ranjan Sinha	GM Technical	JUUNL	8210263836	KUMUD 5374 @ gmail.com		
50	Shri Krishnendu Chakraborty	Asst. Vice President (Plant Head)	Madhya Bharat Power Corporation Ltd.	7477793179	kchakraborty@mbpcl.co.in		
51	Shri Gulsan Kumar Singh	Dy. Manager (O&M , Commercial)	Madhya Bharat Power Corporation Ltd.	8016889840	gkumar@mbpcl.co.in		
52	Shri Sudip Kumar Dash	Head - Commercial & Regulation	Maithon Power Ltd.	9204652869	sudipdash@tatapower.com		
53	Shri Suraj Dhiman	General Manager (O&M)	NHPC	9816502062	surajdhiman@nhpc.nic.in		
54	Shri S.K.Srivastava	Director,	NPTI (ER)	9434537001			
55	Dr. Manju Mam	Principal Director	NPTI CO	9313354788			
56	Shri G C Mohapatra	AGM(Comml), ER-IIHQ	NTPC Ltd, Bhubaneswar	9437049372	gcmohapatra@ntpc.co.in		
57	Shri Prashant Chaturvedi	AGM	NTPC Ltd. ~~Patna~~ Delhi	9650993493	pchaturvedi02@ntpc.co.in		
58	Shri Manish Jain,	Head of Commercial, Eastern Region-1,	NTPC Ltd. Patna	9650993493	manishjain02@ntpc.co.in		
59	Shri Lakshmi Nrusingha Padhy	Sr. GM	Odisha Hydro Power Corporation	7328840167	Lakshmi.padhy163@gmail.in		
60	Shri Amiya Kumar Mohanty	GM (El)	Odisha Hydro Power Corporation	7328840019	akm_676@yahoo.com		
61	Shri Manas Ranjan Rout	Director-Operations	Odisha Power Generation Corporation (OPGC)	9777296075, 8080383303	manas.rout@opgc.co.in		
62	Shri Krushna Chandra Samantray	AGM-Elec	Odisha Power Generation Corporation (OPGC)	9338715428	krushna.samantray@opgc.co.in		
63	Shri Pradeep Kumar Mahapatra	General Manager	Odisha Power Generation Corporation (OPGC)	9338715401	pradeep.mahapatra@opgc.co.in		
64	Shri Santosh Kumar Das	DGM - Elec	Odisha Power Transmission Corporation Litd.	9438907316	ele.santoshdas@optcl.co.in		

TCC MEETING, GANGTOK, 23RD MARCH 2023

Sl. No.	Name	Designation	Company Name	Mobile No.	Email ID	Signature	Remarks
65	Shri Chitta Ranjan Mishra	DGM - Elec	Odisha Power Transmission Corporation Litd.	9438907305	ele.crmishra@optcl.co.in		
66	Shri Prasanta Kumar Satapathy	Sr. General Manager	Odisha SLDC				
67	Shri Subas Chandra Dash	General Manager	Odisha SLDC				
68	Shri B. B. Mehta	Director	Odisha SLDC	879200736 / 9438907008	bbm31162@hotmail.com		
69	Shri A Barat	Executive Director, ER-II	Power Grid Corporation India Ltd	9434735952	abarat@powergrid.in		
70	Shri M Thirumala Reddy	Chief GM (AM), CC	Power Grid Corporation India Ltd	9594061764	thirumalareddy@powergrid.in		
71	Shri R. Wadhwa	Chief GM (AM), ER-I	Power Grid Corporation India Ltd	9873549054	r_wadhwa@powergrid.in		
72	Smt. Nandita Chakraborty	Resident Manager (ER & NER)	PTC India Limited	9831630072	nandita.chakraborty@ptcindia.com		
73	Shri Ganesh Chettri	PCE CUM SECRETARY	Sikkim Power Department				
74	Shri Dilip Sharma	Principal Chief Engineer	Sikkim Power Department				
75	Shri Sunil Rai	Chief Engineer	Sikkim Power Department				
76	Smt Shova Thapa	Chief Engineer	Sikkim Power Department				
77	Shri Bikash Deokata	Chief Engineer	Sikkim Power Department				
78	Shri Dinesh Prasad Bhargava	Managing Director	Teesta Urja Limited	9958833995	D.P Bhargava @teestaurja.com		
79	Shri Yogendra Kumar	ED cum President	Teesta Urja Limited	9910401388	ykumar@teestaurja.com		
80	Shri Satyan Sood	ED - Project & Contracts	Teesta Urja Limited	9899580257	Satyan@teestaurja.com		

(98) Devendra Pradhan PCE Mechanical Sikkim Power Department
(99) Kazi Pradhan CE Electrical Sikkim Power Department

TCC MEETING, GANGTOK, 23RD MARCH 2023

Sl. No.	Name	Designation	Company Name	Mobile No.	Email ID	Signature	Remarks
81	Shri Jaideep Lakhatiya	Company Secretary	Teesta Urja Limited	9810519283	jaideep.l@teestaurja.com		
82	Shri Ratish Kumar	Director (TUL)	Teesta Urja Limited	9810345492	ratish.kumar@teestaurja.com		
83	Shri Swapan Kumar Bhowmick	Advisor	Teestavalley Power Transmission Limited	9958008265	swapan.b@tvptl.com		
84	Shri Prabhat Kumar	General Manager	Teestavalley Power Transmission Limited	9431241313	prabhat@tvptl.com		
85	Shri Anil Kumar Sharma	Managing Director	Tenughat Vidyut Nigam Limited, Ranchi	9031051155			
86	Shri Ashish Kumar Sharma	ESE	Tenughat Vidyut Nigam Limited, Ranchi	9031049922	ashish.sharma@tvnl.in		
87	Shri Preetam Banerjee	Superintending Engineer (ALDC)	WBSEDCL	7003871189 / 9432140765	preeban72@gmail.com		
88	Shri Santanu Roy	Superintending Engineer (ALDC)	WBSEDCL	9733256232	santanu_engr@yahoo.co.in		
89	Shri Kausik Shaw	Superintending Engineer (PTP)	WBSEDCL	9475216491	sekhar.kousik@gmail.com		
90	Shri Sabyasachi Roy	Director(Operations)	WBSETCL	9432316727	Sabya_60@yahoo.com		
91	Shri Debashis Chaki	C.E., CPD,	WBSETCL	9434910019	cpd.wbsetcl@gmail.com		
92	Shri Goutam Nayak	C.E., SLDC	WBSETCL	9434910030	ce.wbsldc@gmail.com	23/3/23	
93	Shri Subhasis Ghosh	Advisor (O&M)	West Bengal Power Development Copr (WBPDCL)	9073900831	s.ghosh03@wbpdcl.co.in		
94	Shri Kausik Datta	Executive Director(OS)	West Bengal Power Development Copr (WBPDCL)	8336903895	kdatta@wbpdcl.co.in		
95	Shri Manoj Podder	DGM(OS)	West Bengal Power Development Copr (WBPDCL)	8336904077	mpodder@wbpdcl.co.in		

(96) Deparati vasu Executive Director PRDC 9903010743

(97) Shri S Sunil Executive chairman SHKM urja Ltd.

Annexure-A1

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee
14, गोल्फ क्लब रोड, टालीगंज, कोलकाता-700033
14 Golf Club Road, Tollygunj, Kolkata-700033

Tel. No.: 033-24239651,24239658 FAX No.:033-24239652, 24239653 Web: **www.erpc.gov.in**

No: ERPC/TCC&ERPCCOMMITTEE/14/2023/1513 Date: 22.02.2023

To:

1) **The ERPC Members**
2) **The TCC Members**

Subject: Minutes of 48th TCC & ERPC Meeting held on 17.02.2023 & 20.02.2023 respectively-reg

Sir,

Please find enclosed Minutes of 48th TCC& ERPC Meeting held on 17.02.2023 & 20.02.2023 respectively through online MS Teams platform for your kind information & necessary action.

Yours faithfully,

22.2.2023

(N. S. Mondal)
Member Secretary

Distribution: ERPC Members

1. Chairperson, ERPC & Chairman-cum-Managing Director, Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
2. Chairman-cum-Managing Director, Jharkhand Urja Utpadan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
3. Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
4. Managing Director, Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi- 834004.
5. Managing Director, Tenughat Vidyut Nigam Ltd., Hinoo, Doranda, Ranchi – 834002
6. Chairman-cum- Managing Director, Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800001.
7. Managing Director, Bihar State Power Transmission Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
8. Managing Director, South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna- 800001.
9. Chairman & Managing Director, West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
10. Managing Director, West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
11. Chairman & Managing Director, West Bengal Power Development Corporation Ltd., Bidyut Unnayan Bhavan, 3/C, Block LA, Sector-III, Bidhannagar, Kolkata-700098.
12. Managing Director, Durgapur Projects Ltd., Administrative Building, Durgapur-713201, West Bengal.
13. Principal Chief Engineer-cum-Secretary, Energy & Power Department, Govt. of Sikkim, Kazi Road, Gangtok – 737101, Sikkim.
14. Chairman-cum-Managing Director, Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar- 751022.
15. Chairman, GRIDCO Ltd., Janpath, Bhubaneshwar-751022.
16. Chairman-cum-Managing Director, OHPC Ltd., Orissa State Police Housing & Welfare Corporation Bldg. Vanivihar, Janpath, Bhubaneswar- 751022.
17. Managing Director, OPGC Ltd., Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
18. Chairman, Damodar Valley Corporation, DVC Towers, VIP Road, Kolkata -700054.
19. Member (GO&D), Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
20. Director (Commercial), NTPC Ltd., Core-7, SCOPE Complex, Lodhi Road, New Delhi -110003.
21. Director (Technical), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad, Haryana-121003.
22. Director (Operations), Power Grid Corporation of India Ltd., Saudamini, Plot No. 2,Sector-29, Gurgaon-122001.
23. COO, CTUIL, Saudamini, 1st Floor, Plot-1, Sector-29, Gurgaon-122001
24. Executive Director, ERLDC, POSOCO, 14 Golf Club Road, Tollygunge, Kolkata – 700033.
25. Chairman-cum- Managing Director, POSOCO, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016
26. Director (C&O), PTC India Ltd., 2nd floor, NBCC Tower,15 Bhikaji Cama Place, New Delhi- 110066.
27. Chief Executive Officer, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
28. Managing Director, Tata Power Trading Company Limited, B12/13, 2nd Floor, Shatabdi Bhavan, Sector-4, Noida-201301, Uttar Pradesh.
29. Managing Director (Generation), CESC Ltd., CESC House, 1 Chowringhee Square, Kolkata- 700001.
30. Chief Executive Officer, Maithon Power Ltd., Village-Dambhui, P.O. Barbindia, Dist.-Dhanbad, Jharkhand- 828205.
31. VP(Plant Head), GMR Kamalanga Energy Ltd., AT/PO-Kamalanga, PS-Kantabania, Via- Meramundali, Dist.- Dhenkanal, Odisha-759121.
32. Chief Executive Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.
33. Managing Director, Teesta Urja Limited, 2nd Floor, Vijaya Building, 17 Barakhamba Road, New Delhi- 110001.
34. CEO, Alipurdar Transmission Limited, 101, Part-III, G.I.D.C Estate, Gandhinagar, Gujrat-382028
35. CEO, BRBCL, Nabinagar, Dist- Aurangabad, Bihar-82430
36. Head (Procurement & Sale), IPCL, Salt Lake, Kolkata-700091
37. Managing Director (Generation), Haldia Energy Limited

Distribution: TCC Members

1. Chairperson, TCC & Managing Director, Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
2. Executive Director (Tech),, Jharkhand Urja Utpadan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
3. Director (Project), Jharkhand Urja Sancharan Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi- 834004.
4. Chief Engineer (S&D-JBVNL), Jharkhand Urja Vikas Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
5. Chief Engineer (S&D), Jharkhand Bijli Vitaran Nigam Limited, Engineering Building, HEC, Dhurwa, Ranchi-834004.
6. General Manager, Tenughat TPS, Lalpania, Dist- Bokaro, Jharkhand-829149.
7. Director (Tech.), Bihar State Power Generation Company Limited, Vidyut Bhavan, Bailey Road, Patna-800001.
8. Chief Engineer (Commercial), Bihar State Power Holding Company Ltd., Vidyut Bhavan, Bailey Road, Patna-800001.
9. Director (Project), South Bihar Power Distribution Company Limited, Vidyut Bhavan, Bailey Road, Patna-800001.
10. Director (Operations), West Bengal State Electricity Transmission Company Ltd., Vidyut Bhavan, 8th Floor, Block-DJ, Sector-II, Bidhannagar, Kolkata-700091.
11. Director (R&T), West Bengal State Electricity Distribution Company Ltd., Vidyut Bhavan, 7th Floor, Block- DJ, Sector-II, Bidhannagar, Kolkata-700091.
12. Director (O&M), WBPDCL, Bidyut Unnayan Bhavan, 3C, Block-LA, Sector-III, Bidhannagar, Kolkata- 700098.

12. General Manager (Technical), Durgapur Projects Ltd., Administrative Building, Durgapur, West Bengal- 713201.
13. Principal Chief Engineer-II, Energy & Power Dept., Govt. of Sikkim, Kazi Road, Gangtok-737101.
14. Director (Operation), Odisha Power Transmission Corporation Ltd., Janpath, Bhubaneswar - 751022.
15. Managing Director, GRIDCO Ltd., Janpath, Bhubaneswar-751022.
16. Director (Operation), Orissa Power Generation Corporation Ltd, Zone-A, 7th floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023.
17. Director (Operation), Orissa Hydro Power Corporation Ltd, Orissa State Police Housing & Welfare Corporation Building, Vanivihar Chowk, Janpath, Bhubaneswar-751022.
18. Executive Director (Commercial), Damodar Valley Corporation, DVC Tower, VIP Road, Kolkata-700054.
19. Chief Engineer (GM), CEA, Sewa Bhawan, R.K. Puram, New Delhi-110066.
20. Regional Executive Director (ER-I), NTPC Ltd., 2nd floor, Lok Nayak Jai Prakash Bhawan, Dak Bunglow Chowk, Patna-800001.
21. Regional Executive Director (ER-II), NTPC Ltd., 3rd Floor, OLIC Building, Plot No.N-17/2, Nayapalli, Bhubaneswar-751012.
22. COO, CTUIL, Saudamini, 1st Floor, Plot-1, Sector-29, Gurgaon-122001
23. Executive Director (O&M), NHPC Ltd., NHPC Office Complex, Sector-33, Faridabad-121003, Haryana.
24. Executive Director (ER-I), Power Grid Corporation of India Ltd, Board Colony, Shastri Nagar, Patna- 800023.
25. Executive Director (ER-II), Power Grid Corporation of India Ltd, CF-17, Action Area-I, Newtown, Rajarhat, Near Axis Mall, Kolkata-700091.
26. Executive Director (Odisha Project), Power Grid Corporation of India Ltd, Plot No-4, Unit 41, Niladri Vihar, Chandrasekharpur, Bhubaneswar, Odisha-751021.
27. Executive Director, ERLDC, POSOCO, 14 Golf Club Road, Kolkata –700 033.
28. Executive Director, National Load Dispatch Center, POSOCO, B-9 Qutab Institutional Area, Katwaria Sarai,New Delhi-110016.
29. Executive Director (Marketing), PTC India Ltd., NBCC Tower, 15 Bhikaji Cama Place, New Delhi-110066.
30. Chief General Manager, NTPC Vidyut Vyapar Nigam Limited, SCOPE Complex, Core-3, 7th Floor, Lodhi Road, New Delhi-110003.
31. Head (Marketing), Tata Power Trading Company Limited, B-12/13, 2nd Floor, Shatabdi Bhavan, Sector-4, Noida-201301, Uttar Pradesh.
32. Vice President (System Operation), CESC Ltd, CESC House, 1 Chowringhee Square, Kolkata-700001.
33. Station Head & General Manager (O&M), Maithon Power Ltd., Village-Dambhui, P.O. Barbindia, Dist.- Dhanbad, Jharkhand-828205.
34. GM (Head-Electrical
35.), GMR Kamalanga Energy Ltd., AT/PO-Kamalanga, PS-Kantabania, Via-Meramundali, Dist.- Dhenkanal, Odisha-759121.
36. Chief Operating Officer, Jindal India Thermal Power Limited, Plot No-12, Sector-B1, Local Shopping Complex, Vasant Kunj, New Delhi-110070.
37. Managing Director, Teesta Urja Limited, 2nd Floor, Vijaya Building, 17 Barakhamba Road, New Delhi- 110001.
38. CEO, Alipurdar Transmission Limited, 101, Part-III, G.I.D.C Estate, Gandhinagar, Gujrat-382028
39. Head (Comml), IPCL, Salt Lake, Kolkata-700091
40. Managing Director (Generation), Haldia Energy Limited

EASTERN REGIONAL POWER COMMITTEE, KOLKATA

MINUTES OF 48th ERPC MEETING

Date: 20th Feb, 2023(Monday), at 11:00 Hrs **Mode: online through MS Teams**

List of participants is enclosed at Annexure-I.

A. Establishment of Paradip 765/400/220kV, 3x1500MVA + 2x500MVA substation (ERES-XXXIV)

1. In the 1st CMETS-ER held on 25-11-2021, implementation of 765/400/220kV Paradeep substation under intra-state scheme was agreed to meet the upcoming industrial demand in the area. The feed was provided to Paradeep from Angul (POWERGRID) S/s through 765kV D/c line. Principal Secretary to Government, Department of Energy, Govt. of Odisha vide letter dated 27-12-2022 addressed to Secretary (Power), Ministry of Power, Govt. of Odisha has proposed for construction of Paradeep 765kV substation under ISTS.
2. New industrial demand in the range of 6-7GW is expected in Paradeep area starting from FY 2023- 24. Paradeep is emerging as Green Hydrogen Hub and various industries have expressed investment intentions to set up Green Hydrogen and Green Ammonia plants in Paradeep due its location advantage.
3. There is a requirement of ISTS corridor to supply RE power from outside Odisha, to meet the RPO of these industries. Thus, keeping in view critical nature of large industrial demand and quantum of power requirement it is essential that Paradeep substation is feed reliably from ISTS, and with high capacity lines. The quantum of power requirement by some of the industries, viz. JSW Utkal Steel (340MW); IOCL (280MW) and Essar Steel (400MW) can be met through 220kV level. Accordingly, it is proposed to establish a 765/400/220kV substation at Paradeep under ISTS with two different sources viz. Angul and Medinipur in phased manner.
4. In the initial phase, Paradeep S/s along with Angul – Paradeep 765kV D/c line is planned to be established to meet the early industrial demand of about 1400-1500MW. Subsequently, with growth in demand new 765/400kV or 400/220kV ICTs would be installed in progressive manner. In the subsequent phase, Angul – Paradeep 765kV 2nd D/c line and Paradeep – Medinipur 765kV D/c line to meet the industrial demand of about 5500-6000MW would be taken up progressively by 2027-28.
5. With establishment of Paradeep – Medinipur 765kV D/c link, Angul – Paradeep – Medinipur – Ranchi (New) – Dharamjaygarh – Sundargarh – Angul 765kV ring shall be established, which shall help in reliable transfer of RE power from outside ER to various states of ER viz. Odisha, Jharkhand, and West Bengal during high RE generation scenarios.
6. The present scheme is for establishment of Paradeep 765/400/220kV new substation along with Angul – Paradeep 765kV D/c line in initial phase, which has been approved in the 14th CMETS-ER held on 29th Dec 2022. Balance portion would be taken up progressively with demand growth.

   Paradeep 765kV S/s approved under intra-state in the 1st CMETS-ER shall not be implemented by OPTCL in view of the instant plan of establishment of 765kV S/s at Paradeep in ISTS.

7. The brief scope of the scheme is given below:

i. Establishment of Paradeep 765/400/220kV 3x1500MVA + 2x500MVA S/s
ii. Angul (POWERGRID) – Paradeep 765kV D/c line along with 765kV, 1x330MVAr switchable line reactor with 500 ohm NGR (with NGR bypass arrangement) at Paradeep end in both circuits
iii. Paradeep – Paradeep (OPTCL) 400kV D/c (Quad) line
iv. 2 nos. 765kV line bays (along with space for future switchable line reactor) at Angul 765/400kV S/s for termination of Angul (POWERGRID) – Paradeep 765kV D/c line.
v. 2 nos. 400kV line bays at Paradeep (OPTCL) S/s for termination of Paradeep – Paradeep (OPTCL) 400kV D/c (Quad) line.

The detail scope of the scheme as well as the study result submitted by CTU is enclosed at Annexure-A.

Estimated Cost: Rs. 2613.10 Cr.

Deliberation in TCC Meeting:

CTUIL representative briefed the requirement and scope of the proposed transmission scheme at Paradip, Odisha. He informed that the scheme was considered under ISTS upon the request of dept of energy, Govt of Odisha to meet the demand of upcoming Green Hydrogen and Green Ammonia plants which would receive RE power from outside Odisha through ISTS corridor. The scheme will be implemented in phase wise and the present scheme under consideration is for first phase with implementation timeframe of 24 months from the date of award i.e. 2024-25.

The followings observations with respect to the proposed scheme were deliberated in the meeting:

- *Timeline for commissioning of downstream transmission system: OPTCL representative submitted that 400/220 kV Paradip(OPTCL) s/s along with connecting lines to ISTS will be coming with the matching time line of the ISTS system at Paradip. The substation as well as transmission line contracts have already been awarded and the schedule timeframe for completion is Dec-24.*
- *220 kV level in ISTS system: It was informed that 220 kV level is being implemented in view of anticipated drawl requirement from other industries as provided by OPTCL.*

  Director(O), OPTCL stated that the demand of each of green hydrogen/ammonia industries are to the tune of 600 -2000 MW therefore those industries are most likely to be connected to ISTS at 400 kV level. The other industries which will be coming up with lower power requirement would be connected at 220 kV level. He clarified that at present OPTCL has no plan of drawing power at 220 kV level from ISTS system at Paradip.

- *Representative from ERLDC raised the following observations:*

  For the green hydrogen/green ammonia industries, the nature of load(active or passive) may be identified and effect of that load on fault level of the substation shall be studied.

  While granting connectivity to industries, dynamic studies may be carried out considering the captive generation of the industries and effect of large induction motors into the national grid.

After detailed discussion, TCC recommended the proposed transmission scheme at Paradip with following observations:

- *Requirement of 220 kV level in first phase of the scheme under ISTS system may be reviewed at CTU/NCT level and the same may be considered for implementation in future phase of the proposed transmission scheme based on the requirement received from industries/OPTCL.*
- *As Paradip is a coastal town very near to Bay of Bengal, the substation/transmission infrastructure has to be robust and cyclone/flood resilient. The relevant guidelines of CEA in this regard shall be followed while designing the scheme.*
- *Before granting connectivity to the industries to ISTS, CTU may identify the nature of load and the effect of the load/captive generation on the grid through modelling and dynamic study of the system.*

Deliberation in ERPC Meeting

Representative of CTUIL briefly explained the requirement and scope of the scheme.

Representative of JBVNL made a query to CTU over the usefulness of the project for states of ER other than Odisha and stated that financial implication due to above project shall be analyzed and shared with the respective states. CTU responded that the Indian grid is now an integrated grid and every stakeholder shares the benefit of this integrated grid. The proposed scheme would help in bulk transfer of RE power from RE surplus region to Eastern Region.

Representative of JUSNL suggested that three nos. of 765/400 kV ICTs may be implemented in phased manner based on the load requirement instead of at a one go. Further it was also suggested to drop implementation of 220 kV level from 1st phase of the proposed transmission scheme. The same may be included in future scope of work.

West Bengal representative stated that as the scheme is required to essentially meet RE power requirement of green hydrogen/green ammonia industries, the same may be implemented.

CMD, OPTCL informed that the demand projected at Paradip is to the tune of 6000 MW in the time frame 2027-28 out of which 3000 MW would come up by 2024-25. Requirement of power for 1500 MW have already been received from various industries. Further, the govt of Odisha has started single window clearance for setting up of green hydrogen/green ammonia industries to fast track the process. He stated that as there is a requirement of huge RE power by the industries and the RE power need to be transmitted from other region through ISTS, the proposal has been considered under ISTS. The project is required to ensure reliable supply of power to the upcoming industries and need to implemented in expeditious manner.

After detailed deliberation, ERPC observed the following:

- *The requirement of 220 kV level in first phase of the scheme may be reviewed at CTU/NCT level as majority of the green hydrogen industry is going to be connected at 400 kV level and at present there is no firm demand for drawal of power from 220 kV level of ISTS system.*
- *The observation of JBVNL & JUSNL may be taken into consideration.*
- *As Paradip is a coastal town very near to Bay of Bengal, the substation/transmission infrastructure has to be robust and cyclone/flood resilient. The relevant guidelines of CEA in this regard shall be followed while designing the scheme. The substation may be implemented as GIS system.*
- *The projected load growth has to be realistic and the implementation of scheme may be planned matching with the load projection.*

Annexure-I

List of Participants in 48th ERPC Meeting

Name	First join
ERPC Kolkata	2/20/23, 10:45:31 AM
Gaurab Dash	2/20/23, 10:45:40 AM
SLDC, ODISHA (Guest)	2/20/23, 10:45:41 AM
GRIDCO, Odisha (Guest)	2/20/23, 10:45:41 AM
Pradeep Mahapatra	2/20/23, 10:45:47 AM
Rajesh Kumar	2/20/23, 10:47:13 AM
OPTCL Odisha	2/20/23, 10:49:09 AM
Sougato Mondal	2/20/23, 10:53:06 AM
CMD OPTCL	2/20/23, 10:53:59 AM
GM SLDC Ranchi (Guest)	2/20/23, 10:54:51 AM
SUBHASIS GHOSH	2/20/23, 10:57:09 AM
Shyamal Konar	2/20/23, 10:57:59 AM
R L Panda (Guest)	2/20/23, 10:58:28 AM
Amresh Mallick	2/20/23, 10:59:43 AM
Y K Dixit (Guest)	2/20/23, 10:59:44 AM
CTU -2	2/20/23, 11:00:13 AM
ohpc	2/20/23, 11:01:32 AM
Chandan Mallick	2/20/23, 11:01:41 AM
Shabari Pramanick	2/20/23, 11:01:42 AM
Akash Kumar Modi	2/20/23, 11:01:44 AM
Saurav Sahay	2/20/23, 11:01:46 AM
Bilash Achari	2/20/23, 11:01:53 AM
Saibal Ghosh	2/20/23, 11:01:59 AM
shyam.goyal	2/20/23, 11:02:13 AM
Marisarla Viswanadh	2/20/23, 11:02:19 AM
Ashok Pal	2/20/23, 11:02:25 AM
BB Mehta Odisha	2/20/23, 11:03:26 AM
Chandan kumar	2/20/23, 11:06:31 AM
Rishi Nandan, Jharkhand Bijili Vitran Nigam General Ma	2/20/23, 11:07:18 AM
Ashok Pal	2/20/23, 11:07:25 AM
Manas Das	2/20/23, 11:08:30 AM
Ankit Jain (Guest)	2/20/23, 11:13:33 AM
AJAYA SAHU (Guest)	2/20/23, 11:13:37 AM
Rishi Nandan,General Manager ,Commercial,JJBVNL	2/20/23, 11:15:28 AM
MD JUSNL (Guest)	2/20/23, 11:19:03 AM

List of Participants in 48th TCC Meeting

Name	First join
ERPC Kolkata	2/17/23, 10:48:11 AM
GRIDCO, Odisha (Guest)	2/17/23, 10:48:22 AM
Anuj Kumar/ Rohit Anand (Gird-India) (Guest)	2/17/23, 10:48:23 AM
OPTCL Odisha	2/17/23, 10:48:23 AM
Raj Kishan (Guest)	2/17/23, 10:48:23 AM
SLDC, ODISHA (Guest)	2/17/23, 10:48:24 AM
ohpc	2/17/23, 10:50:14 AM
Raj kishan	2/17/23, 10:50:42 AM
NLDC	2/17/23, 10:51:42 AM
Harish Saran, PTC	2/17/23, 10:55:02 AM
CTU -2	2/17/23, 10:55:16 AM
Manish Ranjan Keshari, CTU	2/17/23, 10:56:05 AM
shyam.goyal	2/17/23, 10:56:43 AM
Amit kumar	2/17/23, 10:56:49 AM
Priyam Jain	2/17/23, 10:57:23 AM
ED,Commercial,DVC	2/17/23, 10:58:00 AM
Sougato Mondal	2/17/23, 10:58:01 AM
Debabrata Biswas	2/17/23, 10:58:06 AM
BB Mehta Odisha	2/17/23, 10:59:21 AM
Pradeep Mahapatra	2/17/23, 10:59:53 AM
Amresh Mallick	2/17/23, 11:00:01 AM
R L Panda (Guest)	2/17/23, 11:00:06 AM
Chandan Mallick	2/17/23, 11:00:07 AM
Nishant Kumar Shankwar	2/17/23, 11:01:07 AM
Manas Das	2/17/23, 11:01:10 AM
Jasbir Singh	2/17/23, 11:01:17 AM
Deepak kumar (Guest)	2/17/23, 11:02:20 AM
Chandan kumar	2/17/23, 11:02:40 AM
Akash Kumar Modi	2/17/23, 11:02:47 AM
Virendra Kumar, DGM(Comml) (Guest)	2/17/23, 11:03:21 AM
Shabari Pramanick	2/17/23, 11:03:22 AM
Saurav Sahay	2/17/23, 11:03:29 AM
Bilash Achari	2/17/23, 11:03:49 AM
Ashok	2/17/23, 11:04:11 AM
Sandip Pal CESC	2/17/23, 11:04:30 AM
Chiranjib Bhowmik (Guest)	2/17/23, 11:05:02 AM
Ranajit Pal	2/17/23, 11:05:21 AM
Saibal Ghosh	2/17/23, 11:05:24 AM
Virendra Kumar, DGM(Comml) (Guest)	2/17/23, 11:05:54 AM
Arunava Sen Gupta	2/17/23, 11:06:36 AM
Ankit Jain (Guest)	2/17/23, 11:06:37 AM
AJAYA SAHU (Guest)	2/17/23, 11:13:54 AM
Raj kishan	2/17/23, 11:15:23 AM
A Basu	2/17/23, 11:21:12 AM
Prasanna Kumar Sahoo	2/17/23, 11:25:27 AM
Biswajit Mondal	2/17/23, 11:27:24 AM
RE, BSPHCL, Kolkata	2/17/23, 11:32:25 AM
Sandip Pal CESC	2/17/23, 11:38:20 AM
Abhishek	2/17/23, 11:56:23 AM
Dilip Bisui	2/17/23, 12:10:09 PM
ohpc	2/17/23, 12:22:55 PM
Marisarla Viswanadh	2/17/23, 12:27:42 PM

Workshop on PUShP Portal

Flexibilisation of PPA for Optimal Utilisation of Resources & Reduction in Cost of Power for Consumers

NATIONAL POWER COMMITTEE

Working of the Portal

i. Flowcharts and Timelines.

ii.Roles and Responsibilities.

iii.Terms and Conditions.

Flowcharts and Timelines:

i. For temporary reallocation of power of CGS

ii. For transfer of power of ISGS, IPPs and States through match making.

- For **longer duration (more than a day)-**process initiate on day of Application
- For **short term (one day)-** process initiate either on D-2 or D-3 day:
  - D-2 day: buyer confirms **advance payment** at the time of requisition
  - D-3 day: in the absence of advance payment.

For temporary reallocation of power of CGS for longer duration

Day	Timings (hrs)	Activity
A	Up to 08:00	**Declaration of surplus power** by Original Beneficiary
	08:00-18:00	**Requisition** from new beneficiary.
A+1	By 11:00	**Consent of CGS for availability of Unit** for requested time period
	12:00-16:00	**Application of Criteria** for allocation by CEA
A+2	10:00-14:00	**Transmission availability checking** by NLDC
	14:00-16:00	**Final Allocation** of power by CEA
A+3 to D-2	Upto 18:00	Arrangement of PSM by New Beneficiaries.
	18:00 to 08:00	New Contract creation in WBES at each RLDCs.
D-1	By 08:00	Confirmation of PSM from CGS at PSA portal
	08:00	Publication of entitlement for scheduling on day ahead basis
D		Commencement of delivery

A-Application Day
D-Delivery Day

Timeline for temporary reallocation of power of CGS for short term (in absence of advance payment)

Day	Timings(hrs)	Activity
D-3	Up to 08:00	**Declaration of surplus power** by Original Beneficiary
	08:00-10:00	**Requisition** from new beneficiary
	10:00-11:00	**Consent of CGS for availability of Unit** for requested time period
	11:00-12:00	**Application of Criterion** for allocation by CEA
	12:00-14:00	**Transmission availability check** by NLDC
	14:00-16:00	**Final Allocation** of power by CEA.
D-2	Window for - I. New Contract creation in WBES at each RLDCs. II. Arrangement of PSM by new beneficiaries.	
D-1	By 08:00	Confirmation of PSM from CGS at PSA portal
	08:00	Publication of entitlement for scheduling on day ahead basis
D	00:00	Commencement of delivery

D-Delivery Day

Timeline for temporary reallocation of power of CGS for short term (in presence of advance payment)

Day	Timings(hrs)	Activity
D-2	Up to 08:00	**Declaration of surplus power** by Original Beneficiary
	08:00-10:00	I. **Requisition** from new beneficiary II. Confirmation of arrangement of **PSM** by new beneficiary
	10:00 to 11:00	**Consent of CGS for availability of Unit** for requested time period
	11:00-12:00	**Application of criterion** for allocation by CEA
	12:00-14:00	**Transmission availability check** by NLDC
	14:00-15:00	**Final Allocation** of power by CEA
	15:00 onwards	Window for - New Contract creation in WBES at each RLDCs.
D-1	By 08:00	Confirmation of PSM from CGS at PSA portal
	08:00	Publication of entitlement for scheduling on day ahead basis
D	00:00	Commencement of delivery

D-Delivery Day

Flowcharts and Timelines:

i. For transfer of power of ISGS, IPPs and States:

- For **longer duration (more than a day)-**process initiate on day of Application
- For **short term (one day)-** process initiate either on D-2 or D-3 day:
  - D-2 day: buyer confirms **advance payment** at the time of requisition
  - D-3 day: in the absence of advance payment.

Timeline for temporary transfer of power of ISGS/IPP/State Gencos for longer duration (more than one day):

Day	Time	Activity
A	00 - 10:00 hrs.	Information of availability of surplus power by **GENCOs (States in case of State GENCOs)** on portal after confirmation of the checklist.
	10:00 to 18:00 hrs.	**(i) Requisition** from new buyers on portal **(ii) Initial match making** on portal.
A+1	00 to 0800 Hrs.	**GENCOs consent on portal for transfer of surplus power to new buyers**
	0800 to 24:00 hrs.	Confirmation of **payment security** by respective new buyers & GENCOs on portal
A+2	00 to 2400 hrs.	**Confirmation of availability of Transmission** by concerned Agency on portal.
A+3 to D-2	New Contract creation in WBES at each RLDCs.	
D-1	By 8: 00 Hrs.	Confirmation of PSM at PSA portal
	8:00 Hrs.	Publication of entitlement for scheduling.
D		Commencement of delivery

A-Application Day
D-Delivery Day

Timeline for temporary transfer of power of ISGS/IPP/State Gencos for short term (in absence of advance payment):

Day	Time	Activity
D-3	00 to 10:00 hrs.	Information of availability of **surplus power by GENCOs (States in case of State GENCOs)** on portal after confirmation of the checklist
	1000 to12:00 hrs.	(i)**Requisition** from new buyers on portal (ii) Initial **match-making** on the portal
	1200 to 14:00 Hrs.	**GENCOs consent for transfer of surplus power** to new buyers on portal
	1400 to 18:00 hrs.	Confirmation of **payment security** by new buyers & GENCOs on portal
	1800 to 24:00 hrs.	Confirmation of **availability of Transmission** by concerned Agency on portal.
D-2	New Contract creation in WBES at each RLDCs.	
D-1		Publication of entitlement for scheduling.
D		Commencement of delivery

D-Delivery Day

Timeline for temporary transfer of power of ISGS/IPP/State Gencos for short term (in presence of advance payment):

Day	Time	Activity
D-2	By 8:00 hrs.	Information of **availability of surplus power by GENCOs** (State in case of State GENCOs) on portal after confirmation as per the checklist
	0800 to 10:00 hrs.	**(i) Requisition** from new buyers on portal (ii) Initial **match making** on the portal
	1000 to 12:00 Hrs.	**GENCOs consent for transfer of surplus power** to new buyers on portal along with confirmation for advance payment.
	1200 to 14:00 hrs.	Confirmation of **availability of Transmission** by concerned Agency on portal.
	1400 to 24:00	New Contract creation in WBES at each RLDCs
D-1		Publication of entitlement for scheduling.
D		Commencement of delivery

D-Delivery Day

Roles and Responsibilities

Roles of original beneficiary:

1. submit the surplus quantum (MW), duration (block-wise) on the portal.
2. pay the FC and VC after **reinstatement of the allocated power**.

Roles of new beneficiary/buyer:

1. Requisition for availing the surplus power.
2. Pay both variable charge (VC) and fixed cost (FC) for temporary allocation/transfer of Power.
3. Shall comply the PSM as agreed and **Confirmation of PSM on portal**.
4. Shall make its own arrangements such as open access approvals and any other approvals, if applicable.
5. Shall **not surrender the surplus power again**, once allocated from original beneficiary, through portal.

Roles and Responsibilities

Roles of CGS:

- fill the **FC and VC details** at the first time of logging and shall update it by 8th of every month or as and when required.
- **verify details/data** related to their Gencos on portal at the first time/subsequent loggings.
- **confirm availability of units** during the period of requisition on the portal.
- confirm the availability of **payment security** before scheduling of surplus power.
- keep **updated status of generating units under reserve shutdown and planned shutdown** at the portal so that buyers may submit requisition bids accordingly.

Roles and Responsibilities

Role of ISGS/IPP/States (in case of state Gencos)

- The **Surplus power** shall be entered by Gencos (state PPC/LDCs in case of state Gencos) on portal after confirmation of the checklist.
- Shall submit the surrendered quantum (MW), duration (block-wise) on the portal.
- **GENCOs consent on portal for transfer of surplus power** to new buyers
- Confirmation of **payment security** by GENCOs on portal.

Roles and Responsibilities

Roles of NPC/CEA (For short term allocations):

NPC/CEA shall allocate surplus power on portal to willing new beneficiaries based on criteria as per approved scheme.

Roles of GM/CEA (for long term allocations):

GM/CEA shall allocate surplus power on portal to willing new beneficiaries based on criteria as per approved scheme.

Roles and Responsibilities

Roles of NLDC:

- check **availability of margins in the transmission** network and confirm the same on portal.
- NLDC shall intimate that whether the allocated/transfer of power has been started scheduling for report creation on the portal.

Roles of RLDC:

- RLDC shall **check availability of margins in the transmission** network and confirm the same on portal
- The concerned **RLDC shall schedule the surplus power** as per the final allocations.
- Shall incorporate the temporary allocation in their daily schedule as per practice.
- Shall update the allocation and provide input to NTPC through API for updation on National portal.
- RLDC shall intimate that whether the allocated/transfer of power has been started scheduling for report creation on the portal.

Roles and Responsibilities

Roles of SLDC/PPC:

- Information of **availability of surplus power by SLDC/PPC in case of State GENCOs** on portal after confirmation of the checklist.
- SLDC shall **check availability of margins** in the transmission network and confirm the same on portal
- SLDC shall intimate that whether the allocated/transfer of power has been started scheduling for report creation on the portal.
- SLDC/PPC in case of State GENCOs **consent on portal for transfer of surplus power** to new buyers.
- **Confirmation of payment security** by SLDC/PPC in case of State GENCOs on portal.

Roles and Responsibilities

Roles of RPC:

Concerned RPC will prepare the **REAs (Regional Energy Accounts)** and other accounts for Payment settlement.

Roles of developers of the portal (NTPC):

- Provide solution to the problem raised through customer support at the earliest in consultation with CEA and Grid India.
- NTPC shall provide the AMC of the portal 24x7 basis.

Terms and Conditions

The T & C are in line the approved scheme by MoP.

- **General T & C of the scheme (displayed at the time of login and shall be mandatory to accept these terms and conditions for login the portal)**
- **T & C to be accepted by Original Beneficiary (in case of CGS allocation) before surrender of power.**
- **T & C to be accepted by New Beneficiary or buyer for requisition of surplus power.**
- **T & C to be accepted by IPP/ISGS/State PPC/LDC (in case of State Gencos) before surrender of power.**

General T & C of the scheme

- The temporary allocation/transfer of power is **subject** to **willingness** of seller and Buyer, availability of **transmission corridor** and confirmation of **payment security** before scheduling of such power.
- Generating station whose tariff comes under section 62 and 63 of the Electricity Act 2003 with details as under:
    - For surplus power with **CGS, ISGS (excluding CGS), States/Distribution companies (whether state owned or private), IPPs.**
- The surplus power shall be **allocated/transferred as per the scheme.**
- The power shall be **bought/sold at the tariff** as determined by the Appropriate Commission.
- The **transmission charges** shall be paid as applicable to the concerned transmission service providers (CTU or STU or as the case may be).
- **PSM or PPA-** as per the **mutually** agreed terms & condition and the same shall be **confirmed** by the Gencos and the new buyer on the portal.

General T & C of the scheme

- The new buyer or beneficiary liable to pay both VC and FC,
- original beneficiary shall have **no right to recall** as entire FC liability is shifted to the new beneficiary because power being temporarily reallocated/transferred to them.
- The financial liability of new buyer or beneficiary shall be **limited to quantum of temporarily allocated/transferred power**.
- The nodal officers of CGS, ISGS, IPPs, State Power Purchasing Cell/ SLDC shall ensure following on the portal:
    - Shall fill the Fixed charge and Variable charge details of their generating stations.
    - Shall verify details/data related to their Gencos on portal at the first time/subsequent loggings.
    - availability of units of CGS during the period of requisition on the portal.
- In case of allocation of power of CGS, for both short term and long term temporary allocation, the surrender of surplus power and requisition will be done as per the approved scheme i.e. in terms of quantum (MW), duration (block-wise). However, **final allocation of power to the new buyer shall be only in percentage of installed capacity.**

T & C for Original Beneficiary (in case of CGS allocation) before surrender of power

- **Surplus power will remain with original beneficiary** if power is not allocated to new Buyer or beneficiary due to any reason.

- **Fixed cost and variable charges will be transferred to new Buyer or beneficiary** only if the power is allocated to new Buyer or beneficiary, otherwise it will be remained with the original beneficiary.

- The original beneficiary **cannot claim the declared surplus power** once it is allocated to a new Buyer or beneficiary for the period of temporary allocation.

- The original allocation will be **reinstated** after the expiry of the temporary allocation period and liability of FC and VC shall be as per original scheme.

Terms and Conditions for New Beneficiary or buyer for requisition of surplus power

- For requisition of power of CGS
  - Requested power will be allocated to new beneficiary only after **order matching and Transmission corridor checking.**
  - **Liability of Fixed cost and Variable cost** shall shift to the new beneficiary/buyer once power is allocated by CEA.
  - After the expiry of the temporary allocation, original allocation of Power will be **reinstated**.
  - New beneficiary must submit the PSM to CGS for allocation of power. **Without PSM submission as per timeline, Schedule of power shall not be possible.**

- For requisition of power of IPP/ISGS/States(in case of State Gencos)
  - The **consent of Gencos (states in case of state Gencos)** on portal for transfer of surplus power to new buyer is necessary

Terms and Conditions for IPP/ISGS/State PPC/LDC (in case of State Gencos) before declaration of surplus power

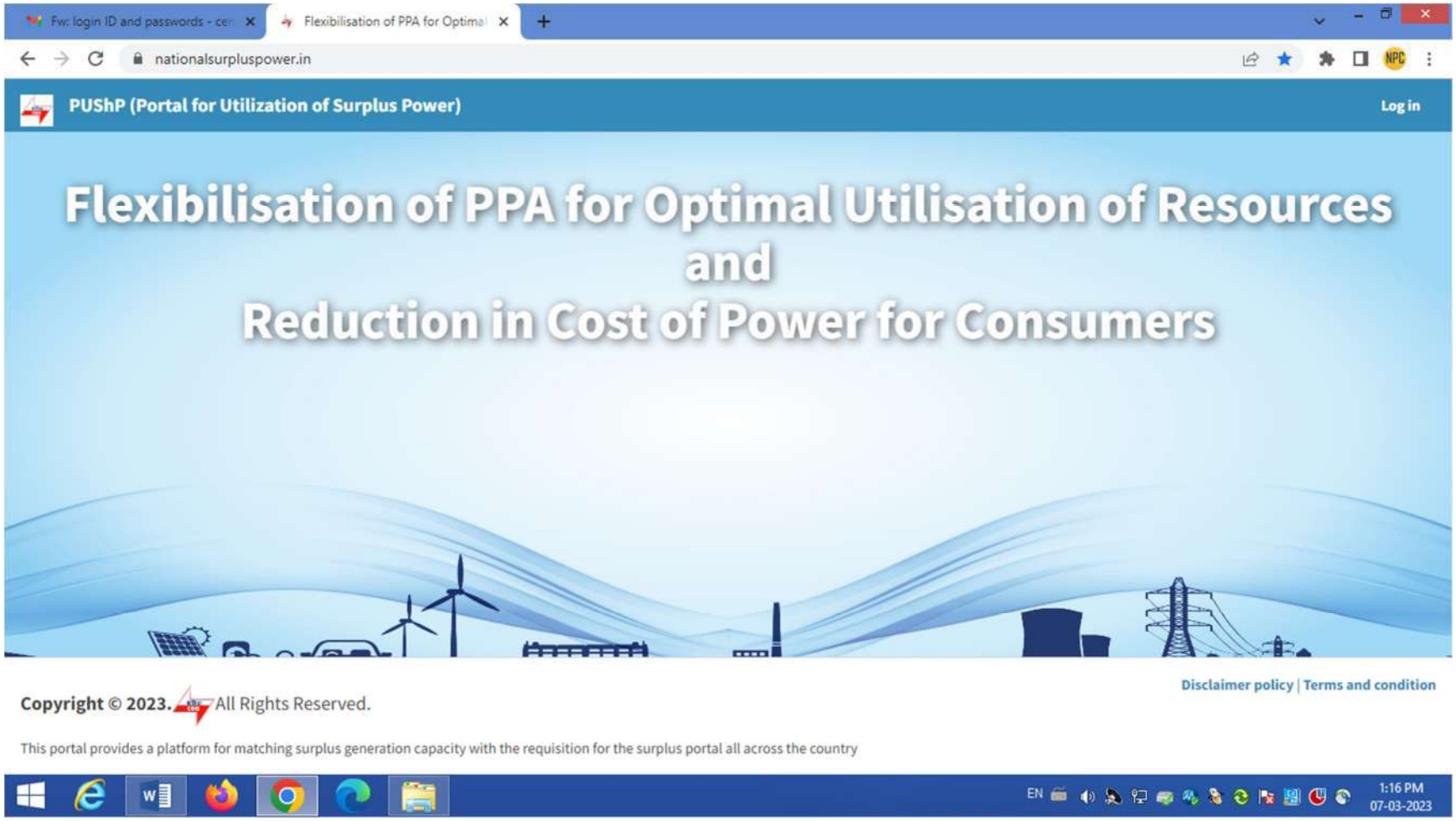
- The Surplus capacity shall be entered by **Gencos (state PPC/LDCs** in case of state Gencos) on portal after confirmation of the **checklist.**

THANK YOU

Working of the Portal

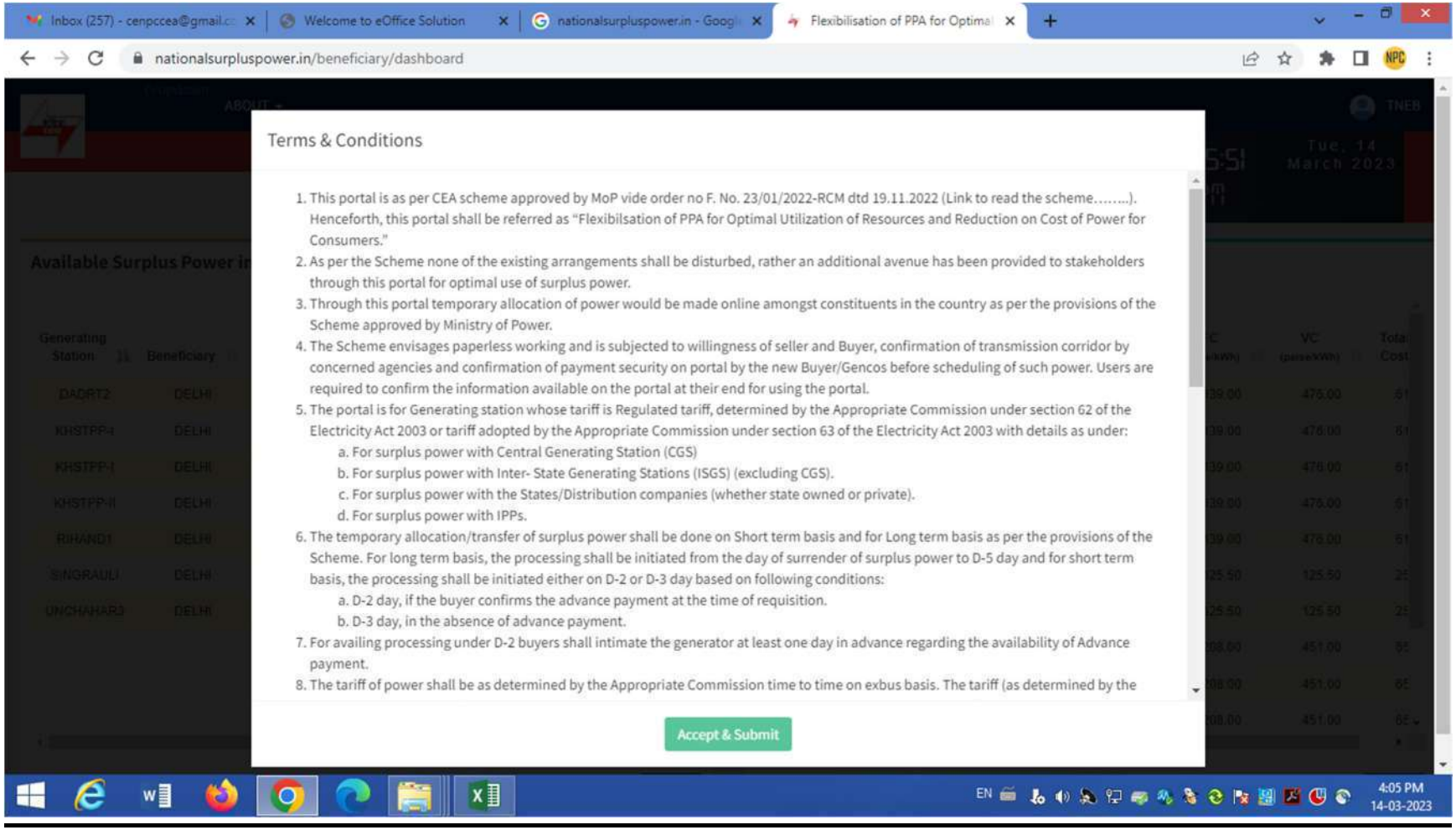
Case study for surrendering-requisition of Power of Central Generating Stations (CGSs)

First Page of the Portal:



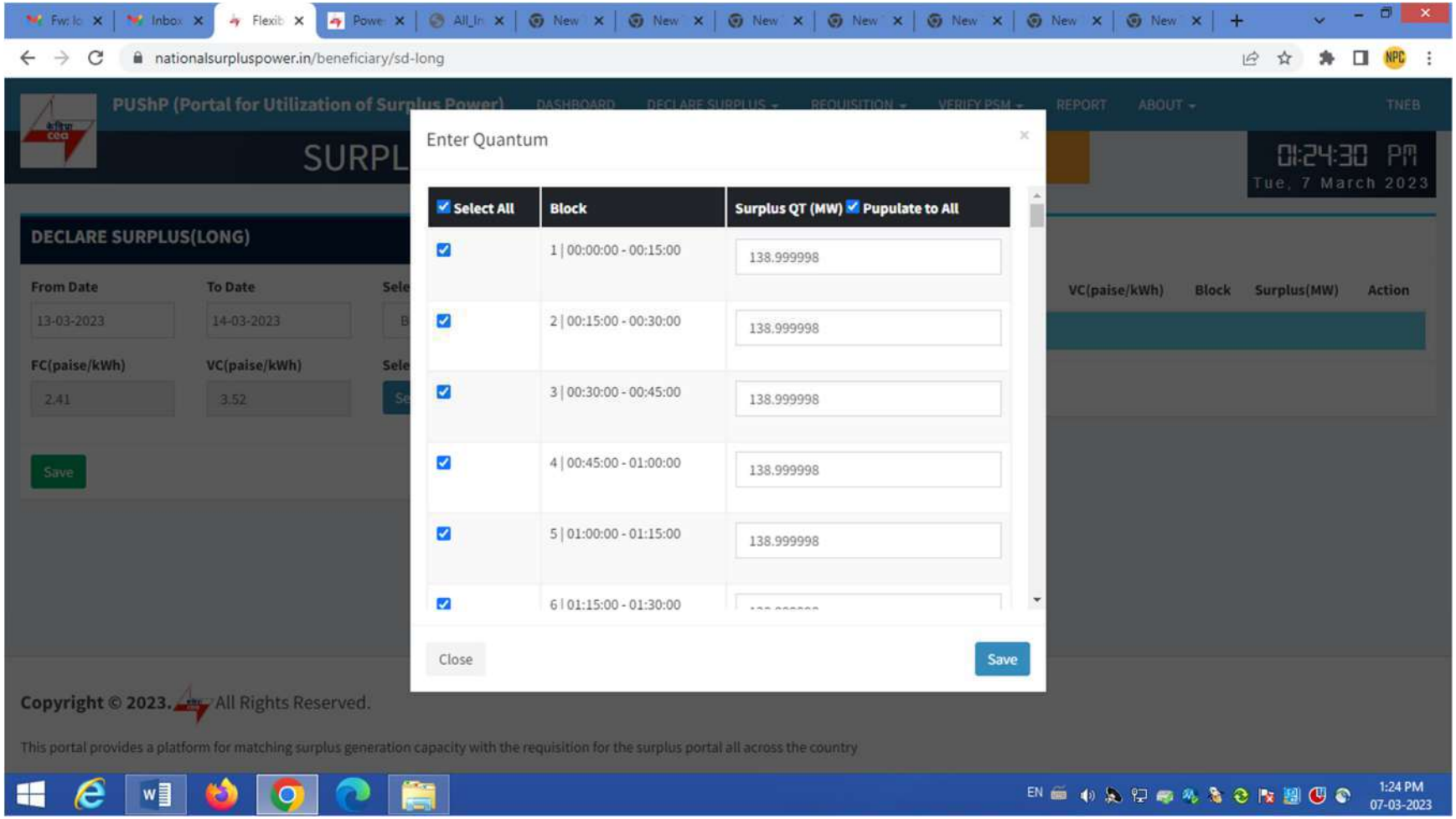
General Terms and Condition for beneficiaries:

Beneficiaries should read the terms and conditions carefully and they have to give their consent for further proceedings.

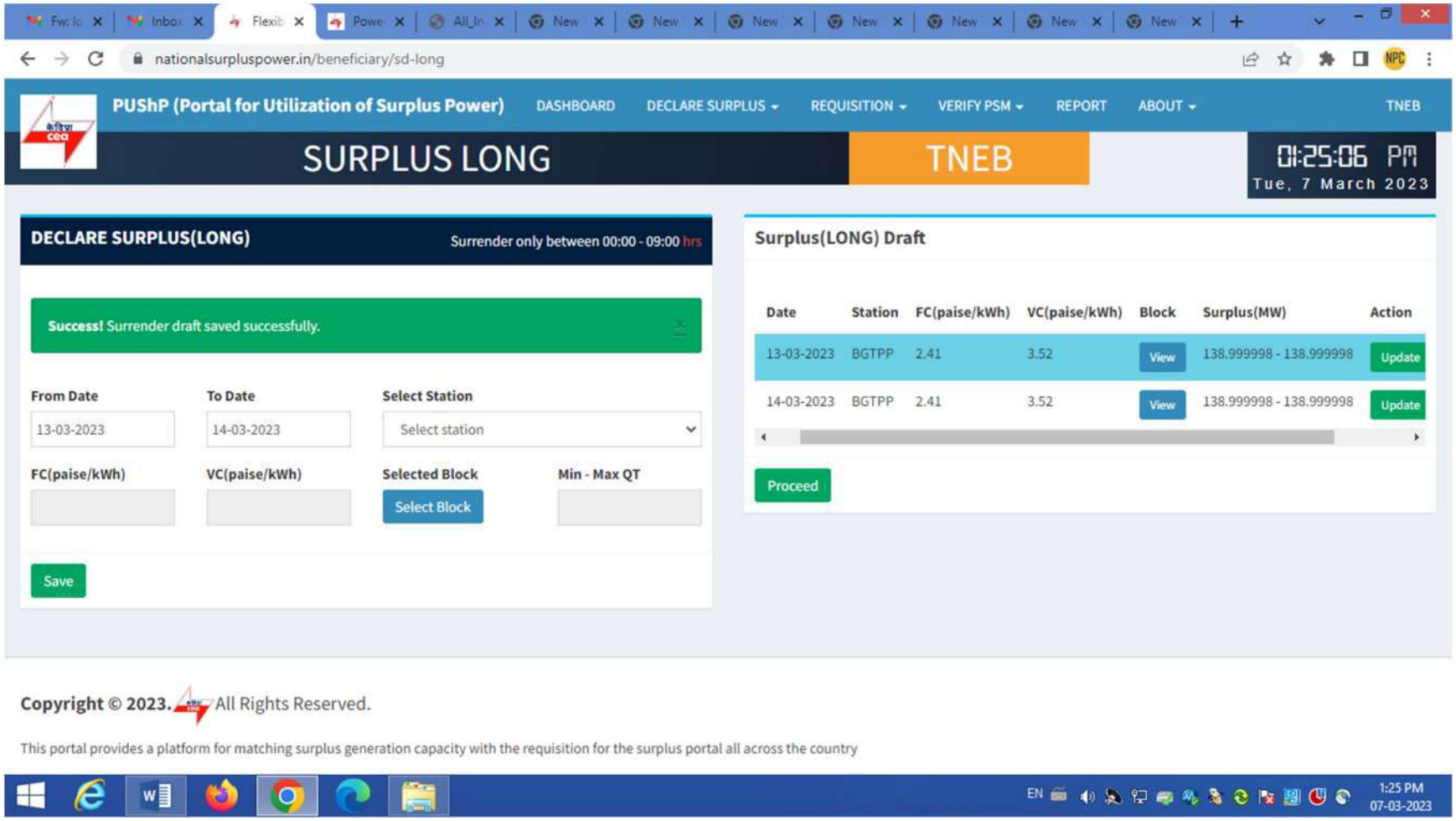


Block-wise Surrender of Power by beneficiary (Long or Short)

Suppose, Tamilnadu has surrendered the power of Bongaigaon Thermal Power Plant of NTPC for 13th March, 2023 and 14th March, 2023 and quantum of surrendered power for both the day is 139 MW.

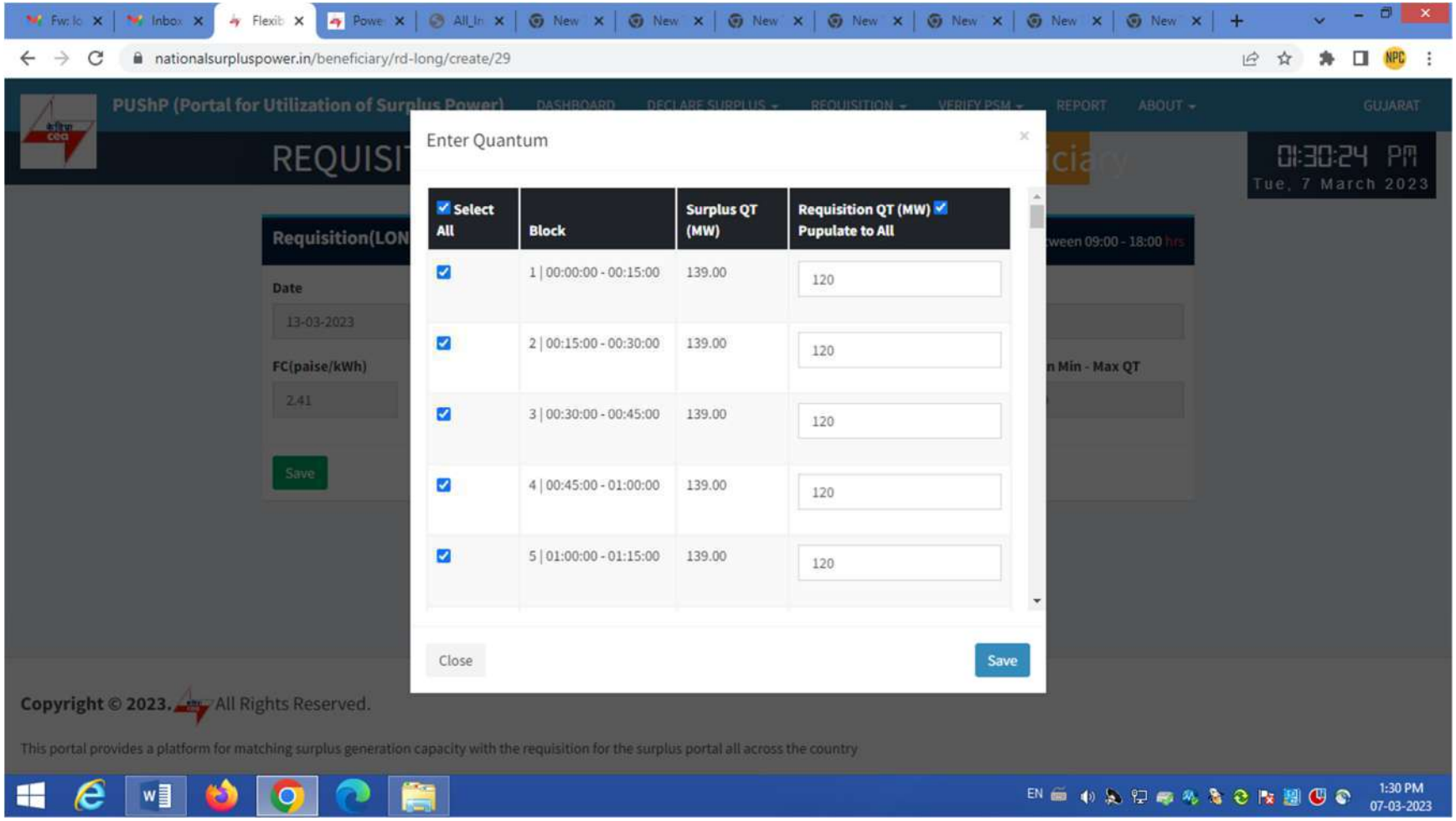


Surrender of Power by beneficiary

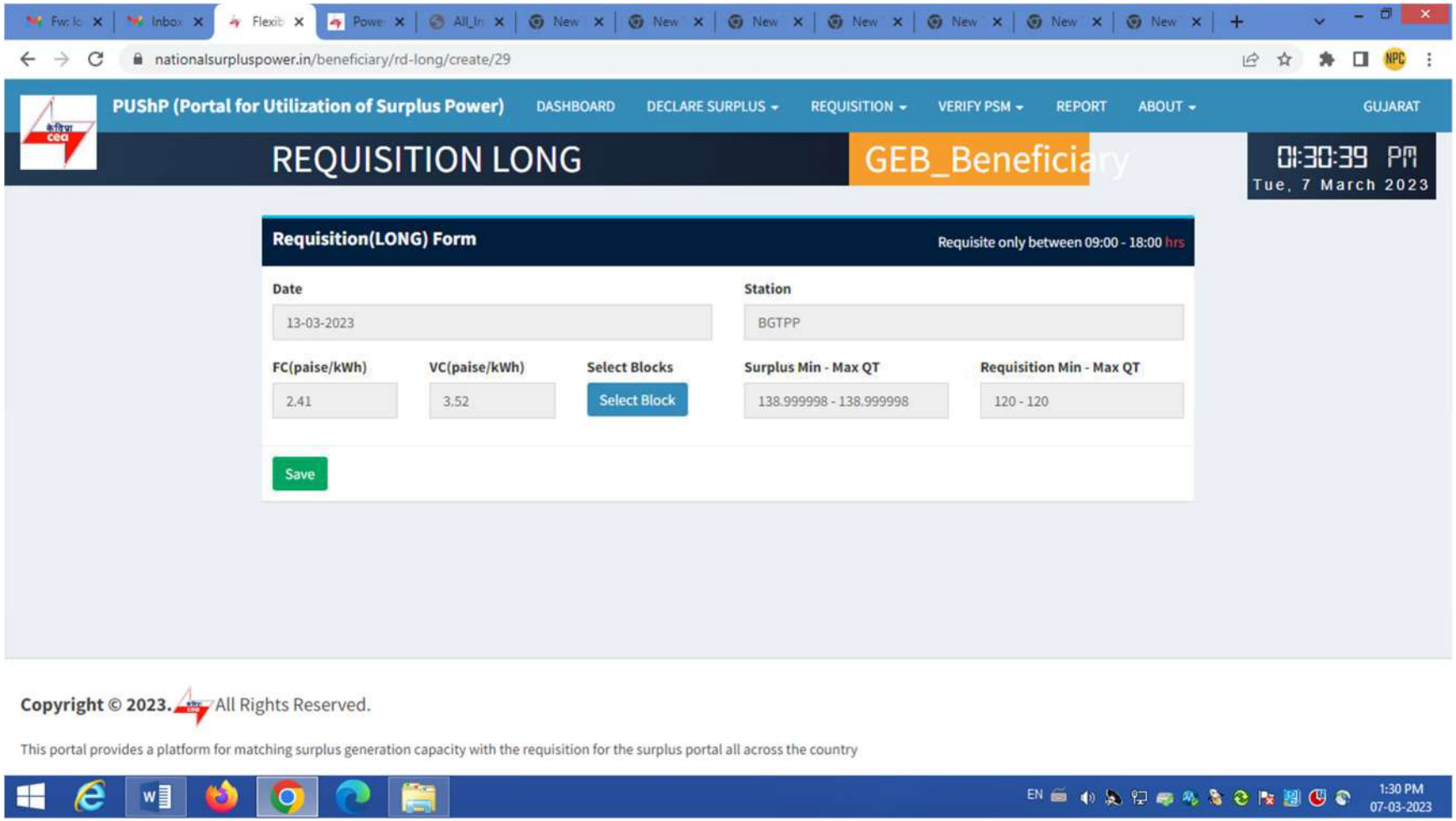


Requisition of Power by new beneficiary

Suppose, GUJARAT has requisitioned the 120 MW for 13th March, 2023 for each 96 block of 15 minutes.

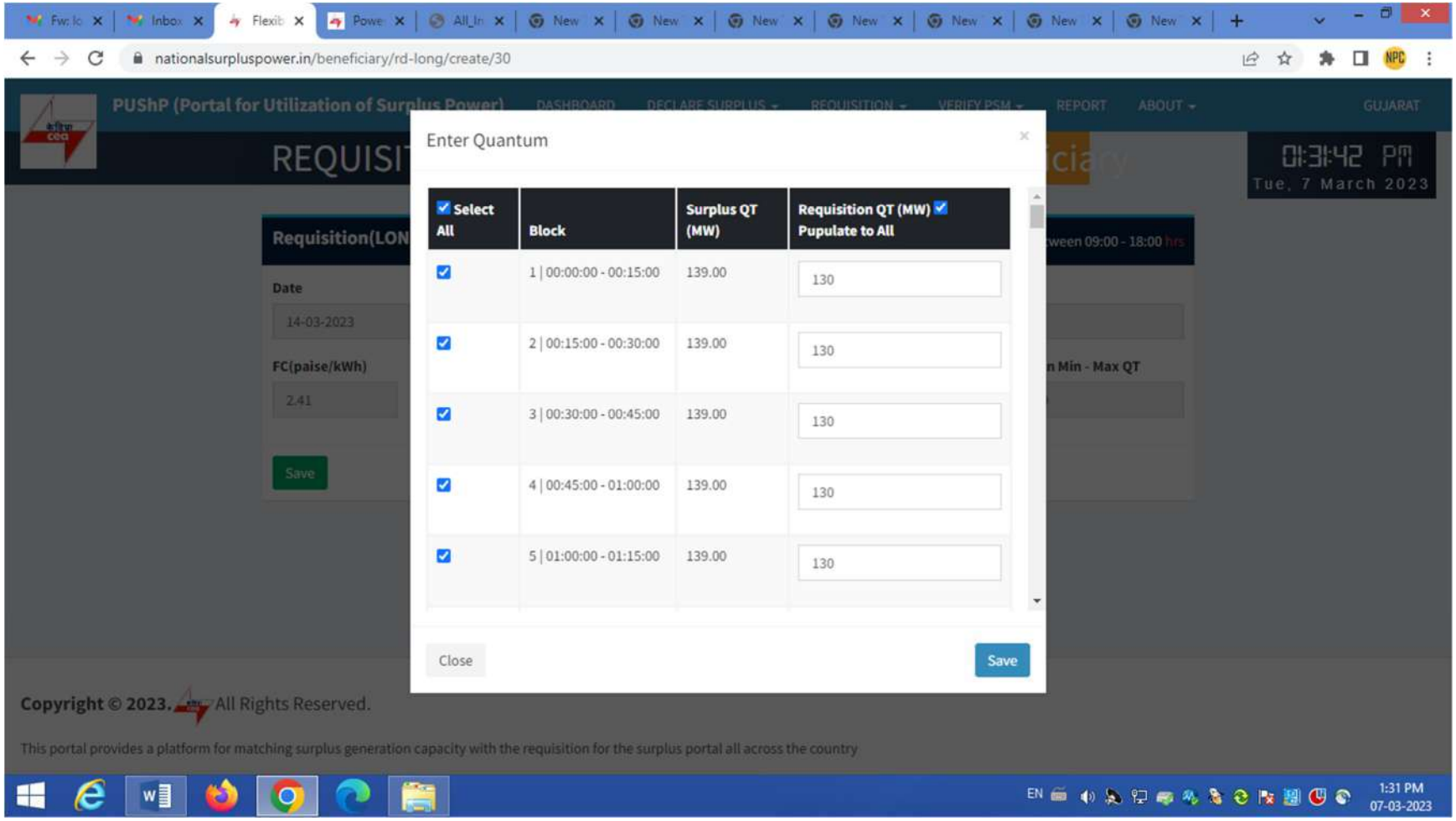


Requisition of Power by new beneficiary

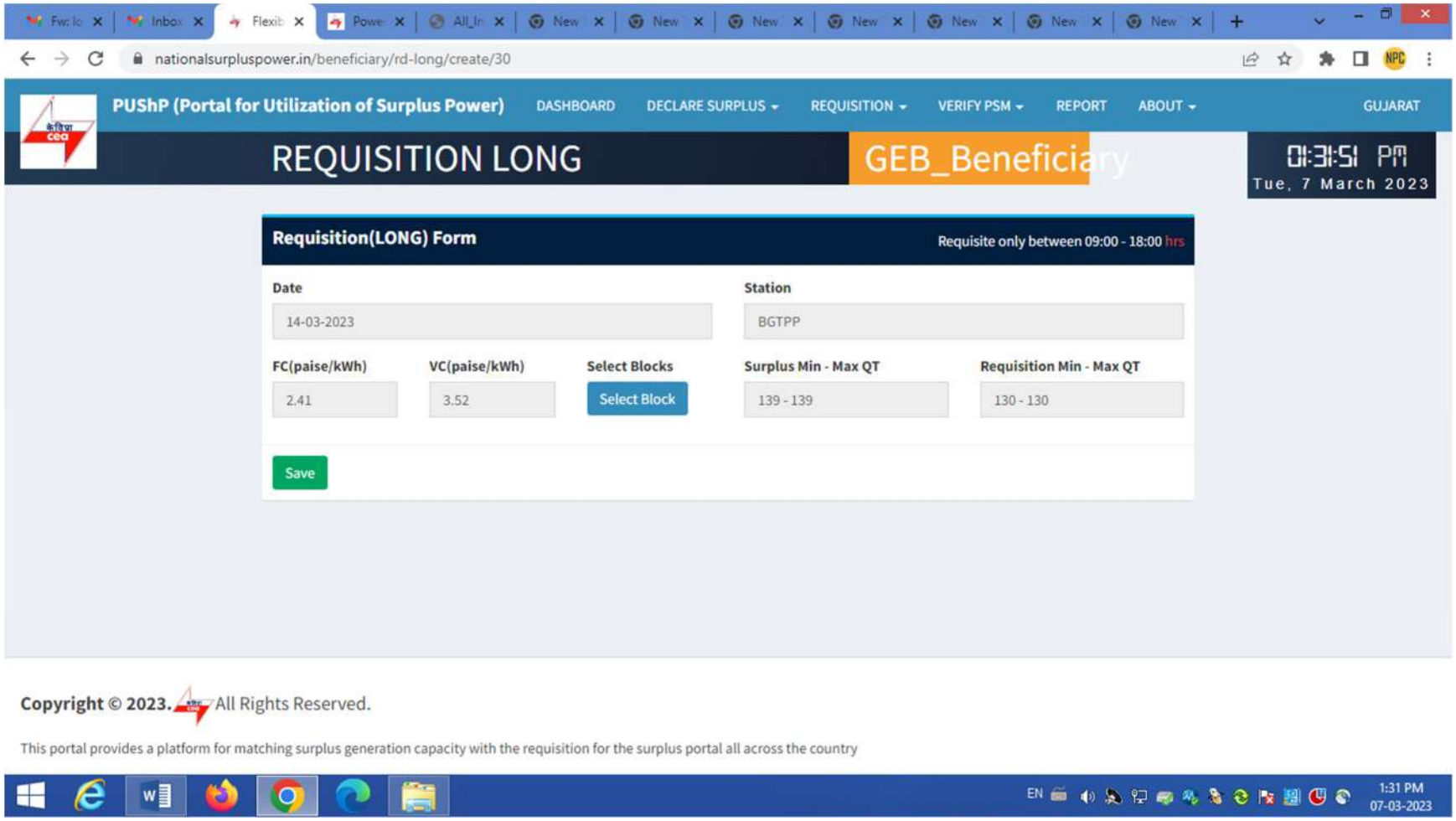


Requisition of Power by new beneficiary

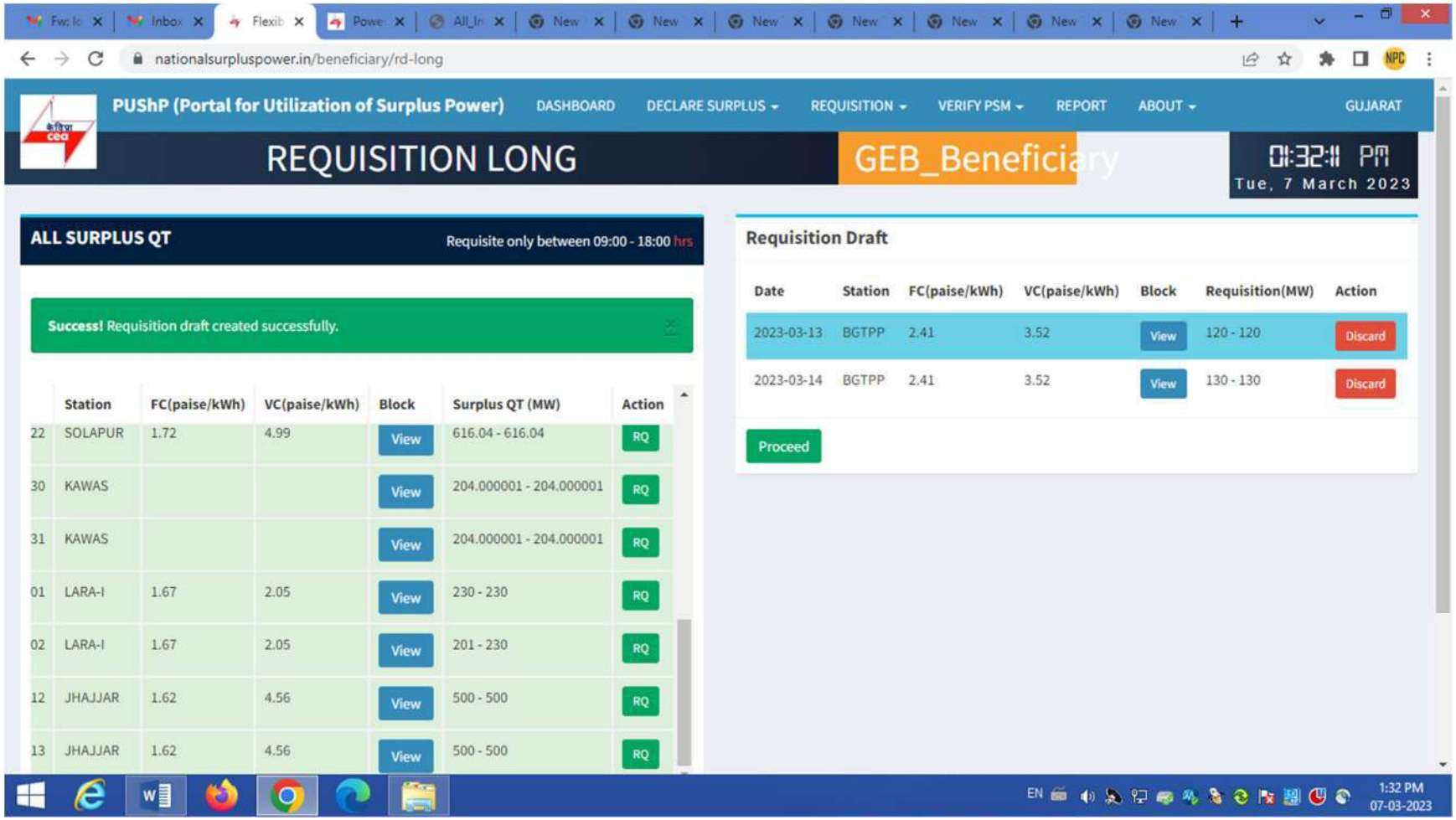
Suppose, GUJARAT has requisitioned the 130 MW for 14th March, 2023 for each 96 block of 15 minutes.



Requisition of Power by new beneficiary

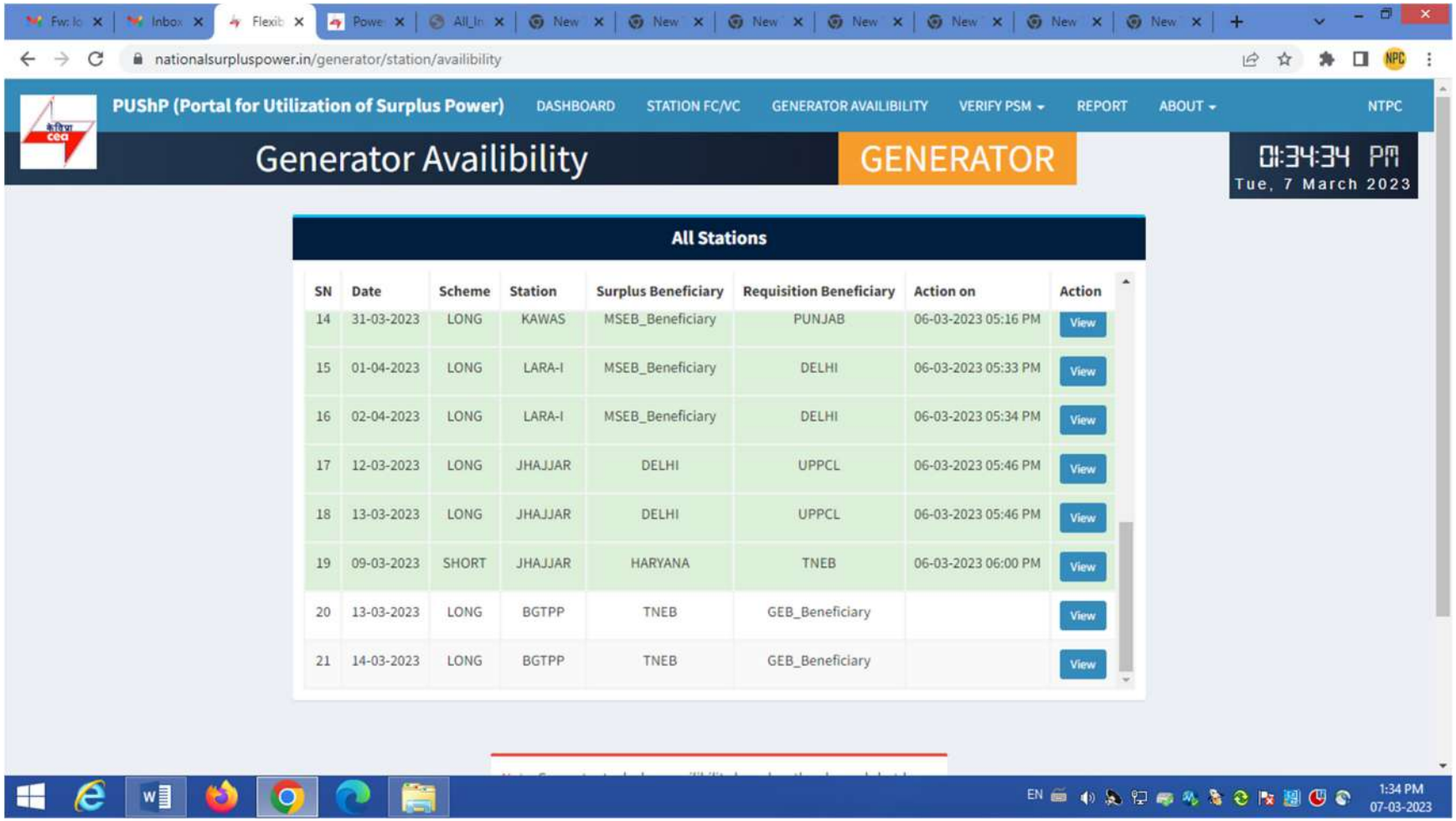


Requisition of Power by new beneficiary



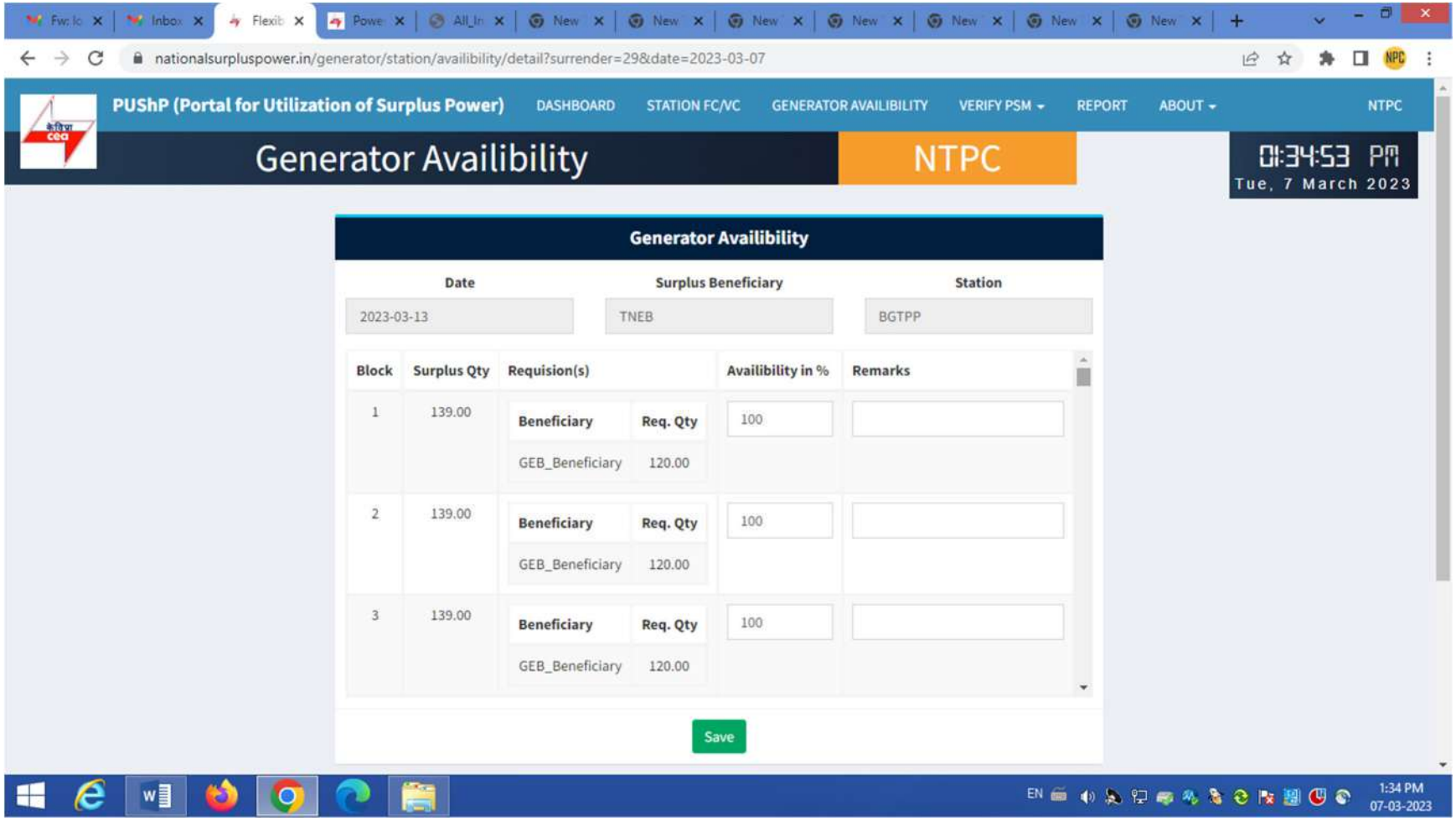
Confirmation of availability of Plant by the Generator

White Color shows that generator has to show its availability for these new entries.



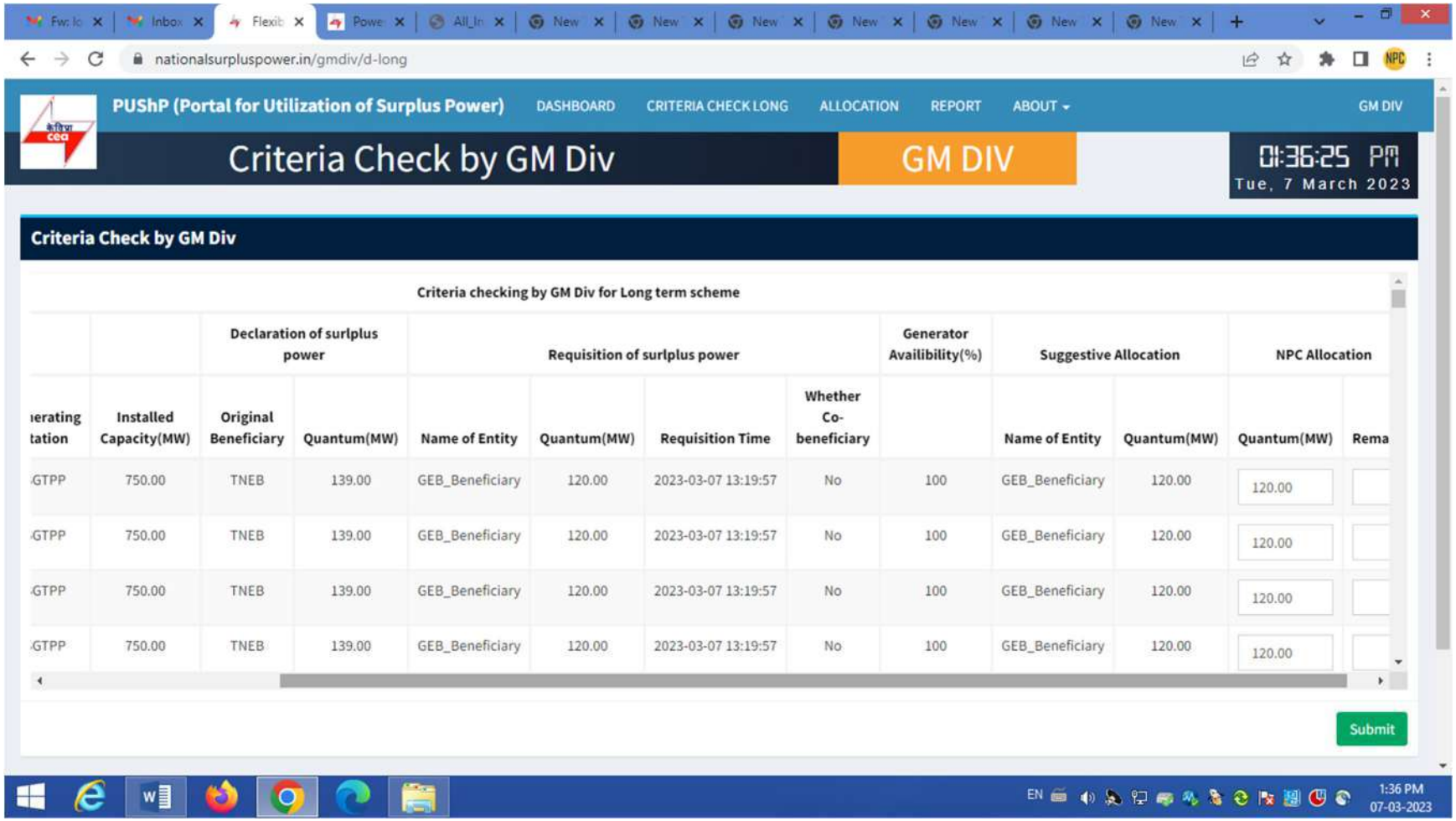
Confirmation of availability of Plant by the Generator

Generator (here NTPC) has to show whether the Bongaigaon plant is available for the 13th March and 14th March, 2023 or not.



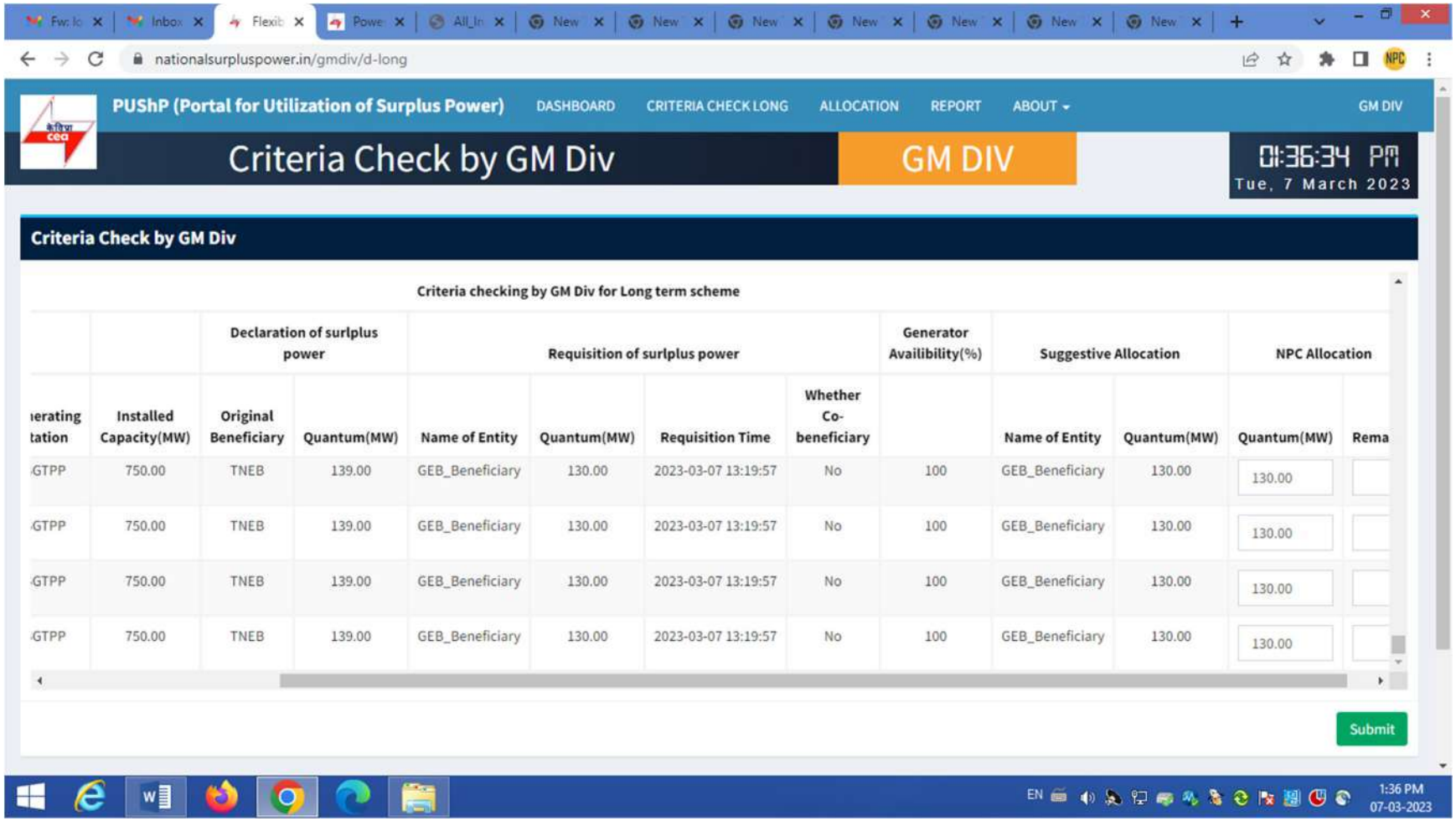
Criteria check by CEA

Criteria check for 13th march, 2023



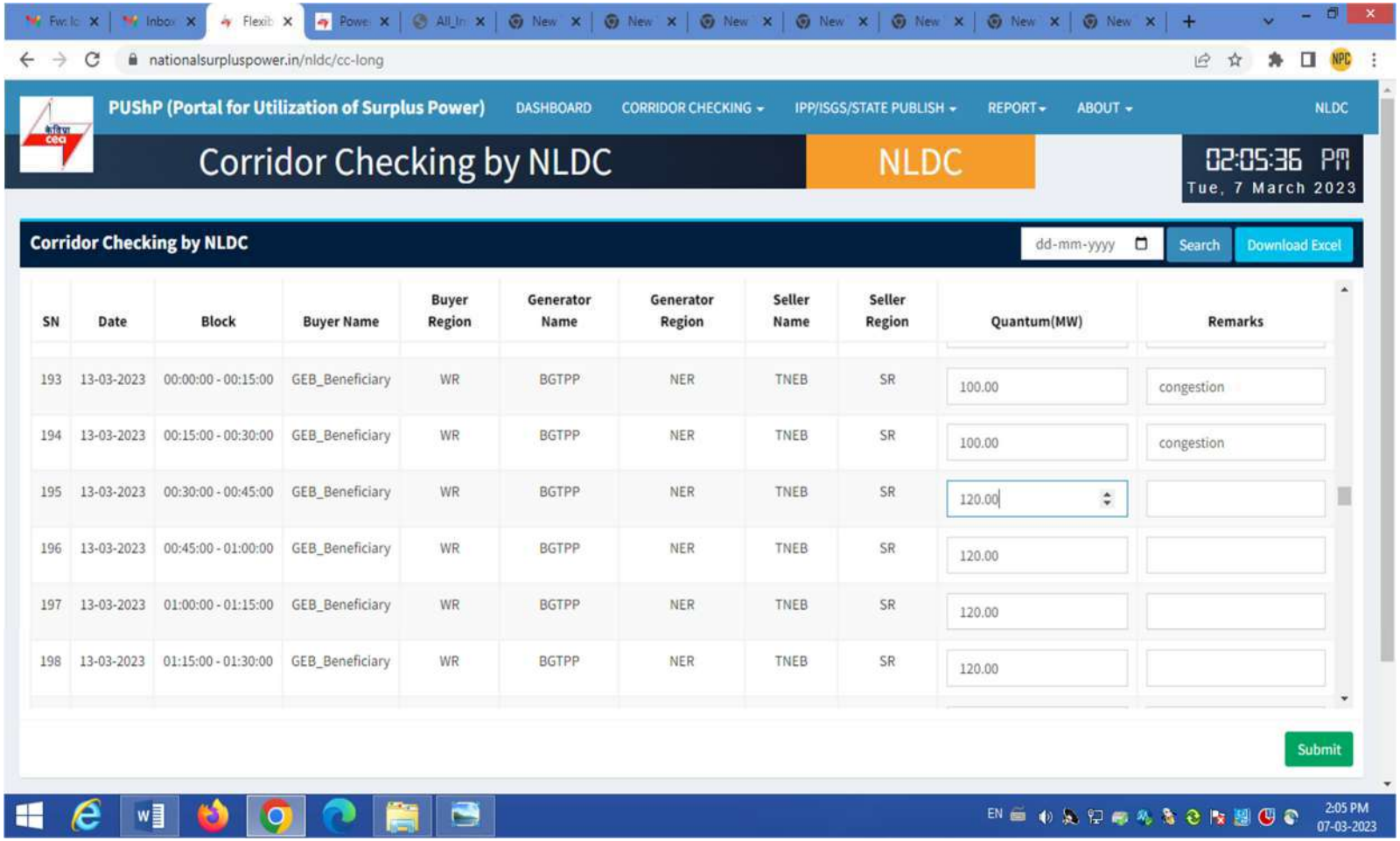
Criteria check by CEA

Criteria check for 14th March, 2023



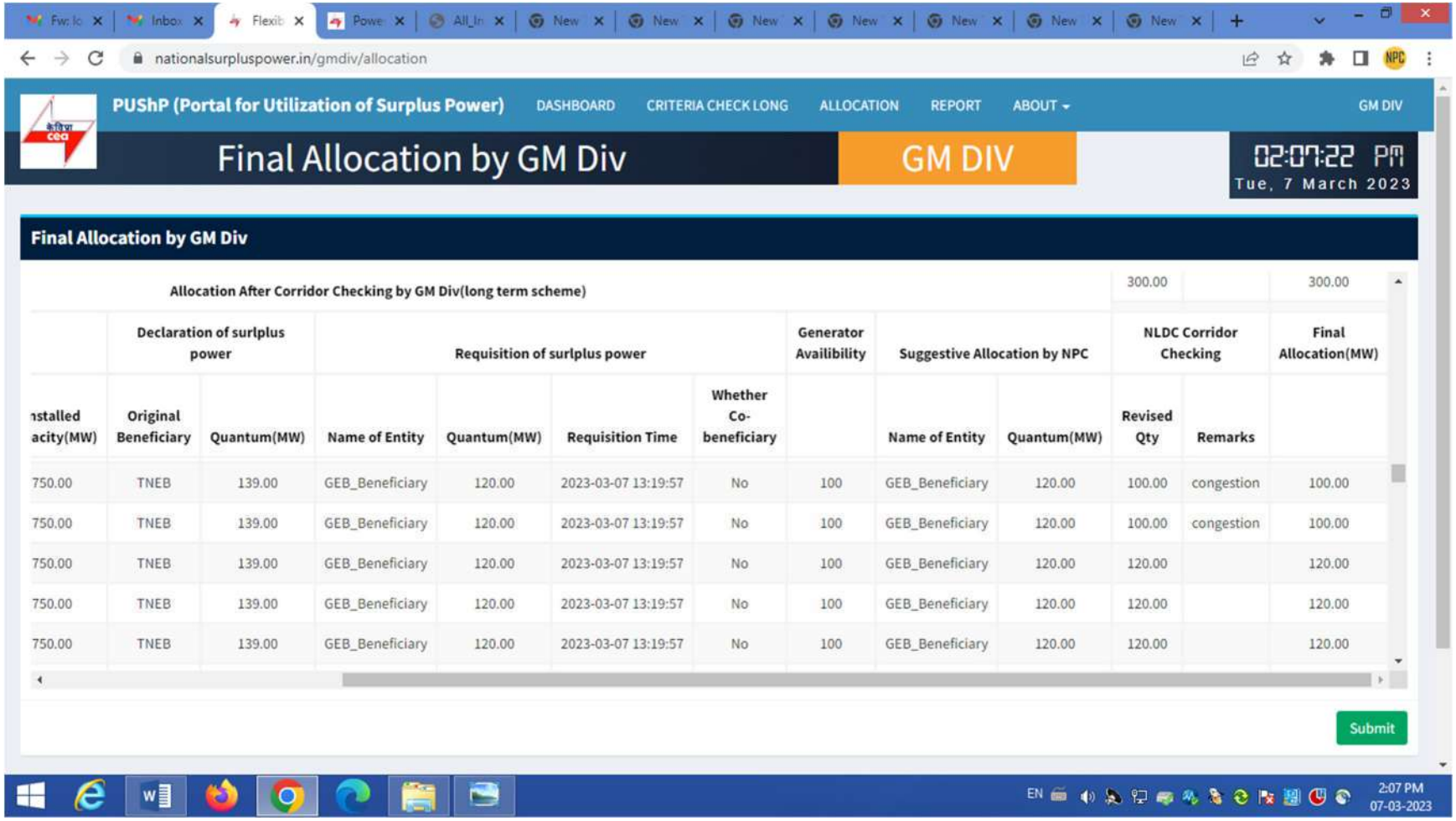
Transmission Corridor checking by NLDC

NLDC will check whether corridor is available or not. If not available, NLDC will restrict the power for that day or for those blocks. Suppose there is a congestion on 13th March, 2023 for first two block, therefore, NLDC has restricted the power to 100 MW instead of 120 MW for initial two blocks of 13th March, 2023.



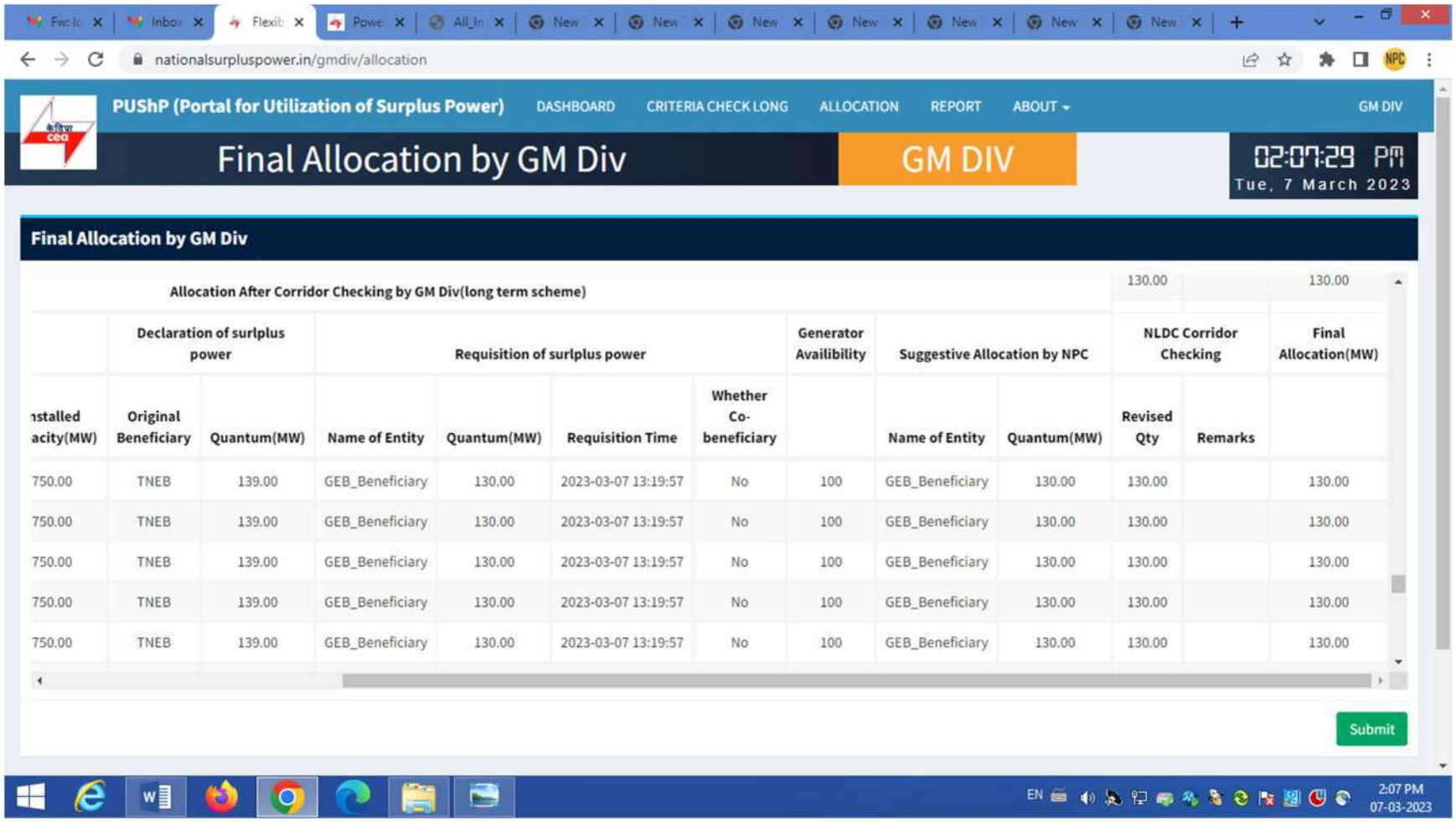
Final Allocation by CEA

Final allocation of 120 MW for 13th March, 2023 (except initial two block where 100 MW was allocated due to congestion).



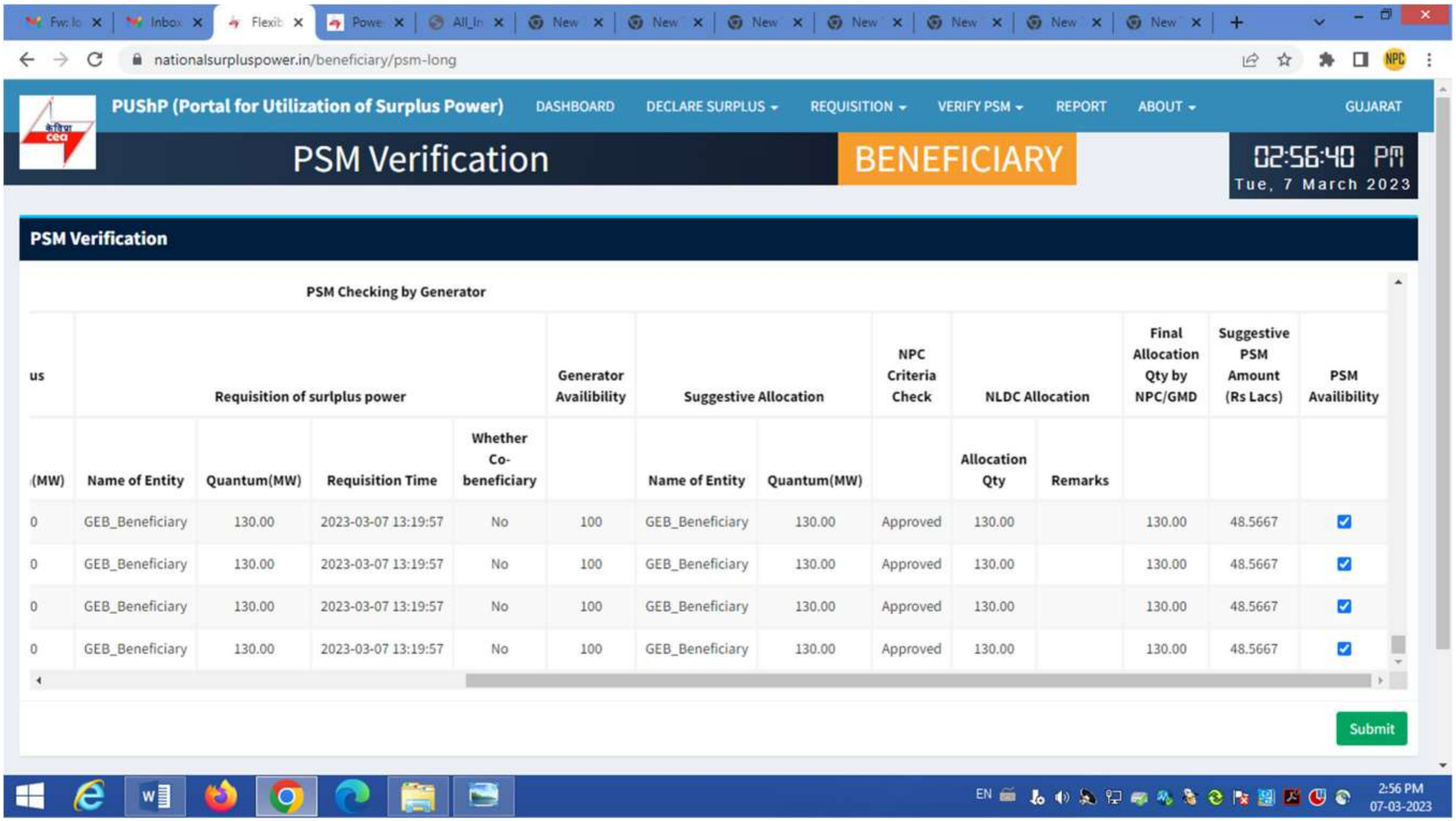
Final Allocation by CEA

Final allocation of 130 MW for 14th March, 2023.



PSM verification by New Beneficiary-:

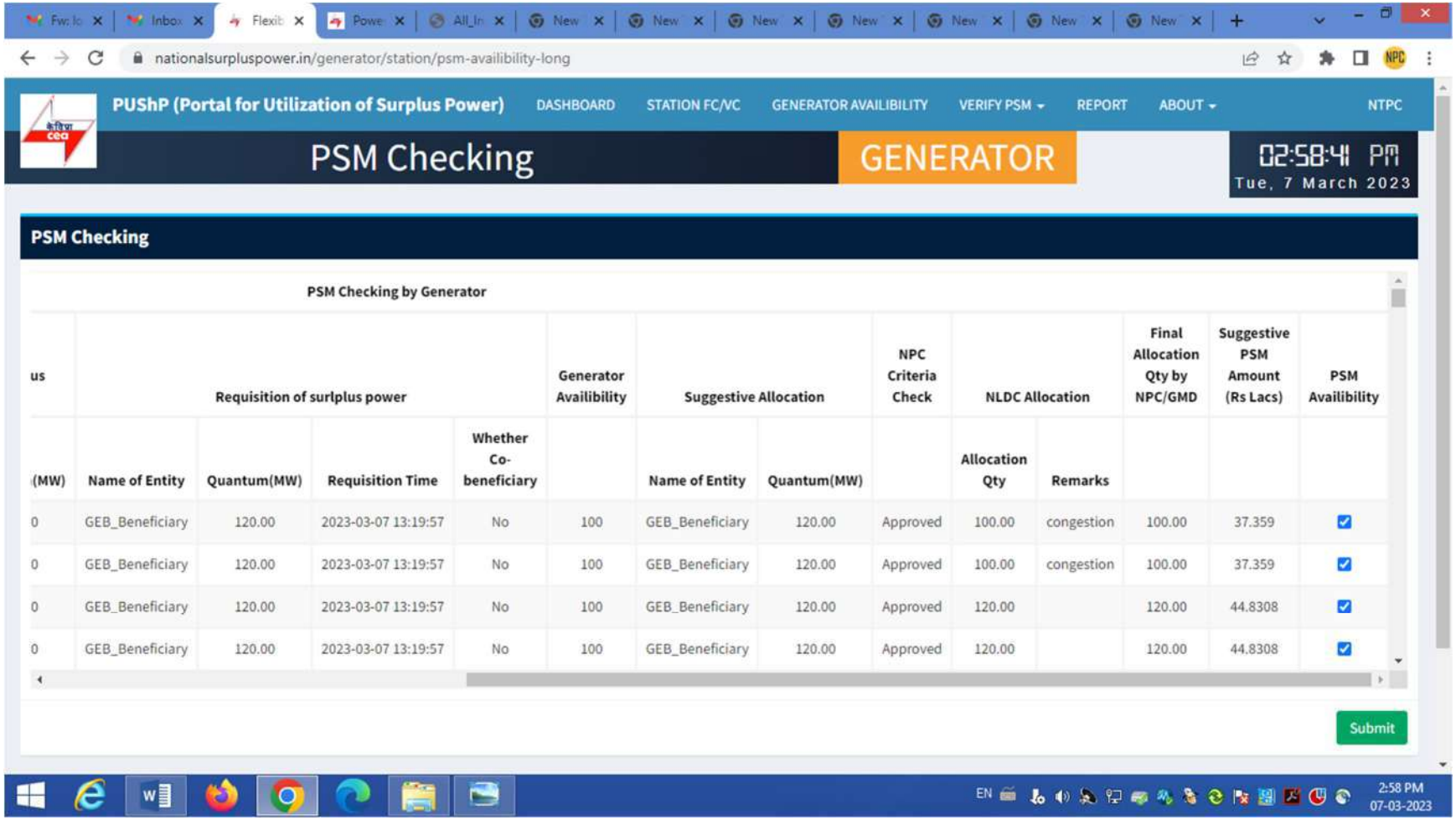
After arranging the PSM, New Beneficiary will verify the same on the Portal.



us	Requisition of surlplus power				Generator Availibility	Suggestive Allocation		NPC Criteria Check	NLDC Allocation		Final Allocation Qty by NPC/GMD	Suggestive PSM Amount (Rs Lacs)	PSM Availibility
(MW)	Name of Entity	Quantum(MW)	Requisition Time	Whether Co-beneficiary		Name of Entity	Quantum(MW)		Allocation Qty	Remarks			
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑

PSM confirmation by Generator-:

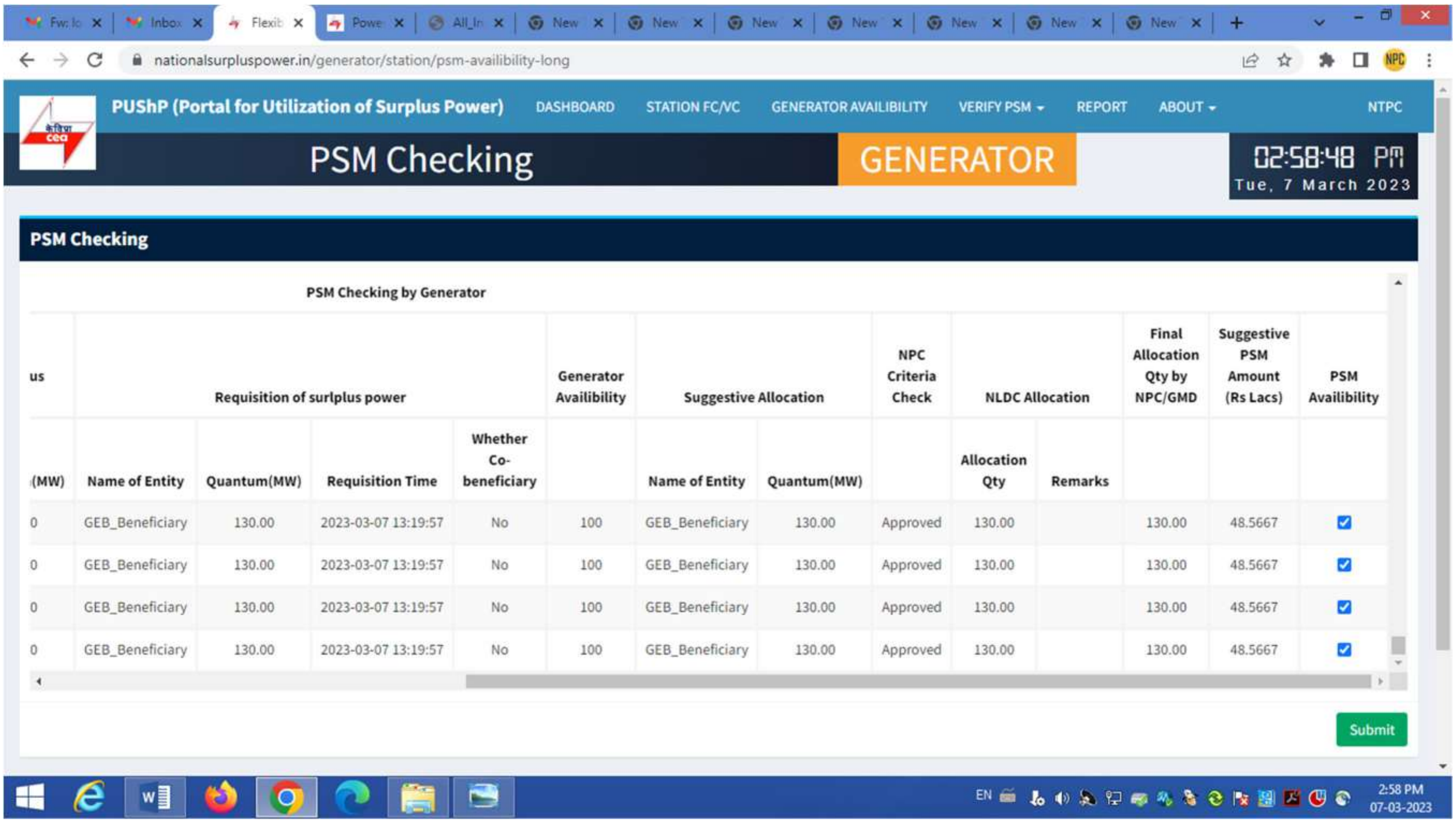
Generator will confirm the PSM for both day (here 13th March, 2023).



us	Requisition of surlplus power				Generator Availibility	Suggestive Allocation		NPC Criteria Check	NLDC Allocation		Final Allocation Qty by NPC/GMD	Suggestive PSM Amount (Rs Lacs)	PSM Availibility
(MW)	Name of Entity	Quantum(MW)	Requisition Time	Whether Co-beneficiary		Name of Entity	Quantum(MW)		Allocation Qty	Remarks			
0	GEB_Beneficiary	120.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	120.00	Approved	100.00	congestion	100.00	37.359	☑
0	GEB_Beneficiary	120.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	120.00	Approved	100.00	congestion	100.00	37.359	☑
0	GEB_Beneficiary	120.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	120.00	Approved	120.00		120.00	44.8308	☑
0	GEB_Beneficiary	120.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	120.00	Approved	120.00		120.00	44.8308	☑

PSM confirmation by Generator-:

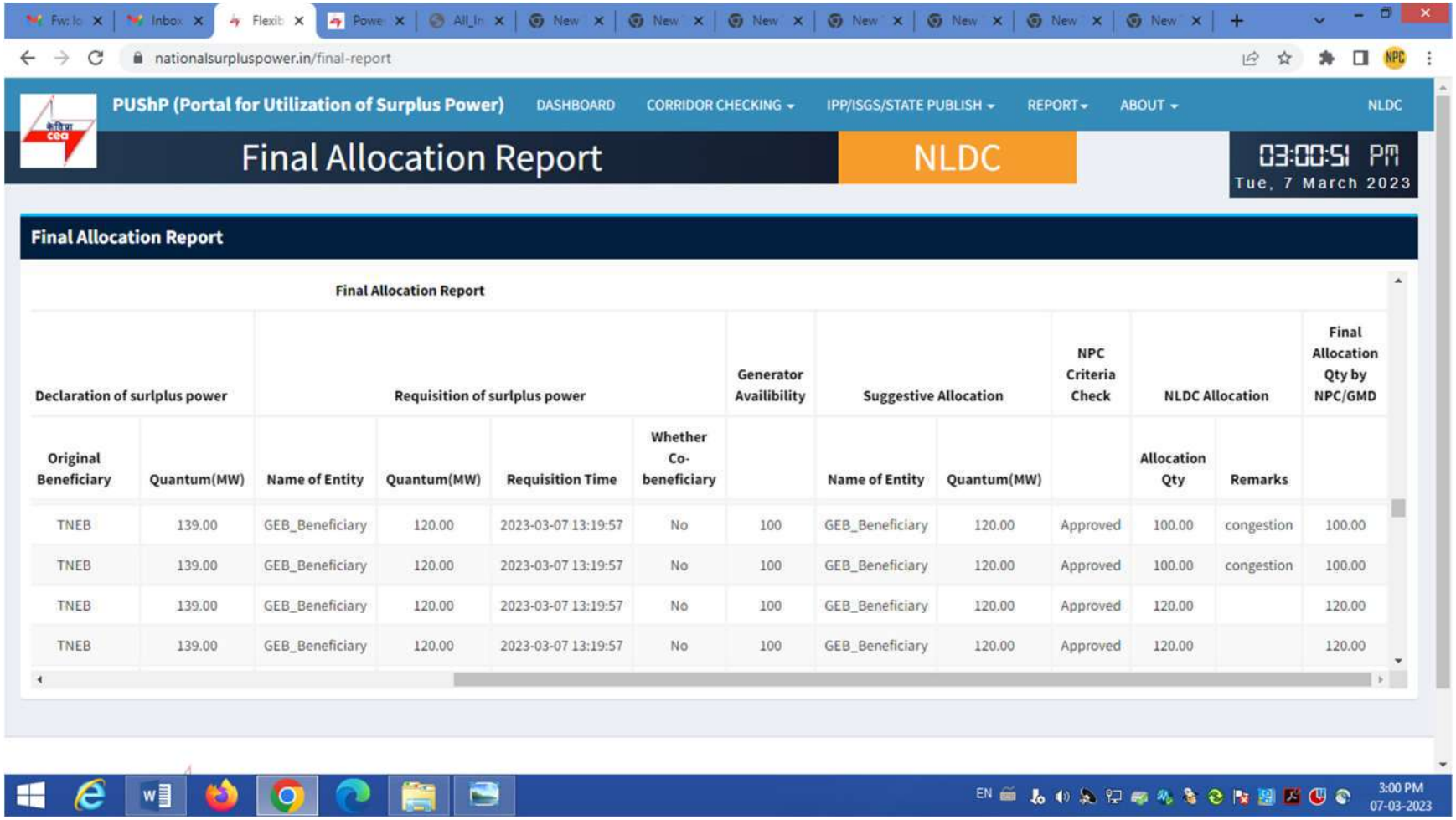
Generator will confirm the PSM for both day (here 14th March, 2023).



us (MW)	Requisition of surplus power: Name of Entity	Quantum(MW)	Requisition Time	Whether Co-beneficiary	Generator Availibility	Suggestive Allocation: Name of Entity	Quantum(MW)	NPC Criteria Check	NLDC Allocation: Allocation Qty	Remarks	Final Allocation Qty by NPC/GMD	Suggestive PSM Amount (Rs Lacs)	PSM Availibility
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑
0	GEB_Beneficiary	130.00	2023-03-07 13:19:57	No	100	GEB_Beneficiary	130.00	Approved	130.00		130.00	48.5667	☑

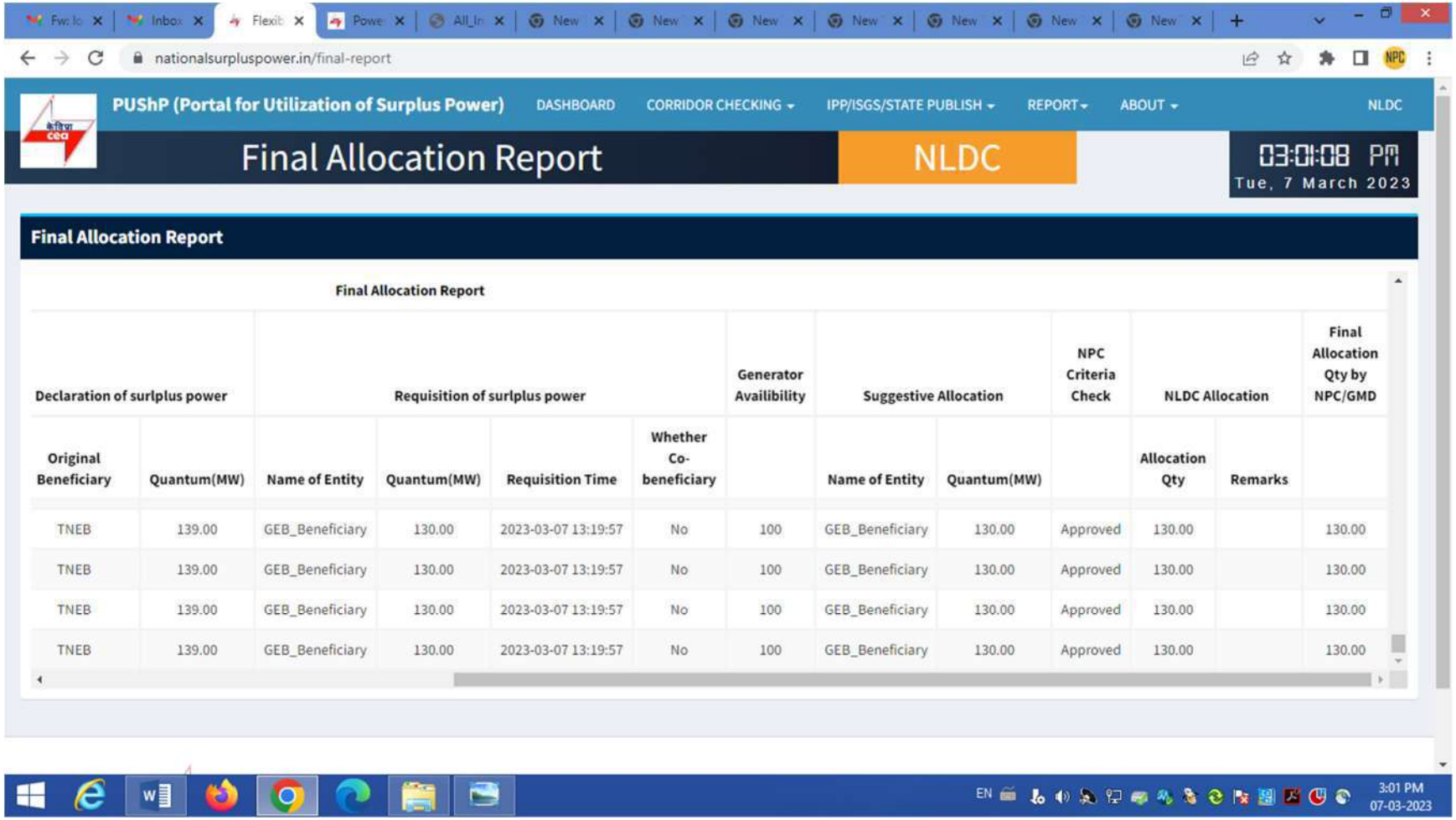
Final Allocation Report-:

Here, it is being shown the initial 4 blocks of 13th March, 2023.



Final Allocation Report-:

Here, it is being shown the last 4 blocks of 14th March, 2023.



Thank You

Annexure-B2

49th TCC

PRESENTATION

ग्रिड-इंडिया
GRID-INDIA

Coverage

Demand Management during crunch period

Measures for Mitigation

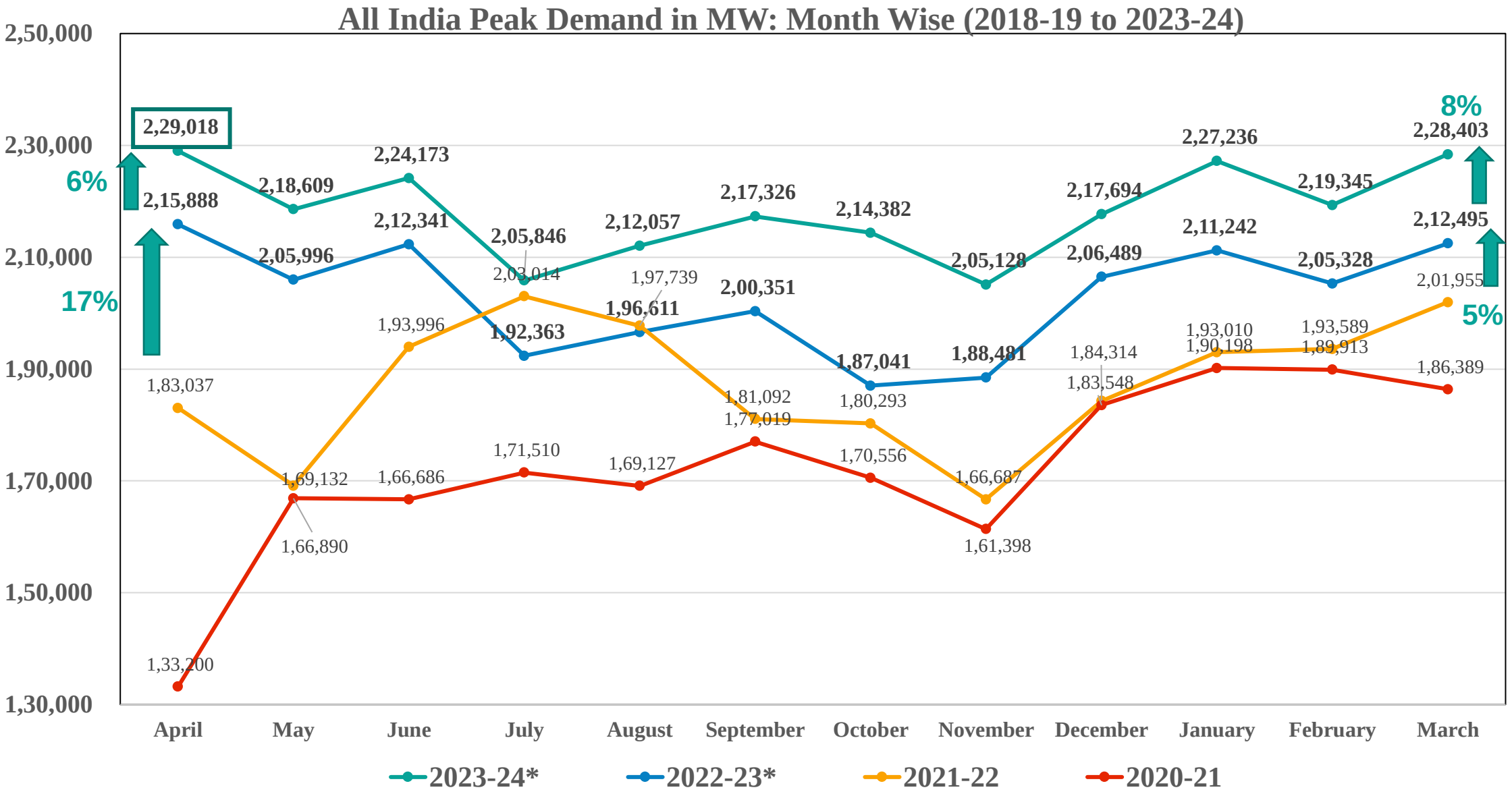
Reserve Requirement

Eastern Region Prospective

Way Forward


Demand
Management during
crunch period

All India Peak Demand



* All figures are in MW

All India Power Requirement
(April & May'23 for Solar & Non-Solar Hours)

	Apr-23		May-23	
	Solar	**Non-Solar**	**Solar**	**Non-Solar**
Peak Demand(a) (incl ISTS loss)	**231.9**	**216.9**	**216.4**	**208.4**
Time of Occurrences	**15:00**	**23:00**	**15:00**	**23:00**
Nuclear Generation (b)	3.6	3.6	3.9	3.9
Gas Generation* (c)	4.2	7.0	3.5	7.0
Hydro Generation (d)	14.8	23.5	16.9	24.9
Wind (e)	4.7	8.0	12.5	15.2
Solar (f)	34.4	0.0	33.5	0.0
Other RES (g)	2.0	2.0	2.0	2.0
Ex-bus Thermal requirement (h = a- b-c-d-e-f-g)	168.2	172.8	144.2	155.4
Gross Thermal requirement (i = h*1.03/.92)	**188.3**	**193.5**	**161.4**	**174.0**

On 10th March 2023, under the Chairmanship of Hon'ble Minister for Power & NRE, a special meeting was also taken for Uninterrupted Power Supply During High Demand various Measures taken to increase the availability from the Gas and Thermal generators .

*** 3% Reserve & 08% Auxiliary consumption** * All figures in GW

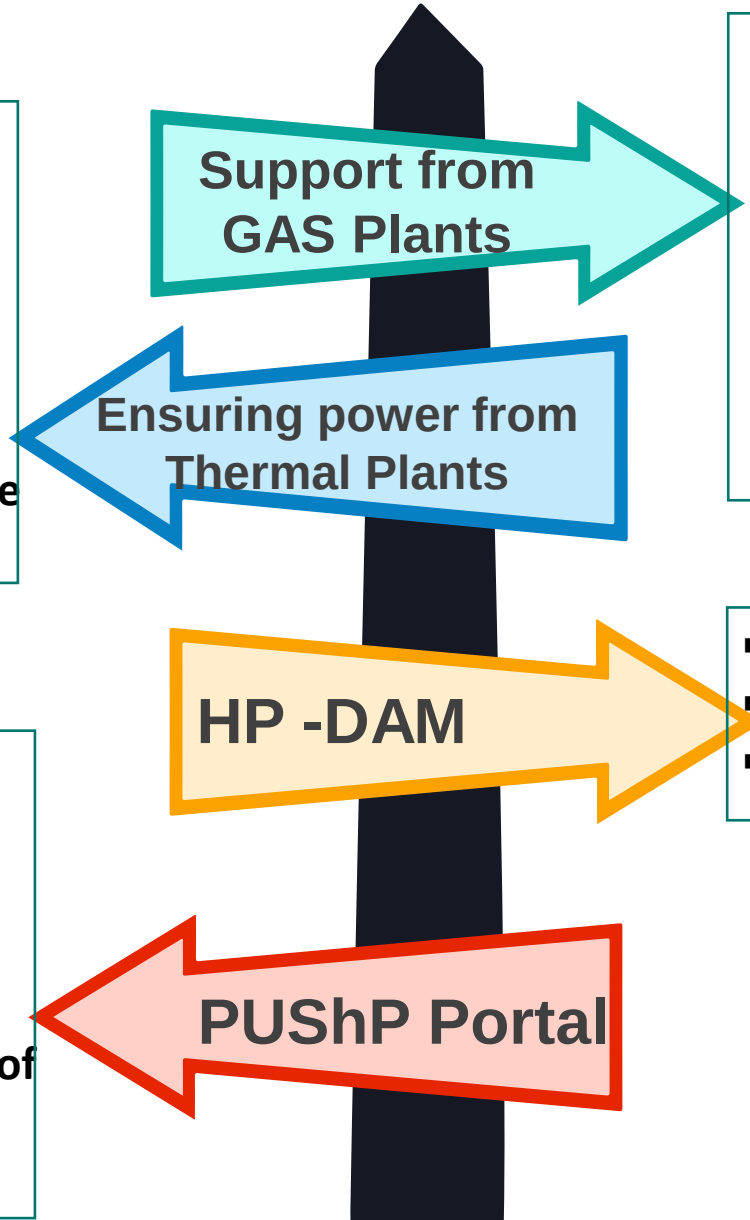
Expected Shortage

	Apr-23		May-23	
	Solar	**Non-Solar**	**Solar**	**Non-Solar**
Installed Capacity available including ICB (J)	**205.9**	**205.9**	**205.9**	**205.9**
Forced Outage(K)	16.5	16.5	16.5	16.5
Coal Shortage (L)	1	1	1	1
Effective capacity(M=J-K-L)	**188.4**	**188.4**	**188.4**	**188.4**
Allowable Planned Outage(N)	0	0	0	0
Gross Thermal requirement (i = h*1.03/.92)	**188.3**	**193.5**	**161.4**	**174.0**
Expected Shortage (O=i-M-N)	**No Shortage**	**-5.1**	**No Shortage**	**No Shortage**

*All figures in GW

Measures for Mitigation

- **No Planned Maintenance for coal based power plants during the crunch period.**
- **GENCO's to import coal @ 6% of their requirement for April to September, 2023.**
- **14.2 GW of ICB plant is envisaged to be available Out of 17.3 GW.**



Operationalization of 5000MW power from NTPC plants.

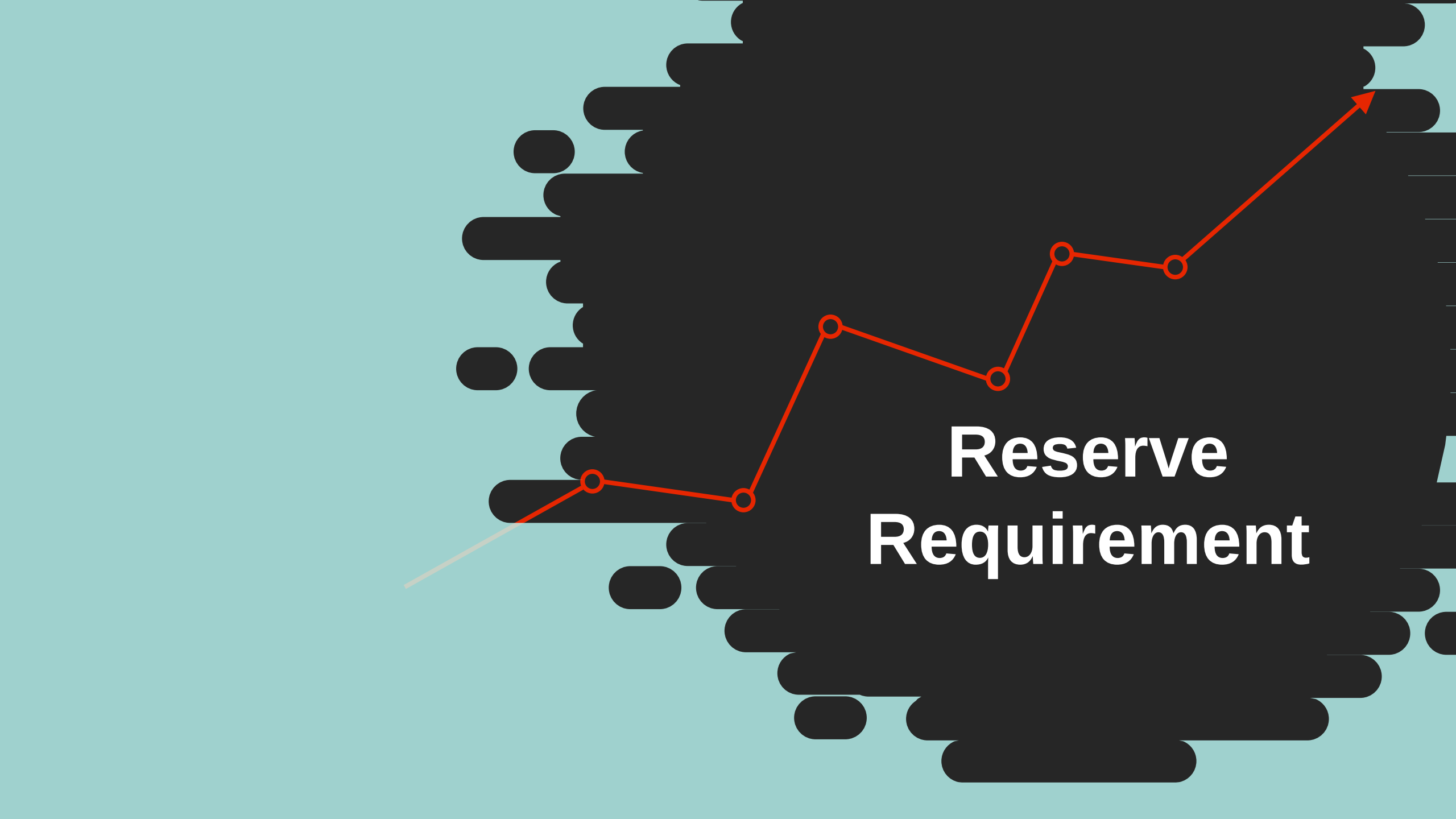
- **For 18 days during crunch period (Apr-May 23) .Full load -8Hours ,Tech Min-16 Hours.**

Bidding Scheme for 4000 MW gas-based capacity (other than NTPC).

- **During the crunch period proposed through bidding. Nodal :NVVN**

- **Seller with high Variable Cost > Rs 12/Units.**
- **Range :- 0 to Rs 50 per Unit.**
- **Price discovery on Double-Side Closed Auction**

- Scheme for **'Flexibilization of PPA for Optimal Utilization of Resources & Reduction in Cost of Power for Consumers'** PUShP Portal launched on 09th March.
- **Online Temporary allocation/transfer of power from surplus entity to deficit entity through portal.**


Reserve
Requirement

ALL India Reserve Estimation

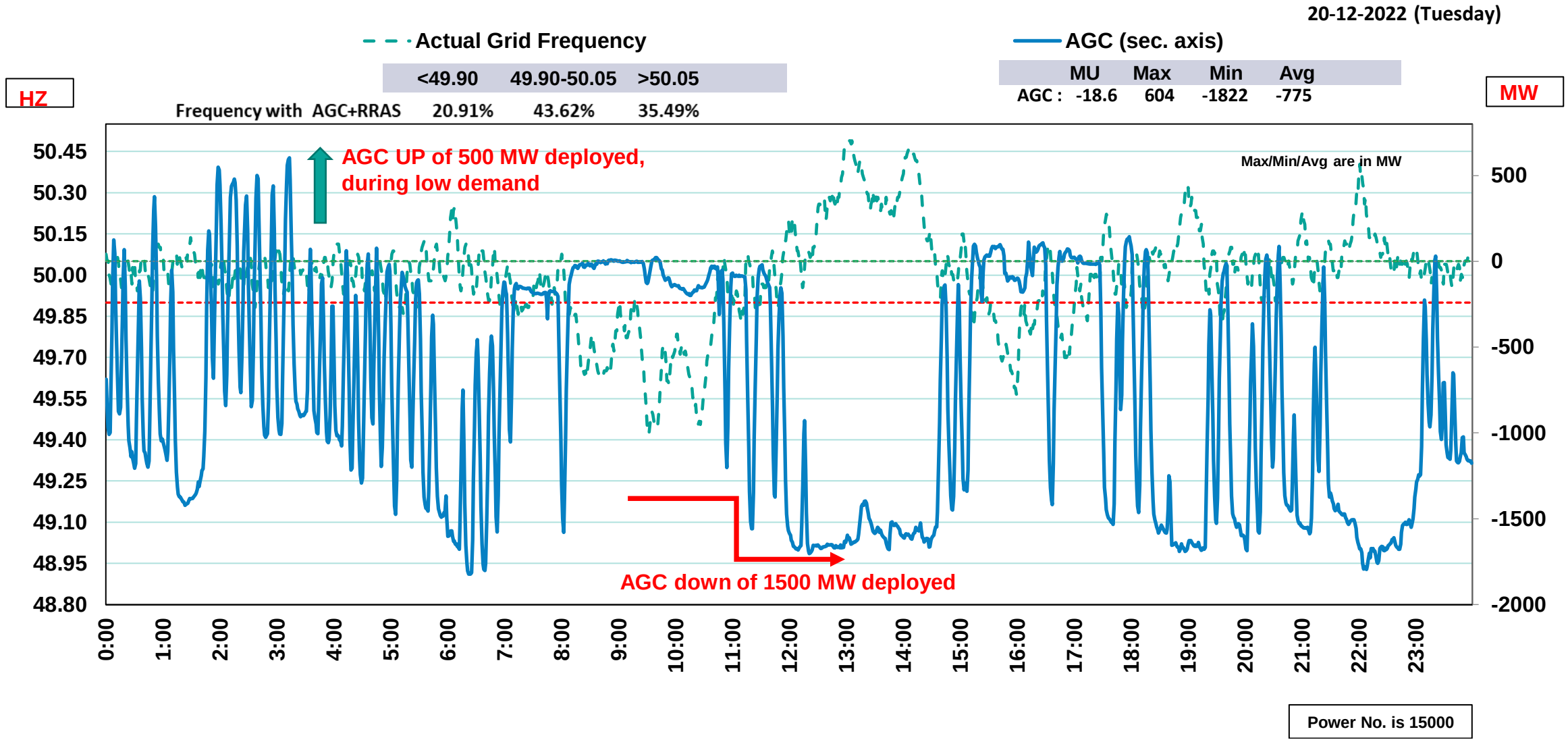
	Quarter-Ahead (Apr 2023 - Jun 2023)					
	Secondary Reserves			Tertiary Reserves		
State/ Union Territory UT	Within in ISGS	Within state	Total	Within in ISGS	Within state	Total
Northern Region	576	426	1001	576	2037	2612
Western Region	559	763	1322	559	2073	2632
Southern Region	616	567	1183	616	2132	2748
Eastern Region	398	428	827	398	1508	1907
North-Eastern Region	145	22	167	145	85	230
All India	2293	2207	4500	2293	7836	10130

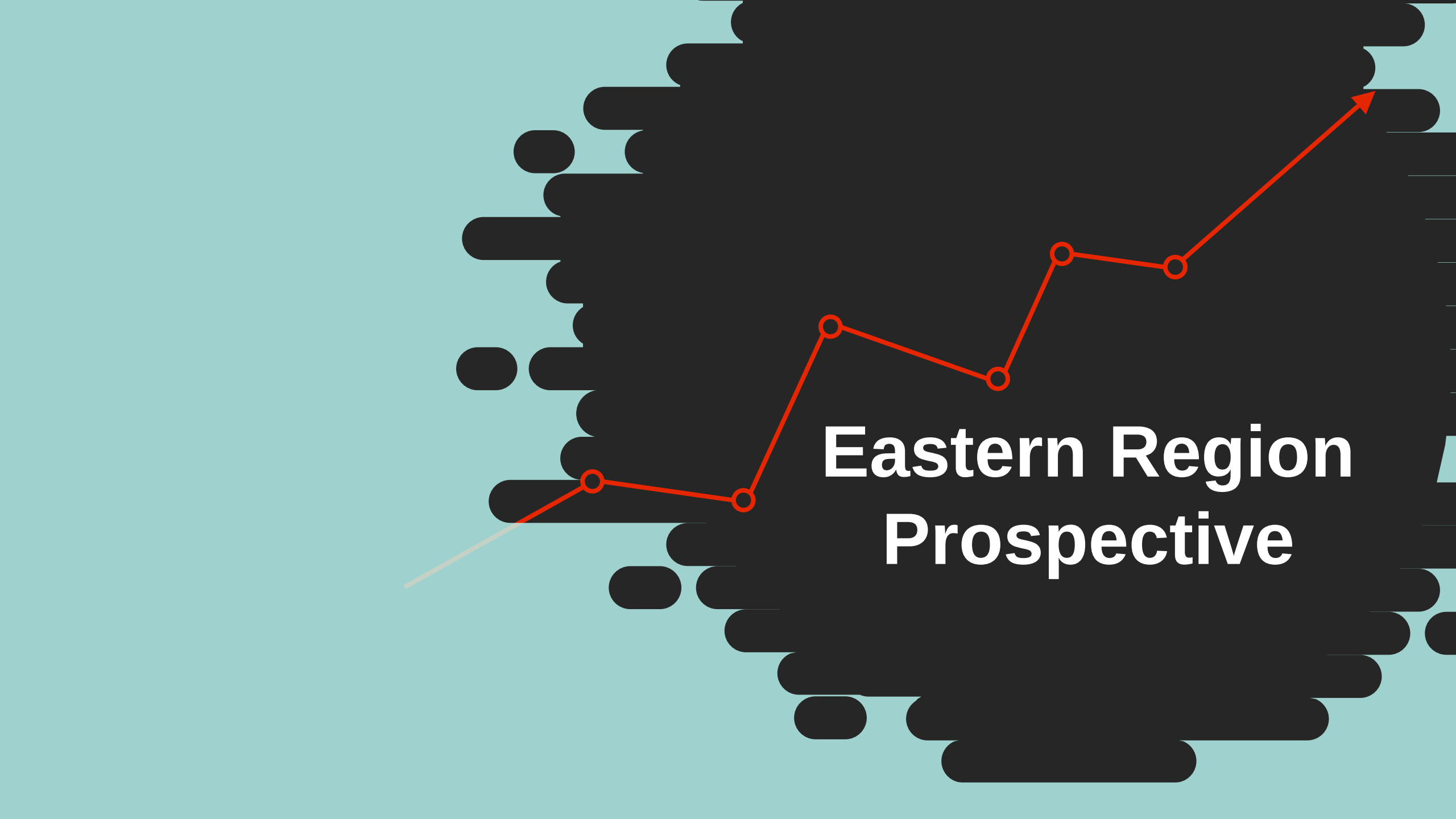
SRAS Capacity under Eastern Region:

Sr.No	Plant Name	Installed Capacity	Max UP*	Max DOWN*
1	BARH-2	1320	66	66
2	MPL	1050	150	150
3	KHSTPP-2	1500	75	75
4	TEESTA V	510	25.5	25.5
5	RANGIT	66	3.3	3.3
6	NPGCL	1980	99	99
7	FARAKKA-III	1000	50	50
8	FARAKKA-II	500	25	25
9	MTPS STG-II	390	19.5	19.5
10	TALCHER -I	1000	50	50
11	BARH-I	660	33	33
	Total SRAS UP/DOWN	**9976**	**596**	**596**

- More State generator needs to be brought under SRAS purview.
- TRAS market-based procurement to be commenced from 1st April 2023.
- Potential for Reserve-DVC ,West Bengal , Odisha , Haldia

Insufficient Secondary Reserve




Eastern Region
Prospective

Eastern Region perspective

- Summer preparedness meeting held on 11th March 2023
- Expected regional peak demand of 28500 MW in the month of April 2023.

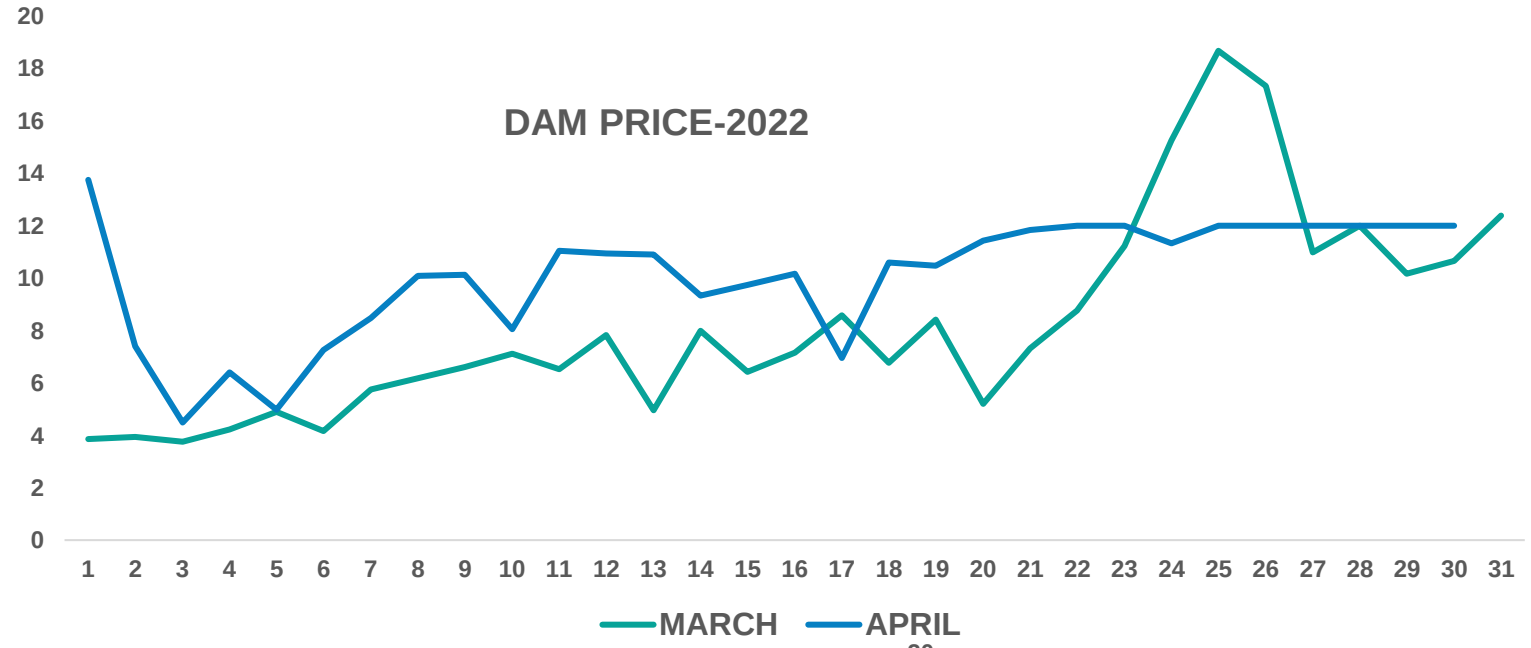
Constituent	April-2023						
	Expected Peak Demand	Own Generation	ISGS Allocation (Considering 80 % Availability) +IPP	ISGS Hydro (100 % peaking support) + Bhutan (20%)	LTA from Wind Plant (70%)	Export Commitment (if any)	Dependency on Market
Bihar	6955	741	4920	201	509	0	584
Jharkhand	1800	415	704	78	210	0	393
DVC	3300	5738	407	63	0	2778	0
Odisha	6146	4100	1578	115	164	0	189*
West Bengal	10450	6804	1343	167	18	0	2118**
Sikkim	110	0	22	76***	0	0	12

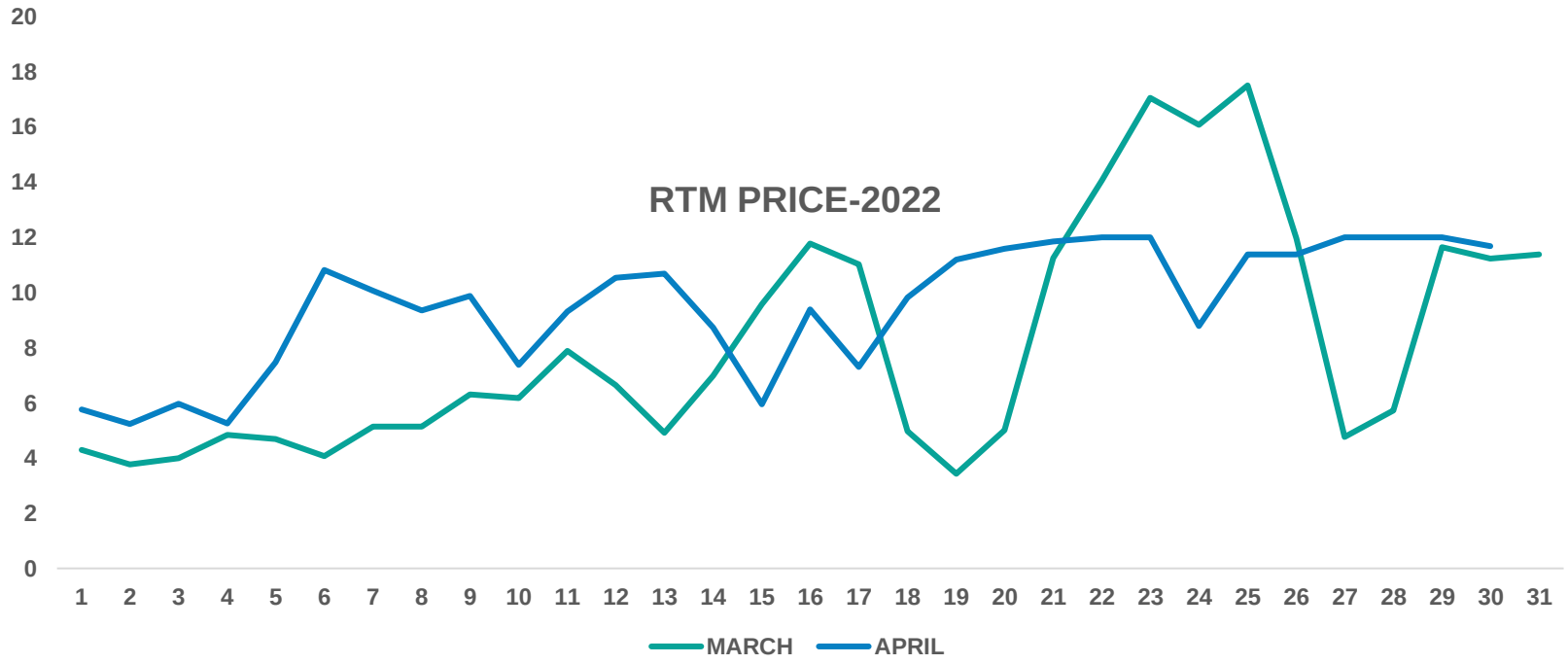
*Also depends on the Unit availability at SEL or other CPPs

** Last year WB Purchased a Maximum 3155 MW with an average of 2359 MW from the market.

*** Excluding state-free power from Hydro IPPs in the state, which Sikkim avails as per requirement.

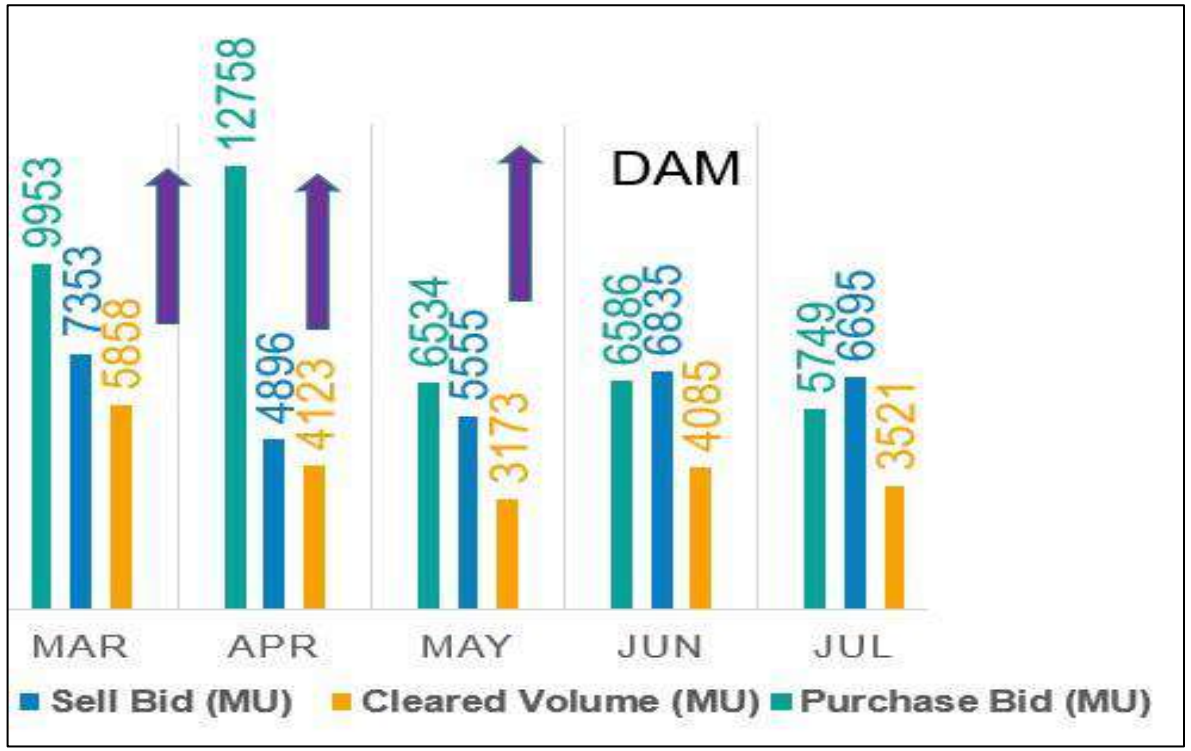
Market Price trend in Summer

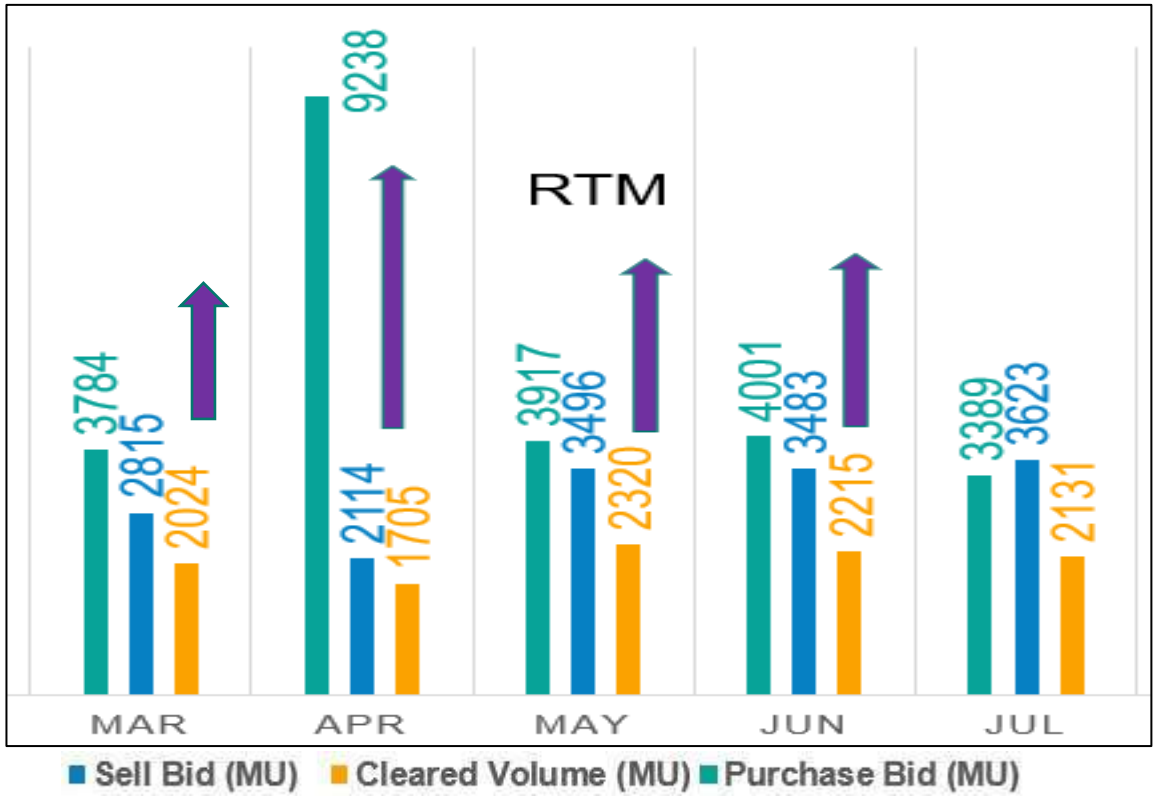




* The Commission vide order dated 1st April 2022 in Petition No. 4/SM/2022 (Suo-Moto) introduced price cap of Rs 12/kWh.

DAM & RTM Sell & Buy Bid





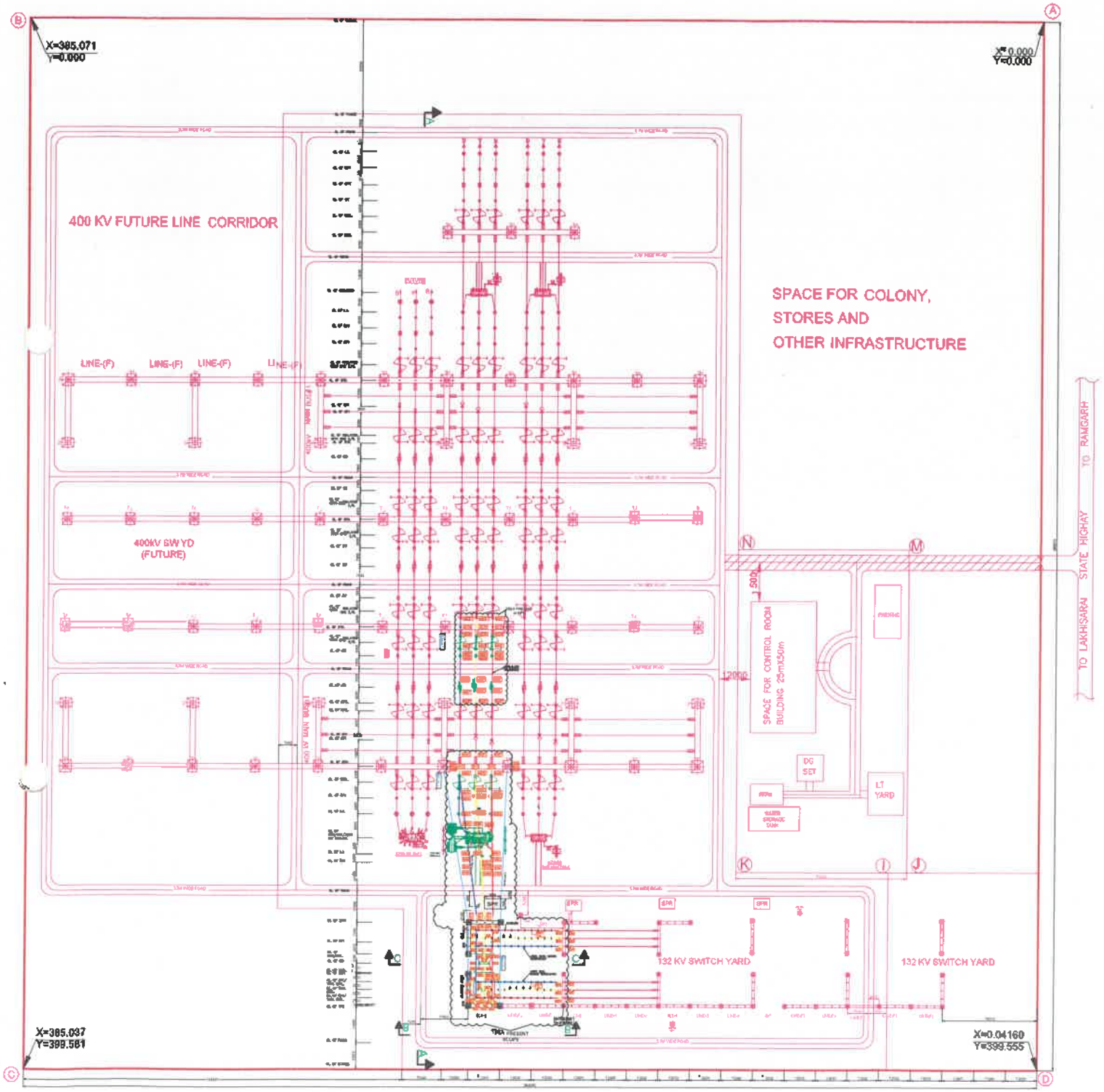
Way Forward

- **More reserve will Help in stabilizing frequency variations.**
- **Volatility in market expected , states are required to do proper planning and tie up power.**

Thank

You

Annexure-B4


X=385.071
Y=0.000
X=0.000
Y=0.000
400 KV FUTURE LINE CORRIDOR
LINE-(F)
LINE-(F)
LINE-(F)
400KV SW YD
(FUTURE)
SPACE FOR COLONY,
STORES AND
OTHER INFRASTRUCTURE
SPACE FOR CONTROL ROOM BUILDING 25mx35m
DG SET
LT YARD
132 KV SWITCH YARD
132 KV SWITCH YARD
TO RAMGARH
STATE HIGHWAY
TO LAKHISARAI
X=385.037
Y=399.561
X=0.04160
Y=399.555

IJENDRA PRASAD YADAV
Minister
nergy, Planning & Development Department
Govt. of Bihar

बिहार सरकार

Office : 8, Daroga Prasad Rai Path, Patna-1 (Energy)
Office : Old Secretariate, Patna-15 (P. & D. Deptt.)
Resid. : 1, Netaji Marg, Patna-15
Phone : 0612-2506224 (Energy)
0612-2506225 (Fax)
0612-2217564 (P. & D. Deptt.)
0612-2205454 (Res.)

Ref. ऊ0/विविध-72/2015- 79 Date: 06/01/2023

Dear Shri R.K. Singh Ji,

As you are well aware that there are two 400/132 KV Power Grid Sub-stations at Banka and Lakhisarai. In order to meet the increased power demand in areas like Nawada, Sheikhpura, Haweli Kharagpur (Munger), Gauradih (Bhagalpur), Khizrsarai (Gaya) which are dependent on single source of supply either from Biharsharif or Gaya, it was requested to MoP, GoI vide this office Letter No.-124, dated-11.05.2020 to construct 220KV bus at Banka (PG) and Lakhisarai (PG). Further, in the 2nd meeting of ERPC (TP) held on 30th Sep'2020, it was decided to construct 220 KV bus at Banka (PG) at present and Lakhisarai (PG) will be taken at later stage. Construction of 220 KV bus along with installation of 2 X 315 MVA, 400/220 KV Transformer work has already been taken up in Banka (PG) by PGCIL in TBCB mode.

It is worth mentioning here that the construction of a Solar Power Project of 250 MW at Kajra has already been sanctioned by GoB and the work has been taken up. As such, for the stable evacuation of Power from this renewable energy source and to provide 2nd source connectivity to 220/132/33 KV Haveli Kharagpur (Munger) Grid Sub-station, there is urgent requirement of 220 KV bus at Lakhisarai (PG).

This will enable more reliability, security and redundancy in the system which will be beneficial not only for the state but for the whole transmission network.

In view of above, it is requested to direct the concerned authorities viz. CEA, CTU and MoP, GoI for further needful in this regard.

An early action at your level is solicited.

Yours Sincerely

(Bijendra Prasad Yadav)

To,

Sri R. K. Singh
Union Minister,
Power, New & Renewable Energy,
Govt. of India,
New Delhi

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

सेवा मे / To,

संलग्न सूची के अनुसार
As per list enclosed

विषय : पूर्वी क्षेत्रीय विद्युत समिति (पारेषण योजना) (ERPCTP) की दूसरी बैठक का कार्यवृत ।
Subject: 2nd meeting of Eastern Region Power Committee Transmission Planning (ERPCTP) – Minutes.

महोदय(Sir)/महोदया(Madam),

पूर्वी क्षेत्रीय विद्युत समिति (पारेषण योजना) (ERPCTP) की दूसरी बैठक 30 सितम्बर 2020 को वीडियो कॉन्फ्रेंसिंग के माध्यम से आयोजित की गई थी । बैठक का कार्यवृत्त संलग्न है।

The 2nd meeting of Eastern Region Power Committee (Transmission Planning) (ERPCTP) was held on 30th September, 2020 through video conferencing. Minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

14/12/2020

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

Copy for kind information to:
1) PPS to Chairperson/ Member (PS), CEA

Signature Not Verified

Digitally signed by PARDEEP JINDAL
Date: 2020.12.14 10:26:15 IST

16. Creation of 220 kV bus at Banka (PG) and Lakhisarai (PG)

16.1 Director (PSPA-II), CEA stated that to have 2nd source connectivity at their various substations, BSPTCL had proposed for the creation of 220kV voltage level at existing 400/132 kV substations at Banka (PG) and Lakhisarai (PG). In this regard, a meeting was held on 10.09.2020 wherein BSPTCL informed that they will review their proposal and accordingly submit to CEA. BSPTCL vide letter dated 21.09.2020 has revised their proposal and requested to consider for creation of 220 kV Bus at Banka (PG) at present and Lakhisarai (PG) at later stage.

16.2 Representative of BSPTCL stated that the Grid Sub-station constructed by them i.e. Nawada(New), Shekhpura(New), Haveli Kharagpur (Jamalpur) and Gauradih (Sabour-New) are drawing power from Khizersarai (BSPTCL) and Khizersarai is dependent on Biharsharif (POWERGRID) and Gaya (POWERGRID). Also, the above mentioned grids are apparently on single source as the remote Gouradih GSS doesn't have any alternate power source. This is causing severe high voltage issue during off peak hours. To provide an alternate source 220 kV at Haveli Kharagpur and Gauradih and to maintain better voltage regulation, it was requested to approve 220 kV Bus creation at Banka (PG) and Lakhisarai(PG) and connect to Gauradih and Havelki Kharagpur respectively. He stated that creation of 220 kV Bus at Banka (PG) and Lakhisarai (PG) are required. However, BSPTCL proposed for the creation of 220kV voltage level at existing 400/132 kV substations at Banka (PG) at present with transformation capacity of 2x315 MVA.

16.3 ERLDC stated that there are high voltage issues in that area due to less loading of lines. Accordingly, reactive compensation may be planned.

16.4 CTU stated that presently there is space for creation of 220kV level at Banka (PG) S/s in GIS.

16.5 After deliberations, following was agreed for implementation:

Under ISTS:

Eastern Region Strengthening Scheme-XXV (ERSS-XXV)

(a) Creation of 220kV GIS bus at Banka (POWERGRID) S/s

(b) 400/220kV, 2x500MVA ICTs along with associated bays (220kV bays in GIS)

(c) 2 nos. of 220kV GIS line bays at Banka (POWERGRID) for termination of Banka (POWERGRID) - Goradih (Sabour New) 220kV D/c line of BSPTCL

(d) Space for future 220kV GIS bays: 6 no.

By BSPTCL:

(a) 220kV Banka (POWERGRID) - Goradih (Sabour New) D/C line along with associated bays at Goradih (Sabour New) end. BSPTCL will implement this line matching with the schedule of associated ISTS scheme as above.

16.6 It was also agreed that BSPTCL would study requirement of reactive power in Bihar system and send to CEA/CTU for discussion in the next meeting of ERPCTP.

F. ToR 2(vi) – REVIEW AND FACILITATE CONSTRUCTION OF INTER-REGIONAL GRID STRENGTHNING SCHEME

17. Re-conductoring of Siliguri-Bongaigaon 400kV D/c Twin Moose line with Twin HTLS conductor, reconductoring of Alipurduar – Salakati (Bongaigaon) 220kV D/c line with Single HTLS

17.1 Director (PSPA-II), CEA stated that reconductoring of the following transmission system under ISTS had been agreed in the 1st meeting of NERPCTP held on 08-11-2019 and 1st meeting ERPCTP held on 14.02.2020

(i) Re-conductoring of Siliguri – Bongaigaon line with Twin HTLS conductor (ampacity of single HTLS shall be 1596A) along with requisite modifications in line bay equipment at both ends.

(ii) Re-conductoring of Alipurduar – Salakati (Bongaigaon) 220kV D/c line with single HTLS (ampacity of single HTLS shall be 1596A) along with requisite modifications in line bay equipment at both ends.

17.2 CTU informed that MoP has allocated the above work of reconductoring of lines under RTM to POWERGRID on 25-09-2020 with implementation schedule of 30 months.

17.3 Members noted the information.

G. CROSS BORDER INTERCONNECTIONS

18. Katihar (Bihar) – Parbotipur (Bangladesh) – Bornagar (Assam) 765kV D/c line.

18.1 Director (PSPA-II), CEA stated that in the 6th meeting of Standing Committee on Power System Planning of NER held on 03-10-2016, Katihar (Bihar) – Parbotipur (Bangladesh) – Bornagar (Assam) 765kV D/c line (initially operated at 400kV) along with HVDC back-to-back at Parbotipur (2x500MW, 1x500MW with 400kV operation and 2nd 1x500MW with 765kV operation) was agreed.

18.2 The issue was discussed in the 8th meeting of India-Bangladesh JTT-T held on 15-12-2019 & 06-03-2020. In the 18th meeting of JSC on India-Bangladesh Cooperation in Power Sector held on 07th March 2020, it was mentioned that

सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)
(भारत सरकार का उदयम)
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/Metering/2022/32 Dated: 18/08/2022

To,

ED (Asset management),
POWERGRID Corporation of India Ltd,
Plot No#2, Secto-29, Gurgaon-122001
Kind Attn: Sh. A P Gangadharan

Sub: Revision of Man-day Rates to be charges to various utilities for installation of Interface Energy meters by POWERGRID on behalf of CTUIL.

Dear Sir,

This is in reference to the agreement signed between POWERGRID and CTUIL on 09.02.2022 for POWERGRID services to carry out the procurement and installation of IEMs & accessories on behalf of CTUIL (Copy attached). As per the agreement (clause no 2.1),

"2.1 WORK TO BE PERFORMED BY POWERGRID:

I. Supply / Installation of IEMs and Accessories:

Supply & installation of Interface Energy Meters (IEMs), along with accessories and hardware/software/AMR facility, to be carried out, for ISTS points for the purpose of energy accounting/billing as per requirement communicated by CTUIL.

The methodology for booking of supply/installation cost & recovery shall be followed uniformly across all regions. The cost covering supply & installation including overheads shall be recovered from all generators & ISTS licensees. In case of POWERGRID ISTS points, the cost for installation shall not be recovered from POWERGRID, as the said installation work is being carried out by POWERGRID itself. The amount shall be recovered from utilities, excluding POWERGRID, as per following.

***Price to be recovered per IEM/DCDs (X)** = IEMs & DCD per unit price as per LOA (A) + Manday Charges for installation of IEMs (B) + Inventory carrying cost including insurances (C) @ 5 % on (A) + Overhead Charges (D) @ 15 % on (A+C) + all taxes/duties at actuals.*

The amount shall be recovered from POWERGRID as per following.

***Price to be recovered per IEM/DCDs (X)** = IEMs & DCD per unit price as per LOA (A) + Inventory carrying cost including insurances (C) @ 5 % on (A) + Overhead Charges (D) @ 15 % on (A+C) + all taxes/duties at actuals.*

Manday Charges for installation (B): (Applicable for utilities other than POWERGRID)

½ Manday charges for installation of up to 2 no. IEMs per location and 01 Manday charges for Installation of 3 to 5 nos IEMs per location + Travel/transportation expenses per location round trip.

Present rate is as follows:

01 Manday Charge = Rs.36800 (Manday Charges & other expenses for outstation work), Travel/transportation expenses per location =Rs.15000/- per round trip.

These rates shall be revised from time to time based on the prevailing guidelines."

In this matter, it may be noted that POWERGRID man-day charges have been revised vide IOM dtd. 23rd May 2022 (copy attached) and the revised rates are as below-

Level	**Man-day rates**	
	In-House	**Out Station**
E7	18,200	26,000
E5	11,900	17,900
S3	7,750	10,700

However, it has been observed that Invoice are still being generated based on previous man day charges. (A copy of letter dtd 16.08.2022 issued by WR-II to M/s Adani Wind Energy Kutchh One limited is attached for your reference).

You are aware that RPCs had raised concerns regarding installation charges mentioned in the agreement and after due discussion it has been conveyed in RPC Meetings that installation charges shall be according to revised man day rates of POWERGRID considering services of E-5 level for IEM installation.

Accordingly, you are requested to instruct all concerned regional offices to consider the new man day rates of E5 level for installation of IEMs for various agencies.

Thanking you,

Yours faithfully,

Ashok Pal

(Ashok Pal)
Dy Chief Operating Officer

Copy to:

(i) **Direction (Operations),** POWERGRID Gurgaon.

(ii) **ED (BDD),** POWERGRID, Gurgaon.

Annexure-B18

Jharkhand

Sl. No.	Element name	Length (in Km)	OPGW Status	Remarks
1	220KV Jasidih-Dumka D/c	75	Non-OPGW (DTPS)	Proposal have been made for laying OPGW under state plan
2	220 KV Garhwa - Daltonganj (PG) D/c	93	Non-OPGW (DTPS)	
3	220KV Itkhori - Latehar	109	Non-OPGW (DTPS)	
4	220 kV Chandil - STPS S/c	112	Non-OPGW (DTPS)	-
5	220 kV PTPS - TVNL	64	PLCC not available	-
6	220 kV TVNL - Biharsariff	180	PLCC not available	-
7	220 kV Chandil - Ranchi(PG)	78	OPGW work completed	PDH& SDH unit has been installed at both end but not taken in service due to unavalibility of protection coupler
8	220 kV Ramchandrapur - Joda	130	OPGW work completed	

West Bengal

SL. NO.	Station Name	Direction	Line Voltage (kV)	DC / SC	Existing Protection Coupler	Direct Link OPGW	Remarks
1	Dharampur 220kV	Jeerat	220	DC	Alstom (PLCC) & DPC ABB	YES	
2		Satgachia	220	SC	SIEMENS DPC	NO	
3		Rishra	220	SC	Alstom (PLCC) & DPC ABB	NO	
4	Jeerat 400kV	BKTPP	400	SC	CGL PLCC & DPC ABB	YES	
5		New Chanditala	400	SC	ABB (PLCC)	YES	
6		Barasat	220	DC	DPC ABB	YES	
7		Sagardighi TPS	400		BPL PLCC		
8		Subhasgram (PG)	400	DC	SIEMENS DPC		
9	Kasba 220kV	Barasat 220kv	220	DC	DPC ABB	NO	
10		Subhasgram (WB)	220	DC	CGL PLCC & DPC ABB	YES	
11	KLC 220kV	N.Town - AA III	220	SC	DPC ABB	YES	
12		Subhasgram (PG)	220	SC	DPC ABB	NO	
13	N.Town - AA III	Rajarhat (PG)	220	DC	ZIV PLCC	NO	
14		Subhasgram (PG)	220	SC	ABB ETL & DPC ABB	NO	
15	Subhasgram (WB)	Lakshmikantapur	220	DC	CGL PLCC & DPC ABB	YES	
16		Subhasgram (PG)	220	DC	DPC ABB	YES	
17		Baruipur	220	DC	ABB DPC 2 nos.	YES	
18	Arambag 400kV	BKTPP	400	SC	CGL PLCC & DPC ABB	YES	
19		New PPSP	400	DC	ABB Project (PLCC)	YES	
20		Belmuri	220	SC	SIEMENS DPC	NO	
21	Domjur 220kV	Arambag	220	DC	ABB ETL & DPC ABB	NO	
22	Egra 220kV	Kharagpur 400kV	220	DC	ABB DPC 2 nos.	YES	
23	Foundry Park 220kV	Domjur	220	DC	DPC ABB	YES	
24		New Chanditala	220	DC	DPC ABB	YES	

25	Kharagpur 400kV	KTPP	400	DC	1. BPL V3 2. ABB ETL & DPC ABB	YES	
26		Midnapur (PG)	400	DC		YES	
27		Vidyasagar Park	220	DC	ALSTOM DPC 2 no	NO	
28	KTPP 400kV	Arambag	400	SC	CGL PLCC & DPC ABB	YES	
29		New Chanditala	400	SC	ABB ETL PROJECT	YES	
30		Howrah	220	DC	CGL PLCC & DPC ABB	YES	
31		New Haldia	220	DC	DPC ABB	NO	OPGW Proposed
32	Midnapur 220kV	Arambag	220	DC	DPC ABB	NO	
33		Kharagpur 400kV	220	DC	DPC ABB	YES	
34	New Chanditala 400kV	Arambag	400	SC	Project	YES	
35		Gokarna	400	DC	Projects (PLCC)	YES	
36		Midnapur (PG)	400	DC		YES	
37		Belmuri	220	SC	Projects (PLCC)	NO	
38		Domjur	220	DC	DPC Project	NO	
39		Howrah	220	DC	ABB ETL Project	YES	
40	Rishra 220kV	New Chanditala	220	SC	Projects (PLCC)	NO	OPGW Proposed
41		Satgachia	220	SC	SIEMENS DPC	NO	
42	Satgachia 220kV	BKTPP	220	DC	DPC ABB	NO	OPGW Proposed
43		Krishnanagar	220	DC	ABB ETL & DPC ABB	NO	OPGW Proposed
44	Krishnanagar 220kV	Rejinagar	220	DC	DPC ALSTOM	YES	
45	Gokarna 400kV	New Chanditala	400	DC	PLCC ZIV	YES	
46		Sagardighi TPS	400	DC	ALSTOM PLCC & DPC ABB	YES	
47		New Sagardighi	220	DC	DPC ABB	YES	
48	Gokarna 220KV	Rejinagar	220	DC	DPC Alstom	YES	
49		Sadaipur	220	DC	PLCC ABB	NO	OPGW Available
50	New Sagardighi 220kV	Sagardighi TPS	220	DC	ABB PLCC	YES	
51		BKTPP	220	DC	ABB PLCC	YES	
52	Durgapur 400kV	New Chanditala	400	SC	ABB PLCC & DPC ABB	YES	

53		Parulia (PG)	400	DC	BPL V3 & DPC ABB	NO	
54		PPSP OLD 400	400	DC	ABB PLCC & DPC ABB	YES	
55	Durgapur 220kV	Asansol	220	SC	CGL PLCC & DPC ABB	YES	
56		BKTPP	220	DC	CGL PLCC & DPC ABB	YES	
57		DPL	220	DC		YES	
58		J.K. Nagar	220	SC	ABB	NO	
59		Waria (DVC)	220	DC	ABB	NO	
60	New Bishnupur 220kV	Arambag	220	DC	ABB PLCC & DPC ABB	YES	
61		Hura	220	SC	DPC ABB	NO	
62		STPS	220	SC	DPC ABB	NO	OPGW Proposed
63	STPS 220kV	Asansol	220	SC	DPC ABB	YES	
64		Hura	220	SC	DPC ABB	NO	OPGW Proposed
65		J.K. Nagar	220	SC	ABB	NO	
66	PPSP NEW	PPSP OLD	400	DC	Project Differential	YES	
67		Ranchi	400	DC	PGCIL	NO	
68		TLDP- III	220	SC	ABB PLCC	NO	
69		TLDP- IV	220	DC	BPL PLCC	NO	
70		Alipurduar PG	220	DC	ABB PLCC	NO	OPGW Proposed
71	Gajol 220kV	Dalkhola (PG)	220	DC	PLCC ABB	NO	
72		Maldah (PG)	220	DC	PLCC ABB	NO	

ER ISTS (OPGW installed/Proposed as per ISTS communication plan 2027-28)

Sl. No.	Line Name	Voltage Level	length (km)	Owner
1	BODHGAYA - GAYA I (LILO PORTION)	220kV	12.5	PGCIL
2	DALKHOLA - PURNEA-I	220kV	41	PGCIL
3	PURNEA - NEW PURNEA-I	220kV	1	PGCIL
4	RANCHI - CHANDIL-I (LILO PORTION)	220kV	8	PGCIL
5	BANKA - BIHARSHARIFF-I	400kV	184	PGCIL
6	BARH - MOTIHARI-I	400kV	237	PGCIL
7	BARH - PATNA - III	400kV	93	PGCIL
8	BALIA - BIHARSHARIFF-II	400kV	242	PGCIL
9	BIHARSHARIFF - MUZAFFARPUR-I	400kV	133	PGCIL
10	BIHARSHARIFF - SASARAM-I	400kV	210	PGCIL
11	CHAIBASA - ROURKELA-I	400kV	131	PGCIL
12	CHANDAUTI -NABINAGAR CKT-I	400kV	79.39	PGCIL
13	CHANDWA - GAYA I	400kV	117	PGCIL
14	NEW PURNEA - FARAKKA	400kV	171	PGCIL
15	CHANDAUTI-CHANDAUTI -I	400kV	33	PGCIL
16	JAMSHEDPUR (DVC) - BARIPADA I	400kV	108	PGCIL
17	JAMSHEDPUR - CHAIBASA I	400kV	46	PGCIL
18	KAHALGAON - BANKA I	400kV	54	PGCIL
19	KAHALGAON - BARH-I	400kV	217	PGCIL
20	FARAKKA - KAHALGAON-I	400kV	95	PGCIL
21	KAHLGAON-FARAKKA-III	400kV	95	PGCIL
22	KAHALGAON - LAKHISARAI I	400kV	145	PGCIL
23	KAHALGAON - MAITHON-I	400kV	172	PGCIL
24	KODERMA - BIHARSHARIFF I	400kV	111	PGCIL
25	PATNA - KISHANGANJ I	400kV	421	PGCIL
26	LAKHISARAI - BIHARSHARIFF-II	400kV	89	PGCIL

27	MOTIHARI-GORAKHPUR-II	400kV	190	PGCIL
28	NABINAGAR - SASARAM I	400kV	81.65	PGCIL
29	PATNA - BALIA-I	400kV	195.3	PGCIL
30	PATNA-NABINAGAR CKT-I	400kV	141	PGCIL
31	PATNA-NABINAGAR CKT-II	400kV	141	PGCIL
32	MAITHON - RANCHI-I	400kV	200	PGCIL
33	MAITHON RB - RANCHI I	400kV	188	PGCIL
34	RAGHUNATHPUR - RANCHI	400kV	155.5	PGCIL
35	RANCHI (NEW) - RANCHI I	400kV	79	PGCIL
36	RANCHI - ROURKELA I	400kV	144	PGCIL
37	NEW RANCHI - CHANDWA I	400kV	68	PGCIL
38	SASARAM - ALLAHABAD	400kV	212	PGCIL
39	DALTONGANJ - SASARAM - I	400kV	196	PGCIL
40	SASARAM - SARNATH	400kV	77	PGCIL
41	DHARAMJAIGARH-RANCHI-I	765kV	303	PGCIL
42	GAYA - VARANASI I	765kV	273	PGCIL
43	BISWANATH-AGRA -I	800kV	1800	PGCIL
44	CHANDAUTI-GAYA-I	400kV	17.36	PGCIL
45	CHANDAUTI-NABINAGAR-I	400kV	79.39	PGCIL
46	SAHARSA-KISHENGANJ-I	400kV	183.2	PGCIL
47	SAHARSA-PATNA-I	400kV	238.1	PGCIL
48	SITAMARHI-DARBHANGA-I	400kV	80	PGCIL
49	SITAMARHI-MOTIHARI-I	400kV	80	PGCIL
52	MOTIHARI - BARH I	400 kV	237	PGCIL
53	MOTIHARI - BARH II	400 kV	237	PGCIL
54	MOTIHARI - GORAKHPUR I	400 kV	190	PGCIL
55	MOTIHARI - GORAKHPUR II	400 kV	190	PGCIL
56	MELLI-SILIGURI-I	132kV	90	PGCIL
57	RANGPO-CHUZACHEN-I	132kV	1	PGCIL

58	RANGPO-GANGTOK-I	132kV	26	PGCIL
59	RANGPO-MELLI-I	132kV	17	PGCIL
60	RANGIT-RANGPO-I	132kV	54	PGCIL
61	ALIPURDWAR-SALAKATI-I	220kV	106	PGCIL
62	BIRPARA-ALIPURDWAR-I	220kV	57	PGCIL
63	BIRPARA-BINAGURI-I	220kV	80	PGCIL
64	BINAGURI-SILIGURI-I	220kV	8	PGCIL
65	DALKHOLA-GAZOL-I	220kV	98.3	PGCIL
66	DALKHOLA-KISHENGANJ-I	220kV	31	PGCIL
67	MALDA-GAZOL-I	220kV	18.14	PGCIL
68	RANGPO-NEW MELLI-I	220kV	26	PGCIL
69	ALIPURDWAR-JIGMELING-I	400kV	324	PGCIL
70	ALIPURDWAR-PUNATSANGHCUN-I	400kV	64	PGCIL
71	BINAGURI-KISHENGANJ-I	400kV	98	PGCIL
72	BINAGURI-MALBASE-I	400kV	116	PGCIL
73	BINAGURI-NEW PURNEA-2	400kV	168	PGCIL
74	BONGAIGAON-BINAGURI-I	400kV	104	PGCIL
75	BEHRAMPUR-BHERAMARA-I	400kV	72	PGCIL
76	BEHRAMPUR-FARAKKA-II	400kV	83	PGCIL
77	BEHRAMPUR-SGTPP-II	400kV	26	PGCIL
78	DURGAPUR-FARAKKA-I	400kV	150	PGCIL
79	DURGAPUR-JAMSHEDPUR-I	400kV	177	PGCIL
80	FARAKKA-NEW PURNEA-1	400kV	171	PGCIL
81	FARAKKA-SAGARDIGHI-I	400kV	76	PGCIL
82	FARAKKA-SAGARIGHI-II	400kV	76	PGCIL
83	JEERAT-RAJARHAT-I	400kV	41	PGCIL
84	JEERAT-SAGARDIGHI-I	400kV	197	PGCIL
85	KISHENGANJ-NEW PURNEA-I	400kV	71	PGCIL
86	MAITHAN-DURGAPUR-I	400kV	70.77	PGCIL

87	MAITHAN-MAITHAN-I	400kV	32	PGCIL
88	MALDA-FARAKKA-I	400kV	40	PGCIL
89	MALDA-NEW PURNEA-I	400kV	167	PGCIL
90	NEW PURNEA-GOKARNA-I	400kV	250	PGCIL
91	RANGPO-BINAGURI-I	400kV	110	PGCIL
92	RANGPO-KISHENGANJ-I	400kV	189	PGCIL
93	RANGPO-TEESTAV-I	400kV	11.6	PGCIL
94	RAJARHAT-FARAKKA-I	400kV	312	PGCIL
95	RAJARHAT-GOKARNA-I	400kV	227	PGCIL
96	SAGARDIGHI-SUBHASGRAM-I	400kV	245.6	PGCIL
97	TALA-BINAGURI-I	400kV	98	PGCIL
98	BISWANATHCHAIRALI-AGRA-I	800kV	1690	PGCIL
99	MEDNIPORE-CHANDITALA-I	400kV	96.11	PMJTL
100	MEDNIPORE-KHARAGPUR-I	400kV	115.1	PMJTL
101	NEW JEERAT-JEERAT-I	400kV	25.5	PMJTL
102	MEDNIPORE-NEW JEERAT-I	765kV	169	PMJTL
103	MEDNIPORE-NEW RANCHI-I	765kV	270	PMJTL
104	TEESTA III - KISHANGANJ -II	400kV	215	TPTL
105	JAMSHEDPUR-MAITHON-I	400kV	153	PGCIL
106	MALDA-DALKHOLA-I	220kV	116	PGCIL
107	MUZAFFARPUR-PURNEA-I	400kV	245	PGCIL+ATL
108	MUZAFFARPUR-PURNEA-I	400kV	240	POWERLINKS
109	BIHARSHARIF-PURNEA-I	400kV	231	INDIGRID
110	DHARAMJAIGARH-JHARSUGUDA-I	765kV	151	PGCIL
111	JEYPORE-GAZUWAKA-I	400kV	220	PGCIL
112	JEYPORE-INDRAVATI-I	400kV	72	PGCIL
113	JEYPORE-BOLANGIR-I	400kV	287.7	PGCIL
114	BOLANGIR-MERAMUNDLI-I	400kV	221.4	PGCIL
115	ANGUL-SRIKAKULUM-I	765kV	277	PGCIL

116	MENDHASAL-PANDIABILI-I	400kV	273	PGCIL
117	TALCHER-MERAMUNDALI-I	400kV	88.61	PGCIL
118	ROURKELA-TALCHER-I	400kV	171	PGCIL
119	RENGALI-TALCHER-I	400kV	24	PGCIL
120	ROURKELA-JHARSUGUDA-I	400kV	142	PGCIL
121	DARLIPALLI-JHARSUGUDA-I	765kV	20.54	PGCIL
122	OPGC-JHARSUGUDA-I	400kV	51.3	OGPTL
123	RAIPUR-JHARSUGUDA-I	765kV	305	OGPTL

DVC OPGW Links

	FROM	TO	Length (km)	Line No.	Status
1	Maithon SLDC	Maithon Hydel	1.376	via 66,67	Completed
2	Maithon Hydel	Kalyaneswari	2.205	68	Completed
3	kalyaneswari	Burnpur	18	228, 229	Completed
4	Mejia TPS	DTPS	34.555	221 , 222	Completed
5	DTPS	Parulia	20.652	211 , 212	Completed
6	Parulia(DVC)	Parulia(PG)	0.757	219 , 220	Completed
7	kalyaneswari	CTPS-B	92.351	217, 218	Completed
8	CTPS-B	CTPS-A	2	245 , 246	Completed
9	CTPS-B	BTPS	31.648	205 , 206	Completed
10	BTPS	Konar	23.773	79	Completed
11	Konar	Barhi	58.455	83	Completed
12	Barhi	KTPS-220	19.822	43 , 44	Completed
13	Kalyaneswari	Maithon(PG)	7.113	237, 238	Completed
14	KTPS 220	Koderma(Old)	17.559	101 , 102	Completed
15	Kumardhubi	Panchet hydel	6	16,17,70	Completed
16	**RTPS**	**DSTPS**	**69.182**		Completed
17	Maithon(PG)	RTPS			Completed
18	RTPS	Ranchi(PG)			Completed
19	Kalyaneswari	Dhanbad			Completed
20	Dhanbad	CTPS			
21	Burnpur	Mejia	38		Completed
22	Maithon Hydel	Kumardhubi	**8**		Completed
23	DTPS	ASP	3.636	51 , 52	Completed
24	Kalyaneshwari-	Kalipahari	27.909	18 , 19	Completed
25	Panchet Hydel	Ramkanali	12.508	45 , 46	Completed
26	Howrah	Belmuri	49.323	24 , 25	Completed
27	Belmuri	Burdwan	49.737	22 , 23	Completed
28	Burdwan	DTPS	81.742	75 , 76	Completed
29	Howrah	Kolaghat	56.75	26 , 27	Completed
30	Kolaghat	Kharagpur	67.108	73 , 74	Completed
31	*BTPS-B*	Ramgarh(220)	*54.887*	233 , 244	Completed
32	Ramgarh	Patratu	22.964	77 , 78	Completed
33	Ramgarh	Gola	25.542	55 , 56	Completed
34	Gola	Chandil	100.919	5	Completed
35	Chandil	Jamshedpur	38.325	1	Completed
36	Jamshedpur	Mosabani	39.86	2 , 3	Completed
37	Kharagpur	Mosabani	96.229	71 , 72	Completed
38	Putki	CTPS	26.001		Completed
39	CTPS	Purulia	55.364	58 , 59	Completed
40	CTPS	Biada	11.882		Completed
41	Patherdih	Putki	20.63	12 , 13	Completed
42	Putki	Nimiaghat	42.843	47 , 48	Completed
43	Nimiaghat	Giridih	40.368	86 , 87	Completed
44	Patratu	North Karanpura	32.101	81 , 82	In Progress
45	DTPS	Jamuria	30.392	100	Completed
46	Barhi	Hazaribagh	35.293	93 , 94	Completed
47	Durgapur (Muchipara)	Parulia	14.791	226 , 227	Completed
48	MTPS-A	Barjora	17.245	230 , 231	Completed
49	Patherdih	Sindri	4.996	49 , 50	Completed
50	Maithon Hydel	Patherdihi	41.654	14 / 66	Completed
51	Dhanbad	Giridih220	44.384		Completed
52	DTPS	Kalipahari	38.683	20,21	Completed
53	Durgapur(DVC)	Mejia	31.37	235-236	Completed
54	Jamuria	Ramkanali	53		Completed

55	CTPS	Ramkanali	70		Completed
56	Jamshedpur	Purulia	87		Completed
57	CTPS	Gola	67	6,7	Completed
58	KTPS	Giridih	101		Completed

UGFO LINKS DETAILS

1	Ramgarh (220KV)	Ramgarh(132)	0.75	UGFO	Completed
2	BTPS-B	BTPS-A	1.36	UGFO	Completed
3	Mejia-A	Mejia-B	4.65	UGFO	Completed
4	CTPS220	CTPS132	0.81	UGFO	Completed
5	KTPS400	KTPS-220	0.635	UGFO	Completed

Upcoming lines(47th ERPC approved)

1	Bokaro-A-Koderma	105	
2	Dhanbad-Patherdihi	22	
3	CTPS-Kalya LILO at RTPS	125	
4	Parulia-Burdwan	90	
5	DTPS-Parulia LILO at DSTPS	8	
6	BokaroB- Jamshedpur	155	
7	Joda-Jamshedpur	140	
8	Mejia-Ramgarh	155	
9	BTPS-A--BTPS-B (UGFO)	5	

List of Transmission Lines of ER1 having OPGW without DTPC		
Sl.No	Section Name / Link Name	Line Voltage (KV)
1	Jamshedpur-Chaibasa	400
2	Ranchi 400 - Ranchi 765 D/C	400
3	Ranchi- Chandwa D/C	400
4	Gaya - Chandwa D/C	400
5	Banka-Kahalgaon D/C	400
6	Barh - Kahalgaon D/C	400
7	Biharsharif - Lakhisarai D/C	400
8	Daltonganj - Sasaram D/C	400
9	Biharsharif - Banka D/C	400
10	Hatia - Ranchi D/C	220
11	Koderma- Biharsharif D/C	400
12	Patna-Saharsa D/C	400
13	Barh-Motihari-Gorakhpur D/C	400
14	Allahabad - Sasaram	400

Annexure-B27A

SUMMARY OF DEVIATION CHARGE RECEIPT AND PAYMENT STATUS

BILL UPTO 19-02-2022 (W-47 of 2022-2023)
Status AS ON 13.03.23

Figures in Rs. Lakhs

CONSTITUENTS	Net outstanding of FY 2021-22	Receivable	Received	Payable	Paid	Outstanding for 2022-23	Total Outstanding
BSPTCL	0.00000	18,969.58019	5,546.03092	9,501.10600	0.00000	3,922.44327	3,922.44327
JUVNL	0.00000	16,784.55165	7,442.94875	2,303.59323	0.00000	7,038.00967	7,038.00967
DVC	0.00000	10,871.92847	11,102.34745	1,431.74648	1,833.14488	170.97942	170.97942
GRIDCO	0.00000	27,738.94492	27,866.96416	11,499.11604	11,627.13528	0.00000	0.00000
WBSETCL	0.00000	21,578.94507	21,601.81356	6,030.53997	6,053.40846	0.00000	0.00000
Sikkim	0.00000	1,732.72079	0.00000	923.56731	0.00000	809.15348	809.15348
NTPC	0.00000	14,083.75965	13,411.46868	1.55341	25.03150	695.76906	695.76906
NHPC	0.00000	56.62836	56.62836	1,791.97988	1,791.97988	0.00000	0.00000
MPL	0.00000	196.35635	195.31723	792.60060	791.56148	0.00000	0.00000
APNRL	0.00000	1,104.23956	1,070.17651	132.06886	132.06886	34.06305	34.06305
CHUZACHEN	0.00000	113.94497	113.94497	164.30673	164.30673	0.00000	0.00000
NVVN-BD	0.00000	407.59331	398.85481	699.22052	699.22052	8.73850	8.73850
GMR	0.00000	864.85566	734.51305	216.53274	216.95089	130.76076	130.76076
JITPL	0.00000	1,359.43040	1,356.56680	404.53298	401.66936	-0.00002	-0.00002
TPTCL (Dagachu)	0.00000	3,812.86457	3,812.68012	5.12748	5.12748	0.18445	0.18445
JLHEP	0.00000	1,192.39628	1,192.36111	120.91596	120.88079	0.00000	0.00000
NVVN-NEPAL	0.00000	9,290.73714	9,129.52078	1,066.76885	1,066.76885	161.21636	161.21636
IBEUL	112.50429	0.00000	0.00000	0.00000	0.00000	0.00000	112.50429
BRBCL	0.00000	1,649.59911	1,602.24192	118.29758	118.29758	47.35719	47.35719
PGCIL SASARAM	0.00000	30.68423	29.34565	47.16932	47.16932	1.33858	1.33858
TUL (Teesta-III)	0.00000	932.32712	932.30340	233.45674	233.45674	0.00000	0.00000
Dikchu	0.00000	122.92821	116.53607	221.84279	222.13371	6.68306	6.68306
PGCIL-Alipurduar	0.00000	23.13526	23.13526	17.96622	17.96622	0.00000	0.00000
Tashiding(THEP)	0.00000	393.91452	392.77929	362.22067	362.22067	1.13523	1.13523
OPGC	0.00000	8.21880	8.21880	0.00000	0.00000	0.00000	0.00000
KBUNL	0.00000	364.68275	364.68311	35.85888	35.85888	-0.00036	-0.00036
NPGC	0.00000	983.27857	983.27857	205.73078	205.73078	0.00000	0.00000
NPGC-Infirm	0.00000	298.01341	298.01341	1,006.41355	1,006.41355	0.00000	0.00000
RONGNICHU	0.00000	42.17384	42.17384	581.77891	581.77891	0.00000	0.00000
BRBCL_U4_Infirm	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NVVN Bhutan	0.00000	66.25763	66.25763	158.48764	158.48764	0.00000	0.00000
Total	**112.50429**	**1,35,074.69079**	**1,09,891.10421**	**40,074.50012**	**27,918.76896**	**13,027.83170**	**13,140.33599**

STATUS OF REACTIVE CHARGES

BILL UPTO 05-02-2022 (W-45 of 2022-2023)
Status AS ON 13.03.23

Figures in Rs. Lakhs

Name of Parties	Receivable Amount by pool	Received Amount by pool	Payable Amount by pool	Paid Amount by pool	Outstanding Amount Receivable(+Ve) / Payable by pool(-Ve)
BSPHCL	1,148.09546	378.70317	179.63568	97.12179	686.87840
JUVNL	1,357.33981	635.09377	0.00000	0.00000	722.24604
DVC	370.99588	370.99588	167.94224	167.94224	0.00000
GRIDCO	533.70826	557.39418	20.83056	44.51648	0.00000
SIKKIM	51.50571	48.00000	25.36720	21.86149	0.00000
WBSETCL	605.63772	490.74891	71.09216	40.41768	84.21433

Receivable: Receivable by ER Payable: Payable by ER POOL
Received: Received by ER P Paid: Paid by ER POOL
'- ve' Payable by ER pool '+ ve' Receivable by ER pool

Deviation Interest Bill due to delay payment

Annexure-B27B

All figs in Rupees.

Sl No.	Constituent Name	Interest outstanding till Q4_2020-21	Interest Received by Pool against outstanding	Interest Paid by pool against Outstanding	Net Interest outstanding till Q4_2020-21
1	BSPTCL	91,05,608	91,05,608		0
2	DVC	23,718		23,718	0
3	GRIDCO	-2,79,466		2,79,466	0
4	JUVNL	4,34,61,973	4,34,61,973		0
5	Sikkim	11,76,865	11,76,865		0
6	WBSETCL	21,415	21,415		0
7	NHPC	-54,745		54,745	0
8	NTPC	0			0
9	APNRL	11,33,748	11,33,748		0
10	BRBCL	-1,316		1,316	0
11	JLHEP	1,28,853	1,15,968	12,885	0
12	CHUZACHEN	-3,119		3,119	0
13	GMR	1,73,96,828			1,73,96,828
14	IBEUL	26,75,383			26,75,383
15	JITPL	8,589	8,589		0
16	KBUNL	40	40		0
17	MPL	-33,428		33,428	0
18	NPGC-Infirm	0			0
19	NPGC	-10,953		10,953	0
20	NVVN-BD	24,603		24,603	0
21	NVVN-NEPAL	0			0
22	OPGC	24,209			24,209
23	PGCIL-Alipurduar	1,72,257	1,72,258		-1
24	PGCIL SASARAM	1,686	1,686		0
25	Tashiding(THEP)	1,57,661	1,57,661		0
26	Dikchu	28,701	28,701		0
27	TPTCL (Dagachu)	0			0
28	TUL (Teesta-III)	-1,134		1,134	0

'- ve' Payable by ER pool

'+ ve' Receivable by ER pool

Note: Ind-bharath interest is calculated till 29.05.2019

GRID CONTROLLER OF INDIA LTD.
(Erstwhile POSOCO)
National Load Despatch Centre
(Designated as Nodal Agency in accordance with Regulation 5 of CERC (PSDF) Regulations, 2014)
(PSDF-Secretariat)
Office Address: B-9, 1st Floor, Qutub Institutional Area, Katwaria Sarai, New Delhi - 16
Fax: 011-26524525, 26536901
Website: https://psdfindia.in/. Email psdf@posoco.in ; nldc.psdf2020@gmail.com

Ref. No. NLDC-PSDF/27-AppCo/letter/2022-23 **Dated: 12th December 2022**

To,

As per the distribution list:

Subject: Proposals Deemed returned by the Appraisal Committee during its 27th Meeting held on 25th November 2022 due to various reasons.

Sir,

The 27th meeting of the Appraisal Committee chaired by the Chairperson, CEA, was held on 25.11.2022 at 05:00 PM 2022 in CEA, Sewa Bhawan, R.K. Puram New Delhi.

During the meeting, Appraisal Committee has directed to return 4-proposal for various reasons. The extract of the relevant portion of the approved MOM of the 27th Meeting of the approval committee is attached in Annexure-I. Accordingly, these proposals are considered as Deemed-Returned.

This is for your kind information, please.

Yours faithfully

Suhas Dambhare
General Manager (PSDF)
NLDC-Grid India

Copy to:

1. Chief Engineer (NPC), CEA
2. Executive Director (NLDC), Grid India

As Per Distribution List:

Sr. No	Name of Entity	Proposal No	Address
1	KSEBL, Kerala	338	Chief Engineer (Trans) System Operation Kerala State Electricity Board Ltd. State Load Despatch Centre, HMT Colony PO, Kalamassery- 683503, Kerala Email: cesoklsy@gmail.com
2	Power Grid	346	General Manager Power Grid Corporation of India Ltd. "Saudamini" Plot No: 02, Sector-29, Gurgaon-122001, Haryana Email: vishalsingh@powergrid.in
3	MePTCL, Meghalaya	289	Chief Engineer (Transmission) Meghalaya Power Transmission Corporation Ltd. MePTCL, Lumjing shai, Short Round Road Shillong-793001 Email: cetranzemeptcl@gmail.com
4	ERPC	328	Superintending Engineer Eastern Regional Power Committee 14, Golf Club Road, Tallygunge, Kolkatta- 700033 Email: shyam.kejriwal@gov.in

Annexure-I

GRID CONTROLLER OF INDIA LTD.
(Formerly POSOCO)
National Load Despatch Centre
(Designated as Nodal Agency in accordance with Regulation 5 of CERC (PSDF) Regulations, 2014)
(PSDF-Secretariat)
Office Address: B-9, 1st Floor, Qutub Institutional Area, Katwaria Sarai, New Delhi - 16
Fax: 011-26524525, 26536901
Website: https://psdfindia.in/. Email psdf@posoco.in ; nldc.psdf2020@gmail.com

Ref. No. NLDC-PSDF/ 27th Ac.Co/ 2022-23 **Dated: 12th December 2022**

To,

As per the distribution list

Subject: Minutes of twenty Seventh (27) meeting of the Appraisal Committee of the PSDF held on 25th November 2022.

Sir,

The Twenty Seventh (27th) meeting of the Appraisal Committee of the PSDF chaired by the Chairperson, CEA was held on 25th November 2022 at 05:00 PM 2022 in CEA, Sewa Bhawan, R.K. Puram New Delhi.

The Minutes of the Meeting (MOM), duly approved by the Chairman of the Appraisal Committee, is enclosed herewith.

Thanking you,

Yours faithfully,

12/12/2022

(Suhas Dambhare)
General Manager (PSDF)
NLDC-Grid India

Distribution List:

Member of the Appraisal Committee:

1. Chairperson, Central Electricity Authority
2. CMD, Grid-India
3. Secretary, CERC
4. Chief Engineer (OM), Ministry of Power
5. ED-NLDC, Grid India. Member Secretary of the Appraisal Committee

Co-Opted Members

1. Member (GO&D), CEA
2. Chief Engineer (NPC), CEA
3. GM (PSDF), NLDC-Grid India
4. Director (NPC), CEA

		avoid overloading of 220kV Nagarjunasagar- Chalalurthy line during full generation at Nagarjunsagar. (Proposal No: 315)				
8	JUSNL, Jharkhand	Implementation of SAMAST (Scheduling, Accounting, Metering and Settlement of Transactions in Electricity) in JUSNL. [Proposal No: 266].	215.89	11.91	10.72	90 %
Total			**710.87**	**333.08**	**243.67**	

The Examination Report along with the accepted cost estimates of the above recommended Projects for funding through PSDF are enclosed in ***Annexure II.***

3.0 Proposals proposed for deemed return:

3.1 Proposals recommended for deemed return by TESG

TESG has recommended four (4) proposals for deemed return. The summary of proposals and related extracts from the MOMs of relevant TESG meetings of these proposals are given below:

Sr. No	Entity Name	Proposal Name (Proposal No)	Estimated Cost Rs. Crore	Observations and Recommendations of TESG
1	KSEBL	Upgradation / Replacement of SCADA/EMS system at Main and Backup Control Centres of Kerala-SLDC (338).	70.25	TESG intimated to KSEBL that at present, TESG don't have any directions for the consideration of the SCADA at present. Hence, this DPR may be considered as deemed return.
2	POWERGRID	Establishment of State-of-the-Art Unified Centralized Network UNMS for Southern Region ISTS and State Utility Communication Network (346).	76.20	TESG informed PGCIL that in the 18th meeting of the Monitoring Committee held on 26.07.2022, the proposal for funding the UNMS projects through PSDF was not accepted. **Therefore, the project is considered as deemed**

				returned.
3	MePTCL, Maghalaya	Up-gradation and Integration of Remote Terminal Units (RTU) for improvement of Real Time Telemetry status of Sub Station in Meghalaya (289).	2.55	TESG accepted the request of entity for dropping the proposal and **requested to Nodal agency to put up the same to next Appraisal Committee for consideration as deemed return.**
4	ERPC	Procurement of additional licenses of Protection Setting Calculation Tool Software (MiP-PSCT) and Updation & Support Service for web-based Protection Database of Eastern Regional Grid (328).	9.735	TESG is in view that even though the number of substations have been increased in the Eastern Region but no new entity has been added in the Eastern Region. Therefore, keeping in view that the study is being done at system study wings at corporate/Planning division of the utilities not at substation level and no new addition of any entity in Eastern region, this Proposal of the ERPC is proposed for the **deemed return.**
Total			**158.735**	

The Appraisal committee discussed and accepted the recommendations of the TESG for consideration of the deemed return of the above four proposals. The Appraisal Committee advised NLDC to intimate the above decision to the respective project entities.

3.2 Proposals recommended for deemed return because of Long pending inputs:

The Monitoring Committee during its 18th meeting held on 26-07-2022 has directed TESG to give a notice period of two months to all the project entities whose inputs are pending for more than 6 months to submit the inputs. In case no response is received from the project entities, the project may be considered as a deemed return. In line with the above decision, (NPC) CEA vide its letter dated 11-08-2022 sent a final two-month notice to the 11 project Entities. Out of the 11 project entities, the following 7 entities have not yet responded and 1 entity has requested to drop their proposal through a letter. Hence, following eight (8) proposals are proposed for deemed return:

Annexure-B30

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

सेवा में / To,

Sh. Sandip Pal,
Chief Engineer,
SPM Section, DVC,
Kolkata-700054
Email:
"sandip.pal@dvc.gov.in"

विषय/Subject: Renovation & Augmentation of DVC T&D system (Phase-I) for the time period 2023-26. – reg.

सन्दर्भ /Reference :(i) ERPC letter no. ERPC/MS/TP/2022/1096 dated 23.11.2022
(ii) DVC email dated 27.12.2022
(iii) DVC email dated 05.01.2023

महोदय /Sir,

This is with reference to ERPC letter dated 23.11.2022 forwarding therewith the DVC proposal for Renovation and Augmentation (R&A) of T&D systems and subsequent letter of DVC dated 27.12.2022 submitting the DPR for carrying out Renovation and Augmentation (R&A) of DVC's T&D systems- Phase-I. The proposal consisted of following two parts:

Part A: R&A of control & Protection system and replacement of age-old equipments of substations and Power House Switchyard. In this proposal, 14 substations were proposed for R&A which have served for more than 35 years.

Part B: Augmentation of Transmission lines with Reconductoring with HTLS & Conventional Conductor alongwith strengthening of its towers wherever applicable. In this proposal, sixty-six (66) lines were considered for reconductoring out of which twenty-six (26) are transmission lines of 132 kV and 220 kV level while forty (40) are distribution lines.

2. Proposals regarding R&A of transmission system were examined and it is found to be in generally order. List of transmission system for R&A is enclosed at **Annexure-I**. However, following conditions/suggestions need to be incorporated by DVC in the final DPR:

   (a) The construction/ reconductoring/ augmentation of the subject transmission lines & substations/ Switchyards shall be done in accordance with CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. All electrical clearances including minimum live metal clearance, ground clearance and minimum mid span separation between earth wire and conductor shall be as per Central Electricity Authority (Measures Relating to Safety & Electric Supply) Regulations as amended from time to time and as per relevant IS.

(b) For the execution of projects, the Public procurement (Preference to Make in India) order as amended up to date shall be followed strictly.

(c) In clause No. 1.2 (i), under Brief Scope of Work, at page 129, a specific restriction to use of GAP type HTLS conductor has been placed in the DPR. It is suggested that specific restriction to particular type of HTLS conductor shall not be placed in the DPR. It is informed that Central Electricity Authority had formulated a guideline titled "Guidelines for Rationalized Use of High Performance Conductors" which comprehensively covers the various aspects of High Performance Conductors and attempts to provide technical insight to the utilities and to promote judicious use of these conductors. It is suggested to follow the aforementioned guidelines in letter and spirit for selection of High Performance Conductors. These guidelines are available on CEA website at following link:

https://cea.nic.in/old/reports/others/ps/psetd/guidelines_conductors.pdf.

(d) It is suggested to ensure that all the transmission lines for which reconductoring has been proposed & life of the line is more than 35 years, health assessment of the associated towers shall be carried out to assess the healthiness of the lines.

(e) It may be ensured that all the terminal equipment of substations at both ends of the transmission lines, considered for increased capacity, have sufficient capacity to cater to the increased power transfer after re-conductoring.

(f) In the system studies carried out for the 2026-27 timeframe, considering peak demand of DVC, it was observed that four lines are not 'N-1' compliant. However, since the lines are older than 35 years and face frequent trippings and breakdowns, the reconductoring may be considered.

(g) We have no objection on the proposals of replacement of shield wire/OPGW.

3. Proposal regarding distribution system (enclosed at **Annexure-II**) were also found to be generally in order subject to the following conditions:

   (a) It must be ensured by DVC to maintain sufficient installation capacity in upstream network i.e., sub-stations (220/132/33 kV) and 220/132 kV lines to meet the expected demand after re-conductoring of the proposed 40 nos. of 33 kV lines with new HTLS/AAAC conductors.

4. Forest/environment clearance, other statutory clearances, as required, from concerned competent authorities, wherever necessary, should be obtained before implementation of the work. There should not be any duplicacy of work with any Government of India/State Government/any other scheme.

भवदीय/Yours faithfully,

25.1.2023

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

Annexure-I

Following Transmission system is proposed for R&A by DVC due to service more than 35 years:

A. Substation- Renovation & Augmentation of Control & Protection System and Replacement of Ageold Equipments of Substations & Power House Switchyard**:**

Sl. No.	Substation/Power House S/y	Year of Commissioning	Year in Service
1	132KV/33KV/25KV Kumardhubi S/s	1961	61
2	132KV/25KV Ramkanali S/s	1960	62
3	132KV/33KV Purulia S/s	1961	61
4	132KV/33KV Mosabani S/s	1961	61
5	132KV/33KV Putki S/s	1954	68
6	132KV/33KV/25KV Patherdih S/s	1968	54
7	132KV/33KV Barhi S/s	1962	60
8	132KV/33KV/25KV Koderma S/s	1962	60
9	132KV/33KV Kalipahari S/s	1955	67
10	132KV/33KV ASP (Durgapur) S/s	1956	66
11	132KV/33KV Gola S/s	1955	67
12	220/132/33KV Switchyard associated with Durgapur TPS	1961	61
13	220/132/33KV Switchyard associated with Chandrapura TPS A	1964	58
14	220/132/33KV Switchyard associated with Bokaro TPS B	1987	35

B. Reconductoring of 220 kV and 132 kV lines of DVC with HTLS conductor

Sl. No.	Name of Line	Year of Commissioning	Existing conductor	Proposed conductor	Line length
1	L#201&202 (220KV D/C CTPS-Kalyaneshwari upto RTPS only 75km)	1987	ACSR Zebra	HTLS	75
2	L#211&212 (220KV D/C DTPS-DSTPS)	1994	ACSR Zebra	HTLS	12
3	L#2&3 (132KV D/C Jamshedpur-Mosabani)	1955	ACSR Lark	HTLS	39.3

4	L#14&15 (132KV D/C MHS-Sindri)	1969	AAAC Panther	HTLS	56.4
5	L#16 (132KV S/C MHS-Kumardhubi)	1961	ACSR Lark	HTLS	4.9
6	L#17 (132KV S/C MHS-PHS)	1962	ACSR Lark	HTLS	14.4
7	L#20&21 (132KV D/C DTPS-Kalipahari)	1961	ACSR Lark	HTLS	40.4
8	L#22&23 (132KV D/C Burdwan-Belmuri)	1957	ACSR Lark	HTLS	51.5
9	L#24&25 (132KV D/C Belmuri-Howrah)	1957	ACSR Lark	HTLS	49.3
10	L#43&44 (132KV D/C KTPS-Barhi)	1962	ACSR LARK	HTLS	21.2
11	L#45&46 (132KV D/C PHS-Ramkanali)	1961	ACSR Lark	HTLS	15
12	L#61 & L#90 (132KV S/C Ramkanali-Jamuria)	1974	ACSR Lark	HTLS	34.7
13	L#70 (132KV S/C PHS-Kumardhubi)	1961	ACSR Lark	HTLS	9.6
14	L#93&94 (132KV D/C Barhi-Hazaribag)	1978	ACSR Lark	HTLS	36
15	L#101&102 (132KV D/C KTPS-Koderma)	1962	AAAC Panther	HTLS	19.3

C. Reconductoring of 132 kV lines of DVC with conventional conductor

Sl. No.	**Name of Line**	**Year of Commissioning**	**Existing conductor**	**Proposed conductor**	**Line length**
1	L#1&105 (132KV D/C Jamshedpur-Chandil)	1954	ACSR Lark	AAAC Panther	43.7
2	L#5&106 (132KV D/C Chandil-Gola)	1955	ACSR Lark	AAAC Panther	99

3	L#6&7 (132KV D/C CTPS-Gola)	1955	ACSR Lark	AAAC Panther	63.3
4	L#18&19 (132KV D/C Kalyaneshwari-Kalipahari)	1957	ACSR Lark	AAAC Panther	27.3
5	L#26&27 (132KV D/C Howrah-Kolaghat)	1959	ACSR Lark	AAAC Panther	61.6
6	L#39&40 (132KV D/C Jamshedpur-Purulia)	1961	ACSR Lark	AAAC Panther	88.4
7	L#55&56 (132KV D/C Gola-Ramgarh)	1956	ACSR Lark	AAAC Panther	25.3
8	L#58&59 (132KV D/C CTPS-Purulia)	1961	ACSR Lark	AAAC Panther	56
9	L#71 & 72 (132KV S/C Kharagpur - Mosaboni)	1957	ACSR Lark	AAAC Panther	93.7
10	L#73 & 74 (132KV S/C Kharagpur - Kolaghat)	1959	ACSR Lark	AAAC Panther	69.2
11	L#75&76 (132KV D/C DTPS-Burdwan partly 40km)	1956	ACSR Lark	AAAC Panther	40

D. Replacement of Shield Wire

Sl. No.	**Name of Line**	**Year of Commissioning**	**Existing Earthwire**	**Proposed Earthwire**	**Line length**
1	L-213,214 (220KV D/C Jamshedpur-Bokaro)	1985	EW	OPGW	154
2	L#201&202 (220KV D/C CTPS-Kalyaneshwari including RTPS LILO)	1987	EW	OPGW	160
3	L#211&212 (220 KV D/C DSTPS LILO portion only)	2021	EW	OPGW	4
4	L-113,114 (132KV D/C Dhanbad-Pathardih)	2013	EW	OPGW	35

5	L-13 (132KV D/C Putki-Patherdih)	1954	EW	EW	23
6	L-28,29 (132KV D/C Barhi-Biharsharif)	1959	EW	EW	76
7	L-35,36 (132KV D/C CTPS-Putki)	1960	EW	EW	29

Annexure-II

Following Distribution system is proposed for R&A by DVC due to service more than 35 years:

A. Reconductoring of 33 kV lines of DVC with HTLS conductor equivalent to Dog:

Sl No.	GOMDs:	Line Name/Line No	Year of commissioning	Conductor Type existing	Proposed Conductor	L L (KM)
1	GOMD-II	PHS- MKD # 1 & 2	1970	AAAC Dog	HTLS DOG	15
2	GOMD-II	Mugma # 01 & 02	1970	ACSR Dog	HTLS DOG	7.5
3	GOMD-IV	Putki-Godhar Bhuli Line	1970	AAAC Dog	HTLS DOG	12
4	GOMD-IV	Patherdih-Govindpur	1977	AAAC Dog	HTLS DOG	20
5	GOMD-IV	for Golakdih Loop-In Loop-out at Loc. No-4 and	1977	AAAC Dog	HTLS DOG	4.4
6	GOMD-IV	for Koylanogar	1977	AAAC Dog	HTLS DOG	1.1
7	GOMD-V	Tilaya no-1	1955	ACSR Dog	HTLS DOG	9.6
8	GOMD-VII	Kathara-1	1973	ACSR Dog	HTLS DOG	7
9	GOMD-VII	Kathara-2	1973	ACSR Dog	HTLS DOG	7
10	GOMD-VII	Kargali-1	1975	ACSR Dog	HTLS DOG	19
11	GOMD-VII	Kargali-2	1975	ACSR Dog	HTLS DOG	19
12	GOMD-VII	Giddi-1 & 2	1977	ACSR Dog	HTLS DOG	18

B. Reconductoring of 33 kV lines of DVC with HTLS conductor equivalent to Panther:

Sl No.	GOMDs:	Line Name/Line No.	Year of commissioning	Conductor Type existing	Proposed Conductor	L L (KM)

1	GOMD-IV	Patherdih-Sudamdih	1982	ACSR Lark	HTLS PANTHER	4.6
2	GOMD-IV	Sudamdih-Jealgora	1975	ACSR Lark	HTLS PANTHER	6.2
3	GOMD-IV	CTPS-Madhuban D/C	1980	ACSR Lark	HTLS PANTHER	16
4	GOMD-VI	Bamunara Fdr# 1&2	1996	ACSR Panther	HTLS PANTHER	40
5	GOMD-VII	West Bokaro-1	1972	ACSR Dog	HTLS PANTHER	19

C. Reconductoring of 33 kV lines of DVC with AAAC Dog:

Sl No.	**GOMDs:**	**Line No**	**Year of commissioning**	**Conductor Type existing**	**Proposed Conductor**	**L L (KM)**
1	GOMD-II	CLW # 01 & 02	1960	AAAC Dog	AAAC Dog	15
2	GOMD-II	Dendua Line	1960	ACSR Dog	AAAC Dog	4.5
3	GOMD-II	CLW # 03	1960	AAAC Dog	AAAC Dog	13
4	GOMD-II	Kulti #01 & 02	1970	AAAC Dog	AAAC Dog	9.5
5	GOMD-II	Dish # 01 & 02	1970	ACSR Dog	AAAC Dog	9.3
6	GOMD-II	Dish # 03	1970	ACSR Dog	AAAC Dog	11
7	GOMD-II	KMDB # 01 & 02	1970	ACSR Dog	AAAC Dog	1
8	GOMD-II	KMDB-BCCL	1970	ACSR Dog	AAAC Dog	2.5
9	GOMD-II	KMDB - NATRAJ	1970	ACSR Dog	AAAC Dog	3

10	GOMD-IV	Putki-Jamadoba Fdr # 1 & 2	1971	AAAC Dog	AAAC Dog	7.2
11	GOMD-IV	Putki-Sendra Bansjora Fdr # 1 & 2	1983	AAAC Dog	AAAC Dog	4.3
12	GOMD-IV	Moonidih Fdr # 1 & 2	1978	AAAC Dog	AAAC Dog	3.1
13	GOMD-IV	South-Loyabad Fdr	1983	AAAC Dog	AAAC Dog	2.5
14	GOMD-IV	Paterdih-Santaldih 1&2	1972	AAAC Dog	AAAC Dog	4.6
15	GOMD-IV	Patherdih-digwadih & Tisco Jamadoba	1968	AAAC Dog	AAAC Dog	11
16	GOMD-V	DVC KODERMA-JBVNL KODERMA	1961	ACSR Dog	AAAC Dog	9.5
17	GOMD-VI	LPR # 1 & 2	1956	ACSR Dog	AAAC Dog	24
18	GOMD-VI	LPR # 3 & 4	1968	ACSR Dog	AAAC Dog	24
19	GOMD-VI	SBR # 1 # 2	1955	ACSR Dog	AAAC Dog	10

D. Reconductoring of 33KV lines of DVC with AAAC Panther

Sl No.	GOMDs:	Line No	Year of commissioning	Conductor Type existing	Proposed Conductor	L L (KM)
1	GOMD-IV	Katras Fdr # 1	1971	ACSR Lark	AAAC panther	8
2	GOMD-IV	Katras Fdr # 2	1971	ACSR Lark	AAAC panther	5.2

3	GOMD-IV	Bhelatand Katras	1980	ACSR Lark	AAAC panther	4.2
4	GOMD-IV	CTPS-Dugdha BCCL	1979	ACSR Lark	AAAC panther	5.8

Annexure-B30A

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

सेवा में / To,

संलग्न सूची अनुसार / As per attached list

विषय / Subject: Constitution of Standing Committee for ensuring coordinated planning and development of Inter-State and intra-state transmission network.

महोदया/ महोदय /Madam/Sir,

1. Section 73 of Electricity Act, 2003, provides that CEA shall formulate short-term and perspective plans for development of the electricity system and co- ordinate the activities of the planning agencies for the optimal utilization of resources to subserve the interests of the national economy and to provide reliable and affordable electricity for all consumers.

2. The Electricity (Transmission System Planning, Development and Recovery of Inter-State Transmission Charges) Rules, 2021, notified by Ministry of Power on 1st October 2021, inter-alia provides that;

"3(1) The Central Electricity Authority shall draw up short term plan every year on rolling basis for upto next five years and perspective plan every alternate year on rolling basis for next ten years for development of the electricity system and co-ordinate the activities of the planning agencies for the optimal utilization of resources to subserve the interests of the national economy and to provide reliable and affordable electricity in accordance with section 73 of the Act.

3(2) The Central Electricity Authority shall also draw up the perspective plan for development of transmission system after consultation with all the relevant stakeholders such as, Central Transmission Utility, State Transmission Utilities, System Operators, generating and distribution companies, industry associations and the State Governments, etc., and after assessing the rate of growth in demand as well as the growth of generation in different areas of country.

3. For preparation of short term and perspective plan and for coordinating the activities of planning agencies, five number of regional standing committees namely "**Standing Committee on Short Term & Perspective Power System Planning (SCSTPPSP)**", one for each region is being constituted.

4. Constitution and Terms of Reference (ToR) of the Standing Committee on Short Term & Perspective Power System Planning are as under.

A. Standing Committee on Short Term & Perspective Power System Planning – Northern Region (SCSTPPSP-NR)

1.	Member(Power System), Central Electricity Authority (CEA)	Chairperson
2.	Chief Operating Officer, CTUIL	Member
3.	Director(System Operation), POSOCO	Member
4.	Heads of State Transmission Utilities (STUs)/Electricity Departments of UT of Jammu & Kashmir, UT of Ladakh, Himachal Pradesh, Punjab, Haryana, Rajasthan, Delhi, Uttar Pradesh, Uttarakhand, UT of Chandigarh	Member
5.	Member Secretary of Northern Regional Power Committee	Member
6.	CMD/ MD/ Chairman of NTPC, NHPC, SECI, SJVNL, NPCIL, NLC, BBMB	Member
7.	Chief Engineer(PSPA-I/PSPA-II), Central Electricity Authority	Member & Convenor

B. Standing Committee on Short Term & Perspective Power System Planning-Western Region (SCSTPPSP-WR)

1.	Member(Power System), Central Electricity Authority (CEA)	Chairperson
2.	Chief Operating Officer, CTUIL	Member
3.	Director(System Operation), POSOCO	Member
4.	Heads of State Transmission Utilities (STUs)/Electricity Departments of Gujarat, Madhya Pradesh, Chhattisgarh, Maharashtra, Goa, UT of Daman & Diu, UT of Dadra & Nagar Haveli	Member
5.	Member Secretary of Western Regional Power Committee	Member
6.	CMD/ MD/ Chairman of NTPC, SECI, NPCIL, NLC	Member
7.	Chief Engineer(PSPA-I/PSPA-II), Central Electricity Authority	Member & Convenor

C. Standing Committee on Short Term & Perspective Power System Planning – Southern Region (SCSTPPSP-SR)

1.	Member(Power System), Central Electricity Authority (CEA)	Chairperson
2.	Chief Operating Officer, CTUIL	Member
3.	Director(System Operation), POSOCO	Member
4.	Heads of State Transmission Utilities (STUs) of Telangana, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, UT of Puducherry, UT of Lakshadweep	Member
5.	Member Secretary of Southern Regional Power Committee	Member
6.	CMD/ MD/ Chairman of NTPC, SECI, NPCIL, NLC	Member
7.	Chief Engineer(PSPA-I/PSPA-II), Central Electricity Authority	Member & Convenor

D. Standing Committee on Short Term & Perspective Power System Planning – Eastern Region (SCSTPPSP-ER)

1.	Member(Power System), Central Electricity Authority (CEA)	Chairperson

2.	Chief Operating Officer, CTUIL	Member
3.	Director(System Operation), POSOCO	Member
4.	Heads of State Transmission Utilities (STUs) of Bihar, Jharkhand, West Bengal, Odisha, Sikkim, UT of Andaman & Nicobar Islands	Member
5.	Member Secretary of Eastern Regional Power Committee	Member
6.	CMD/ MD/ Chairman of NTPC, NHPC, SECI, DVC	Member
7.	Chief Engineer(PSPA-I/PSPA-II), Central Electricity Authority	Member & Convenor

E. Standing Committee on Short Term & Perspective Power System Planning-North Eastern Region (SCSTPPSP-NER)

1.	Member(Power System), Central Electricity Authority (CEA)	Chairperson
2.	Chief Operating Officer, CTUIL	Member
3.	Director(System Operation), POSOCO	Member
4.	Heads of State Transmission Utilities (STUs)/Electricity Departments of Assam, Meghalaya, Nagaland, Arunachal Pradesh, Tripura, Manipur, Mizoram	Member
5.	Member Secretary of North Eastern Regional Power Committee	Member
6.	CMD/ MD/ Chairman of NTPC, NHPC, SECI	Member
7.	Chief Engineer(PSPA-I/PSPA-II), Central Electricity Authority	Member & Convenor

5. ToR of the above committees:

(i) Review the existing and under implementation intra-state and inter-state transmission system in the region.
(ii) Review the operational constraints faced by the system operators in the region.
(iii) Examination of import/export requirement of each State, UT and Region through the ISTS network for the next 5-10 years.
(iv) Examination of new ISTS proposals and proposals from STUs/Electricity Departments for augmentation of intra-state network; assess the transmission system requirement in the near, medium & long term (up to 10 years or more) for each state, UT and region and draw up the transmission schemes to meet these requirements.
(v) Examine the associated transmission system for generating stations.
(vi) Review the status of Connectivity/LTA/GNA granted by CTUIL.

6. The Committees may meet at least once in six months, or as per requirement. Joint meeting of Regional committees may be called, if required.

7. Based on deliberations in the meetings of the committees, CEA shall prepare the short term and perspective transmission plan on rolling basis.

भवदीय/Yours faithfully,

25.10.2022

(ईशान शरण / Ishan Sharan)
मुख्य अभियंता/ Chief Engineer

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