



**AGENDA
FOR
217TH OCC MEETING**

Date : 24.07.2024

**Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033**

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EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 217TH OCC MEETING TO BE HELD ON 24.07.2024 (WEDNESDAY) AT 10:30 HRS

1. PART-A: CONFIRMATION OF MINUTES

1.1. Confirmation of Minutes of 216th OCC Meeting held on 21st July 2024 physically at ERPC Secretariat, Kolkata

The minutes of 216th Operation Coordination Sub-Committee meeting held on 21.06.2024 was circulated vide letter dated 07.07.2024.

Members may confirm the minutes of 216th OCC meeting.

2. PART-B: ITEMS FOR DISCUSSION

2.1 Inviting proposal for periodic revision of the regional unallocated quota of central Sector Generating Stations for optimal utilization of power: ERPC

- ◆ The peak demand of the country has touched 250 GW during the solar hours on 30 May, 2024. It is noteworthy to mention that on June 03, 2024 while the country met a maximum demand of 236.38 GW during the solar hours, the peak demand of around 220 GW during non-solar hours was accompanied by a significant deficit of around 2.8 GW. This Shortage persists despite the installed capacity of the country being around 443 GW out of which the total thermal based capacity is only 243 GW and the capacity available on bar from this is around 195 GW.
- ◆ The State/ Union Territories meet their demand by scheduling power from Central Sector Generating Stations (CGS), State GENCOs and Independent Power Producers (IPPs). In addition to the firm power, the State/ Union Territories are allocated power from the unallocated pool of Central Sector Generating Stations based on the request submitted by the respective entities and the assessment of RPCs for meeting the demand of the respective beneficiaries.
- ◆ It is to be mentioned that the Northern Region has the seasonal peculiarity of power requirement and availability. Broadly, there are two seasons which affect the power scenario in different States of Northern Region i.e. summer season (April to September) and winter season (October to March). Consequently, the allocation of power from the unallocated quota in the Northern Region is periodically reassessed based on projected power supply by NRPC for the upcoming seasons to optimize the power allocations from the pool of Central Sector Generating Stations.
- ◆ In light of the facts presented above, the following is suggested:
 - I. All the Regional Power Committees (except NRPC) shall evaluate the load profiles of the States/ Union Territories within their respective regions.
 - II. Based on the thorough assessment of the regional load profile, the high demand seasons and Low demand seasons of the State/ Union Territories can be assessed.
 - III. RPCs are requested to explore the possible periodic allocation of the regional unallocated

Quota of CGSs to meet the power demand of the State/ Union Territories based on the anticipated requirement and the availability of power from various sources. Accordingly, the RPCs shall propose to CEA (GM Division) the allocation from unallocated pool for high and Low demand seasons.

- ◆ The aim is to optimize power distribution among States/Union Territories and ensure reasonable assistance to all the States/ UTs from the unallocated pool of Central Sector Generating Stations for meeting their power demand.

As per deliberation of the **216th OCC** meeting:

OCC Decision:

OCC advised all states shall to share their peak & off-peak demand in their respective high demand seasons and Low demand seasons with ERPC. Accordingly, ERPC shall propose to CEA (GM Division) for power allocation from regional unallocated pool for high and Low demand seasons.

- ◆ Based on the analysis of Demand pattern (MW) as well as energy consumption (MU) of constituent ER states for last two fiscal years, following can be broadly inferred:

1. **MARCH-OCTOBER** are usually high demand months for ER states. Almost all states face high demand except Sikkim.
2. **NOVEMBER** and **JANUARY** experience Low to medium demand while **JANUARY** and **FEBRUARY** have generally medium demand.
3. **Sikkim** records high demand in **DECEMBER** to **MARCH** due to heating loads with corresponding low demand in Summer and Monsoon seasons.
4. Since **DVC** and **Jharkhand** witness almost flat demand profile, major energy consuming states of ER i.e **West Bengal, Bihar** and **Odisha** play pivotal role in deciding regional load pattern.

Members may update.

2.2 Reduction in the capacity of proposed 500MVA ICT (to be installed in place of 3x105 MVA ICT at Jeypore S/S under ADD-CAP 2019-24 block) to 315 MVA ICT: POWERGRID ODISHA

- ◆ Replacement with upgradation of 400/220kV, 3x105 MVA BHEL make ICT-1 with 500MVA ICT under the JTTS ADD-CAP 2019-24 block was approved in the 45th ERPC meeting. Subsequently LOA have been issued to M/s Toshiba dtd. 17.03.2023 for manufacture and supply of the new ICT.
- ◆ M/s Toshiba has informed vide their mail dtd: 08/03/2024 that they carried out route survey of six different routes for transportation, but no feasible route has been identified by the transporter for the smooth transportation of 500MVA ICT to Jeypore S/S. However, they mentioned that transportation of 315 MVA ICT is partially feasible. Site. Copy of mail communication and route survey reports are attached herewith for reference (**Annex B.2.2**).

- ◆ Meanwhile, it is pertinent here to mention that another spare 315 MVA ICT is under transit from M/s Toshiba factory, Hyderabad to Rourkela S/S.
- ◆ In view of above difficulties in transportation and as the proposed ICT at Jeypore S/S is to be commissioned under ADD-CAP 2019-24 block, the only possibility is to install a 315 MVA ICT in place of earlier approved 500MVA ICT at Jeypore S/S. This can be done by interchanging the procured 500MVA ICT for Jeypore & 315 MVA ICT for Rourkela SS..
- ◆ Therefore, it is requested to accord approval for reduction of capacity of 500MVA ICT to 315MVA ICT at Jeypore S/S for commissioning under **ADD-CAP 2019-24** block.

POWERGRID ODISHA may update. Members may discuss.

2.3 Difficulty in Transportation of Spare ICT at Rangpo SS and subsequent finalization of revised destination thereof: POWERGRID ER-II

- ◆ As per approval accorded in **44th ERPC** meeting vide agenda point no B1.2, ERPC Board approved procurement of Spare **105 MVA** 400/220/33 KV ICT (1-Ph) for Rangpo SS. Based Upon approval, POWERGRID carried out necessary procurement process and awarded the subject job to M/s Transformer & Rectifiers Ltd, Vadodara.
- ◆ As per scope of Contract M/s Transformer & Rectifiers Ltd. Has to manufacture and transport the said **105 MVA** 1-Ph ICT to Rangpo SS. But due to recent heavy downpour at Sikkim and North Bengal has cut off road communication between West Bengal & Sikkim (NH 10). Furthermore, onset of monsoon season has worsened the situation. The vehicular movement on NH-10 was impacted last month due to adverse weather events. As of now, the vehicle movement on the National Highway has been stopped for an indefinite period as restoration work is underway following the landslide triggered by incessant rain.
- ◆ In view of the worsening situation of road connectivity to Rangpo S/S, and subsequent uncertainty over reaching final destination (At Rangpo SS) manufacturer has not started final stage of manufacturing & assembly of the said transformer.
- ◆ Going by above it is very much evident that at present condition, subject Transformer cannot be transported to Rangpo SS. Moreover, if clearance not given at this instant, M/S. T&R will not take final assembling/manufacturing of the Transformer and it will be delayed inordinately. Accordingly, from POWERGRID side, to mature the contract and honor the decision taken in **44th ERPC** meeting, it is proposed to accommodate the Transformer at Binaguri SS at this instant.
- ◆ In addition to this, it is always better to have the Transformer available near Siliguri area instead of Factory (At Vadodara/Gujrat). Hence to execute the contract duly, considering the road condition upto Rangpo SS, a revised destination is proposed as Binaguri SS of POWERGRID being nearer to Rangpo SS. Moreover, POWERGRID will ensure transportation of 105 MVA, 1-ph Transformer to Rangpo SS as soon as Road condition is favorable for transportation of said Transformer.
- ◆ Accordingly, after manufacturing process, M/s Transformer & Rectifiers Ltd will supply the Transformer to Binaguri SS.



NH 10 massive amount of rocks and slush rolled down the hill and blocked the highway at 29th mile area in neighbouring West Bengal, around 60 km from the Himalayan state's Rangpo border.



Stretch of NH10 that caved in at Swetijhora



20th Mile landslide



Landslides along NH 10



Melli Bazar Entrance

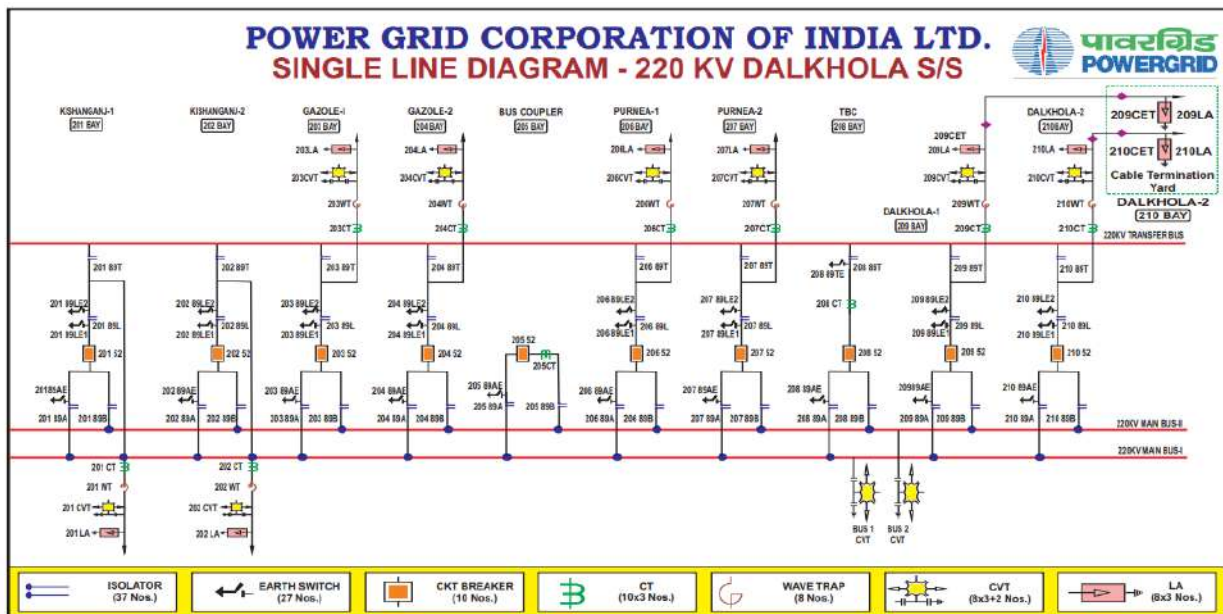


Landslides at Likhubhir

POWERGRID ER-II may update. Members may discuss.

2.4 Requirement of Bus S/D at 220kV Dalkhola S/S: POWERGRID ER-II

- Presently, Dalkhola SS is under upgradation stage in ADDCAP project. Dalkhola S/S is having DMT scheme. Old isolators of all lines will be replaced under ongoing ADDCAP projects. Therefore, bus S/D as well as line S/D is required for replacement of bus & line isolators of each bay at Dalkhola S/S. SLD is attached for reference. Total 29 set of isolators will be replaced.



While CRP panels except 209/210 (i.e. 220 KV Dalkhola-Dalkhola-1/2 Bays) have already migrated to new SAS, Isolators replacement are balance for all bays. Earlier by taking single feeder S/D for 5-6 days (OCB), each bay migrated to new SAS. Further as results of change of LBB/96 relays for new CRP, existing Bus Bar system required to be integrated with only supplied CRP's with all possible combination and subsequent testing thereof.

- ◆ 220 KV Bus S/D for Isolator replacement/Bus Bar integration was asked since March-2024, however due to Assembly election and high loading of associated systems, the S/D was differed. Subject matter was also discussed in OCC outage meetings of corresponding months.
- ◆ Now, as per latest S/D meeting, it is finalized to provide Bus S/D 01 Day for taking Bus Bar protection in service.
- ◆ Going by details of work in hand for Dalkhola upgradation, following work details may be taken into consideration where Bus S/D are involved: -

Brief planning is shared below: -

Sl. No	Details of isolator under replacement	Requirement of S/D	Remarks
1	89A of Kishanganj-I (Bay-201)	<ul style="list-style-type: none"> • S/D of Main Bus-I _ODB • Main Bay of Kishanganj-I (Line will be charged through TBC) _ODB 	For disconnection of jumper from Main Bus-I. Bay will be transferred to TBC for jumper cutting from 89A terminal towards CB side. After that Bus S/D will be returned & bay will be charged through 89B only.- 01 Day S/D.
2	89B of Kishanganj-I (Bay-201)	<ul style="list-style-type: none"> • S/D of Main Bus-II _ODB • Main Bay of Kishanganj-I (Line will be charged through TBC) _OCB 	For disconnection of jumpers from Main Bus-II. Bay will be transferred to TBC bay continuous basis for the whole period of 89B replacement.- 01 Day S/D.
3	89L & 89T of Kishanganj-I (Bay-201)	<ul style="list-style-type: none"> • S/D of line is required _OCB 	Line will be under continuous S/D for the said period. Jumpers from transfer bus will be disconnected as the transfer bus is free after line S/D.- 10 Days OCB (Foundation work involved).
4	After completion of all isolator replacement	<ul style="list-style-type: none"> • S/D of Main Bus-I _ODB • S/D of Main Bus-II _ODB 	For connection jumpers to 89A, 89B isolators. Jumpers to 89T will also be connected as transfer bus is free. Then, line can be charged through its main bay with 89A/89B as required.- 01 Day Each.

- ❖ Hence, for each line bay cumulative requirement of Main Bus-I & II S/D is 4 times.
- ❖ Hence, total Bus S/D requirement will be 32 times (08 Feeders) for all isolator replacement purpose.

Further, CRP panels have already been upgraded to SAS based panels. For integration of busbar protection with the new CRP, following Bus S/D is required at Dalkhola SS: -

SI No	Requirement of S/D	Reason for S/D	Remarks
1	220 KV Main Bus-I & II at Dalkhola SS (ODB)	<ul style="list-style-type: none"> Stability test Busbar Protection trip test LBB Protection trip test (Including Bus Coupler LBB). 	Complete S/D of Dalkhola S/S. S/D is required for 1 day only. Both Bus required for reducing numbers of S/D and also ensuring testing of all combinations.

- ♦ Alternative Power arrangement, bypassing Dalkhola Main Bus (Like 220 KV Kishanganj-Dalkhola (WB)-CKT through Transfer Bus) also may please be discussed for availing and finalizing the proposed scheme/replacements at Dalkhola S/S.

POWERGRID ER-II may update. Members may discuss.

2.5 Spare Reactor procurement under ER-Pool as per CEA norms: **POWERGRID ER-II**

- Spare Reactor proposal was forwarded from POWERGRID in **202nd OCC** and further referred to special meeting convened on 05.02.2024 for feasibility study.
- Based upon outcome of the special meeting, the subject agenda put up in 29th CMETS (By ERLDC), where in CTU provides its views for operational aspects/planning perspective only.

As per deliberation in **29th CMETS-ER**:

- ❖ ERLDC mentioned that recently there were deliberations in meeting(s) of ERPC regarding using old reactors for the purpose of regional spare or for using elsewhere in case of failure of reactors. The same was suggested by some state(s). Accordingly, they have identified some candidate line reactors which could be used for such purposes. This can optimise the requirement of reactors.
- ❖ CTU clarified that reactors were planned as per the system requirements in the erstwhile Standing Committee Meetings on Power System Planning of Eastern Region (SCMPSP-ER) / Eastern Regional - Standing Committee on Transmission (ER- SCT) & Eastern Regional Power Committee – Transmission Planning (ERPC-TP) in consultation of stakeholders. During shifting of such reactors, various aspects need to be looked into such as healthiness of reactor, residual life, feasibility of transportation, associated commercial issues etc. Concerned ISTS licensee may also need to be consulted for deliberation on commercial matters. Thus, it may not be techno-economically feasible to shift/rotate reactors, further, on regular basis. Moreover, majority of the reactors 50MVA, 63MVA & 80MVA, it has been observed that such size of reactors does not provide much relief in bus voltage control due to high short circuit MVA of the system. All new bus reactors in last many years have been generally planned as 125MVA. Thus, use of such reactors as

bus reactor at other locations may not provide adequate operational relief during over voltage. ERPC also supported the views of the CTU.

- ❖ After detailed deliberations, all stakeholders agreed that some candidate reactors can be kept identified for use as spare or for replacement of failed reactor. As and when need arises, based on merit of the case and considering all techno-economic issues, use of reactors as spare or for replacement can be decided.
- ♦ In view of above, it is requested from POWERGRID end to finalize the spare reactor quantity, such that necessary procurement could be finalized.

Original list of spare Reactors proposed are as follows:-

STATE	VOLTAGE	SIZE	STORAGE PLACE
WEST BENGAL	400 KV	125 MVAR	DURGAPUR SS
		80 MVAR	BINAGURI SS
		63 MVAR	BINAGURI SS
SIKKIM	400 KV	80 MVAR	RANGPO SS
	220 KV	31.5 MVAR	NEW MELLI SS
BIHAR	400 KV	125 MVAR	BIHARSARIFF SS
		80 MVAR	PATNA SS
		63 MVAR	MUZAFFARPUR SS
JHARKHAND	400 KV	125 MVAR	NEW RANCHI SS
		80 MVAR	RANCHI SS
ODHISSA	400 KV	63 MVAR	ROURKELLA SS

Members may please discuss about final quantity such that POWERGRID could take subsequent procurement process.

POWERGRID ER-II may update. Members may discuss.

2.6 Operational Planning studies and constraints in Eastern Regional Grid: ERLDC

- ♦ As per IEGC **Clause 33.6**, Operational planning studies have been carried out. All probable constraints of ER were analysed. It was observed that few constraints have a high probability of cascading and impacting capital city loads. Long term as well as short term remedial actions for a few of the constraints have been finalized.
- ♦ Constraints which are having high probability of cascading or impacting capital city load are as follows:

Sl. No	Corridor	Violation type	Remedial Action Plan	
			Short-term	Long-term
1	400kV TSTPP-Meeramundali D/C	N-1 violation, Probable cascade (in some specific cases)	SPS of Talcher-Kolar pole in link with TSTPP-Meeramundali loading is present.	Reconductoring with HTLS approved (31st CMETS of ER).
2	400kV Farakka-KHSTPP D/C	N-1 violation, Probable	Action to be taken.	Reconductoring with HTLS approved

		cascade (in some specific cases)		(31st CMETS of ER).
3	400kV Baripada-Jamshedpur & 400kV Jamshedpur-TISCO	N-1 violation, Probable cascade (in some specific cases)	SPS is proposed and agreed.	Action to be taken.
4	400 /220 kV Subhsagram ICTs	N-1	SPS is present.	7 th ICT already commissioned on 22 nd June 2024.
5	220kV Subhasgram (WB)-Lakshmikantpur D/C 220 kV Jeerat-Barasat D/C 220 kV Barasat-Kasba D/C	N-1 violation	SPS is present.	Upgradation of these 220 KV feeders to be planned

In the month of August'24, the Eastern regional demand is expected to remain moderately high. As the monsoon has already arrived, the rainfall is likely to increase and so is the **hydro generation** and **import from Bhutan & Nepal**. Considering the above conditions, the possible deviations are listed below.

As per the monthly operational study, a few other probable constraints were also identified. The details of these are listed in **Annexure B.2.4**.

ERLDC may update. Members may discuss.

2.7 Curtailment in schedule for NTPC Talcher station : NTPC TSTPP

- ♦ As discussed in 216th OCC meeting of ERPC, TSTPS has consumed **LDO (total 705KL)** to carry out soot blowing operation to avoid tripping of the units during the full day continuous low schedule due to curtailment of TSTPS generation schedule because of evacuation constraint. This situation arose because of the breakdown of a tower in cyclone & subsequent shutdown of **400KV Meramundali-Lapanga D/C line**.
- ♦ The LDO consumption in TSTPS Stage-1, due to the above, has increased the SOC much beyond the normative of **0.5ml/kwh** & is very less likely to come down below 0.5ml/kwh in this FY. Hence, as the situation is concerned with a natural calamity & beyond the control of TSTPS, the LDO consumption (705KL) may be allowed to be claimed as an additional expenditure in force majeure event.

NTPC TSTPP may update. Members may discuss.

2.8 Shutdown proposal of generating units for the month of August'2024-ERPC

Maintenance Schedule of Thermal Generating Units of ER during 2024-25 in the month of August '2024							
System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2024-25)		No. of Days	Reason
				From	To		
DVC	Mejia TPS	5	250	01-08-2024	04-09-2024	35	COH

DPL	DPL	1	350	12-07-2024	20-08-2024	40	COH
NTPC	TSTPS-I	2	500	13-08-2024	21-09-2024	40	AOH
WBPDC	Sagardighi TPS	2	300	04-08-2024	23-08-2024	20	AOH
	Sagardighi TPS	6	250	26-08-2024	29-09-2024	35	AOH

Members may discuss.

2.9 Reschedule of Annual overhauling of Unit-II (210MW) TTPS Lalpania: ERPC

- ◆ Annual overhauling of Unit-II Tenughat TPS Lalpania was scheduled from **1/07/2024 to 14/08/2024 (45 days)** as per intimation given through LGBR vide Letter No.-59/GMcum CE/TTPS dated 25.08.2023, and same proposal had been approved in LGBR 2024-25 as well as in 216th OCC.
- ◆ But overhauling programme of **Unit-II** has been tentatively rescheduled from **01.08.2024 to 10.09.2024(41 days)** due to **delay in supply** of APH baskets By M/s BHEL, Ranipet and its accessories.
- ◆ OCC may accord approval to this revised schedule of overhauling.

TVNL and SLDC Jharkhand may update. Members may discuss.

2.10 Challenges faced in LAN Integration for various locations/New SEM's under AMR Phase-5: POWERGRID ER-II

- ◆ AMR Phase-5 LOA (ER2/NT/W-MISC/DOM/E00/24/03816/1000022907/I-4329/P-4156/9801) was placed on 14th Mar 2024. It has scope of integration of new 320 number of SEMs with the AMR system. This covers both existing locations where AMR system is already present and new locations where AMR will be installed for the first time.
- ◆ As per the Cyber Security Guideline measure & regulation of CEA, the entire AMR system communication must be LAN based. For the AMR Phase5 scope, it is planned to complete the entire installation by 31-Aug-2024. The work has already been started and ongoing.
- ◆ In the existing sites, LAN ports were already enabled. In few of these existing locations, new LAN ports were required and those have been enabled by PGCIL.

The list of existing locations/Substations are as follows:

SI.No	State	Substation	SI.No	State	Substation	SI.No	State	Substation
1	BIHAR	BANKA	12	BIHAR	KAHALGAON (NTPC)	23	ODISHA	SUNDERGARH
2	BIHAR	CHANDAULI	13	BIHAR	KHAGAUL	24	ODISHA	DSTPP

3	BIH AR	KISHANGA NJ	14	BIHAR	SONNAGAR	25	SIKKI M	RANGPO
4	BIH AR	MOTIHARI	15	JHARKH AND	RANCHI	26	WB	FARAKKA(N TPC)
5	BIH AR	MUZAFFAR PUR	16	JHARKH AND	RANCHI NEW	27	WB	RAJARHAT
6	BIH AR	PUSAULI	17	JHARKH AND	MAITHON	28	WB	SAGARDIGH I
7	BIH AR	SAHARSHA	18	ODISHA	ANGUL	29	WB	BINAGURI
8	BIH AR	SITAMARHI	19	ODISHA	BARIPADA	30	WB	MEJIA
9	BIH AR	BARH(NTP C)	20	ODISHA	GMR	31	WB	SUBHASGR AM
10	BIH AR	BIHARSHA RIF	21	ODISHA	JEYPORE			
11	BIH AR	DARBHANG A	22	ODISHA	RENGALI			

However, at the new locations, opening of new LAN ports are required for data communication. PGCIL has already communicated to ERLDC/ERPC for opening of LAN ports vide email (email dated: **13th May 2024** and **24th June 2024**). ERLDC has forwarded the email to the respective utilities/stations.

Till date, following are the locations where LAN ports are still not enabled for AMR Data Communication:

<u>Sl.No</u>	<u>State</u>	<u>Substation Name</u>	<u>Utility</u>	<u>Sl.No</u>	<u>State</u>	<u>Substation Name</u>	<u>Utility</u>
<u>1</u>	<u>BIHAR</u>	<u>NABINAGAR (BRBCL)</u>	<u>BRBCL</u>	<u>12</u>	<u>ODISHA</u>	<u>RENGALI</u>	<u>GRIDCO</u>
<u>2</u>	<u>BIHAR</u>	<u>BARSOI</u>	<u>BSPHCL</u>	<u>13</u>	<u>ODISHA</u>	<u>BALIMELA</u>	<u>GRIDCO</u>
<u>3</u>	<u>BIHAR</u>	<u>NPGC(NTPC)</u>	<u>NTPC</u>	<u>14</u>	<u>ODISHA</u>	<u>KEONJHAR</u>	<u>GRIDCO</u>
<u>4</u>	<u>BIHAR</u>	<u>MTPS STG-II (NTPC)</u>	<u>NTPC</u>	<u>15</u>	<u>ODISHA</u>	<u>DULANGA CMP</u>	<u>NTPC</u>
<u>5</u>	<u>BIHAR</u>	<u>DUMRAON NEW</u>	<u>BSPHCL</u>	<u>16</u>	<u>SIKKIM</u>	<u>TASHIDING</u>	<u>IPP</u>
<u>6</u>	<u>BIHAR</u>	<u>NAUBATPUR</u>	<u>BGCL</u>	<u>17</u>	<u>SIKKIM</u>	<u>RONGNICHU</u>	<u>MBPCL</u>
<u>7</u>	<u>BIHAR</u>	<u>DURGAWATI</u>	<u>DFCCIL</u>	<u>18</u>	<u>SIKKIM</u>	<u>GYALSHING</u>	<u>Sikkim E&PD</u>
<u>8</u>	<u>JHARKHAND</u>	<u>DHANBAD</u>	<u>NKTL</u>	<u>19</u>	<u>SIKKIM</u>	<u>SAGBARI</u>	<u>Sikkim E&PD</u>
<u>9</u>	<u>JHARKHAND</u>	<u>NORTH KARANPURA</u>	<u>NTPC</u>	<u>20</u>	<u>SIKKIM</u>	<u>SAMARDANG</u>	<u>TCL</u>
<u>10</u>	<u>JHARKHAND</u>	<u>GOELKERA</u>	<u>JSEB</u>	<u>21</u>	<u>WB</u>	<u>KLC BANTALA</u>	<u>WBSETCL</u>
<u>11</u>	<u>ODISHA</u>	<u>BHOGRAI</u>	<u>GRIDCO</u>	<u>22</u>	<u>WB</u>	<u>KOLAGHAT</u>	<u>WBSETCL</u>

Without having an active LAN port at stations, the AMR data communications will not get established with ERLDC.

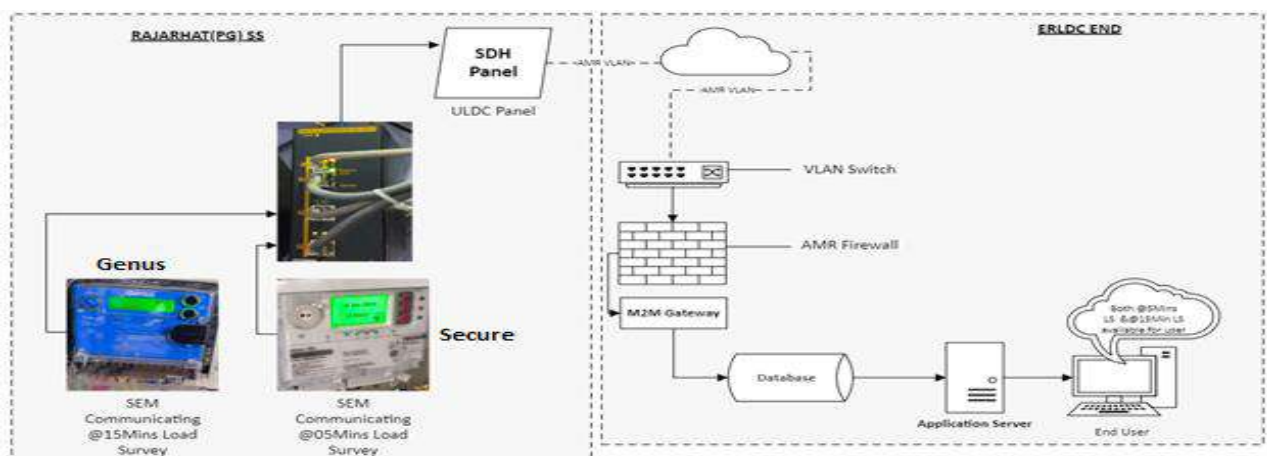
So, it is requested to all utilities to enable the LAN ports and share the details with PGCIL (Mr. Partha Ghosh/Mr. Priyam Maity) and M/S TCS (Mr. Abhishek Das, Mr. Sourav Bera), such that **target completion of 31.08.2024** can be achieved.

POWERGRID ER-II may update. Members may discuss.

2.11 Successful POC of 5 min meter in AMR Eastern Region: POWERGRID ER-II

- ◆ Considering the emphasis of Govt. Of India on renewables & thus requirement of its settlement, **05 mins** Load Survey Meters is slated to be part of upcoming regulations. Retrieving the data from 05 min Meter in the same AMR system (where 15 min Meter data is already present) was an extremely challenging task. A POC (proof of concept) was planned to check the feasibility so that the current AMR and allied system can be smoothly migrated to cater to the upcoming regulations.
- ◆ A **05 min Load Survey Meter (Secure make)** was installed at **Rajarhat-PG** station. While the preparation of this POC was done long ago, after a round of DCU firmware upgradation & field trial and AMR system upgradation, the existing DCU could successfully communicate and send the 05 min Meter data. Simultaneously, we could also ensure that the same DCU retrieved data from a 15 min Load Survey Meter (Genus Make). Both 15 min and 5 min data files from the same DCU could automatically be sent to ERLDC System via LAN, and the data being downloaded in the NPC format (as per the template shared by ERLDC team for 05 min). Data has also been validated by ERLDC team.
- ◆ Once the new 05 min Meters are gradually installed in Eastern Region, the existing AMR system can easily and seamlessly be upgraded to handle simultaneously, both 05 min Meter along with the existing 15 min Meters of heterogenous make, without hampering current operations.
- ◆ **Installed AMR of ER, can handle both 5-Min and 15-Min SEM with same DCU, and both DLMS complied SEM of different manufacturing company having different set of data sets are integrated in same architecture.**

POC Architecture:



This is for information to all members.

POWERGRID ER-II may explain. Members may discuss.

2.12 Review of AUFLS in Eastern region: ERPC

- ◆ A Task Force was constituted by NPC vide letter dated 25.08.2023 on Implementation of AUFLS and df/dt scheme under the chairmanship of Member Secretary, SRPC and comprising members from NPC, RPCs and Grid-India.
- ◆ The Task force after convening meeting on 11.09.2023 submitted its report to NPC in 14th NPC meeting on 05.02.2024, wherein certain recommendations were made.
- ◆ Accordingly, as per decision of 214th OCC meeting, a special meeting was convened on **10.07.2024** to deliberate on successful implementation of Automatic Under Frequency Load Shedding (AUFLS) in Eastern region wherein following course of action was delineated to all constituent ER states.
- ◆ Based on submission by DVC, instantaneous peak demand met and Annual consumption have been modified causing slight modification in load relief quantum of ER states as detailed follows:

Constituent	Stage-1	Stage-2	Stage-3	Stage-4	Revised Total	Previous Total	Change (MW)
Bihar	315	379	442	442	1577	1568	+9
Jharkhand	87	105	122	122	437	435	+2
DVC	172	207	241	241	861	897	-36
Odisha	306	367	428	428	1530	1521	+9
West Bengal	497	597	696	696	2486	2472	+14
Sikkim	5	6	7	7	25	25	0
Total	1383	1660	1937	1937	6916	6918	-2

Constituent wise	Annual Consumption	Consumption factor	Demand met	Peak demand factor	Demand contribution
Bihar	40952	0.220	7578	0.236	0.228
Jharkhand	12391	0.067	1923	0.060	0.063
DVC	26214	0.141	3476	0.108	0.125
Odisha	41142	0.221	7104	0.221	0.221
West Bengal	65009	0.349	11868	0.370	0.359
Sikkim	526	0.003	137	0.004	0.004
Total Consumption	186234	1.000	32086	1.000	1.000

◆ **Action points:**

- All SLDCs were instructed to shift the load quantum from Stages –III & IV to stage-I & II respectively as an interim measure till new feeders for additional load relief gets identified by individual state DISCOMs.

This must be implemented at the earliest with necessary changes in frequency settings of the existing UFRs and the same shall be reviewed in upcoming OCC meeting.

- All SLDCs were advised to share the identified feeders list for revised load relief quantum within a month. The status shall be reviewed in monthly OCC meetings.
- Curtailment of critical loads should be avoided. However , in stage-III and stage-IV, as it operates only in severe threat to grid stability, industrial loads may also be considered. Accordingly DVC and IPCL (having dominant industrial consumers) were urged to identify industrial feeders for load relief in stage-III and stage-IV.
- All SLDCs were urged to expedite and ensure SCADA visibility of existing as well as newly identified feeders under AUFLS for effective supervision of load relief quantum.

All SLDCs/STUs and individual state DISCOMs may update action taken/future plan w.r.t AUFLS. Members may discuss.

2.13 Reliable Power Supply of Tenughat:ERLDC

- ◆ In 216th OCC meeting, reliable power evacuation of Tenughat was discussed under agenda point no 2.6 with respect to recent multiple disturbances that occurred in Tenughat due to the loss of the evacuation path from Tenughat.
- ◆ OCC advised ERLDC to explore all the possibilities of power evacuation from Tenughat generating station in coordination with SLDC Jharkhand. SLDC Jharkhand was advised to explore new lines from Tenughat at 220kV level to increase system reliability in this area.
- ◆ In this regard, ERLDC convened one meeting over video conference where SLDC & STU of Jharkhand, TVUNL, Powergrid ER-I and ERPC were present. A detailed discussion was held to improve the reliability of Tenughat area on a short-term & long-term basis. The following action plan was decided:
 - Jharkhand will share Upgradation plan with ERPC/ERLDC:
 - o Detailed plan for all the upcoming lines/substations associated with Tenughat along with the timeline.
 - o Monthly Progress report to be shared for the said upcoming lines/substations.
 - o Jharkhand will also inform the future plan for the temporary arrangement of 400kV-Tenughat – PVUNL connectivity.

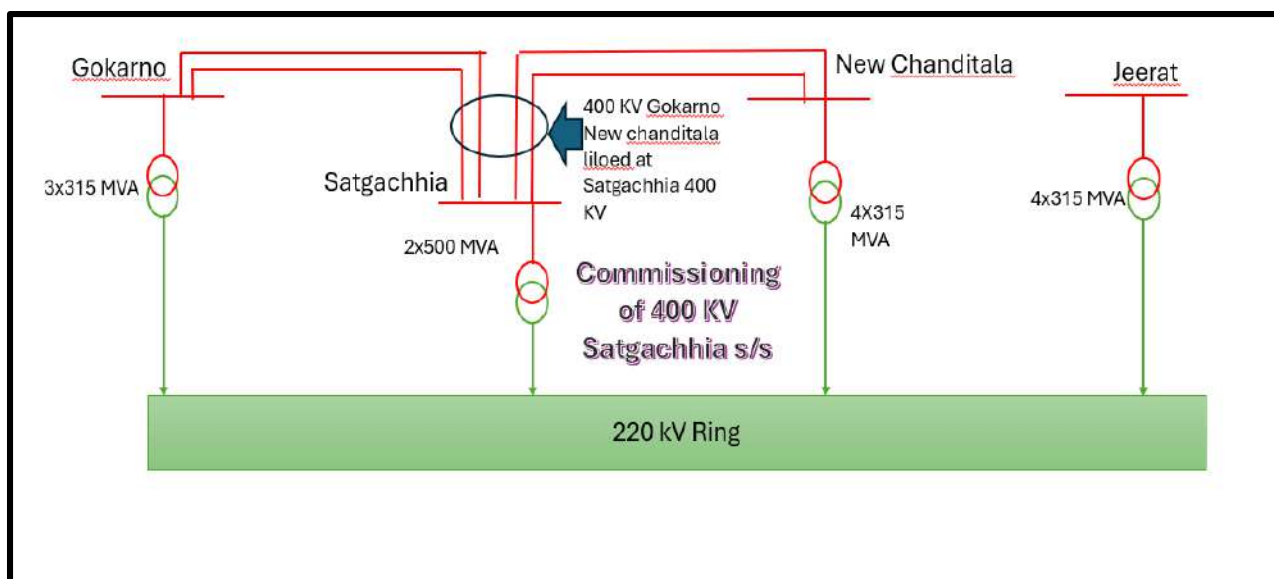
SLDC Jharkhand/JUSNL and TVNL may update. Members may discuss.

2.14 Joint interconnection study for upcoming elements in ER system by Jan-2025: ERLDC

Based on information received from WB SLDC on June 2024 regarding upcoming elements in WB system a joint interconnection study was carried out on 18th July 2024. Following elements are expected to be synchronized in the intra state area of west Bengal

- LILO of 400 KV Gokarno New Chanditala d/c on Satgachhia with 2x500 MVA 400/220 KV ICTs at Satgachhia.
- 220 KV D/C LILO of Alipurduar(PG) to Birpara(PG) lines at 2 x 160 MVA 220/132 KV Falakata Substations.
- Establishment of 132 KV Manichawk s/s with radial d/c connection 132 KV Malda – Manikchowk with establishment of D/C radial lines.

Detailed findings related to these studies are attached in **Annexure B.2.12**



Few Major observations from the study were as follows:

1. Chance of Touching **100 % of Thermal limit** of one ICT at Satgachhia during N-1 tripping of the other ICT.
2. Decongestion of Jeerat ICTs marginally & Gokarna ICT significantly.

STU, WB may validate the findings w.r.t. interconnection studies at a much closer timeframe of commissioning.

- ◆ Earlier, Start-up power extended to Buxar TPS with reconfiguration of 400KV Patna-Balia line. First unit also expected to syn by Sept-24. Therefore, similar studies to analyse the impact of Buxar TPP needs to be carried out. **In view of this SLDC Bihar is requested to share the required data and coordinate with STU for a joint interconnection study at the earliest.**
- ◆ **ERLDC has highlighted the requirement of data sharing for interconnection studies in various OCC meetings (208th ,209th ,210th OCC) and through emails to relevant stakeholders. However, so far these data are not getting shared from most of the other states on time. Therefore, it is requested that all states comply with the timelines as mentioned in the TTC/Interconnection procedure so that interconnection studies can be successfully comprehensively done for the whole region.**
- ◆ The following format for sharing the interconnection study results may be referred for understanding and archival-

Sl. No.	Substation	New elements	Possible constraints	Expected relief of Constraints	TTC/ATC changes		Remarks
					Import	Export	
1							
2							

3							
---	--	--	--	--	--	--	--

ERLDC may explain. Members may discuss.

2.15 Ensuring Real-Time Data Telemetry for New/Modified Transmission and Generation Elements with ERLDC for Real time operation and SCADA/EMS Decision support tools functioning: ERLDC

- ◆ In the **fiscal year 2024-25**, numerous requests have been received at ERLDC from ISTS-connected users and users under SLDC control for the integration of new or modified transmission and generation elements. However, these requests often lack ensured real-time data telemetry prior to first-time charging. Users are then providing undertakings from their management stating that real-time data telemetry will be made available within a time-bound manner.
- ◆ ERLDC, based on undertaking, has allowed charging of such elements looking at impact on overall reliable grid operation and security of supply. **Despite this, provided timelines in the undertaking are not being adhered to, causing significant delays.** These delays are impacting **real-time operations, state estimation accuracy**, and the effectiveness of the **real-time contingency analysis tool** within the SCADA/EMS system at the ERLDC level.
- ◆ A list of applications received in year 2024-25 where charging has been allowed based on undertaking for data and telemetry is provided below where undertaking timelines have not been adhered to.

Applicant	FTC Application	Substation Name/Element Name	Date mentioned for compliance in Undertaking	Compliance Status
Indian Railway	Main Bays of Pusauli(PG)to Durgawati(DFCCIL)	220 kV Durgawati	SCADA (30-10-2023)	No
NTPC Barh	Startup power of 54.4 MW for Unit#3(Stage-1) NTPC Barh(660MW) through ST-3	NTPC Barh (ST-3)	SCADA (24-05-2024)	No
SLDC Bihar	Charging of 132 kV DMTCL (Motihari)-Motihari D/C tr. line after restoration of fallen and damaged towers at loc 122,123,124.	132 kV Motihari (BSPTCL)	SCADA (18.06.2024)	No
SLDC Ranchi	FTC of LILO 132KV Sonenagar-Nabinagar-Nagaruntari TL at GSS Nabinagar	132 kV Nagaruntari (JUSNL)	SCADA (02.07.2024) and VOIP (04.12.2024)	No

It have been informed to all users that as per the below mentioned regulations, all users, including generating plants and transmission licensees under the control areas of RLDC and

SLDCs, must ensure the integration of SCADA and telemetry for real-time data for grid operations at SLDC and RLDC levels as required.

- IEGC Clauses 8.2.3, 8.2.4, 11.1, 11.3
- CERC (Communication System for Inter-State Transmission of Electricity) Regulations 2017, Clause 7.8.i
- CEA (Technical Standards for Connectivity to the Grid) Regulations 2007, Clauses 6.3 and 6.5
- CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, Clauses 10.1.b, 40.1.c.i & ii, 43.4
- IEGC Clause 33.2, which mandates reliable and accurate real-time data for successful state estimation and real-time contingency analysis through the SCADA/EMS system at RLDC and SLDC levels.

In view of the above, following actions points are envisaged by all users within ERLDC and SLDCs control areas:

- All users within the ERLDC control areas and Eastern Region State Control areas must prioritize the successful installation and integration of all communication systems, channels, and interfaces with the ERLDC/SLDC SCADA system before charging any new elements.
- Significant **lead time** should be provided for integration and checking of real time data availability at ERLDC level.
- ◆ Further, practice of allowing **charging based on undertakings** should be **discouraged** and communicated to all users within the State control areas so that they can take up the same during project implementation phase and their timely completion.
- ◆ Members may discuss these issues and the necessary steps to ensure compliance with improvement in real-time operations.

ERLDC may update. Members may discuss.

2.16 Requirement of incorporation of some essential features in new WBES: West Bengal SLDC

WBSLDC is using the New WBES portal (under development) in parallel to the existing WBES for the daily scheduling activities. Anomalies and requests for additional features have already been shared through the google sheet shared by ERLDC. Few of the essential points are being shared which are required to be resolved before declaration of go-live.

- As per the comments received from the intra-state Discoms, in absence of any regulatory mandate disclosing the price of GNA transaction during creation of new GNA Contract is required to be made optional in new WBES.

- In new WBES, WBSLDC is authorized to view the net and full schedules of the state of West Bengal only. In the login provided to WBSLDC there is no option for viewing the DC/schedules of the generating stations supplying power to the intra-state DISCOMs. This is a major deviation from the existing practice where every entity can view and monitor the schedules of Generating stations catering power to them and point out discrepancies, if any. Now in new WBES, in absence of such facility intra-state DISCOMs will not be in a position to identify whether their allocated share is properly scheduled to them or not.
- In new WBES, there is a provision for viewing the MTDL values of generating stations, necessary for calculating back-down quantum w.r.t. DISCOMS. But there is no provision for viewing the MTDL values of all the generating station, at a single sheet and also there is no provision for downloading the same in excel format. Such facility is required to be incorporated and access to be provided in the login of SLDC. A provision for viewing the number of running units along with on bar and off bar declared capacity is required to be introduced for deriving the MTDL value of the generating stations.
- There is a deviation of nomenclature w.r.t. the DISCOMs and Generating stations in new WBES as compared its present version. If the nomenclature of NOAR is used in the new WBES, it will be convenient for SLDCs and intra-state DISCOMs in understanding and integration with other applications like SAMAST.
- Providing API of contract details related to GNA/TGNA with parameters such as approval date, approved period, approved quantum etc. for seamless integration with other applications like SAMAST.
- At present any entity can view the schedules of other entities even without login to the WBES portal. In new WBES such viewing options has been restricted without any specific regulatory mandate. As informed by the intra-state Discoms such information is required for several analytical purposes like market monitoring etc. Therefore, facility of viewing of schedules of other entities may please be continued with allocation of user credentials.
- In the dashboard for displaying Revision update, name of corresponding utility and time stamp may please also be added new WBES.

Therefore, in view of efficiency, probity and transparency the above mentioned issues are required to be addressed before the Go-live of the New WBES.

West Bengal SLDC and ERLDC may update. Members may discuss.

2.17 Periodic Testing of power system elements: ERLDC

- ♦ As mandated in IEGC, **clauses 40.1** there shall be periodic tests shall be carried out on power system elements to ascertain the correctness of mathematical models used for simulation studies as well as ensuring desired performance during an event in the system.
- ♦ List of various tests to be performed by different asset owner are as follows:

Power System Elements	Tests	Applicability
-----------------------	-------	---------------

<p>Synchronous Generator</p>	<p>(1) Real and Reactive Power Capability assessment. (2) Assessment of Reactive Power Control Capability as per CEA Technical Standards for Connectivity (3) Model Validation and verification test for the complete Generator and Excitation System model including PSS. (4) Model Validation and verification of Turbine/Governor and Load Control or Active Power/ Frequency Control Functions. (5) Testing of Governor performance and Automatic Generation Control.</p>	<p>Individual Unit of rating 100MW and above for Coal/lignite, 50MW and above gas turbine and 25 MW and above for Hydro.</p>
<p>HVDC/FACTS Devices</p>	<p>(1) Reactive Power Controller (RPC) Capability for HVDC/FACTS (2) Filter bank adequacy assessment based on present grid condition, in consultation with NLDC. (3) Validation of response by FACTS devices as per settings.</p>	<p>To all ISTS HVDC as well as Intra-State HVDC/FACTS, as applicable</p>

- ◆ Further, IEGC **clause 40.2.(b)** mandates all equipment owners to submit a testing plan for the next year to the concerned **RPC** by **31st October** to ensure proper coordination during testing as per the schedule.
- ◆ In line with the above, following may please be submitted:
 - **All generators and HVDC/FACTS Devices owners are requested to submit the date of last test perform for each test mentioned above:**
 - **All the owners of equipment (such as synchronous/non-synchronous generators, HVDC and FACTs devices, etc.) are requested to submit the testing plan as early as possible.**

ERLDC may explain. Members may discuss.

3. PART-C: ITEMS FOR UPDATE/FOLLOW-UP

3.1. ER Grid performance during June 2024.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month June -2024 were as follows:

AVERAGE CONSUMPTION (MU)	MAXIMUM CONSUMPTION(MU)/ DATE	MAXIMUM DEMAND (MW)	MINIMUM DEMAND (MW)	SCHEDULE EXPORT	ACTUAL EXPORT
		DATE / TIME	DATE / TIME	(MU)	(MU)
641.1 MU	692.0 MU, 10.06.2024	32585 MW, 10.06.2024 at 23:57 Hrs.	21738 MW, 30.06.2024 at 08:27 Hrs.	1536	1298

ERLDC/ERPC may highlight the performance of the ER grid.

3.2. Update on Restriction of Talcher-Kolar HVDC Bi-pole: ERPC

- ❖ On **20th April'24**, ERLDC received one mail from HVDC Talcher stating the requirement of replacement of the R-phase converter transformer necessitating restriction of the power order of HVDC Talcher bi-pole to **1500MW** till the replacement. It was also informed that the spare Converter Transformer of HVDC Kolar is being diverted from HVDC Kolar to HVDC Talcher and is expected to reach HVDC Talcher by **31st May 2024**.
- ❖ Since April'24, either pole of HVDC blocked 5 times out of which, in 4 times the other pole went to ground return mode instead of metallic return mode resulting in overloading of 400kV Talcher-Meeramundali D/C and generation backdown was done either manually or through operation of SPS.
- ❖ Further, while availing the planned shutdown of Pole-2 on 28.04.2024, the other pole didn't go to metallic return mode as the automatic changeover sequence failed and remained in Ground return mode for around 15 minutes.
- ❖ As per deliberation in **216th OCC**:
Powergrid Odisha vide mail dated 21.06.2024 informed:
 - ◆ The Accessories of converter transformer arrived at HVDC Talcher Station on 17.05.2024.
 - ◆ Presently, the spare converter transformer is near Golapally, Telangana and it has travelled approximately **550 KM** from **Kolar** Station. The total distance from HVDC Kolar to HVDC Talcher is approximately **1500 KM**. Further it is anticipated that it will take more time tentatively up to **30.07.2024** to **reach HVDC Talcher Station**. However, the best possible effort is being taken for early completion of transportation of spare converter transformer from HVDC Kolar to HVDC Talcher.
 - ◆ It was informed by Trasport Agency that agency is going for shifting of converter transformer tank to girder bridge truck for crossing Shahnagar Toll Plaza.

- ◆ They have informed to agency for early execution of work so if everything goes as per the anticipated timeline, considering additional **15 days** for **complete installation**, **The Rectifier may come into operation by Mid-August.**

OCC decision:

- OCC advised PowerGrid Odisha to expedite the commissioning of converter transformer at Talcher end of HVDC Talcher-Kolar Bipolar link as per submitted timelines so that the same can be utilized up to rated capacity for reliable grid operation.
 - OCC further advised PowerGrid Odisha for sharing weekly update with ERPC for regular monitoring of the transportation of converter transformer to HVDC Talcher station.
- As per latest update from Powergrid Odisha on **18.07.2024:**
- Cumulative distance travelled from Kolar is 818 kms against total distance 1910 kms. Balance distance pending to be travelled is 1092 kms.
 - Delay in transportation is due to various types of unexpected logistic hurdles like delay in getting permission from Railway and NHAI in order to facilitate movement of the vehicles.

Powergrid Odisha may update the present status of the Converter Transformer. Members may discuss.

3.3. Update on installation of 5th 400/220 KV 315 MVA ICT in place of existing age old 50 MVAR (3x16.6 MVAR single phase units) ISTS Reactor at Jeerat 400 KV SS of WBSETCL to maintain N-1 condition.: ERPC

- At present the total installed capacity of 400/220 KV ICTs at Jeerat 400 KV SS of WBSETCL is 4X315 MVA. The defective 4th 315 MVA ICT which was out of system for over 2 years has been replaced with a Regional pool spare 315 MVA ICT & put into service on 14th April-2024.
- Peak demand of Jeerat 400 KV SS in 2023-24 was 971 MVA (Jun-2023) i.e. more than full load capacity of the ICTs in service at that time i.e. 3X315 MVA.
- After recommissioning of the 4th ICT, it is evident from the load flow studies that the load shared by Jeerat SS with 4 nos of ICTs will increase considerably as compared to earlier load sharing with 3 nos of ICTs. The anticipated load during 2024-25 will increase further & may approach the full load capacity of all the four ICTs thus violating (N-1) criterion.
- So to cater the load growth at Jeerat 400 KV SS at 400/220 KV level maintaining (N-1) condition, augmentation of 400/220 KV ICT capacity from 4X315 MVA to 5X315 MVA is necessary at an early date.
- Clear space for construction of 220 KV bay for 5th ICT is available at Jeerat SS but there is no space for construction of new 400 KV bay & installation of 5th ICT.
- Due to space constraint, it is hereby proposed to use the 400 KV bay & equipment space of existing 50 MVAR (3X16.6 MVAR single phase units) Bus reactor which is at present operating with another 3-Ph 50 MVAR reactor in group control, both of which were installed under ISTS scheme a long time ago.
- Feasibility for keeping the 3-Ph 50 MVAR reactor in service by alternative arrangement is being explored by WBSETCL. WBSETCL is also considering the possibility for installation

of a 3-Ph 125 MVAR Bus Reactor in place of the age old 50 MVAR 3-Ph Reactor depending on VAR compensation requirement as per system study.

- Considering the above facts proposal for installation of 5th ICT at Jeerat 400 KV SS was placed in the 29th CMETS-ER on 27.03.2024 Region for consideration and approval. It was decided that since the existing ISTS bus reactors (50MVA (3x16.67MVA single phase units) & 50MVA 3-Ph) are to be disconnected and the vacated ISTS bay and space is to be used for installation of 5th ICT, the matter needs stakeholder's consultation & needs to be placed before ERPC forum for further discussion.

- Accordingly the matter was deliberated in the 214th OCC and 215th OCC Meetings of ERPC.

- As per deliberation in **215th OCC**:

OCC decision:

- OCC agreed for the urgent requirement of the 5th ICT at 400 kV Jeerat(WB) S/S in view of system reliability.
- OCC advised Powergrid ER-II, CTU and WBSETCL to carry out joint site inspection at 400 kV Jeerat(WB) S/S by first week of June 2024 and share the report of the same with ERPC.
- OCC also opined to explore all alternate avenues for accommodating the 5th ICT at Jeerat(WB) S/S without striking off the existing ISTS assets in healthy condition owned by Powergrid.
- Upon finalization of the technical aspect of 5th ICT installation at Jeerat(WB) S/S, commercial settlement pertaining to asset relocation also needs to be suitably sorted out in compliance to extant provisions and regulations.
- OCC observed that since the 5th ICT is being proposed to be installed in place of one no. of 50MVAR Bus Reactor, adequate reactive compensation also needs to be ensured at Jeerat(WB) S/S to prevent overvoltage conditions.
- The issue was also discussed in latest 31st CMETS-ER dated 30.05.2024 wherein the urgent requirement of the 5th ICT was acknowledged as well as importance of joint site inspection at 400 kV Jeerat(WB) S/S by Powergrid ER-II, CTU and WBSETCL to explore all alternate avenues for accommodating the 5th ICT at Jeerat(WB) S/S was underscored.

WBSETCL and Powergrid ER-II may update the status of joint site inspection. Members may discuss.

3.4. Update on Dedicated Transmission line (DTL) of IBEUL project: ERPC

- ◆ As per the deliberation of the meeting dated **8th November'2023** convened by the CEA, chaired by Chairperson CEA, regarding LILO arrangement/Power evacuation of IBEUL, IBEUL was supposed to complete the DTL latest by **March 2024** and shall submit monthly progress reports to CEA, ERPC, ERLDC, OPTCL and CTUIL.
- ◆ Later, as per directions from **CEA** (Power System Project Monitoring Division) dated 26.02.2024, the commissioning activities of Unit#2 was considered using LILO arrangement and further, the timeline of completion of DTL was extended till **September 2024**.
- ◆ The issue was repeatedly discussed in previous OCC meetings whose details tabulated below.

IBEUL submissions:

210 th OCC(Jan'24)	212 th OCC(Feb'24)	213 th OCC(March'24)	214 th OCC(Apr'24)	215 th OCC(May'24)
<ul style="list-style-type: none"> 40% of DTL for IBEUL plant is already completed and extra manpower has been deployed by IBEUL for its final completion by mid Februray'2024. 	<ul style="list-style-type: none"> 62% of foundation works, 36% of new erection and 20% of stringing works after LILO portion have been completed in respect of the DTL. Three contractors are being deployed at a time to expedite progress in DTL works but ROW issues have delayed the progress. DTL is expected to completed by end of March 2024. 	<ul style="list-style-type: none"> Connectivity of the to be commissione d Unit#02 (350 MW) has already been applied to CTU. DTL from IBEUL to Sundergarh shall be ready for commissionin g by middle of April 2024. 	<ul style="list-style-type: none"> Dedicated Transmission line (DTL) of the project to be tentatively completed by 1st week of September 2024. Status of 400 kV IBEUL Sundergarh DTL(as on 13.04.2024) is as follows: <ul style="list-style-type: none"> <input type="checkbox"/> Foundation works: 91.5% completed o <input type="checkbox"/> Erection works: 87% completed o <input type="checkbox"/> Stringing works: 55% completed 	<ul style="list-style-type: none"> 400 kV IBEUL-Sundergarh DTL commissioning shall be completed latest by September 2024. Status of 400 kV IBEUL Sundergarh DTL(as on 30.05.2024) is as follows: <ul style="list-style-type: none"> <input type="checkbox"/> Foundation works: 97 % completed <input type="checkbox"/> Erection works: 94% completed <input type="checkbox"/> Stringing works: 58.5% completed

As per deliberation of the **215th OCC** meeting:

OCC decision:

- OCC advised IBEUL to expedite Boiler as well as MOEFCC clearance so that commissioning of the IBEUL U#2 can be done by **June 2024**.
- OCC further advised IBEUL to submit regular progress report of DTL highlighting significant progress in activities and also strictly adhere to the committed timeline for DTL commissioning i.e by **September 2024**.
- As per latest progress report submitted by IBEUL dated **15.07.2024**, status of **400 kV IBEUL-Sundergarh DTL** is as follows:
 - Foundation works: **97.48%** completed
 - Erection works: **95.47%** completed
 - Stringing works: **65.92%** completed

Challenges encountered in completion of DTL:

- Foundation Location are serve ROW, administration support sought- Deputy Collector Jharsuguda Meeting held on 16.07.2024
- MCL Land , Discussion under progress with MCL Team General Manager assured to resolved with in week Project Manager Lakhanpur Mines Fixed site Visit shortly.
- Illegal House Under the ROW at section 46/0-53/0 (2.605KM), Civil Court case will be resolved within a week after that eviction work will be started

IBEUL may update. Members may discuss.

3.5. Unsatisfactory FRC performance by most of the entities & Non-Submission of FRC data: ERLDC

Adhering to IEGC clauses **30.8** and **30.10.(a)** to **30.10.(q)**, generating stations within the eastern region are required to submit essential data to ERLDC within two days of receiving a notification regarding a reportable frequency event. Additionally, according to clause 30.10.(n), all control areas within the eastern region must assess their frequency response characteristics and share the evaluation, along with high-resolution data, with the ERLDC. If any data is not received or is incomplete, ERLDC resorts to using Scada data (low resolution) to calculate the performance of the respective control area. Therefore, timely submission of primary response data is crucial for compliance with the **IEGC**.

As per the decision taken in the 214th OCCM, all the regional generators as well as states were advised to send the high-resolution data to ERLDC for assessing their performance.

In line with the provisions of IEGC 2023, GRID-INDIA has been assessing the Frequency Response Characteristics (FRC) for grid events involving load/generation loss of more than 1000 MW or change in frequency by more than 0.1 Hz. In the month of June-2024 five of such event was reported. The Plant-wise average response as observed through 10 second SCADA data available at ERLDC & data received from generators is show in the table below. It may be noted that many power plants' performance was poor / below average and data received status also very poor from most of the plants. Respective plants/State control area may explain reasons behind deficiency in performance and all utilities may follow the timeline.

As per deliberation in **215th OCC**:

- All generators whose data submission against frequency events flagged by ERLDC is pending (detailed above in agenda)were advised to submit the necessary FRC data to ERLDC at the earliest.
- All generators were also advised to regularly share high resolution data against each reportable frequency event with ERLDC on time to facilitate accurate assessment of FRP for respective control areas.

In line with the provisions of IEGC 2023, GRID-INDIA has been assessing the **Frequency Response Characteristics (FRC)** for grid events involving load/generation loss of more than 1000 MW or change in frequency by more than 0.1 Hz. In the month of **June-2024 five of such event was reported**. The Plant-wise average response as observed through 10 second SCADA data available at ERLDC & data received from generators is show in the table below. It may be noted that many power plants' performance was poor / below average and data received status also very poor from most of the plants. Respective plants/State control area may explain reasons behind deficiency in performance and all utilities may follow the timeline.

ENTITY NAME	Average FRP(Beta) for the month based on Scada data	Garde
FSTPP I&II	3.30	Excellent
FSTPP III	1.32	Excellent
KhSTPP I	0.99	Good
KhSTPP II	3.78	Excellent
TSTPS-I	0.19	Poor
Barh stage-1	0.40	Poor

Barh stage-2		1.27	Excellent
GMR		2.86	Excellent
MPL		-1.01	Poor
Adhunik		1.17	Excellent
Teesta V		Plant Out	
Teesta III		Plant Out	
N/AJITPL		-0.07	Poor
BRBCL		4.51	Excellent
NPGC		-0.87	Poor
Darlipalli		0.67	Below Average
North Karanpura		0.45	Poor
Bihar		0.11	Poor
Jharkhand		-0.03	Poor
DVC	0.49		Poor
OPTCL	0.40		Poor
WB	0.48		Poor

The data receipt status for the above events are shown below: (18.07.2024)

STATIONS	04.06.2024	04.06.2024	11.06.2024	17.06.2024	19.06.2024
	10:26	10:34	14:10	13:53	12:42
Barh stage-1	Received	Received	Received	Pending	Pending
Barh stage-2	Received	Received	Received	Pending	Pending
BRBCL	Pending	Pending	Pending	Pending	Pending
Darlipalli	Received	Received	Received	Received	Received
FSTPP #STG 1 & 2	Received	Received	INCOMPLETE DATA	Pending	Pending
FSTPP # STG 3	Pending	Pending	INCOMPLETE DATA	Pending	Pending
KhSTPP #STG 1	Pending	Pending	Pending	Pending	Pending
KhSTPP #STG 2	Received	Pending	Pending	Received	Received
NPGC	Received	Received	Pending	Received	Received
TSTPP #STG 1	Received	Received	Received	Received	Pending
TEESTA V	Plant Out	Plant Out	Plant Out	Plant Out	Plant Out
North Karanpura	Pending	Pending	Pending	Pending	Pending
TEESTA III	Plant Out	Plant Out	Plant Out	Plant Out	Plant Out

ADHUNIK	Received	Received	Received	Received	Received
DIKCHU	Plant Out	Plant Out	Plant Out	Plant Out	Plant Out
TASHIDING	Pending	Pending	Pending	Pending	Pending
GMR	Pending	Received	Received	Received	Pending
JITPL	Received	Received	Received	Received	Received
MPL	Received	Received	Pending	Received	Received
Bihar	Pending	Pending	Pending	Pending	Pending
Jharkhand	Pending	Pending	Pending	Pending	Pending
DVC	Pending	Pending	Pending	Pending	Pending
OPTCL	Received	Received	Received	Received	Received
WB	Pending	Pending	Pending	Pending	Pending

**Updated as on
18.07.2024**

“In line with IEGC clause 30.10.q, NLDC,RLDCs and SLDCs shall grade the median Frequency Response Performance annually, considering at least 10 reportable events. In case the median Frequency Response Performance is less than 0.75 as calculated as per Annexure-2, NLDC, RLDCs, SLDCs, as the case may be, after analyzing the FRP shall direct the concerned entities to take corrective action. “

In line with the above for discussing the FRC performance of Generators ERLDC will host a virtual meeting on 2nd August of 2024. All concerned are requested to attend the same. The meeting link for the above will be shared in due course. Any queries regarding the above may be sent to erldcss@grid-india.in

ERLDC may explain. Members may discuss.

3.6. Regarding Non-Submission of Forecasting Data from States: ERLDC

The **Clause 2 of Regulation 31** of IEGC 2023 has mandated all the SLDCs to timely submit the demand estimate data to the respective RLDC and RPC.

The demand estimation data provided by SLDCs will be required in resource adequacy planning and regional load forecasts conducted by the RLDC. As a part of Handholding initiative ERLDC has successfully imparted training on forecasting to all the states. Currently, the day ahead data is regularly received from all the states except Sikkim. ERLDC is also not receiving the weekly and monthly data as well from all the states.

As per deliberation in **216th OCC**:

OCC decision:

- OCC advised all SLDCs for strictly adhering to the schedule of demand estimation as mandated in **Clause 2 of Regulation 31** IEGC 2023, timely sharing with ERLDC as well as uploading of forecasting error on their respective websites.
- SLDCs who are submitting day ahead forecast were advised to also share the forecasting data on weekly as well as monthly basis with ERLDC.
- SLDC Odisha was advised to expedite implementation of the forecasting software

Hence it is again requested to all the concerned for timely submission of demand estimation data to ERLDC. This collaboration is essential for effective planning and preparedness to meet the region's electricity demands efficiently and reliably. The latest Forecast receipt status is shown below:

AS ON 18-07-2024	Forecast Receipt Status		
Entity Name	Day ahead	Weekly	Monthly
JHARKHAND	REGULAR	REGULAR	NOT RECEIVED
WEST BENGAL	REGULAR	NOT RECEIVED	NOT RECEIVED
DVC	REGULAR	REGULAR	NOT RECEIVED
BIHAR	REGULAR	REGULAR	NOT RECEIVED
SIKKIM	NOT RECEIVED	NOT RECEIVED	NOT RECEIVED
ODISHA	REGULAR	NOT RECEIVED	NOT RECEIVED

ERLDC may explain and all SLDCs may update. Members may discuss.

3.7. Mock Islanding test: ERLDC

As per IEGC cl. 29(11), Mock drills of the islanding schemes are to be carried out annually by the respective RLDCs in coordination with the concerned SLDCs and other users involved in the islanding scheme. In case a mock drill with field testing is not possible to be carried out for a particular scheme, simulation testing shall be carried out by the respective RLDC.

Presently, the following islanding schemes are present in the Eastern Region:

Station/System	State/Country	Installed Capacity (MW)
CHPC	Bhutan	84
CESC	West Bengal	750 (3 x 250 MW)
NALCO	Odisha	1200
ICCL	Odisha	258 (2 x 54 MW + 1 x 30 MW + 2 x 60 MW)
RSP	Odisha	255 (2 x 60 MW + 3 x 45 MW)
Bhushan Power & Steel	Odisha	506
Aryan ISPAT and power Ltd.	Odisha	18
Maithon Ispat Limited	Odisha	30

Hindalco	Odisha	467.5
IMFA	Odisha	258 (2 X 54 MW+ 1 X 30 MW + 2 X 60 MW)
VAL	Odisha	1215 (9 X 135 MW)
Bakreswar Islanding Scheme	West Bengal	1050 (5 x 210 MW)
Tata Power Haldia Islanding Scheme	West Bengal	120 (2 x 45 MW+ 1 x 30 MW)
Bandel Islanding Scheme	West Bengal	215
Narbheram Power & Steel Pvt. Ltd (Dhenkanal) Islanding Scheme	West Bengal	8

These islanding schemes shall be reviewed and augmented depending on the assessment of critical loads at least once a year or earlier if required. Therefore, all the concerned SLDCs are requested to coordinate with respective users and share a plan for conducting a Mock test or in case a mock test not possible then may share the following data for conducting simulation studies:

1. Update Network (in PSSE file)
2. Update LGBR details of the island node wise (in PSSE file)
3. Machine dynamic data as per FTC documents of ERLDC
4. Islanding logic

ERLDC may explain. Members may discuss.

3.8. Finalization of dates for mock black start in capable units of Eastern region: ERLDC

As per **IEGC 2023** regulations, each user is required to carry out a mock trial run of the restoration procedure for different sub-systems including black-start of generating units along with grid forming capability of inverter-based generating station and VSC-based HVDC black-start support at least once a year under intimation to the concerned SLDC and RLDC.

As such a tentative list for the year 2024 is prepared for conducting mock Blackstart of capable hydro units in the Eastern Region, matching with the dates in which such tests were conducted in previous years. The same agenda was discussed in the 214th OCC meeting and it was deliberated that all hydro stations of ER to update the schedule of mock black start as prepared by ERLDC.

A few tentative dates, as received, have been highlighted in sky blue color.

SI No	Name of Hydro Station	2022 Actual Date of Test	2023 Actual Date of Test	Schedule of Mock Black Start	2024 Actual Date of Test
1	U. Kolab	23 rd , June 2022		June-2024	
2	Balimela	08 th Sep-2022		July-2024	
3	Rengali	08-December-2022	12 th July 2023	June-2024	
4	Burla	23-June-2022		July-2024	
5	U. Indravati	25-May-2022		May-2024	
6	Maithon	DVC representative submitted that upgradation work is under progress due to issues in the governing system. Detailed timeline would be submitted to ERPC and ERLDC. Detail timeline yet to be received from DVC SLDC	14 th August 2023	Dec-2024	
7	TLDP-III			Oct-2024	
8	TLDP-IV			Oct-2024	
9	Subarnarekha	13 th December 2022		Sep-2024 4 th week	
10	Teesta-V			N/A	
11	Chuzachen			Oct-2024	
12	Teesta-III	08-April-2022		N/A	
13	Jorethang		19 th and 20 th December 2023	Dec-2024 3 rd week	
14	Tashiding		12 th December 2023	2 nd week of Dec 2024	
15	Dikchu			N/A	

16	Rongnichu			March 2024	18 th March and 20 th March 2024
17	Mangdechu				

The users, in this case mean includes generating company and they are requested to kindly respond and review the tentative dates specific to their plant units and update the list. For intra state blackstart capable hydro units, SLDCs are requested to respond on their behalf. So far , only **Tashiding, Jorethang and Subarnarekha(JUSNL)** have updated.

As per deliberation in **215th** OCC:

➤ ERLDC submitted :

- Tentative schedule of mock black starts in capable hydro generating units of Eastern region has been prepared based on available historical data.
- So far, relevant details have been received only from Tashiding, Jorethang and Subarnarekha(JUSNL).

OCC decision:

- OCC advised all black start capable hydro generating units of ER to update their schedule of mock black start to ERLDC at the earliest.
- OCC also opined to finalize this schedule of mock black start by next OCC meeting if no update on the same is received at ERLDC from concerned hydro generating units in the meantime.

ERLDC may update. Members may review and discuss.

3.9. Periodic Mock Drill Exercises in areas of generation, transmission and distribution of the power sector: ERPC

In compliance to **Disaster Management Plan for Power Sector (2022)** as drafted by **CEA**(as per Disaster Management Act 2005) and approved by Ministry of Power (Govt. of India) as well as in order to be prepared for any eventuality, periodic mock drill exercises are to be undertaken in various areas of generation, transmission and distribution of the power sector by considering various crisis and disaster situations like an earthquake, floods etc. Depending on the vulnerability of the installations/plant, mock drills to handle such situations need to be undertaken. The utilities are also required to ensure that at least one mock drill exercise for every crisis/disaster situation to which the installation/plant is vulnerable is undertaken in each quarter. The adverse observations made on each event of Mock drill should be taken into account and it should be ensured to prevent occurrence of such undesirable events in the future.

Action points:

As per deliberation of **1st MEETING ON REGIONAL DISASTER MANAGEMENT (EASTERN REGION)** dated **09.07.2024**:

- ◆ At least one mock drill exercise for every crisis/disaster situation to which the installation/plant is vulnerable must be undertaken in each quarter and quarterly report by the utilities to be shared with CEA for review and onward submission to Ministry of Power (Govt of India) . (Action: All thermal GENCOs (Central,IPP), all hydro generating stations, all ISTS licensees . SLDCs to coordinate with respective GENCOs,STUs and DISCOMs within their jurisdiction)
- ◆ Utilities are requested to share the experience on the mock drill exercises and scope for improvements.

All concerned utilities may update action plan.

3.10. Commissioning Status of ADMS: ERLDC

- ◆ The automatic demand management scheme (ADMS) has been already commissioned in West Bengal, DVC, Odisha, and Jharkhand and partially implemented by Bihar.
- ◆ In the **216th OCC meeting** the forum advised Bihar to share detailed action plan for implementation of additional 400 MW load under ADMS.
- ◆ It was also advised by the forum that DVC to share revised feeder list with ERLDC in which ADMS to be implemented after operationalization of Chandrapura islanding scheme.
- ◆ **Current Status (as of July 18, 2024):** No input received from Bihar and DVC.

Bihar & DVC may update the Status. Members may discuss.

4. PART-D: OPERATIONAL PLANNING

4.1. Anticipated power supply position during August -2024

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of August 2024 were prepared by ERPC Secretariat (**Annexure D.1**) on the basis of LGBR for 2024-25 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc.

Members may update.

4.2. Major Thermal Generating Units/Transmission Element outages/shutdown in ER Grid (as on 18-07-2024)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BARAUN I TPS	BIHAR	NTPC	7	110	Poor condenser vacuum	19-Jul-2023
2	BARAUN I TPS	BIHAR	NTPC	6	110	Low vacuum	22-Jul-2023
3	RTPS	DVC	DVC	2	600	Initially Unit was taken out due to very low lube oil pressure, later unit was taken under annual overhauling w.e.f 00.00 hrs of 27/02/2024, now under forced outage wef 23/03/2024 due to damage in turbine bearing.	26-Feb-2024
4	MEJIA TPS	DVC	DVC	6	250	Boiler tube leakage	17-Jul-2024
5	BARH	BIHAR	NTPC	1	660	Boiler Tube Leakage	11-Jul-2024
6	IBEUL	ODISH A	IBEUL	1	339.6	Condenser tube Leakage	18-Jul-2024
7	BARH	BIHAR	NTPC	2	660	Abnormal sound from boiler	18-Jul-2024

8	BAKRES HWAR	WEST BENG AL	WBPDC L	5	210	Boiler-Turbine Overhauling along with De-NOx implementation	02-Jul- 2024
9	KOLAGH AT	WEST BENG AL	WBPDC L	6	210	Desynchronized for overhauling purpose for 35 days	11-Jul- 2024
10	FSTPP	WEST BENG AL	NTPC	5	500	Annual overhauling	01-Jul- 2024
11	NABINA GAR(BR BCL)	BIHAR	NTPC	3	250	Annual overhauling	02-Jul- 2024
12	JITPL	ODISH A	JITPL	2	600	Annual Overhauling	05-Jul- 2024
13	KHSTPP	BIHAR	NTPC	3	210	Annual Overhauling	05-Jul- 2024
14	GMR	ODISH A	GMR- Infra	1	350	Annual Overhauling	06-Jul- 2024

All Generating stations are requested to update expected restoration time and reason outage to ERLDC/ERPC on weekly basis in case of any change at their end.

b) Major Generating stations Out on Reserve Shutdown due to low system demand:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
NIL							

c) Hydro Unit Outage Report:

<u>S. NO</u>	<u>STATION</u>	<u>STATE</u>	<u>AGENCY</u>	<u>UNIT NO</u>	<u>CAPACITY (MW)</u>	<u>REASON(S)</u>	<u>OUTAGE DATE</u>
1	TEESTA STG III Hep	SIKKIM	TUL	1-6	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct- 2023
2	DIKCHU Hep	SIKKIM	SKPPL	1 & 2	48	Sudden cloudburst at glacier fed LOHNAK	04-Oct- 2023

						<u>Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses</u>	
<u>3</u>	<u>TEESTA HPS</u>	<u>SIKKIM</u>	<u>NHPC</u>	<u>1-3</u>	<u>170</u>	<u>Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses</u>	<u>04-Oct-2023</u>
<u>4</u>	<u>CHIJPLIMA HPS / HIRAKUD II</u>	<u>ODISHA</u>	<u>OHPC</u>	<u>1</u>	<u>24</u>	<u>Capital Overhauling</u>	<u>15-Dec-2023</u>
<u>5</u>	<u>BALIMELA HPS</u>	<u>ODISHA</u>	<u>OHPC</u>	<u>2</u>	<u>60</u>	<u>High Turbine Vibration</u>	<u>19-May-2024</u>

d) Long outage report of transmission lines (As on 18.07.2024):

Transmission Element / ICT	Outage From	Reasons for Outage
220/132KV 100 MVA ICT II AT LALMATIA	22.01.2019	Commissioning work of 220/132KV, 100MVA Transformer and its associated control Panel under progress.
220/132KV 100 MVA ICT 3 AT CHANDIL	30.04.2020	Due to Fire hazard ICT damaged and burnt.
220KV-FSTPP-LALMATIA-I	21.04.2021	Transmission line is idle charged between Lalmatia GSS end up to Tower loc no 94 (50.30km)
220KV-WARIA-BIDHANNAGAR-1 & 2	08.06.2022	To control overloading of 220 kV Waria-DSTPS (Andal) D/C line
220KV-MUZAFFARPUR(PG)-GORAUL(BH)-1	11.06.2022	Main Bay is under breakdown due to flashing in GIS module at Muzaffarpur end
400/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT tripped on few occasions due to Buchholz later DGA violation found, internal fault in transformer to be rectified. (DGA violation)
132KV-BARHI-RAJGIR-1	25.03.2023	Dismantling of tower no. 227, 228, and 229 crossing the premises of

132KV-NALANDA-BARHI(DVC)-1	25.03.2023	Mahabodhi Cultural centre along with Destraining of conductor of both circuits and Earth wire between tension tower no. 218-237 in same line.
400KV-RANGPO-TEESTA-V-1 & 2	04.10.2023	Tower near gantry of Teesta V powerhouse collapsed due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-TEESTA-III-RANGPO-1	04.10.2023	Hand tripped from Teesta-III end due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-TEESTA-III-DIKCHU-1	04.10.2023	
400KV-RANGPO-DIKCHU-1	04.10.2023	Hand tripped from Rangpo end due to sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in TEESTA river and damage of Teesta III Dam & downstream Powerhouses
400KV-KHSTPP-BANKA (PG)-1	24.02.2024	Switchyard bay updation work
400KV-JHARSUGUDA-ROURKELA-3&4	01.04.2024	Reconductoring work
132KV-MADHEPURA (BH)-SAHARSA(PMTL)-1	04.04.2024	To control loading on 132kV Madhepura-Saharsa line
400KV/220KV 315 MVA ICT 2 AT RENGALI	07.05.2024	Commissioning of ICT-2 at Rengali under ADD CAP 2019-24
132KV-KHSTPP-SABOUR-1	19-05-2024	To control loading of 400/132kV ICT-2 to rectify hotspot problem on 132kV side
132KV-RANGPO-SAMARDONG-1	22-05-2024	Rangpo:Y-n fault with fault distance 0.157 kM ,14.562kA Samardong: NA
400KV/220KV 315 MVA ICT 3 AT RANGPO	27-06-2024	SF6 Gas Leakage rectification work by OEM Hyosung
220KV-GAYA(PG)-BODHGAYA-3 & 4	02-07-2024	DT received at Gaya end
132KV-RANGPO-SAMARDONG-2	08-07-2024	132/66/11 kV Samardong S/s has been taken under shut down as road connectivity has been disrupted due to continuous raining,

		land sliding in Sikkim
220KV-MUZAFFARPUR(PG)-GORAUL(BH)-2	08-07-2024	Restoration of 220 KV Muzaffarpur(PG) to Goraul GIS line bay-01 along with GIS Bus-01 at Muzaffarpur(POWERGRID)
400KV/220KV 500 MVA ICT 4 AT MUZAFFARPUR	08-07-2024	To facilitate restoration of GIS line bay
220KV-RAJARHAT-NEW TOWN(AA-II)-2	10-07-2024	Rectification of gas leakage problem from B-Ph breaker pole; Line declared under breakdown after charging attempt after return of shutdown

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5th of each month so that status of restoration can be reviewed in OCC. Utilities are also requested to update outage of any elements within their substation premises like isolator/breaker to ERLDC/ERPC regularly. (Reported as per Clause 5.2(e) of IEGC)

4.3. Commissioning of new units and transmission elements in Eastern Grid in the month of June -2024.

The details of new units/transmission elements commissioned in the month of June-2024 based on the inputs received from beneficiaries:

NEW ELEMENTS COMMISSIONED DURING JUNE, 2024

GENERATING UNITS

SL. NO.	Location	Owner/ Unit name	Unit No / Source	Capacity added (MW)	Total/Installed Capacity (MW)	DATE	Remarks
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NIL

ICTs/ GTs / STs

SL. NO.	Agency/ Owner	SUB-STATION	ICT NO	Voltage Level (kV)	CAPACITY (MVA)	DATE	Remarks
1	PGCIL	Subhasgram	7(Interim)	400/220 kV	500	22-06-2024	Available Regional spare of 500MVA ICT at Maithon has been installed as "interim measure" at Subhasgram

							in place of existing 125 MVAR Bus Reactor'
TRANSMISSION LINES							
SL. NO.	Agency/ Owner	Line Name	Length (KM)	Conductor Type	DATE	Remarks	
NIL							
LILO/RE-ARRANGEMENT OF TRANSMISSION LINES							
SL. NO.	Agency/ Owner	Line Name/LILO at	Length (KM)	Conductor Type	DATE	Remarks	
1	BSPTCL	132KV Nabinagar(Bihar)-Nagaruntari(Jharkhand) Transmission Line.	123.434	HTLS Conductor equivalent to Panther and ACSR Panther	12-06-2024	LILO of 132KV Sonenagar(Old) –Nagaruntari Transmission Line at GSS Nabinagar.	
BUS/LINE REACTORS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
NIL							
BUS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
NIL							
BAYS							
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks	
1	BSPTCL	132KV MAIN BAY OF NAGARUNTARI-1 AT 132/33 KV GSS NABINAGAR	GSS NABINAGAR	132/33 KV	12-06-2024	LILO of 132KV Sonenagar(Old) – Nagaruntari Transmission Line at GSS Nabinagar.	

Members may note.

4.4. UFR operation during the month of June 2024.

Frequency profile for the month as follows:

MONTH	MAX	MIN	% LESS IEGC BAND	% WITHIN	% MORE
	(DATE/TIME)	(DATE/TIME)			

				IEGC BAND	IEGC BAND
June, 2024	50.67 Hz on 17-06-2024 at 13:53 hrs	49.63 Hz on 16-06-2024 at 04:10 hrs	4.5	79.2	16.3

Hence, no report of operation of UFR has been received from any of the constituents.

Members may note.

Ref: ODP/BB/AM/ADD-CAP/

Date: 25/06/2024

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

Sub: Request for approval for reducing the capacity of proposed 500MVA ICT (to be installed in place of 3x105 MVA ICT at Jeypore S/S under ADD-CAP 2019-24 block) to 315 MVA ICT.

Dear Sir,

Replacement of 3x105 MVA BHEL make ICT-1 with 500MVA ICT under the JTTS ADD-CAP 2019-24 block was approved in the 45th ERPC meeting. Subsequently LOA have been issued on dtd. 17.03.2023 to M/s Toshiba and they manufactured the new ICT.

M/s Toshiba has informed vide their mail dtd: 08/03/2024 that they carried out route survey of six different routes for transportation, but no feasible route has been identified by the transporter for the smooth transportation of 500MVA ICT to Jeypore S/S. However, transportation of 315 MVA ICT is partially feasible. Site. Copy if mail communication and route survey reports are attached herewith for reference.


Meanwhile, another spare 315 MVA ICT is under transit from M/s Toshiba factory, Hyderabad to our Rourkela S/S.

In view of above difficulties in transportation and as the proposed ICT at Jeypore S/S is to be commissioned under ADD-CAP 2019-24 block, the only possibility is to install a 315 MVA ICT in place of earlier approved 500MVA ICT at Jeypore S/S by interchanging the 500MVA & 315 MVA ICTs between Jeypore & Rourkela stations.

Therefore, it is requested to accord ERPC approval for reduction of capacity of 500MVA ICT to 315MVA ICT at Jeypore S/S for commissioning under ADD-CAP 2019-24 block.

Thanking You

Yours Sincerely


[P. K. MAHALIK]
Chief General Manager (AM)
POWERGRID, Odisha Projects

CC: for kind information please.

1. Executive Director, Odisha Projects

PGCIL TR-41 :- Final Route Survey report for transportation 500MVA ICT and Route feasibility for transportation 315MVA ICT to Jaypore Site

Manish Kumar Mishra <manishkumar.mishra@toshiba-ttdi.com>

Fri 08-03-2024 12:25

To: Prasanta Kumar Mahalik (पी.के. महालिक) <pkmahalik@powergrid.in>

Cc: Yugesh Kumar Dixit (युईके. दीक्षित) <ykdixit@powergrid.in>; Anoop Singh (अनूप सिंह) <anoops@powergrid.in>; Mahendra Prajapati (महेंद्र प्रजापति) <mprajapati@powergrid.in>; Yagyaveer K P N Singh (यशवीर के पी.एन. सिंह) <yagyaveer@powergrid.in>; Manoranjan Nayak <manoranjan.nayak@toshiba-ttdi.com>; Ashish Singh (आशीष सिंह) <ashish.singh@powergrid.in>; Biswaranjan Senapati <biswaranjan.senapati@toshiba-ttdi.com>; Biswaranjan Senapati <biswaranjan.senapati@toshiba-ttdi.com>; 'Solaman Raju Zakkum' <solamanraju.zakkum@toshiba-ttdi.com>; Saurabh Shrivastav <saurabh.shrivastav@toshiba-ttdi.com>; Saurabh Shrivastav <saurabh.shrivastav@toshiba-ttdi.com>; Sankirith Vureli <sankirith.vureli@toshiba-ttdi.com>; Ch Eswara Rao (सीएच. ईश्वर राव) <eswar@powergrid.in>; B C Nayak (बी.सी. नायक) <bcnayak@powergrid.in>; Manoranjan Nayak <manoranjan.nayak@toshiba-ttdi.com>; Manoranjan Nayak <manoranjan.nayak@toshiba-ttdi.com>; Dinesh Gaur <dinesh.gaur@toshiba-ttdi.com>

2 attachments (11 MB)

ROUTE 1.pdf; ROUTE 2.pdf;

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MAIL 1 of 4

Respected Sir,

Please find the following final route survey summary for the transportation of 500MVA ICT to Jaypore Site. No feasible routes are available for the smooth transportation of 500MVA ICT to Jaypore site.

Attached route survey reports are for your kind reference.

Sl. No.	Route Details	Hurdles	Surveyed by	Feasibility for movement of 500MVA [266MT, 20 Axle] ICT	Feasibility for movement of 315MVA [196MT, 14 Axle] ICT	Remarks
1	Raipur - Dhamtari - kanker - kescal (Ghat section) - kondagaon - sonarpal - Dist Ghat section - approx. 5 kms.	1. Ghat is very steep - photographs are enclosed 2. There are hair pins / tapered road through Ghat section, kindly refer photographs at page nos. 7, 9, 10, 12, 14, 15& 20. 3. Week bridges refer photographs page no. 17	ACCI	Not Feasible	Not Feasible	
2	Raipur - kanker - Bhanupratappur - Angad - Narayanpur - Kondagaon - Jagdalpur - Dist Approx. 60 Kms	1. Road is narrow with damaged weak bridge kindly refer photos on page nos. 5 & 6. 2. Road is narrow and un compacted kaccha refer photos at page nos. 8,9,10,11,12,13,14,15,16,17,22,23,24,25,26,27,28,36 & 37. 3. Week & damaged bridge refer page no. 18, 19, 20 & 21, 29, 30, 31, 32, 33, 34, 35.	ACCI	Not Feasible	Not Feasible	
3	Bhadrachalam - chinturu - sukara Dist. Approx. 40/50 kms	There are weak & damaged bridges as per photos on page Nos 4 to 8.	ACCI	Not Feasible	Not Feasible	
4	Bhadrachalam - Chinture - Malkanguri - Jeypore	Road is narrow with sharp turning. Attached video for the same	ACCI	Not Feasible	Not Feasible	
5	Sohela - Bargarh - Kesinga - Nowrangpur - Jeypore	1.Ampani Ghat Section - 12 Axle movement is critical 2. Jayantigiri - Weak Canal Bridge 3.Mazurmunda - Weak Canal Bridge	NTC	Not Feasible	Partially Feasible	Transporter required 3 proper analysis of brie smooth transportat 315MVA ICT
6	Rayagada - Lakshampur - Koraput - Jeypore	1. Ghat Section - 10 - 12 Axle Critical 2.Damaged Bridge 3.Railway under pass - Max Height avail 5.1mtrs 4. Railway Under Pass + new lines under construction - Max Heigh avail 5 mtrs	NTC	Not Feasible	Not Feasible	

Regards,

Manish Kumar Mishra

EPC-Execution

Mob: 7330992555

TOSHIBA

Toshiba Transmission & Distribution Systems (India) Pvt. Ltd.

Indiqube pearl, 2nd Floor, S.No.136/2 and 136/4

Beside Rolling Hills, Ramky Towers, Mindspace Road, P Janardhan Reddy Nagar,

Gachibowli, Hyderabad-500032

Fwd: PGCIL TR-41 :- Requesting Diversion for Jaypore Site**From:** Somanath Nayak (एस. नायक) <snayak@powergrid.in>

Sun 10-03-2024 16:37

To: Ch Eswara Rao (सीएच. ईश्वर राव) <eswar@powergrid.in>; Prasanta Kumar Mahalik (पी.के. महालिक) <pkmahalik@powergrid.in>

1 attachments (1 MB)

RE: Reg. Transportation of 500MVA ICT from TOSHIBA , Hyderabad to POWERGRID , JEYPORE S/S , ODISHA;

[Get Outlook for Android](#)**From:** Alok . (आलोक) <alok10103@powergrid.in>**Sent:** Sunday, March 10, 2024 12:53:05 PM**To:** Somanath Nayak (एस. नायक) <snayak@powergrid.in>**Cc:** Ratan Kumar Dutta (रतन कुमार दत्ता) <rk Dutta@powergrid.in>**Subject:** Fwd: PGCIL TR-41 :- Requesting Diversion for Jaypore Site

For na.

[Get Outlook for Android](#)**From:** Anoop Singh (अनूप सिंह) <anoops@powergrid.in>**Sent:** Wednesday, March 6, 2024 7:57:32 PM**To:** Alok . (आलोक) <alok10103@powergrid.in>**Subject:** Fwd: PGCIL TR-41 :- Requesting Diversion for Jaypore Site[Get Outlook for iOS](#)**From:** Manish Kumar Mishra <manishkumar.mishra@toshiba-ttdi.com>**Sent:** Wednesday, March 6, 2024 7:43:17 PM**To:** Mahendra Prajapati (महेंद्र प्रजापति) <mprajapati@powergrid.in>**Cc:** Anoop Singh (अनूप सिंह) <anoops@powergrid.in>; Yagyaveer K P N Singh (यज्ञवीर के.पी.एन. सिंह) <yagyaveer@powergrid.in>; Ch Eswara Rao (सीएच. ईश्वर राव) <eswar@powergrid.in>; Prasanta Kumar Mahalik (पी.के. महालिक) <pkmahalik@powergrid.in>; B C Nayak (बी.सी. नायक) <bcnayak@powergrid.in>; biswaranjan.senapati@toshiba-ttdi.com <biswaranjan.senapati@toshiba-ttdi.com>; 'Solaman Raju Zakkum' <solamanraju.zakkum@toshiba-ttdi.com>; sankirth.vureli@toshiba-ttdi.com <sankirth.vureli@toshiba-ttdi.com>; saurabh.shrivastav@toshiba-ttdi.com <saurabh.shrivastav@toshiba-ttdi.com>; 'Manoranjana Nayak' <manoranjana.nayak@toshiba-ttdi.com>; Amandeep Singh (अमनदीप सिंह) <amandeep@powergrid.in>; P Ravi Shanker Yadav (पी.आर. शंकर यादव) <prsyadav@powergrid.in>; Dinesh Gaur <dinesh.gaur@toshiba-ttdi.com>**Subject:** PGCIL TR-41 :- Requesting Diversion for Jaypore SiteSome people who received this message don't often get email from manishkumar.mishra@toshiba-ttdi.com. [Learn why this is important](#)

MAIL 2 of 2

From: Manish Kumar Mishra [mailto:manishkumar.mishra@toshiba-ttdi.com]**Sent:** 06 March 2024 19:42**To:** 'Mahendra Prajapati (महेंद्र प्रजापति)'**Cc:** 'Anoop Singh (अनूप सिंह)'; 'Yagyaveer K P N Singh (यज्ञवीर के.पी.एन. सिंह)'; 'Ch Eswara Rao (सीएच. ईश्वर राव)'; 'Prasanta Kumar Mahalik (पी.के. महालिक)'; 'bcnayak@powergrid.in'; 'biswaranjan.senapati@toshiba-ttdi.com'; 'Solaman Raju Zakkum'; 'sankirth.vureli@toshiba-ttdi.com'; 'saurabh.shrivastav@toshiba-ttdi.com'; 'Manoranjana Nayak'; 'Amandeep Singh (अमनदीप सिंह)'; 'P Ravi Shanker Yadav (पी.आर. शंकर यादव)';

Dinesh Gaur

Subject: RE: PGCIL TR-41 :- Requesting Diversion for Jaypore Site

MAIL 1 of 2

Respected Sir,

In reference to the below mail, this to inform you that all route survey for transporting 500MVA, 400/220kV ICT[266MT] through road has been completed. We have surveyed all possible routes that has been provided by Power Grid officials. However no feasible route has been identified by the transporter for the smooth transportation of ICT to Jaypore Site. Complete route survey reports will be shared within 2 days.

Further this is to bring to your kind notice that FAT of that ICT has been scheduled on 11-03-2024 and same was scheduled for dispatch on this month.

In this regards we are requesting you to kindly divert this unit to other location as earliest, to ensure the completion of supply of this ICT in this financial year.

Attached mail communications are for your kind reference.

Regards,
Manish Kumar Mishra
EPC-Execution
Mob: 7330992555

TOSHIBA

Toshiba Transmission & Distribution Systems (India) Pvt. Ltd.

Indiqube pearl, 2nd Floor, S.No.136/2 and 136/4
Beside Rolling Hills, Ramky Towers, Mindspace Road, P Janardhan Reddy Nagar,
Gachibowli, Hyderabad-500032

From: Mahendra Prajapati {महेंद्र प्रजापति} [mailto:mprajapati@powergrid.in]
Sent: 08 February 2024 17:39
To: manishkumar.mishra@toshiba-ttdi.com
Cc: Anoop Singh {अनूप सिंह}; Yagyaveer K P N Singh {यज्ञवीर के.पी.एन. सिंह}; biswaranjan.senapati@toshiba-ttdi.com; 'Solaman Raju Zakkum'; sankirth.vureli@toshiba-ttdi.com; saurabh.shrivastav@toshiba-ttdi.com; 'Manoranjana Nayak'; Amandeep Singh {अमनदीप सिंह}; P Ravi Shanker Yadav {पी.आर. शंकर यादव}
Subject: Re: Requesting for approval to Swap of ICT between Jaypore S/s & Rengali S/s

>> External Email Warning: Do not click on any attachment or Links/URL in this email unless sender is reliable. Verify source email address carefully <<

Sir,

Swapping of ICT for Jeypore & Rengali is agreed by CC-AM. However, dispatch to be ensured by Mar'24.

Regards,

Mahendra Prajapati
Manager (CMG)
POWERGRID, Gurugram
Mob: 7042396707

From: Manish Kumar Mishra <manishkumar.mishra@toshiba-ttdi.com>
Date: Wednesday, 7 February 2024 at 5:08 PM
To: Mahendra Prajapati {महेंद्र प्रजापति} <mprajapati@powergrid.in>
Cc: Anoop Singh {अनूप सिंह} <anoops@powergrid.in>, Ashish Singh {आशीष सिंह} <ashish.singh@powergrid.in>, Yagyaveer K P N Singh {यज्ञवीर के.पी.एन. सिंह} <yagyaveer@powergrid.in>, biswaranjan.senapati@toshiba-ttdi.com <biswaranjan.senapati@toshiba-ttdi.com>, 'Solaman Raju Zakkum' <solamanraju.zakkum@toshiba-ttdi.com>, sankirth.vureli@toshiba-ttdi.com <sankirth.vureli@toshiba-ttdi.com>, saurabh.shrivastav@toshiba-ttdi.com <saurabh.shrivastav@toshiba-ttdi.com>, 'Manoranjana Nayak' <manoranjana.nayak@toshiba-ttdi.com>
Subject: Requesting for approval to Swap of ICT between Jaypore S/s & Rengali S/s

Some people who received this message don't often get email from manishkumar.mishra@toshiba-ttdi.com. [Learn why this is important](#)

Respected Sir,

This is regarding the supply of Jaypore ICT to Rengali Site.

This is to inform you that, we have explored all possible options to transport the 500MVA, 400/220kV ICT[266MT] through road, However still no feasible route has been identified by the transporter during various surveys, for the smooth transportation of ICT to Jaypore Site. Further we want to inform you that, route survey of the same is still under progress and we are trying to get a feasible route for the smooth transportation.

In View of above we are requesting you to kindly allow us to Swap the ICT between Jaypore S/s & Rengali S/s. This will help us to supply the ICT to Rengali site as per the schedule and also provide extra time for the route finalization to Jaypore Site.

We are here with submitting the revised sequence of Transformers to be dispatched, for your kind reference

STATUS OF PGCIL JOBS as on 07-02-2024							
Sl. No	Package	Rating	Transformer Serial No.	Contract Awarded Site Name	Diverted Site Name (if any)	FAT Start date	FAT Completion date
1	TRF PKG. TR-10	1st Unit 500 MVA,400KV	90794A01	Ramgarh-II	Mysore S/s	28-01-2024	01-02-2024
2	TRF PKG. TR-10	2nd Unit 500 MVA,400KV	90794A02	Bikaner-II	Satra-S/s Bikaner PG S/s	03-02-2024	07-02-2024

respective transmission utility) and requested all the concerned utilities to nominate their representative by 7th April 2022.

B1.3. Replacement of ICT- POWERGRID Odisha.

A. Urgent requirement for replacement of 315MVA, 400/220/33kV ICT#2 at Rengali S/S:

- I. The BHEL make 315MVA, 400/220/33kV ICT#2 of Rengali Substation was commissioned in 1990 under JTSS Project and the said ICT is of 32 years old (Year of Manufacturing: 1987). The said ICT has completed its useful life of 25 years.
- II. Condition based monitoring/ maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings & windings, oil parameters, Furan analysis, FDS, IR of core insulation etc are being carried out by POWERGRID to know the healthiness. During condition monitoring of the said ICT, violation has been observed in the test parameters and condition of the ICT found not good. M/s CPRI (Third party) was approached by POWERGRID to analyse the test results of said equipment and to know the condition of the equipment. The test results were analysed by CPRI and based on the test results, CPRI has recommended to replace the said unit. The letter of CPRI is enclosed herewith.

B. Urgent Requirement for replacement of 3x105 MVA, 400/220/33KV ICT-1 at Jeypore S/s.

- I. The BHEL make 3x105MVA, 400/220/33kV ICT#1 of Jeypore Substation was commissioned in 1990 under JTSS Project and the said ICT is of 32 years old (Year of Manufacturing: 1987). The said ICT has already successfully completed its useful life of 25 years.
- II. Condition based monitoring/ maintenance of transformers/ reactors like DGA, Tan delta measurement of bushings & windings, oil parameters, Furan analysis, FDS, IR of core insulation etc are being carried out by POWERGRID to know the healthiness. During condition monitoring of the ICT-I Yph, violation has been observed in the test parameters and condition of the ICT found not good. M/s CPRI (Third party) was approached by POWERGRID to analyse the test results of said unit and to know the condition of the equipment. The test results were analysed by CPRI and based on the test results, CPRI has recommended to replace the said unit. The letter of CPRI is enclosed herewith.

In 187th OCC meeting, SLDC Odisha and GRIDCO gave their consent for the proposal. OCC opined that the above proposals would be shared with CTU & further approval.

Further, CTU vide mail dated 18.02.2022 updated the following:

- Presently, there are 400/220kV, 2x315MVA ICTs at Rengali (POWERGRID) and 400/220kV, 2x630MVA (two blocks, each of 2x315MVA in parallel) ICTs at Jeypore (POWERGRID)

substations. ICT loading detail of last one year has been obtained from ERLDC, and it has been observed that the existing transformation capacity at both substations is adequate.

- In view of the above, it may be noted that technically existing transformation capacity is required at both the substations. Thus, existing ICTs as per requirement may be taken up for replacement. However, considering the future requirement, the new ICTs could be of 500MVA.

TCC may please approve.

Deliberation in the 45th TCC meeting:

TCC approved the scheme and referred it to ERPC for further approval.

Deliberation in the 45th ERPC meeting:

ERPC approved the scheme.

B1.4. Demolition and reconstruction of residential Quarters at Rourkela S/S under O&M ADD-CAP 2019-24 block under Kahalgaon Transmission System (KHTL)

- A. Under the Kahalgaon Transmission System (KHTL), Rourkela S/S in Odisha was constructed and is in operation since 1993. The station has already completed more than 28 years of service.
- B. As part of this project, in addition to S/s equipment, Residential Buildings were also constructed at Rourkela S/S for the accommodation of employees to look after O&M of substation and were allotted to employees in these years. These residential buildings have already completed more than 28 years of life.
- C. In spite of regular maintenance, due to ageing these residential buildings are in dilapidated condition i.e. cracks in roof, walls, and floors, seepage in roofs and walls, wear and tear of window/doors, cisterns etc. have developed. The structural condition assessment of the building has been carried out through NIT, Rourkela. As per the assessment report, these buildings have exceeded the desired strength and serviceability limit states under gravity loading. It does not have sufficient strength and stiffness against minimum lateral loading and it appears insufficient to consider the repair and rehabilitation of these buildings.
Tentative estimated cost for the said work comes to ₹ 8 crores.
- D. Petition for the above work was already filed with CERC for approval under O&M ADD-CAP 2019-24 under KHTL project. During the hearing, CERC has advised POWERGRID to obtain approval of RPC and consent of beneficiaries for additional capital expenditure against these buildings and submit the same at the time of truing up for consideration of the instant case.

In 45th CCM, POWERGRID representative gave a brief presentation highlighting the present conditions of the residential quarters at their Rourkela Sub-station. Committee members agreed that

Annexure B.2.4

Transmission Line Constraints

Sl. No	Corridor	Violation type	Remedial Action Plan	
			Short-term	Long-term
1	220 kV Gokarno-Rejinagar D/C	N-1 violation	Yes	No
2	220 kV Satgachia Bakreswar- D/C	N-1 violation	No	No
3	220 kV Darbhanga-Darbhanga D/C	N-1 violation	No	Yes
4	220 kV Maithon-Dumka D/C	N-1 violation	Yes	No
5	220 kV Waria- DSTPS D/C	N-1 violation	No	No
6	220 kV Binaguri–NJP D/C	N-1 violation	No	Yes
7	400 kV New PPSP – New Ranchi D/C	N-1 violation	No	No
8	220 kV Subhasgram (PG) – Subhasgram (WB) D/C 220 kV Subhasgram (PG) –EMSSD/C	N-1 violation	Yes	Yes
9	220 kV Pandiabili- Atri D/C	N-1 violation	Yes	No
10	220 kV Sasaram-Pusauli New DC	N-1 violation	No	Yes
11	220 kV Tenughat– Govindpur D/C	N-1 violation	No	No
12	400 kV OPGC- Lapanga DC	N-1 violation	No	No

* N-1 violation criteria: as per CEA Grid Standard.

ICT constraints

Sl. No	ICT	Violation	Remedial Action Plan	
			Short-term	Long-term
1	2 X 400/220 kV 315 MVA ICT at Bokaro	N-1 violation	No	Yes
2	4 X400/220kV 315 MVA ICT at Jeerat	N-1 violation	Yes	Yes
3	2 X 400/220 kV 315 MVA ICT at Koderma	N-1 violation	No	Yes
4	2 X 400/220 kV 315 MVA ICT at Lapanga	N-1 violation	No	No
5	2 X 400/220 kV 315 MVA ICT at Mendhasal	N-1 violation	No	No
6	2 X 400/220 kV 500 MVA ICT at Rajarhat	N-1 violation	Yes	Yes

* N-1 violation criteria: as per CEA Grid Standard.

Voltage Deviation

High Voltage

Sl. No	Nodes	Description of the constraints	Violation	Remedial Actions	
				Short-term	Long-term
1	400 kV Alipurduar	Non-availability of generating units to absorb reactive power during off-peak period. Light loading of lines connected to Binaguri and Alipurduar during night.	IEGC clause 29(15)	Yes	Yes

*Post de-blocking of Alipurduar-Agra poles 7-8 kV voltage rise was observed.

Voltage issues in case of Contingency:



**Joint Interconnection study for January 2025
Eastern Regional Load Despatch Center, GRID-INDIA, KOLKATA**

Date of Study	18-07-2024	For State	West Bengal
Agencies involved	ERLDC, SLDC WB		

Observations

Sl. No.	New substation	Associated elements	Expected relief	Possible constraints with contingency	TTC/ATC changes in import	TTC/ATC changes in export	Remarks
1	Satgachhia 400 KV S/S	D/C LILO of 400 kV New Chanditala-Gokarna 400 kV line ACSR Twin Moose with 2x 500 MVA 400/220 KV Satgachhi Icts	Reduction in Jeerat, New Chanditala and Gokano 400/220 KV ICTs	N-1 contingency in solar and non solar peak of summer load with constraints in one 500 MVA ICT during n-1 contingency in the other ICT when 220 KV Krishnanagar s/s is coupled	300 MW increase limited by low voltage in subhasgram in Normal case and high loading in jeerat 400/220 KV ICTs during tripping of 400 KV jeerat Subhasgram	No significant changes	1)N-1 contingency in one 500 MVA 400/220 KV Satgachhia ICTs is leading to overload within 110% of the other 500 MVA ICT. 2)Decision of closing Krishnanagar 220 KV B/C shall be taken based on operational condition that time
2	Falakata 220 KV GIS	220 KV D/C LILO of Alipurduar(PG) to Birpara(PG) lines with Zebra Conductor with 2 x 160 MVA 220/132 KV Falakata ICTs	No constraints observed	No constraints observed with 35 MW load in 33 KV			
3	Manikchawk 132 kV S/S	132 KV Malda – Manikchowk D/C radial lines with ACSR panther conductor	19 MW reduction in each 132 KV Malda malda d/c	No constraints observed with 40 MW load shifting from Malda			

Annexure D.1

Anticipated Peak Demand (in MW) of ER & its constituents for August 2024

1	BIHAR	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	7670	4690
	NET POWER AVAILABILITY- Own Sources	429	345
	Central Sector+Bi-Lateral	5637	3699
	SURPLUS(+)/DEFICIT(-)	-1604	-646
2	JHARKHAND		
	NET MAXIMUM DEMAND	2179	1325
	NET POWER AVAILABILITY- Own Source	404	186
	Central Sector+Bi-Lateral+IPP	1160	683
	SURPLUS(+)/DEFICIT(-)	-615	-456
3	DVC		
	NET MAXIMUM DEMAND	3516	2180
	NET POWER AVAILABILITY- Own Source	5756	3279
	Central Sector+MPL	376	251
	Bi- lateral export by DVC	2205	1641
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	411	-292
4	ODISHA		
	NET MAXIMUM DEMAND (OWN)	5500	3423
	NET MAXIMUM DEMAND (In Case of CPP Drawal of 900 MW(peak) and average drawl of 700 MW)	6445	3190
	NET POWER AVAILABILITY- Own Source	3835	3238
	Central Sector	1564	1131
	SURPLUS(+)/DEFICIT(-) (OWN)	-101	947
	SURPLUS(+)/DEFICIT(-) (I(In Case of CPP Drawal of 950 MW(peak) and average drawlm of 700 MW)	-1046	1179
5	WEST BENGAL		
	WBSEDCL		
5.1	NET MAXIMUM DEMAND	9741	5843
	NET MAXIMUM DEMAND (Incl. Sikkim)	9751	5850
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5132	3081
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2387	1394
	EXPORT (To SIKKIM)	10	7
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	-2232	-1375
5.2	CESC		
	NET MAXIMUM DEMAND	2090	1152
	NET POWER AVAILABILITY- Own Source	830	556
	IMPORT FROM HEL	541	390
	TOTAL AVAILABILITY OF CESC	1371	946
	DEFICIT(-) for Import	-719	-206
		-719	-206
	WEST BENGAL (WBSEDCL+CESC+IPCL) (excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	11831	6995
	NET POWER AVAILABILITY- Own Source	5962	3637
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	2928	1784
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	-2941	-1574
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	-2951	-1581
6	SIKKIM		
	NET MAXIMUM DEMAND	100	47
	NET POWER AVAILABILITY- Own Source	378	313
	Central Sector	159	107
	SURPLUS(+)/DEFICIT(-)	437	373
	EASTERN REGION		
	NET MAXIMUM DEMAND	30193	18659
	NET MAXIMUM DEMAND (In Case of CPP Drawal of 800 MW(peak) and average drawl of 700 MW)	31119	18427
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2205	1641
	EXPORT BY WBSEDCL TO SIKKIM	10	7
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	478
	NET TOTAL POWER AVAILABILITY OF ER (INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)	26384	17012
	SURPLUS(+)/DEFICIT(-)	-6665	-3773
	SURPLUS(+)/DEFICIT(-) (In Case of CPP Drawal for Odisha)	-7592	-3541