AGENDA
FOR
201st OCC MEETING

Date: 16.03.2023
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 201ST OCC MEETING TO BE HELD ON 16.03.2023 (THURSDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 200th OCC Meeting held on 24th February 2023 through MS Teams online platform.

The minutes of 200th Operation Coordination sub-Committee meeting held on 24.02.2023 was circulated vide letter dated 11.02.2023.

Members may confirm the minutes of 200th OCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Summer Preparedness for Power System - ERLDC.

As the summer season approaches, the country is preparing for a surge in electricity demand due to the increased usage of air conditioning, fans, and other cooling devices. This is especially true in areas like Eastern Region with hot and humid climates, where electricity demand typically peaks during the summer months. The high electricity demand during summer can put a strain on power grids and may lead to power outages or brownouts if the supply is unable to keep up with demand.

To ensure that adequate power generation and transmission/distribution infrastructure is in place to meet the expected demand and minimize the risk of service disruptions, the following needs to be taken up by different utilities.

Resource Adequacy:

- All SLDCs and DISCOMs to Conduct a detailed analysis of projected demand and ensure resource adequacy to meet the demand.
- Prepare contingency plans in case of an unexpected surge in demand.
- Assess the status of power plants and their expected availability during the summer months.

Voltage Issues:

- Analyze the voltage profiles of the power system during summer months and identify potential voltage issues.
- Ensure all Capacitor banks are healthy and in service during the need of the hour.
- Ensure timely switching of Reactors to avoid high voltage deviation.
- Develop contingency plans to deal with any unexpected voltage issues.

Coal Reserves:

- All gencos to analyze the current coal reserves and ensure that they are sufficient to meet the increased demand during summer.
- Coordinate with coal mines and transport agencies to ensure timely delivery of coal.

Frequent Tripping of Identified Units:

- Identify the units that have a history of frequent tripping during the summer months.
- Develop contingency plans to deal with any unexpected tripping.

Line Tripping:

- All Transco to Identify the critical transmission lines that are prone to tripping during summer months.
- Conduct maintenance activities and upgrade the infrastructure to ensure the reliability of these lines.
- SLDCs to develop contingency plans to deal with any unexpected tripping of highly loaded lines.

Grid discipline and defence plan:

- Ensure deviation remains within the allowable limit
- Ensure the healthiness of UFR
- Ensure the healthiness of ADMS and early commissioning of same in Bihar
- Grid discipline and defence plan:

Prepare for Nor 'westers and Unit RSD

- Develop a contingency plan to address potential damage caused by Nor 'westers, keeping ERS ready to ensure minimum outage of transmission lines.
- During Nor 'westers demand falls sharply and it also recovers rapidly thus Implementation of proper Unit RSD strategy to ensure adequate power supply reserves are available during periods of high demand.

In the 200th OCC meeting, representative of ERLDC delivered a detailed presentation on the Summer Outlook of ER for the year 2023.

OCC suggested that a separate meeting may be convened for further discussion & preparation of the roadmap in this regard.

ERLDC will be conducting a meeting on Summer Preparedness through video conference mode latest by 12th March'2023. All regional generating companies, state SLDCs, State embedded generating companies, Power management or procurement cell of Discoms & ALDCs are requested to join the meeting.

Accordingly, a meeting was convened on summer preparedness on 10th March, 2023 in online mode. A summary of discussion is attached in **Annexure-B.1**.

Members may note.

ITEM NO. B.2: Interconnection of 220KV and 400KV switchyard at IB Thermal Power Station (IB TPS), Jharsuguda, Odisha – OPGC.

OPGC is operating 2x210 MW (unit – 1 & 2) and 2x660 MW (unit -3 & 4) at IB Thermal Power Station, Jharsuguda, Odisha. For evacuation of power, the following arrangement has been done at IB Thermal Power station.

For evacuation of power from unit-3 & 4, 400KV substation at IB TPS has been connected to OPTCL's substation at Lapanga through 1 nos. 400 KV D/C and also PGCIL's 400/765 KV pooling station at Kennapalli, Sundergarh through 1 nos. of 400 KV D/C line.

It is observed that yearly 2 to 3 times blackout of the grid has been happening due to faults in the

220 KV Transmission line and also in the substation for which unit is getting tripped and this puts stress on the system equipment. At the same time due to outage of Transmission line power evacuation is not possible from unit – 1 & 2.

After discussion with OPTCL to improve reliability of the evacuation system, OPGC is planning to interconnect its 220KV and 400KV switchyard at IB Thermal Power station with necessary modification and augmentation.

Members may discuss.

ITEM NO. B.3: MVAR flow at ISTS/ISGS interface point at Meramundali / Talcher – SLDC Odisha.

While examining the Reactive Power charges bill issued by ERPC, it is observed that GRIDCO / OPTCL becomes payable on account of Var export at 400KV Meramundali bus having voltage above 412 KV.

In this regard, it is to inform that the Kaniha 400KV bus is mostly operates around 404KV level resulted in to Var export from Meramundali.

To overcome the such unwanted penalty being charged to GRIDCO / OPTCL, it is proposed

I. To instruct Kaniha generating units 1 to 6 to absorb full Var up to capability curve so that terminal voltage remains below 400KV level i.e. rated voltage.
II. As Meramundali and Kaniha has very less proximity and both are large size stations and therefore Meramundali bus may be treated as extended bus of Kaniha and no Var penalty shall be admissible as it is supporting the generator bus requirement.

However, it is proposed to carry out system study and simulation at RLDC level for which all necessary inputs related to 400KV Meramundali shall be provided.

This will bring the technical views to be resolved amicably and no state shall be penalized while supporting ISGS.

Odisha may update.

ITEM NO. B.4: Increase in export capacity from 492 MW to 503 MW of Adhunik Power & Natural Resources Limited (APNRL) 2x270 MW Plant – APNRL.

The in-built capacity of Turbine Generator (TG) of our plant is greater than 105% and additionally, APNRL has already implemented necessary major steps for reducing the APC from 9% to 7%.

As a result of successful implementation of above essential measures, our Units have generated a buffer of additional 7% of the station capacity, which includes the requirement of 5% of rated MCR under the both VWO / RGMO condition. Therefore, we are happy to keep your good office updated that our plant has improved the capacity to deliver additional power of 10 MW to the

Grid.

Hence, we would request you to kindly enhance the APNRL Ex-bus generation capacity from 492 MW to 502 MW in particular, during the summer season. This will benefit the national grid to meet some percent of National power crisis during the summer.

APNRL may update.

ITEM NO. B.5: Installation of Transmission Line Arrestor in 220 KV lines in North Bengal – PGCIL ER-II.

220 KV D/C Siliguri-Kishanganj TL (erst 220kV D/C Siliguri-Dalkhola TL), 220kV D/C Birpara-Chukha TL, 220kV D/C Birpara-Alipurduar TL (erst 220kV D/C Birpara-Salakati TL) and 220kV S/C Birpara-Malbase TL were commissioned in the year 1986 under Chukha Transmission System. All the above-mentioned lines are located in the Himalayan Foothills and encounter severe lightning incidents during the monsoon period starting from April-Oct. As stated by NASA, The Himalayan Foreland is declared as Principal Lightening Hotspot zone.

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

Considering the increase in lightning phenomenon over North-Bengal area, it seems that existing Tower Earthing system seems not sufficient and as such as a system improvement measure it has been felt necessary to adopt installation of Transmission Line Arresters as per latest practices adopt world-wide in certain stretches of lines where instances of auto-reclosures and tripping are high. Matter has been discussed in detail during 198th OCC, 199th OCC meeting and subsequently in recently concluded 48th CCM at ERPC.

In order to install the Transmission Line arrestor in 220kV Lines under North-Bengal under ADDCAP 2019-24 activity, line shut-downs are required. A tentative schedule for shut-down requirement are proposed as below:-

Sl No.	Name of Transmission Line	Proposed shut-down dates
1	220kV Birpara-Chukha Ckt-1	03/04/2023 to 08/04/2023
2	220kV Birpara-Chukha Ckt-2	09/04/2023 to 14/04/2023
3	220kV Birpara-Malbase TL	15/04/2023 to 19/04/2023
4	220kV Birpara-Alipurduar Ckt-1	20/04/2023 to 24/04/2023
5	220kV Birpara-Alipurduar Ckt-2	25/04/2023 to 29/04/2023
6	220kV Siliguri-Kishanganj Ckt-1	17/04/2023 to 23/04/2023
7	220kV Siliguri-Kishanganj Ckt-2	24/04/2023 to 30/04/2023

It is requested to approve/allow the above mentioned shut-down please.

ITEM NO. B.6: Removal of Internet Connectivity from AMR Server at ERLDC as per compliance against Cyber Security guidelines – PGCIL ER-II.

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

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

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

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

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

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

TOTAL 06 LOCATIONS.

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

Members may discuss.

ITEM NO. B.7: Renovation of 220 kV switchyard Equipment of 220/132 kV Purnea SS commissioned in the year of 1985 under Chukha Transmission projects – PGCIL ER-I.

A. Assets Detail at Purnea ss:

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

B. Sub-Station Transmission Assets replaced till date:

a) 220/132 kV ICT-I, II & III upgraded from 100 MVA to 160 MVA as mentioned above under ATCE (Augmentation of transformer capacity in Eastern Region) and ERSSXII.
b) Complete 132 kV AIS system converted to GIS system in the year of 2018 under ERSS XII.

C. Issues being faced at Purnea ss:

a) C1. The control room of the substation is in dilapidated conditions. Structural deformation of control room building being observed. In order to assess healthiness of the building, structural audit of the building was carried from NIT Patna. NIT Patna has suggested to re-construct the building as it is not safe for system. Structural deformation of control room building has also been pointed out by CEA during routine audit.
b) C2. C&R panels are quite old and obsolete. control and power cables become brittle due to ageing which cause frequent earth fault in the system.
c) C3. CEA has also observed that the villagers have constructed houses very close to boundary wall near to the sub-station Gantry and therefore boundary wall near the gantry needs to be raised in order to protect houses in case of failure of LAs.
d) C4. Base structure of switchyard equipment also getting weaken due to ageing of approx. 38 years of service life. Strengthening of base structure of some equipment have been carried out to withstand the load of the equipment. However, for smooth operation of sub-station, the base structure of switchyard equipment needs to be replaced due to ageing of structures.
e) C5. The sub-station is most vulnerable in respect to earthquake as it falls under Seismic zone 5.

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

a) Re-construction of Control Room/Panel Room.
b) Replacement of aged CT, CVT and isolators along with support structure and foundation for Dalkhola-I &II, Bus Coupler and Transfer Bus bays.
c) Uprating of isolators of 220 kV Purnea-New Purnea-I & II at both ends due to replacement of conductor from Zebra to HTLS.
d) Replacement/Renovation of C&R panels of 220 kV system.
e) Replacement of ACDB and DCDB panels.
f) Raising height of boundary wall near the sub-station Gantry.
g) Renovation of switchyard drainage system and cable trench.

Powergrid may update.

ITEM NO. B.8: Request for kind intervention to facilitate the conductor upgradation work i.r.o 220 kV New Chanditala - Howrah D/C line by taking up the matter with SE Railway - WBSETCL.

In reference to the discussion took place in 200th OCC meeting on 24.02.2023 on the topic of "Summer preparedness" as a follow up action of the meeting, your kind attention is hereby drawn on the issue that we are not getting clearance from South Eastern Railway for shutdown at 4 numbers of railway crossings, which is extremely needed to change conductor of 220 kV New Chanditala-Howrah D/C from existing age-old Zebra to 220 kV Zebra equivalent HTLS conductor. This is extremely needed to handle the summer power scenario of South Bengal to complete this line conductor upgradation work for the interest of providing uninterrupted power supply for Howrah and neighboring districts including a part of the state capital Kolkata. This may please be noted here that the work is almost at the verge of completion except the mentioned railway crossings. Only on receipt of shutdown clearance for those traction lines from SE Railway authority, Tr (O & M) wings of WBSETCL will be able to complete the work at said locations. Your kind intervention is requested on the matter. The details of the railway crossing locations are hereby shared through the attached at **Annexure B.8**.

ITEM NO. B.9: Implementation of Tertiary Reserve Ancillary Services (TRAS) - ERLDC.

CERC Ancillary services regulation 2022 was notified on 31st January,2023. The commencement of operation of CERC Ancillary service regulation except certain provisions of TRAS was notified to be w.e .f 05th December,2022. Subsequently on 15th February,2023 it has been notified that provisions pertaining to TRAS shall come into force from 01st April,2023. A draft detailed procedure has been formulated by NLDC and has been circulated among the stakeholders. The same is also available at the following link:

https://posoco.in/wp-content/uploads/2023/02/Consolidated_Draft_Detailed_Procedure_TRAS_Nodal_Agency_Stakeholder_Consultation_20Feb2023.pdf

Further the secondary and tertiary reserve requirement for Quarter-1 of 2023-24 has been estimated and published in the following link:

https://posoco.in/download/publishing-of-quantum-of-reserves-of-sras-and-tras-at-regional-level-for-q-1-of-fy-2023-24/?wpdmdl=50185

Members may take note.

ITEM NO. B.10: Follow up Agenda

SL No	Issue/Agenda	Discussion in last OCC Meetings	Update/Status
1.	**Continuous Continuous S/D of 220kV D/C Siliguri-Kishanganj TL(Ckt-1 & Ckt-2) and 220kV D/C Dalkhola-Kishanganj TL (Ckt-1 & Ckt-2) for carrying out Diversion of tower location no.-29 of 220kV D/C Dalkhola - Kishanganj TL & Loc No.-30 of 220kV D/C Siliguri-Kishanganj TL vulnerable due to bank erosion on Mahananda River** 1. Location no.-29 of 220kV D/C Dalkhola-Kishangnaj TL & Loc No.-30 of 220kV D/C Siliguri-Kishanganj TL have become vulnerable due to change in course of River Mahananda. The location is situated on the left bank of River Mahananda (Main channel). Further, after this season monsoon a secondary channel (approximately 20-30 m wide) have also been formed such that location no.-29 of 220kV D/C Dalkhola-Kishangnaj TL & Loc No.-30 of 220kV D/C Siliguri-Kishanganj TL are now coming in-between the main river and new formed channel. Presently, location no.-29 & 30 are 30 mtr away from the main river bank and approx. 10 mtr away from secondary channel. During last season monsoon heavy soil erosion has been observed from the main river bank as well as newly developed channel. 2. Last year the locations were somehow saved by temporary protection wall with sand bags and bamboo piling. 3. However, considering the last year trend and present site condition, it has been felt prudent to shift the affected 2 Double Ckt towers on a single Multi-ckt Pile Foundation. 4. However, during construction of Pile and during tower erection (Top part and X-arm fixing) & stringing work we require continuous S/D of 220kV D/C Siliguri-Kishanganj TL (Ckt-1 & Ckt-2)	In the 200th OCC meeting, Powergrid representative submitted that the line is expected to restored 15th March'23.	

	and 220kV D/C Dalkhola-Kishanganj TL (Ckt-1 & Ckt-2) for 14 days (2 weeks) tentatively w.e.f. 2nd week of Mar-23 to End of Mar-23.		
2.	**Need Basis (ODB)Shut Down of 400 KV D/C Kishanganj-New Purnea TL (Ckt-1 & Ckt-2) for Carrying out Diversion of Loc No.-340(DD+0) & 366(DC+0) vulnerable due to Mahananda River & Parman River Course Change**	In 200th OCC Meeting, representative of Powerlinks was not available during the discussion.	
3.	**132 KV GIS Commissioning planning and shutdown requirement for Malda S/s** As per ERSS-XXII, complete AIS portion of 132 KV system at Malda S/S will be converted to 132 KV GIS along with provision of additional 02 No's 132 KV Line Feeder (Malda-Manikchak-D/C). Earlier in October-2022 a detail work plan submitted considering phase wise segregation of ICT/Feeders such that GIS erection work and Feeders, both are in service and with calculated risk proportion the work could be completed. However, during actual execution it is observed that while going for erection in between Section-I & II, both section required S/D and only one feeder and one ICT (Namely ICT-4) will be in service.	In the 200th OCC meeting, representative of West Bengal informed that in view of ongoing exams in WB, shutdown cannot be facilitated right now.	
4.	**De-stringing of overhead conductor in Power Line Crossing span of 220kV D/C Farakka-Lamatia Line in between span (Location No.-5 & Location No.-6) by JUSNL in order to protect underlying 400 kV S/C Farakka Sagardighi I & II TL (Loc No.- 3 & 4) of POWERGRID due to severe/repetitive theft incidents by miscreants near to Farakka Plant** 220kV Farakka-Lalmatia TL is under break-down condition due to tower collapse incidents since 21.04.2021. Since the line is under off condition for	In the 200th OCC meeting, representative of Jharkhand informed that tender for watch and guard is under process.	

	long, at several locations of the said line near to Farakka serious tower member theft/conductor theft incidents are occurring. During patrolling of 400 kV S/C Farakka Sagardighi I & II TL on dated 07.11.2022, huge no. of missing members has been observed in the Powerline crossing towers of 220 KV Farakka Lalmatia TL (owned by JUSNL) situated in village: Jorpukuria, Farakka crossing over Loc 03 & 04 of both 400 kV S/C Farakka Sagardighi I & II TL of POWERGRID. Considering the fact that any incident of collapse of towers of the mentioned crossing towers of Farakka Lalmatia line shall damage our existing 400 kV Farakka Sagardighi TL which is already more than 35 years old. Earlier also, an incident of Tower collapse of 220 kV Farakka Lalmatia line over POWERGRID 400 kV S/C Farakka Durgapur 1 & 2 TL had occurred in the year 2020 which had severely damaged the 400 kV S/C Farakka Durgapur 1 & 2 lines. Restoration of the lines were carried out under extreme ROW situations. Considering the seriousness of the issue JUSNL was requested to rectify the towers Loc No.-5 & 6 of 220kV Farakka-Lamatia Line on urgent basis. Vide mail dated 08.12.2022, JUSNL have informed that they have rectified the affected towers but considering the area being severe theft prone they will not able to save the towers in near future. In view of above considering the seriousness/repetitive theft incidents in towers near to Farakka Plant, M/s JUSNL is requested to remove the conductors in between Span Loc No.-5 & 6 of 220kV D/C Farakka-Lalmatia so that underlying POWERGRID lines 400kV Farakka-Sagardighi-I & II may be protected.		

5.	**Islanding Schemes in Eastern Region** **5.1. Patna Islanding Scheme:** In the meeting held on 28th December 2020 and chaired by the Hon'ble Minister of State (IC) it was directed that islanding schemes should be implemented for all major cities of the country considering all the strategic and essential loads. Subsequently, in line with the direction given in the meeting, the subject matter was discussed in PCC meeting of ERPC, and it was finalized that new islanding scheme would be implemented for capital city of Patna & Ranchi.	In the 200th OCC Meeting, Representative of NTPC submitted that a techno-commercial offer has been received from IIT BHU. OCC advised NTPC to submit the proposal to ERPC so that the same can be forwarded to CEA.	
	5.2. Chandrapura Islanding Scheme: The scheme detail in brief is as follows: ➢ The CTPS-B islanding scheme is to de designed with two units of CTPS-B (2x250 MW) generating station as participating generator and connected loads at CTPS, Putki, Biada, Nimiaghata & Patherdih. The estimated off-peak and peak load in the proposed islanding system is 280 MW & 420 MW respectively. ➢ The islanding frequency for CTPS-B islanding system was decided as 48.4 Hz.	In the 196th OCC meeting, DVC representative submitted that the work is expected to be completed as per the given timeline.	-
	5.3. IB-TPS Islanding Scheme: The scheme was finalized in the special Meeting on Islanding Scheme of IB-TPS held at ERPC, Kolkata on 12th December 2018. In special meeting held on 06.08.2021, OPGC representative informed that work order had been placed on OEM (M/s BHEL) for implementation of the Islanding scheme at IB TPS units. OPGC was also advised to take up the issue with their highest authority as well as with the OEM for expediting the implementation of islanding scheme.	In the 197th OCC meeting, OPGC representative was not present during the discussion. OPTCL representative submitted that the details would be shared shortly. Representative of OPGC informed that during AOH in the month of March'2023 if the turbine vibration issue gets resolved then they would go ahead with the testing.	-

6.	**Reliable Power Supply to Lalmatia/Godda/Dumka areas of JUSNL** **6.1. Restoration of 220kV Farraka-Lalmatia S/C line** The 220 kV Farakka-Lalmatia S/C was out of service since April 2021 due to tower collapse. The 220/132/33 kV Lalmatia substation is relying on only 132 kV lines. At present the local load at 220 kV Dumka and Godda S/S were being radially fed from 400/220 kV Maithon S/S through 220 kV Maithon-Dumka D/C and 220 kV Dumka-Godda D/C.	In the 199th OCC meeting, JUSNL representative submitted that foundation works at 10 locations have already been completed and at remaining 3 locations are under progress. OCC advised JUSNL to submit the details of progress of work to ERPC at the earliest.	-
7.	**Outage of Important Transmission System** **132kV Sagbari–Melli.** Sikkim vide mail dated 09.06.2021 updated the following status: 1) In loc 82,83 & 84 we have low ground clearance which need hill cutting but if needed TL can be charged after putting temporarily barbed wire fencing. 2) In loc 98-99 a house had been constructed just below the line and warning had been issued to the owner for not to do vertical extension of the house till any such arrangement is made. 3) In loc 116 &117 land owner demanding for intermediate tower and not allowing for us to clear the jungles. 4) Loc 128 is in dilapidated condition due to sinking effect posing threat to lives and properties. Local public are asking to shift the tower in safe place before restoration of supply in the TL. 5) 80% of jungle clearance has been completed and remaining 20% is in Forest area most of it is under west district and waiting for permission from Forest department. 6) The delay in obtaining permission for following trees in forest land is that it cannot be ascertained whether FCA clearance during construction of TL was	In In the 200th OCC Meeting, Sikkim representative was not present during the discussion.	

	obtained as the record is not available either in power department or in DFO Office. Regarding this it had been told by ERPC that once obtaining environment clearance at the time of construction there need not to take permission for further clearance of ROW from Forest dept and this matter is been conveyed to the Forest department but they informed us as per Forest Act of Sikkim state permission has to be obtained for fresh felling with payment of compensation. File for approval is being send to conservator of Forest from DFO on 10/6/2021.		
8.	**<u>Status of North Karanpura NTPC Generating Station (3 X 660 MW) along with associated transmission elements.</u>** At the 188th OCC Meeting held on 10-03-2022, it was informed that the North Karanpura unit of NTPC is planned to be synchronized by March 2022 and the Patratu unit is scheduled to be commissioned in March 2024. All India's demand is increasing by leaps and bounds, and so does the Eastern Region's demand. The synchronization of North Karanpura will help a lot of all the beneficiaries, and Jharkhand in particular. Before synchronizing the North Karanpura unit, establishing ISTS connectivity is required. It seems the respective bays at Chandwa and North Karanpura owned by PGCIL and NTPC, respectively, are already ready to charge, but the lines owned by NKTL are not ready yet. As per communication with NKTL dated 09-09-2022, it was informed that the 400 kV North Karanpura (NTPC)-Chandwa (PGCIL) D/C is expected to be first time charged soon. The following status was received: the total scope was 115 towers. This line has had 100% of its foundation and erection activity completed, with 29 kilometres of stringing completed out of a total of 38 kilometres, leaving only nine kilometres to go. Owing to continuous rain and poor weather conditions, progress at the site is being impeded. NKTL is putting their best efforts against all odds and is	In the 200th OCC meeting, *OCC* advised NTPC to declare CoD of North Karanpura by 1st March'2023.	

	targeting mechanical completion by September's end. Once ISTS connectivity is established, NTPC may provide an update on the drawal of start-up power for each unit and its duration. Further, after the unit synchronization, the infirm power injection duration and tentative date of COD may be updated. Furthermore, present drawing of start-up power and construction power from the DISCOM, as well as the status of all testing activities may also be updated.		
9.	**Ensuring N-1 reliability criteria at 400/220 KV Subhashgram (PG) S/s.** The reliability issue of Subhasgram (PG) was discussed in the 46th TCC and ERPC meeting. In the meeting it was deliberated that there is an urgent requirement for installation of 6th 400/220kV, 500 MVA ICT at Subhasgram (Powergrid) S/s. On request of West Bengal, CESC agreed to bear the cost associated with the installation of the said ICT and its future maintenance. Further, CESC requested Powergrid to execute the project on deposit work basis. In the 194th OCC meeting, Powergrid representative submitted that decision in this regard would be taken by their corporate office and they would submit the details as and when it is received. ERLDC suggested Powergrid for applying requisition of shutdown regarding implementation of SPS scheme. However, no shutdown request has been received by ERLDC till date.	In the 200th OCC meeting, it was informed that CESC has already submitted the comments to Powergrid and Powergrid will further look into it. OCC advised ERLDC to regularly monitor the progress of the same.	
10.	**Integration of (Interface Energy Meter) IEMs into SCADA/EMS system for telemetry of meter data to SLDCs.** The existing SEMs are having two communication ports, which can function independently for fetching the SEM data. The optical port is being used for fetching the weekly DSM data through Common Meter Reading Instrument (CMRI), for accounting purpose. The other RS 232 port available remains unused, the online	In the 198th OCC meeting, Powergrid representative submitted that they would submit the report by the end of February 2023	-

	real time data can be fetched from the existing SEM through the unused RS 232 port. This arrangement does not require additional meters or new communication facilities and therefore no additional cost is involved.		
11.	**Status of SAMAST, ABT implementation and certification of system operators in states.** Implementation of SAMAST and ABT in all the states is a prerequisite for improving the reliability of grid considering the complexities involved in managing the large interconnected Indian grid. Further skilled, certified manpower is the key to operate the grid safely and securely. Various initiatives are being taken mutually by ERLDC and the states for successful implementation of the SAMAST/ABT in the states. The status of SAMAST, ABT implementation and certification of system operator of various states of eastern region is given below:	In the 199th OCC meeting, ERLDC representative submitted that physical meeting regarding status of SAMAST and ABT implementation is yet to be hosted. OCC advised ERLDC to schedule the meeting at the earliest.	
12.	**Replacement of Heavily time drifted L&T meters in Eastern Region** In 47th TCC & ERPC meeting, it was deliberated that in view of stringent provisions in new DSM regulations, the heavily time drifted L&T make SEMs need to be replaced on priority basis.	In the 200th OCC meeting, OCC advised all the concerned constituents to collect the meters from Powergrid. And regarding installation, utilities can either install the meters on their own or get it installed by Powergrid. However, in the latter case, it will be on	

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

	Accordingly, PowerGrid was advised to replace the heavily time drifted meters on priority basis in co-ordination with ERLDC & concerned utilities. Accordingly, ERLDC has provided a phase-wise replacement list of L&T meters to Powergrid for further necessary action at their end.	chargeable basis.	
13.	**Ensuring healthiness of ADMS**		-

State	Criteria for ADMS operation	Number of instances for which ADMS criteria satisfied	Number of instances for which detail received	Discussion regarding previous month performance	Update in 201st OCC meeting
West Bengal	1. System Frequency < 49.7 Hz 2. WB over-drawl > 150 MW 3. Delay = 4 min	Nil	Nil	-	
Jharkhand	1. System Frequency < 49.9 Hz 2. Jharkahnd over-drawl > 25 MW 3. Delay = 3 min	48	48	Load not shed in most of the cases.	
DVC	1. System Frequency < 49.9 Hz 2. DVC over-drawl > 150 MW 3. Delay = 3 min	16	16	Load shed quantum is very low compared to expected load shed.	
Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. Delay = 3 min	23	Nil	-	

14.	**Commissioning status of ADMS** Automatic demand management scheme (ADMS) is already commissioned in West Bengal, DVC and	In the 200th OCC meeting, Representative of Bihar submitted that testing would be started from 27th Feb'23.	

	Jharkhand. However, for Bihar it is yet to be implemented, the last status as confirmed in the earlier meeting is as follows.		
15.	**Revised connectivity for Laxmikantpur 400/132 KV S/s and split bus arrangement at Laxmikantpur S/s** In the 2nd meeting of ERSCT held on 05-07-2019, CTU informed that the scope of works for establishment of 400/132kV New Laxmikantpur substation through LILO of Subhashgram (POWERGRID) – Haldia 400kV D/c line at New Laxmikantpur S/s under intra-state has already been approved on technical grounds by all the stakeholders including HEL and CESC (also recorded in the minutes of the meeting). HEL was requested to provide go ahead on the said scope before the next CEMTS-ER as further delays in implementation of New Laxmikantpur S/s may jeopardise reliability of power supply in Kolkata area.	In the 200th OCC meeting, OCC advised the Committee to submit the report.	
16.	**Operational challenges in Jharkhand network due to multiple long outages/tripping** In Jharkhand network, 400/220 kV 2 X 315 MVA Ranchi ICTs and 400/220 kV 2 X 315 MVA Patratu ICTs and 220 kV Tenughat-PTPS S/C were meeting the demand of Ranchi capital city. At present, 400/220 kV Patratu substation both ICTs are out of service. This led to shifting of loads being fed from this substation back to Ranchi substation's ICTs. In addition, due to the outage of 220 kV Patratu-Tenughat S/C, there is no support from Tenughat (TTPS) power plant. This is leading to the entire Ranchi City demand being fed by 2X315 MVA ICTs Ranchi (PG). Presently Ranchi ICTs loading is to the tune of 160-190 MW/ICT. In this network configuration, Ranchi S/s	**400 kV/220kV 315 MVA ICT2 AT PATRATU** In 199th OCC Meeting, Powergrid representative submitted that the internal inspection of ICT-2 at Patratu is scheduled from 21st January 2023. Jharkhand representative submitted that the no further update on ICT-2 at Lalmatia is available. **400kV/220kV 315MVA ICT-AT PATRATU** ICT-1 was dismantled for transportation to manufacturer site and transportation will commence by Nov'22. **220kV/132 100 MVA ICT-2 AT**	

	one 315 MVA 400/220 kV ICT outage sensitivity on other ICT is more than 90%. Further degrading the overall situation is outage of 220 kV Ranchi-Hatia 2 on tower collapse. This is leading to n-1 loading violation for other two circuits i.e., 220 kV Ranchi-Hatia 1 and 3 which are loaded above more than 150 MW/ckt. **A list of major elements outages in JUSNL are provided below:** • 400 KV/220KV 315 MVA ICT 2 AT PATRATU: 27-09-2022 (DGA violation) • 400 KV/220KV 315 MVA ICT 1 AT PATRATU: 01-08-2022 (Buchholz Relay) • 220 KV/132KV 100 MVA ICT 2 AT LALMATIA: 22-01-2019 (FAILURE OF HV SIDE BREAKER) • 220 KV/132KV 100 MVA ICT 3 AT CHANDIL: 30-04-2020 (ICT failed due to fire) • 220 kV Tenughat-Patratu S/C: Under long shutdown for shifting work • 220 KV-RANCHI-HATIA-2: 24-09-2022 (Tower collapse) • 220 KV-FSTPP-LALMATIA-1: 21-04-2021 (Tower collapse)	**LALMATIA (FAILURE OF HV SIDE BREAKER)** In this regard estimate has been obtained from field, estimate is being scrutinized at Head Quarter level to get the work done with minimum cost. The expected date of completion is 31.03.2023. **220kV/132kV 100 MVA ICT-3 AT CHANDIL** In place of this ICT new ICT of 100 MVA will be procured soon. The tender is under technical evaluation stage and work order would be placed soon. The expected timeline of completion is July 2023. **220kV FSTPP-LALMATIA-1** In 200th OCC meeting, regarding 220kV FSTPP-LALMATIA-1, representative of Jharkhand submitted foundations for 17 nos of tower have been completed. Foundation of 2 towers is under progress. Foundations for 3-4 towers are left. Stringing and erection activities to commence after 10th March. OCC advised JUSNL to complete the work by May'23.	
17.	**Shifting of 132 KV Barhi-Rajgir & 132 KV Barhi-Nalanda transmission line from the premises of "Mahabodhi Cultural Centre, Bodhgaya"** • As per online meeting held on dated 09/01/2023 under the chairmanship of Member Secretary/ ERPC, the representative from DVC has agreed & given consent for diversion along with immediate dismantling of tower at loc no 227,228 & 229 from the premises of Mahabodhi Cultural Centre, Bodhgaya	In the 200th OCC meeting, the followings were deliberated in the meeting: 1. Dismantling of tower at loc no 227,228 & 229 from the premises of Mahabodhi Cultural Centre, Bodhgaya may be done at the earliest considering the safety of national/international tourists visiting the place. 2. Representative of Bihar apprised the forum that a	

	subject to submission of supervision charges. • Supervision charges in this regard of Amounting Rs 2,90,59,884/-(Rupees Two Crore Ninety Lac Fifty Nine Thousand Eight Hundred Eighty four) only exclusive of Income TDS & GST TDS (10%) has been deposited to DVC & same has been informed to DVC vide Letter No 158 dated 03/02/2023 of Chief Engineer Project 2, BSPTCL. • Considering the international importance of Mahabodhi Cultural Centre & Safety of national/International tourists visiting the place en-masse, M/s DVC was requested for allowing immediate dismantling of three towers by MD, BSPTCL vide Letter No 217 dated 15/02/2023 in view of safety of people used to gather at this convention centre at Bodhgaya. • In view of safety of people in order to avoid any unfortunate incident of electrocution, M/s DVC may kindly be instructed for allowing immediate dismantling of tower at loc no 227,228 & 229 from the premises of Mahabodhi Cultural Centre, Bodhgaya without any prior condition for safeguarding human lives from any unfortunate electrocution.	joint Technical Feasibility Survey between DVC and BSPTCL was conducted on 16.02.2023 wherein it was decided that the line/towers in the section between tower number 218 & 237 are to be dismantled with providing proper counter stays. OCC took note of it and agreed to the same. 3. The dismantling of line and towers up to the recommended span is to be carried out by BSPTCL at their own cost and the dismantled line and towers are to be handed over to DVC at a location, as communicated by DVC. 4. Responsibility of maintenance, safety and security of the portion of the line from 238 onwards (especially up to loc 246 which is under jurisdiction of DVC at present) will be upon BSPTCL. 5. Commercial issue, if any arises, is to be settled between DVC and BSPTCL bilaterally. 6. DVC shall communicate the dismantling clearance of the above-mentioned span to BSPTCL at the earliest. 7. Representative of BSPTCL assured that sufficient connectivity shall be available at 132kV voltage level for GSS Rajgir, Nalanda and Biharsharif even after disconnection of the 132kV Barhi-Biharsharif transmission tie line. 8. Representative of DVC confirmed that there will not be any issue from DVC side in case of disconnection of the said tie line. 9. The tie line status of 132kV	

		Barhi-Biharsharif line shall cease to exist and the same will be intimated to CEA.	
18.	**Power assistance from M/s JUSNL through 132 KV Patratu (DVC) -PTPS (JUSNL) tie line** As per earlier discussions in TCC and in a special meeting with JUSNL on 03-01-2023, arranged by ERPC, DVC had requested to accord approval towards power assistance of around 30-35 MW thru' 132 KV Tie line Patratu (JUSNL) - Patratu (DVC). However, no specific date was conveyed mentioning readiness on the part of JUSNL. Confirmation from M/s JUSNL on tentative date from which the 30-35 MW power assistance thru' 132 KV Tie line Patratu (JUSNL) - Patratu (DVC) for 48 days on continuous basis would be made available to DVC.	Representative of DVC apprised the forum that as per discussions in 47th TCC Meeting and MoM of special Meeting on 03.01.2023, representative of Jharkhand gave assurance for providing power assistance from February'2023. However, Jharkhand has been unable to do so. Further, representative of DVC insisted upon an early discussion to resolve the issue as the working window(season) is already being lost and the deployed agency is claiming huge idle charge. Representative of Jharkhand was not available during the discussion. OCC opined that a separate special meeting can be convened to discuss and resolve the above matter.	
19.	**Intermittent Telemetry data from Rangit HPS** Rangit HPS had upgraded their old RTU to report it over IEC 104 protocol. On completion of upgradation of the said RTU, most of the feeder side data from Rangit HPS were not updating at ERLDC. After continuous effort with Rangit HPS, most of the telemetry data had been restored. Further the Real Time Telemetry for Rangit HPS is highly intermittent in nature. Most of the time, data is getting stuck and not reporting to ERLDC.	In 12th TeST Meeting, ERLDC representative informed that real time telemetry for Rangit HPS is highly intermittent in nature. It is observed that most of the time, data is getting stuck and not reporting to ERLDC. NHPC representative was not available in the meeting. TeST committee referred the agenda to 197th OCC Meeting however no representative from NHPC was present in 197th OCC Meeting.	
20.	**Telemetry outage of Farakka**	The matter was taken up in the	

	Telemetry issues associated to Farakka STPS (i e unavailability of data of 50 nos. of digital and 25 nos. of Analog data) is long pending.	197th OCC Meeting where NTPC representative submitted that offer from M/s GE has been received and contract is under awarding stage and the work is expected to be completed within 3 months, i.e., by the end of February 2023.	

PART C: ITEMS FOR UPDATE

ITEM NO. C.1: ER Grid performance during February 2023.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month February-2023 were as follows:

Average Consumption (MU)	Maximum Consumption (MU)/ Date	Maximum Demand (MW) Date/Time	Minimum Demand (MW) Date/Time	Schedule Export (MU)	Actual Export (MU)
447.5 MU	472.3 MU 24-02-2023	22499 MW, 25-02-2023 at 18:34 Hrs.	14889 MW, 02-01-2023 at 05:27 Hrs.	4896	5028

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

ITEM NO. C.2: Primary Frequency Response of generating units in ER.

The availability of sufficient primary frequency response is one of the fundamental requirements of power system operation not only from reliability point of view but also from regulatory compliance point of view. Based on the assessed FRC re-testing of primary frequency response can be recommended. Therefore, the accurate and high-resolution data from generator end is extremely important in absence of which assessment of FRC is done as per low resolution ERLDC SCADA data. The plant wise data submission statistic for frequency event flagged by ERLDC during July and August is given below:

Event	Frequency Change	ER FRC
Event 1: On 09th Feb 2023, as reported At 11:45 hrs, due to oscillations and multiple tripping in Rajasthan RE generation complex drop of around 4590 MW RE generation observed in Rajasthan RE generation complex of Northern Region.	Initial Frequency:49.98 Hz Nadir Frequency: 49.51 Hz Final Frequency : 49.55 Hz. Frequency change= 0.43 Hz	**4.7 %**
Event 2: On 09th Feb 2023, As reported At 12:29hrs,due to oscillations and multiple tripping in Rajasthan RE generation complex drop of around 3510 MW RE generation observed in Rajasthan RE generation complex of Northern Region	Initial Frequency:50.04 Hz Nadir Frequency:49.71 Hz Final Frequency : 49.75 Hz. Frequency change= 0.29Hz	**9.7 %**

STATIONS	20.12.2022	12.01.2023	14.01.2023				17.01.2023	09.02.2023	
	06:48	05:52	12:06	13:03	14:55	15:18	09:56	11:45	12:29
ADHUNIK	Received	Received	Received	Received	Received	Received	Received	Received	Received
BARH	Pending	Received	Pending	Pending	Pending	Pending	Received	Pending	Pending

BRBCL	Received	Received	Received	Received	Received	Received	Received	Pending	Pending
DARLIPALLI	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
DIKCHU	Pending	Received	Received	Received	Received	Received	Received	Received	Received
FARAKKA	Received	Pending	Received	Received	Received	Received	Pending	Pending	Pending
GMR	Received	Received	Received	Received	Received	Received	Received	Pending	Pending
JITPL	Pending	Pending	Pending	Pending	Pending	Pending	Received	Pending	Pending
KAHALGAON	Received	Received	Received	Received	Received	Received	Received	Received	Received
MPL	Received	Received	Received	Received	Received	Received	Received	Received	Received
NPGC	Received	Received	Pending	Pending	Pending	Pending	Pending	Pending	Pending
TALCHER	Received	Received	Received	Received	Received	Received	Pending	Received	Received
TEESTA III	Received	Received	Received	Received	Received	Received	Received	Pending	Pending
TEESTA V	Pending	Received	Received	Received	Received	Received	Received	Received	Received

In view of the same all utilities are once again requested to kindly look into the matter and take necessary action to ensure consistent data submission for every frequency event flagged by ERLDC.

ITEM NO. C.3: Review of implementation of PSDF approved projects of ER.

In 10th NPC meeting held on 09.04.2021, RPCs were advised take up the matter for improvement of the fund disbursement and expeditious implementation of the sanctioned projects under PSDF.

In view of the above, status review of the projects being executed under PSDF funding in Eastern Region would be carried out on regular basis for expediting the projects. All the constituents are requested to furnish/update the status of their respective project in every month.

Concerned utilities may update the present status of the project as given in the **Annexure-C.3**.

Respective utilities may update.

ITEM NO. C.4: Status of implementation of AGC as a pilot project in States.

In 42nd TCC, DVC intimated that AGC shall be implemented in unit 7 and 8 of Mejia as per the given schedule by 31st July 2020.

WBPDCL informed that they have already collected offer from Siemens for implementation of

AGC and they are awaiting the concurrence from SLDC.

SLDC, WB informed that they are not in a position to implement AGC unless a clear direction is given by WBERC. Further, implementation of intra state DSM is a prerequisite for implementation of AGC in the states.

It was decided to request CERC to include this as an issue in the agenda for discussion in the meeting of Forum of Regulators.

OCC advised SLDC Odisha and OPGC to interact with Barh NTPC & ERLDC to get the technical specifications & the procedure for implementation of AGC.

In the 183rd OCC meeting, OPGC representative informed that work order has been issued to M/s Siemens for implementation of AGC. The work would be carried out during the unit shutdown which is scheduled from 18.10.2021.

State	Station/Unit	Deliberation in 184th OCC Meeting
DVC	Mejia unit#7 &8	DVC representative informed that NIT is to be floated.
Odisha	Unit#3 of OPGC	OPGC vide email dated 25th Oct'21 informed that some additional data is needed from SLDC Odisha and after getting the same AGC would be implemented.

In the 185th OCC meeting, DVC representative informed that the NIT for implementation of AGC will be floated by 9th December 2021.

OPGC representative was not present during the discussion.

In the 186th OCC meeting, DVC representative informed that the NIT would be floated by 31st December 2021.

In the 187th OCC meeting, OPGC and DVC representative were not present during the discussion.

In the 188th OCC meeting, DVC representative informed that NIT was floated on 29th December 2021 and the bid opening would be done on 19th February 2022.

OPGC representative was not present during the discussion.

In the 190th OCC meeting, DVC representative submitted that NIT would be re-floated due to some issues in the payment terms.

SLDC Odisha representative submitted that the order has been place to M/s Siemens for AGC implementation and the feasibility test would be conducted on 3rd May 2022.

DVC and Odisha may update.

ITEM NO. C.5: Status of UFRs healthiness installed in Eastern Region.

Members may update the status of UFR healthiness installed in Eastern Region.

Members may update.

ITEM NO. C.6: Status of Islanding Schemes healthiness installed in Eastern Region.

As per the decision taken in the meeting held on 8th July 2021 and chaired by member (GO&D), CEA, data in prescribed formats may be submitted by concerned utilities to RPCs on monthly basis to certify the healthiness of the Islanding Schemes.

a. Format - I for RLDC/SLDCs

S.NO	Name of Islanding Scheme	Healthiness of Communication channel

b. Format - II for Generating Station

S.NO	Name of Islanding Scheme	Healthiness of Islanding Relay	Healthiness of Communication channel

c. Format - III for Transmission Utility/DISCOMs

S.NO	Name of Islanding Scheme	Elements considered for tripping to from Island	For communication-based tripping logic Of feeders	For UFR based tripping logic of feeders	
			Healthiness of Communication channel	Healthiness of PT Fuse and status of DC supply to UFR relay*	Healthiness of Relay#

* Where dedicated UFR relay have been installed for tripping of the feeders under Islanding scheme

Where UFR functions have been enabled within backup protection relay of the line.

d. Format - IV for collecting Relay details of the Islanding scheme.

The following format may be used to get Relay details of the Islanding scheme:

S.NO	Description	UFRs-for load relief (A)	df/dt -for load relief (B)	Relay for Island creation(C)

1	Relay location (S/s name)			
2	Relay make & model			
3	Frequency setting of the relay (at which load shedding is envisaged)			
4	Feeder name (voltage level and source-destination name) signaled by the Islanding Relay for separation /load shedding/separation from outside grid			
5	Quantum of load relief due to tripping of feeder (as per state's peak of previous year)			
6	Quantum of load (Min, Avg, Max in MW) on the feeder (as per state's peak of previous year)			

e. Format - V for Contact details of all Nodal Officer

Utility Name &Location	Name	Designation	Organization	Email ID	Mobile No.

Members may update.

ITEM NO. C.7: Latest Status of States ATC/TTC declared by States for the month of April-2023.

To harmonize the ATC/TTC calculation methodology and timeline One to one meeting and hands on training with each SLDC was conducted in the month of Sep-21 and Oct-21. As per the common agreed procedure and timeline ATC/TTC calculation in three-month advance and reconciliation of the TTC/ATC figure for the upcoming month between RLDC and SLDC has started from month Dec-21. Reconciled ATC/TTC figures for **April-2023** are as follows:

As per the agreed philosophy the status of month wise ATC/TTC submission is as follows:

Sl No	State/Utility	TTC (MW)		RM(MW)		ATC Import (MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	6531	--	131	--	6400	--	April-23
2	JUSNL	1522	--	38	--	1484	--	April-23
3	DVC	2016	3311	72	57	1944	3254	April-23
4	OPTCL	4096	1816	135	61	3961	1755	April-23
5	WBSETCL	6517	--	450	--	6067	--	April-23
6	Sikkim	167.81	--	2.66	--	165.15	--	Nov-22

As per the agreed philosophy the status of month wise ATC/TTC submission is as follows:

State / Month	Bihar	Jharkhand	DVC	Odisha	West Bengal	Sikkim
March-23	Submitted	Submitted	Submitted	Submitted	Submitted	Pending
April-23	Submitted	Submitted	Submitted	Submitted	Submitted	Pending
May-23	Submitted	Submitted	Pending	Submitted	Submitted	Submitted
June-23	Pending	Pending	Pending	Submitted	Pending	Pending
July-23	Pending	Pending	Pending	Pending	Pending	Pending

Declaration of TTC/ATC on SLDC Website

Sl No	SLDC	Declared on Website	Website Link	Constraint Available on Website	Type of Website Link
1	BSPTCL	Yes	http://www.bsptcl.in/ViewATCTTCWeb.aspx?GL=12&PL=10	Yes	Static Link-Table
2	JUSNL	Yes	http://www.jusnl.in/pdf/download/ttc_atc_nov_2020.pdf	Yes	Static link –pdf file
3	DVC	Yes	https://application.dvc.gov.in/CLD/atcttcmenu.jsp#	Yes	Static Link-Word file
4	OPTCL	Yes	https://www.sldcorissa.org.in/TTC_ATC.aspx	Yes	Static Link-pdf file
5	WBSETCL	Yes	http://www.wbsldc.in/atc-ttc	No (Not updating)	Static Link-Table
6	Sikkim	No	https://power.sikkim.gov.in/atc-and-ttc	No (Not updating)	Static Link-Excel file

All the states having net export schedule should declare their export TTC. In view of the same West Bengal is once again requested to share export TTC. Jharkhand and Sikkim are requested to share the ATC/TTC on regular basis.

ITEM NO. C.8: Mock Black start exercises in Eastern Region

As per IEGC Clause 5.8(b), Mock trial runs of the procedure for different subsystems shall be carried out by the Users/CTU/STU at least once every six months under intimation to the RLDC. Accordingly, the Black Start Schedule of different hydro stations for 2022-23 are given below:

Sl No	Name of Hydro Station	Schedule of Mock Black Start	Actual Date of Test	Schedule of Mock Black Start	Actual Date of Test
		Test-1		Test-2	
1	U. Kolab	June-2022	21st July-2022	Jan-2023	
2	Balimela	July-2022	09th Sep-2022	Feb-2023	
3	Rengali	June-2022	27- June-2022	Dec-2022	
4	Burla	July-2022	23-June-2022	Jan-2023	
5	U. Indravati	May-2022	25-May-2022	Feb-2023	
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		Dec-2022	
7	TLDP-III	Oct-2022		Jan-2023	
8	TLDP-IV	Oct-2022		Feb-2023	
9	Subarnarekha	Sep-2022		Dec-2022	
10	Teesta-V	Oct-2022		Jan-2023	
11	Chuzachen	Oct-2022		Feb-2023	
12	Teesta-III	April-2022	08-April-2022	Dec-2022	
13	Jorethang	Oct-2022		Jan-2023	
14	Tasheding	Oct-2022		Feb-2023	
15	Dikchu	Oct-2022		Dec-2022	
16	Rongnichu	Oct-2022		Jan-2023	

- Note:

*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.

**Jorethang intimated that Black Start provision is not incorporated in Jorethang HEP System

It is proposed that in case Mock black start is not feasible at Maithon HEP and Jorethang HEP, they may be deleted from this list for tracking.

Further all the generators are requested to express their readiness and provide the tentative date of mock black start exercise for the year 2022-23.

In the 197th OCC meeting OCC advised all the utilities to update the status of Mock Black Start exercise, if any, to ERPC and ERLDC. Jharkhand SLDC has intimated that mock black start exercise of Subarnarekha HEP is scheduled on 13.12.2022. However, no detail has been received from others yet.

Members may update.

ITEM NO. C.9: Requirement of cold spares for ICTs in Eastern Region to meet any exigency.

As per CEA guidelines for availability of spares and inventories for power transmission system (transmission lines & substation/switchyard) assets, adequate cold spare for ICTs has to be maintained at regional as well as state level. Key guidelines for determining spare as per the guidelines are provided below:

- At present PGCIL along with multiple ISTS licensee is operating and maintaining most of the Inter-State Transmission System (ISTS) assets The transmission lines of above power utilities are spread across more than one states in the country.

- Regional level spare: For regional power utilities (PGCIL & Transmission licensees), the spare at regional level would be required for these assets. These spares should be increased, optimized and limited to double the quantities mentioned for State Level based on transmission line assets in that region in order to avoid unnecessary storage of inventories.

- State level spare: The spares at 'State level' can be maintained at a centralized location which could be conveniently accessed to meet the emergency requirement of various substations/switchyards spread across the State.

- Requirement of state level: ICT and Shunt Reactor: One number single phase/three-phase unit of each rating, as applicable

- Utility for State level spare: If there are five or more substations/switchyards (of same voltage class) of a utility in a State, the 'State Level' spares shall be maintained by the utility.

- Spare at state level by utility having spread in different states: If any utility has five or more substations/switchyards (of same voltage class) spread across different States, spare recommended for 'State Level' shall be maintained for these cluster of substations/switchyards at one or more appropriate locations in any of these States.

- Higher spare for areas having higher probability of damage with natural disaster events: The quantities of spares specified shall be applicable to transmission lines and substations / switchyards in all areas including cyclone / whirlwind / tornado prone areas. However, higher quantity of spares (for some spare items) shall be kept for cyclone /

whirlwind / tornado prone areas as indicated in guideline.

- Support between utilities for sharing of spare and associated commercial mechanism: There may be cases, where the extent of damage is so much that specified minimum quantum of spares/inventories may be inadequate in meeting the eventuality. In such cases, support from central power utilities (PGCIL/NTPC/DVC etc.)/transmission licensees/neighboring State utilities may be requested. The financial modalities for providing spares to other utility shall be mutually decided between the utilities.

- Replenishment of Consumed spare: Replenishment of the consumed mandatory spares shall be made at the earliest but in any case, not later than six months from the date of its consumption depending on the criticality of equipment component/material.

With a significant rise in state demands and regional demand along with the number of ICTs, it would be desirable to have an adequate spare to improve reliability and resilience in case of any exigency. Recently, a substantial delay in restoration of damaged ICTs in eastern region has been observed.

Thus, maintaining adequate regional and state level cold spare is important. Table 1-4 provides various details for deciding the requirement of regional and state level cold spare in Eastern region

Table 1: State wise ICTs at various voltages in ER

State Wise ICT	315 MVA 400/220 kV	500 MVA 400/220 kV	315 MVA 400/132 kV	200 MVA 400/132 kV	270 MVA 400/132 kV	250 MVA 400/220 kV	1500 MVA 765/400 kV	255 MVA 765/132 kV	Cold Spare Availability
Bihar	6	27	3	15			5		
Jharkhand	15	6				1	2		
Sikkim	5				1				
Odisha	30	5					8	2	
West Bengal	38	5					4		

Table 2: Utility wise ICTs detail at various voltage level in ER

Utility	315 MVA 400/220 kV	500 MVA 400/220 kV	315 MVA 400/132 kV	200 MVA 400/132 kV	270 MVA 400/132 kV	250 MVA 400/220 kV	1500 MVA 765/400 kV	255 MVA 765/132 kV	Cold Spare Availability
PGCIL	47	27	3				15		
Other ISTS (NKTL, PMJTL, PMTL, DMTCL)		8		2			4		
IPP (Dikchu)					1				
NTPC/NPGC/BRBCL	4			9				2	
WBSETCL/WBPDCL/CESC	22			4					
OPTCL/SEL	11	2							
DVC	10								
BGCL		4							
JUSNL/TTPS		2				1			

Table 3: Utility wise number of substations with ICTs in ER

Utility Substation with ICTs	Number of Substation
PGCIL ERTS 1	15
PGCIL ERST 2	8
PGCIL Odisha	10
WBSETCL	5
WBPDCL	2
OPTCL	5
BGCL	2
DVC	5

JUSNL	1
ISTS (NKTL/DMTCL/PMTL/PMJTL)	7
NTPC	7

Table 4: Spread of substations of various utilities in different states

State	PGCIL ERTS 1	PGCIL ERTS 2	PGCIL Odisha	DVC	WBSETCL	OPTCL	Other ISTS	BGCL	JUSNL	NTPC	Others
Bihar	9						4	2		4	
Jharkhand	6			3			1		1		
Sikkim		1									
Odisha			10			5				2	1
West Bengal		6		2 + 1 (MTPS)	5		2			1	2

In the 192nd OCC meeting, ERLDC representative submitted that as per the CEA guidelines, maintenance of adequate spares at State level as well as at regional level had to be ensured.

ERPC representative submitted that as per the CEA guidelines, the inventory of spares should be digitized and reports of the same should be submitted to CEA on half-yearly basis.

OCC advised all the states to digitize the inventory of spares and submit the report to CEA with a copy to ERPC on half yearly basis.

Further, ERLDC was advised to make a standard format mentioning the date of procurement of ICTs, date of COD of ICTs, declared age of ICTs, remaining life etc and circulate among the concerned utilities.

OCC advised all the concerned utilities to follow the guidelines and submit the report on availability of spares ERPC and ERLDC at the earliest.

Further, Powergrid representative raised a concern regarding diverting the spares from ISTS pool to the states which may pose reliability issues and thereby requested the states to maintain a pool for cold spare ICTs.

MS, ERPC was of the view that the pool of cold spare ICTs may be maintained by a central agency like Powergrid. In case of any requirement of spare ICT on emergency basis by any utility, the same may be provided and the commercial modalities may be decided mutually. Further, to avoid any reliability issues arising out of insufficient spares for the existing ISTS systems, the required optimum number of cold spare ICTs to be maintained by Powergrid may be enhanced which may be put up for approval subsequently.

In the 193rd OCC meeting, Powergrid Odisha representative submitted that 500 MVA and 160 MVA ICT are under procurement which would be placed at Pandiabili and Baripada S/s respectively and cater to the requirement of Odisha. A 315 MVA ICT was recently used in Jeypore S/s. After detailed cost benefit analysis, decision regarding procurement of 315 MVA ICT would be approved.

Powergrid ER-II representative submitted that a 500 MVA ICT is under procurement which would be located at Maithon or Subhashgram. 315 MVA spare ICT (released after augmentation) is available at Durgapur and Malda S/s. one 160 MVA spare ICT is available at Siliguri and one 50MVA ICT was available at Gangtok which was used recently.

Powergrid ER-I representative submitted that regional spare is available at Jamshedpur and Biharshariff S/s. The spare available at Jamshedpur was utilized at Chaibasa. One 315 MVA spare is available at Mujaffarpur S/s. one 160 MVA spare ICT of 220/132 KV is available at Purnea. Further, approval has been taken regarding procurement of one 500 MVA and one 160 MVA spare ICT at Pusauli and Daltonganj respectively.

OPTCL representative submitted that a 315 MVA spare ICT was available at Duburi S/s which was utilized in Meramundali S/s. Procurement of one 500 MVA spare ICT is under progress which would be located at new Duburi S/s. One 500 MVA ICT is available at Meramundali B. Regarding 315 MVA spare ICT, discussions are going on for procuring the same. SLDC DVC representative submitted that one 315 MVA ICT would be replaced by 500 MVA ICT which would be kept as spare and will be located at Ramkanali S/s.

OCC was of the view that a detailed representation highlighting the ICTs under procurement and ICTs available at present would be prepared by ERLDC, based on which decision regarding maintaining pool of spares and procurement of spares would be anticipated.

Present Situation of spare ICTS as per update in 193rd OCC Meeting

Utility	500 MVA 400/220 kV	315 MVA 400/220 kV	160 MVA 220/132 kV
PGCIL ERTS 1	1: Under procurement; will be put at Sasaram	1: Muzaffarpur (released with ICT upgradation) 1: Bihar Sharif 1 : Under Procurement	1: Purnea 1: Daltonganj
PGCIL ERTS 2	1 : Under procurement will be put at either Malda or Shubhasgram	1 : Malda (released with ICT upgradation) 1: Durgapur (released with ICT upgradation)	1 : Silliguri
PGCIL Odisha	1: Under procurement and will be put at Pandiabili	1: Will be procured	1 : Baripada
OPTCL	1: Under procurement	Under discussion with management	Not available
DVC	Not available	1 will be spare in future as per new approved plan	Not available
WBSETCL	No detail	No detail	Not available

- **For 43 numbers of 400/220 kV 500 MVA ICTs:** 3 regional and 1 state spare are under procurement

- **For 94 numbers of 400/220 kV 315 MVA ICTs:** 3 old and 1 new is available and 2 are under procurement

- **For 220/132 kV 160 MVA ICTs:** 4 regional spares are available.

Members are requested to update the status regularly.

ITEM NO. C.10: Availability of ERS in the Eastern Region and update on the status by various utilities including inter-state and intra-state transmission licensees

In line with CEA guidelines for the availability of spares and inventories for power transmission system (transmission lines & substation/switchyard) assets 2020 and the CEA disaster management plan for power sector 2021, adequate ERS is required to be maintained in ER grid for early restoration of transmission line due to any tower collapse. The Eastern region is prone to cyclones, Norwester/Kalbaisakhi localized storms, hilly terrain with landslides, floods, changes in river course, substation flooding, etc. due to which each year tower collapse occurs causing forced outages of transmission lines. This necessitates adequate ERS maintenance by various utilities in the eastern region for early restoration.

Present status available at ERLDC on ERS as collected during cyclone Yaas in 2021 is provided in the attached table. All transmission utilities are requested to kindly update the ERS availability and any ERS which are already engaged.

Status Update by: PGCIL ERTS 1, PGCIL ERST 2, PGCIL Odisha, WBSETCL and OPTCL (if any ERS is already engaged then same may be put as remarks)

Utility to provide details of available ERS in the attached format:

- State-level: BSPTCL, BGCL, DVC, JUSNL, Sikkim power department (SPD)
- ISTS: Indigrid (OGPTL, PKTCL, ENICL), PGCIL Subsidiaries (CBPTCL, PMTL, PMJTL), Powerlink Transmission limited (PTL), DMTCL, Adani transmission (ATL, NKTL), TPTL

In the 192nd OCC meeting, TPTL representative submitted that they would provide the details by the end of June 2022.

DVC representative submitted that procurement of 7 nos. (Combination of suspension and tension) of ERS is under progress. Further, pile and structures (2 nos.) at Putki and Maithon are available as immediate remedial measures up to 220 KV level.

West Bengal representative submitted that 10 nos. of ERS towers which can be used at all levels are available out of which 6 nos. have been used. Of the remaining, 3 nos. are tension towers and 1 is suspension tower.

JUSNL representative submitted that 8 nos. of ERS are available which could be used for up to 220 KV levels.

Bihar representative submitted that 36 nos. of ERS (for 220 KV and 132 KV level) are available and all are engaged at present.

The details have been received from OPTCL, PGCIL ERTS-1, ATL, PGCIL Odisha, PGCIL ERTS-2, PTL, ENICL, OGPTL, PKTCL. The details are awaited from WBSETCL, TPTL, BSPTCL, JUSNL and Sikkim Power Department. The utilities are requested to share the details at the earliest.

Present status available at ERLDC on ERS as collected during July 2022 is provided in the attached table.

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
1	OPTCL	400 kV	14	Mancheswar Grid - 4 nos. (Hitech)	Can be used for both suspension and Tension
				Mancheswar store - 8 nos. (Hitech)	
				Mancheswar store - 2 nos. (Lindsey)	
			18 (Newly procured)	Mancheswar store - 18 nos. (Hitech)	
		220 kV	42	Budhipadar - 14 nos. (Lindsey)	
				Mancheswar grid – 14 Nos. (Lindsey)	
				Chatrapur - 14 nos. (Lindsey)	
2	PGCIL ERTS 1	765 kV -24 sets	24 Sets	GAYA	15 Suspension & 9 Tension tower
		400 KV -30 sets	30 Sets	Jamshedpur, Purnea, Lakhisarai	Total 20 nos. Suspension & 10 nos. Tension ERS towers
3	Adani transmission limited (ATL)	400 KV	1 set (12 Column). Nos of ERS towers shall depend on line configuration, type of tower and extension of towers. Approximate 6 suspension towers/ set for 400kV D/C twin	Central India (Koradi, Maharashtra)- **48 Hours**	Modular aluminum guyed towers- Suspension tower

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
			conductor.		
4	PGCIL (Odisha)	400 KV ERS - 3	3	Rourkela	Suspension - 2 & Tension-1
		765 KV ERS - 24	24	Rengali	Suspension - 15 & Tension-9
5	PGCIL ERTS 2	400 KV	1 Set (consisting of 10 towers) - 400 KV Voltage level	Durgapur	7 Set-Suspension 03 Set-Tension
6	WBSETCL	400, 220, 132 kV	05+05set (can be used with 400/220/132 kV level) 6 used for Durgapur - asansol line diversion. 4 available	at Arambagh & Gokarno	Can be used for both suspension and Tension
7	TPTL		MoU with PGCIL Tie up with Supreme Industry in progress	-	-
8	CBPTCL		No ERS	PTC does not own any ERS, however, in case of any such requirement	-

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
				for deployment of ERS, CPTC has an existing agreement with POWERGRID for deployment of ERS.	
9	PMTL	-	No ERS	-	-
10	PMJTL	765 kV	NO ERS	-	-
11	PTL	400 kV	07 towers set ERS structures suitable for Twin Moose Configuration 400 or 220 kV.	Siliguri (W.B.)	Lindsey Manufacturing Company Ltd USA Model 600
			07 towers set ERS structures suitable for Twin Moose Configuration 400 or 220 kV.	Muzaffarpur (Bihar)ER1	
12	Indigrid (ENICL, OGPTL & PKTCL)	400 KV & 765 KV Line	765 KV- 6 Sets / 400 KV- 8 Sets	Siliguri, WB.	For 765 KV- 4 Suspension & 2 Tension. For 400 KV- 6 Suspension & 2 Tension.
13	DMTCL	400 kV Lines	Arrangement of ERS with M/s Supreme Engineering at Kolkata.	Can be Dispatched in 2–3-weeks periods	-
14	BSPTCL	220 kV & 132 kV	38 ERS which can be used for 220 and 132 kV	18 Towers in use for 132 kV Kishanganj-Barsoi ckt 4 towers for 220 kv BTPS-Hazipur ckt	Can be used for both suspension and Tension

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
				4 towers for 220 kV Bodhgaya- Chandauti Purnea : 1 Dehri on sone: 2 Sultanganj: 2 Fatuah: 2 Muzaffarpur : 4	
15	BGCL	-	No ERS	No ERS	-
16	JUSNL	220 kV	Total 8 ERS	Hatia: 3 Jamshedpur: 2 Dumka: 3	Details awaited
17	DVC	400 kV and 220 kV	400 kV: 7 (under procurement) 220 kV: 2 set Pilon structure	400 kV: **Under procurement** 220 kV: 1 at putki and 1 at Maithon	-
18	Sikkim Power Department		Details awaited	Details awaited	Details awaited

In the 193rd OCC meeting, TPTL representative submitted that they do not have any ERS towers of their own. In this regard, a MoU with PGCIL is there.

WBSETCL representative submitted that 10 nos. of ERS towers are available which could be used at all the voltage levels. Out of 10 nos., 6 nos. are used for Durgapur-Asansol line and 4 nos. are available. Procurement of additional 6 nos. of ERS towers (which could be used both under suspension and tension) is under planning stage.

Bihar representative submitted the status of ERS towers which is mentioned below.

Location	Status	Usage	Type	Quantity
Kishanganj-Barsoi Line	engaged	220/132 KV	Suspension/Tension	18
BTPS-Hajipur Line	engaged	220/132 KV	Suspension/Tension	4
Bodh Gaya-Chandauti	to be engaged	220/132 KV	Suspension/Tension	4
Purnea	**Spare**	220/132 KV	Suspension/Tension	**1**
Dehri	**Spare**	220/132 KV	Suspension/Tension	**2**
Fatuha	**Spare**	220/132 KV	Suspension/Tension	**3**

Mujaffarpur	**Spare**	220/132 KV	Suspension/Tension	**4**
Sultanganj	**Spare**	220/132 KV	Suspension/Tension	**2**
Total				**38**

OCC was of the view that many lines of BGCL and other new sub-stations like Mokama, Hajipur, etc. in Bihar fall under the coverage of river corridor and advised Bihar to keep provisions of ERS towers for those lines.

Members may update.

ITEM NO. C.11: List of lines of Eastern Region violating N-1 security criteria.

The list of such lines for which necessary planning needs to be done to make the system N-1 secure are given below:

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
Transmission Constraint in Odisha Network				
1	i. 220 kV Budhipadar-Lapanga D/C, ii. 220 kV Budhipadar Vedanta D/C iii. 220 kV Rourkela-Tarkera D/C	SPS available only for 220 kV Rourkela-Tarkera D/C. However, even with SPS N-1 criteria is not satisfied for all the conditions. **Action Required**:- Load trimming scheme needs to be planned	1. Reconductoring of 220 kV Rourkela-Tarkera D/C with HTLS. 2. 220 kV Rourkela-Tarkera second D/C 3. Shifting of Vedanta from 220 kV to 400 kV	**OPTCL to provide a target date for Long term measures**
2	i. 220 kV Lapanga-Katapalli D/C , ii. 220 kV Katapali-New Bargarh-Sadepalli (New Bolangir) S/C iii. 220 kV Katapali-Bolangir (PG)- S/C	No SPS Available. **Action Required:-** SPS/Load trimming scheme needs to be planned	Odisha to share long-term remedial action to make the system N-1 secure.	**OPTCL to provide a target date for Long term measures**

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
	Transmission Constraint in West Bengal Network			
3	i. 220 kV Waria-Bidhan Nagar D/C ii. 220 kV Waria-Mejia D/C	Opening of 220 kV Waria-Bidhan Nagar D/C as and when required	400/220kV, 315MVA (3rd) ICT at Bidhannagar	Target Date 2022-23. **WBSETCL may update the present Status**
	Transmission Constraint in DVC Network			
4	**i. 220 kV DSTPS-Waria D/C***	No SPS is Available. **Action Required:-** SOP/SPS/Load trimming scheme needs to be planned for the time being	i. 220 kV Connectivity at 400 kV Mejia-B ii. LILO of 220 kV Mejia-A and Barjora at Mejia-B	**DVC may update the target date**
5	ii. 220 kV Maithon-Dhanbad D/C, iii. 220 kV Maithon-Kalyaneshwari D/C	No SPS is Available. **Action Required:-** SOP/SPS/Load trimming scheme needs to be planned for the time being	iii. 220 kV Connectivity at 400 kV Mejia-B iv. 220 kV Connectivity at 400 kV RTPS	**DVC may update the target date**
*** The N-1 violation of 220 kV DSTPS- Waria D/C or DSTPS ICT 1&2 may result in large-scale disturbance, impacting an area between Durgapur and Maithon. To avoid any such mishap DVC needs to plan and implement an SPS on an urgent basis. Further, the long term measure also needs to be implemented in time bound manner.**				
	Transmission Constraint in Jharkhand Network			
6	220 kV Maithon Dumka D/C	No SPS Available. **Action Required:-** SPS/Load trimming scheme needs to be planned	i. LILO of 1st circuit of 220kV Dumka – Govindpur D/c line at Dhanbad	Target Date 2023. **Jharkhand may update the target date**
	Transmission Constraint in West Bengal Network			
6	i. 220 kV Rajarhat-Newtown AA3 D/C,	SPS is Available for both the Ckts	1. 220 kV Rajarhat-Newtown AA3 D/C line with HTLS. 2. No Strenthing planned	1. Target Date November 2022 for recondutoring **WBSETCL may update the present Status**

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
	ii. 220 kV Subhasgram-EMSS D/C		for 220 kV Subhasgram-EMSS D/C	
7	i. 220 kV Subhasgram (PG) – Subhasgram (WB) D/C ii. 220 kV Subhasgram (WB)-Lakshmikantpur D/C	SPS Available for 220 kV Subhasgram (PG) – Subhasgram (WB) D/C	i. 220 kV Subshagram – Baruipur D/C ii. 400/132 kV Substation at Lakshimikantpur.	i. Line antitheft charged from Subhasgram end ii. Lakshimikantpur tareget date is December 2024 **WBSETCL may update the present Status**
Transmission Constraint in Bihar Network				
8.	220 kV Darbhanga-Darbhanga(BH) D/C	No SPS Available. **Action Required:-** SPS/Load trimming scheme needs to be planned	Bihar to share long-term remedial action to make the system N-1 secure.	**Bihar to provide a target date for Long term measures**
9.	220 kV Muzzafarpur-Hazipur D/C	No SPS Available. **Action Required:-** SPS/Load trimming scheme needs to be planned	1. 220 kV Muzzafarpur-Amnour D/C	**Bihar to provide a target date for Long term measures**
10.	220 kV Gaya Bodhgaya D/C	No SPS Available. **Action Required:-** SPS/Load trimming scheme needs to be planned	1. 220 kV Gaya Bodhgaya Second D/C	**Bihar to provide a target date for Long term measures**

In the 193rd OCC meeting, ERLDC representative submitted that outage of DSTPC ICTs or DSTPS Waria D/C line may create a large scale disturbance.

DVC representative submitted that the contracts for connectivity between MTPS 220 KV to 400 KV and RTPS connectivity have already been awarded and the work is expected to be completed by December 2023. The 400 KV bus connectivity would extend some relief in case of evacuation problem from 220 KV bus due to MTPS generation.

Under long-term measures, programs for augmentation of DSTPS ICT and DSTPS-DTPS HTLS is under progress. Necessary approval from ERPC and CTU has already been taken in this regard.

Moreover, Parulia (PG)-Parulia (DVC) line has already been given to Powergrid for HTLS connectivity. After the HTLS connectivity, possibilities of switching-off of DSTPS ICT may be explored. Further, possibilities of bus-splitting at MTPS may also be worked out.

ERLDC representative requested DVC to maintain some minimum generation in Mejia. DVC representative submitted that Mejia unit-6 would be synchronized by 21st July 2022.

ERLDC representative was of the view that as per the study undergone by them, closing of

Bidhannagar-Waria circuit would not cater to the generation loss issues and advised DVC to explore the possibilities of bus splitting and connectivity to 400 KV of MTPS and RTPS.

Members may update.

ITEM NO. C.12: ICT Constraints violating N-1 security criteria.

The list of ICTs which are not N-1 complaint are given below:

Sl. No	Name of ICT	Short Term Measures	Long term Measures	The target date for long term measures
ICT Constraint in West Bengal Network				
1	i. 400/220 kV 2 X 315 MVA ICTs at Gokarna & ii. 400/220 kV Sagardighi 1 X 315 MVA ICTs	SPS Available for Gokerno ICTs **Action Required**:- Load trimming scheme needs to be planned for Sagardighi	i. 3rd ICT at Gokerno	Target Date Dec-22 **WBSETCL may update the present Status**
2	i. 400/220 kV ICT-1 & 2 at Bidhannagar	No SPS Available **Action Required**:- SPS needs to be planned	i. 400/220kV 315MVA (3rd) ICT at Bidhannagar	Target Date 2022-23 **WBSETCL may update the present Status**
ICT Constraint in ISTS Network				
3	i. 400/220 kV Ranchi 2 X 315 MVA ICTs	SPS Available	i. 3rd 500 MVA ICT at Ranchi	**POWERGRID may update the target date**
ICT Constraint in DVC Network				
4	i. 400/220 kV Bokaro A 2 X 315 MVA ICTs	No SPS Available **Action Required**:- SPS needs to be planned	i. Upgradation with 500 MVA ICTs	**DVC may update target date**

Sl. No	Name of ICT	Short Term Measures	Long term Measures	The target date for long term measures
5	**i.400/220 kV ICT-1 & 2 at DSTPS ***	No SPS Available **Action Required**:- SPS needs to be planned	i. Upgradation with 500 MVA ICTs	**DVC may update target date**
ICT Constraint in Odisha Network				
6	i. 400/220 kV New Duburi 2 X 315 MVA ICTs	No SPS Available **Action Required**: - SPS needs to be planned	i) 3rd ICT at New Duburi	**Odisha may update the target date**

In the 193rd OCC meeting, ERLDC representative submitted that outage of DSTPC ICTs or DSTPS Waria D/C line may create a large-scale disturbance.

DVC representative submitted that under long-term measures, programs for augmentation of DSTPS ICT is under progress. Necessary approval from ERPC and CTU has already been taken in this regard.

Moreover, Parulia (PG)-Parulia (DVC) line has already been given to Powergrid for HTLS connectivity. After the HTLS connectivity, possibilities of switching-off of DSTPS ICT may be explored.

Members may update.

PART D: OPERATIONAL PLANNING

ITEM NO. D.1: Anticipated power supply position during April 2023.

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of April 2023 were prepared by ERPC Secretariat (**Annexure D.1**) on the basis of LGBR for 2022-23 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc.

Members may update.

ITEM NO. D.2: Shutdown proposal of generating units for the month of April 2023.

Proposed Maintenance Schedule of Thermal Generating Units of ER in the month of Apr' 2023

System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2022-23)		No. of Days	Reason	Remarks
				From	To			
NIL								

Members may update.

ITEM NO. D.3: Major Generating Units/Transmission Element outages/shutdown in ER Grid (as on 07.03.2023)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BARAUNI TPS	BIHAR	NTPC	7	110	Excessive chemical deposits on Turbine blades (turbines need to be opened for assessment of the extent of deposits and the repairs required to address the issue of High First Stage pressure in HP Turbine)	19-Feb-2022
2	BARAUNI TPS	BIHAR	NTPC	6	110	Initially unit tripped on flame failure but later, problem found in condenser.	14-Jul-2022
3	Sterlite	ODISHA	SEL	4	600	Capital overhauling purpose for 02 Month.	20-Jan-2023
4	KHSTPP	BIHAR	NTPC	3	210	Annual overhauling	01-Feb-2023
5	NABINAGAR(BRBCL)	BIHAR	NTPC	2	250	Annual Overhauling	04-Feb-2023
6	CHANDRAPURA TPS	DVC	DVC	7	250	Stator Earth Fault	07-Feb-2023

7	TENUGHAT	JHARKHAND	TVNL	1	210	Low Vacuum Pressure	28-Feb-2023
8	BARH	BIHAR	NTPC	5	660	Annual overhauling	04-Mar-2023
9	SANTALDIH TPS	WEST BENGAL	WBPDCL	5	250	Generator exciter problem	07-Mar-2023
10	MEJIA TPS	DVC	DVC	2	210	Fire ball disturbance and loss of AC Supply	07-Mar-2023

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.

Generators/ constituents are requested to update the expected date of revival of the units.

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

NIL.

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BALIMELA HPS	ODISHA	OHPC	3	60	The unit taken out under R & M for 18 months.	08-Jul-2022
2	BALIMELA HPS	ODISHA	OHPC	4	60	The unit taken out under R & M for 18 months.	08-Jul-2022
3	RENGALI HPS	ODISHA	OHPC	2	50	Annual Maintenance	12-Nov-2022
4	INDRAVATI	ODISHA	OHPC	4	150	Capital maintenance for 6 Months	09-Dec-2022
5	INDRAVATI	ODISHA	OHPC	2	150	Due to breakdown of share pin	22-Feb-2023
6	BURLA HPS/HIRAKUD I	ODISHA	OHPC	1	49.5	Annual Maintenance	01-Mar.2023

d) Long outage report of transmission lines (As on 07.03.2023):

Transmission Element / ICT	Outage From	Reasons for Outage
400 KV IBEUL JHARSUGUDA D/C	29.04.2018	TOWER COLLAPSE AT LOC 44,45
220 KV PANDIABILI - SAMANGARA D/C	03.05.2019	TOTAL 60 NOS OF TOWER IN BETWEEN 220KV PANDIABILI – SAMANGARA LINE IN WHICH 48 NOS TOWERS FULLY DAMAGED AND 12 NOS TOWERS PARTIALLY DAMAGED. WORK UNDER PROGRESS. PRESENTLY CHARGED FROM PANDIABILLI END (LOC 156) TO LOC 58
220/132 KV 100 MVA ICT II AT LALMATIA	22.01.2019	FAILURE OF HV SIDE BREAKER
220/132 KV 100 MVA ICT 3 AT CHANDIL	30.04.2020	DUE TO FIRE HAZARD ICT DAMAGED AND BURNT
400KV/220KV 315 MVA ICT 4 AT	09.04.2021	DUE TO FIRE HAZARD ICT DAMAGED AND BURNT. NEW TRANSFORMER PROCUREMENT

JEERAT		UNDER PIPELINE AND SHALL BE REPLACED IN THE NEAR FUTURE.
220KV-FSTPP-LALMATIA- 1	21.04.2021	THREE TOWER COLLAPSED NEAR LALMATIA
400KV MAIN BUS - 2 AT DIKCHU	05.05.2021	PROBLEM IN MAIN BAY UNIT
400KV/220KV 315 MVA ICT 1 AT INDRAVATI (PH)	24.02.2022	CONTROL & RELAY PANEL OF ICT BURNT. REPLACEMENT FOR THE SAME IS UNDER PROCESS.
220KV-WARIA-BIDHANNAGAR-1	08.06.2022	TO CONTROL OVERLOADING OF 220 KV WARIA-DSTPS (ANDAL) D/C LINE
220KV-WARIA-BIDHANNAGAR-2	08.06.2022	TO CONTROL OVERLOADING OF 220 KV WARIA-DSTPS (ANDAL) D/C LINE
400KV/220KV 315 MVA ICT 1 AT PATRATU	01.08.2022	ICT TRIPPED ON A FEW OCCASIONS DUE TO OPERATION OF BUCHOLZ RELAY LATER DGA VIOLATION FOUND, INTERNAL FAULT IN TRANSFORMER TO BE RECTIFIED
400KV/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT TRIPPED ON A FEW OCCASIONS DUE TO OPERATION OF BUCHOLZ RELAY LATER DGA VIOLATION FOUND, INTERNAL FAULT IN TRANSFORMER TO BE RECTIFIED
220KV/132KV 160 MVA ICT 1 AT MALDA	04.01.2023	FOR 132 KV GIS COMMISSIONING WORK (GIB ERECTION OF ICT-I)
400KV-CHANDWA-LATEHAR(JUSNL)-1	27.01.2023	TRIPPED DUE TO INTERNAL FLASHOVER OF 400KV MAIN BAY OF LATEHAR-1 AT CHANDWA
400KV-BINAGURI-TALA-1	06.02.2023	TO CARRY OUT THE ANNUAL MAINTENANCE PLAN WORK
400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-1 & 2	08.02.2023	FOR RECTIFICATION OF DAMAGED TOWER
220KV-ALIPURDUAR (PG)-SALAKATI-2	18.02.2023	Re- Conductoring work under NERSS - XII pakage till 31.03.23

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)

Members may note.

ITEM NO. D.4: Commissioning of new units and transmission elements in Eastern Grid in the month of February-2023

The details of new units/transmission elements commissioned in the month of February - 2023 based on the inputs received from beneficiaries:

NEW ELEMENTS COMMISSIONED DURING February, 2023							
GENERATING UNITS							
SL. NO.	**Location**	**OWNER/UNIT NAME**	**Unit No/Source**	**Capacity added (MW)**	**Total/Installed Capacity (MW)**	**DATE**	**Remarks**
1	**Patna, Bihar**	**NTPC**	**2**	**660**	**1980**	**17-02-2023**	**NTPC Barh Stage Unit #2, 24 kV, 660 MW is yet to be synchronized.**
ICTs/ GTs / STs							
SL. NO.	**Agency/ Owner**	**SUB-STATION**	**ICT NO**	**Voltage Level (kV)**	**CAPACITY (MVA)**	**DATE**	**Remarks**
1	**NTPC**	**NTPC Barh**	**2**	**400**	**3x260**	**17-02-2023**	**GT#2 of NTPC Barh Stage 1 is yet to be synchronized along with associated main bay no. 415 and Tie Bay no. 414.**
2	**BGCL**	**Naubatpur**	**1**	**400/220/33**	**500**	**21-02-2023**	**ICT 1 at Naubatpur SS was first time charged on 22-02-2023 along with associated bays at 400 kV side(2 Nos.) and 220 kV side (1 No.)**
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	OPTCL	400 kV GMR - Meramundali-B S/C Line after LILO work of 400 kV GMR - Meramundali-A Line at Meramundali-B SS		7.300	ACSR Moose	**16-02-2023**	Lines were charged after LILO work at Meramundali-B on 17-02-2023 at 15:19 Hrs.
BUS/LINE REACTORS							
SL. NO.	**Agency/ Owner**	**Element Name**		**SUB-STATION**	**Voltage Level (kV)**	**DATE**	**Remarks**
NIL							
HVDC /AC Filter bank / FACTS DEVICE associated System							
SL. NO.	**Agency/ Owner**	**Element Name**		**SUB-STATION**	**Voltage Level (kV)**	**DATE**	**Remarks**
NIL							

Odisha:

Elements charged for first time in February-2023			
Sl No.	**Name of the element charged first time**	**Date**	**Time**
1	132kV 2-Phase SC line from 132/33kV GSS, Kamakhyanagar for extension of P/S to RTSS Kamakhyanagar	17/2/2023	17:18HRS
2	400kV GMR-Meramundali B SC Line & 400kV Meramundali B-Meramundali A line after LILO of 400kV GMR-Meramundali A SC Line at Meramundali B GIS.	17/2/2023	21:01HRS & 20:58HRS
3	132/33kV 20MVA Power Transformer No-II & 01 no 132kV feeder bay at 132/33KV GSS, Birmaharajpur	28/2/2023	18:15HRS & 18:16HRS

Bihar:

Following elements have been charged in the month February 2023.

GSS/Utility Name	Element name	FTC Date	FTC Time	Remarks
Biharshariff	220KV Biharsharif-TTPS S/C	28-02-2023	15:43	Charged after reconductoring work between loc no 495 to 503
Sonenagar (Old)	132KV Sonenagar(old)- Nagaruntari TSS, SCTL	28-02-2023	14:24	Charged after reconductoring work between loc no 01 to 69
BGCL	500 MVA ICT-01 LV Side Bay No.- 202 at 400/220/132/33kV @ NAUBATPUR GIS	24-02-2023	16:31	
BGCL	SS-400/220kV ICT-01 at GIS Naubatpur (BGCL)	22-02-2023	18:06	
BGCL	132Kv Khagaul(BSPTCL)- Bihita new(BGCL) S/L	17-02-2023	17:26	Anti theft charge
BGCL	132 KV Bihta new (BGCL) -Digha (BSPTCL) ckt (Bay no - 110)	17-02-2023	17:27	Anti theft charge
Rajgir	132KV Rajgir Ashthawan ckt 2 transmission line	07-02-2023	13:13	
Rajgir	132KV Rajgir Ashthawan ckt 1 transmission line	07-02-2023	13:13	

Members may note.

ITEM NO. D.5: UFR operation during the month of February 2023.

Frequency profile for the month as follows:

Month	Max (Date/Time)	Min (Date/Time)	Less IEGC Band (%)	Within IEGC Band (%)	More IEGC Band (%)
February, 2023	50.40 Hz on 10.02.2023 at 13:03 Hrs.	49.51 Hz on 09.02.2023 at 11:46 Hrs.	10.75	64.68	24.57

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

Members may note.

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Annexure B.1

Summary of Summer preparedness meeting held on 10th March, 2023 in online mode:

The following points were discussed in the meeting:

1. West Bengal:

1.1 WBSEDCL:

WBSEDCL representative submitted that a total of 9500 MW has been tied up. Among these 8763MW is an ex-bus capacity contract. The contract breakup is as follows: 4810MW – WBPDCL, 1072W -own hydro & PPSP, 2500MW -ISGS, 500MW-IPP. Additional 250MW has been procured through Deep portal (among bid of 350MW) for the period 1st April to 30th April 2023. The maximum except receipt from WBPDCL is 3800 MW where as the maximum expected demand is 7800MW.

1.2 WBPDCL:

The expected generation of 3800MW (including DPL) has been confirmed by WBPDCL representative. He further submitted that 77-78% of the coal requirement of PDCL is fulfilled by captive mines and balance are being supplied by CCL (CIL).Currently, coal stock of 3-4 days is available but captive coal production is expected to be increased. Tara colliery already started production & Adrakpur colliery is expected to be operationalized by end of March (Environmental clearance received).As Punchwara colliery is only 7 to 8 hours away from sagardighi, coal shortage is not expected in Sagardighi STPP.

2. Odisha

a. OHPC:

OHPC representive submitted that the reservoir level at Balimela is at 25% (less than the last year), for Burla the reservoir level is at 58% (less than last year), the reservoir level at Indravati is at 54% (greater than last year) and reservoir level at Upper Kolab is at 49% (more than last year).
The generation is expected to be fully available in peak hours (1600-1700MW) in the coming months.

b. SLDC Odisha:

Representative of SLDC Odisha submitted that if ISGS units & OPGC (1 & 2) remains available , the shortage will not be there.However GMR U-3 is facing coal shortage which is already under outage from the 8th of March due to coal shortage.

c. GRIDCO

GRIDCO representative submitted that 150MW power of North Karanpura has already been added to the portfolio.They requested NTPC to maintain decent coal stock.

3. NTPC

NTPC represenytative submitted that coal production of Lalmatia captive coal mine is not in good condition. Normally this coal mine is designated for Farakka & Kahalgaon. The rest of the coal is being supplied by CCL (Coal India).No issue was faced due to

the transportation of coal to Farakka & Kahalgaon.Due to the water sharing treaty between India & Bangladesh, the water of the river Ganges is being shared on 10 days basis in the lean period. During early summer, there may be reduction in generation capacity. It has the capacity to generate 1000MW during the water crunch period with increased burge capacity.They submitted that Kahalgaon units problem has been rectified.

4. Bihar

Bihar represented submitted that the expected shortage is less as Baruani 6 & 7 are expected to be in service in the coming months.Further 220kV-Baurauni-Begusarai-DC has been upgraded to HTLS conductor, and all jumper-related problems have been rectified. This increased reliability of Barauni TPP.220kV-Biharsariff-Tenughat-SC has also been upgraded to HTLS conductor.

5. Jharkhand

Jharkhand representive submitted that maximum demand of 1800 MW expected both in solar and non solar scenario. He further submitted that 300MW wind contract has been done with 150MW during evening peak,100MW hydro contract has been done in peak hours and 450MW solar contract is in place.

Annexure B.8

Railway Crossing Details for 220 KV D/C Howrah-New Chanditala Tr. Line						
Sl. No.	**Between Location No. of Howrah-New Chaditala Line**		**Rail Pillar/Mast No.**	**Between Stations**	**Railway Division**	**Remarks**
	From	**To**				
1	TN-746 A	TN-747	HA 8/5 - HA 8/6	Jhaluarber Stn & Dansi Stn	SE Railway	1 no. Railway track available
2	TN-766	TN-767	AC 2/24 - AC 2/26 AC 2/23 - AC 2/25	Mourigram Stn & Bakranayabaj Stn	SE Railway	2 nos Railway track available
3	TN-768	TN-769	9/15 - 9/17 9/20 - 9/22 9/20X - 9/22	Santragachhi stn & Mourigram Stn	SE Railway	3 nos Railway track available
4	TN-769	TN-770	ACC 8D - ACC 9D	Santragachhi stn & Mourigram Stn	SE Railway	1 no. Railway track available

Annexure-C.3

POWER SYSTEM DEVELOPMENT FUND

Status of the Projects in Eastern Region

Sl No	State	Entity	Name of the scheme	Grant Approved	Grant sanctioned on	1st Installment grant released on	Completion Schedule	Completion schedule w.r.t date of 1st instalment	Grant aviled so far	Under process of release	Total awards amount of placed of till date	Latest status
1	**Bihar**	**BSPTCL**	Renovation and Upgradation of protection system of substations. (18)	64.22			24		56.04		69.195	90% grant availed on award cost.
2			Installation of Capacitor bank in 20 Nos of Grid Sub Station. (74)	19.40			24		18.62		21.55	
			Total	**83.10**					**73.03**		**90.745**	
5	**Jharkhand**	**JUSNL**	Renovation & Upradation of protection system of Jharkhnad. (161)	138.13	15-Nov-17	28-Mar-19	16	28-Jul-20	114.68	1.01	145.674	Project Completed.
6			Reliable Communication & data acquisition system upto 132kV Substations ER. (177)	22.36	24-May-19		24					Price bid has been opened. Tender on awarding stage.
			Total	**160.49**					**114.68**		**145.674**	
7	**Odisha**	**OPTCL**	Renovation and Upgradation of protection system of substaions. (08)	162.50	11-May-15	22-Mar-16	24	22-Mar-18	46.04		63.31	Project Completed on Dec-20. Request for release of final 10 % fund has been placed.
8			Implementation of OPGW based reliable communication at 132 kv and above substations. (128)	25.61	15-Nov-17	29-Mar-19	36	29-Mar-22	23.04		51.22	90% grant availed on award cost. Work In Progress
9			Installation of 125 MVAR Bus Reactor along with construction of associated by each at 400kV Grid S/S of Mendhasal, Meramundali & New Duburi for VAR control & stabilisation of system voltage. (179)	27.23	27-Jul-18	1-Apr-19	18	1-Oct-20	8.17		24.5	90% grant availed . Rest work in progress
10			Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha. (196)	2.93	24-May-19	19-Feb-20	10	19-Dec-20	0.713		0.713	30% grant availed. Work in Progress.
11			Protection Upgradation and installation os Substation Automatic System (SAS) for seven nos of 220/132/33kV Substations (Balasore, Bidanasi, Budhipadar, Katapali, Narendrapur, New-Bolangir & Paradeep). (209)	29.56	24-May-19	13-Feb-20	18	13-Aug-21	8.87		32.85	30% grant availed. Work in Progress.
12		**OHPCL**	Renovation and Upgradation of protection and control system of OHPC. (109)	22.35	22-May-17	25-May-18	24	25-May-20	14.94		21.25	90% grant availed on award cost.
			Total	**270.18**					**101.35**		**193.42**	
14	**West Bengal**	**WBSETCL**	Installation of switchable reactor & shunt capacitor for voltage improvement. (88)	43.37	22-May-17	22-Jun-18	19	22-Jan-20	33.07		40.83	90% grant availed on award cost. Will get completed by Oct'21
15			Renovation & Modernisation of Transmission System. (87)	70.13	22-May-17	25-Jun-18	25	25-Jul-20	63.12		96.44	90% grant availed on award cost. Will get completed by Mar'22
16			Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid. (210)	71.74	24-May-19	23-Oct-19	19	23-May-21	39.3		45.62	30% grant availed on award cost. 04 Nos. of Reactors will be commissioned by December 2021. LoA of the 5th Reactor is yet to be placed.
17			Project for establishment of reliable communication and data acquisition at different substation at WBSWTCL. (222)	31.19	24-May-19	23-Oct-19	25	23-Nov-21	3.12			The tender has been been cancelled for OPGW. Re-tendering has to be done.
18			Implementation of Integated system for Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) system in West Bengal. (197)	10.08	43910		12					10% grant not yet requested
19		**WBPDCL**	Renovation and Modernization of 220/ 132 kV STPS switch yard and implementation of Substaion Automation System. (72)	23.48	5-Sep-16	18-May-17	18	18-Nov-18	21.13		32.09	Project Completed
21			Renovation and Modernization of switchyard and related protection system of different power stations (BTPS, BKTPS and KTPS) of WBPDCL (155)	45.16	27-Jul-18	27-Mar-19	12	27-Mar-20	34.52		41.68	Project Completed.
			Total	**295.15**					**194.26**		**256.661**	

POWER SYSTEM DEVELOPMENT FUND												
Status of the Projects in Eastern Region												
Sl No	**State**	**Entity**	**Name of the scheme**	**Grant Approved**	**Grant sanctioned on**	**1st Installment grant released on**	**Completion Schedule**	**Completion schedule w.r.t date of 1st instalment**	**Grant aviled so far**	**Under process of release**	**Total awards amount of placed of till date**	**Latest status**
22	**DVC**	**DVC**	Renovation and Upgradation of the protection and control system of Ramgarh Sub Station. (81)	25.96	2-Jan-17	31-May-17	24	31-May-19	22.95	2.57	28.603	Project Completed.
23			Renovation and Modernization of control and protection system and replecement of equipment at Parulia, Durgapur, Kalyanewari, Giridhi Jamsedpur, Barjora, Burnpur, Dhanbad and Bundwan substation. (106)	140.50	16-May-17	14-Dec-17	24	14-Dec-19	102.43	0.98	127.684	
			Total	**166.46**					**125.38**		**156.287**	
24	**Sikkim**	**ENPD, Sikkim**	Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim. (173)	10.00	24-May-19		18		3.00		20	30% grant availed on award cost
				10.00					**3.00**		**20.00**	
26	**ERPC**	**ERPC**	Creation and Maintenance of web based protection database management. (67)	20.00	17-Mar-16	28-Jun-16	18	28-Dec-17	14.83		16.48	Project Completed
27			Study Programme on power trading at NORD POOL Academy for Power System Engineers of Eastern Region. (122)	5.46	27-Jul-18	27-Mar-19	13	27-Apr-20	4.61		5.37	
28			Traning Program for Power system Engineers of various constituents of Eastern Region. (117)	0.61	27-Jul-18	11-Apr-19	24	11-Apr-21	0.54		0.60888	90% grant availed on award cost.
			Total	**26.07**					**19.98**		**22.45888**	
			GrandTotal	**1,011.46**					**631.68**		**885.25**	

Annexure D.1

Anticipated Peak Demand (in MW) of ER & its constituents for the month of April 2023

1	**BIHAR**	**Demand (MW)**	**Energy Requirement (MU)**
	NET MAX DEMAND	6392	3613
	NET POWER AVAILABILITY- Own Sources	613	360
	Central Sector+Bi-Lateral	6847	4502
	SURPLUS(+)/DEFICIT(-)	1068	1249
2	**JHARKHAND**		
	NET MAXIMUM DEMAND	2000	1152
	NET POWER AVAILABILITY- Own Source	351	233
	Central Sector+Bi-Lateral+IPP	908	619
	SURPLUS(+)/DEFICIT(-)	-741	-300
3	**DVC**		
	NET MAXIMUM DEMAND	3425	2224
	NET POWER AVAILABILITY- Own Source	6026	3921
	Central Sector+MPL	317	171
	Bi- lateral export by DVC	2194	1410
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	724	458
4	**ODISHA**		
	NET MAXIMUM DEMAND (OWN)	5700	3161
	NET MAXIMUM DEMAND (In Case of CPP Drawal)	6180	3549
	NET POWER AVAILABILITY- Own Source	3860	2300
	Central Sector	1939	1247
	SURPLUS(+)/DEFICIT(-) (OWN)	99	386
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-381	-2
5	**WEST BENGAL**		
5.1	**WBSEDCL**		
	NET MAXIMUM DEMAND	7893	4874
	NET MAXIMUM DEMAND (Incl. Sikkim)	7898	4878
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5707	3133
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2715	1446
	EXPORT (To SIKKIM)	5	4
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	524	-299
5.2	**CESC**		
	NET MAXIMUM DEMAND	2220	1132
	NET POWER AVAILABILITY- Own Source	830	541
	IMPORT FROM HEL	540	373
	TOTAL AVAILABILITY OF CESC	1370	914
	DEFICIT(-) for Import	-850	-218
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	10113	6006
	NET POWER AVAILABILITY- Own Source	6537	3674
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	3255	1819
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	-321	-513
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	-326	-517
6	**SIKKIM**		
	NET MAXIMUM DEMAND	118	52
	NET POWER AVAILABILITY- Own Source	8	1
	Central Sector	81	35
	SURPLUS(+)/DEFICIT(-)	-29	-16
	EASTERN REGION		
	NET MAXIMUM DEMAND	27204	16208
	NET MAXIMUM DEMAND (In Case of CPP Drawal of Odisha)	27675	16596
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2194	1410
	EXPORT BY WBSEDCL TO SIKKIM	5	4
	NET TOTAL POWER AVAILABILITY OF ER	28548	17472
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	1339	1260
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal of Odisha)	868	872