AGENDA
FOR
197th OCC MEETING

Date: 17.11.2022

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 197TH OCC MEETING TO BE HELD ON 17.11.2022 (THURSDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 196th OCC Meeting held on 21st September 2022 through MS Teams online platform.

The minutes of 196th Operation Coordination sub-Committee meeting held on 19.10.2022 was circulated vide letter dated 07.11.2022.

Members may confirm the minutes of 196th OCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Operational challenges in Jharkhand network due to multiple long outages/tripping.

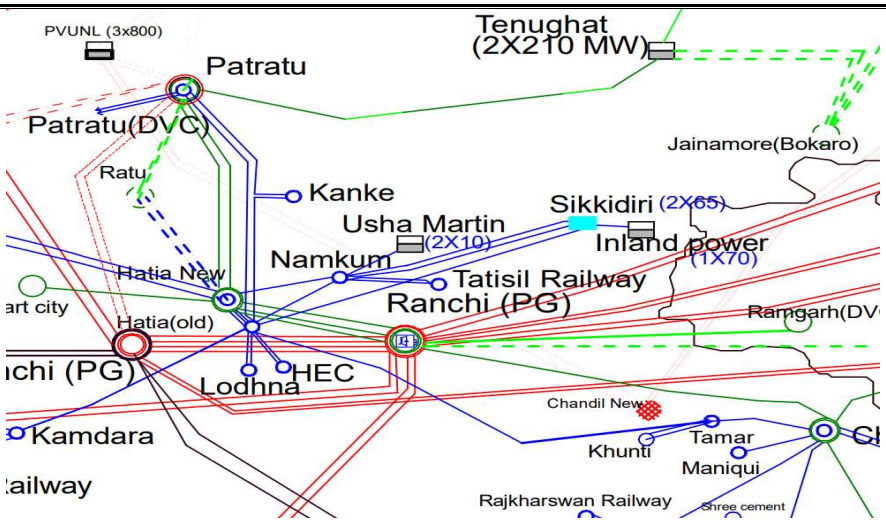
In Jharkhand network, 400/220 kV 2 X 315 MVA Ranchi ICTs and 400/220 kV 2 X 315 MVA Patratu ICTs and 220 kV Tenughat-PTPS S/C were meeting the demand of Ranchi capital city.

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 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)



Thus, overall current reliability issues of Capital city Ranchi are listed below:

- Any outage of 220 kV Ranchi-Hatia 1 & 3 will result in a power crisis at capital city
- Any tripping of one 400/220 kV Ranchi ICT will result in tripping of other ICT on overload and causing blackout at Capital city (SPS operation will not provide adequate relief).

In such a precarious situation of transmission network of JUSNL, system operation is non-reliable.

In view of this, SLDC and JUSNL may apprise OCC of the action taken and how the situation can be improved. A contingency plan needs to be shared by JUSNL.

ITEM NO. B.2: Endangering grid connectivity, security and stability of 400 KV Talcher-Meramundali ckt 1 & 2 at GMR Powerplant, Kamalanga, Dhenkanal.

1. 400KV Talcher-Meramundali D/C line of POWERGRID was commissioned on 01.12.2003.
2. The Power plant of M/s GKEL (GMR Kamalanga Energy Ltd.) was commissioned at Kamalanga village of Dhenkanal district in April'2013.
3. During installation of the Power plant by GMR, it was found that 6 (six) Nos. towers of 400KV Talcher-Meramundali D/C line (i.e., from Loc.121 to Loc.125) were coming inside the GMR plant premises. Out the six towers, 2 (Two) Nos. towers (Loc.124 & 125) were coming in the ash pond area. In this respect, an agreement Dated: 09.06.2010 was signed between M/s GMR Kamalanga Energy Limited (GMR) and POWERGRID, where it was agreed by GMR to divert these 6 Nos. towers inside GMR plant premises by constructing of 11 Nos. new towers. In this agreement, construction & resolving of ROW issues were in the scope of GMR and supervision was in the scope of POWERGRID.
4. These 11 Nos. towers have been constructed by GMR but the final stringing work of the line could not be carried out till June 2022 due to some pending rectification work and missing tower members.
5. Now the missing tower members of new towers have been replaced by GMR. During the last shutdown of 400KV Talcher-Meramundali D/C line in June'2022, GMR tried to complete the stringing works and connection to the jointing point of jumper. But due to severe ROW issue, the work was stopped and hence charging of the line through newly constructed bypass line was not possible.
6. After June 2022 POWERGRID has pursued many times with GMR for early resolution of the ROW issue. But the ROW issue is yet to be resolved at GMR plant. Communication has been

made to Electrical head and Plant head of GMR plant for early resolution of ROW and charging of the line (copies of letter, mail correspondences attached).

7. During the last one year since November 2021, there has been multiple Auto-reclosures / trippings of the 400KV Talcher-Meramundali D/C line, in which most of the faults originated from the towers inside the GMR plant. At location No.122 inside GMR plant, the CLR insulators were found to be severely damaged due to their close proximity to the Cooling towers. The reason of fault was analyzed and found that dust particles from Power plant chimney mixed with cooling tower water droplets are getting accumulated over the insulator surface and causing reduction in creepage distance of insulator, thereby causing flashover. In April 2022, the earth wires of both circuits got broken at location no. 122 which was identified by POWERGRID TL maintenance team during patrolling & subsequently rectified immediately by availing shutdown prior to breakdown of the line.
8. The towers at loc. No. 124 & 125 are situated completely inside the ash pond area. The soil of ash pond is filled with ash slurry. Due to which, the POWERGRID TL maintenance persons are not able to approach the towers through the ash slurry to carry out routine maintenance activities. During last shutdown in April'2022, the maintenance persons had to reach the towers by crossing the span through overhead conductors from nearby towers to carry out the maintenance activities.
9. Further, due to presence of ash slurry, it is becoming difficult to ascertain the exact condition of the stubs already buried inside the slurry.
10. In case of any eventuality or collapse of towers, it will be extremely difficult to carry out the quick restoration works.
11. Hence, the 400KV Talcher-Meramundali D/C line of POWERGRID is presently in very much danger and there is instability in the towers present inside ash pond area of GMR, which may affect security of the said Transmission line at any time.
12. It is therefore requested to issue necessary instructions to M/s GKEL to take up immediate action for an early resolution of the ROW issue so as to ensure charging of the line through the newly constructed bypass towers as soon as possible.

Powergrid may update. Members may discuss.

ITEM NO. B.3: 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.

WBSECTL was also requested to coordinate with HEL for early resolution of the matter as reliability of power supply to capital city of Kolkata is at stake.

After detailed deliberation, it was decided that WBSETCL and HEL would meet and jointly finalise requirement of the additional data and carry out necessary system studies at the earliest. It was also decided that a separate meeting may be convened at ERPC level of all

concerned for deliberation and early resolution of the issue. WBSETCL also mentioned that if the matter is not resolved by the next CMETS-ER, they would come up with alternate proposal for establishment of New Laxmikantpur S/s.

Members may discuss.

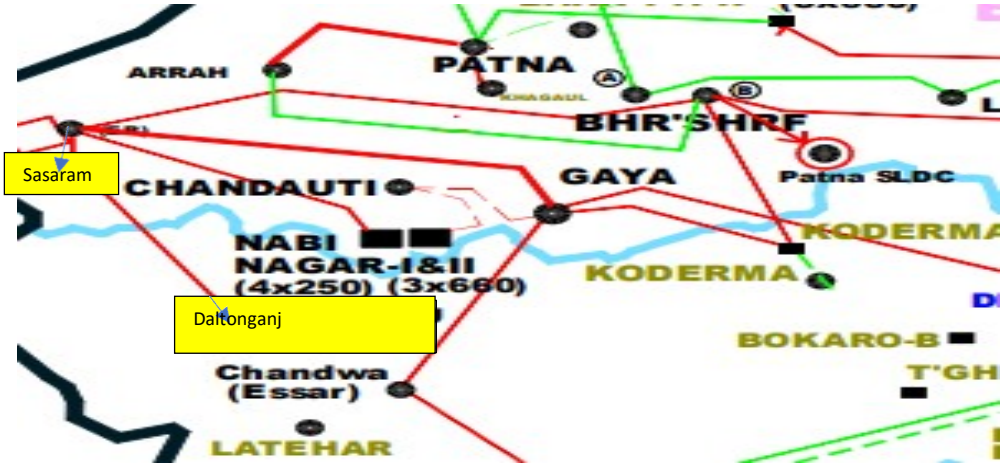
ITEM NO. B.4: Connectivity of radial nodes to redundant path in Eastern Region – Daltonganj (PG).

Daltonganj is connected with single fiber path through Daltonganj-Sasaram link at present.

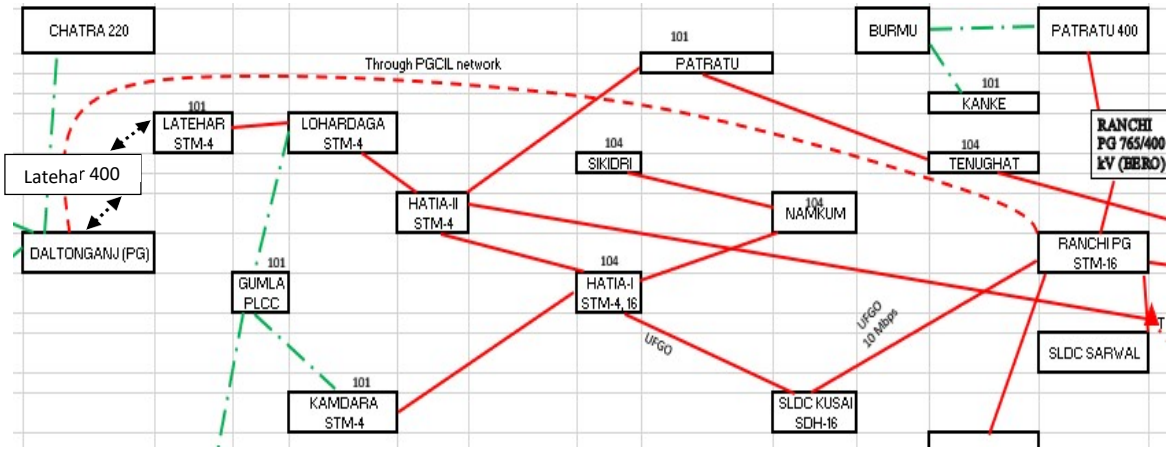
Second path connectivity is to be planned by utilizing the state network of Daltonganj to Latehar line.

Powergrid/ERLDC stated that OPGW laying from Daltonganj (PG) to Latehar (PG) (400kV) is under implementation. However, OPGW connectivity from Latehar (PG) (400kV) to Latehar(132kV) need to be confirmed from JUSNL. Further, OPGW connectivity from Latehar (132kV) to Ranchi via state links Hatia-II – Hatia-I – SLDC – Ranchi PG already exists and may be utilized for redundant path for Daltonganj (PG).

Connectivity of Daltonganj in FO map



Proposed FO connectivity of Daltonganj through JUSNL network



: existing OPGW

: Proposed connectivity of Daltonganj through JUSNL network.

Members may discuss.

ITEM NO. B.5: Telemetry outage of Farakka STPS – ERLDC.

Farakka STPS has upgraded their old RTU to report it over IEC 104 protocol during the month of April-2021. On completion of upgradation of the said RTU, most of the data from Farakka STPS were not updating at ERLDC. Even after continuous persuasion with Farakka STPS, around 50 nos. of digital and 25 nos. of Analog data are yet to be reported at ERLDC. Telemetry of 4 nos. line bays namely Rajarhat, New Purnea, Berhampur I & II (owned and maintained by Powergrid) are reporting on temporary arrangements for MW value only, balance analog and digital data are not reporting.

Further the Real Time Telemetry for Farakka STPS is highly intermittent in nature and this issue is persisting since long. NTPC Farakka had been requested repeatedly but the matter is yet to be resolved.

NTPC may update.

ITEM NO. B.6: Intermittent Telemetry Data – ERLDC.

A. 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.

NHPC may update.

B. 400 KV Motihari

Real Time Telemetry for 400 kV Motihari is highly intermittent in nature. Most of the time data is getting stuck and not reporting to ERLDC.

DMTCL may update.

ITEM NO. B.7: Upcoming ISTS in Eastern Region - ERLDC.

Under Construction ISTS by POWERGRID

1. **ERSS-XXII**

   Upgradation at Malda (400/220/132kV): Oct 2022
   - Modification of 132kV SMT bus scheme to DM bus scheme in GIS
   - 2 no additional 132kV GIS line bays

2. **ERSS-XXIV: Oct 2022**
   - Shifting of 400kV side of 400/220kV, 315MVA ICT-I from Durgapur-A section to Durgapur-B section without physical shifting of ICT such that all three ICTs are on same 400kV bus section (if required, GIS bus duct could be used)

3. **Transmission system for power evacuation from Arun-3 (900MW) HEP, Nepal of M/s SAPDC - Indian Portion: Apr 2023**
   - Sitamarhi (POWERGRID) - Dhalkebar (Nepal) 400kV D/c (Quad) line (Indian portion) – 78ckm
   - Extension of Sitamarhi (POWERGRID) Substation:
   - 2 no. of 400kV line bays at Sitamarhi (POWERGRID) for termination of Sitamarhi (POWERGRID) - Dhalkebar (Nepal) 400kV D/c (Quad) line

4. **ERES-XXVI: Feb 2023**
   - Installation of new 400/220kV, 1x500MVA ICT along with associated bays at existing Ranchi (POWERGRID) S/s

5. **Eastern Region Expansion Scheme - XXVII (ERES-XXVII): Oct 2023**
   - Installation of 420kV, 1x125MVAr bus reactor at Alipurduar (POWERGRID) Substation
   - Installation of 420kV, 63MVAr switchable line reactor along with 500 Ohm NGR (with NGR bypass arrangement for operation of switchable line reactor as a bus reactor) at Kahalgaon (NTPC) end, one each in both circuits of Kahalgaon (NTPC) – Durgapur (POWERGRID) 400kV D/c line.

6. **ERES-XXVIII: Dec 2023**
   - Installation of 420kV, 1x125MVAr bus reactor along with associated bay at Biharshariff (POWERGRID) S/s in the bus section having 1x80MVAr existing bus reactor.
     Note: *Upon implementation of above reactor, split Section-A shall have 1x80MVAr + 1x125MVAr bus reactors and Section-B shall have 1x50MVAr + 2x125MVAr bus reactors.*

7. **ERES-XXXI: Yet to awarded (Apr 2024)**
   - Installation of new 420kV, 1x63MVAr line reactor at Maithon-A end of Maithon-A – Kahalgaon-B ckt-1 400kV line along with new 700ohm NGR (with NGR bypass arrangement for operation of line reactor as a bus reactor)
     Note: *The existing 50MVAr line reactor along with NGR in this line at Maithon-A end may be decommissioned prior to commissioning of above new 63MVAr line reactor and NGR.*
   - Installation of new 420kV, 1x125MVAr bus reactor along with associated bay at Jamshedpur (POWERGRID) S/s.

Members may update/discuss.

ITEM NO. B.8: Status of upcoming Reactors in Eastern Region.

In the upcoming winter season high voltage scenario is expected to prevail in Eastern region. As discussed in 4th meeting of Eastern Region Power Committee Transmission Planning (ERPCTP) meeting held on 23rd July'2022. Following was updated for upcoming reactors in Eastern Region

Sl No	Name of Substation	Reactor Size	Expected date of Commissioing	Present Status
1	New Duburi (Odisha)	1 x 125 MVAr	Sep-21	Commissioned on 23rd August, 2022
2	Meramandali (Odisha)	1 x 125 MVAr	Sep-21	Commissioned on 07th Jan,2022
3	Mendasal (Odisha)	1 x 125 MVAr	Sep-21	-
4	New Chanditala (WB)	1 x 125 MVAr	Dec-21	-
5	Kharagpur (WB)	1 x 125 MVAr	Dec-21	-
6	Bidhannagar (WB)	1 x 125 MVAr	Dec-21	-
7	Gokarno (WB)	1 x 125 MVAr	Dec-21	-
8	New PPSP(WB)	2 x 125 MVAr	Aug-22	-

In the 196th OCC meeting, Members updated as follows:

Sl No	Name of Substation	Reactor Size	Expected date of Commissioning	Present Status
3	Mendasal (Odisha)	1 x 125 MVAr	**October-2022**	Not yet commissioned. Odisha may update.
4	New Chanditala (WB)	1 x 125 MVAr	February-2023	-
5	Kharagpur (WB)	1 x 125 MVAr	December-2022	-
6	Bidhannagar (WB)	1 x 125 MVAr	April-2023	-
7	Gokarno (WB)	1 x 125 MVAr	December-22	-
8	New PPSP(WB)	2 x 125 MVAr	**Clearance from Nabanna is pending. Date would be intimated once LOA is placed.**	West Bengal may update if any.

Members may update.

ITEM NO. B.9: Proposal for installation of 50 MVAR reactor at Jayanagar grid of OPTCL.

The peak load of Odisha system is around 5200 MW. During winter off-peak condition the total load reduces to almost 40% of the peak load resulting high voltage due to reactive power generation in the line.

It is seen that the 220 KV voltage at the Jayanagar Grid varies from 232 KV to 239 KV during the off-peak period. This is due to long line length Balimela – Jayanagar and Laxmipur – Jayanagar 220 KV circuits.

The 220 KV connectivity of Jayanagar Grid is detailed as under.

1. Balimela – Jayanagar – 3 Ckts (92 Km each)
2. U. Kolab – Jayanagr – 2 Ckts (6 Km each)
3. Laxmipur – Jayanagr – 2 Ckts (64 Km each)
4. Jayanagar (PG) – Jayanagar – 4 Ckts (7.7 Km each)

During high voltage there is flow of 55 to 80 MVAR power from Jayanagar to Jayanagar (PG) for which GRIDCO pays reactive charges when the voltage at Jayanagar Grid exceeds 1.03P.u.

A single line diagram showing voltage at Jayanagar Grid with VAR flow from Jayanagar Grid to Jayanagar (PG) with and without reactor at 220 KV bus at Jayanagar Grid is attached. It is seen that voltage without 50 MVAR bus reactor at Jayanagar Grid is 228.8 KV (1.04PU) and with 50 MVAR reactor it comes to 227.2KV (1.03PU).

It is recommended for installation of 50 MVAR reactor at 220 KV bus of Jayanagar Grid to control the 220 KV voltage at Jayanagar Grid in order to avoid penalty towards flow of reactive power to Jayanagar (PG) in high voltage condition i.e., above 1.03 p.u.

OPTCL may update. Members may discuss.

ITEM NO. B.10: Ensuring healthiness of ADMS.

The performance of automatic demand management scheme (ADMS) of the states for the month of Oct-22 is detailed below:

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 197th OCC meeting
West Bengal	1. System Frequency < 49.7 Hz 2. WB over-drawl > 150 MW 3. Delay = 4 min	Nil	Nil	Nil	
Jharkhand	1. System Frequency < 49.9 Hz 2. Jharkahnd over-drawl > 25 MW 3. Delay = 3 min	117	Nil	1. Load is not getting shed in majority of the cases irrespective of OPGW connection. Jharkhand is requested to provide the root cause analysis of the same and rectify the issue at the earliest. 3. Very few cases where the load is getting shed, the amount of load is very minimal compared to the deviation. Hence Jharkhand is requested to provide the reason for the same and rectify the issue.	

DVC	1. System Frequency < 49.9 Hz 2. DVC over-drawl > 150 MW 3. Delay = 3 min	11	Nil	1.It has been found that in most of the cases the load shed quantum is very less compared to the total quantum. DVC is requested to furnish the reason of the same and rectify the issues at the earliest. 2. DVC is requested to provide the SCADA data of DVC for the instances where the condition is not satisfied for reconciliation at our end.	
Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. Delay = 3 min	14	Nil	From the submitted data it is not clear that how much load has been shed and which feeders has been disconnected as a result of ADMS operation. Hence Odisha SLDC has been requested to send the data accordingly.	

The states are requested to update the status of ADMS at present.

ITEM NO. B.11: Commissioning status of ADMS.

Automatic demand management scheme (ADMS) is already commissioned in West Bengal, DVC and Jharkhand. However, for Bihar and Odisha it is yet to be implemented, the last status as confirmed in the earlier meeting is as follows.

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target
1	Bihar	F <49.7 AND deviation > 12 % or 150 MW	1st week of November 2022.

Bihar may update the status of the implementation of ADMS scheme.

ITEM NO. B.12: Erroneous reading in Rammam and Ravangla.

1. The meter sl. No. ER-1986-A at 132 KV RAMMAM (WBSETCL) - RANGIT (NHPC) at Rammam (WB) showing reverse polarity since the meter was replaced in Jun-22. Information was already intimated to the concern but the issue is not resolved.
2. The meter sl no ER-1983-A at 66 KV RAVANGLA (SIKKIM) - RANGIT (NHPC) at Ravangla (Sikkim) end is recording erroneous values with respect to the stand-by meter. This issue has been intimated to Sikkim vide mail dated 04.08.2022 but not resolved yet.

West Bengal and Sikkim may update the status.

ITEM NO. B.13: Replacement of non-functioning/defective meters.

Defective Meter:

Bihar

The AMC vendor Ms TCS visited the Kahalgaon site to restore the AMR connectivity, but it was informed that the meter was not responding. Accordingly, the same was intimated to the concern to replace the meter.

1. NP-6071-A 132 KV KAHALGAON(BSPHCL) - LALMATIA(JSEB)
2. NP-6076-A 132 KV KAHALGAON (BSPHCL) - KAHALGAON (NTPC)
3. NP-6099-A 132 KV MOHANIA (BSPHCL) - PUSAULI (PG)

Odisha

The Joda (Gridco) end meter sl. No. ER-2076-A (220 KV JODA (GRIDCO)-RAMCHANDRAPUR (JSEB)) was not working, the matter was intimated to Gridco for replacement of the same.

Bihar & Odisha may update the status.

ITEM NO. B.14: Shifting of SEMs from LV to HV side of Tertiary Transformer at PGCIL substations in ER.

Auxiliary consumption of PGCIL is met through tertiary winding (as alternate supply for reliability). In 35th CCM, it was decided that the drawal of auxiliary power from tertiary winding by Powergrid substations would be treated as state drawl for inter-regional accounting. Powergrid and the states would make back-to-back commercial arrangements for this power. As per the discussion in 138th OCC at ERPC, drawl through PGCIL Tertiary has been accounted in respective state drawl w.e.f. 23.10.17. In Eastern Region there are total 52 nos. of meters which are installed at PGCIL Tertiary Transformers, out of those, 37 SEMs are installed at HV side of Tertiary Transformer and remaining 15 meters are installed at LV side (i.e., 415 or 400 V side). These LV side meters need to be shifted to HV side of Tertiary transformers. The details are as below:

S. No	METER NO.	CTR	PTR	PLACE OF INSTALLATION	Remarks
1	ER-1452-A	1200	3.6363636	400 V SIDE OF 800 KVA AUX TRSF (TERT OF BARIPADA)	
2	NP-7462-A	1000	3.7727272	415 V SIDE OF 33/0.415 PANDIABILI TERTIARY.	
3	ER-1019-A	1000	3.7727272	415 V SIDE OF 33/0.415 SUNDERGARH(PG) TERT TRF(PG)	
4	NP-7951-A	1000	3.7727272	415 V SIDE OF 33/0.415 BOLANGIR(PG) TERT TRF(PG)	
5	ER-1020-A	200	3.7727272	415 V SIDE OF 33/0.415 RENGALI(PG) TERT TRF(PG)	
6	ER-1899-A	1000	3.9363636	433 V SIDE OF 33/0.433 JEYPORE(PG) TERTIARY TRF(PG)-1	
7	NP-7921-A	1000	3.7727272	415 V SIDE OF 33/0.415 KEONJHAR(PG) TERTIARY TRF(PG)	Odhisa (7)
8	ER-1105-A	1000	3.7727272	415 V SIDE OF 33/0.415 SUBHASGRAM(PG) TERT(PG) ICT-1	West Bengal (5)
9	ER-1081-A	1000	3.7727272	415 V SIDE of MALDA(PG) TERTIARY-	

				1(500MVA ICT#3)	
10	NP-6024-B	200	3.7727272	415 V SIDE OF 33/0.415 DURGAPUR(PG) TERT TRF(PG)	
11	ER-1670-A	1000	3.7727272	415 V SIDE OF 33/0.415 MAITHON(PG) TERT TRF(PG)	
12	NP-5880-A	1000	3	440 V SIDE BINAGURI(PG) TERTIARY TRANSFORMER	
13	ER-1265-A	1000	3.7727272	415 V SIDE OF 33/0.415 BIHARSHARIFF(PG) TERT TRF(PG)	
14	NP-6016-B	20	3.7727272	415 V SIDE OF 11/0.415 PUSAULI(PG) 63 KVA (ST LIGHT) T/F -1	
15	NP-5231-A	1000	3.7727272	415 V SIDE OF 33/0.415 MUZAFFARPUR(PG) TERT TRF(PG)	Bihar (3)

In 45th CCM, it was advised that Powergrid to explore the possibility of shifting the meters from LV to HV side of tertiary transformers at the proposed 15 nos. of locations. In case, shifting at a location is not possible due to space constraint, the respective State (where the Substation is located) shall furnish the relevant extract of relevant SERC regulations to ERLDC/ERPC for accounting of transformer losses while computation of their drawal.

In 46th CCM, it was advised by the Commercial Sub-Committee that Powergrid (where the Substation is located) to furnish the relevant extract respective SERC regulations to ERLDC/ERPC for accounting of transformer losses while computation of their drawl.

PGCIL may please discuss.

ITEM NO. B.15: Non-Receipt/Late-Receipt of SEM data from various locations.

As per IEGC (effective from 3.5.2010) Sub-clause-22 of Clause-6.4 (demarcation of responsibilities), all concerned utilities in whose premise's SEMs are installed shall take weekly meter readings and transmit the same to RLDC by Tuesday noon for timely issuance of Deviation account Bill. Significant improvement in timely receipt of SEM data has been seen after AMR implementation at various locations and most of the meter data is being received by Tuesday. In 45th CCM, all were requested to adhere to the schedule as per IEGC.

i) **Late receipt of SEM data**: ERLDC is receiving the weekly SEM data by Tuesday noon from maximum locations. However, data is received on Wednesday or later from GRIDCO (New Dubri, Meramundali); WBSETCL (Alipurduar, Gokarna, Gazole), PG (Angul, Jeypore, Maithon); IPP(JITPL)

ii) **Non-receipt:** The below are already discussed in previous CCM but no action has been taken.
Sikkim: Ravangla (Genus make)
Gridco: 220 KV TTPS (GRIDCO)-TALCHER (NTPC) (NP-0553-A) (mail dated 09.06.2022, 28.04.2022). ERLDC has requested to NTPC and Gridco to replace the meter with Genus make, but no such steps have been taken.

iii) Due to absence of SEM data, it is difficult to validate the energy meter data. The same issue has also been discussed in various CCM.
   a. Sagbari end meter data is not being received for 132 KV RANGIT (NHPC) - SAGBARI (SIKKIM) line, which is causing difficulty in pair-checking.
   b. There is no meter installed at WB end of 132 KV KOLAGHAT(DVC) - KOLAGHAT (WBSETCL).
   c. There is no meter installed at Jharkhand end of 132 KV CHANDIL (JSEB) - MANIQUE

(DVC). (Mail dated 05.04.22, 21.04.22, 09.06.22)

WBSETCL, GRIDCO, Jharkhand, POWER-GRID & Sikkim may update the status.

ITEM NO. B.16: Status of non-communication of meters in AMR.

Presently **163 Locations with 1228 meters are connected through AMR** system in ER. ERLDC is receiving data from **151 locations** out of total 163 locations through AMR. The status of data receipt from the locations as on 01.11.2022 is as below:

Status Report of PGCIL AMR AMC (Phase I , II & III)	
Summary	
Total Substation	163
Communicating Sub Station	151
Non-communicating Sub Station	12
Total Meter	1207
Communicating meter	1161
Non-communicating Meter	46

There have been issues with the GPRS communication/DCU/Meter replacement for around **12 locations having 46 meters** as mentioned above.

POWERGRID may further update the latest status of implementation.

ITEM NO. B.17: Replacement of GPRS communication with Optical Fiber for AMR.

In ER, approximately 80% meters are connected in Automated Meter Reading (AMR). At present the communication system mainly used for data transfer from each location is GPRS. It has been observed that many locations are not communicating with AMR system due to poor/no GPRS signal. Many substations have their own optical fiber which is also used for the LAN network of respective stations.

In 44th TCC, Sikkim submitted that three nos. of locations in Sikkim had been finalized for implementation of optical fiber-based connectivity with AMR. The locations are Melli, Gangtok & Sagbari. Powergrid representative informed that 12 locations at DVC, 2 locations at NHPC/NTPC have already been completed. They further submitted that the work of 11 locations in Jharkhand & Bihar will be completed by next week and the work at remaining locations would be completed by Dec'2021. TCC advised Powergrid to furnish the updated location details to ERPC secretariat at the earliest.

In 46th CCM, The Commercial Sub-Committee was of the view that replacement of GPRS communication with optical fibers for AMR are operational nature issues. The same needs to discussed in the monthly OCC meeting.

Powergrid may further update the latest status.

ITEM NO. B.18: Replacement/Calibration of Special Energy Meters – NTPC Talcher Odisha.

In the 195th OCC Meeting, NTPC Talcher representative submitted that the details of 47 nos. of meters to be replaced have
already been sent to PGCIL.

Powergrid representative submitted that initially only the main meters (28 nos.) would be replaced. The main meters would be sent by the mid of October 2022.

After replacement of the main meters, the variation with the check meters would be observed and if required the check meters would be replaced thereafter.

NTPC vide letter dated 9th November 2022 informed that the meters are not yet received at TST-PS.

PGCIL may update the status and expected date of dispatch.

ITEM NO. B.19: Swapping of lines in case of voltage regulation.

With the reduction of overall temperature and demand in eastern region high voltage is being observed in various pockets of Eastern Region. To mitigate the constraint lines are being opened by system operator as and when required. However, once a line is being opened in voltage regulation it is remaining in that condition for long duration. Hence to check the healthiness of the lines it is proposed to swap the lines with parallel line alternatively after a duration of seven/ten days. The same practice is being followed in case of inter-regional and transnational lines. Now it is proposed to implement the same for all the ISTS lines in eastern region and the same shall be included in the operating procedure of eastern region.

Members may kindly note.

ITEM NO. B.20: Status of SAMAST, ABT implementation and certification of system operators in states.

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

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

Name of the state	Status of implementation of SAMAST	Number of Certified Operator
Bihar	Completed	4
Jharkhand		Nil

Odisha		11
DVC		Nil
West Bengal		2
Sikkim		1

All the states are requested to update the status.

ITEM NO. B.21: Steps to be followed for recalling units under RSD.

Revival of units from RSD needs to be streamlined in view of recent experience of large numbers of units under reserve shutdown during the festive season and challenges faced during revival. Following steps in line with detailed procedure for taking unit(s) under Reserve Shut Down of CERC need to be followed.

1. Once a unit is taken out under RSD, it can be recalled any time after 8 hours. In case of system requirements, the generating unit can be revived before 8 hrs. as well. (Clause 7.1 Detailed Operating Procedure of CERC)
2. One or more beneficiaries of the generating station as well as the generating station may decide for revival of unit(s) under RSD with commitment for technical minimum schedule with minimum run time of 8 hrs. for Coal based generating stations post revival. (Clause 7.2 Detailed Operating Procedure of CERC)
3. Beneficiaries need to punch their off-bar requisition commensurately once they show intent to take the unit on bar considering the time to start a machine under different conditions such as HOT, WARM and COLD as per Format AS-3.
4. RLDC, as per advice of NLDC may also advise the generating stations to revive unit(s) under RSD for System requirement duly taking start up time into account. In such cases, RLDC shall ensure shortfall of technical minimum schedule. (Clause 7.3 Detailed Operating Procedure of CERC)
5. In case the machine is not revived as per the revival time declared by the generating station under different types of start, the machine shall be treated under outage for the duration starting from the likely revival time and the actual revival time. (Clause 7.4 Detailed Operating Procedure of CERC)

Name of the generation station	Stage	Cold start time in Min	Warm Start Time in Min	Hot Start Time in Min
FSTPP	1	360	240	-
	2			
	3			
KAHALGAON STPP	1	360	240	-
	2			
NTPC BARH	1	6.19	6.19	-
	2			
TSTPP-I	1	360	240	-
NABINAGAR TPP	1	480	300	-
RANGIT HPS	1	15	15	-

MTPS STAGE -II	1	360	840	-
MAITHON POWER LIMITED	1	720	300	-
NABINAGAR STPP	1	2100	900	120
DARLIPALI STPP	1	2220	1500	-

Members may please note.

ITEM NO. B.22: Outage planning and ATC-TTC declaration in view of upcoming GNA regulation.

Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022, T-GNA can be applied for any period from 1 (one) time block and up to 11 (eleven) months. Accordingly Total Transfer Capability (TTC), Available Transfer Capability (ATC) and Transmission Reliability Margin (TRM) of the individual control/bid areas need to be declared on rolling basis for at least 11 months in advance incorporating the LGBR.

Thus, following inputs are required for calculation

- Transmission outage planning for 12 months in advance by transmission utilities
- Generation outage planning for 12 months in advance by GENCO's
- State ATC/TTC from SLDC for 12 months in advance incorporating state embedded transmission and generation outage and LGBR

One month margin is kept for calculations.

A Draft procedure for Allocation of Transmission Corridor for Scheduling of GNA and T-GNA Transactions has been formulated by POSOCO. The same is available in the website for stakeholder suggestions/feedback and is available at: https://posoco.in/notices/-. The last date to submit the feedback is 30th Nov 2022.

Members may kindly note.

ITEM NO. B.23: Follow up Agenda

SL No	Issue/Agenda	Discussion in last OCC Meetings	Update/Status
1.	**Ensuring Reliability of Barauni Generating Station (2X250 MW)** 220 kV Barauni TPS (2 X 250 MW) is connected with grid via 220 kV Barauni-Begusarai D/C, 220 kV Barauni-Mokama-Biharshariff D/C and 220 kV Barauni-Hajipur D/C. Out of these 220 kV Barauni-Hajipur one circuit is at	In the 196th OCC meeting, Bihar representative submitted that the Jumper tightening work of Circuit-2 has been postponed to 1st week of Nov'2022. Reconductoring work (to HTLS) is already going on for 20nos of lines. HTLS conversion work of 220 KV Barauni-Begusarai D/C	

	present out on tower collapse and expected by 22-25 July 2022 as per Bihar SLDC. The availability of Barauni power plant is equally important from the Pan-India resource adequacy point of view. However, Barauni power plant experienced a total blackout due to loss of evacuation path on three occasions in last three months. One meeting was convened by ERLDC on 12 July 2022 to discuss these events. Members from Bihar SLDC, BSPTCL CRITL, BGCL, NTPC Barauni, NTPC Patna RHQ and ERPC participated in the discussion.	line is expected to be clubbed with the work of those 20 lines by Dec'22. Otherwise for reconductoring work of the said line fresh tendering would be done. OCC advised Bihar to identify the towers which are in vulnerable condition so that strengthening work could be carried out in a better manner. OCC further advised Bihar to keep the 220 KV Biharshariff-Mokama D/C line is in closed condition. NTPC representative submitted that Load carrying capacity would be tested once jumper tightening work is completed.	
2.	**<u>Islanding Schemes in Eastern Region</u>** **1.1. <u>Patna Islanding Scheme:</u>** 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 196th OCC Meeting, NTPC representative submitted that GE vide letter dated 03.10.2022 informed that they would not be able to carry out the study because of tool limitations. Possibility for conducting the study through other OEMs is being explored and update regarding the same would be given in the next OCC meeting.	
	1.2. <u>Chandrapura Islanding Scheme:</u> 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.	In the 196th OCC meeting, DVC representative submitted that the work is expected to be completed as per the given timeline.	

	➢ The islanding frequency for CTPS-B islanding system was decided as 48.4 Hz.		
	1.3. <u>IB-TPS Islanding Scheme:</u> 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 196th OCC meeting, *OCC* advised OPTCL to take up the matter with OPGC and submit the timeline to ERPC and ERLDC at the earliest.	
3.	**<u>Reliable Power Supply to Lalmatia/Godda/Dumka areas of JUSNL</u>** **3.1. <u>Restoration of 220kV Farraka-Lalmatia S/C line</u>** 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 196th OCC meeting, representative of Jharkhand informed that joint survey has been completed. The expected timeline for completion of the work is December 2022. MS ERPC advised Jharkhand to submit the activity wise bar chart to ERPC at the earliest. OCC expressed serious concern about delaying of the project and also advised Jharkhand to keep proper protection system e.g., patrolling team in place in order to avoid theft of the towers/conductors.	
4.	**<u>Outage of Important Transmission System</u>** **3.2. <u>132kV Sagbari–Melli.</u>** 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	In the 196th OCC Meeting, representative of Sikkim briefly explained the issue and highlighted the reasons behind delaying of the project. He submitted that the expected timeline for restoration is November'2022	

	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 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.		
5.	**Status of North Karanpura NTPC Generating Station (3 X 660 MW) along with associated transmission elements.** 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	In the 196th OCC meeting, representative of NTPC submitted that Unit 1 of North Karanpura Generating Station would be synchronized by October'2022. He also informed that 400kV North Karanpura (NTPC)-Chandwa (PGCIL) d/C line has been charged.	

	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 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.	On query he informed that land requisition from CCL in respect of the pipe conveyor is still pending. And the same has been sensitized to Ministry level also. Regarding COD of North Karanpura and Barh St 1, U#2, representative of NTPC apprised the forum that both the said units are expected to be commissioned by December'2022.	
6.	**<u>Ensuring N-1 reliability criteria at 400/220 KV Subhashgram (PG) S/s.</u>** 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	In the 196th OCC meeting, representative of ERLDC opined that the SPS can be kept under monitoring for a few days and doing so would ensure thorough testing of the same. After that, around 15th Nov'2022 onwards	

	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.	the SPS can be disabled in view of the low demand. Regarding cost estimate of the ICT, representative of Powergrid informed that cost estimate has been prepared but there is some additional cost implication owing to the requirement of 220kV cables. The revised estimate would be sent to CESC shortly.	
7.	**<u>Endangering Grid connectivity, security & stability of 400 KV Sundargarh-Raigarh LILO Ckt – 3 & 4 at tapping points near Sundergarh by M/s Vedanta Ltd, Jharsuguda along with violation of Grid discipline.</u>** As per the agreement dated 22.12.2010 between M/s Vedanta Ltd. And Powergrid, the connectivity to Vedanta Ltd sub-station was carried out from LILO of 400 KV Sundargarh-Raigarh D/C line # 3 between Tower No – 834 (DD+0) & 835 (DD+0) and 400 KV Sundargarh-Raigarh D/C line # 4 between Tower No – 299 (DD+0) & new Vedanta Tower No-VL3 (DD+0) was done during the year 2011. This activity was taken up as per direction of CERC and instruction of ERLDC/WRLDC in order to charge the Vedanta switchyard at Jharsuguda for sending and receiving of power at Vedanta end with CTU transmission system. After direct connectivity of Vedanta 400 KV sub-station with 765/400 KV sub-station of Powergrid at Sundergarh, the tapping points of LILO portion of line # 3 & # 4 was disconnected by M/s Vedanta Pvt. Ltd. In the year 2014 & 2017 respectively, without completion of direct connectivity for Powergrid, in above-	In the 196th OCC meeting, representative of Vedanta informed that the order has been placed. OCC advised Vedanta to send official communication of the same to Powergrid so that shutdown of both the lines can be processed in the month of November'2022.	

	mentioned LILO lines. M/s Vedanta has dismantled all towers of LILO portion except 2 nos. of towers near each tapping point and left these 4 towers without any routine maintenance/watch & ward activity. At present there is no back support at tower no-VL2 and VL5. As there is no watch and ward and routine maintenance work theft of tower members on these towers have become rampant, subsequently weakening the strength of towers which may lead to collapse of existing Vedanta towers as well as Powergrid towers, resulting interruption of power transfer between Eastern and Western Grid. In this regard, the authority of M/s Vedanta has been informed many times verbally as well as in written communication for replenishment of all missing/hanging members and to provide backstay (back support) for keeping the tower in safe condition and also to take urgent action for direct connectivity of both LILO points. In spite of these correspondences and discussions with M/s Vedanta Ltd., since dt. 04.03.2019, neither any action has been taken nor any permanent connectivity solution has been implemented. The said LILO lines are in severe danger zone and power flow will be affected as stated.		
8.	**<u>MVAR injection during high voltage seasons.</u>** The summary of performance for the past two months is summarized.	In the 196th OCC meeting, representative of DVC informed that DVAR settings for Mejia have been adjusted and significant improvement has been observed. Similar settings have also been implemented in KTPS & DSTPS. Necessary modifications/changes in settings would also be done in RTPS during overhauling.	

		OCC advised all the generating stations to maximize their MVAR absorption during high voltage conditions as per their capability curves. Further a workshop would be organized by ERLDC on 15th October 2022 at ERPC Kolkata on "Governor response and Reactive power performance of generating stations of ER"	
9.	**Construction of 2 Lane Bridge across River Kosi along with approach road from Bheja to Bakaur section of NH-527A (Design Chainage Km 0+000 to Km 13+300) under BRT scheme of Bharatmala Pariyojana Phase-I (in the state of Bihar on EPC mode. -Outage of relocation/height raising of 400 KV DC Kishanganj-Darbhanga Tower no. 402 & 403.** A Bridge across River Kosi along with approach road from Bheja to Bakaur section of NH-527A having a length of 13.3 km is being developed between Bheja- Bakaur The said project is a high-end priority project of Government of India which is being developed for connectivity over Kosi river with 10.2 km longest River Bridge, which is one of the longest river bridges in the Country. It is intimated that there is a 400kV Kishanganj-Darbhanga (DC line) is falling in the main carriageway of NH-527A at Bheja to Bakaur under Construction Bridge which is required to be relocated. The estimate for the said li ne has already been received from Adani transmissions vide letter under reference Amounting to Rs. 77, 67, 76,805.00 / - which includes Rs.13,56,24,508.00 towards transmission availability loss. M/s ALTL vide Letter dated 22.02.2022 had submitted that transmission loss charges amounting to Rs. 13,56,24,508. 00 for outage for 25 days is to be deposited by NHAI for shifting the above-mentioned line.	In the 196th OCC meeting, *OCC* advised Adani to re-submit the detailed report depicting all the activities (parallel as well as series) so that a critical path may be worked out to complete the project at the minimum time.	

	Further, in aforementioned letter M/s. Adani transmissions informed that the payment against the loss due to transmission availability loss (Rs. 13,56,24,508.00) shall be refunded by Alipurduar Transmission Limited to NHAI subject to deemed availability certificate issued by Eastern Regional Power corporation to the transmission company. In this regard, it may be noted that the payment against the loss due to transmission availability loss claimed by M/s, Adani transmissions are huge and the project being implemented under EPC mode with 100% Government funding will burden the Government budget. It may also be noted that the subject project is in its advanced stage of construction and non-shifting of said tower will adversely affect the completion of the project as it is falling in the main carriage way of the alignment. The completion of the instant project on time will be recognised as a mile stone achievement for Govt of India and will able to facilitate the Public of backward Region State of Bihar. As per para 5.3 of Ministry of Power Office Memorandum dated 16.08.2021, it is mentioned that in case of projects of national importance WWI projects), deemed availability may be given for the shut-down period availed by transmission licensees for shifting of their transmission lines, provided that transmission customers are not affected by the shutdown. In view of the above and the subject project being of National Importance, it is therefore requested to issue the necessary deemed availability certificate to Alipurduar Transmission Limited for waving off of the Transmission availability loss for the shutdown of 400kV Kishanganj - Darbhanga Line (DC li ne) for about 25 days.		

10.	**Reliability issues at Ratu and Kake areas of Jharkhand.** Ratu (Burmu) and kanke Areas of Jharkhand were previously fed through either 220/132 KV Patratu Old s/s or Hatia old substations of JUSNL. Presently, it is fed through Patratu New 400/220 KV substation having 2 x 315 MVA ICT in a radial manner. The peak load of this stations is around 90 MW and the radial connection through Patratu New source since January 2022 has offloaded Ranchi 2x315 MVA 400/220 KV ICTs. However, 315 MVA 400/220 KV ICT 1 at Patratu New has been under under outage since 1st August,2022 when it had tripped on Bucholz relay operation. Neither, any update has been received as to what internal fault led to such operation, nor any expected date of its revival has been communicated. Therefore, the reliability of aforesaid stations which are forming part of capital city load of JUSNL has diminished, making it solely dependent on remaining ICT of Patratu New, 315 MVA 400/220 KV ICT 2. Given fact is a violation of N-1 criteria as mentioned in clause 4.2 and 6.2 of Manual on Transmission planning criteria, CEA. The 2nd ICT has tripped recently on consecutive days on 12th September,2022 and 13th September ,2022 due to operation of Oil surge relay leading to total power failure in 220/132 KV Ratu and 132 KV kanke s/s,though no fault was reported. Thus expeditious investigation of such maloperation is needed to ensure such instances are not repeated. It is informed that one 132 KV ckt of Ratu Kanke d/c has been diverted from Ratu to Hatia old making it 132 KV Kanke Hatia old s/c to supply power to aforesaid areas in events of total power failure during tripping of 315 MVA ICT 2 at Patratu New. However, this arrangement would basically reduce restoration time ,but won't augment the reliability lapse as the load is still fed radially from Patratu New. JUSNL is requested to respond to below points	In the 196th OCC meeting, for ICT 1 repair at site is not possible as per survey report. Revised timeline would be intimated later. Test report of ICT-2 oil sample would be received by 20th October'2022.	.

	1. Actual reason of tripping of 315 MVA ICT 2 At Patratu New and measures taken to ensure to eliminate such maloperation. 2. Reason of long outage in 315 MVA ICT 1 at Patratu New and expected date of its revival.		
11.	**Agenda by Rangit HEP** **1. Request for maintenance of 20 MVA, 132 KV/66 KV power transformer of Sikkim State Electricity Board installed at Rangit Power Station.** It was observed that the oil level of the above transformer is found very low, even the conservator tank was almost empty. It requires to be topped up immediately by Sikkim State Electricity Board.	In the 196th OCC meeting, OCC advised Rangit to discuss the matter with Sikkim bilaterally and resolve the issue.	
	2. Shutdown required for replacement of 132 KV old breaker. It is also observed that the 132 KV SF6 gas circuit breaker installed at the primary side of the transformer is not working and as a result, due to a fault in the 20 MVA circuit on 18.09.2022, a complete tripping at Rangit Power Station occurred (all the units and lines tripped). The power station was shut down for almost 3 hours. The power station had raised above issue at earlier OCC meeting dated 21.04.2022 under agenda point B.17. It requires urgent replacement of the faulty circuit breaker with a new one to avoid damage to critical equipment if any fault occurs in the future, for which the shutdown of the above line is required. The shutdown of the said bay for 5 working days continuously is required.	In the 196th OCC meeting, OCC advised Rangit to discuss the matter with Sikkim bilaterally and resolve the issue.	
12.	**Integration of (Interface Energy Meter) IEMs into SCADA/EMS system for telemetry of meter data to SLDCs.**	In the 196th OCC meeting, representative of Powergrid informed that implementation of meter data extension for non-	

	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 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.	AMR meter from Subhasgram to SLDC WB is underway. It would take around 1 month to implement the same. Some infrastructure would also be required at SLDC end in order to display the raw data as received.	

PART C: ITEMS FOR UPDATE

ITEM NO. C.1: ER Grid performance during October 2022

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month October-2022 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)
490.8	560 MU 01-10-2022	26217 MW, 01-10-2022 20:43 Hrs.	15562 MW, 31-10-2022 at 06:05 Hrs.	4318	4407

ERLDC may highlight the performance of the ER grid.

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

Frequency response characteristics (FRC) have been analysed pan India in the event of sudden frequency change that occurred in the month of Oct 2022. The details of these events and the overall response of the Eastern region have been summarized in Table below.

Event	Frequency Change	ER FRC
Event 1: On 15th October,2022 at 11:23 hrs Renewable generation loss of around 3150 MW occurred at Rajasthan renewable generation complex of Northern Region. Load loss=3150 MW Frequency change= 0.29 Hz	Initial Frequency:50.05 Hz Nadir Frequency: 49.65 Hz Final Frequency: 49.76 Hz.	**16.9 %**

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:

Name of the Plant	09th July event data submission status	11th Aug event data submission status	11th Sep event data submission status	17th Sep event data submission status	15th Oct event data submission status
Adhunik	Submitted	Pending	Submitted	Submitted	Submitted
Barh	Submitted	Submitted	Submitted	Submitted	Pending
BRBCL	Pending	Submitted	Submitted	Submitted	Submitted
Darlipalli	Submitted	Pending	Submitted	Submitted	Submitted
Farakka	Pending	Pending	Pending	Pending	Pending

GMR	Pending	Pending	Pending	Pending	Submitted
JITPL	Submitted	Submitted	Submitted	Submitted	Submitted
MPL	Submitted	Submitted	Submitted	Submitted	Submitted
NPGC	Pending	Pending	Pending	Pending	Pending
Kahalgaon	Pending	Pending	Submitted	Submitted	Pending
Teesta III	Submitted	Submitted	Submitted	Submitted	Pending
Teesta V	Submitted	Submitted	Pending	Pending	Submitted
TSTPS	Submitted	Submitted	Submitted	Submitted	Submitted
Dikchu	Submitted	Submitted	Submitted	Submitted	Submitted

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.

Matter shall also be discussed in the Winter Preparedness meeting to be held on 18.11.2022.

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: Primary Frequency Response Testing of ISGS Generating Units

In the 180th OCC meeting, ERLDC representative informed that as per communication received form GMR and JITPL PFR testing has been scheduled by Siemens in August'21.

MPL representative submitted that they would carry out the PFR testing in the month of July'21.

In the 181st OCC meeting, ERLDC representative informed that PFR testing of MPL got postponed due to some technical issue. He further informed that PFR testing is going on in APNRL and that of NPGC and BRBCL is scheduled in the last week of July'21 and 1st week of August'21 respectively.

In the 182nd OCC meeting, ERLDC representative submitted that During July – August 2021, PFR testing has been conducted at the following generating units:

1. Adhunik TPS Unit 1 & 2

2. BRBCL TPS Unit 2 & 3
3. Nabinagar STPS Unit 1
4. Kahalgaon STPS Unit 1

In the 183rd OCC meeting, ERLDC representative updated that PFR testing for Unit# 1 & 2 of GMR had been completed.

In the 185th OCC meeting, ERLDC representative informed that PFR testing of Dikchu is being carried out.

In the 187th OCC Meeting, OCC advised all the members to provide the updated status of PFR testing, if any, to ERPC and ERLDC.

In the 188th OCC meeting, ERLDC representative informed that updated status of PFR testing was received from MPL.

The updated status is enclosed at **Annexure-C.5**.

Members may update.

ITEM NO. C.6: Testing of Primary Frequency Response of State Generating units by third party agency.

In the 171st OCC Meeting, OCC advised all the SLDC's to prepare the action plan for their state generators and submit the details to ERPC and ERLDC at the earliest.

DVC vide-mail dated 6th Oct 2020 informed that the Primary Frequency Response Testing may be carried out for the following generating units:

Sl. No.	Name of the Units	Capacity (MW)
1	BTPS-A	500
2	CTPS Unit #7&8	2X250
3	DSTPS Unit#1&2	2X500
4	KTPS Unit # 1&2	2X500
5	MTPS Unit # 3 to 8	2 X 210 +2 X 250 + 2X 500
6	RTPS Unit # 1 & 2	2 X 600

In the 185th OCC meeting, OHPC representative informed that testing of Primary Frequency Response of all the units of Rengali and Indravati will be done by the end of December 2021.

WBPDCL representative informed that they will place the order in the month of December 2021.

In the 186th OCC Meeting, OHPC representative informed that the testing of Primary Frequency Response of all the units of Rengali and Indravati would be done by the 2nd week of January 2022.

DVC representative informed that the bid opening had been done on 22nd December 2021.

In the 187th OCC meeting, OHPC and DVC representatives were not present during the discussion.

In the 188th OCC meeting, it was informed that PFR testing of all the 3 units of Budge-Budge are scheduled from 26th Feb 2022 to 3rd March 2022.

OHPC representative submitted that PFR testing of all the units of Rengali (5 units) and Indravati (4 units) would be carried out by M/s Solvina from 20th March 2022 onwards.

DVC representative informed that the work order for PFR testing has been placed.

Generating units may update.

ITEM NO. C.7: PSS tuning of Generators in Eastern Region

The PSS tuning activity is mandatory in line with IEGC and CEA regulations. The Procedure of PSS tuning for helping utilities in getting this activity carried out has been approved in 171st OCC Meeting and shared with all concerned utilities.

In the 186th OCC Meeting, Teesta –V representative informed that the PSS tuning would be conducted in the last week of January 2022.

It was informed in the OCC that PSS tuning of Rongnichu and Chuzachen had been completed.

DVC representative informed that PSS tuning of RTPS unit-1 & 2 would be done in the month of March 2022.

BRBCL representative informed that PSS tuning of BRBCL unit-1 has also been completed.

In the 187th OCC meeting, OCC advised ERLDC to send the updated status of PSS tuning to ERPC.

The updated schedule for PSS tuning of the units is attached at **Annexure-C.7**.

Generators may update.

ITEM NO. C.8: 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.9: 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.

It was deliberated in the 186th OCC meeting that except West Bengal all the entities are sending the report as per the new format.

In the 192nd OCC meeting, it was informed that except for West Bengal all entities are sending the report as per the new format.

Members may update.

ITEM NO. C.10: Latest Status of States ATC/TTC declared by States for the month of December-2022.

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 months 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 **December-2022** 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	5816	--	116	--	5700	--	Dec-22
2	JUSNL	1530	--	52	--	1478	--	Nov-22
3	DVC	1732	3671	66	52	1666	3619	Dec-22

4	OPTCL	3865	1937	122	58	3743	1879	Dec-22
5	WBSETCL	6215	--	450	--	5765	--	Dec-22
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
Dec-22	Submitted	Pending	Submitted	Submitted	Submitted	Pending
Jan-23	Submitted	Pending	Submitted	Submitted	Submitted	Pending
Feb-23	Pending	Pending	Pending	Submitted	Submitted	Pending
March-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.

ITEM NO. C.11: 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.

Members may update.

ITEM NO. C.12: 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.13: 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.

OPTCL representative submitted that they would provide the details shortly.

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 + 18 procured and in transit (arrive by Sept 2022)	Mancheswar grid - 4 nos. (high Tech) Mancheswar store - 8 nos. (high tech)	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)
				Mancheswar store - 2 nos. (Lindsey)	
		220 kV	42	Budhipadar - 14 nos. (Lindsey)	
				Mancheswar grid - 14Nos. (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 conductor.	Central India (Koradi, Maharashtra)- **48 Hours**	Modular aluminum guyed towers- Suspension tower
4	PGCIL (Odisha)	400 KV ERS - 3	3	Rourkela	Suspension - 2 & Tension-1
		765 KV ERS - 24	24	Rengali	Suspension - 15 & Tension-9

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
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 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

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
			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 4 towers for 220 kV Bodhgaya- Chandauti Purnea : 1 Dehri on sone: 2 Sultanganj: 2 Fatuah: 2 Muzaffarpur : 4	Can be used for both suspension and Tension
15	BGCL	-	No ERS	No ERS	-

Sl	Utility	voltage levels	Number of ERS towers available	Location of ERS situated	Type of ERS (Suspension/ Tension/ any other)
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, discussion for signing a MoU with PGCIL is under progress and tie up with M/s Supreme Engineering has also been initiated.

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.14: 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**
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				

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
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, ii. 220 kV Subhasgram-EMSS D/C	SPS is Available for both the Ckts	1. 220 kV Rajarhat-Newtown AA3 D/C line with HTLS. 2. No Strenthing planned for 220 kV Subhasgram-EMSS D/C	1. Target Date November 2022 for recondutoring **WBSETCL may update the present Status**
7	i. 220 kV Subhasgram (PG) – Subhasgram (WB) D/C ii. 220 kV Subhasgram (WB)-Lakshmikantpu	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**

Sl. No	Name of Element	Short Term Measures	Long term Measures	The target date for long term measures
	r D/C			
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 discuss.

ITEM NO. C.15: 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**
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.

ITEM NO. C.16: Draft Central Electricity Authority (Flexible Operation of Thermal Power Plants) Regulations, 2022 and associated draft procedure by NLDC.

CEA has notified Draft Central Electricity Authority (Flexible operation of thermal power plants) Regulations, 2022. They have asked for comments by 26th August 2022.

Highlights of draft regulation:

- Applicable to all coal and lignite-based thermal power plants and load despatch centres.
- Objective of regulation is to mandate necessary retrofitting of thermal generators to support flexible operation to facilitate dispatch of must run generators like renewables
- This includes measures to reduce technical minimum, now termed as MPL (Minimum Power Level) , increase the ramp rates and optimize the start-up of the power plants
- Units throughout their service life shall be considered for flexible operation.
- Beforehand assessment for Suitability for start/stops, deep load following (Ramps), condition assessment and required upgradation for flexible operation need to be done.
- Load despatch can schedule flexible plants to support the operation of must-run stations.
    - All thermal plants up to minimum power levels of 55 % (Within 1 year)
    - All thermal plants up to minimum power levels of 40% with condition that (Within 3 years based in consultation with OEM)
        - Coal-based thermal plant: Minimum loading/unloading rate shall be 3 %/minute above MPL
        - Supercritical and ultra-super-critical units: Minimum loading/unloading rate shall be 5 %/minute above MPL
- All thermal plants to achieve the requirements should go for technical feasibility studies in consultation with the concerned Original Equipment Manufacturers/ Qualified Consultants
- All Thermal power plants to implement the necessary modifications as per this regulation.
- Any deviation from the limits prescribed under these Regulations shall be brought before the Authority on case-to-case basis by the thermal power plants for exemption, if any.

In view of the same, all thermal power plants in the eastern region should check their feasibility of operation at 55% and 40% status including ramping capability in consultation with OEM. For this ISGS, IPPs, Intra-state SGS and IPPs may also explore associated testing of their respective units at lower levels in consultation with OEM as a pilot project. This activity has been earlier done successfully on various ISGS/IPP power plants. Further, all are requested to submit comments.

It is also informed that Tamil Nādu is doing two-shift operations of Mettur and Tuticorin units to accommodate RE. They are taking units out between 0800-1100 hours and bringing them back between 1445-1815 hours.

In the 194th OCC meeting, NTPC representative submitted that all its units are able to run at 55% load capacity without any oil support.

DVC representative submitted that they are able to achieve the minimum load capacity of 55% in case of 500 MW and 600 MW units provided the coal quality is good. The lower capacity units are ball and tube mill type for which necessary permission from CEA and ERPC would be taken prior to testing of minimum load capacity.

WBPDCL representative submitted that the technical minimum for their units is different and varies depending upon their unit capacity. He further submitted that in general a minimum load capacity of 75% is maintained for all their units but due to deteriorated coal quality, at times it becomes difficult to maintain the load capacity especially for Kolaghat units.

WBPDCL was advised to send the detailed report on technical minimum of their units to ERPC at the earliest.

OCC advised all the generating units to submit their comments on draft CEA regulations, 2022 of Flexible Operation of Thermal Power Plants to CEA within the stipulated time period. Further, all the generating stations were also advised to submit the reports to ERPC & ERLDC on the present minimum load achieved by them against the designed technical minimum.

All the generating stations are requested to update the status.

PART D: OPERATIONAL PLANNING

ITEM NO. D.1: Anticipated power supply position during December 2022

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of December 2022 provided at **Annexure D.1** were prepared by ERPC Secretariat 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 December 2022

Proposed Maintenance Schedule of Thermal Generating Units of ER in the month of Dec' 2022

System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2022-23)		No. of Days	Reason	Remarks
				From	To			
WBPDCL	Sagardighi TPS	3	500	15.12.2022	13.01.2023	30	COH	
	Bandel TPS	5	215	10.12.2022	19.12.2022	10	PG Test	
	Santaldih TPS	5	250	01.12.2022	09.12.2022	09	PG Test	
	DPL	8	250	01.12.2022	14.01.2023	45	Boil.+Turb. +Gen. Maintenance	
DVC	Mejia TPS	8	500	20.12.2022	24.01.2023	36	AOH -Blr, LPT, Gen, FGD	
	Raghunathpur TPS	1	600	01.12.2022	14.01.2023	45	AOH- Blr, Gen., LPT, FGD & De-Nox Burner	
OPGC	IB TPS	4	660	01.12.2022	30.12.2022	30	Annual Maintenance	
CESC	Budge-Budge TPS	2	250	01.12.2022	07.12.2022	07		
	Budge-Budge TPS	3	250	09.12.2022	24.12.2022	16		
HEL	HEL	1	300	27.12.2022	28.12.2022	02		
	HEL	2	300	31.12.2022	01.02.2023	33		
NTPC	Farakka STPS	2	200	25.12.2022	28.01.2023	35	Boiler+ Bearing Inspection+FGD	
	Farakka STPS	6	500	17.12.2022	25.01.2023	40	BOH+DeNOx+HPT+LPT+FGD	S/D availed during Aug, 2022
	Barh STPS	4	660	01.12.2022	14.01.2023	45	Boiler+HPT+IPT	

							+LPT+Bearing Inspection	
NPGC	New Nabinagar STPS	2	660	27.12.2022	31.12.2022	05	Boiler license Renewal	
JITPL	Derang TPS	2	600	18.12.2022	31.01.2023	14	COH	

NTPC vide mail dated 10.112022 informed that Kahalgaon Unit-5 Overhauling, which was earlier scheduled from 01/03/2023 to 14/04/2023, may please be preponed to 01/12/2022 to 14/01/2023 for 45 days which will include Boiler & Generator overhauling along with Combustion modification in the Boiler for NOx control in compliance with the MoEF environmental guidelines.

Members may update.

ITEM NO. D.3: Major Generating Units/Transmission Element outages/shutdown in ER Grid (as on 10.11.2022)

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	RTPS	DVC	DVC	1	600	Capital Overhauling for 50 days	25-Oct-2022
4	BUDGE-BUDGE	WEST BENGAL	CESC	1	250	Annual Overhauling for 42 days	03-Nov-2022
5	Sterlite	ODISHA	SEL	3	600	Problem in Ash Handling Plant	05-Nov-2022
6	NABINAGAR(NPGC)	BIHAR	NPGC	1	660	Annual Overhauling for 80 days	06-Nov-2022
7	TSTPP	ODISHA	NTPC	2	500	Boiler tube leakage	07-Nov-2022
8	DSTPS	DVC	DVC	1	500	Boiler Tube Leakage	08-Nov-2022

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:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	ADHUNIK	JHARKHAND	APNRL	2	270	Reserve Shutdown (Low Schedule)	22-Oct-2022

2	MEJIA TPS	DVC	DVC	2	210	Initially unit tripped on Furness Pressure low. Unit is available from 00:00 hrs dt. 24.10.22 but kept out due to low system demand	23-Oct-2022
3	FSTPP	WEST BENGAL	NTPC	5	500	Reserve Shutdown	24-Oct-2022
4	BARH	BIHAR	NTPC	4	660	Reserve Shutdown	25-Oct-2022

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	RENGALI HPS	ODISHA	OHPC	3	50	Damage of GT	26-Nov-2021
2	BALIMELA HPS	ODISHA	OHPC	3	60	The unit taken out under R & M for 18 months.	08-Jul-2022
3	BALIMELA HPS	ODISHA	OHPC	4	60	The unit taken out under R & M for 18 months.	08-Jul-2022

d) Long outage report of transmission lines (As on 10.11.2022):

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	49 NOS OF TOWER COLLAPSED.AS REPORTED BY SLDC OPTCL, 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	ICT BURST AND DAMAGED AFTER FIRE REPORTED
400KV/220KV 315 MVA ICT 4 AT JEERAT	09.04.2021	VERBALLY CONFIRMED BY WB THAT NEW TRANSFORMER PROCUREMENT UNDER PIPELINE AND SHALL BE REPLACED IN THE NEAR FUTURE.
220KV-FSTPP-LALMATIA	21.04.2021	THREE TOWER COLLAPSED NEAR LALMATIA
400KV MAIN BUS - 2 AT DIKCHU	05.05.2021	REPEATED SPURIOUS BUSBAR PROTECTION OPERATION
220KV-GAYA-CHANDAUTI (PMTL)-DC	22.05.2021	FOR DISMANTLING OF TOWER NO 51 UNDER LILO WORK AT BODHGAYA.
400KV/220KV 315 MVA ICT 1 AT INDRAVATI (PH)	24.02.2022	INITALLY REPORTED BUCHHOLZ RELAY OPERATED. LATER SLDC ODISHA REPORTED THAT 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
220KV-ALIPURDUAR (PG)-ALIPURDUAR(WB)-1	14.07.2022	S/D TAKEN FOR RELAY TESTING PURPOSES, COULD NOT BE RETURNED DUE TO B-PH CB LOCKOUT
400KV/220KV 315 MVA ICT 1 AT PATRATU	01.08.2022	BUCHHOLZ RELAY OPERATED
400KV/220KV 315 MVA ICT 1 AT DURGAPUR	08.08.2022	FOR REPLACEMENT OF 416-89T ISOLATOR, RELAY & CONTROL PANEL WIRING, REPLACEMENT OF 408 BCT WITH BPI, TESTING
400KV-ALIPURDUAR (PG)-PUNASANGCHUN-JIGMELING-2	24.09.2022	Y PHASE TO B PHASE FAULT
220KV-RANCHI-HATIA-2	24.09.2022	TOWER COLLAPSE AT LOCATION NO - 10
132KV-KATAYA-KUSAHA-2	25.09.2022	DISTANCE PROTECTION OPERATED. SPARKING SEEN BETWEEN TREE AND CONDUCTOR
400KV/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	DGA VIOLATION
220KV-ALIPURDUAR (PG)-SALAKATI-1	26.10.2022	FOR RECODUCTORING WORK OF LINE WITH HTLS CONDUCTOR
400KV/220KV 315 MVA ICT 4 AT RANGPO	27.10.2022	FOR RECTIFICATION OF SF6 GAS LEAKAGE RECTIFICATION WORK
400KV-KISHANGANJ-NEW PURNEA-2	06.11.2022	HAND TRIPPED TO ATTEND HEAVY GAS LEAKAGE IN 424-89A (NEW PURNEA CKT-2 LINE SIDE ISOLATOR OF TIE BAY) AT KISHANGUNJ

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 Oct-2022

The details of new units/transmission elements commissioned in the month of Oct-2022 based on the inputs received from beneficiaries:

ERLDC_LIST OF NEW ELEMENTS CHARGED DURING October, 2022							
GENERATING UNITS							
SL. NO.	**Location**	**OWNER/UNIT NAME**	**Unit No/Source**	**Capacity added (MW)**	**Total/Installed Capacity (MW)**	**DATE**	**Remarks**
1	Tandwa, Jharkhand	NTPC (North Karanpura)	1	660	660*3	21-Oct-22	Unit 1 was first synchronised on 21-10-2022 at 19:04 Hrs.

							Provisional Grant of Startup power was issued on 17-10-2022.
ICTs/ GTs / STs							
SL. NO.	**Agency/Owner**	**SUB-STATION**	**ICT NO**	**Voltage Level (kV)**	**CAPACITY (MVA)**	**DATE**	**Remarks**
1	NTPC	North Karanpura	ST-3	400/11.5/ 11.5	315	21-Oct-22	ST-3 was first time synchronised on 17-10-2022 at 13:36 Hrs.
2	NTPC	North Karanpura	GT-1	400/21	265	21-Oct-22	GT-1 was first time synchronised on 17-10-2022 at 14:06 Hrs.
TRANSMISSION LINES							
SL. NO.	**Agency/Owner**	**LINE NAME**		**Length (KM)**	**Conductor Type**	**DATE**	**Remarks**
1	NKTL	400 kV North Karanpura(NTPC)-Chandwa(PG) Transmission Line-1		38.000	Quad Moose	15-Oct-22	Line was charged from Chandwa end on 15-10-2022 at 13:48 Hrs.
2	NKTL	400 kV North Karanpura(NTPC)-Chandwa(PG) Transmission Line-2		38.000	Quad Moose	15-Oct-22	Line was charged from Chandwa end on 15-10-2022 at 14:13 Hrs.
LILO/RE-ARRANGEMENT OF TRANSMISSION LINES							
SL. NO.	**Agency/Owner**	**Line Name/LILO at**		**Length (KM)**	**Conductor Type**	**DATE**	**Remarks**
NIL							
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							
BAYS							
SL. NO.	**Agency/Owner**	**Element Name**		**SUB-STATION**	**Voltage Level (kV)**	**DATE**	**Remarks**
1	JUSNL	400KV MAIN BAY OF LATEHAR(JUSNL)-1 AT CHANDWA(PG)		Chandwa (PG)	400	1-Oct-22	Bay was charged for First Time on 01-10-2022 at 12:57 Hrs. Bay at Chandwa(PG) is owned by JUSNL(Bay No. 401)
2	JUSNL	400KV MAIN BAY OF LATEHAR(JUSNL)-2 AT CHANDWA(PG)		Chandwa (PG)	400	1-Oct-22	Bay was charged for First Time on 01-10-2022 at 13:00 Hrs. Bay at Chandwa(PG) is owned by JUSNL(Bay No. 402)

Members may note.

ITEM NO. D.5: UFR operation during the month of October 2022.

Frequency profile for the month as follows:

Month	Max (Date/Time)	Min (Date/Time)	Less IEGC Band (%)	Within IEGC Band (%)	More IEGC Band (%)
October, 2022	50.41 Hz on 24.10.2022 at 13:06 Hrs.	49.53 Hz on 25.10.2022 at 18:12 Hrs.	4.88	78.26	16.86

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

Members may note.

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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)	180.56	11-May-15	22-Mar-16	24	22-Mar-18	46.04		63.31	Project Completed
8			Implementation of OPGW based reliable communication at 132 kv and above substations. (128)	51.22	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)	30.26	27-Jul-18	1-Apr-19	18	1-Oct-20	8.17		24.5	90% grant availed . Rest work in progress Scheduled to be completed by 30.11.2022
10			Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha. (196)	3.26	24-May-19	19-Feb-20	10	19-Dec-20	0.713		0.713	Commissioned on 19.07.2022.
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)	40.7	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-C.5

Date of PFR testing scheduled /completed for generating stations in ER

Sr. No	Station	Generating Unit	Test schedule	Remarks
1	TALCHER STAGE 2	3	Unit 3 - 5: 23-11-2020 to 28-11-2020	Testing for unit 6 yet to be conducted
2		4		
3		5		
4		6		
5	Farakka	2	01-02-2021 to 10-01-2021	Testing completed
6		3		
7		4		
8		5		
9		6		
10	Kahalgaon	1	August'21	Testing completed for Unit 1
11		5		
12		6		
13		7		
14	Barh	4	18-02-2021 to 21-02-2021	Scheduled
15		5		
16	Teesta V	1	07-01-2021 - 08-01-2021	Testing completed
17	Teesta III	1	30-01-2021 - 10-02-2021	Testing completed
18		2		
19		3		
20		4		
21		5		
22		6		
23	Dikchu	1	Unit#1: 6th & 7th April' 21 Unit#2: 8th & 9th April' 21	Scheduled
24		2		
25	MPL	1	-	Postponed due to some technical issue
26		2		
27	GMR	1	August'21	Testing Completed
28		2		
29		3		
30	JITPL	1	August'21	Scheduled
31		2		
32		3		
33	NPGCL	1	August'21	Testing Completed

34	BRBCL		1st Week of August'21	Testing Completed
35	APNRL	1&2	July'21-August-21	Testing Completed
36	BBGS	1,2&3	26th Feb 22 - 3rd Mar 22	Scheduled

Power Plant	Unit No	PSS tuned (Yes/No)	PSS in Service (Yes/No)	Last PSS Tuning Date	Whether Done in Last 3 Years	Whether Next to be planned	Planned Next PSS Tuning
West Bengal							
Kolaghat-WBPDCL	3	No	Yes	Long Back	No	Yes	To be done within Jan./Feb. 2022 after DAVR replacement.
Bakreshwar-WBPDCL	2	Yes	Yes	2019	Yes	Yes	PSS tuning to be done during Unit O/H in the month of November-December, 2021
Bakreshwar-WBPDCL	4	Yes	Yes	2019	Yes	Yes	BHEL offer received. PSS tuning to be done within Nov. , 2021
Bakreshwar-WBPDCL	5	Yes	Yes	2019	Yes	Yes	BHEL offer received. PSS tuning to be done within Nov. , 2021
PPSP	1	No	Yes	2009	No	Yes	Dec-21
PPSP	2	No	Yes	2009	No	Yes	Dec-21
PPSP	3	No	Yes	2009	No	Yes	Dec-21
PPSP	4	No	Yes	2009	No	Yes	Dec-21
TLDP III	4 x 33			No Detail	No Detail	Yes	To be updated by WBSEDCL
TLDP IV	4 X 44			No Detail	No Detail	Yes	To be updated by WBSEDCL
DVC							
Raghunathpur-DVC	1	No	No		No Detail	Yes	Will be done after AOH
Raghunathpur-DVC	2	No	No		No Detail	Yes	Jun-21
Waria	4	Yes	Yes	2008	No	Yes	Unit Is out of Service
ISGS							
Kahalgaon NTPC	1	Yes	Yes	2017	Yes	Yes	Apr-21
Kahalgaon NTPC	3	Yes	Yes	2016	Yes	Yes	Jul-21
Kahalgaon NTPC	4	Yes	Yes	2015	No	Yes	Mar-21
Kahalgaon NTPC	6	Yes	Yes	2009	No	Yes	Mar-21
Talcher Stage 2	3	Yes	Yes	2016	Yes	Yes	Nov-21
Talcher Stage 2	4	Yes	Yes	No Details	No Details	Yes	Nov-21
Talcher Stage 2	5	Yes	Yes	No Details	No Details	Yes	Nov-21
Talcher Stage 2	6	Yes	Yes	2016	Yes	Yes	Nov-21
Barh NTPC	1						
Barh NTPC	4			2015		Yes	In Next AOH
Barh NTPC	5			During Unit commissioning		Yes	June 2021 (AOH)
Teesta V	1	Yes	Yes	2008	No	Yes	Nov-21
Teesta V	2	Yes	Yes	2008	No	Yes	Nov-21
Teesta V	3	Yes	Yes	2008	No	Yes	Nov-21
BRBCL	2	Yes	Yes	2019	Yes	Yes	Jun-21

BRBCL	3	No	Yes	Vendor to Do	No	Yes	Jun-21
BRBCL	4	No	Yes	Vendor to Do	No	Yes	To be updated
KBUNL	1	Yes	Yes	2014	No	Yes	2021-22
KBUNL	2	Yes	Yes	2014	No	Yes	2021-22
Rangit	3 x 20			Not Available	No	Yes	To be updated by NHPC
IPP							
ADHUNIK	1	Yes	YES	2013	No	Yes	Mar-21
ADHUNIK	2	Yes	YES	2013	No	Yes	Mar-21
JITPL	1	Yes	Yes	2016	Yes	Yes	Jul-21
JITPL	2	Yes	Yes	2016	Yes	Yes	Jul-21
GMR	1	Yes	Yes	2013	No	Yes	Dec-21
GMR	2	Yes	Yes	2013	No	Yes	Dec-21
GMR	3	Yes	Yes	2013	No	Yes	Dec-21
Orissa							
IB TPS	1	Yes	Yes	2011	No	Yes	Mar'2021
IB TPS	2	Yes	Yes	2012	No	Yes	Mar'2021
Upper Indravati	1	Yes	No	2015	No	Yes	To be updated by OHPC
Upper Indravati	2	Yes	No	2015	No	Yes	To be updated by OHPC
Upper Indravati	3	Yes	No	2000	No	Yes	To be updated by OHPC
Upper Indravati	4	Yes	No	2001	No	Yes	To be updated by OHPC
Balimela	1 (60 MW)			No detail		Yes	To be updated by OHPC
Balimela	2 (60 MW)			No detail		Yes	To be updated by OHPC
Balimela	3 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	4 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	5 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	6 (60 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	7 (75 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Balimela	8 (75 MW)	No	No	Not tuned	No	Yes	To be updated by OHPC
Upper Kolab	1	Yes	Yes	2007	No	Yes	To be updated by OHPC
Upper Kolab	2	Yes	Yes	2007	No	Yes	To be updated by OHPC
Upper Kolab	3	Yes	Yes	2007	No	Yes	To be updated by OHPC
Upper Kolab	4	Yes	Yes	2007	No	Yes	To be updated by OHPC
Sterlite	4 X 600			No detail		Yes	To be updated by SLDC
Jharkhand							
Tenughat	1	Yes	Yes	2017	Yes	Yes	Dec-21
Tenughat	2	Yes	Yes	2017	Yes	Yes	Dec-21
Subarnrekha	2 X 65					Yes	To be updated
Bihar							
BTPS	6 (110)					Yes	To be updated by BSPGCL

BTPS	7 (110)					Yes	To be updated by BSPGCL
BTPS	8					Yes	To be updated by BSPGCL
BTPS	9					Yes	To be updated by BSPGCL
Bhutan							
Tala	1	No	Yes			Yes	To be updated by BPC
Tala	2	No	Yes			Yes	To be updated by BPC
Tala	3	No	Yes			Yes	To be updated by BPC
Tala	4	No	Yes			Yes	To be updated by BPC
Tala	5	No	Yes			Yes	To be updated by BPC
Tala	6	No	Yes			Yes	To be updated by BPC
Chukha	1	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	2	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	3	No	Yes	2005	No	Yes	To be updated by BPC
Chukha	4	No	Yes	2005	No	Yes	To be updated by BPC
Mangdechu	1	No	Yes			Yes	Sep-21
Mangdechu	2	No	Yes			Yes	Sep-21

Annexure D.1

Anticipated Peak Demand of Eastern Region for the month of December 2022

1	**BIHAR**	**Demand (MW)**	**Energy Requirement (MU)**
	NET MAX DEMAND	5200	2636
	NET POWER AVAILABILITY- Own Sources	606	241
	Central Sector+Bi-Lateral	6033	2889
	SURPLUS(+)/DEFICIT(-)	1439	494
2	**JHARKHAND**		
	NET MAXIMUM DEMAND	1820	950
	NET POWER AVAILABILITY- Own Source	462	180
	Central Sector+Bi-Lateral+IPP	1027	562
	SURPLUS(+)/DEFICIT(-)	-331	-208
3	**DVC**		
	NET MAXIMUM DEMAND	3125	2020
	NET POWER AVAILABILITY- Own Source	4582	2739
	Central Sector+MPL	295	172
	Bi- lateral export by DVC	1874	1394
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	-122	-503
4	**ODISHA**		
	NET MAXIMUM DEMAND (OWN)	3950	2418
	NET MAXIMUM DEMAND (In Case of CPP Drawal)	5300	3115
	NET POWER AVAILABILITY- Own Source	2864	1980
	Central Sector	1823	1183
	SURPLUS(+)/DEFICIT(-) (OWN)	737	745
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-613	48
5	**WEST BENGAL**		
5.1	**WBSEDCL**		
	NET MAXIMUM DEMAND	5170	2850
	NET MAXIMUM DEMAND (Incl. Sikkim)	5175	2857
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	4374	2433
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2020	1069
	EXPORT (To SIKKIM)	5	7
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	1219	645
5.2	**CESC**		
	NET MAXIMUM DEMAND	1430	680
	NET POWER AVAILABILITY- Own Source	460	346
	IMPORT FROM HEL	540	319
	TOTAL AVAILABILITY OF CESC	1000	665
	DEFICIT(-) for Import	-430	-15
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	6600	3530
	NET POWER AVAILABILITY- Own Source	4834	2779
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	2560	1388
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	794	637
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	789	630
6	**SIKKIM**		
	NET MAXIMUM DEMAND	133	64
	NET POWER AVAILABILITY- Own Source	2	1
	Central Sector	189	84
	SURPLUS(+)/DEFICIT(-)	59	22
	EASTERN REGION		
	NET MAXIMUM DEMAND	20420	11618
	NET MAXIMUM DEMAND (In Case of CPP Drawal of Odisha)	22178	12315
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	1874	1394
	EXPORT BY WBSEDCL TO SIKKIM	5	7
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	478
	NET TOTAL POWER AVAILABILITY OF ER	23403	12804
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	2978	1179
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal of Odisha)	1220	482