AGENDA
FOR
204TH OCC MEETING

Date: 23.06.2023

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 204TH OCC MEETING TO BE HELD ON 23.06.2023 (FRIDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 203rd OCC Meeting held on 19th May 2023 physically at ERPC, Kolkata.

The minutes of 203rd Operation Coordination sub-Committee meeting held on 19.05.2023 was circulated vide letter dated 05.06.2023.

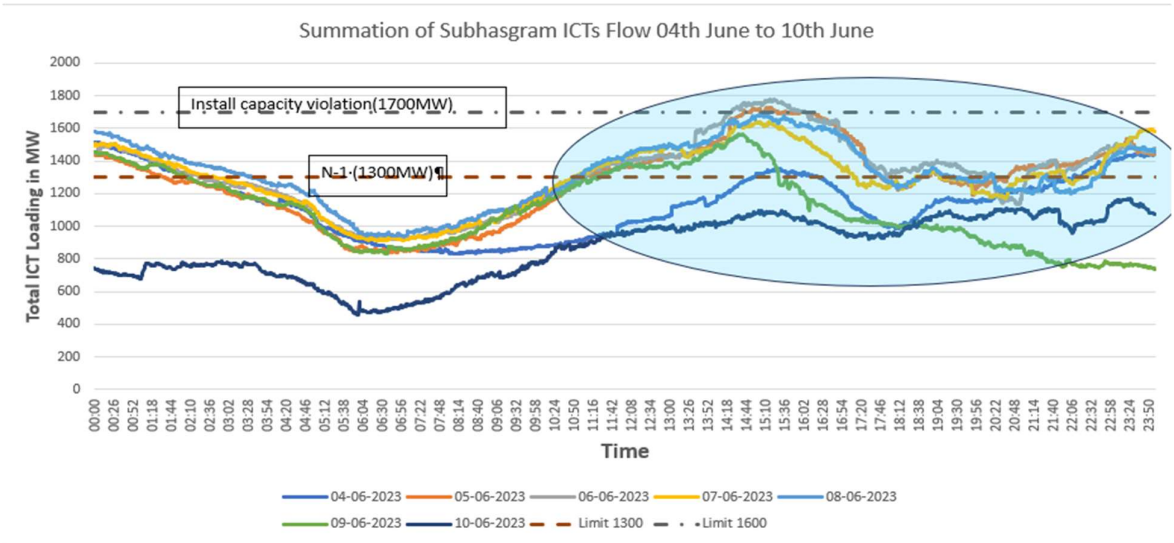
Members may confirm the minutes of 203rd OCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: High loading of Subhashgram ICTs - ERLDC.

The majority of the load in the metropolitan city of Kolkata and the South 24 Parganas district in West Bengal are catered through the five 400/220 kV ICTs at Subhashgram. While these five ICTs have been commissioned progressively, the demand growth in these areas has outpaced the capacity.

This summer, total loading of these ICTs crossed more than its transformation capacity i.e., 1760 MVA for a considerable period and the system was not even N compliant. To this effect, CESC as well as WB had to shed some load in some pockets of metropolitan area of Kolkata and around. The loading pattern for 4th to 10th June is shown below.



The procurement of the 6th ICT (500 MVA) is still in the tendering stage. As intimated by POWERGRID, it is unlikely to be available by next summer season. Even after commissioning of this ICT, the system will not be N-1 compliant. Further, the commissioning of 400/220 kV Laxmikantapur S/s has been pending for the last two years. There is no definite timeline for the commissioning of this sub-station.

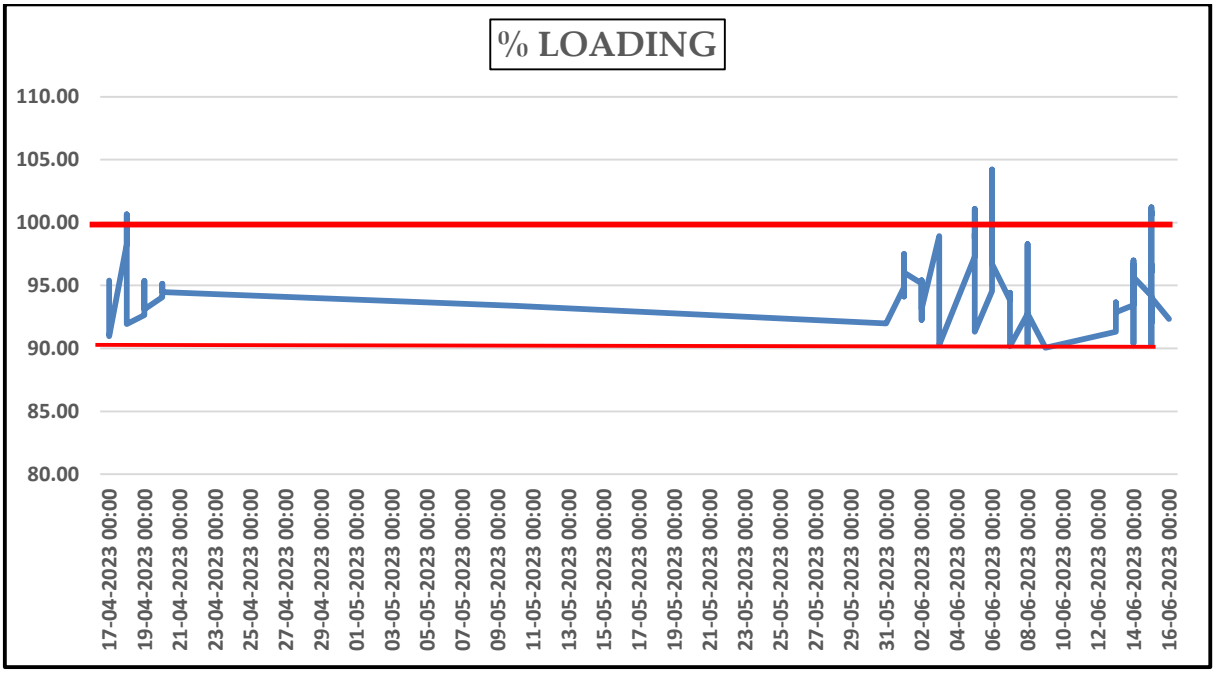
Given the limited options available in such a short timeframe, it may be necessary to consider the commissioning of the 7th ICT (500 MVA) at Subhashgram to meet the demand and satisfy the N-1 criteria. Although commissioning seven ICTs with a total transformation capacity of 2760 MVA exceeds the maximum transformation capacity of 2500 MVA suggested in the CEA manual on transmission planning criteria, 2023. It may be worth exploring the possibility of an exemption to this criterion or exploring bus splitting arrangement at Subhashgram.

Members may discuss.

ITEM NO. B.2: Proposal for installation of 7th 400/220 KV ICT (500 MVA) at Powergrid/Subhashgram S/s: Powergrid ER-II

Presently at POWERGRID/Subhashgram SS, total 05 ICTs are present with total transformation capacity of 1760 MVA (4 X 315 MVA + 01 X 500 MVA). Further as per decision taken in 42nd ERPC meeting, 06th ICT in the form of 500 MVA will also going to be installed, which will take the tally of installed MVA to 2260 MVA.

Considering the present load flow of Subhashgram SS from 01.04.2023 to 15.06.2023, it is observed that loading is around 90% of the total transformation capacity for most of the period. Detail month wise, loading experienced in Subhashgram SS is given below for reference: -



Add to this, for entire period both Oil Temperature and Winding Temperature is in very high order (WTI- around 85-95 Deg, OTI- 70-80 Deg), which will have implications in accelerated ageing/degradation of cellulose in longer period.

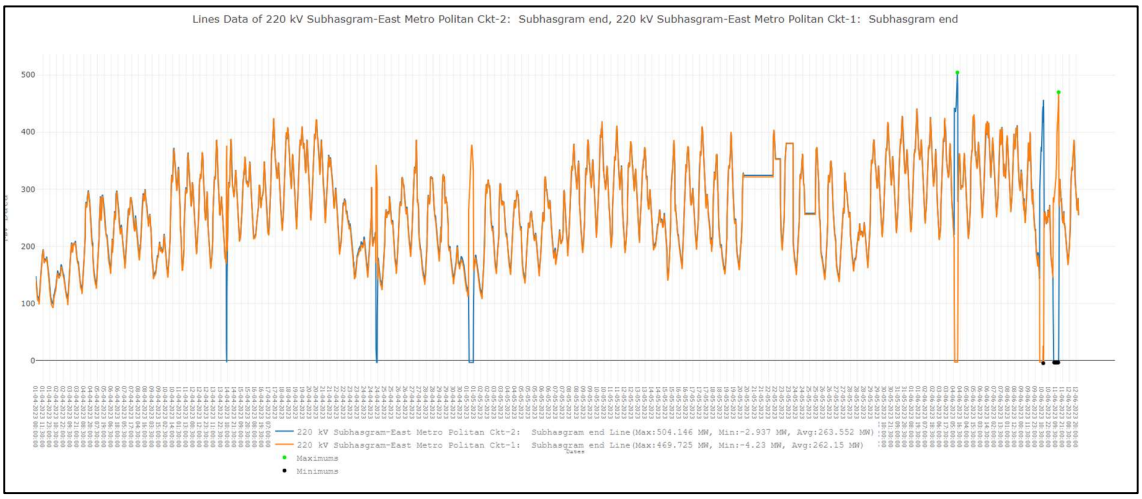
It is evident that, even if 6th ICT installed and total transformation capacity goes to 2260 MVA and also neglecting any load increment, loading will be very high for all installed ICT's and catering any emergency situation for any outage will be very difficult.

Considering the above fact, it is prudent to envisage 7th ICT with 500 MVA ICT. For installation of 7th ICT, existing Bus Reactor place to be used and Bus Reactor may be relocated in other area.

Powergrid may update. Members may discuss.

ITEM NO. B.3:	**System Augmentation of 220 KV Subhashgram PG – EMSS D/C - ERLDC.**

220 kV Subhashgram (PG) -EMSS D/C during peak load are carrying more than 400 MW/Ckt and are reaching values up to 450-460 MW/Ckt (Plots attached from April-June 2023). These circuits have a thermal rating of 500 MVA and are not N-1 complied in line with CEA transmission planning criteria 2013 as well as 2023 and are presently being operated with SPS scheme. This issue of N-1 compliance has been flagged by ERLDC in its operational feedback to CEA and CTU on regular basis. So, far there is no system augmentation plan received from CESC for these circuits. The situation is already vulnerable in this peak season and would further degrade in next season.



CESC in consultation with West Bengal STU may kindly share the firm plan for system augmentation to ensure fulfilment of reliability and planning criteria for these circuits.

ITEM NO. B.4:	**Requirement of adequate Capacitor banks in 132 KV and below network in Eastern Region - ERLDC.**

During the peak demand season in 2023, it is observed that certain pockets in the eastern region are facing chronic low voltage issue. These include following areas (Plots attached for nodes whose data are properly reflected at ERLDC):

1. Southern West Bengal system (Shubhasgram/ Rajarhat/ Jeerat/ Bakreshwar/ Chanditala)
2. Southern Orissa (Meramandali/Mendhasal/Pandiabali/New-Dubri)
3. Northern Bihar (Muzaffarpur/Motihari/Sitamari/Darbhanga/Purnea) and Some portion of western Bihar (Sonnagar/Sasaram)

ERLDC in coordination with SLDCs are taking following requisite actions for voltage control:

1. Daily switching of 400 and 765 kV Bus reactors as well Switchable line reactors in substations through which the 220 and 132 kV substation are being fed.
2. Higher Var injection from nearby power plants
3. Less scope of tap changing of 400/220 kV ICTs as both side voltages are on lower side.

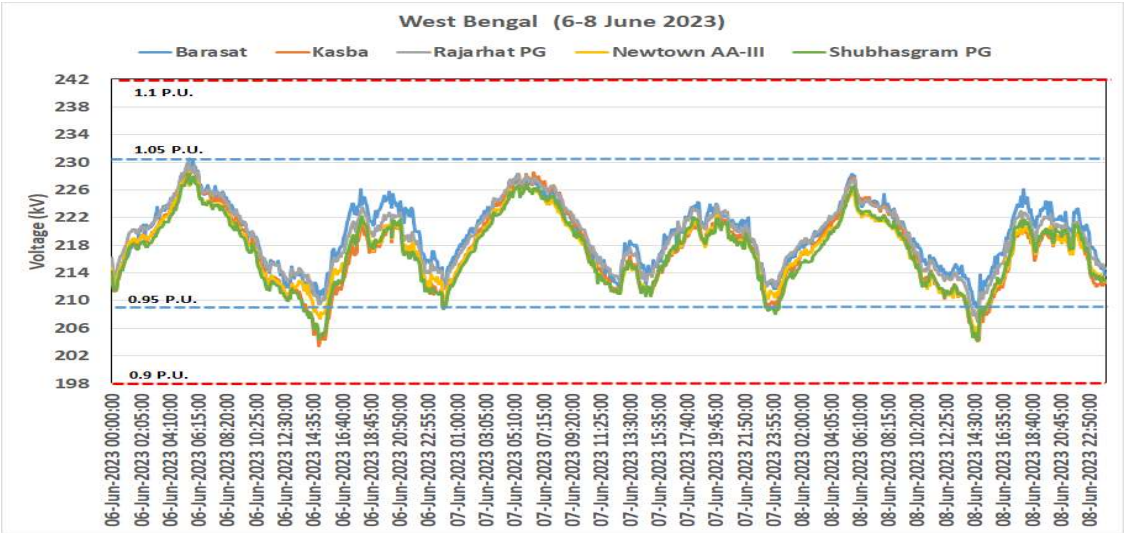
However, voltage is not improving significantly, and considerable VAR flow is observed in 220 kV network from 400 kV during peak demand period. Further, South Bengal situation is also peculiar in view of variation in demand resulting in voltage going high as well low twice during a day leading to two times switching on/off reactors available in the system.

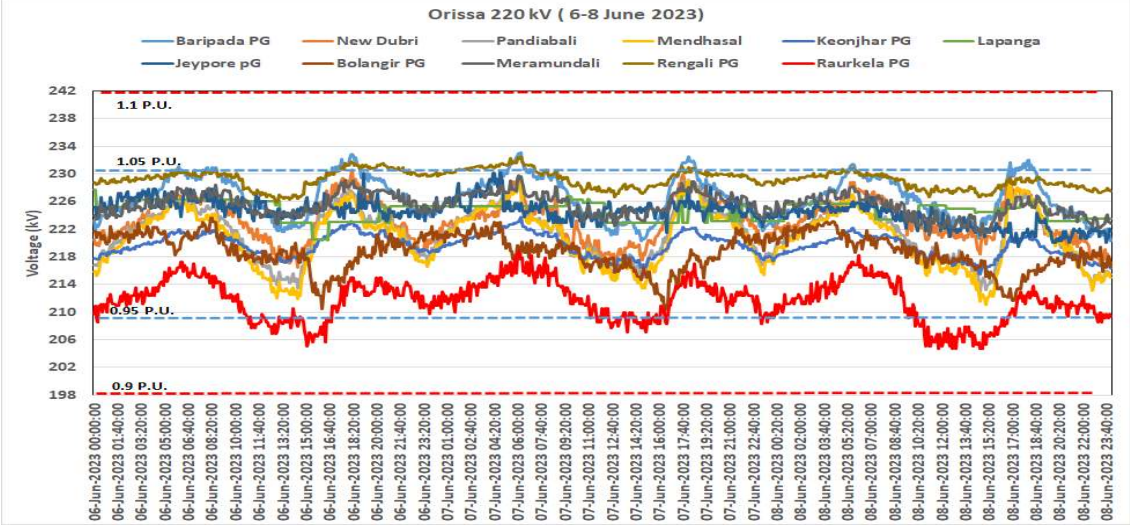
In the past a study has been done by ERPC for capacitor bank assessment within state system. Based on which capacitor have been planned. However, it is observed with present scenario that the study is required to be revisited and if required new capacitor banks need to be planned. It is expected that such studies and related augmentation is being done continuously by STUs in coordination with SLDCs. Further, existing capacitor banks are also required to be properly modelled by SLDCs in simulation base cases as due to lack of such details, operational planning studies including ATC/TTC, outage etc. are significantly impacted and provide wrong signal and poor situation awareness to grid operation.

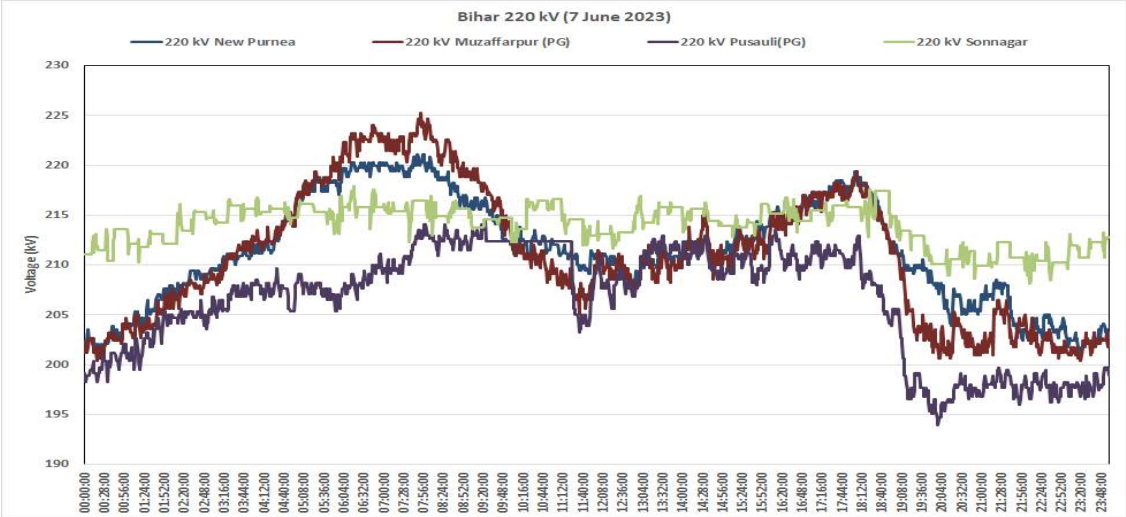
In view of the above, two major points that need discussion are as following:

- SLDC and STU of West Bengal, Orissa and Bihar may kindly share the capacitor bank related study carried out based on the present load and future load growth in network, implementation plan and its present progress.

- All SLDCs have been advised on 25th May 2023 to share details of existing capacitor bank in network so that these can be appropriately modelled in Simulation to access operational security. However, same has not been shared. SLDCs are again advised to share these details to ERLDC.





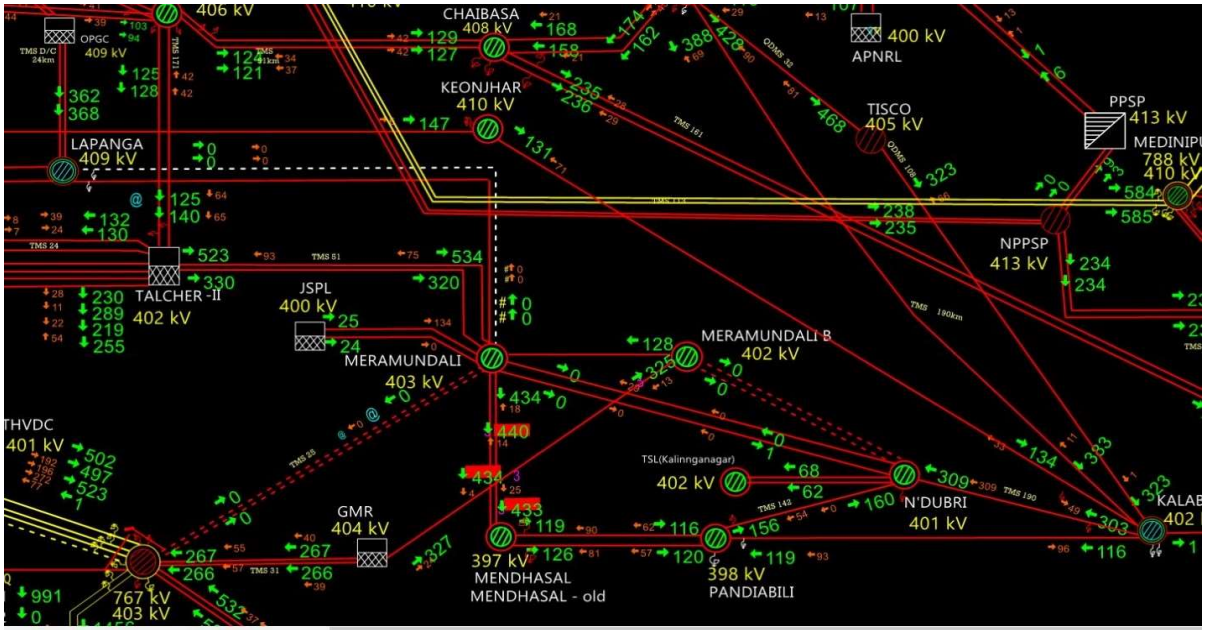


ERLDC may update.

ITEM NO. B.5:	**Multiple tower collapse in the Odisha system in the month of June 2023.**

Presently four 400 kV Transmission lines and two 220 kV Transmission lines from 400/220 kV Meramandali Substation are under outage due to damage of towers. Apart from these Pole-2 of HVDC Talcher-Kolar is also out from 6th June 2023 due to problem in the converter transformer. Details of tower collapse is provided below. These tower collapse has put Odisha system in vulnerable state.

Name of Transmission Lines	Outage details	Reason
400 kV New Duburi – Meramandali D/C	08-06-2023, 14:32	Tower bend at one location 132 (31 km from Meramandali) reported (expected revival in 20-25 Days)
400 kV Meramandali Lapanga D/C	10-06-2023. 16:21	Tower bend at one location reported (review going on for revival)
220 kV Talcher Meramandali D/C	10-06-2023. 16:21	Tower collapse at two locations reported (review going on for revival)



On 10th June at 17:27 hrs. during charging attempt of 400 kV Lapanga-Meramandali 1 from Lapanga end, all 400 kV Lines and 400/220 kV ICTs emanating from Lapanga along with 400 KV Lines from OPGC tripped. Due to absence of evacuation lines, only running unit of OPGC tripped resulting into loss of 580 MW generation. It is clearly evident that relays have not been properly coordinated in the said pocket.

Post such tower collapse events, 400 kV Meramundali, 400 kV Meramundali B, Mendhasal, New Dubri substation were connected via 400 kV Talcher-Meramundali D/C, 400 kV Baripada-New Dubri S/C and 400 kV Baripada-Pandiabali S/C. N-1 criteria for 400 kV Talcher-Meramundali D/C was not satisfied along with 400 kV Meramandali-Mendhasal D/C.

As 400 kV Meramandali-Mendahasal D/C were N-1 non-compliant, OPTCL had implemented definite time overcurrent setting (1200 Amp) on these circuits, however same was not informed to ERLDC/ERPC. To strengthen the infeed to Meramandali, 400 kV Angul-Meeramundali was closed and 400 kV Talcher-Meeramundali ckt-2 was docked at Angul on 11th June 2023.

However, on 12th June 2023, 400 kV Meramundali-Mendhasal ckt 2 tripped on R phase fault at loading below thermal capacity due to vegetation issues which lead to loading of other circuit above its thermal loading on overcurrent protection.

During these events, some aspects may require discussion.

1. Reason for multiple tower collapse/damage and associated investigation report needs to be analysed/shared.
2. Detailed reason for complete substation blackout of 400 kV Lapanga Substation leading to tripping of OPGC unit. Protection coordination and suggested remedial actions. (**OPTCL May share details**)
3. Implementing definite time overcurrent setting (1200/1500 Amp) on Meramandali-Mendahasal D/C by OPTCL which is not in line with the CEA standards.

4. It was observed that 400 kV Meramandali-Mendahasal ckt-2 was tripping when its loading was crossing 640 MW. A twin moose 400 kV line has thermal loading limit of 870 MVA. Root cause for such unwanted tripping may be shared by OPTCL.

ERLDC may update.

ITEM NO. B.6: Demand forecasting by SLDC/RLDC - ERLDC.

As per IEGC 2010, Each SLDC shall carry out its own demand estimation from the historical data and weather forecast data from time to time. Further in the IEGC 2023 it has been mandated to carry out demand forecasting at different time horizon by SLDC/RLDC and compute the forecast error. ERLDC is carrying out week ahead as well as Day Ahead demand forecasting for all the states as well as the region and the same is being circulated to SLDCs. The timeline for demand estimation and submission of demand estimation by SLDC as per IEGC 2023 is given as follows:

Timeline for submission of demand estimate data by SLDCs or other entities directly connected to ISTS, as applicable, to the respective RLDC and RPC shall be as follows:

TABLE 4: TIMELINE FOR DEMAND ESTIMATION

Daily demand estimation	10:00 hours of previous day
Weekly demand estimation	First working day of previous week
Monthly demand estimation	Fifth day of previous month
Yearly demand estimation	30th September of the previous year

Further in case SLDC observes a major change in demand in real time for the day, it shall immediately submit the revised demand estimate to the concerned RLDC for demand estimate correction. Presently such regular forecast is not being received in ERLDC from any states. West Bengal SLDC is sending day ahead forecast for some days but not on regular basis. Whereas DVC has sent day ahead forecast for some days however not on regular basis.

In view of the above all the states are once again requested to carry out the demand forecasting as per the above timeline and send the same to RLDC for regional demand estimation positively.

ITEM NO. B.7: Agenda by Powergrid ER-I.

400/220 kV Biharsharif and 400/220 kV Jamshedpur sub-stations were commissioned in 1991 under Kahalgaon Transmission projects. Both said sub-stations are most critically important for smooth and reliable supply to the downstream transmission lines as well as for smooth evacuation

of power from important generating plants of Eastern Region. It is to mention that under ADDCAP tariff block 2019-24 works e.g. replacement of CB, Isolator, FF renovation, AC renovation switchyard PCC have been carried out. However, some works which have not been taken up in previous ADDCAP block , but now important are to be carried out for smooth functioning of sub-stations such as complete renovation of control and protection system.

In addition to the above, replacement of 15 nos. BHEL make 420 kV CBs on ground of obsolescence and discontinuation of spares as well as service support from OEM at Muzaffarpur ss is also envisaged.

1. Retrofitting of 15 nos. BHEL make 420 kV CB installed at 400/220 kV Muzaffarpur ss.

400/220 kV Muzaffarpur sub-station was constructed in the year 2006. Following assets were commissioned under initial construction project:

Sr. No	Asset Detail	Year of Commissioning
1	400 kV Muzaffarpur-New Purnea D/C line along with L/R	2006
2	400 kV Muzaffarpur-Gorakhpur D/C line along with L/R	2006
3	400 kV Muzaffarpur-Biharsharif D/C line	2006
4	400/220 kV, 315 MVA ICT-I & II	2006
5	400kV, 63 MVAR Bus Reactor-I	2006

BHEL make CBs are used in the bay of 400 KV Muzaffarpur-Gorakhpur D/C lines, 400 KV Muzaffarpur-New Purnea D/C line, 4002/220 kV 315 MVA ICT-I & II and 63 MVAR Bus Reactor-I. In total ,15 nos. BHEL make CBs (08 nos. PIR type and 07 nos. without PIR type) installed in 2006 at Muzaffarpur ss.

The said BHEL make CBs are having hydraulic type operating mechanism. In BHEL make CB, there is chronic issue of accumulator failure, leakage from pilot valve, drift in open & close time. In recent days, issues in main and arching contacts have also been observed during routine maintenance.

To attend the above-mentioned issues, the BHEL make CB needs frequent maintenance for reliable operation of the circuit breaker. Till now, it is being maintained by spare and service support of M/s BHEL.

In past few years we, had witnessed three Bus tripping at Muzaffarpur ss due to non-operation / delay operation of BHEL make CBs.

Further, it to mention that we have been facing difficulties in maintaining CBs for a long time due to a delay in service support as well as the long delivery time (approx. 24 months) for the supply of spares.

Now, M/s BHEL has completely stopped manufacturing and supplying switchgear spares for all three models (125 kV, 245 kV & 42 kV) of SF6 Circuit Breakers (Communication mail enclosed). Keeping in view of above, the installed 15 nos. BHEL make CBs needs to be replaced on priority though it has completed 17 years of service life only for reliability and stability of the grid.

Total estimated cost for replacement of 15 nos. BHEL make CB will come to Rs.7.81 Cr (Approx). Thus, it is proposed to grant in-principle approval from OCC/ERPC for replacement of 15 nos.

BHEL CBs at Muzaffarpur ss under add-cap (tariff block 2024-29) on ground of obsolescence of equipment.

2. Renovation of control room of 400/220 kV Biharsharif ss and 400/220 kV Jamshedpur ss.

Both 400/220 kV Biharsharif and 400/220 kB Jamshedpur ss were constructed in the year of 1991 under Kahalgaon Transmission Projects. During course of operation, many transmission assets (Transmission line, Transformer, Reactors) are added to the system under various projects.

Assets details of both sub-stations are as below.

Jamshedpur ss:

1) 02 Nos of 400 kV Main Bus
2) 26 nos. of 400 KV bays
3) 03 nos. of 400/220/33KV 315 MVA ICT
4) 03 nos. of Bus Reactor i.e. 50 MVAR B/R-1, 125MVAR B/R-2, 125 MVAR B/R-3

Assets completing/completed 25 years' service life:

Sl. No.	Name of Bay/Line/ICT	Make	DOCO
1	400/220/33KV 315MVA ICT 1	BHEL	03.08.1993
2	400/220/33KV 315MVA ICT 2	BHEL	29.12.1993
3	400KV 16.7 X 3 MVAR BUS REACTOR - 1	CGL	30.07.1993
4	400KV Chaibasa Line -2		17.02.2002
5	415V MSB & ACDB		30.07.1993
6	220V DCDB		30.07.1993

Biharsharif ss:

1) 04 Nos of 400 kV Main bus with 02 nos. of Bus Sectionalizer
2) 46 nos. of 400 KV bays
3) 03 nos. of 315 MVA ICT & 01 no. 500 MVA ICT
4) 04 nos. of Bus Reactor i.e 50 MVAR B/R-1, 80MVAR B/R-2, 125 MVAR B/R-3 & 4
5) 05 nos. of Line Reactor i.e 50 MVAR LKS-2, 50 MVAR VNS-1, 50 MVAR VNS-2, 80 MVAR PRN-1, 80 MVAR PRN-2

Assets completing/completed 25 years' service life:

Sl. No.	Name of Bay/Line/ICT	Make	DOCO
1	50MVAR SAS-1 LINE REACTOR	CGL	09.08.1991
2	50MVAR LKS-2 LINE REACTOR	CGL	07.12.1991
3	50MVAR BUS REACTOR-1	CGL	24.09.1992
4	315MVA ICT-2	BHEL	14.07.1992
5	BSF-LKS LINE-1	-	23.10.1992
6	BSF-LKS LINE-2	-	09.08.1991
7	BSF-SAS LINE-1	-	01.08.2002
8	BSF-SAS LINE-2	-	24.11.2002

Further, additional assets under various projects had been added since commissioning, which

cause the suppression of old cables to the beneath of cable trench. Furthermore, due to ageing of cables, faults in cable are being observed on regular basis which leads to unwarranted tripping of transmission elements and damages healthy cables also. Further, it is to mention that cables trenches are full of cables and therefore identification of fault and laying of new cable is very difficult.

Further, it is pertinent to mention that the existing sub-station is of conventional type and old electromechanical relays are used for protection system. And therefore, lots of upgradation and modification in existing C&R panels and switchyard equipment are being carried out which involves laying of extra cables from switchyard to control room as well as inter panel cabling but due to space constraints in cable vault room, now it is almost impossible to place new cable.

Keeping in view of above constraints, a small new panel room has been constructed for newly commissioned ICT at Biharsharif ss and KIOSK was proposed for upcoming 125 MVAR Bus Reactor.

In view of above, it is proposed for construction of KIOSK for bays which have completed 30 years of service life at Jamshedpur and Biharsharif ss to mitigate the above-mentioned issues and to avoid any major outage of sub-station due to fire /faults in aged cables. Accordingly, an exercise has been carried out to arrive cost for construction of 05 nos. KIOSK in each sub-station. Total estimated cost for conversion of existing system to KIOSK system will come to Rs. 10.0 Cr (approx) for each sub-station.

Proposed for in-principle approval from OCC/ERPC for conversion of exiting conventional system to SAS system along with construction of KIOSK, Power & control cables and electro mechanical relays etc.

Powergrid may update. Members may discuss.

ITEM NO. B.8: Agenda by Powergrid Odisha.

1. PLCC issue in Baripada-Kharagpur T/L.

In reference to the MOM of 190th OCC & 45th TCC of item no. B. 16 & item no 16 respectively PLCC related issues were discussed in reference to the 400kV Kharagpur-Baripada line and following deliberation was made in the meetings.

Deliberation in the meeting: Powergrid Odisha representative submitted that replacement and maintenance of PLCC's at their end is not possible as the asset does not belong to them. He further stressed the fact that while replacement of PLCC's it has to be ensured that both are of same make and are properly tuned. He further submitted that Powergrid is ready to extend any kind of technical assistance to WBSETCL for the replacement and maintenance of the PLCCs. Powergrid would replace the PLCC at their end on a chargeable basis solely to be borne by WBSETCL. WBSETCL representative advised Powergrid to submit documents in support of ownership of the assets. In case the ownership of the asset lies with WBSETCL, they would replace the panels at both the ends. Otherwise, the replacement of the PLCC's to be done on cost sharing basis.

Accordingly, documentary evidence of ownership of PLCC panels attached for ready reference (**Annexure – B.8**). (CE/ED/PLCC/Kharagpur/ 793(4) Dt.30/08/2010 & Ref.no: TR.PROJ./T-181/20 Dt.11.04.2012)

Therefore, WBSETCL is requested to take necessary replacement of PLCC panels at both ends.

WBSETCL may update.

2. Operational & Maintenance related issues of 220KV OPTCL bays of Jeypore -Jayanagar-3 & 4 at POWERGRID, Jeypore S/s

Two no of bays pertaining to above mentioned lines were constructed & commissioned in June'2021. All the protection & control panels of these bays were housed in Switch yard kiosk and integrated with PG-NTAMC system for remote monitoring & controlling. No LOCAL SCADA was provided at in control room of POWERGRID (PG) -Jeypore substation which is causing difficulty in operation of equipments during emergencies from local control room. Further, many of the signals reporting to NTAMC/RTAMC system are suspect causing difficulties in remote monitoring & control of these bays. Maintenance of these bays & rectification of persisting problems of protection system are also not being done regularly. This is very detrimental to the existing system at PG Jeypore as non-operation of relays pertaining to these bays cause disturbance on wider scale. Several correspondences made with OPTCL including higher officials, but no concrete action was taken. Copies of all MOMs, mail & letter correspondences are attached for reference (**Annexure – B.8**). As such, following issues need to be addressed pertaining to operation & maintenance of 220KV Jayanagar-3- & 4-line bays at POWERGRID- Jeypore substation.

I. Local SCADA for operation of these bays:

Since there are no control panels/SCADA installed for these Jeypore Jayanagar- 3 & 4 bays in existing control room of PG-Jeypore and SPR is situated at Switchyard, it is quite difficult on our part to do any operation in these bays especially in rainy / bad weather conditions as well as during night time. It is a standard practice that wherever SPR (Switchyard Panel Room) is constructed in lieu of Control Panels on account of space constraint, a Local SCADA is invariably provided in the control room for operation of the breaker and isolators installed in the bays. Moreover, Local Scada is required for monitoring the healthiness of equipment and relays in the bays as well as for extraction of Disturbance Recorder data in case of various faults in lines and bays.

II. Defective Main-II Relays:

02 no.s GE make MICOM P442 relays are not communicating due to long pending firm-wire updation and defective LAN port since commissioning time i.e., from 01/05/2021. Due to this noncommunication, about 73 signals are reporting as "Suspect Signals" at NTAMC/RTAMC which is affecting proper monitoring of system healthiness and reliability of protection system.

III. Hand-Over of bays to O&M Wing Pending:

Further, it is gathered that these bays are yet to be handed over from Construction wing of OPTCL to their O&M wing, as a result of which the OPTCIL O&M staff also express their inability to do anything with regard to attending small issues like-nonworking of 01 no. Split AC which is pending since about 01 year. Additionally, these bays are also not handed over to Power Grid-Jeypore as there has been no MOU signed between Power Grid and OPTCL for O&M of these bays. As such no proper maintenance is being carried out in these bays. Deliberation in this regard may be done for a fruitful solution.

Powergrid may update. Members may discuss.

ITEM NO. B.9: Start-up power to 2x660 MW Buxar Thermal Power Project, Chausa.

2X660 MW Buxar Thermal Power Project is being implemented by SJVN Thermal Private Limited (A wholly owned subsidiary of SJVN Ltd).

As per PPA signed between Bihar State Electricity Board & Buxar Bijlee Company Pvt Ltd which was further assigned to BSP(H)CL & STPL, the 85% power will be purchased by state of Bihar.

The 04 (four) double circuit transmission lines are being constructed by BSPTCL, STU of Bihar state for the evacuation of power from the project. The details of lines are as below

SI No	Lines	Progress			Vendor
		Foundation	Tower Erection	Stringing (KM)	
1	400KV D/C lines to Naubatpur	343/ 345	342 / 345	122.5 / 126	M/s KEC International
2	220 V D/C lines to Dehri-on-sone	245 / 246	245 / 246	75 / 77	M/s KEC International
3	220 KV D/C lines to Karmnasa	181 / 185	180 / 185	56.5 / 59	Mls KEC International
4	220 KV D/C lines to Dumaron	213 / 216	206 / 216	51 / 64	Mls R S Infra Projects Pvt Ltd

As per information available at this end, the bay works at Naubatpur is yet to be awarded. The bay works at Dumaron has been awarded but works progress has been abysmal. Bay works at Dehri-on-sone has been awarded but works could not be started. At Karmnasa bays are available for both circuit connection.

The project works at Chausa has been progressing at fast pace and equipment's trials will be starting progressively. Therefore, the start-up power requirement will arise tentatively from August, 2023.

The station transformer has voltage rating of 400/11 KV and ICT is of 400/220 KV. Further, ICT delivery has been delayed due to failure in short circuit test. Therefore, startup power from 220 KV line could not be utilized at the moment and therefore, startup power could only be drawn from 400 KV line.

The above is for your kind information and necessary intervention so that 400 KV power could be made available for startup power to the project tentatively by August 2023.

SJVN may update. Members may discuss.

ITEM NO. B.10: Multiple tripping of EHV lines in India-Bhutan corridor in the month of April 2023: ERLDC.

There have been 18 tripping instances of EHV lines in India-Bhutan corridor. As per relay details submitted, majority of fault lies in Bhutan's jurisdiction. With upcoming monsoon, availability of these EHV lines is must for reliable evacuation of hydropower from Bhutan. Further, multiple discrepancies were observed in protection. Bhutan is requested to investigate the issues to avoid

further tripping and take remedial measures for proper operation of protection scheme. Details of tripping are attached at **Annexure B.10**.

In the 203rd OCC meeting, representative of ERLDC submitted that majority of faults due to which incidents of tripping occurred were under Bhutan's jurisdiction.

Bhutan may update.

ITEM NO. B.11: Shutdown proposal of generating units for the month of July 2023.

Approved Maintenance Schedule of Thermal Generating Units of ER during 2023-24 in the month of July'2023							
System	**Station**	**Unit No.**	**Capacity (MW)**	**Period (as per LGBR 2023-24)**		**No. of Days**	**Reason**
				From	**To**		
TVNL	Tenugh at TPS	1	210	01.07.2023	15.08.2023	46	COH
DVC	Mejia TPS	4	210	01.07.2023	25.07.2023	25	AOH-Blr-RLA, LPT, FGD
DVC	RTPS	2	600	15.07.2023	28.08.2023	45	COH- Boiler, DeNOX Burner &FGD, HPT, IPT, LPT, Gen
DVC	MTPS	7	500	10.07.2023	19.07.2023	20	Boiler Overhauling and FDG Connectivity work,
WBPDCL	Bakreshwar TPS	4	210	03.07.2023	06.08.2023	35	AOH/BOH
WBPDCL	Bakreshwar TPS	5	210	21.07.2023	30.07.2023	10	PG Test/ Boiler License Renewal
WBPDCL	Bandel TPS	2	60	12.07.2023	10.08.2023	30	AOH/BOH
WBPDCL	Southern TPS	1	68	14.07.2023	28.07.2023	15	

NTPC	KhSTPS	3	210	01.07.2023	04.08.2023	35	Boiler +HP+LP+IP+Generator
NPGCL	Nabinagar TPS	1	250	01.07.2023	14.08.2023	45	Boiler +LPT O/H+Generator rotor thread out and checking + NOX work
NPGCL	Nabinagar STPS	2	660	01.07.2023	18.09.2023	80	O/H with Boiler modification
JITPL	JITPL	1	600	01.07.2023	14.08.2023	45	COH

Members may update.

ITEM NO. B.12: Proposal for LILO connection at Ind Barath Energy (Utkal) Ltd, (IBEUL).

Ind-Barath Energy (Utkal) Limited (IBEUL) requested ERPC in 202nd OCC meeting for LILO arrangement of its 400 kV DTL line with nearby line of IB Thermal Power station to PGCIL Sundergarh for interim period of 6 months, so that the construction activities can be resumed and plant can be revived earlier (U-1 by Oct-23 and U-2 by Mar-24).

As per the minutes of 202nd ERPC-OCC meeting

"OCC advised IBEUL to convene a separate meeting with OPTCL, GRIDCO and SLDC Odisha for further deliberation of the issue in order to arrive at a mutual consensus. Further, IBEUL was also advised to coordinate with CTU and raise the issue in the upcoming CMETS meeting."

We have approached CMD, (OPTCL & SLDC) Odisha in ref to above matter vide letter cited in ref-4, in reply the corporate planning division of OPTCL had advised

"I am directed to state that the matter of LILO connection of 400kV transmission line may be taken up with ERPC/ERLDC, OPGC and CTU/PGCIL after detailed system study under CTU as suggested in the MOM under reference"

We have also approached CTU for taking up the GNA for 400kV DTL of IBEUL and interim LILO connection in 19th CMTES meeting the same was discussed and granted GNA for 400kV transmission line and for LILO connection they have advised to take up with ERPC/ERLDC and get the consent for final approval also the system study was conducted by IBEUL through M/s DNV, Transient stability study results, it can be inferred that the system remains stable for the interconnection of IBEUL generators with proposed LILO arrangement (report attached)

In reference to the outcome of CMTES meeting and as advised by OPTCL Planning division, the 400kV LILO connection of IBEUL with IB thermal- Sundergarh 400kV transmission line is to be discussed in the upcoming OCC meeting of ERPC.

IBEUL may update.

ITEM NO. B.13: Implementation of Resource Adequacy framework.

Central Electricity Authority (CEA) is in the process of preparing Long Term-National Resource Adequacy Plan (LT-NRAP). For preparing the LT-NRAP State-wise information viz. Demand, Installed Capacity, Generation (both RE and conventional), financial data etc. may be required.

The issue was discussed in details in the last OCC meeting (203 rd OCC, held at ERPC Conference Hall on 19.05.2023) and it was decided that SLDCs of the respective states will act as the Nodal Agency for providing the requisite data/information in respect of all the concerned agencies of the states. Also, it was decided that SLDCs will nominate and provide the name & contact details of a Nodal Officer from their side who will be contacted subsequently by CEA/ERPC for any matters on the issue.

Accordingly, all the SLDCs were requested to provide the name & contact details of the Nodal Officer and arrange to ensure the furnishing of the requisite data/information at the earliest vide this office mail dated 26.05.2023 and again on 12.06.2023.

But till date no nomination received from SLDC, West Bengal. It is requested to provide the name of Nodal Officer from SLDC, WB and arrange to provide the requisite data/information as per prescribed proforma at the earliest.

Shri Rajesh Prasad Sahoo, Manager (Elec.) is the Nodal Officer i.r.o. SLDC, Odisha.

Shri Preetosh Ghosh, EE (E) is the Nodal Officer i.r.o. SLDC, DVC.

Shri Raju Kachhap, Sr. Manager is the Nodal Officer i.r.o. SLDC, Jharkhand.

Shri Pavan, AEE is the Nodal Officer i.r.o. SLDC, Bihar.

Though official nomination has not been received from SLDC, Sikkim but on request Shri Namgayal Tashi, EE, SLDC, Sikkim provided some data/information in prescribed proforma.

SLDC, Odisha and SLDC, Bihar have already submitted some data/information to IRP Division, CEA.

SLDC, Jharkhand and SLDC, DVC are yet to provide any data/information from their end.

Members/representatives from concerned SLDCs may update.

ITEM NO. B.14: Follow up Agenda

SL No	Issue/Agenda	Discussion in last OCC Meetings	Update/Status
1.	**De-stringing of overhead conductor in Power Line Crossing span of 220kV D/C Farakka-Lamatia Line in between span (Location No.-5 & Location No.-6) by JUSNL in order to protect underlying 400 kV S/C Farakka Sagardighi I & II TL (Loc No.- 3 & 4) of POWERGRID due to severe/repetitive theft incidents by miscreants near to Farakka Plant** 220kV Farakka-Lalmatia TL is under break-down condition due to tower collapse incidents since 21.04.2021. Since the line is under off condition for long, at several locations of the said line near to Farakka serious tower member theft/conductor theft incidents are occurring. During patrolling of 400 kV S/C Farakka Sagardighi I & II TL on dated 07.11.2022, huge no. of missing members has been observed in the Powerline crossing towers of 220 KV Farakka Lalmatia TL (owned by JUSNL) situated in village: Jorpukuria, Farakka crossing over Loc 03 & 04 of both 400 kV S/C Farakka Sagardighi I & II TL of POWERGRID. Considering the fact that any incident of collapse of towers of the mentioned crossing towers of Farakka Lalmatia line shall damage our existing 400 kV Farakka Sagardighi TL which is already more than 35 years old. Earlier also, an incident of Tower collapse of 220 kV Farakka Lalmatia line over POWERGRID 400 kV S/C Farakka Durgapur 1 & 2 TL had occurred in the year 2020 which had severely damaged the 400 kV S/C Farakka Durgapur 1 & 2 lines. Restoration of the lines were carried out under extreme ROW situations. Considering the seriousness of the issue JUSNL was requested to rectify the towers Loc No.-5 & 6 of 220kV Farakka-Lamatia Line on urgent basis. Vide mail dated 08.12.2022, JUSNL have informed that they have rectified the affected towers but considering the area being severe theft prone they will not able to save the towers in	In the 203rd OCC meeting, representative of Jharkhand submitted that the works are expected to be completed by the end of May 2023.	

	near future. In view of above considering the seriousness/repetitive theft incidents in towers near to Farakka Plant, M/s JUSNL is requested to remove the conductors in between Span Loc No.-5 & 6 of 220kV D/C Farakka-Lalmatia so that underlying POWERGRID lines 400kV Farakka-Sagardighi-I & II may be protected.		
2.	**<u>Islanding Schemes in Eastern Region</u>** **2.1. <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 200th OCC Meeting, Representative of NTPC submitted that Internal approval is under process. 3 months of timeline would be required before award.	-
	2.2. <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. ➢ The islanding frequency for CTPS-B islanding system was decided as 48.4 Hz.	In the 196th OCC meeting, DVC representative submitted that the work is expected to be completed as per the given timeline.	-
	2.3. <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.	In the 197th OCC meeting, OPGC representative was not present during the discussion. OPTCL representative submitted that the details would be shared shortly.	-

	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.	Representative of OPGC informed that during AOH in the month of March'2023 if the turbine vibration issue gets resolved then they would go ahead with the testing.	
3.	**<u>Outage of Important Transmission System</u>** **<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 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	In 49th TCC & ERPC Meeting, Sikkim representative submitted that the 132kV Sagbari–Melli line would be restored by 15th April 2023.	-

	compensation. File for approval is being send to conservator of Forest from DFO on 10/6/2021.		
4.	**<u>Ensuring N-1 reliability criteria at 400/220 KV Subhashgram (PG) S/s.</u>** The reliability issue of Subhashgram (PG) was discussed in the 46th TCC and ERPC meeting. In the meeting it was deliberated that there is an urgent requirement for installation of 6th 400/220kV, 500 MVA ICT at Subhashgram (Powergrid) S/s. On request of West Bengal, CESC agreed to bear the cost associated with the installation of the said ICT and its future maintenance. Further, CESC requested Powergrid to execute the project on deposit work basis. In the 194th OCC meeting, Powergrid representative submitted that decision in this regard would be taken by their corporate office and they would submit the details as and when it is received. ERLDC suggested Powergrid for applying requisition of shutdown regarding implementation of SPS scheme. However, no shutdown request has been received by ERLDC till date.	In the 203rd OCC meeting, representative of Powergrid submitted that *the* agreement for installation of Subhashgram ICT has been finalized and MoU signing is pending which would be completed by the end of May 2023. The NIT has been floated but due to low participation it has been extended.	
5.	**<u>Integration of (Interface Energy Meter) IEMs into SCADA/EMS system for telemetry of meter data to SLDCs.</u>** 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.	In the 202nd OCC meeting, Powergrid submitted that M/S. Genus has confirmed that as the matter is related to parallel data transmission to 02 different data center, cyber security aspect and data decryption method to be discussed first. However, both RS 485 & Ethernet port of existing SEM can be configured subjected to data size and handling method. Genus also confirmed that, same thing will be discussed during training session at ERPC during first week of May and expected demonstration afterwards.	-

		Considering above, the agenda may be kept in abeyance till June-2023 such that every activity for demonstration can be planned and executed.	
6.	**<u>Status of SAMAST, ABT implementation and certification of system operators in states.</u>** Implementation of SAMAST and ABT in all the states is a prerequisite for improving the reliability of grid considering the complexities involved in managing the large interconnected Indian grid. Further skilled, certified manpower is the key to operate the grid safely and securely. Various initiatives are being taken mutually by ERLDC and the states for successful implementation of the SAMAST/ABT in the states. The status of SAMAST, ABT implementation and certification of system operator of various states of eastern region is given below:	In the 203rd OCC meeting, representative of ERLDC requested all the SLDCs to send their nominations for the training program at NPTI Durgapur. Representative of Odisha submitted that the number of certified operators is 19.	

Name of the state	Status of implementation of SAMAST	Number of Certified Operator
Bihar	Completed	4+(1 appearing in the exam in March'23)
Jharkhand		2
Odisha		19
DVC		50% of the operators will appear for the certification exam by Sep'23
WB		2
Sikkim		14 nos. system operators will be

				appearing for certification exam in March'2023		
7.		**Replacement of Heavily time drifted L&T meters in Eastern Region** In 47th TCC & ERPC meeting, it was deliberated that in view of stringent provisions in new DSM regulations, the heavily time drifted L&T make SEMs need to be replaced on priority basis. Accordingly, PowerGrid was advised to replace the heavily time drifted meters on priority basis in co-ordination with ERLDC & concerned utilities. Accordingly, ERLDC has provided a phase-wise replacement list of L&T meters to Powergrid for further necessary action at their end.				In the 203rd OCC meeting, Representative of ERLDC submitted that 7 nos. of meters have already been provided to West Bengal. Replacement of meters in Powergrid substations would be carried out by Powergrid itself. Representative of NTPC submitted that until any clear directions are provided regarding replacement of meters, status quo would be maintained by them. Representative of Powergrid submitted that in the earlier cases as the cost of installation of were included in the cost of meters, replacement works were being carried out by Powergrid. OCC advised NTPC to get the meters installed using their own resources. Representative of Talcher submitted that out of 39, 23 meters have been received. Further, it was also	

Utility	Substation	SEM to be replaced	SEM replaced	Remarks
NTPC	KAHALGAON	38	3	Phase-1
	BARH	13	0	
	BRBCL	3	0	
	KANTI	6	6	
	TALCHER	39	8	
	FARAKKA	14	12	
DVC	DHANBAD	2	2	
WB	NBU	1	0	
	HALDIA	2	0	
	DALKHOLA	3	0	
	BIDHANNAGAR	3	0	
	MALDA	2	0	
	BIRPARA	1	0	
PGCIL	BINAGURI	2	0	
	BIRPARA	5	0	
	DURGAP	5	5	

			UR				informed that the new meters have factory acceptance reports. OCC advised NTPC Talcher to install the meters without any further delay.	
			MALDA	4	2			
			SUBHAS GRAM	2	0			
			BERHA MPUR	2	2			
			JEYPORE	2	2	Phase-3		
			KISHAN GANJ	9	1			
		IPP	CHUZAC HEN	5	5	Phase-2		
		JHARK HAND	CHANDI L	3	3			
			GARWA	1	1			
			JAPLA	1	1			
			JAMTAR A	1	1			
		BIHAR	KAHALG AON	2	2			
8.	**Ensuring healthiness of ADMS**							-

State	Criteria for ADMS operation	Number of instances for which ADMS criteria satisfied	Number of instances for which detail received	Discussion regarding previous month performance	Update in 204th OCC meeting
West Bengal	1. System Frequency < 49.7 Hz 2. WB over-drawl > 150 MW 3. Delay = 4 min	1	Nil	-	
Jharkhand	1. System Frequency < 49.9 Hz 2. Jharkahnd over-drawl > 25 MW 3. Delay = 3 min	126	Nil	-	
DVC	1. System Frequency < 49.9 Hz 2. DVC over-drawl > 150 MW 3. Delay = 3 min	30	Nil	-	

Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. Delay = 3 min	32	Nil	-	

9.	**Commissioning status of ADMS** Automatic demand management scheme (ADMS) is already commissioned in West Bengal, DVC and Jharkhand. However, for Bihar 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** / **Target Date** 1 / Bihar / F <49.7 AND deviation > 12 % or 150 MW / First week of March-2023	In the 203rd OCC meeting, Representative of Bihar submitted that some new feeders have been added out of which testing of 5 new feeders have been completed.	
10.	**Revised connectivity for Laxmikantpur 400/132 KV S/s and split bus arrangement at Laxmikantpur S/s** In the 2nd meeting of ERSCT held on 05-07-2019, CTU informed that the scope of works for establishment of 400/132kV New Laxmikantpur substation through LILO of Subhashgram (POWERGRID) – Haldia 400kV D/c line at New Laxmikantpur S/s under intra-state has already been approved on technical grounds by all the stakeholders including HEL and CESC (also recorded in the minutes of the meeting). HEL was requested to provide go ahead on the said scope before the next CEMTS-ER as further delays in implementation of New Laxmikantpur S/s may jeopardise reliability of power supply in Kolkata area.	In 49th TCC Meeting, The Committee submitted the following: 1. Two meetings have been conducted on 20.12.2022 and on 24.01.2023 to discuss revised connectivity for Laxmikantpur 400/132 KV S/s. The final report is under preparation. 2. Two measures have been recommended by the Committee: a) Final arrangement: One circuit of 400kV New Jeerat-Subhasgram D/C to be LILOed at 400/132 KV Laxmikantpur S/s. Necessary load flow study has to be conducted by CTU for this arrangement. b) Interim arrangement: One circuit of 400kV HEL-Subhasgram	-

		D/C to be LILOed at 400/132 KV Laxmikantpur S/s. Transient study has already been conducted by HEL and the same has been submitted to OEM for suggestions/feedback. However, the same is awaited from OEM. 3. The Committee requested TCC for extension of timeline for submission of the final report. TCC advised the following: 1. HEL to expedite the matter with OEM in getting their feedback. 2. CTU to conduct the load flow study at the earliest. 3. Committee to submit the final report by April'2023.	
11.	**<u>Operational challenges in Jharkhand network due to multiple long outages/tripping</u>** 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%.	**<u>400 kV/220kV 315 MVA ICT 1 & ICT2 AT PATRATU</u>** Powergrid vide mail dated 16.06.2023 submitted that the following: 1. ICT 1 is at Patratu site and commissioning activities are started. Commissioning schedule is attached at **Annexure B.14.11**. The same is expected to be commissioned by 30th June 2023. 2. ICT 2 has reached factory and preliminary inspection started on 15.06.23. Detailed investigation/opening of insulation/winding dismantling shall be carried out in due	

	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)	course. (photographs attached at **Annexure B.14.11**) **220kV/132 100 MVA ICT-2 AT LALMATIA (FAILURE OF HV SIDE BREAKER)** In this regard estimate has been obtained from field, estimate is being scrutinized at Head Quarter level to get the work done with minimum cost. The expected date of completion is 31.03.2023. In the 201st OCC meeting it was informed that 220kV/132 100 MVA ICT-2 AT LALMATIA (FAILURE OF HV SIDE BREAKER): W.O. would be issued by 1st week of April'2023. **220kV/132kV 100 MVA ICT-3 AT CHANDIL** In place of this ICT new ICT of 100 MVA will be procured soon. The tender is under technical evaluation stage and work order would be placed soon. The expected timeline of completion is July 2023.	
12.	**Installation of Transmission Line Arrestor in 220 KV lines in North Bengal – PGCIL ER-II.** 220 KV D/C Siliguri-Kishanganj TL (erst 220kV D/C Siliguri-Dalkhola TL), 220kV D/C Birpara-Chukha TL, 220kV D/C Birpara-Alipurduar TL (erst 220kV D/C Birpara-Salakati TL) and 220kV S/C Birpara-Malbase TL were commissioned in the year 1986 under Chukha Transmission System. All the above-mentioned lines are located in the Himalayan Foothills and encounter severe lightning incidents during the monsoon period starting from April-Oct. As stated by NASA, The Himalayan Foreland is declared as Principal Lightening Hotspot zone.	In the 203rd OCC meeting of ERPC, It was informed that 170 TLA out of 500 have been installed in the 220 KV D/C Siliguri-Kishanganj ckt-1&2. By June 2023 end, 330 TLA would be installed.	

	TFR measurement were carried out on the towers as well as section of line identified during Post Fault Tripping Analysis. Tower Footing Impedance measurement shows high values in most of the tower locations in the said lines. Considering the increase in lightning phenomenon over North-Bengal area, it seems that existing Tower Earthing system seems not sufficient and as such as a system improvement measure it has been felt necessary to adopt installation of Transmission Line Arresters as per latest practices adopt world-wide in certain stretches of lines where instances of auto-reclosures and tripping are high. Matter has been discussed in detail during 198th OCC, 199th OCC meeting and subsequently in recently concluded 48th CCM at ERPC.		
13.	**Removal of Internet Connectivity from AMR server at ERLDC as per compliance against cyber security guidelines.** Presently total 163 No's SS are connected in AMR system, and total 142 No's stations are now communicating over LAN, and remaining 21 No stations are communicating over GPRS which require internet connectivity at AMR server at ERLDC. As per CEA directive, segregation to be done between IT/OT network for cyber security compliance and to maintain that Public IP based internet connectivity (Very much vulnerable) to be removed immediately from AMR server.	In the 203rd OCC meeting, representative of ERLDC submitted that an online training program was conducted on 27.04.2023 after which data is being received on timely basis.	

PART C: ITEMS FOR UPDATE

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

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

Average Consumption (MU)	Maximum Consumption (MU)/ Date	Maximum Demand (MW) Date/Time	Minimum Demand (MW) Date/Time	Schedule Export (MU)	Actual Export (MU)
544.6 MU	610.4 MU 31-05-2023	27761 MW, 31-05-2023 at 23:39 Hrs.	17621.9 MW, 01-05-2023 at 17:17 Hrs.	2617	2714

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

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

The availability of sufficient primary frequency response is one of the fundamental requirements of power system operation not only from reliability point of view but also from regulatory compliance point of view. Based on the assessed FRC re-testing of primary frequency response can be recommended. Therefore, the accurate and high-resolution data from generator end is extremely important in absence of which assessment of FRC is done as per low resolution ERLDC SCADA data. The plant wise data submission statistic for frequency event flagged by ERLDC up to 31.05.2023 is given below:

Event	Frequency Change	ER FRC
Event 1: On 01st May 2023, As reported, at 13:23 hrs, Multiple tripping of 765kV lines (765kV Fatehgarh II - Bhadla I Ckt-I, 765kV Ajmer - Bhadla II ckt-I, 765kV Ajmer - Phagi ckt-I) occurred due to operation of over voltage stage-1 protection operation in Northern region Rajasthan Renewable complex and solar generation loss of around 1130 MW observed.	Initial Frequency:50.174 Hz Nadir Frequency: 50.042 Hz Final Frequency : 50.110 Hz. Frequency change= 0.06 Hz	**29.4 %**
Event 2: On 15th May 2023, As reported at 11:51 hrs, Multiple tripping in Rajasthan renewal generation complex in Northern Region occurred and resulted in generation loss of around 7120MW.	Initial Frequency:49.981 Hz Nadir Frequency:49.400 Hz Final Frequency : 49.742 Hz. Frequency change= 0.24 Hz	**31.3 %**

STATIONS	20.12.2022	12.01.2023	14.01.2023				17.01.2023	09.02.2023		16.03.2023	28.03.2023	01.05.2023	15.05.2023
	06:48	05:52	12:06	13:03	14:55	15:18	09:56	11:45	12:29	09:16	10:37	13:23	11:51

ADHUNIK	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
BARH	Received	Received	Pending	Pending	Pending	Pending	Received	Received	Received	Received	Received	Pending	Received
BRBCL	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
DARLIPALLI	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
DIKCHU	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
FARAKKA	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Pending
GMR	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
JITPL	Pending	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
KAHALGAON	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
MPL	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
NPGC	Received	Received	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Received	Pending
TALCHER	Received	Received	Received	Received	Received	Received	Pending	Received	Received	Received	Received	Received	Pending
TEESTA III	Received	Received	Received	Received	Received	Received	Received	Received	Received	Pending	Pending	Received	Pending
TEESTA V	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received	Received
North Karanpura	NA	NA	NA	NA	NA	NA	NA	NA	NA	Pending	Pending	Pending	Pending

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

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

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

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

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

Respective utilities may update.

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

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

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

AGC and they are awaiting the concurrence from SLDC.

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

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

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

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

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

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

OPGC representative was not present during the discussion.

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

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

In the 188th OCC meeting, DVC representative informed that NIT was floated on 29th December

2021 and the bid opening would be done on 19th February 2022.

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.

Members may update.

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

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

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

As per the decision taken in the meeting held on 8th July 2021 and chaired by member (GO&D),

CEA, data in prescribed formats may be submitted by concerned utilities to RPCs on monthly basis to certify the healthiness of the Islanding Schemes.

a. Format – I for RLDC/SLDCs

S.NO	Name of Islanding Scheme	Healthiness of Communication channel

b. Format – II for Generating Station

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

c. Format – III for Transmission Utility/DISCOMs

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

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

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

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

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

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

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

To harmonize the ATC/TTC calculation methodology and timeline One to one meeting and hands on training with each SLDC was conducted in the month of Sep-21 and Oct-21. As per the

common agreed procedure and timeline ATC/TTC calculation in three-month advance and reconciliation of the TTC/ATC figure for the upcoming month between RLDC and SLDC has started from month Dec-21. Reconciled ATC/TTC figures for **June-2023** are as follows:

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

Sl No	State/Utility	TTC (MW)		RM(MW)		ATC Import (MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	6990	--	0	--	6850	--	May-23
2	JUSNL	1586	--	39	--	1547	--	June-23
3	DVC	**1940**	**3371**	72	56	**1868**	**3315**	June-23
4	OPTCL	3898	1338	145	70	3753	1268	June-23
5	WBSETCL	6475	--	450	--	6025	--	June-23
6	Sikkim	170	--	1	--	169	--	May-23

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
May-23	Submitted	Submitted	Submitted	Submitted	Submitted	Submitted
June-23	Pending	Submitted	Submitted	Submitted	Submitted	Pending
July-23	Pending	Submitted	Submitted	Submitted	Submitted	Pending
Aug-23	Pending	Pending	Submitted	Submitted	Pending	Submitted
Sep-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. Sikkim are requested to share the ATC/TTC on regular basis. All states are again requested to follow the time line and make necessary changes for being able to calculate TTC on 11 month ahead basis once T-GNA regulation comes into effect.

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

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

Sl No	Name of Hydro Station	Schedule of Mock Black Start	Actual Date of Test	Schedule of Mock Black Start	Actual Date of Test
		Test-1		Test-2	
1	U. Kolab	June-2022	21st July-2022	Jan-2023	
2	Balimela	July-2022	09th Sep-2022	Feb-2023	
3	Rengali	June-2022	27- June-2022	Dec-2022	
4	Burla	July-2022	23-June-2022	Jan-2023	
5	U. Indravati	May-2022	25-May-2022	Feb-2023	
6	Maithon	DVC representative submitted that upgradation work is under progress due to issues in the governing system. Detailed timeline would be submitted to ERPC and ERLDC. Detail timeline yet to be received from DVC SLDC		Dec-2022	
7	TLDP-III	Oct-2022		Jan-2023	
8	TLDP-IV	Oct-2022		Feb-2023	
9	Subarnarekha	Sep-2022		Dec-2022	
10	Teesta-V	Oct-2022		Jan-2023	
11	Chuzachen	Oct-2022		Feb-2023	
12	Teesta-III	April-2022	08-April-2022	Dec-2022	
13	Jorethang	Oct-2022		Jan-2023	
14	Tasheding	Oct-2022		Feb-2023	
15	Dikchu	Oct-2022		Dec-2022	
16	Rongnichu	Oct-2022		Jan-2023	

- Note:

*DVC representative submitted that upgradation work is under progress due to issues in the governing system. Detailed timeline would be submitted to ERPC and ERLDC. Detail timeline yet to be received from DVC SLDC.

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

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

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

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

Utilities to update the status, if any, to ERPC and ERLDC.

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

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

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

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

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

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

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

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

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

However, higher quantity of spares (for some spare items) shall be kept for cyclone / whirlwind / tornado prone areas as indicated in guideline.

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

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

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

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

Table 1: State wise ICTs at various voltages in ER

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

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

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

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

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

BGCL	2
DVC	5
JUSNL	1
ISTS (NKTL/DMTCL/PMTL/PMJTL)	7
NTPC	7

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

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

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

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

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

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

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

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

MS, ERPC was of the view that the pool of cold spare ICTs may be maintained by a central agency

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

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

Powergrid ER-II representative submitted that a 500 MVA ICT is under procurement which would be located at Maithon or Subhashgram. 315 MVA spare ICT (released after augmentation) is available

at Durgapur and Malda S/s. one 160 MVA spare ICT is available at Siliguri and one 50MVA ICT was available at Gangtok which was used recently.

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

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

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

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

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

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

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

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

Utilities may update.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Utilities may update.

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

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

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

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

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

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

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

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

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

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

ERLDC representative was of the view that as per the study undergone by them, closing of Bidhannagar-Waria circuit would not cater to the generation loss issues and advised DVC to explore the possibilities of bus splitting and connectivity to 400 KV of MTPS and RTPS.

Utilities may update.

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

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

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

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

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

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

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

Utilities may update.

PART D: OPERATIONAL PLANNING

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of May 2023 were prepared by ERPC Secretariat (**Annexure D.1**) on the basis of LGBR for 2023-24 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: Major Generating Units/Transmission Element outages/shutdown in ER Grid (as on 14.06.2023)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	ADHUNIK	JHARKHAND	APNRL	2	270	Generator stator earth fault (Stator winding flash over)	12-Mar-2023
2	KOLAGHAT	WEST BENGAL	WBPDCL	4	210	For boiler license renewal followed by boiler overhauling for 20 days	06-June-2023
3	BANDEL TPS	WEST BENGAL	WBPDCL	2	60	Poor coal Stock	06-June-2023
4	Sterlite	ODISHA	SEL	2	600	Initially ash handling problem. later, guide roller broke down and to be replaced with new one. as reported, no spare guide roller is available now.	10-June-2023
5	DPL	WEST BENGAL	WBPDCL	8	250	Boiler tube leakage	12-June-2023
6	MEJIA TPS	DVC	DVC	7	500	Boiler Tube Leakage	13-June-2023
7	MPL	JHARKHAND	MPL	2	525	Boiler Tube Leakage	14-June-2023
8	FSTPP	WEST BENGAL	NTPC	2	200	STATOR EARTH FAULT	14-June-2023

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

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	MEJIA TPS	DVC	DVC	4	210	Initially tripped due to very low Furnace pressure. Unit was under RSD from 00:00 hrs 15.05. 2023.Again from 20.05.2023 it is out due to CHP Fuel feeding Problem. Further, unit is under RSD from 14:30 hrs of 25.05.2023. Now, unit is out due to snapping of belt from-16:30 hrs on 30.05.2023. Unit again under RSD from 19:53 Hrs of 12/06/2023	11-May-2023

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BALIMELA HPS	ODISHA	OHPC	3	60	The unit taken out under R & M for 18 months.	08-Jul-2022
2	BALIMELA HPS	ODISHA	OHPC	4	60	The unit taken out under R & M for 18 months.	08-Jul-2022
3	INDRAVATI	ODISHA	OHPC	4	150	Capital maintenance for 6 Months, New stator change by OEM, Turbine OH	09-Dec-2022
4	U. KOLAB	ODISHA	OHPC	2	80	Stator Earth Fault (Winding damage)	29-Mar-2023

d) Long outage report of transmission lines (As on 14.06.2023):

Transmission Element / ICT	Outage From	Reasons for Outage
400 KV IBEUL JHARSUGUDA D/C	29.04.2018	AS INFORMATION GATHERED, AROUND 40-50 NOS OF TOWERS WERE COLLASPED AND CONDUCTOR THEFT MORE THAN 400CKM AND RESTORATION WORK IS IN PROGRESS
220/132 KV 100 MVA ICT II AT LALMATIA	22.01.2019	FAILURE OF HV SIDE BREAKER
220 KV PANDIABILI - SAMANGARA D/C	03.05.2019	TOWER COLLAPSED DURING CYCLONE FANI (RESTORATION PROJECT IS ENTRUSTED UPON PGCIL & 220KV SAMANGARA-PANDIABILI CKT-I&II ARE ANTI-THEFT CHARGED FROM PANDIABILI END FROM LOC NO.01 TO LOC NO.74)
220/132 KV 100 MVA ICT 3 AT CHANDIL	30.04.2020	DUE TO FIRE HAZARD ICT DAMAGED AND BURNT
400KV/220KV 315 MVA ICT 4 AT JEERAT	09.04.2021	DUE TO FIRE HAZARD ICT DAMAGED AND BURNT. NEW TRANSFORMER PROCUREMENT UNDER PIPELINE AND SHALL BE REPLACED IN THE NEAR FUTURE.
220KV-FSTPP-LALMATIA- 1	21.04.2021	THREE TOWER COLLAPSED NEAR LALMATIA
220KV-MUZAFFARPUR(PG)-GORAUL(BH)-1	11.06.2022	TO RECTIFY THE CVT VOLTAGE MISSING ISSUE
220KV-WARIA-BIDHANNAGAR-1&2	08.06.2022	TO CONTROL OVERLOADING OF 220 KV WARIA-DSTPS (ANDAL) D/C LINE
400KV/220KV 315 MVA ICT 1 AT PATRATU	01.08.2022	ICT TRIPPED ON FEW OCCASIONS DUE TO BUCHHOLZ LATER DGA VIOLATION FOUND, INTERNAL FAULT IN TRANSFORMER TO BE RECTIFIED.
400KV/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT TRIPPED ON FEW OCCASIONS DUE TO BUCHHOLZ LATER DGA VIOLATION FOUND, INTERNAL FAULT IN TRANSFORMER TO BE RECTIFIED. (DGA VIOLATION)
220KV/132KV 160 MVA ICT 1 AT MALDA	04.01.2023	FOR 132 KV GIS COMMISSIONING WORK (GIB ERECTION OF ICT-I)
400KV-CHANDWA-LATEHAR(JUSNL)-1	27.01.2023	TRIPPED DUE TO INTERNAL FLASHOVER OF 400KV MAIN BAY OF LATEHAR-1 AT CHANDWA

400KV/220KV 315 MVA ICT 2 AT MEJIA-B	14.03.2023	CHECKING AND RESTORATION OF CSD PROBLEM
400KV/220KV 315 MVA ICT 3 AT ROURKELA	09.04.2023	ICT#3 TRIPPED ON BUCHHOLZ PROTECTION OPERATION. CHARGING ATTEMPT OF ICT-3 TAKEN AT 12:37HRS BUT TRIPPED ON BUCHOLZ & PRV PROTECTION.
132KV-BARHI-RAJGIR-1	25.04.2023	DISMANTLING OF TOWER NO. 227, 228, AND 229 CROSSING THE PREMISES OF MAHABODHI CULTURAL CENTRE ALONG WITH DESTRINGING OF CONDUCTOR OF BOTH CIRCUITS AND EARTH WIRE BETWEEN TENSION TOWER NO. 218-237 IN SAME LINE.
132KV-NALANDA-BARHI(DVC)-1	25.04.2023	
400KV/132KV 200 MVA ICT 1 AT MOTIHARI (DMTCL)	29.05.2023	DIFFERENTIAL RELAY OPERATED (BLAST IN B-PHASE IV BUSHING OF 400/132KV 200MVA ICT-1 AT DMTCL MOTIHARI).
220KV-BIHARSARIFF-TTPS-1	03.06.2023	TOWER ERECTION ALONG WITH CONDUCTOR STRINGING AT TTPS END FOR DIVERSION OF 400KV TENUGHAT-PATRATU TO PROVIDE START-UP POWER TO PVUNL(NTPC)
HVDC TALCHER -KOLAR Pole-II	06.06.2023	DISCONNECTOR AT POLE-2 GOT DAMAGED
400KV-NEW DUBURI-MEERAMUNDALI-1 & 2	08.06.2023	TOWER COLLAPSE AT LOC NO 135 (APPX 31KM FROM MERAMUNDALI)
220KV-TSTPP-MEERAMUNDALI-1&2	10.06.2023	TOWER COLLAPSE AT LOC NO 41, 42 (FROM MERAMUNDALI END)
400KV-MERAMUNDALI-LAPANGA-1&2	10.06.2023	TOWER COLLAPSE AT LOC NO 08 (FROM MERAMUNDALI END)

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)

ITEM NO. D.3: Commissioning of new units and transmission elements in Eastern Grid in the month of May-2023

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

ERLDC_LIST OF NEW ELEMENTS CHARGED DURING MAY, 2023							
GENERATING UNITS							
SL. NO.	Location	OWNER/UNIT NAME	Unit No/Source	Capacity added (MW)	Total/Installed Capacity (MW)	DATE	Remarks
NIL							
ICTs/ GTs / STs							
SL. NO.	Agency/Owner	SUB-STATION	ICT NO	Voltage Level (kV)	CAPACITY (MVA)	DATE	Remarks

1	PGCIL	Ranchi	3	400/220	500	30-05-2023	ICT 3 at Ranchi SS was first time charged on 29-05-2023 at 10:03 Hrs as an idle using 400 kV Bay. Later on, 30-05-2023, 220 kV Bay was also charged at 13:05 Hrs. PGCIL has applied for ToC on 01-06-2023 and is currently under process.
TRANSMISSION LINES							
SL. NO.	Agency/Owner	LINE NAME		Length (KM)	Conductor Type	DATE	Remarks
1	BSPTCL	132 kV Kataiya (BSPTCL) - Kushaha (Nepal) circuit 3 along with associated bay number 113 at Kataiya end		16.86 (Indian Portion - 3.81 km)	ACSR Panther	23-05-2023	Format IV for both circuit was issued on 23-05-2023. Line was charged for the first time on 23-05-2023 on 20:15 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
1	WBSETCL	400 kV 125 MVAR Bus Reactor at Gokarna SS along with associated Bay Number 413		Gokarna	400	12-05-2023	Format IV was issued on 12-05-2023. Reactor was first time charged on 12-05-2023 at 17:36 Hrs
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
NIL							

Odisha:

GSS Name	Description	FTC Date	FTC Time	Remarks
Kataiya	132KV Kataiya-Kushaha (Nepal) Circuit No.03 Transmission Line.	23-05-2023	20:15	
Raxaul (New)	220 kv raxaul - gopalganj ckt 1	28-05-2023	17:08	Anti theft charge as bay is not ready at Goplaganj end
Raxaul (New)	220 kv raxaul Gopalganj ckt 2 transmission line	28-05-2023	16:50	Anti theft charge as bay is not ready at Goplaganj end
Amnour	220 kv muzaffarpur(PG) bay 2 AT BGCL AMNOUR	11-05-2023	18:34	
Amnour	220 kv muzaffarpur (PG) bay 1 AT BGCL AMNOUR	11-05-2023	18:32	
Amnour	220 kv digha New bay 2 AT BGCL AMNOUR	11-05-2023	18:35	
Amnour	220 kv digha New bay 1 AT BGCL AMNOUR	11-05-2023	18:36	

Members may note.

ITEM NO. D.4: UFR operation during the month of May 2023.

Frequency profile for the month as follows:

Month	Max	Min	Less IEGC Band (%)	Within IEGC Band (%)	More IEGC Band (%)
	(Date/Time)	(Date/Time)			
May, 2023	50.43 Hz on 18.05.2023 at 01:19 Hrs.	49.48 Hz on 15.05.2023 at 11:52 Hrs.	9.8	68.3	21.9

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

Members may note.

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Annexure B.8

FAX-06792-279280 Kind Attn: Sri A.K. Behera, CM Baripoda PGCIL

WEST BENGAL STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

(A Govt. of West Bengal Enterprise)

OFFICE OF THE CHIEF ENGINEER ENGINEERING DEPARTMENT

VIDYUT BHAVAN 9TH FLOOR A - BLOCK

SALT LAKE CITY KOLKATA - 700 091

PHONE : (033) 2359 4943 FAX : (033) 2359 1955

E-mail : ceed10@yahoo.in

WBSETCL

Reference No. CE/ED/ PLCC/ PGCIL/Kharagpur/ *Dated : /8/2010*

To

The General Manager (O&M)
Power Grid Corporation of India Ltd., ER-II
J-1-15, Block-EP,
Sector-V, Salt Lake City,
Kolkata-7000091.
Fax-2357-2816.

Kind Attn.: Mr. S.K. Sen, GM(O&M), PGCIL.

Sub: Installation of PLCC terminals at Baripoda 400/220/132KV Sub-Station for the PLCC links Kolaghat- Kharagpur-Baripoda under Kharagpur Sub-Station package of WBSETCL

Ref: Letter no. E-II/BPD/O&M-16 dt. 19.08.10 of the Chief Manager Baripoda PGCIL

Dear Sir,

With reference to above letter of Chief Manager Baripoda PGCIL, the frequencies of operation for twin channel PLC terminal with speech,telemetry,TBF & MODEM in respect of the PLCC link through proposed Kharagpur-Baripoda 400KV S/C line will be as under:

Sl. No. of annexure-I	Type of PLCC Terminal	Station	Direction	TX(kHZ)	RX(kHZ)
05	Twin channel PLC terminal with speech,telemetry,TBF & Modem	Kharagpur	Baripoda	164UL	220UL
06	Twin channel PLC terminal with speech,telemetry,TBF & Modem	Baripoda	Kharagpur	220UL	164UL

The other frequencies mentioned in our letter no. PLN/PLCC/PFC/REC/RIDF/181 dt. 12.08.10 shall remain unaltered as suggested by Chief Manager Baripoda PGCIL .

It is noteworthy that new PLCC terminals for carrier aided protection as well as for Speech and telemetry in respect of Kharagpur – Baripoda PLCC link have already been included in our Kharagpur Sub-Station package.

This is for your information and further necessary action please. This has also intimated to Chief Manager Baripoda PGCIL through copy of this letter.

Yours faithfully,

Sd/-

(M.K.Chowdhury)
Chief Engineer Engg. Deptt.

Memo No. CE/ED/ PLCC/ PGCIL/Kharagpur/ 793 (4) *Dated :* 30 */8/2010*

Copy to:

1. Chief Engineer (CPD) - This has reference to the discussion had with the concerned SE(E) of CPD
2. Chief Engineer IT& C, WBSETCL, Abhiksan, Saltlake, Kolkata-91
3. Addl Chief Engineer, Communication, SLDC, WBSETCL, CLD Building, Danesh Seikh Lane Howrah- 711109, Fax- 26886232.
4. Chief Manager, Baripoda 400/220/132KV Sub-Station, P.O. Kuchli, Dist. MoyurBhanj, Orissa – 757105, Fax-06792-279280

30/8/10

Chief Engineer Engg. Deptt.

WEST BENGAL STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

(A Govt. of West Bengal. Enterprise)

OFFICE OF THE CHIEF ENGINEER TRANSMISSION PROJECT
VIDYUT BHAVAN 10TH FLOOR A – BLOCK
SALT LAKE CITY KOLKATA – 700 091

WBSETCL

PHONE : (033) 2337 7957 FAX : (033) 2337 1737
E-mail : cetransproject@yahoo.co.in

F-16

Memo no: TR. PROJ. / T-181 / 20 Dt. 11.04.2012

To
The Chief Manager (I/C),
400/220/132 KV Baripada Sub-station
Power Grid Corporation of India Limited
At+PO – KUCHEI
Dist : MAYURBHANJ
ODISHA – 757105
FAX: 06792-279280

M (O&M), BPD
Pl. look into!
20/4

Kind Attention : Mr. S. J. Lahiri

Sub : Work of PLCC at Baripada 400 KV S/Stn. to be executed by WBSETCL.

Dear Sir,

As you are aware WBSETCL is going to commission its Kharagpur 400 KV S/Stn. by LILOing the existing 400 KV S/C Baripada- KTPS line at Kharagpur. Due to this reason fresh PLCC arrangement is required at Baripada sub-station by the way of replacement of existing panels by 3 nos new panels and execution of allied work are to be taken up by our vendor M/s. Alstom T&D India Ltd. These work including commissioning of the new panels are to be executed during the shutdown period which will be availed from 17.04.12 to 22.04.12. The matter has been discussed in details with you by our engineers when they visited your office recently. We are enclosing transformer details and line length for information and taking your further necessary action in this matter.

In view of above, we are enclosing relevant transformer details along with line length you are requested to give us necessary clearance in respect of above so that we can advise our vendor Alstom T&D india Ltd. to execute the work within this shut down period.

Enclo : As stated above.

Yours faithfully,
P. Das Sharma
11/04/12
(P.Das Sharma)
Chief Engineer (Projects)

पावरग्रिड बारिपदा
Powergrid Baripada
रसीद सं०- 334
Receipt No.-
दिनांक -
Date - 20.04.12

→ Sh. A. K. Nayak / EM
for n.a. pl.

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

पावरग्रिड

J-1-15, ब्लॉक -EP, सेक्टर - V, सॉल्टलेक, कोलकाता - 700 091, EPABX : 2357-2825 / 2826
J-1-15, Block- EP, Sector- V, Salt Lake, Kolkata- 700 091, EPABX : 2367-2825 / 2826

पूर्वी क्षेत्रीय पारेषण प्रणाली - II
Eastern Region Transmission System - II

REF. : ER-II/KOL/ENGG/JEYPORE/50/

DATE: 27.08.2012

CGM(Constn.)
27 AUG 2012

To,

The Director(Engg.),
Orissa Power Transmission Corporation Limited,
Janpath,
Bhubaneswar,
Odisha -751 022

Sub.: Allottement of 220 kV Bays at 400/220 kV Jaypore Substation for Termination of 220 kV D/C Jayanagar(OPTCL) - Jeypore Feeder.

Sir,

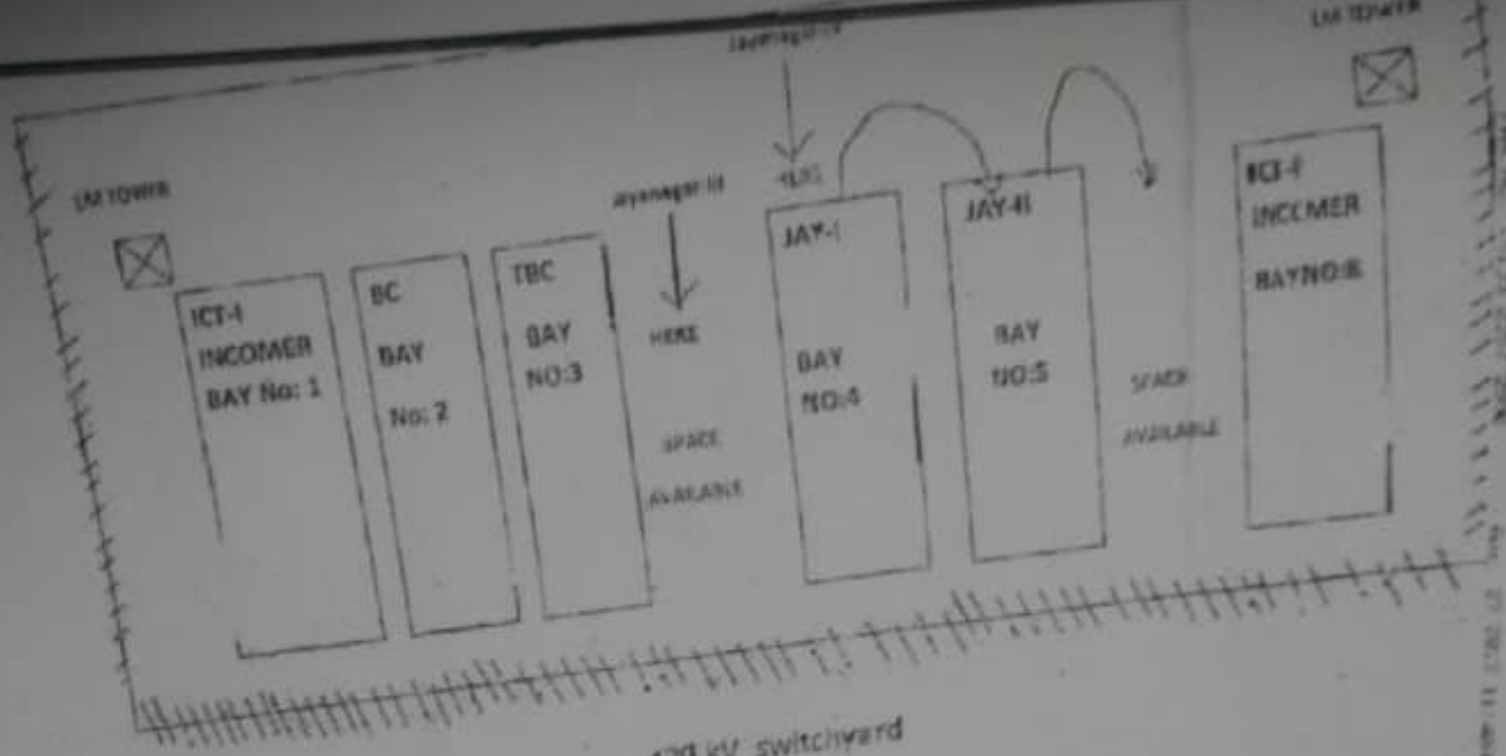
Refer your letter Dt.30.06.12 to Director(SP&PA), CEA, New Delhi regarding the above subject. We are ready to allotte 2nos 220 kV bays just adjacent to existing Jayanagar bays one each on both sides at our Jeypore Substation. The bay arrangement is enclosed for your ready reference.

This information has already been intimated to our Engg. deptt at Corporate Center also.

(A.K. Rohtagi)
AGM(Engg / TQA&L)

COPY TO : 01. DGM(Engg S/S),CC, Gurgaon Sh A.P. Gangadharan for detailed Engg.
02. GM(O&M),ER II for kind information.

220 KV Switchyard Bay LAY OUT at POWER GRID, JEYPORE



ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Government of Orissa Undertaking)
OFFICE OF THE ASST.GENERAL MANAGER (ELECT)
E.H.T.CONSTRUCTION DIVISION
P.O. :JEYPORE , KORAPUT 011: PHONE No 06854-232682
FAX No. - 06854-232682

Letter No 910 (5) Dated: 26.09.2013

To,
The Chief Manager, 400/220 KV Grid Sub-Station,
Kaliagaon, Jeypore.

Sub:- Two Nos. of 220 KV Feeder Bay extension at 400/220 KV Grid Sub-Station,Kaliagaon.

Sir,

With reference to above, this is to apprise you that, OPTCL is now contemplating to construct two nos. of 220 KV feeder Bays in 400/220 KV Kaliagaon Grid Sub-Station premises and necessary work order has already been placed on M/S A.K.Das Associates, Bhubaneswar for the above job. OPTCL has also been allotted required space adjacent to the existing 220 KV Jayanagar feeder bays by PGCIL for bay extension work. The photocopy of the above said space allotment letter received from PGCIL is enclosed here with for your ready reference. M/S A.K.Das Associates intends to start the work for the 220 KV feeder bay extension work immediately and he may be permitted to do so.

This is for your kind information and necessary action.

Encl.- As above

Yours faithfully,
Asst. General Manager (Elect).

CC to:
The General Manager (Elect) EHT (C) Circle, Bhubaneswar/ Sr. General Manager (TP&C) OPTCL, Bhubaneswar. Chief General Manager (C) OPTCL, Bhubaneswar, M/S A.K.Das Associates, Bhubaneswar for kind information and necessary action.

Forwarded to GM(O&M)/Kolkata for kind information
26/9/13

GM(O&M)

Minutes of Meeting held between M/s Power Grid Corporation of India Limited and OPTCL at POWERGRID, Jeypore Substation On 14.09.2015

Members Presents:

From PGCIL

01. Sh A.P Gangadharan, AGM (Eng),CC
02. Sh. D. Chakraborty,AGM,Consultancy ,BBSR
03. Sh. S. K. Mishra,DGM,(Eng.),BBSR
04. Sh. V.Ram Prasad,Asst.GM,Jeypore
05. Sh. S. Prasad,Dy.Mgr(T & C),Jeypore
06. Sh. CH. Mohan Rao,Dy.Mgr(AM),Jeypore

From OPTCL

01. Sh. R. R. Panda,CGM (Const.), BBSR
02. Sh. P. C. Tripathy,CGM(O&M)
03. Sh. B. N. Nayak,GM,Rayagada
04. Sh. Gopal Chandra Pati, DGM

On 14.09.2015 at POWERGRID, Jeypore Substation, a Meeting was held between PGCIL & OPTCL on construction of 220 KV Jayanagar-III & IV Bays extension works at POWERGRID, Jeypore substation.

The following points were discussed and mutually agreed upon.

(i) Bus Bar Protection: Extension of existing Bus-bar protection (PBDCB relay Alstom make) is to be provided along with switching relays, input & output modules. Only spare trip relays are available in the existing Bus-bar protection system .M/s OPTCL confirmed to provide the same.CT ratio 1000/1 is to be matched by OPTCL.

(ii) NTAMC : POWERGRID informed that the existing substation operation is provided with remote operation facility from NTAMC, Manesar and the extended bays are also required to be integrated with the same. Necessary BCU and CMR relays are required for integration with NTAMC .M/s OPTCL informed that they will take up this work related to integrating Jayanagar III & IV lines to NTAMC with their vendor and confirm if they are able to undertake this work. Otherwise M/s OPTCL requested M/s PGCIL to carry out the works for 3 & 4 on deposit work basis.

(iii) OPTCL will hand over a set of specifications & Drawings to POWERGRID. POWERGRID will form their comments/ suggestions, if any, within two weeks.

(iv) LT switchgear: There is no spare feeder available in the existing ACDB & DCDB .Extension of existing ACDB and DCDB (220 V & 50 V) will be carried out by OPTCL .Each extension board shall have 5 nos. 32A modules.

(v) Battery system: One no. 48 V, 600AH battery(VRLA type) set will be provided by OPTCL for replacement of existing 50V,300 AH battery set-I.

(vi) Space Requirement:

The space availability in existing control room building was jointly inspected by POWERGRID &OPTCL to explore possibility of placement of control & relay panels. It is emerged that space is available for placement of 02 nos. of control panels only. The following options were discussed for consideration by OPTCL.

14/09/2015 14/9/15 14/09/15 14/9/15

(i) Extention of the existing control room.

(ii) Construction of Switchyard panel room which can accommodate relay panels, PLCC panels and BCU for Jayanagar III & IV feeders.

OPTCL preferred option (ii).

POWERGRID informed that one no. panel room of 6 mtr(L) x 4 mtr(W) size(height above FGL shall be 4 mtr)shall be sufficient and the same can be located near the main cable trench adjacent to Jayanagar I & II feeders.

(vii) The line take off arrangement has been jointly reviewed by POWERGRID and OPTCL and it is decided that OPTCL shall suitably locate the take off tower so that relocation of existing LM tower is not required.

(viii) POWERGRID and OPTCL shall enter in to an MOU for construction and O & M of the above Jayanagar III & IV feeders by Oct2015.

M/s PGCIL		M/s OPTCL	
Sh A.P Gangadharan	14/09/2015	Sh P.C. Tripathy	14.9.15
Sh. D. Chakraborty	14/09/15	Sh. R R Panda	14/09/2015
Sh. S.K. Mishra	14/9/15	Sh. B.N Nayak	
Sh. V Ram Prasad	14/9	Sh. G C Pati	14/9/2015

Minutes of Meeting held between M/s Power Grid, M/s OPTCL at PowerGrid Jeypore Substation on dtd 08.07.2019.

Representatives are:

M/s Power Grid

Mr. Manash Paul,General Manager
Mr. A K Nayak, Manager
Mr..Gyan R Dash,Jr.Engineer

M/s OPTCL,Jayanagar

1. Mr.Laxmi Kanta Panda, DGM
2. Miss. Jyosna Rani Pradhan,Manager

On dtd 08.07.2019 officials M/s OPTCL, Jayanagar has visited Power Grid Jeypore substation. During the visit, the followings points have been discussed regarding the Integration of their constructed bays in Power Grid S/Y and Systems.

In continuation to the MOM dtd 14.09.2015(MOM copy enclosed for reference) between Power Grid and OPTCL held at Power Grid Jeypore Substation, the followings points have been discussed:

The discussed points are as follows:

1. Armored cable: The control cable as well as power Cables used in the existing substation is armored cable. Hence armored cables are to be used in Control & Power cable in the upcoming Jayanagar bays for safety point view as per Power Gridstandard.

2. GI Pipe: As per the latest circular, the FO cables for communication between IED, signaling, monitoring, remote operation are used through GI Pipe for providing extra safety from fire hazard in trenches. Hence GI pipe for FO cables are to be used in the upcoming Jayanagar bays by OPTCL.

3. ACDB & DCDB:-As per MOM dtd 14.09.2015, Para-(iv)-LT Switchgear:- it is already mentioned to provide ACDB & DCDB(220V & 48V) extension to be carried out by M/s OPTCL as there is no spare feeder available in the existing system.

4. Battery System: As per MOM dtd 14.09.2015, Para-(v)- One No 48V Battery(VRLA) type) Set will be provided by OPTCL for replacement of existing 50V 300Ah Battery set-I.

5. NTAMC: As per MOM dtd 14.09.2015, it is already discussed regarding NTAMC. In addition to the above, there is requirement of 1no industrial PC for controlling of the upcoming bays at existing control Room and 01no at the SPR Room will be provided by OPTCL.

6. Event Logger: new SEL make Event logger has been commissioned on Jan'2018 by Power Grid in the existing control Room due to absolution of the Hathway EL. Hence there is requirement of additional modules to incorporate the event list of upcoming Jayanagar bays at Power Grid Jeypore substation will be provided by M/s OPTCL.

7. Telecom: the 220KV Jaynagar-I & II lines have no PLCC communication system right now. The existing panel maintained by OPTCL is not working since long. M/s OPTCL has installed 01 no DTPC panel for the above line in 2016. Since then it is not commissioned yet. Requested to M/s OPTCL to commission the DTPC panel to strengthen the protection communication at the earliest please.

8. Power Grid has requested to M/s OPTCL for providing all other inputs as mentioned in the MOM dtd 14.09.2015 which are still to be received.

M/s Power Grid

08.07.19

08/07/19

M/s OPTCL,Jayanagar

JPradhan 08/07/19

Pb-1/2

Minutes of Meeting held between M/s Power Grid, M/s OPTCL at PowerGrid Jeypore Substation on dtd 05.03.2020.

Representatives are:

M/s Power Grid

Mr. Manash Paul,Sr.General Manager
Mr. S K Parida,Dy.,Manager
Mr. Gyan R Dash,Jr.Engineer

M/s OPTCL,Jayanagar

1. Mr. Laxmikanta Panda, DGM,Jeypore
2. Miss. Jyosna Rani Pradhan,AGM
3. Mr. Deepak Das,AGM
4. Mr.J S K Singh,DM

On dtd 05.03.2020 officials M/s OPTCL, Jayanagar has visited Power Grid Jeypore substation. During the visit, the followings points have been discussed regarding the Integration of their constructed bays in Power Grid S/Y and Systems.

In continuation to the MOM dtd 14.09.2015 & 08.07.2019 (MOM copy enclosed for reference) between Power Grid and OPTCL held at Power Grid Jeypore Substation, the followings points have been discussed:

The discussed points are as follows:

1. Armored cable: The control cable as well as power Cables used in the existing substation is armored cable. Hence armored cables are to be used in Control & Power cable in the upcoming Jayanagar bays for safety point view as per Power Grid standard.

2. GI Pipe: As per the latest circular, the FO cables for communication between IED, signaling, monitoring, remote operation are used through GI Pipe for providing extra safety from fire hazard in trenches. Hence GI pipe for FO cables are to be used in the upcoming Jayanagar bays by OPTCL.

3. ACDB & DCDB:-As per MOM dtd 14.09.2015, Para-(iv)-LT Switchgear:- it is already mentioned to provide ACDB & DCDB(220V & 50V) extension to be carried out by M/s OPTCL as there is no spare feeder available in the existing system.

4. Battery System: As per MOM dtd 14.09.2015, Para-(v)- One No 48V Battery(VRLA) type) Set will be provided by OPTCL for replacement of existing 50V 300Ah Battery set-I.

5. NTAMC: As per MOM dtd 14.09.2015, it is already discussed regarding NTAMC. In addition to the above, there is requirement of 1no industrial PC for controlling of the upcoming bays at existing control Room and 01no at the SPR Room will be provided by OPTCL.

6. Event Logger: new SEL make Event logger has been commissioned on Jan'2018 by Power Grid in the existing control Room due to absolution of the Hathway EL. Hence there is requirement of additional modules to incorporate the event list of upcoming Jayanagar bays at Power Grid Jeypore substation will be provided by M/s OPTCL.

7. Telecom: Recently DTPC panel for Jayanagar- Ckt-1 & 2 line carrier communication has been installed and necessary termination done. But not yet commissioned. Requested to M/s OPTCL to commission the DTPC panel to strengthen the protection communication at the earliest please. (Email dtd 15.02.2020 is enclosed herewith for your reference).

JPradhan 05/03/2020

05/03/20

5/3/20

8. It is requested and mutually agreed upon to keep the existing bays orientation at PowerGrid Jeypore end as it is and whatever modification is required for all Ckts (1,2,3 & 4) for connection may be adopted at Jayanagar end(OPTCL).

Power Grid has requested to M/s OPTCL for providing all other inputs as mentioned in the MOM dtd 14.09.2015 which are still to be received.

M/s Power Grid

M/s OPTCL,Jayanagar

Name of the Site: 400/220KV PGCIL JEYPORE SS

CUSTOMER: M/s OPTCL & M/s PGCIL

Sub Station: 400/220KV PGCIL JEYPORE SS

Scope of Work: SAS COMMISSIONING

Project: KY2Z [RT-B53]

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र, ओडिशा
POWERGRID, Jeypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

Visit Document

Contents

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जेपोर उपकेन्द्र, ओडिशा
POWERGRID Jeypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

Minutes of Meeting

Minutes of Meeting held between M/s GE T&D INDIA LTD and M/s OPTCL & M/s PGCIL on dated: 01/05/2021 at 400/220KV PGCIL JEYPORE SS.

Organization	Represented by	Signature
M/s GE T & D INDIA LTD	Mr. SISIR KUMAR MISHRA	
M/s PGCIL	Mr. GYAN RANJAN DAS	
M/s OPTCL	Mr. MANIKESWAR MANDAL	

CUSTOMER Service Call Objective:

Substation & Circuit	Service Request (Please tick ✓)				
	Commis--sioning	Trouble Shooting	Relay Testing	Application / Settings	Refurbish --ment
400/220KV PGCIL JEYPORE SS	✓				

Work Accomplished:

Substation	Circuit/product	Work done	Remarks
400/220 kV PGCIL_JEYPORE	220kV	SAS Commissioning and NTAMC signal validation	Completed

Additional Work done:

Substation	Circuit/product	Work done	Remarks

Attachments to this Document (Please tick)

- ☐ **List of Open Points**
- ☐ **Commissioing Completion Certificate**
- ☐ **Customer Feedback Form on GE T&D Services**

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र, ओडिशा
POWERGRID, Jeypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

Visit Details

Project	: EXT.BAY INTERGR.OF 400/220 KV PGCIL JEYPORE
Site	: 400/220 KV PGCIL JEYPORE
CUSTOMER	: M/s OPTCL & M/s. PGCIL
Panel / Relay Type	: CRP
Drawing Reference No.	: KY2Z

M/S GE representative has reached 400/220 KV PGCIL JEYPORE on 23/04/2021 for the SAS commissioning works.

The Following Work has been carried out in presence of M/s PGCIL & M/s OPTCL & M/s GE T & D representative.

Bay 206 (Jayanagar-3) and 207 (Jayanagar-4):

1. Extension bays B206 (Jayanagar-3) and B207 (Jayanagar-4) 2 no's of BCU's SPS, DPS, DPC and SPC signals are integrated in database as per the approved scheme and NTAMC Signal list and same have been validated and tested in end to end testing with RTAMC and found all data and command updating properly at remote end and same has been witnessed by M/s PGCIL and M/s OPTCL.

2. 2 no's of Schneider make P442_21M2 and P141_67N relays protection signals are configured in database as per approved NTAMC signal list (Relays are present in Schneider panel) and same have been validated and tested in end to end testing with RTAMC and found all data updating properly at remote end and same has been witnessed by M/s PGCIL and M/s OPTCL.

3. 2 no's of Siemens make 7SA522 relays protection signals are configured in database as per approved NTAMC signal list. (Relays are present in Schneider panel) and same have been validated and tested in end to end testing with RTAMC and found all data updating properly at remote end and same has been witnessed by M/s PGCIL and M/s OPTCL

4. 2 no's of Schneider make Conzerv 6400 MFM Analog Input signals are configured in database as per approved NTAMC signal list (MFM's are present in Schneider panel) and same have been validated and tested in end to end testing with RTAMC and found all data updating properly at remote end and same has been witnessed by M/s PGCIL and M/s OPTCL

5. Extension bays B206 (Jayanagar-3) and B207 (Jayanagar-4) signals are configured in the database along with available relays signals and the IEC 104 address for gateway has been mapped and the same has been uploaded and all the IED's are reporting properly to Main and Standby Gateway.

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र, ओडिशा
POWERGRID, Jeypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

COMMON POINTS:

- The login details for B206 & B207 BCUs were as follows
  Username- aaaa , Password- aaaa
- The latest database version is 5_15_02_KT55_JAYPORE_EN 6 0.70 mpc
  Which has been handed over to M/s. Power Grid
- The DS Agile version is **dsagile-v5.1.28.3-base-build1** and SCE version is **sce-5.15.43.0-build1-rc.**
- The latest database version is stored in main Gateway PC in following path "C \Final_SAS_Backup_ 01_05_2021"

BCU and RELAY Details

S.no	Make	Model no	Serial No
1	GE	C264MB1M691001307300A030000N10	34568834/09/18
2	GE	C264MB1M691001307300A030000N10	34568835/09/18
3	SCHNEIDER	P141316A6M0468J	39502981/11/14
4	SCHNEIDER	P141316A6M0468J	39502987/11/14
5	SCHNEIDER	P442316B6M0D60K	39503365/11/14
6	SCHNEIDER	P442316B6M0D60K	39503368/11/14
7	SIEMENS	7SA5221-6DB90	1306501163
8	SIEMENS	7SA5221-6DB90	1306501161

Gateway SCADA Network protocols & IP address details:

S.no	Gateway PC Name	Gateway SCADA Network	Protocol IP Address	Subnet mask	ASDU Common address
1	GTW_M	T104	172.17.35.2	255.255.255.0	1
2	GTW_S	T104	172.17.35.3	255.255.255.0	1

Above all status are verified and witnessed by M/s PGCIL and M/s OPTCL representative

After completion of above said work, GE Representative has left the site on 01/05/2021 with no pending points and M/s GE T&D has completed all the works against PO

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक (ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र, ओडिशा
POWERGRID, Jaypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

List of Open Points

Project	: EXT.BAY INTERGR.OF 400/220 KV PGCIL JEYPORE
Site	: 400/220 KV PGCIL JEYPORE
Customer	: M/s. OPTCL & M/s. PGCIL
Panel / Relay Type	: CRP
Drawing Reference No.	: KY2Z

Sl. No.	Description of Open Points	Scope	Remarks
1.	2 No's Schneider make P442_21M2 relay having Model No- P442316B6M0D60K and Software Ref- P442____6S_D6_KB were not responding to DSAgile Gateway software.	M/s OPTCL & M/s SEIL	M/s Schneider Electric need to fix the issue in relay so that it will respond and update data in DSAgile gateway software However, M/s GE has simulated the signals by simulator instead of P442 SEIL relay and same was witnessed by M/s PGCIL & M/s OPTCL

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र / POWERGRID, Jaypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

Commissioning Completion Certificate

P.O REFERENCE	SGM CON-II/SAS JAYANAGAR-PGCIL/1487(8) Dt-06.07.2018
CUSTOMER	M/s OPTCL
STATION NAME	400/220kV PGCIL JEYPORE SS
Bay's Involved	220kV Bays- B206- Jayanagar-3 Line , B207- Jayanagar-4 Line
TESTING COMPLETED ON	28-04-2021
COMMISSIONING COMPLETED ON	01-05-2021
SIGNATURE OF THE CUSTOMER WITH SEAL	Junior Manager (Elect.) E.H.T. Const. Sub-Division OPTCL, JEYPORE

सुकान्त कुमार पॉरडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र, ओडिशा
POWERGRID, Jeypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

Visit Document

Customer Feedback Form on GE T&D Services

Customer	:	Mr. MANIKESWAR MANDAL
Organization	:	M/s OPTCL
Site	:	400/220 kV PGCIL JEYPORE SS
GE Engineer	:	Mr. SISIR KUMAR MISHRA

PRESENT Service : (Please tick (√) the appropriate box)

	Yes	No
Do you feel that the job was handled time consciously?	☑	☐
Are you happy with services of this Engineer ?	☑	☐
Any suggestions for the engineer to improve	☐	☑
Did the service engineer briefed up on the Catalogue of Services (Viz.Retrofit,Training)	☑	☐
Did the Service engineer handover the catalogue for Retrofit / Training	☐	☐

GENERAL:

	Excellent	Average	Poor
Response Time	☑	☐	☐
Quality of Response	☑	☐	☐
Quality of Site Service	☑	☐	☐
Quality of Relay repair	☑	☐	☐

Any Suggestion to Improve:

Customer Name :

Designation :

Seal of the Customer :

सुकान्त कुमार परिडा / Sukanta Kumar Parida
उप प्रबंधक(ऐ.एम)/Dy. Manager (AM)
पावरग्रिड, जैपोर उपकेन्द्र, ओडिशा
POWERGRID, Jeypore S/Stn, Odisha

For M/s. GE T&D India Limited,	For M/s. PGCIL	For M/s. OPTCL
Name: Mr. SISIR KUMAR MISHRA	Name: Mr. GYAN RANJAN DAS	Name: Mr. MANIKESWAR MANDAL
Date: 01/05/2021		

TIME SHEET FOR WORK ON SITE

PCP JOB REFERENCE :	KX2Z
CUSTOMER . S REFERENCE :	Mr. MANIKESWAR MANDAL
CUSTOMER :	M/s. ODISHA POWER TRANSMISSION CORPORATION LTD
SITE :	400/220 kV PGCIL JEYPORE SS

ENGINEER 'S NAME: SISIR KUMAR MISHRA | MONTH : APRIL | YEAR : 2021

JOB UNDERTAKEN : SCADA COMMISSIONING

DATE	WORKING TIME			OVERTIME			Bay No & Name	Activity Performed
	FROM	TO	HRS	FROM	TO	HRS		
23.04.21	9.30 AM	6.30 PM	09					Travelled and reached Jeypore and went through COVID-19 RAT test as per M/s OPTCL request for entering Power Grid Substation
24.04.21	9.30 AM	6.30 PM	09				B206 & B207	After getting COVID-19 Negative report M/s Power Grid allowed to work in site substation at 12 30PM and MFM modbus wiring completed from control panel to SAS panel for both B206 and B207 BCU and Found reporting properly and same has been witnessed by M/s OPTCL
25.04.21								SUNDAY
26.04.21	9.30 AM	6.30 PM	09				B206 & B207	MFM Scaling rectified and SPC and DPC command operations from LHMI tested and found executed properly and same has been waiting by M/s OPTCL Waiting for M/s PGCIL confirmation to initiate Signal testing along with NTAMC.
27.04.21	9.30 AM	6.30 PM	09				B206_Jayanagar-3	B206_Jayanagar-3 AI, DPC, SPC, DPS and SPS end to end signals validation and control execution from Remote RTAMC done and found reporting properly at remote and same has been witnessed by M/s OPTCL and M/s PGCIL.
28.04.21	9.30 AM	6.30 PM	09				B207_Jayanagar-4	B207_Jayanagar-4 AI, DPC, SPC, DPS and SPS end to end signals validation and control execution from Remote RTAMC done and found reporting properly at remote and same has been witnessed by M/s OPTCL and M/s PGCIL.
29.04.21	9.30 AM	6.30 PM	09				B206 & B207	Coordinating with Mr Muthuraj to identify and resolve the P442_21M2 Schneider relay data not updating and relay not responding to DSAgile Gateway issue
30.04.21	9.30 AM	6.30 PM	09				B206 & B207	Coordinating with Mr Muthuraj to identify and resolve the P442_21M2 Schneider relay data not updating and relay not responding to DSAgile Gateway issue Issue identified in P442 relay software and same has been informed to M/s OPTCL for further rectification.
01.04.21	9.30 AM	6.30 PM	09				B206 & B207	Hand Over all Backup and files to M/s PGCIL and got signed in MOM and JVR by M/s OPTCL
02.04.21								Travelling from site
03.04.21								Travelling from site

SIGNATURE	DATE 01/05/2021	SIGNATURE	DATE 01/05/2021
ENGINEER 'S NAME SISIR KUMAR MISHRA GE T&D India Limited		CUSTOMER 'S REP NAME: Mr MANIKESWAR MANDAL CUSTOMER: M/s. ODISHA POWER TRANSMISSION CORPORATION LTD	

Junior Manager (Elect)
E.H.T. Const. Sub-Division
OPTCL, JEYPORE

Email **Jeypore SS**

Establishment of Local SCADA Control at Existing Control Room & fixing of maintenance modalities of recently commissioned 02 nos OPTCL Bays at Jeypore Substation-Regarding..

From : Jeypore SS <jeyporess@powergrid.co.in> Tue, Sep 28, 2021 06:42 PM

Subject : Establishment of Local SCADA Control at Existing Control Room & fixing of maintenance modalities of recently commissioned 02 nos OPTCL Bays at Jeypore Substation-Regarding..

To : dnsarangi@powergrid.in

Cc : eswar <eswar@powergrid.in>, sksahu <sksahu@powergrid.in>, mohan rao <mohan.rao@powergrid.in>, sparameswaran <sparameswaran@powergrid.in>, sukantakumar <sukantakumar@powergrid.in>, gyanranjandas <gyanranjandas@powergrid.in>, parsu <parsu@powergrid.in>

Dear Sir,

With reference to the subject cited above, this is to inform you that the 220KV Jaynagar line-3 & 4 (Bays 206 & 207) of OPTCL have recently been commissioned in the month of June'2021

At present, both the bays controls are available in OPTCL Kiosk at S/Y and remote control is available with RTAMC/NTAMC, but no control authority is available at local POWERGRID end.
Due to non availability of aforesaid access control from our existing control room, it becomes difficult during operation and monitoring. Hence, local SCADA integration at control room is required.

Accordingly, it has already been discussed many times with M/s OPTCL for integration/establishment of Local SCADA for aforesaid 2nos bays at our existing control room since commissioning, but no sincere action has been taken from M/s OPTCL till date.

Also, the authority for Operation & maintenance of aforesaid 02no Bays has not been fixed.

In view of the above, it is requested to look into the matter with M/s OPTCL for smooth O&M of the above bays at Jeypore Substation please.

Note: Recently there was Data hanging issues of the aforesaid 02nos bays, which is still not attended/rectified by M/s OPTCL even after repeated persuasion & communication made from POWERGRID.

Regards

Parsuram Bhoi
DGM,Jeypore

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
POWER GRID CORPORATION OF INDIA LIMITED
400/220 के. वी. जयपोर उप-केन्द्र
400/220 kV JEYPORE SUB-STATION,

ग्रा. एवं पो.–कालियागांव, जयपोर , ओडिशा- 764002
PO- KALIAGAON, JEYPORE, ODISHA- 764002

Email **Jeypore SS**

Regarding software upgradation in the recently commissioned integration panel by GE T&D, India, Limited at 400/220KV PGCIL, Jeypore

From : ele jrpradhan <ele.jrpradhan@optcl.co.in> Wed, Sep 08, 2021 05:51 PM

Subject : Regarding software upgradation in the recently commissioned integration panel by GE T&D, India, Limited at 400/220KV PGCIL, Jeypore

To : Suren Kumark <Suren.Kumark@se.com>, suren kumark <suren.kumark@se.com>, sgm con2 sbp <sgm.con2.sbp@optcl.co.in>, ehtc cle rgd <ehtc.cle.rgd@optcl.co.in>, ehtc div jpr <ehtc.div.jpr@optcl.co.in>, ele mmandal <ele.mmandal@optcl.co.in>, Jeypore SS <jeyporess@powergrid.co.in>, suresh rajenderan <suresh.rajenderan@ge.com>

Sir,

With reference to the subject mentioned above, it is to intimate you that 2 no. bays (220KV Jayanagar- PGCIL Ckt-III & IV) have been recently integrated with existing system by GE T&D, India, Limited at 400/220KV PGCIL, Jeypore. As per the list of open points between GE, OPTCL and PGCIL on 01.05.2021 at PGCIL, Jeypore, it is to inform you that 2 no. Schneider make P442_21M2 relay having model no. P442316M0D60K and software ref-P442_6S_D6_KB were not responding to DSAgile Gateway software.

You are hereby requested to depute your Service Engineer to 400/220KV PGCIL, Jeypore to upgrade data in DSAgile Gateway software at the earliest.

"Matter most urgent."

Yours faithfully,

Assistant General Manager (Elect.),

EHT (Const.) S/D, Jeypore.

Email **Jeypore SS**

From : ele mmandal <ele.mmandal@optcl.co.in> Fri, Dec 31, 2021 05:03 PM

Subject : Fwd: FW: EXT: Requesting offer for establishment of local SCADA at 400/220Kv PGCIL,Kaliagaon,Jeypore 1 attachment

To : Jeypore SS <Jeyporess@powergrid.co.in>

-------- Original Message --------
Subject: FW: EXT: Requesting offer for establishment of local SCADA at 400/220Kv PGCIL,Kaliagaon,Jeypore
Date: 2021-12-27 16:38
From: "Dash, Satyabrat (GE Renewable Energy)" <satyabrat.dash@ge.com>
To: "ehtc.div.jpr@optcl.co.in" <ehtc.div.jpr@optcl.co.in>, "ele.jrpradhan@optcl.co.in" <ele.jrpradhan@optcl.co.in>, "ele.mmandal@optcl.co.in" <ele.mmandal@optcl.co.in>
Cc: "Mukherjee, Angsu (GE Renewable Energy)" <angsu.mukherjee@ge.com>

Dear Sir

Kindly find our budgetary offer as below.

This offer to be read along with our commercial terms EM104.

SCOPE OF WORK.

Local Scada for two bays of OPTCL bays at PGCIL Jeypore site (Connecting to existing NTAMC system of PGCIL)

* Industrial Grade PC :1 No
* SCADA software
* 24 Inch HMI:1 No
* 1 KVA UPS/Inverter:1 No
* Ethernet Switch with 6 port (Panel internal mounting): 1 No
* Cat-6 cable supply (From existing BCU panel to PC):100 Meter
* Cable laying and termination

SL. NO

DESCRIPTION

UNIT

QUANTITY

UNIT EX WORK PRICE IN INR

TOTAL AMOUNT IN INR

1

Supply of Industrial Grade PC

No

1

230,000

230,000

2

Supply of SCADA Software

Lot

1

600,000

600,000

3

Supply of 24 Inch HMI

No

1

35,000

35,000

4

Supply of 1 KVA UPS/Inverter

No

1

10,000

10,000

5

Supply of Ethernet Switch with 6 port (Panel internal mounting)

No

1

90,000

90,000

6

Cat-6 cable supply (From existing BCU panel to PC)

Meters

100

60

6,000

7

Cable laying and termination

Lot

1

20,000

20,000

8

Installation, Testing and commissioning of remote HMI in control room for 2 bays

Lot

1

200,000

200,000

Total Ex Works Price in INR

1,191,000

TERMS AND CONDITIONS:

* Price: Ex Works
* GST:18% extra
* Payment:100% including GST within 30 days from the date of supply
* SD, Contract Agreement: Not applicable
* Delivery:10 Weeks from the date of PO
* Warranty:12 months from the date of PO
* F&I: Included in quoted rate

We will be available for any further information or clarification if required.

With Regards

SATYABRAT DASH

GE T&D INDIA LIMITED

M +91 7894456560

www.gegridsolutions.com [1]

FROM: ele.mmandal <ele.mmandal@optcl.co.in>
SENT: 15 December 2021 12:32
TO: Dash, Satyabrat (GE Renewable Energy) <satyabrat.dash@ge.com>
SUBJECT: EXT: Requesting offer for establishment of local SCADA at 400/220Kv PGCIL,Kaliagaon,Jeypore

WARNING: This email originated from outside of GE. Please validate the sender's email address before clicking on links or attachments as they may not be safe.

Dear sir,

Kindly find the attached document.

Regards,

Manikeswar Mandal

project- in -charge

Links:
---
[1] http://webmail.optcl.co.in/www.gegridsolutions.com

EM104.pdf
154 KB

Email **Jeypore SS**

Fwd: Establishment of Local SCADA for 2nos OPTCL Bays in existing control Room at Jeypore Substation

From : Jeypore SS <jeyporess@powergrid.co.in> Tue, Apr 19, 2022 01:09 PM

Subject : Fwd: Establishment of Local SCADA for 2nos OPTCL Bays in existing control Room at Jeypore Substation 1 attachment

To : ele jrpradhan <ele.jrpradhan@optcl.co.in>

Cc : ehtc div jpr <ehtc.div.jpr@optcl.co.in>, ehtc cle rgd <ehtc.cle.rgd@optcl.co.in>, sgm con2 sbp <sgm.con2.sbp@optcl.co.in>, cgm con <cgm.con@optcl.co.in>, parsu <parsu@powergrid.in>, mohan rao <mohan.rao@powergrid.in>, eswar <eswar@powergrid.in>, sukantakumar <sukantakumar@powergrid.in>, siva5313 <siva5313@powergrid.in>, gyanranjandas <gyanranjandas@powergrid.in>, megha <megha@powergrid.in>

REMINDER

Dear Madam/Sir,
Due to non availability of access control from existing control room for OPTCL commissioned bays i.e.206 & 207 in Jun'2021 by OPTCL, is always creating difficulties during operation and monitoring.

Therefore, it is requested to do the needful for establishment of Local SCADA for 2nos OPTCL Bays in existing control Room at Jeypore Substation at the earliest please.

Regards

Gyan Ranjan Das

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड,
400/220 के. वी. जयपोर उप-केन्द्र,
ग्रा. एवं पो.–कालियागांव, जयपोर , ओडिशा- 764002.
POWER GRID CORPORATION OF INDIA LIMITED,
400/220 kV JEYPORE SUB-STATION,
AT/PO- KALIAGAON, JEYPORE, ODISHA- 764002.

From: "Jeypore SS" <jeyporess@powergrid.co.in>
To: "Jyosna Rani Pradhan" <ele.jrpradhan@optcl.co.in>
Cc: "manash" <manash@powergrid.in>, "mohan rao" <mohan.rao@powergrid.in>,

"sukantakumar" <sukantakumar@powergrid.in>, "gyanranjandas" <gyanranjandas@powergrid.in>, "siva5313" <siva5313@powergrid.in>
Sent: Wednesday, September 8, 2021 5:52:00 PM
Subject: Establishment of Local SCADA for 2nos OPTCL Bays in existing control Room at Jeypore Substation

Dear Madam/Sir,

As you are aware that 2nos bays(206 & 207) associated with 02nos 220KV Jaynagar line-3 & 4 has recently been commissioned.

Presently, both bays controls are available in OPTCL Kiosk at S/Y and remote control is available with RTAMC/NTAMC where no control authority is available at local end.
Due to non availability of access control from existing control room, is creating difficulties during operation and monitoring. hence, local scada integration at control room is required.

In view of the above, it has already been discussed many times with M/s OPTCL for integration/establishment of Local SCADA for above 2nos bays at existing control room before commissioning, for which M/s OPTCL has assured to establish the Local scada at existing control room of Jeypore substation which is yet to be established.

Therefore, it is requested to M/s OPTCL to establish the local scada for smooth operation and monitoring of the bays from existing control Room at the earliest please.

Note: Recently, it has been observed that all the digital data's/IED's pertains to both bays(206&207) & lines -3& 4 are showing suspect from dtd 01.09.2021 which information was already shared to M/s OPTCL to take immediate action to restore as the system is under service condition, data suspect is hampering the system monitoring and its yet to be attended by M/s OPTCL. Therefore it is requested to take necessary action at the earliest please.

Regards

Gyan Ranjan Das

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
POWER GRID CORPORATION OF INDIA LIMITED
400/220 के. वी. जयपोर उप-केन्द्र
400/220 kV JEYPORE SUB-STATION,
ग्रा. एवं पो.–कालियागांव, जयपोर , ओडिशा- 764002
PO- KALIAGAON, JEYPORE, ODISHA- 764002

go-green4.jpg
18 KB

Regarding Jayanagar #3 & #4 bays at our Jeypore Sub-Station

B C Nayak (बी.सी. नायक)

Fri 17-06-2022 18:03

To: zone.berhampur@optcl.co.in <zone.berhampur@optcl.co.in>;

2 attachments

MOM DTD 14092015.pdf; GE MOM.pdf;

To,
Sh.Biswa Ranjan Mishra,
Executive Director,
Southern Region,
OPTCL,
Berhampur

Dear Sir,
I would like to draw your kind attention to the following matter pertaining to Jayanagar #3 & #4 220 KV bays at our Jeypore Sub-Station, viz:-

1. These 02 bays were constructed and commissioned in June 2021 at our sub-station in reference to MOM Dtd. 14/09/2015 (Copy attached for due reference)
2. As per point no. 02 of the MOM Dtd. 14/09/2015, the control and monitoring functions of these 02 bays were to be integrated with our NTAMC, Manesar. However this is not yet complied with because- 02 no.s MICOM P442 relays are not communicating for want of firmwire updation and defective LAN port. For this many signals from these relays are not reporting to our NTAMC. (Copy of relevant MOM with M/s GE Engineer Dtd. 01/05/2021 attached herewith for due reference)
3. 21M1 7SA522 relay of Jayanagar #4 is reporting unhealthy at our NTAMC
4. No Local SCADA has been provided at our control room for which we are facing difficulty in monitoring and operation of these two bays. This is a bare necessity for smooth O&M.
5. No control and relay drawings pertaining to the Jayanagar #3 & #4 bays have been handed over to us as yet.
6. As per the MOM point no. 08, one MOU was to be signed for the maintenance of these 02 bays between PowerGrid and OPTCL which is yet to be done.

Besides these there are few minor issues which are not being attended to despite intimation to Jayanagar Sub-Station, viz:-

1. The main glass door of the SPR room is broken since about a month
2. 02 no.s relay panels are without glass door since commissioning time
3. Sealing of cable entry to SPR room not yet done.
4. 02 no.s Air Conditioners provided in the SPR room is not working since one month

In view of the above going, it is requested to kindly look into the matter and advise the concerned officials in the matter for early action and resolution of the issues.

With thanks.

B C Nayak
Sr.GM

पावरग्रिड
POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

To,

Dtd. 07/11/2022

Sri Sanjay Kumar Mishra, IRTS

Chairman and Managing Director,

OPTCL,

Janpath, Gridco Colony, Bhoi nagar,

Bhubaneswar,

Odisha 751022.

Sub: Regarding 220 KV Jayanagar-#3 and Jayanagar #4 OPTCL bays at Power Grid-Jeypore.

Dear Sir,

I would like to invite your kind attention to the following pertaining to Jayanagar #3 & #4 220 KV bays at our Jeypore Sub-Station, viz:-

Persuant to a 02 page MOM Dtd. 14/09/2015(Copy attached for kind information), 02 no.s 220 KV bays (Jayanagar-#3 and Jayanagar #4) were constructed at Power Grid-Jeypore premises by OPTCL. And these bays were subsequently commissioned in June 2021.

As per point no. 02 of the said MOM Dtd. 14/09/2015, the control and monitoring functions of these 02 bays were to be integrated with our NTAMC, Manesar.

However this is not yet complied with because- 02 no.s MICOM P442 relays are not communicating for want of firmwire updation and defective LAN port. For this many signals from these relays are not reporting to our NTAMC. (Copy of relevant MOM with M/s GE Engineer Dtd. 01/05/2021 attached herewith for kind reference).

Further **it is a standard practice that wherever SPR (Switchyard Panel Room) is constructed in lieu of Control Panels where there is space constraint , a Local SCADA is invariably provided in the control room for operation of the breaker and isolators installed in the bays**. Moreover **Local Scada is required for monitoring the healthiness of equipment and relays in the bays as well as for extraction of Disturbance Recorder data in case of various faults in lines and bays**.

However till date the Local Scada has not been provided for which is affecting smooth operation of these 02 bays despite persuing up the matter several times with your

400/220 के.वि. जयपुर उपकेंद्र, डाकघर : कालियागांव, जिला: कोरापुट, ओड़िशा – 764002, फोन नंबर : 9437575636
400/220 KV Jeypore Sub-Station, PO- Kaliagaon, Dist : Koraput, Odisha – 764002, Mob- 9437575636 E-mail : jeyporess@powergrid.co.in
केन्द्रीय कार्यालय :'सौदामिनी', प्लॉट नंबर 2, सेक्टर- 29, गुरुग्राम- 122001, (हरियाणा) दूरभाष :0124-2571700-719
Corporate Office: "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel.: 0124-2571700-719
पंजीकृत कार्यालय :बी- 9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली- 110 016, दूरभाष :011-26560112, 26560121, 26564812, 26564892, CIN: L40101DL1989GOI036121
Registered Office: B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110 016. Tel: 011-26560112, 26560121, 26564812, 26564892, CIN : L40101DL1989GOI036121
Website: www.powergrid.in

Berhampur and Jeypore Establishments. Copy of MOM Dtd. 08/07/2019 and MOM Dtd. 05/03/2020 alongwith e-mail to ED, Construction, OPTCL, Berhampur Dtd.17/06/2022 are attached herewith for your kind reference pl.

I would like to stress upon the fact that **Providing Local Scada at our control room is a basic system requirement** which can not be over-looked. Similarly the repair of defective communication modules of relays (pending since commissioning time (Copy of MOM with M/s GE Dtd. 01/05/2021 is attached herewith for your kind reference) at the earliest is required for proper integration of the Jayanagar #3 and Jayanagar#4 bays to our NTAMC, Manesar.

In addition to the above, till date there is no MOU has been signed between OPTCL and POWER GRID for maintenance of the Jayanagar #3 and Jayanagar#4 bays as was envisaged in the MOM Dtd. 14/09/2015.

I ask herewith for your immediate kind intervention in the matter.

Encl: As above.

With regards.

बी सी नायक 7/11/22

B C Nayak

Sr.GM

Power Grid Corporation of India Ltd.

400/220 KV Sub-Station,

Kaliagam,

Jeypore- 764002

ଓଡ଼ିଶା ବିଦ୍ୟୁତ୍ ଶକ୍ତି ସଂଚାରଣ ନିଗମ ଲିଃ.

ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Government of Odisha Undertaking)
OFFICE OF THE EXECUTIVE DIRECTOR,SOUTHERN ZONE
220/132/33 KV GRID SUB STATION CAMPUS, NARENDRAPUR
AT: SANAKUSHASTHALI, P.O: BADAKUSHASTHALI, BERHAMPUR,
DIST: GANJAM, ODISHA – 760007, Ph. No. 9438907371,
Email: zone.berhampur@optcl.co.in
CIN: U40102OR2004SGC007553

No: ED/SZ/BAM/No/ 1199 (7) Date: 05-12-2022

To

The Sr.General Manager,PGCIL
400/220KV Sub-Station,
Kaliagram, Jeypore-764002
Dist:Koraput

Sub:- Regarding 220KV Jayanagar 3 & 4 OPTCL bays at PGCIL Sub-Station, Jeypore.

Ref:- 1. Your e-mail dated. 17.06.2022
2. Your e-mail dated 07.11.2922 addressed to CMD OPTCL.,

Sir,

1. As per MOM dated 14.09.2015 Cl.(ii) the BCU and CMR are required to be integrated with NTAMC, Maneswar as requested by PGCIL. In response OPTCL informed that they will take up with their vender and if they could not do, PGCIL may take up the work on deposit work basis. Accordingly OPTCL took up the issue with their Vendor. Howe ever during commissioning on 01.05.2019 it was observed that the Schnider make relays were not responding to DSAgile gateway software, required for integration with NTAMC OPTCL tried with Schider but they did not respond. Hence you make take up the work at your end.

2. Further since there was space constraint in the existing PGCIL C/R, it was decided to place the panels and BCU in the switchyard. However provision of local SCADA was not discussed at that point of time. Since the contract with our Vendor is already closed, you may take up the above work.

3. Further you have raised curtain issues like broken glass door, and non-working of Air conditioners, one year after commissioning, which is not possible now. However we are open for a discussion in the matter.

Yours faithfully,

5/12/22

EXECUTIVE DIRECTOR.

Contd...2

/-

C.C:-

1. Director(Operation), OPTCL., Bhubaneswar.
2. PS to CMD, OPTCL, Bhubaneswar for kind information of CMD.
3. G.M.EHT(O&M) Circle, Jeypore/GM,EHT(Const.)Circle, Rayagada
4. DGM,EHT (O&M) Divn.Jayanagar/DGM,EHT(Const.)Divn.Jeypore.

पावरग्रिड
POWERGRID

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LTD.
(A Government of India Enterprise)

400 / 220 के.वि. जयपुर उपकेंद्र, डाकघर : कालियागांव
जिला : कोरापुट, ओडिशा - 764 002, फोन नंबर : 94375 75636
400 / 220 KV, Jeypore Sub-Station, P.O.: Kaliagaon
Dist. Koraput, Odisha - 764002, Mob. 94375 75636
E-mail : jeyporess@powergrid.co.in

To,

Dtd. 27/01/2023

Sri Sanjay Kumar Mishra, IRTS

Chairman and Managing Director,

OPTCL,

Janpath, Gridco Colony, Bhoi nagar,

Bhubaneswar,

Odisha 751022.

Sub: Regarding 220 KV Jayanagar-#3 and Jayanagar #4 OPTCL bays at Power Grid-Jeypore.

Ref: (1) Our earlier letter Dtd. 07/11/2022
(2) ED/OPTCL Berhampur's letter no. 1199 Dtd. 05/12/2022

Dear Sir,

Vide this office letter of 07/11/2022 certain points with regard to 220 KV Jayanagar #3 & # 4 OPTCL bays at our Jeypore Sub-Station (Copy attached for kind reference herewith). Subsequent to it, we received one letter from ED/OPTCL Berhampur Dtd. 05/12/2022 (Copy of the same is attached herewith for perusal pl) which is quite confusing and there has been no efforts forthcoming thereafter from their end for a solution to the issue that was raised by us.

It is further to note that these issues are probably not yet properly understood at OPTCL end and therefore a detailed explanation is given below for bringing clarity, viz:-

(1) **Local Scada**: Its quite right that the Jayanagar #3 and #4 bays were integrated with NTAMC Manesar. But NTAMC Manesar is a monitoring Station and it does not do any day to day operation of these lines. These lines are operated from Power Grid-Jeypore Control Room. Since there are no control panels installed for these #3 and #4 220 KV Bays and SPR is situated at Switchyard, it is quite difficult on our part to do any operation in these bays. I once again point out that **-it is a standard practice that wherever SPR (Switchyard Panel Room) is constructed in lieu of Control Panels on account of space constraint , a Local SCADA is invariably provided in the control room for operation of the breaker and isolators installed in the bays**. This

Bhuvanesh
27/1/23

पावरग्रिड
POWERGRID
पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LTD.
(A Government of India Enterprise)
400 / 220 के.वि. जयपुर उपकेंद्र, डाकघर : कलियागांव
जिला : कोरापुट, ओडिशा - 764 002, फोन नंबर : 94375 75636
400 / 220 KV, Jeypore Sub-Station, P.O.: Kaliagaon
Dist. Koraput, Odisha - 764002, Mob. 94375 75636
E-mail : jeyporess@powergrid.co.in

is exactly what we are asking to be provided at PG-Jeypore control room for ease of operation.

Moreover **Local Scada** ***is required for monitoring the healthiness of equipment and relays in the bays as well as for extraction of Disturbance Recorder data in case of various faults in lines and bays.***

(2) **Defective Main-II Relays**: Further the integration with NTAMC, Manesar was never complete in the first place(point no. 02 of the MOM Dtd. 14/09/2015 , Copy attached for kind reference pl.) as **02 no.s MICOM P442 relays are not communicating for want of firm-wire updation and defective LAN port since commissioning time i.e., from 01/05/2021**. Due to this non-communication, about 73 signals are reporting as "Suspect Signals" at NTAMC which is not at all a good thing on system healthiness point of view. (*The contention of ED/Berhampur in the 1st para of his letter Dtd. 05/12/2022 that "DS Agile Gateway software not responding to Jayanagar#3 and #4 relays" is completely unfounded as Main-1 relays of both lines are communicating and due to defective main-II relays remain incommunicado since commissioning time.*)

(3) Further it is gathered that these bays are yet to be handed over from Construction wing of OPTCL to their O&M wing, as a result of which the OPTCL O&M staff also express their inability to anything with regard to attending small issues like- non working of 01 no. Split AC which is pending since about 01 year. Additionally, these bays are also not handed over to Power Grid-Jeypore as there has been no MOU signed between Power Grid and OPTCL for O&M of these bays.

It is therefore requested that the above pending issues are taken up by OPTCL at the earliest as it can not just be left as it is for eternity.

I once again ask yourself for your kind intervention in the matter in any appropriate manner that suits such that issues noted above are resolved at the earliest.

Encl: As above.

With regards.

Bhujsingh. Nayak 27/1/23

B C Nayak
Sr.GM

Power Grid Corporation of India Ltd.
400/220 KV Sub-Station,Kaliagam, Jeypore- 764002

ଓଡ଼ିଶା ବିଦ୍ୟୁତ ଶକ୍ତି ସଂଚାରଣ ନିଗମ ଲିଃ.
ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Govt. of Odisha Undertaking)
Regd. Office: Janpath, Bhubaneswar-751022.
OFFICE OF THE Dy. GENERAL MANAGER (ELECTRICAL)
E.H.T. (CONSTRUCTION) DIVISION, JEYPORE.
E mail: ehtc.div.jpr@optcl.co.in, Tel: 06854-232682
CIN: U40102OR2004SGC007553

Letter No. 623 (4) Date: 25.11.2021

To

The SDO (Elect.),
EHT (Const.) Sub-Division, Jeypore.

Sub: - Establishment of local SCADA for Circuit-3 & 4 of 220 KV Jayanagar-PGCIL Project.

Ref: i) Your office letter no. 239 Dtd. 01.11.2021.
ii) This office letter no. 586 Dtd. 09.11.2021.
iii) Letter no.416 Dtd. 25.11.2021 of GM, EHT(Const.), Circle, Rayagada

Sir/Madam,

With reference to the subject cited above, please find enclosed herewith the letter under reference (iii) which is self-explanatory.

Hence, you are requested to obtain the required data as per specification from PGCIL and submit to this office for taking further necessary action at this end.

Yours faithfully,

Encl: As above

Dy. General Manager (Elect.)
EHT (Const), Division, Jeypore

CC to:

1. CGM (Const.) OPTCL, Bhubaneswar for favour of kind information.
2. SGM, Construction, Zone-II, OPTCL, Sambalpur for favour of kind information.
3. GM, EHT(Const.), Circle, Rayagada for favour of kind information.

ODISHA POWER TRANSMISSION CORPORATION LIMITED

(A Government of Odisha Undertaking)

OFFICE OF THE SUB-DIVISIONAL OFFICER(ELECT.)

E.H.T CONSTRUCTION SUB-DIVISION

P.O.: JEYPORE, DIST.: KORAPUT, PIN: 764001

Letter no.: 270(5) Date: 04/12/2021

To,

The Sr. General Manager,
400/220KV Grid S/S, PGCIL
Jeypore.

Sub: Regarding establishment of local SCADA for 220KV Jayanagar- PGCIL Ckt-III & IV at PGCIL, Jeypore

Ref: Letter no. 623(4) dated 25.11.2021 of DGM (Elect.), EHT (Const.) Division, Jeypore.

Sir,

With reference to above, please find enclosed herewith the above letter under reference for establishment of local SCADA for 220KV Jayanagar- PGCIL Ckt-III & IV at PGCIL, Jeypore.

You are therefore hereby requested to provide specifications to OPTCL for establishment of local SCADA for onward submission to Division Office.

This is for favour of your kind information and necessary action.

Yours faithfully,

Encl: As above

Pradhan 04/12/2021

Asst. General Manager (Elect.)

CC to:

1. CGM (Const.) OPTCL, Bhubaneswar for favour of kind information.
2. Sr.GM (Const.), Zone-II, Sambalpur for favour of kind information.
3. GM (Elect.), EHT (Const.) Circle, Rayagada for favour of kind information.
4. DGM (Elect.), EHT (Const.) Division, Jeypore for favour of kind information.

Annexure B.10

Sl. No.	LINE NAME	TRIP DATE	TRIP TIME	RESTORATION DATE	RESTORATION TIME	Relay Indication LOCAL END	Relay Indication REMOTE END	Reason	Fault Clearance time in msec	Remarks
1	400 KV BINAGURI-MALBASE-1	01-04-2023	05:24	01-04-2023	06:22	Binaguri: Y_N, 43.52 km, 5.672 kA		Y-Earth	1200	Line tripped from Binaguri after 100 msec and A/r attempt taken after 1 sec which was unsuccessful. However, fault was not cleared from Malbase till 1.2 seconds.
2	400KV BINAGURI-TALA-1	02-04-2023	22:43	02-04-2023	23:11	Binaguri : R_N, 3.33 kA, A/r Successful	Tala: R_N, 18.2 km	R-Earth	100	A/r successful from Binaguri. Three phase tripping at Tala.
3	400KV BINAGURI-TALA-1	16-04-2023	15:15	16-04-2023	15:55	Binaguri: DT received	Tala: Didn't trip	No fault	NA	DT received at Binaguri
4	400KV BINAGURI-TALA-1	19-04-2023	20:29	19-04-2023	21:12	Binaguri : Y_B, Iy: 4.39 kA, Ib: 4.14 kA, DT received		Y-B-Earth	230	Phase to phase fault which was in Zone-2 from Binaguri. After 230 msec, DT received at Binaguri
5	400KV BINAGURI-TALA-1	19-04-2023	21:35	19-04-2023	22:40	Binaguri: B_N, 126 km, 2 kA	Tala: B_N, 60.8 km	B-Earth	2300	Resistive fault.
6	400KV BINAGURI-TALA-4	21-04-2023	21:29	21-04-2023	22:17	Binaguri: B_N, Zone-2, 122.8 km, 3.3 kA		B-Earth	500	Tripped in Zone-2 time from Binaguri. A/r successful from Tala
7	220KV BIRPARA-MALBASE-1	21-04-2023	21:42	21-04-2023	22:46	Birpara: Y_N	Malbase: Y_N, Zone-1, 14.9 km, 2.49 kA	Y-Earth	100	A/r couldn't be ascertained from PMU
8	400KV BINAGURI-TALA-1	21-04-2023	22:06	21-04-2023	22:33	Binaguri: B_N		B-Earth	2200	Resistive fault
9	400KV BINAGURI-TALA-4	22-04-2023	04:40	24-04-2023	21:07		Tala:R_N, 120.6 km, 3.58 kA	R-Earth	500	Tripped in Zone-2 time from Binaguri.
10	400KV BINAGURI-TALA-1	22-04-2023	06:03	22-04-2023	08:32	Binaguri:B_N, 1.1 kA		B-Earth	2600	Resistive fault
11	220KV CHUKHA-BIRPARA-1	29-04-2023	01:53	29-04-2023	03:39		Birpara: R_Y, 42 km, Ir: 2.708 kA, Iy: 2.335 kA	R-Y	100	Phase to phase fault
12	220KV CHUKHA-BIRPARA-2	29-04-2023	01:53	29-04-2023	03:40		Birpara: R_Y, Zone-1, 42.32 km, Ir: 2.773 kA, Iy: 2.329 kA	R-Y	100	Phase to phase fault
13	400KV BINAGURI-TALA-2	29-04-2023	01:59	29-04-2023	02:59	Binaguri:R_N, Zone-1, 125.2 km, 2.8 kA		R-Earth	100	Three phase tripping for single phase fault
14	400KV ALIPURDUAR (PG)-JIGMELLING-2	29-04-2023	03:53	29-04-2023	04:30	Alipurduar: R_N, Zone-1, 60.5 km, 6.7 kA	Jimelling: R_N, Zone-1, 125.4 km, 1.59 kA	R-Earth	100	As per PMU, A/r failed after 1 second.
15	220KV CHUKHA-BIRPARA-1	29-04-2023	04:10				Birpara: R_B, 55.32 km, Ir: 2.372 kA, Ib: 2.774 kA	R-B	100	Phase to phase fault
16	220KV CHUKHA-BIRPARA-2	29-04-2023	04:10	29-04-2023	09:56	Chukha: R_B, Zone-1, 54.2 km, Ir= 2.447 kA, Ib= 2.739 kA	Birpara: R_B, Zone-1, 53.98 km, Ir= 2.482 kA, Ib= 2.758 kA	R-B	100	Phase to phase fault
17	400KV ALIPURDUAR (PG)-PUNASANGCHUN-2	30-04-2023	00:28	30-04-2023	01:41	Alipurduar: R_N, 83.7 km, 3.34 kA, A/r successful	Punasangchu: R_N, 160 km, 1.25 kA	R-Earth	100	A/r successful from Alipurduar only
18	400KV BINAGURI-MALBASE-3	30-04-2023	03:04	30-04-2023	03:37	Binaguri: R_N, 113 km, 7.962 kA, A/r successful	Malbase: R_N, 166 km, 1.908 kA	R-Earth	100	A/r successful from Binaguri only

Re-Commissioning Plan of 315 MVA Transformer ICT-I at Patratu Substation (Transformer reached on 06.06.2023)

07-06-2023

Sl.No.	Activities	Start Date	Finish Date
1	Testing of Turret CT & Bushing.	05.06.2023	07.06.2023
2	Unloading of Transformer from Trailer and placing on foundation.	09.06.2023	11.06.2023
3	Erection of Bushing and pipe line alongwith accessories.	12.06.2023	14.06.2023
4	Cable dressing & termination.	14.06.2023	18.06.2023
5	Oil Preparations ready for filling in main tank.	11.06.2023	18.06.2023
6	Dry out process.	15.06.2023	20.06.2023
7	Oil filling in main tank.	21.06.2023	25.06.2023
8	Oil ready for testing from main tank.	25.06.2023	27.06.2023
9	Testing.	28.06.2023	29.06.2023
10	Ready for Commissioning.		30.06.2023

Program as submitted by M/s CG Power.

Annexure-C.3

POWER SYSTEM DEVELOPMENT FUND

Status of the Projects in Eastern Region

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

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

Annexure D.1

Anticipated Peak Demand (in MW) of ER & its constituents for July 2023

1	**BIHAR**	**Demand (MW)**	**Energy Requirement (MU)**
	NET MAX DEMAND	8637	4217
	NET POWER AVAILABILITY- Own Sources	554	279
	Central Sector+Bi-Lateral	6483	4437
	SURPLUS(+)/DEFICIT(-)	-1600	498
2	**JHARKHAND**		
	NET MAXIMUM DEMAND	1980	1140
	NET POWER AVAILABILITY- Own Source	305	97
	Central Sector+Bi-Lateral+IPP	907	660
	SURPLUS(+)/DEFICIT(-)	-990	-383
3	**DVC**		
	NET MAXIMUM DEMAND	3363	2325
	NET POWER AVAILABILITY- Own Source	5626	3226
	Central Sector+MPL	401	312
	Bi- lateral export by DVC	2156	1428
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	508	-215
4	**ODISHA**		
	NET MAXIMUM DEMAND (OWN)	5800	4052
	NET MAXIMUM DEMAND (In Case of CPP Drawal)	6572	3162
	NET POWER AVAILABILITY- Own Source	3798	2526
	Central Sector	1952	1393
	SURPLUS(+)/DEFICIT(-) (OWN)	-50	-133
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-822	757
5	**WEST BENGAL**		
	WBSEDCL		
5.1	NET MAXIMUM DEMAND	7915	5093
	NET MAXIMUM DEMAND (Incl. Sikkim)	7925	5100
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5476	2704
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2752	1978
	EXPORT (To SIKKIM)	10	7
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	304	-417
5.2	**CESC**		
	NET MAXIMUM DEMAND	2100	1112
	NET POWER AVAILABILITY- Own Source	830	544
	IMPORT FROM HEL	540	382
	TOTAL AVAILABILITY OF CESC	1370	926
	DEFICIT(-) for Import	-730	-186
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	10015	6205
	NET POWER AVAILABILITY- Own Source	6306	3248
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	3292	2360
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	-416	-596
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	-426	-603
6	**SIKKIM**		
	NET MAXIMUM DEMAND	93	49
	NET POWER AVAILABILITY- Own Source	8	3
	Central Sector	81	66
	SURPLUS(+)/DEFICIT(-)	-4	20
	EASTERN REGION		
	NET MAXIMUM DEMAND	29302	17988
	NET MAXIMUM DEMAND (In Case of CPP Drawal of Odisha)	30059	17098
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2156	1428
	EXPORT BY WBSEDCL TO SIKKIM	10	7
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	478
	NET TOTAL POWER AVAILABILITY OF ER	27558	17178
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	-1754	-817
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal of Odisha)	-2511	73