



AGENDA FOR 208TH OCC MEETING

Date: 17.10.2023
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700033

EASTERN REGIONAL POWER COMMITTEE

AGENDA FOR 208TH OCC MEETING TO BE HELD ON 17.10.2023 (TUESDAY) AT 10:30 HRS

PART – A

ITEM NO. A.1: Confirmation of Minutes of 207th OCC Meeting held on 15th September 2023 virtually through Microsoft teams Online platform.

The minutes of 207th Operation Coordination sub-Committee meeting held on 15.09.2023 was circulated vide letter dated 21.09.2023.

Members may confirm the minutes of 207th OCC meeting.

PART B: ITEMS FOR DISCUSSION

ITEM NO. B.1: Implementation of Crisis Management Plan (CMP) and Disaster Management Plan (DMP) in Power Utilities-ERPC

As per section 37 of the Disaster Management Act 2005, each Ministry/Department of the Government of India is required to prepare a Disaster Management Plan (DMP). Also, as per the Crisis Management Plan (CMP) of the Government of India prepared by the Cabinet Secretariat, each Central Nodal Ministry is required to prepare a detailed Crisis Management Plan for dealing with crisis situations falling in the areas of their responsibility. Accordingly, the Ministry of Power prepares DMP and CMP for the power sector in association with Central Electricity Authority. The CMP for power sector is reviewed periodically by Secretary (Security), Cabinet Secretariat. The latest review meeting was held on 23.11.2022 wherein Secretary (Security) emphasized on the following points related to DMP and CMP: i. Each power utility shall create a fund which would be 1.5% of the annual revenue of the Utility for meeting the requirement of crisis/disaster management plan. ii. Power Utilities shall prepare Disaster Management Plan (DMP) and Crisis Management Plan (CMP) separately for their organisation. iii. The Plan/report shall cover the management of different crisis scenarios as enlisted in the Ministry of Power Crisis management plan given in the table below:

S.No	Crisis situation in Power Sector
1.	Terrorist Threats and Attacks
2.	Bombs Threats, Hoax & Bomb Explosions
3.	Explosion in Equipment
4.	Crowd or Mob Attack
5.	Threat from UAV(Drone) attack
6.	Strike
7.	Sabotage
8.	Cyber-attack
9.	Fire/Forest Fire

The report shall also indicate the response of the various teams, observations, and effectiveness for handling the emergency situation and the scope for improvements (new learnings, DOs, and Don'ts), etc. v. Sensitize and motivate both public and private sector power utilities to conduct mock drills on regular basis and submit the quarterly report. vi. Involvement of other agencies such as District-level authorities/ NDRF/SDRF during the mock drill exercises conducted. vii. Sharing the calendar of mock drills to be conducted by power utilities for next Year. These plans/reports shall be up-dated and revised on a periodic basis to include any new inputs received from various stakeholders/new learnings during mock drill exercises conducted/ or on the directives of the National Disaster Management Authority or Cabinet Secretariat. Secretary (Security) has repeatedly stressed the aforementioned points in the review meetings held earlier and the same was communicated by CEA so many times. However, the majority of the power utilities have not communicated any action taken by them in this regard. They are also not submitting the quarterly mock drill report. The power utilities in ER states shall furnish the Quarterly report for the mock drill exercises conducted for handling various crisis and disaster situations. The format of report to be submitted to CEA is attached at **Annexure-B.1**. The matter shall be taken-up in ensuing Sub-Committee /TCC/RPC meeting and expedite the same to make the effectively implementation of DMP/CMP at regional level in Power sector.

Members may discuss.

ITEM NO. B.2: Information regarding occurrence of natural disaster at project site of 1200 MW Teesta-III HEP in Mangan,Sikkim-SUL
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As reported from 1200 MW Teesta III Hydro-electric Project site, on the intervening night of 03.10.2023 and morning of 04.10.2023, a natural disaster has occurred in upstream catchment area of the dam of our project. It is reported that a cloudburst in upstream of dam region has led to sudden increase in discharge of Teesta river.

Due to the said flashflood, damage to the project assets has been reported. As the flashflood was sudden and carried huge discharge, this led to sudden increase in water level in river Teesta. Immediate action was taken by our officials to evacuate all personnel and families from the dam site and power house site.

As of now it cannot be confirmed with certainty whether all personnel and families are safe. Thereafter, there was complete breakdown of communication systems, and no contact could be re-established with the project till today morning.

As per preliminary communication received, the power house is inaccessible due to washing away of the bridge connecting power house in flashflood. As per visual inspection from the other bank, the water level has risen above the main access tunnel portal top which would have led to flooding of the power house.

In regards to the dam, sudden wave has led to rise in water level passing over the top of the dam. CFRD dam at Chungthang has been breached leading to scouring of rockfill material and currently river Teesta is flowing through this breach in the dam.

Moreover, communication network with dam is down as of now thereby further damage to other structures is not possible. Roads in Sikkim are blocked at multiple locations due to washing away of roads as well as national highway connecting the project.

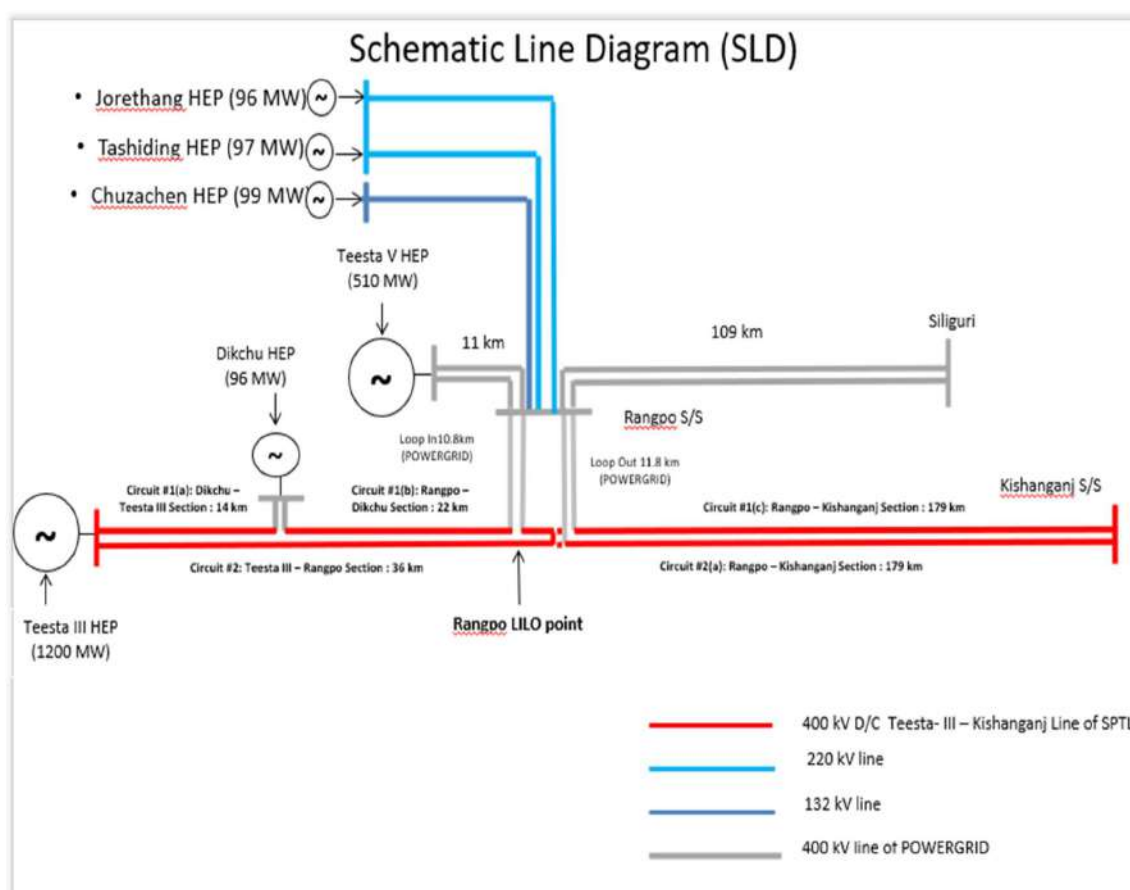
The Government of Sikkim has issued Notification No:399/LR&DMD/GoS dated 04.10.2023, declaring this catastrophe as disaster under Disaster Management Act 2005(attached in **Annexure B.2**)

This is a preliminary information on cloudburst led flashflood causing damages to Teesta III hydro-electric project, and further details from the project are awaited.

SUL may update. Members may discuss.

ITEM NO. B.3: Status of 400 kV Teesta III – Dikchu – Rangpo lines and 400 kV Teesta III – Rangpo line of Sikkim Power Transmission Limited (SPTL) after natural disaster in Sikkim- SPTL

Sikkim Power Transmission Limited (formerly, Teestavalley Power Transmission Ltd.) is entrusted with the responsibility to construct, maintain and operate the 400 kV Quad Moose Double Circuit Transmission Line from Teesta Stage-III Hydro Electric Project to Kishanganj Pooling Station of POWERGRID for evacuation of power from the large hydro generating complex of Sikkim of total capacity around 3000 MW including Teesta III HEP of 1200 MW capacity and Dikchu HEP of 96 MW capacity. The schematic of the transmission line is placed below:



The 400 kV Teesta III – Kishanganj D/C Quad Moose Transmission Line, an Inter State Transmission Line, passes through the Mangan, Gangtok & Namchi Districts in the State of Sikkim, Darjeeling District in the State of West Bengal and Kishanganj District in the State of Bihar.

In the early hours of 04.10.2023, due to flash flood in Teesta River in Sikkim, the 400 kV Teesta III – Dikchu, 400 kV Teesta III – Rangpo and 400 kV Dikchu – Rangpo lines were hand tripped by HEPs/ Substation as per instruction of/ deliberation with ERLDC.

Due to the said flash flood in Teesta River in Sikkim the generating units of Teesta III HEP (1200 MW) & Dikchu HEP (96 MW) were rendered out of service in the early hours of 04.10.2023 and are still out of service. Sikkim Urja Limited vide letter dated 10.10.2023, informed SPTL regarding the damage of Teesta III HEP and stoppage of generation of electricity. Copy of the letter is attached as **Annexure-B.3.1**.

The following lines of SPTL are kept in uncharged condition since early hours of 04.10.2023:

- 400 kV Teesta III – Dikchu line
- 400 kV Dikchu- Rangpo line
- 400 kV Teesta III – Rangpo line

The 400 kV Rangpo - Kishanganj Line 1 and 400 kV Rangpo - Kishanganj Line 2 are under charged condition and there is power flow in both these lines.

Subsequently, patrolling and inspection of these lines were carried out by SPTL and there is no abnormality observed and these lines are in healthy condition.

It is submitted that some of the towers are located near the Teesta River basin and the line also crosses Teesta River in the Sikkim hill section of the line. Preliminary inspection of the tower nos. 16, 17, 87, 88, 89, 90 & 91 located near the Teesta River basin was carried out. At present there is no changes observed at the towers and foundation area. However due to the flash flood the river channel width has increased eroding the riverbanks nearby the said towers. At the vicinity near tower no. 17, the river channel width has substantially increased and deposition of large amount of silt has been observed in the river basin.

Further at tower no. 91 area, the Teesta River has shifted its course due to deposition of large amount of silt on the opposite riverbank. The river flow has shifted to the bank near the tower. The horizontal distance between the tower foundation and riverbank is presently about 40 m, as compared to about 80 m earlier. The vertical distance of the slope is 30m. At present, the foundation of the tower is generally safe and is in order. The above towers located near river basin and river crossing towers of the line are being closely monitored.

At present the 400 kV Teesta III – Dikchu – Rangpo lines and 400 kV Teesta III – Rangpo line are under outage due to the generating stations being out of service and timeline for restoration of the Teesta III HEP & Dikchu HEP is still unknown. The above-mentioned lines of SPTL are exclusively connected between these HEPs and Rangpo Substation of POWERGRID. In view of safety & healthiness of the uncharged transmission lines, SPTL has already requested ERLDC for anti-theft charging of 400 kV Teesta III – Dikchu – Rangpo line and 400 kV Teesta III – Rangpo line from Rangpo end. Copy of the request mail is attached as **Annexure –B.3.2**.

In view of the above, we request the forum to accord the approval for anti-theft charging of the 400 kV Teesta III – Dikchu – Rangpo lines and 400 kV Teesta III – Rangpo line till normalization of the generating complex in Sikkim and resumption of power flow from Teesta III HEP or Dikchu HEP.

SUL and SPTL may update. Members may discuss.

ITEM NO. B.4: Procurement, Erection and Commissioning of Two Nos. 400 KV 125 MVAR (Each) Reactors at KTPS and Two Nos. 220 KV 50 MVAR (Each) Reactors (With New 220 KV Bays) at DSTPS-DVC

This is to lay before notice of all that, 400 KV bus voltage of DVC system occasionally crosses the higher operational voltage limit of 103% i.e. 412 KV as stipulated in IEGC-2010. Moreover, with the introduction of charges for exchange of VAR during violation of either the lower limit (97% of 400 KV) or the higher limit (103% of 400 KV) as a disciplinary measure it has become important to operate the system buses within these two limits. Hence to maintain 400 KV Bus voltage within 412 KV it has become necessary to install and commission 2 nos. of 400 KV, 125MVAR Reactor at KTPS and 2 nos. of 220 KV 50 MVAR Reactors at DVC, DSTPS.

In line with above CTU has already extended their consent vide MOM No. CTU/E/00/DVC dated 26.06.23 towards installation of suitable number of bus Reactors of 125MVAR at various generation switchyard to control the voltage excursions.

Detailed study of VAR flow in DVC system had been carried out and as per study report installation of two nos.50 MVAR reactors at DVC DSTPS 220 KV Switchyard along with erection & commissioning of new 220 KV bays and rest two nos. 125 MVAR reactors at DVC KTPS 400 KV Switchyard replacing the existing 2 x 50 MVAR reactors has become essential.

The detailed study report (**Annex B.4.1**) and the CTU MOM(**Annex B.4.2**) are attached herewith for scrutiny and subsequent approval towards implementation of the proposal.

DVC may update. Members may discuss.

ITEM NO. B.5: Sparring of one 315MVA, 400/220KV ICT from Regional Pool for replacement of one no of defective 315 MVA ICT (4th) at Jeerat 400 KV S/S(WB)–WBSETCL.

One no of 315 MVA, 400/220 KV ICT (4th) at Jeerat 400 KV S/Stn of WBSETCL got defective & went out of service sometime back resulting in transformation capacity constraint at the S/Stn & violation of (N-1) criteria during peak load period last summer.

Repairing Order for the mentioned defective ICT has already been placed but a considerable time will be required in repairing the ICT & the same is unlikely to come back into the system within the next summer.

In view of extremely high growth of load in North Kolkata and associated districts and thereby considering the necessity of catering unrestricted load to a considerable part of Kolkata & almost the entire North 24 Parganas District during the next summer maintaining (N-1) criteria replacement of the defective ICT with a spare one is urgently required.

In view of above, M/S Power Grid is requested to spare 01 no 315 MVA ICT from Regional Pool on urgent basis for replacement of the defective 315 MVA ICT at Jeerat S/Stn of WBSETCL for tiding over the crisis during the next summer. Already huge difficulties faced in the summer of 2023.

WBSETCL will execute the required works including transportation of the ICT from the Power Grid S/Stn where the Regional Pool Spare ICT is maintained. Commercial issues as applicable will be taken care of by WBSETCL with PGCIL. This is the way to bring 4th ICT at Jeerat within shortest possible time, so that summer load on Jeerat can be handled.

WBSETCL may update. Members may discuss.

ITEM NO. B.6: Installation of reserve 500 MVA ICT at Maithon(PG) as 6th ICT in Subhasgram(PG)-WBSETCL

In a special meeting with higher authorities of WBSEDCL, WBSETCL in presence of authorities of CESC, ERLDC, ERPC, Power Grid, it was decided to use the reserve 500 MVA ICT at Maithon(PG) to install in Subhasgram(PG) as 6th ICT, to handle the urgency arose from the fact that the new 500 MVA ICT of CESC will not come before 2024 Summer. WBSETCL has already requested PGCIL to share the GA drawings & other relevant particulars of the mentioned 315 MVA, 400/220KV ICT of Malda PG S/Stn & also to apprise the tentative commercial implication / financial involvement associated with the above proposal. **The status and expected timelines in steps for progress of the transformer transportation and installation may please be informed.**

This may please be noted that the entire initiative is to combat 2024 summer, for which the said ICT should come in service before March 2024.

Members may discuss.

ITEM NO. B.7: Removal/Discontinuation of 125 MVAR Bus Reactor-I & 220 KV Baruipur-II Line/Bay, from Subhasgram SS of ER-II on account of 500 MVA ICT-VII (Interim) Erection/Commissioning: Powergrid

1. As per 50th TCC meeting dated 10.08.2023, Agenda Item No:B8 it was decided that a high level committee under the Chairmanship of Secretary, Department of POWER , Govt. of West Bengal would be formed and accordingly a decision shall be taken regarding exceptional loading conditions of ICT's at POWERGRID Subhasgram SS. Accordingly, on 25.08.2023, the meeting was held at Bidyut Bhaban and it was finally decided that in order to cater the loading during Summer of 2024, immediate replacement of 125 MVAR Bus Reactor with 500MVA ICT as ICT-VII from Regional Spare Pool to be carried out and same to be implemented within next 4 months (before the summer season).
2. Hence, as per above deliberation immediate shifting of 125 MVAR Bus Reactor to be done to accommodate necessary foundation modification for commissioning of 500 MVA ICT. Further, 220 KV Baruipur-II (216 Bay) to be utilized as 220 KV side of ICT-VII. Other necessary implementations will be carried out by POWERGRID on immediate basis so that above work can be completed within the said time frame.
3. In continuation of same considering the criticality and as per MOM the followings are proposed:
 - a) Removal of 125MVAR Bus Reactor from 01.11.2023 onwards to start the modification work for ICT-VII Foundation.

- b) Subject 125MVAR Bus Reactor to be kept as cold spare at Subhasgram SS and as agreed in meeting the Reactor shall be considered as deemed available. Main & Tie Bay (418 & 417) of 400KV, 125MVAR BR to be kept out till work completion. 400 KV Haldia-I line will be charged through main bay only for the entire period activity.
- c) All necessary costs & approx. cost estimate (Tentatively 5.0 Crore) have already been shared by POWERGRID. Necessary MOU will be carried out bilaterally between POWERGRID & WBSEDCL for settling Commercial Implications.
- d) Presently, the available Spare 500MVA ICT at POWERGRID, Maithon will be transported to Subhasgram once the 125MVAR, Bus Reactor Shutdown is taken, and necessary modification carried out. Once the 500 MVA ICT-VII will be charged & Trial Run Certificate is issued necessary O&M charges shall be applicable and shall be borne by concerned utilities.
- e) After Charging of Subject 500 MVA ICT at POWERGRID Subhasgram, new element named as **(500 MVA ICT-VII INTERIM)** will be added in the monthly Availability Certificate of POWERGRID ER-II.

Members may discuss.

ITEM NO. B.8: Proposal regarding additional spare ICT procurement to ER (to be located at West Bengal) for both 500 MVA & 315 MVA ICTs: Powergrid

1. As per CEA- Spare Norms (July 2020) for maintaining spares, each Region must maintain One Each number single/3-Ph units of each rating for ISTS system. POWERGRID has been maintaining the spares as per norms. However, as per recent developments and changed scenario it is very important to maintain spares to meet any contingent situations for other constituents.
2. As such making entire fleet of operation of Transformers more reliable, adequate number of spares are to be maintained as Regional Pool to be decided. In recent past, few spare Transformers are utilized in Non-ISTS system , making the regional Pool NIL.
3. In view of above the followings are proposed:
 - a) New 400/220/33KV, 500MVA ICT to be procured to be located at POWERGRID Maithon (Existing Regional Spare 500MVA to be used as ICT-VII and to be kept at POWERGRID Subhasgram).
 - b) New 400/220/33KV, 315MVA ICT to be procured to be located at POWERGRID Binaguri SS.

STATE	VOLTAGE	SIZE	STORAGE PLACE
WEST BENGAL	400/220/33KV	500 MVA	MAITHON
		315 MVA	BINAGURI

4. Considering the above, tentative commercial implications considering varied size Transformers with foundation are deliberated below:

EQUIPMENT	PER UNIT PRICE (18% GST INCL.)	TOTAL QTY	TOTAL PRICE
400/220/33KV, 500 MVA	279067108	1	279067108
400/220/33KV, 315 MVA	225358826	1	225358826

BOQ for ICT procurement attached at **Annexure B.8**

However, on in principle approval, final commercial implications shall be put up in forthcoming CCM.

Members may discuss.

ITEM NO. B.9: Shutdown proposal of generating units for the month of November'2023 – ERPC

Maintenance Schedule of Thermal Generating Units of ER during 2023-24 in the month of November'2023							
System	Station	Unit No.	Capacity (MW)	Period (as per LGBR 2023-24)		No. of Days	Reason
				From	To		
Odisha	IB TPS	4	660	01.11.2023	25.11.2023	25	Annual Maintenance
WBPDC	Bakreshwar TPS	2	210	16.11.2023	05.12.2023	20	AOH/BOH
WBPDC	Bakreshwar TPS	3	210	23.11.2023	02.12.2023	10	PG Test/ Boiler License Renewal
DVC	Mejia TPS	5	250	25.10.2023	28.11.2023	35	COH-Boiler, Turbine, Gen,FGD & DeNOx
CESC	BUDGE-BUDGE	1	250	15.11.2023	21.11.2023	7	Not Specified
CESC	BUDGE-BUDGE	2	250	23.11.2023	19.12.2023	27	Not Specified
NTPC	FSTPP	4	500	01.11.2023	15.12.2023	45	BLR +HP +IP +Gen + LPT insitu PAUT & MPI+All brg insp+ FGD damper installation

NTPC	Barh-I	1	660	22.10.2023	25.11.2023	35	Boiler +Generator
NTPC	DarlipalliSTPS	2	800	15.11.2023	13.01.2024	60	COH
NTPC	TSTPS	1	500	22.10.2023	30.11.2023	40	COH
NPGCL	NabinagarSTPS	1	660	01.11.2023	05.11.2023	5	Boiler License Renewal
GMRKEL	GMR	1	350	10.11.2023	19.12.2023	40	COH

Members may update.

ITEM NO. B.10: Maintenance schedule of Barh super Thermal Power plant for November '2023-NTPC

Unit#1 issues:

- In the current fiscal year, Unit #1 has experienced 12 instances of BTL occurrences thus far. The frequent appearance of BTL in Unit-1 can be attributed to erosion in the LTRH coils, resulting in a total outage duration of 647 MU.
- Till September 2023 its availability on bar has been reduced to 77%, whereas other units of the stations have more than 90% on bar availability.
- Furthermore, in an effort to prevent BTL, fast load changes and temperature fluctuations are being avoided, leading to a failure in meeting 'Schedule Ramp' and DSM objectives. Unit-1 alone has incurred a DSM loss of **673 lacs** up to **July 23**, which is before the Unit-2 COD.

Given the current situation, it is crucial that 'Unit #1' undergoes an urgent overhaul to ensure its long-term functionality and the uninterrupted supply of power to the grid. As a result, we kindly request a **45-day** overhaul for Unit-1, may schedule from **December 5, 2023**, to **January 19, 2023**.

- Unit-2 & Unit-5 will be available for generation throughout the month of Nov-2023
- Overhauling of U-4 started from 28th Sep-2023 to continue till 11th Nov-2023
- Overhauling of U#1 planned from 5th Dec-23
- Generation capability shall be declared daily on day-ahead basis.
- Maintenance planned during the month are as below:

TABLE-1:Unit shutdown Plan

S.NO.	Unit	From	To	Remarks
1.	Unit#04	28.09.2023	11.11.2023	U#4 Overhauling planned. Major work: 1)HPT module replacement 2) Boiler modification
2.	Unit#01	05.12.2023	19.01.2023	U#1 Overhauling planned. Major works are: 1)Bolier LTRH coil replacement

NTPC may update. Members may discuss.

ITEM NO. B.11: Commercial issues faced by Barh super Thermal Power plant on implementation of IEGC 2023-NTPC

Following difficulties have been faced by units after IEGC amendment rules implemented on 1st Oct 23.

- Less than MTL schedule- A total of 63 blocks from combined Stage-1 and 2 have been assigned schedules below the Minimum Technical Limit (MTL). This scheduling decision has led to a DSM cost of **31 lacs** in the first five days, solely attributed to below MTL.
- SG greater Than DC- We have also received SG greater than DC in 121 blocks for Stage-1 & 2. This scheduling decision has led to a DSM cost of **146 lacs** in the first five days. Out of which 53 blocks were more than Normative DC.

NTPC may update. Members may discuss.

ITEM NO. B.12: Proposed shutdown of Farakka Unit-3 -NTPC

NTPC Farakka Unit-3 (200 MW) Overhauling is long pending and under continuous operation for more than 45 months, last OH of the Unit was done in FEB-2020.

In this regard, planned outage of NTPC Farakka Unit-3 (200 MW) is proposed and OCC is requested to accord kind approval for Unit-3 overhauling from 01.12.2023 for 35 days.

NTPC may update. Members may discuss.

ITEM NO. B.13: Request for permission for accounting of Make-up water Pumps power drawl from DISCOMS, as station APC at Darlipalli STPP-NTPC

NTPC Darlipalli is 2 X 800 MW thermal power station situated in Sundergarh dist. of Odisha and is fully operational since Sep. 2021. The water supply to this station is taken from back water of Hirakud dam by pumping system at Chadarma.

The raw water make up pump house being constructed at Chadarma is yet to be completed.

Presently the water is being taken through barge pumps and the supply is taken from DISCOM, as 132 kV supply from plant to Chadarma is yet to be completed. This pumping power drawl is not included in station APC and power charges is being paid from O&M expenditure.

The water pumping system along with the plant could not be completed due to Covid-19 pandemic. The system is expected to be operational by September 2024.

We request approval of OCC for inclusion of make-up water Pumping power drawl from DISCOM as part of our station APC until such time as the permanent power supply is fully established and operational.

NTPC may update. Members may discuss.

ITEM NO. B.14: Evacuation of power from Ind Bharat Energy(Utkal) Ltd TPP through LILO arrangement– IBEUL.

A meeting was held between CEA and IBEUL on 18.09.2023 under the chairmanship of Chairperson, CEA where JSW Energy Ltd was instructed to implement SPS, complete LILO arrangement within timeframe and was further directed to approach ERPC/ERLDC for evacuation of power through LILO arrangement till DTL is made ready.(MOM attached at **Annexure B.14**)

The LILO arrangement through OPGC-Sundergarh line has already been approved in 204th OCC meeting.

Ind Bharat has already done power evacuation study from M/S DNV and it was observed that 600 MW can be evacuated in N-1 condition through LILO arrangement.

The line upto LILO arrangement shall be completed by 25th Oct-2023

Ind Bharat ensures that SPS will be implemented as per direction/design by ERLDC. It is requested to consider power evacuation through this LILO connection and issue of necessary guidelines for implementation of SPS.

IBEUL may update. Members may discuss.

ITEM NO. B.15: Agenda by JITPL.

1. GNA 2022 and IEGC-2023 Implementation issues:

- a. As we know that GNA 2022 and IEGC Regulations, 2023 has been implemented from 01.10.2023 and all the time block-wise requisition to the concerned RLDC has to be provided by the buyers only. In this regard, BSPHCL is punching the full schedule as per the DC provided by JITPL but ERLDC is curtailing the schedule punched by BSPHCL for JITPL. Since, as per MoD of BSPHCL, JITPL's power should be scheduled first but ERLDC is not following the MoD for finalising the schedule of the DISCOMs. It was also discussed with BSPHCL but the reason behind the curtailment in schedule by ERLDC is not clear.
- b. As per IEGC Regulations, 2023 Clause 49 (vi) the availability declaration by regional entity generating station shall have a resolution of two decimal (0.01) MW and three decimal (0.001) MWh but still the availability declaration by regional entity generating station is showing a resolution of six decimal in MW and MWh. In this regard, it is requested to correct the same as per IEGC Regulations, 2023 for the purposes of scheduling, accounting and billing.
- c. As per IEGC Regulations, 2023 Clause 49 (f) drawee GNA grantees, shall furnish time block-wise requisition for drawl to the concerned RLDC in accordance with the

contracts. At the time of synchronization of unit from forced outage, according to the DC received from plant proper ramp up have to be considered for proper synchronization of unit. Hence, it is requested to allow the generators to furnish time block-wise requisition for injecting to the concerned RLDC in accordance with the contracts at the time of synchronization of unit from forced outage. Also, there is no restriction for the same in IEGC Regulations, 2023.

- d. In case of third party sale of power as per the PPA due to nonpayment of the dues by the buyers, DC is declared to the buyer and power is sold to the third party to recover the dues but in the current system if seller is declaring the DC to the buyer then buyer has the option to schedule that power.
- e. In case of revision of DC of the plant due to unit tripping or due to partial generation sellers does not have any right to revise the DC in the WBES portal. DC revision right as per the regulation should be given to sellers.

2. Relaxation of DSM penalty:

On 12th Oct'2023, 17:48 Hrs out of the two transmission lines evacuating power from our plant to Angul Substation tripped. To protect our plant from black out and not to overload the line 2 we reduced our schedule approx. by 400 MW. In this regard we want clarification that as it was the fault of PGCIL/CTUIL because of which JITPL was forced to reduce the generation and do under injection, JITPL should not be penalised under DSM for the under injection done during the tripping period.

JITPL may update. Members may discuss.

ITEM NO. B.16: Reactive charges for Regional Entity as per new IEGC: ERPC

As per IEGC-2023, all the regional entity (including Generators) has to pay/receive reactive power compensation (REC) charges. The relevant IEGC clause is stated below-

Quote

1. REACTIVE POWER COMPENSATION

(a) Reactive power compensation should ideally be provided locally, by generating reactive power as close to the reactive power consumption as possible. The regional entities are therefore expected to provide local VAr compensation or generation such that they do not draw VARs from the EHV grid, particularly under low-voltage condition. To discourage VAr drawals by regional entities, VAr exchanges with ISTS shall be priced as follows:

- (a) The regional entity pays for VAr drawal when voltage is below 97%
- (b) The regional entity gets paid for VAr return when voltage is below 97%.
- (c) The regional entity gets paid for VAr drawal when voltage is above 103%.
- (d) The regional entity pays for VAr return when voltage is above 103%. Where all voltage measurements are at the interface point with ISTS.

.....

Unquote

The modalities of REC of all entities need to be finalized.

Members may discuss.

ITEM NO. B.17: Outage Planning procedure: ERPC

As per clause No. 32(4) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 under Operating Code, it has been envisaged "To facilitate coordinated planned outages of grid elements, a common outage planning procedure shall be formulated by each RPC in consultation with the NLDC, concerned RLDC and concerned users".

Accordingly, a draft outage procedure has been prepared (attached at **Annexure B.17**). All stakeholders are requested to go through the procedure and submit their views/comments/observations, if any, latest by 17th October'2023. The same has been shared vide mail dated 13.10.2023.

Members may discuss.

ITEM NO. B.18: Request to furnish the data for preparation of LGBR 2024-25 of Eastern region – ERPC.

As per the IEGC Clause **32.3(a) & (b)** issued by CERC on **29.05.2023**, "RPCs shall prepare and finalize the annual outage plan for the next financial year in respect of grid elements of their respective regional grid", "*RPCs shall prepare Load Generation Balance Report (LGBR) for the respective region based on the LGBR submitted by SLDCs for their respective states and the data submitted by the regional entity generating stations, inter-State transmission licensees and other entities directly connected to ISTS in such format as may be stipulated by the RPCs and shall prepare annual outage plan for generating units and transmission elements in their respective region after carrying out necessary system studies in order to ensure system security and resource adequacy.*"

In this regard, Load Generation Balance Report (LGBR) for the year 2024-25 in respect of Eastern Region is to be finalized by September, 2023 (as advised by CEA vide mail dated. 14.08.2023). The approved programme of planned maintenance in respect of Thermal and Hydro stations in the region, along with the estimated monthly generation programme, the estimated monthly energy requirement (MU) and estimated monthly peak/off-peak demand (MW) for the year 2024-25 of each state / utility shall be the input for preparation of LGBR of Eastern Region for 2024-25.

To prepare the LGBR of Eastern Region, the following data/ information for the financial year 2024-25(April'2024 to March'2025) in respect of the constituents/ generators of Eastern Region is required:

State and Central Sector Generators/PPs/CPPs/SLDCs/Utilities

- i) The Unit-wise and Station-wise monthly energy generation proposed from existing units during 2024-25 (thermal, hydro and RES).
- ii) Annual maintenance programme for each of the generating units (thermal, hydro and RES)
- iii) Generating units under R&M/ long outage indicating date of outage and reasons of outage and expected date of return (thermal and hydro both).

- iv) Partial and forced outage figures (in %) of generating units and auxiliary power consumption for the last 3 years.
- v) Month-wise peak/off-peak demand (MW) – restricted and unrestricted.
- vi) Month-wise energy requirement (in MU) – restricted and unrestricted.
- vii) Month-wise and source-wise power purchase and sale plan (both MU & MW).
- viii) Schedule of commissioning of new generating units during 2024-25 and unit-wise monthly generation programme (in MU) upon COD.
- ix) Allocation of power from new generating units.

ISTS/STU/Transmission licenses in the states and Central Sector

- i) Monthly and annual planned outage of transmission system (Transmission lines 220kV and above / ICTs / Reactors/ other elements (TCSC, SC etc.)).

It is therefore requested to provide the above information (as applicable), at earliest, for compilation of data and preparation of draft **LGBR of ER for the year 2024-25**.

ERPC may update. Members may discuss.

ITEM NO. B.19: Demand estimation timelines by SLDC and RLDC: ERLDC

As per IEGC-2023, demand estimation by SLDC for respective state has to be carried out as per specified timeline.

	By SLDC	By RLDC	By NLDC
Daily Demand estimation	10:00 hrs of previous day	11:00 hrs of previous day	12:00 hrs of previous day
Weekly demand estimation	First working day of previous week	Second working day of previous week	Third working day of previous week
Monthly demand estimation	Fifth day of previous month	Tenth day of previous month	Fifteenth day of previous month
Yearly demand estimation	30th September of the previous year	15th October of previous year	30th October of previous year

The forecast done by SLDC will be used as input for forecast done by RLDC. Till now, only Jharkhand SLDC is sending the day ahead forecast regularly following the timeline. From West Bengal SLDC, day ahead forecast is received intermittently. All other states are yet to share the forecast. For sharing forecast, a format has been finalised by NLDC. The same has been shared with all the states vide mail on 27-09-2023. However, we are yet to receive the data in the prescribed format from any State. Further ERLDC is not receiving weekly, monthly or yearly forecast from any state.

In view of the same all SLDCs are requested to:

1. Send the day ahead, week ahead, month ahead and yearly forecast
2. Follow the prescribed format
3. Follow the timeline.

Also, IEGC has mandated computation, analysis and uploading of forecasting error by SLDC, RLDC and NLDC. ERLDC has started uploading the forecasting error as per the timeline. SLDCs are also requested to start uploading the errors on the website.

Members may note.

ITEM NO. B.20: Real time operational planning study using SCADA EMS tools: ERLDC

As per IEGC-2023, real time operation planning studies needs to be carried out by SLDC, RLDC and NLDC. If telemetry issue causes any error in such study, the same needs to be flagged in operational planning meeting and utility needs to update the progress in data restoration. If any issue remains pending for any quarter, the same may be reported to commission by RPC. ERLDC already used to do such study and used to highlight telemetry related issues in TEST meeting. However, as per IEGC-2023, the telemetry related issue is recorded specifically in regards non-satisfactory result of state estimator.

Issues observed during 1st 10 days of Oct-2023 are as follows:

Date	Study for S/D	Data issue At	Type of error in State Estimator
03-10-2023	400KV-Arambagh-New CHANDITALA	Error in Arambagh - New Chanditala data	Non-satisfactory result
05-10-2023	400KV-MALDA(PG)-NEW PURNEA-2	Bad Quality Data from NTPC FARAKKA, MALDA_PG	Divergence
09-10-2023	400KV-NEW PURNEA-KISHANGANJ-2	Bad Quality Data from NTPC FARAKKA, MALDA_PG	Divergence
	400KV-NEW PURNEA-MUZAFFARPUR-1		Divergence

SLDC may also start similar studies and recording of telemetry issue causing error in SCADA EMS studies for discussion in monthly operational planning meeting.

ERLDC may update. Members may discuss.

ITEM NO. B.21: Operational planning analysis: ERLDC

IEGC-2023 mandates operational planning studies for different time horizon daily, weekly & monthly using offline tools like PSEE. SLDC needs to submit node wise MW & MVAR estimation and latest network topology for the same. However so far, we are yet to receive any input from states. Therefore, based on aggregated demand estimation done by RLDC and latest base case

available at RLDC studies are being carried out. This may affect the accuracy of the study result and operational plan prepared based on such studies. Therefore, SLDC may share the nodewise update base case along with updated topology.

ERLDC may update. Members may discuss.

ITEM NO. B.22: Commencement of 11 month ahead ATC/TTC calculation: ERLDC

As per various clause of IEGC-2023 and to facilitate GNA regulation implementation, calculation of ATC/TTC on 11 months ahead is necessary. Also, CERC has approved the ATC/TTC calculation procedure by NLDC vide order No. L-1/261/2021/CERC . Therefore, all SLDC may kindly follow the timelines as stipulated in the approved procedure:

Purpose	SI No	Action of Stakeholder	Submission Responsibility	Submission to	Data/Information Submission Timeline
1 Revision 0 TTC/ATC Declaration for Month 'M'	1(a)	Submission of node wise Load and generation data along with envisaged scenarios for assessment of transfer capability	SLDC	RLDC	10 th Day of 'M-12' month
		Assessment of TTC/ATC of the import/export capability of the state and intra-state system and sharing of updated network simulation models			
	1(b)	Declaration of TTC/ATC of the intra-state system in consultation with RLDC			26 th Day of 'M-12' month
2. Interconnection Studies for elements to be integrated in the month 'M'	2(a)	Submission of node-wise load and generation data & sharing of network simulation models for intra-state elements coming in the next six months	SLDC	RLDC	8 th Day of 'M-6' month
	2(b)	Sharing of inter-connection study results			21 st Day of 'M-6' month
3 Month Ahead TTC/ATC Declaration & Base case for Operational Studies for Month 'M'	3(a)	Submission of node wise Load and generation data along with envisaged scenarios for assessment of transfer capability	SLDC	RLDC	8 th Day of 'M-1' month
		Assessment of TTC/ATC of the intra-state system and sharing of updated network simulation models			

	3(b)	Declaration of TTC/ATC of the intra-state system in consultation with RLDC			22 nd Day of 'M-1' month
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Further NLDC/RLDC is in the process of publishing TTC/ATC up to Sep-24. All the states are also requested to calculate and publish TTC/ATC up to Sep-24.

ERLDC may update. Members may discuss.

ITEM NO. B.23: Updated of Operating Procedure in compliance with IEGC-2023: ERLDC

Hon'ble commission has notified the Indian Electricity Grid Code-2023(IEGC-2023) and IEGC-2023 has come into force with effect from 01.10.23. Accordingly in compliance with the IEGC 2023 clause no 28(4), Operating Procedure for Eastern Region has been developed by ERLDC. The **operating procedure is available in the link:**

<https://app.erlhc.in/Content/Upload/System%20Study/Operating%20Procedure/Operating%20Procedure%20ERLDC%20290923.pdf> .

The annexures are available in the link:

<https://app.erlhc.in/Content/Upload/System%20Study/Operating%20Procedure/Annexures%201-%20Operating%20Procedure%20IEGC%202023.pdf>

The same has been circulated among the stakeholders vide mail dated 29.09.23 for comments. The final operating procedure will be sent to CERC for intimation by the end of October'23. Members may please note.

ERLDC may update. Members may discuss.

ITEM NO. B.24: Status of Replacement of time drifted L&T meters in Eastern Region: ERLDC

In 47th TCC & ERPC meeting, it was deliberated that the heavily time drifted L&T make SEMs need to be replaced in phase-wise manner.

Accordingly, ERLDC had already circulated the list of meters to be replaced in different phases among all the concerned utilities. The replacement status is mentioned below:

Utility	Substation	SEM to be replaced	SEM replaced	Remarks
NTPC	KAHALGAON	38	3	Phase-1
	BARH	13	2	
	BRBCL	3	0	
	KANTI	6	6	
	TALCHER	39	15	
	FARAKKA	14	13	
DVC	DHANBAD	2	2	
WB	NBU	1	0	

		HALDIA	2	0	
		DALKHOLA	3	3	
		BIDHANNAGAR	3	3	
		MALDA	2	2	
		BIRPARA	1	1	
	PGCIL	BINAGURI	2	0	
		BIRPARA	7	7	
		DURGAPUR	5	5	
		MALDA	4	3	
		SUBHASGRAM	2	0	
		BERHAMPUR	2	2	
		JEYPORE	2	2	
		KISHANGANJ	9	1	
	IPP	CHUZACHEN	5	5	Phase-2
		APNRL	3	1	
	NHPC	TEESTA	7	7	
		RANGIT	13	13	
	JHARKHAND	CHANDIL	3	3	
		GARWA	1	1	
		JAPLA	1	1	
		JAMTARA	1	1	
	BIHAR	KAHALGAON	2	2	
		SONENGAR	2	2	

ERLDC may update. Members may discuss.

ITEM NO. B.25: Status of Procurement of New SEM for Eastern Region: ERLDC

In 47th ERPC meeting dated 25.11.2022, it was decided to procure new 325 SEM towards replacement of old LnT meters & upcoming projects in Eastern region. TCC advised CTU to go ahead with the procurement of 325 meters. CTU representative submitted that they would authorise Powergrid to procure the additional 325 nos. of SEMs.

As per the information received from PowerGrid, approx. 163 meters are currently available. Due to scarcity of meter stock, the Phase-wise replacement of old L&T meters may be delayed.

CTU/PGCIL may update the status of procurement of the meters

ITEM NO. B.26: AMR Phase-5 implementation in Eastern Region: Powergrid

In Eastern Region, there have been 4 AMR Phases package awarded in previous. All the AMR Phases are in AMC support now. In the AMR Phase-4 implementation period, Data Centre Hardware Software refreshment also being completed.

At present in ER, few Meters/Stations are yet to be integrated with AMR system. Most of them are new stations or new Feeders. As per mail received from ERLDC dated 29th Sep 2023, a list is shared for such meters which required to be integrated in existing AMR server. As per SEM details shared by ERLDC, total 320 no of Meters has to be integrated with the AMR. Out of which, 242 Meters are already present in Sub Stations, and another 78 Meters has been kept for upcoming/future New Sub Stations or Feeders.

In view of above, for integration of subject SEMs at AMR, a separate LOA/Award to be placed to carry out the job (Phase-5). In line with the requirement, the same has been shared with TCS, for estimation purpose. Considering the requirement received from ERLDC, total 65 DCU Hardware has been estimated. (50 for the already present Meters, and 15 kept as future for upcoming stations). Additionally other hardware like Cables, PVC Pipe, Fiber Optical cable etc. have been provisioned as per the estimation.

One Rack Server with Windows Operating System and One 24 ports Network Switch have been considered in this program. These items will be installed at ERLDC Data Centre. These will be working as a redundant backup system and Data Repository for entire AMR. As the number of Meters getting increased, redundant data repository is a must for proper system operation.

- **Project timeline has been considered as below (28 Months)**

M1 (Dec-23) (May-24)	M6	M7 (Jun-24) (May-25)	M18	M19 (Jun-25) (Mar-26)	M28
06 months, For Supply & implementation		12 months Warranty Support		10 months comprehensive AMC Support	

The timeline has been considered expecting that, LOA will be awarded, and work will get started in Dec-2023 1st week. The actual timeline will be set as per the actual date of LOA placement.

The end date of AMC support is considered (will be kept) till 31-Mar-2026. As all the other AMR Phases, AMC is getting ended on the same date i.e 31-Mar-2026, for making Phase-5 also a concurrent one, with other ongoing packages. From Apr-26 onwards, one single package will be placed for AMC of all the Meters.

The new AMR system will be installed at those stations only, where the OPGW Fiber and LAN Setup is available. There will be no GPRS based data communication, which will be considered in AMR implementation as per CEA/CERC Cyber Security Guideline. It has been assumed that all the locations considered here for AMR integration has active LAN port. If any location is not having LAN connectivity or OPGW work is ongoing, the same will be discussed in upcoming meetings such that same will be available during AMR installation.

Considering all the above, M/S TCS has given their commercial offer which has total value of **INR**

2,60,72,054.00 /-(Rs. Two crore sixty lacs seventy two thousand and fifty four only) without Taxes.(Annexure- B.26)

Like all previous LOAs of AMR, it is requested to give in principle approval for placing the order to M/S TCS on a single tender / nomination. Based on OCC approval, POWERGRID shall carry out necessary processing for further placement of LOA after carrying out necessary negotiation with M/S. TCS. Negotiated final value shall be placed in forthcoming CCM for further deliberation & approval.

Members may discuss.

PART C: ITEMS FOR UPDATE

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

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

AVERAGE CONSUMPTION (MU)	MAXIMUM CONSUMPTION(MU)/ DATE	MAXIMUM DEMAND (MW)	MINIMUM DEMAND (MW)	SCHEDULE EXPORT	ACTUAL EXPORT
		DATE/TIME	DATE/TIME	(MU)	(MU)
568 MU	626 MU 11-09-2023	28920 MW, 11-09-2023 at 23:00 Hrs.	19091 MW, 24-09-2023 at 16:44 Hrs.	4167	4235

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

ITEM NO. C.2: 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	Bihar	Jharkhand	DVC	Odisha	West Bengal	Sikkim
Month						
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/atcttmenu.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.

PART D: OPERATIONAL PLANNING

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of November 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 07.09.2023)

a) Thermal Generating Stations outage report:

SL No	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BARH	BIHAR	NTPC	4	660	Taken under Annual overhauling wef 28/09/2023 earlier out due to boiler Tube Leakage	25-Sep-2023
2	OPGC3	ODISHA	OPGC	3	660	Annual Overhauling	23-Sep-2023
3	MEJIA TPS	DVC	DVC	8	500	Initially out Turbine vibration high later Annual Overhauling	17-Sep-2023
4	BARAUNI TPS	BIHAR	NTPC	7	110	Poor condenser vacuum	19-Jul-2023
5	BARAUNI TPS	BIHAR	NTPC	6	110	Low vacuum	22-Jul-2023
6	NABINAGAR(BRBCL)	BIHAR	NTPC	3	250	Boiler tube leakage	11-Oct-2023
7	NABINAGAR(NPGC)	BIHAR	NTPC	3	660	11KV SWGR problem	09-Oct-2023
8	GMR	ODISHA	GMR-Infra	1	350	Problem in PA Fan	09-Oct-2023
9	SAGARDIGHI	WEST BENGAL	WBPDC	2	300	Boiler Tube Leakage	12-Oct-2023
10	MEJIA TPS	DVC	DVC	6	250	Boiler tube leakage	10-Oct-2023
11	BANDEL TPS	WEST BENGAL	WBPDC	2	60	Milling problem	03-Oct-2023
12	DPL	WEST BENGAL	WBPDC	7	300	Coal Shortage wef 11/10/2023, Earlier out due to Boiler license renewal.	14-Sep-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:

NIL

c) Hydro Unit Outage Report:

S. NO	STATION	STATE	AGENCY	UNIT NO	CAPACITY (MW)	REASON(S)	OUTAGE DATE
1	BALIMELA HPS	ODISHA	OHPC	3	60	The unit taken out under R&M since 08/07/2022 for 18 months.	08-Jul-2022
2	BALIMELA HPS	ODISHA	OHPC	4	60	The unit taken out under R&M since 08/07/2022 for 18 months.	08-Jul-2022
3	U.KOLAB	ODISHA	OHPC	2	80	Rotar earth Fault	25-Aug-2023
4	TEESTA HPS	SIKKIM	NHPC	1	170	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
5	TEESTA HPS	SIKKIM	NHPC	2	170	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
6	TEESTA HPS	SIKKIM	NHPC	3	170	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
7	DIKCHU Hep	SIKKIM	SKPPL	1	48	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
8	DIKCHU Hep	SIKKIM	SKPPL	2	48	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
9	TEESTA STG III Hep	SIKKIM	TUL	1	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
10	TEESTA STG III Hep	SIKKIM	TUL	2	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
11	TEESTA STG III Hep	SIKKIM	TUL	3	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
12	TEESTA STG III Hep	SIKKIM	TUL	4	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
13	TEESTA STG III Hep	SIKKIM	TUL	5	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023
14	TEESTA STG III Hep	SIKKIM	TUL	6	200	Sudden cloudburst at glacier fed LOHNAK Lake followed by huge inrush of water in Teesta River and damage of Teesta III Dam & downstream Powerhouses	04-Oct-2023

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 collapsed and conductor theft more than 400Ckm and restoration work is in progress
220/132KV 100 MVA ICT II AT LALMATIA	22.01.2019	Commissioning work of 220/132KV, 100MVA Transformer and its associated control Panel under progress.
220 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)
220/132KV 100 MVA ICT 3 AT CHANDIL	30.04.2020	Due to Fire hazard ICT damaged and burnt.
400/220KV 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-I	21.04.2021	Conductor stringing 12.965 km has been completed and Stringing between Tower Loc. no. 152 to 159 is under progress. Transmission line is idle charged between Lalmatia GSS end to Tower Loc.no.169
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
400/220KV 315 MVA ICT 2 AT PATRATU	27.09.2022	ICT tripped on few occasions due to Buchholz later DGA violation found, internal fault in transformer to be rectified. (DGA violation)
220/132KV 160 MVA ICT 1 AT MALDA	04.01.2023	For 132 KV GIS Commissioning work (GIB erection of ICT-I)
132KV-BARHI-RAJGIR-1	25.03.2023	Dismantling of tower no. 227, 228, and 229 crossing the premises of Mahabodhi Cultural centre along with Destraining of conductor of both circuits and Earthwire between tension tower no. 218-237 in same line.
132KV-NALANDA-BARHI(DVC)-1	25.03.2023	
220KV-TSTPP-MEERAMUNDALI-2	10.06.2023	Tower collapse at loc no 41, 42 (from Meramundali end). Ckt1 charged through ERS.
400KV-KHSTPP-BARH-1	04.08.2023	Upgradation of Bay equipment's at KHSTPP
400/220KV 315 MVA ICT 1 AT TSTPP	09.08.2023	Acetylene violation in ppm during routine DGA analysis

400KV-ALIPURDUAR (PG)- PUNASANGCHUN-JIGMELING-1	24.04.2023	INITIALLY OPENED DUE TO VOLTAGE REGULATION. LINE WENT UNDER S/D FROM 13.09.23 11:08HRS, COULD NOT RETURN DUE TO BREAKER PROBLEM AT BHUTAN
400KV/220KV 315 MVA ICT 3 AT BIDHANNAGAR	31.08.2023	FOR JUMPERING OF 220KV DROPPER FROM STRUNG BUS AT 315MVA ICT-3
400KV/220KV 315 MVA ICT 5 AT RANGPO	26.09.2023	SF6 LEAKAGE RECTIFICATION
400KV-RANGPO-TEESTA-V-1 & 2	04.10.2023	TOWER NEAR GANTRY OF TEESTA V POWERHOUSE COLLAPSED DUE TO SUDDEN CLOUDBURST AT GLACIER FED LOHNAK LAKE FOLLOWED BY HUGE INRUSH OF WATER IN TEESTA RIVER AND DAMAGE OF TEESTA III DAM & DOWNSTREAM POWERHOUSES
400KV-TEESTA-III-RANGPO-1	04.10.2023	HAND TRIPPED FROM TEESTA-III END DUE TO SUDDEN CLOUDBURST AT GLACIER FED LOHNAK LAKE FOLLOWED BY HUGE INRUSH OF WATER IN TEESTA RIVER AND DAMAGE OF TEESTA III DAM & DOWNSTREAM POWERHOUSES
400KV-TEESTA-III-DIKCHU-1	04.10.2023	
400KV-RANGPO-DIKCHU-1	04.10.2023	
765KV-ANGUL-JHARSUGUDA-3 & 4	12.10.2023	BUS BAR PROTECTION OPERATED AT ANGUL

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 September-2023

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

LIST OF NEW ELEMENTS CHARGED DURING SEPTEMBER, 2023							
GENERATING UNITS							
SL. NO.	Location	OWNER/UNIT NAME	Unit No/Source	Capacity added (MW)	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	WBSETCL	Gokarna	3	400/220/33	315	17-09-2023	ICT 3 was first time charged from HV side only on 14-09-2023 at 12:47 Hrs with charging code ER/09/C/00825. Later. It was first time loaded on 15-09-2023 at 15:52 Hrs. with charging code ER/09/C/00887. Format IV for 400/220 kV 315 MVA ICT 3 at Gokarna SS (WB) along with associated bays (Bay No. 404 and 207) was issued on 13-09-2023.
TRANSMISSION LINES							

SL. NO.	Agency/ Owner	LINE NAME	Length (KM)	Conduct or Type	DATE	Remarks
NIL						
LILO/RE-ARRANGEMENT OF TRANSMISSION LINES						
SL. NO.	Agency/ Owner	Line Name/LILO at	Length (KM)	Conduct or Type	DATE	Remarks
NIL						
BUS/LINE REACTORS						
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks
NIL						
HVDC /AC Filter bank / FACTS DEVICE associated System						
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks
NIL						
BAYS						
SL. NO.	Agency/ Owner	Element Name	SUB-STATION	Voltage Level (kV)	DATE	Remarks
NIL						

Bihar:

Following elements have been charged in the Month September 2023.

GSS Name	Description	FTC Date	FTC Time	Remarks
Raxaul (New)	132KV RAXAUL NEW PARWANIPUR CKT 2 bay	22-09-2023	16:57	Only bay charged
Raxaul (New)	132 KV RAXAUL NEW PARWANIPUR CKT 1 bay	22-09-2023	16:57	Only bay charged
Phulparas	132/33KV 50MVA ICT 2	20-09-2023	17:35	20 MVA ICT2 replaced with 50 MVA.
Hulasganj	132/33 KV 50 MVA ICT 3	16-09-2023	02:05	20 MVA ICT 3 replaced with 50 MVA.

West Bengal:

- 132KV BIRPARA-KAMAKHYAGURI S/C was first time loaded at 16.35 Hrs on 11.09.23 having a length of 85.095 KM with ACSR PANTHER conductor.
- 400/220/33Kv, 315 MVA ICT#3 with its 400Kv & 220Kv Bay first time charged at no load at GOKARNA 400Kv substation at 12.47 Hrs on 14.09.23 and loaded at 15.42 hrs on 15.09.23.
- 132Kv M/S RASIDHAN BULK connectivity done via tapping of 132KV ULUBERIA-BAGNAN#1 and first time charged at 16.50 Hrs on 19.09.2023 only from BAGNAN end (132Kv BAGNAN-RASIDHAN S/C having a length of 7.8KM, ACSR PANTHER & 132KV ULUBERIA-RASIDHAN S/C having a length of 8.9 KM, ACSR PANTHER).
- 132KV KAKDWEET-RAMGANGA D/C first time loaded on 29.09.23 at 15.56 Hrs & 16.16 Hrs respectively having a length of 36.095 KM with ACSR PANTHER conductor plus 1.377 KM UG XLPE cable.
132KV MAIN BUS-1 at RAMGANGA was charged for first time on 29.09.23 at 15.56 Hrs.
132KV MAIN BUS-2 at RAMGANGA was charged for first time on 29.09.23 at 16.16 Hrs.
132KV B/C ON at 16.21 Hrs on 16.21 Hrs.

Members may note.

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

Frequency profile for the month as follows:

MONTH	MAX	MIN	% LESS IEGC BAND	% WITHIN IEGC BAND	% MORE IEGC BAND
	(DATE/TIME)	(DATE/TIME)			
Sep, 2023	50.30 Hz on 08-09- 2023 at 13:24 hrs	49.52 Hz on 01-09- 2023 at 14:50 hrs	5.3	77.9	16.8

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

Members may note.

Annex B.1

Annexure-I

Quarterly Report on Mock Drill conducted for Crisis/Disaster Situations

1. Name of the Organization:
2. Period (Quarter of the year to be specified e.g. Apr to June, July to Sep etc.):
3. Mock Drill Details:

S No.	Name of Project/Station	Crisis/ Disaster situation	Brief description of the mock drill conducted	Key learnings/outcomes	Participation of Local Administration/NDRF/ SDRF

4. Tentative Schedule of Mock drill exercises to be conducted in next quarter:

S No.	Name of Project/Station	Crisis/ Disaster situation for which mock drill will be conducted

Annex B.2



GOVERNMENT OF SIKKIM
LAND REVENUE & DISASTER MANAGEMENT DEPARTMENT
TASHILING SECRETARIAT, BLOCK - B, GANGTOK
Email: ssdma01@gmail.com, Tel. 03592-201145

Memo No. 399 LR&DMD/GoS

Dated: 04/10/2023

NOTIFICATION

Cloud burst induced water surge around Lhonak area led to flash floods in low lying areas of Teesta basin causing rise of water levels with very high velocities downstream within the States of Sikkim and West Bengal in the early hours of 4th October 2023. This has caused extensive damages to life and property including breakdown of road networks and communications. Several important bridges connecting to the forward border areas and within Sikkim are washed away due to the above flash floods in Mangan, Gangtok, Pakyong and Namchi Districts of Sikkim.

Hence, with the approval of the Chairman, Sikkim State Disaster Management Authority and as recommended by the State Executive Committee (SEC), I, Vijay Bhushan Pathak, IAS, in the capacity of Chairman, SEC hereby declare this catastrophe as a Disaster in exercise of the powers conferred vide Section 22(2) (b) of the Disaster Management Act, 2005, (53 of 2005)

(Vijay Bhushan Pathak) IAS, 04/10/2023
Chief Secretary-cum- Chairman, SEC of Sikkim
Government of Sikkim
File No 2018/SSDMA/LR&DM/GoS/2023

Sikkim Urja Limited

[Formerly: Teesta Urja Limited | CIN: U31200DL2005SGC133875]

Government of Sikkim Enterprise

Registered Office: B2/1A Safdarjung Enclave, Africa Avenue, New Delhi 110029

E: contact@sikkimurjalimited.in | W: sikkimurjalimited.in

No. TUL/PS&R/0006/2023-24/006

Dated 10.10.2023

The Managing Director

Sikkim Power Transmission Limited

(formerly Teestavalley Power Transmission Ltd.)

B2/1A Safdarjung Enclave, Africa Avenue

New Delhi 110029

Sub: 1200 MW Teesta III HE Project, Mangan, Sikkim – **Intimation of 'Force Majeure Event' reg.**

Ref:

- (i) Transmission Service Agreement between Sikkim Urja Limited and Sikkim Valley Transmission Limited (formerly Teesta Valley Power Transmission Limited) dated 06.08.2008.
- (ii) Connection Agreement between Powergrid Corporation of India Ltd.; Sikkim Urja Limited; and Sikkim Valley Transmission Limited dated 04.11.2016.

Dear Sir,

In compliance of the Agreements under reference above, it is to bring to your kind notice that on the intervening night of dt. 03.10.2023 and dt. 04.10.2023, due to a flash flood arising out of cloud burst, our Teesta III Hydro Electric Project got badly damaged, and generation of electricity has stopped.

2. We are presently focused on rescuing and evacuating our manpower. Detailed assessment of damages / losses suffered will be carried out in due course.

3. Government of Sikkim has declared this catastrophe as a disaster under the Disaster Management Act 2005 vide Notification No. 399/LR&DMD/GoS dt. 04.10.2023 copy of which is attached herewith.

4. This is for information and necessary action.

Yours faithfully

For **Sikkim Urja Limited**


(Jaideep Lakhtakia)
Executive Director (PS & R)

Encl.: As above.



GOVERNMENT OF SIKKIM
LAND REVENUE & DISASTER MANAGEMENT DEPARTMENT
TASHILING SECRETARIAT, BLOCK - B, GANGTOK
Email: ssdma01@gmail.com, Tel- 03592-201145


Memo No. 399 LR&DMD/GoS

Dated: 04/10/2023

NOTIFICATION

Cloud burst induced water surge around Lhonak area led to flash floods in low lying areas of Teesta basin causing rise of water levels with very high velocities downstream within the States of Sikkim and West Bengal in the early hours of 4th October 2023. This has caused extensive damages to life and property including breakdown of road networks and communications. Several important bridges connecting to the forward border areas and within sikkim are washed away due to the above flash floods in Mangan, Gangtok, Pakyong and Namchi Districts of Sikkim.

Hence, with the approval of the Chairman, Sikkim State Disaster Management Authority and as recommended by the State Executive Committee (SEC), I, Vijay Bhushan Pathak, IAS, in the capacity of Chairman, SEC hereby declare this catastrophe as a Disaster in exercise of the powers conferred vide Section 22(2) (b) of the Disaster Management Act, 2005, (53 of 2005)


(Vijay Bhushan Pathak) IAS, Chief Secretary,
Chief Secretary-cum- Chairman, SEC of Sikkim
Government of Sikkim
File No 2018/SSDMA/LR&DM/GoS/2023

Annex B.3.2

Pritam Goswami

From: Yamana Ayyappa
Sent: 09 October 2023 09:30
To: ERLDC Outage
Cc: mserpc-power@nic.in; Pranaya Piyusha Jena; bilash.achari@grid-india.in; Pinki Debnath (पिंकी देबनाथ); eeop.erp@gov.in; erldccr@grid-india.in; Prabhat Kumar; Pritam Goswami; Mingma Lepcha
Subject: Regarding anti theft charging of the transmission lines of SPTL (TPTL) in Sikkim Complex.

Dear Sir,

In continuation to trailing mail, we would like to inform you that due to flash flood in Teesta river in Sikkim the generating units of Teesta III HEP (1200 MW) & Dikchu HEP (96 MW) are still out since the early hours of 04.10.2023. The same has been recorded in the Flash Report of outage as published by ERLDC. As a result, the following lines of Sikkim Power Transmission Ltd (Formerly Teestavalley Power Transmission Ltd) are still kept in uncharged condition :

1. 400 kV Teesta III – Dikchu line
2. 400 kV Dikchu- Rangpo line
3. 400 kV Teesta III – Rangpo line

Also, the timeline for restoration of the Teesta III & Dikchu HEP is unknown and the above mentioned lines of SPTL are exclusively connected between these HEPs and Rangpo Substation of POWERGRID. Therefore, in view to safety & security of the transmission lines of SPTL in the current situation, it is requested that the 400 kV Teesta III – Dikchu; 400 kV Dikchu- Rangpo and 400 kV Teesta III - Rangpo lines of SPTL be anti-theft charged till the restoration of Teesta III HEP & Dikchu HEP plants.

It is also requested to accord necessary approval and instruction may be issued to the concerned substation (Rangpo Substation) to carry out anti-theft charging of the abovementioned transmission lines of SPTL.

Thanks & Regards,

Ayyappa Y
M.NO : 89674-41535

From: Yamana Ayyappa
Sent: Thursday, October 5, 2023 1:18 PM
To: ERLDC Outage <erldcoutage@grid-india.in>
Cc: mserpc-power@nic.in; Pinki Debnath (पिंकी देबनाथ) <pinkidebnath@grid-india.in>; erldcavailability@grid-india.in; eeop.erp@gov.in; Anup Das <anupdas@nic.in>; erldccr@grid-india.in; Prabhat Kumar <pk@sikkimurjalimited.in>; Pritam Goswami <pg@sikkimurjalimited.in>; Mingma Lepcha <ml@sikkimurjalimited.in>
Subject: Report on flash flood in Teesta river in Sikkim related to 400 kV Teesta III - Rangpo lines

Dear Sir,

400 kV Teesta III – Dikchu & 400 kV Teesta -Rangpo lines were hand tripped from Teesta III HEP at 01:08 hrs on 04.10.2023; 400 kV Dikchu- Rangpo line breaker opened from Dikchu HEP at 06:15 hrs & Rangpo end at 09:00 hrs on 04.10.2023 due to flash flood in Teesta river in Sikkim. As a result, the following lines of Sikkim Power Transmission Ltd (Formerly Teestavalley Power Transmission Ltd) are not in charged condition :

1. 400 kV Teesta III – Dikchu line
2. 400 kV Dikchu- Rangpo line
3. 400 kV Teesta III – Rangpo line

It is further informed that as per preliminary inspection carried out by site team, at present the above transmission lines are healthy and no abnormality has been observed as of now. Further patrolling & monitoring of the transmission lines shall be continued. The news paper cutting's related to flash flood in Teesta river is attached for your reference.

It is also to mention here that both the circuits of 400 kV Rangpo - Kishanganj Line are in service. This is for your information please.

Thanks & Regards,

Ayyappa Y

M.NO : 89674-41535

Annex B.4.1

STUDY ON VOLTAGE RISE AT DIFFERENT 400 KV BUSES OF DVC

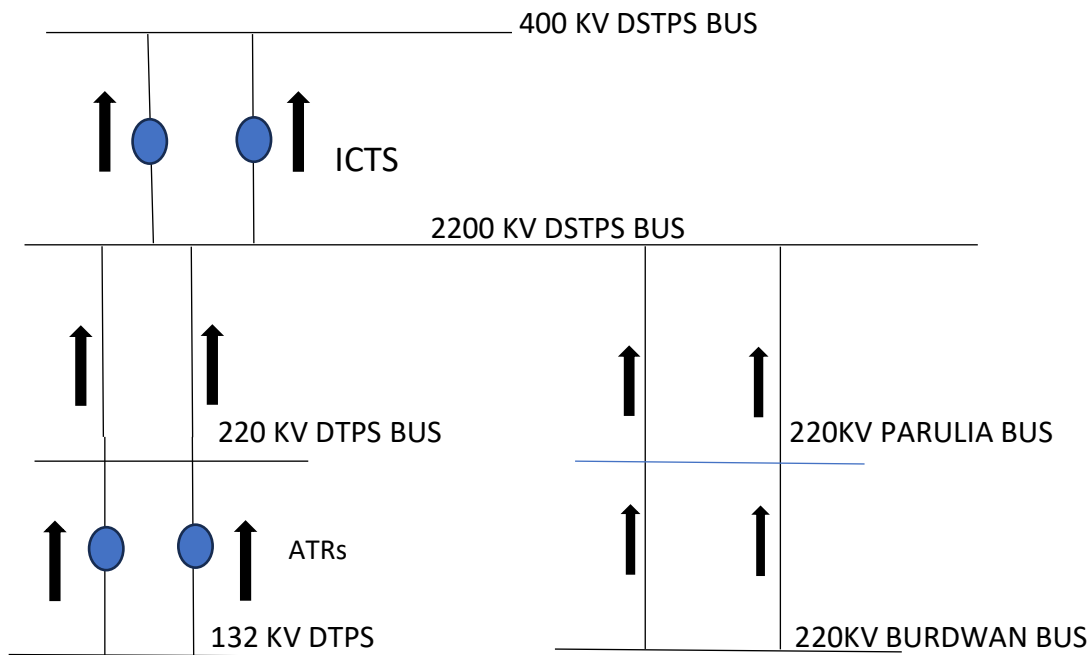
400 KV Transmission system of DVC was commissioned gradually during 2010 onwards with the construction and commissioning of 500 MW generators at MTPS, DSTPS, KTPS, RTPS and BTPS. Connectivity of the 400 KV bus of these power stations with the national grid were done mostly through LILO arrangement from existing CTU Lines or new lines constructed by the CTU. However, DVC has also constructed two double circuit 400 KV lines i.e. one from DSTPS to RTPS (Twin Moose D/C) and the other from RTPS to Ranchi (PG) (Quad Moose, D/C).

At DSTPS, KTPS & RTPS it has been observed for last few years that the 400 KV bus voltage occasionally crosses the higher operational voltage limit of 103% i.e. 412 KV. In order to find out the exact reason and source of VAR injection in DVC 400 KV buses data from different power stations were sought. Thereafter data scrutiny and analysis was carried out for each power stations. Based on the available data and further load flow study requirement of reactor (either bus reactor or line reactor) has been proposed. Detailed Plant wise study is furnished hereunder :

1. DSTPS

The data including voltage, MVAR for DSTPS for different seasons of two months span each and considering double as well as single unit in service, wherever observed, has been studied and following are the observations:

- The bus voltage remains within the range of 406KV to 412 KV but during low demand condition the same increased to 419 KV.
- In general, the direction of MVAR flow through all the 400 KV lines are towards 400 KV Bus i.e. import direction (although occasionally it reverses to the export direction) during healthy voltage range conditions.
- During High Voltage conditions the reactive power import to Bus through all 400 KV lines further decreased to some extent.
- From the available data it has been found that during normal voltage range (400-412 KV) as well as high voltage condition (412-419 KV) the variation of VAR absorption by both the Generators (Including GTs) varied in the range 150 -200 MVAR (in total).
- It has also been observed that during normal voltage range conditions as well as in high voltage condition, the reactive power imports towards 400 KV bus through ICTs and this phenomenon increased after commissioning of 220KV Parulia Burdwan double circuit lines on 25.09.2022.
- VAR flow of 220 KV system also studied and found that beside VAR flow from 220 KV Parulia lines (from 220 KV Parulia bus to 220 KV DSTPS bus) there are VAR flow observed from 132 KV system of DTPS through 220 KV DTPS lines (from 220 KV DTPS bus to 220 KV DSTPS bus)



ATRS

Conclusion:

- Hence, to mitigate the condition of high voltage at DSTPS 400 KV Bus it is proposed to install 2 x 80 MVAR reactors connected directly with the 400 KV Bus

Note:

In case, the proposed 2 x 80 MVAR reactors could not be commissioned at DSTPS due to nonavailability of space at DSTPS 400 KV Switch-yard and associated areas the commissioning of 2 Nos. 50 MVAR reactors at DSTPS 220KV Bus may be explored.

2. RTPS

Observations:

At RTPS two Nos of Line Reactors of 50 MVAR each is already connected in Ranchi PGCIL Line #2 & 3 and also two nos. of Bus reactors of 50 MVAR each are already connected in 400 KV Buses. Hence bus voltage at DVC RTPS end seldom exceeds 412 KV but due to VAR flow from DVC, RTPS to PGCIL Ranchi end through 400 KV RTPS-Ranchi double circuit lines the voltage at PGCIL, Ranchi ends exceed the limit time to time.

However, there are two numbers of 400 KV Bus Reactors at Ranchi PGCIL end. Rating of the same are 80 MVAR and 125 MVAR respectively. Both the reactors are presently

kept out of circuit since 1st week of June'23. In case these Bus Reactors are put into service the high voltage issue at Ranchi PGCIL end may get resolved.

Conclusions:

Considering above no such Voltage issue is presently noticed at RTPS but at Ranchi PGCIL end Bus Reactors need to be put into service.

3. KTPS

Observations:

The data including voltage, MVAR for KTPS for different seasons of two months span each and considering double as well as single unit in service, wherever observed, has been studied and following are the observations:

- The bus voltage remains within the range of 407KV to 412 KV but during low demand condition the same increased to 415 KV.
- In general, the direction of MVAR flow through all the 400 KV lines are towards 400 KV Bus i.e. import direction (although occasionally it reverses to the export direction).
- From the available data it has been found that during normal voltage range (407-412 KV) as well as high voltage condition (412-415 KV) the variation of VAR absorption by both the Generators (Including GTs) varied in the range 160 -270 MVAR (in total).

At KTPS two nos. of Bus reactors of 50 MVAR each is already connected in 400 KV Buses. One of the two reactors has been out of service presently.

Conclusions:

Once the 50 MVAR damaged reactor will be put back into service still there will be demand for more VAR absorption to maintain the Voltage rising issue at KTPS, hence it would be worthy to procure and install 2 nos. 125 MVAR Reactors at 400 KV Bus replacing existing 2 nos. 50 MVAR Reactors.

4. MTPS

The data including voltage, MVAR for MTPS for different seasons of two months span each and considering different numbers of available units, has been studied and following are the observations:

- The bus voltage remains within the range of 404KV to 412 KV but occasionally the same increased to 413 KV.
- In general, the direction of MVAR flow through all the 400 KV lines are towards 400 KV Bus i.e. import direction.
- From the available data it has been found that maximum VAR absorption by the Generators (Including GTs) is in the tune of 120 MVAR each, which is well below the max MVAR absorbing capacity of the Units (approx. 150-160 MVAR each)

Conclusion:

- Hence, at present there is not any need of installing Reactors at MTPS, however after complete functioning of both the ICTs at MTPS, scenarios may get changed. In that case 2 Nos. of 50 MVAR reactors which are presently connected at 400 KV bus at KTPS may be shifted to MTPS 400 KV Bus.

Annex B.4.2



सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)

(A Government of India Enterprise)

संदर्भ/Ref: CTU/E/00/21th CMETS-ER

दिनांक/Date: 20-07-2023

वितरण सूची के अनुसार/ As per distribution list

विषय/Subject: पूर्वी क्षेत्र में पारेषण योजनाओं के विकास के लिए 21^{वीं} परामर्श बैठक की कार्यावली (सीएमईटीएस-ईआर) / Agenda for 21th Consultation Meeting for Evolving Transmission Schemes in Eastern Region (CMETS-ER)

महोदय /महोदया /Sir /Ma'am,

आईएसटीएस योजना और ओपन एक्सेस आवेदन प्रसंस्करण के लिए पूर्वी क्षेत्र में पारेषण योजनाओं के विकास के लिए 21^{वीं} परामर्श बैठक (सीएमईटीएस-ईआर) **28th जुलाई, 2023** (शुक्रवार) को वीडियो कॉन्फ्रेंसिंग के माध्यम से नीचे दिए गए विवरण के अनुसार आयोजित होने वाली है:

The 21th Consultation Meeting for Evolving Transmission Schemes in Eastern Region (CMETS-ER) for ISTS planning and open access applications processing is scheduled to be held on **28th July, 2023 (Friday)** through video conferencing as per details below:

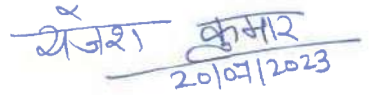
विषय/Topic	: 21 th CMETS-ER
दिनांक/Date & समय/Time	: 28th July 2023 at 11:00AM
बैठक लिंक/ Meeting Link	: MS-Teams (in email)

इस संबंध में बैठक की कार्यावली अलग से प्रसारित की जाएगी, जो सीटीयू वेबसाइट (www.ctuil.in >> [ISTS Planning and Coordination](#) >> [Consultation Meetings for ISTS](#) >> [ER](#)) पर भी उपलब्ध होगी। कृपया उपरोक्त लिंक के माध्यम से बैठक में शामिल होने और रिटर्न मेल के माध्यम से इस संबंध में भागीदार होने की पुष्टि करें।

In this regard, the agenda of the meeting shall be circulated separately and the same will also be available on CTU website (www.ctuil.in >> [ISTS Planning and Coordination](#) >> [Consultation Meetings for ISTS](#) >> [ER](#)). It is requested to join the meeting through the above link and send confirmation of participation in this regard through return mail.

धन्यवाद/Thanking you,

भवदीय / Yours faithfully,


20/07/2023

(राजेश कुमार) / (Rajesh Kumar)
वरिष्ठ महाप्रबंधक/ Sr. General Manager

A. वितरण सूची के अनुसार/ Distribution List:

1. Chief Engineer (PSP&A-II) Central Electricity Authority Sewa Bhawan, R.K.Puram New Delhi-110066	2. Member Secretary Eastern Regional Power Committee 14, Golf Club Road, Tollygunge Kolkata-700033
3. Director (SO) Grid Controller of India Limited 9th Floor, IFCI Towers, 61, Nehru Place, New Delhi-110016	4. Executive Director Eastern Regional Load Despatch Centre 14, Golf Club Road, Jubilee Park, Golf Gardens, Tollygunge, Kolkata, West Bengal - 700095
5. CMD Damodar Valley Corporation DVC Towers, VIP Road Kolkata-700054	6. CMD Odisha Power Transmission Corporation Ltd. (OPTCL) Bhoinagar Post Office, Jan path Bhubaneshwar-751022
7. CMD Bihar State Power Transmission Company Ltd. (BSPTCL) Vidyut Bhavan, 4th floor, Bailey Road Patna-800021	8. CMD Jharkhand Urja Sancharan Nigam Limited (JUSNL) Engineering Building, HEC, Dhurwa Ranchi -834004
9. Principal Chief Engineer cum Secretary Power Department Government of Sikkim Gangtok, Sikkim	10. Managing Director West Bengal State Electricity Transmission Company Ltd. (WBSETCL) Vidyut Bhavan, 8th Floor, A-Block Salt Lake City, Kolkata-700091

B. विशेष आमंत्रित /Special invitee:

1. Director (Projects) Power Grid Corporation of India Ltd. "Saudamini", Plot No. 2, Sec-29, Gurugram, Haryana-122001

C. आवेदक/Applicant:

1. Sh. Amit Girwan DGM Adhunik Power & Natural Resources Ltd. (APNRL) Lansdowne Towers, 5 th Floor, 2/1A, Sarat Bose Road, Kolkata West Bengal – 700020 Ph. No.: 9818555993 Email: powertrading@adhunikpower.co.in ; bhaveshsahu@adhunikpower.co.in
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Agenda for 21st Consultation Meeting for Evolving Transmission Schemes in Eastern Region (CMETS-ER)

1. Confirmation of minutes of the previous meeting

- 1.1. The minutes of the 20th CMETS-ER held on 28-06-2023 were issued vide letter dated 21-07-2023.
- 1.2. WBSETCL vide email dated 21-07-2023 has requested for rephrasing of certain portion of para 4.3 as detailed below:
 - **Existing:** “...WBSETCL informed that due to fund shortage they would be initially implementing LILO of only one circuit of the Jeerat (New) – Subhasgram (Quad) D/c line at New Laxmikantpur...”
 - **Proposed:** “...WBSETCL informed that as proposed New Laxmikantapur 400/132/33kV GIS would be required to cater an estimated load of approx. 300MW to 400MW and also for avoiding unnecessary blockage of CAPEX (in case of D/C LILO instead of S/C LILO) they would be initially implementing LILO of only one circuit of the Jeerat (New) – Subhasgram (Quad) D/c line at New Laxmikantpur...”
- 1.3. With the above proposed modification by WBSETCL, the minutes of 20th CMETS-ER are proposed to be considered as confirmed.

A. Connectivity and GNA related matters

2. Transition of “Connectivity/LTA/MTOA granted and applications received under Connectivity Regulations, 2009” to GNA Regulations, 2022 in line with provisions under Regulation 37 of GNA Regulations, 2022

- 2.1. **Transition under Regulations 37.6 (1)** viz. Only Connectivity exists (including part quantum not having LTA/MTOA) and the same is effective.

Sl. No.	Applicant	Installed Capacity (MW)	Location	Nature of entity	Connectivity already granted quantum	Quantum for transition under Reg. 37.6(1) (MW)	New start date of Connectivity under GNA Regulations (requested)	Proposed Transmission system for Connectivity under GNA Regulations, 2022
1	Adhunik Power & Natural Resources Ltd. (APNRL)	540	Jharkhand	Generation (Thermal)	450	250	01-07-2023	Existing transmission system
	<ul style="list-style-type: none"> M/s APNRL is connected to ISTS at Jamshedpur (POWERGRID) S/s through its 400kV D/c DTL. 							

Sl. No.	Applicant	Installed Capacity (MW)	Location	Nature of entity	Connectivity already granted quantum	Quantum for transition under Reg. 37.6(1) (MW)	New start date of Connectivity under GNA Regulations (requested)	Proposed Transmission system for Connectivity under GNA Regulations, 2022
	<ul style="list-style-type: none">Present LTAs from M/s APNRL is 200MW, which is already operational. Accordingly, 250MW (Connectivity-Deemed GNA) is available for transition under Regulation 37.6 (1), which has been requested by M/s APNRL vide its letter dated 20-06-2023.It has been observed that the available ISTS including the immediate evacuation system has margin for evacuation of this additional 250MW.New start date of Connectivity has been requested as 01-07-2023, which has already passed. Applicant may provide revised start date.In view of the above, it is proposed that this request of transition may be agreed with Start date of Connectivity as agreed in meeting with existing transmission system.The Regulation 37.6 (1) (a) of the GNA Regulations states that “(a) In case additional GNA as applied for under Regulation 17.2 can be granted on existing transmission system, the Nodal Agency shall grant such additional GNA on furnishing Conn-BG3 @ Rs.2 lakh/MW. Conn-BG3 shall be returned in five equal parts over the next five years starting from the year when such GNA becomes effective or in accordance with Regulation 16.2 of these regulations, whichever is later.”In the instant case, transition under GNA Regulations is proposed through “existing transmission system”. Thus, in terms of Regulation 37.6 (1) (a), applicant may note that they shall be liable to furnish Conn-BG3 @ Rs.2 lakh/MW, if grant is agreed as proposed.							

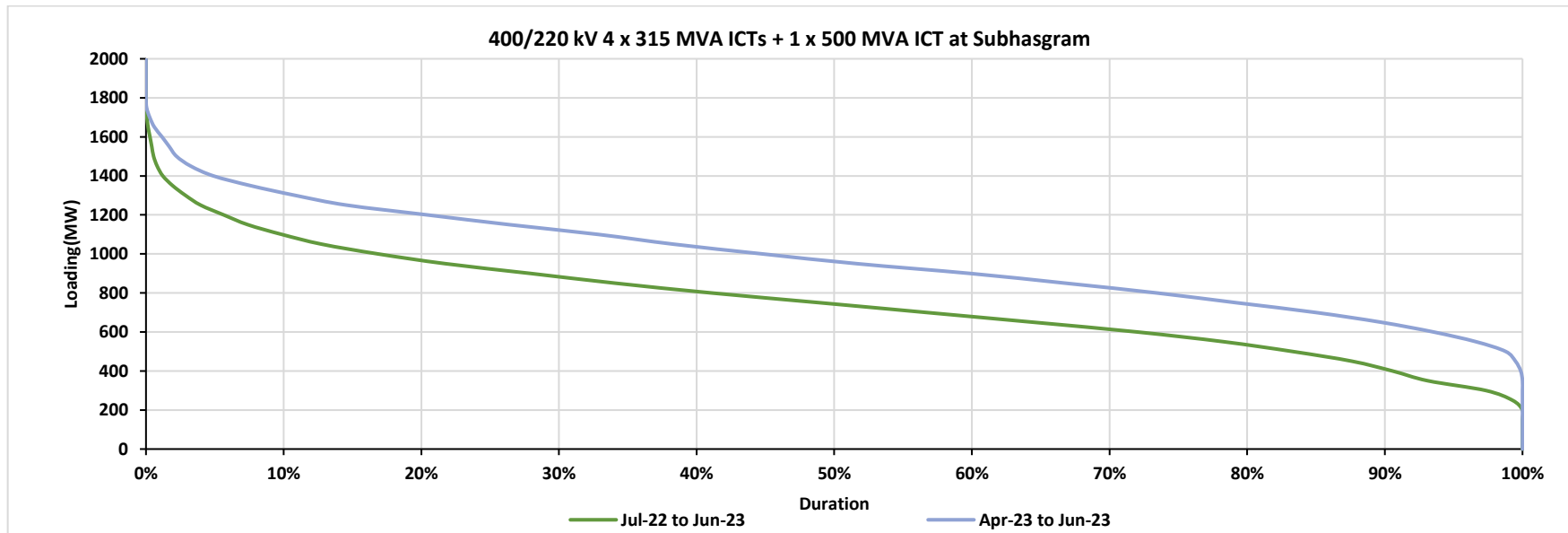
B. ISTS expansion schemes in Eastern Region

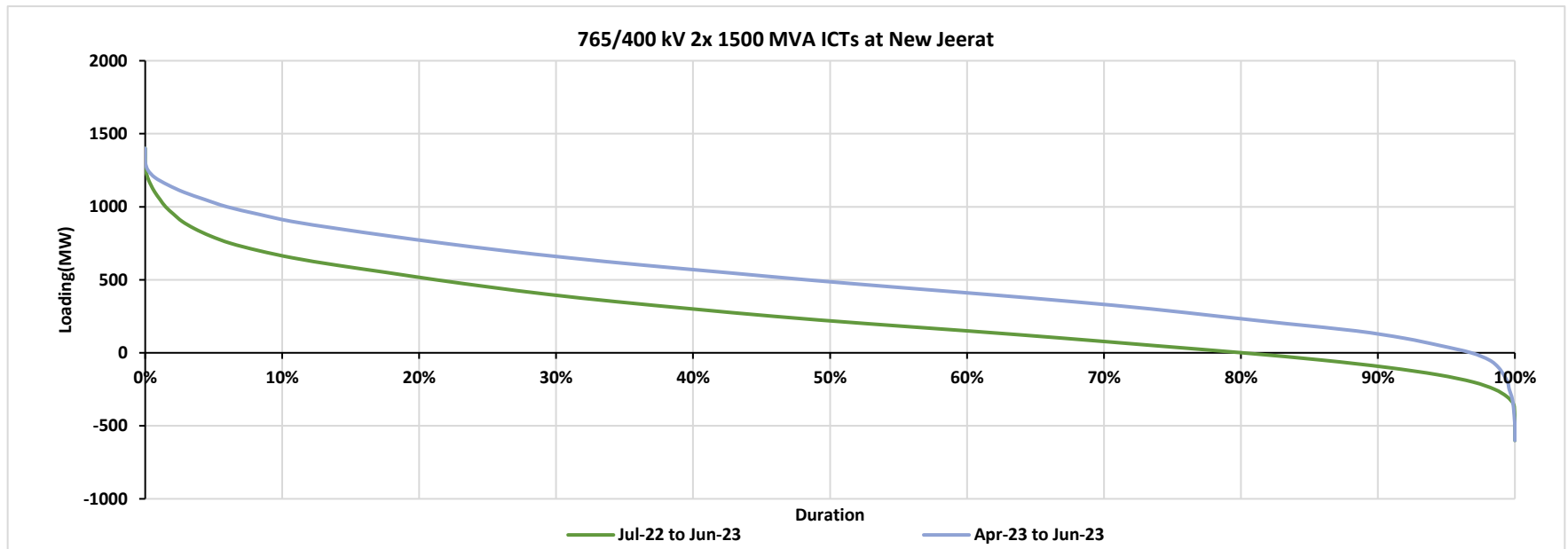
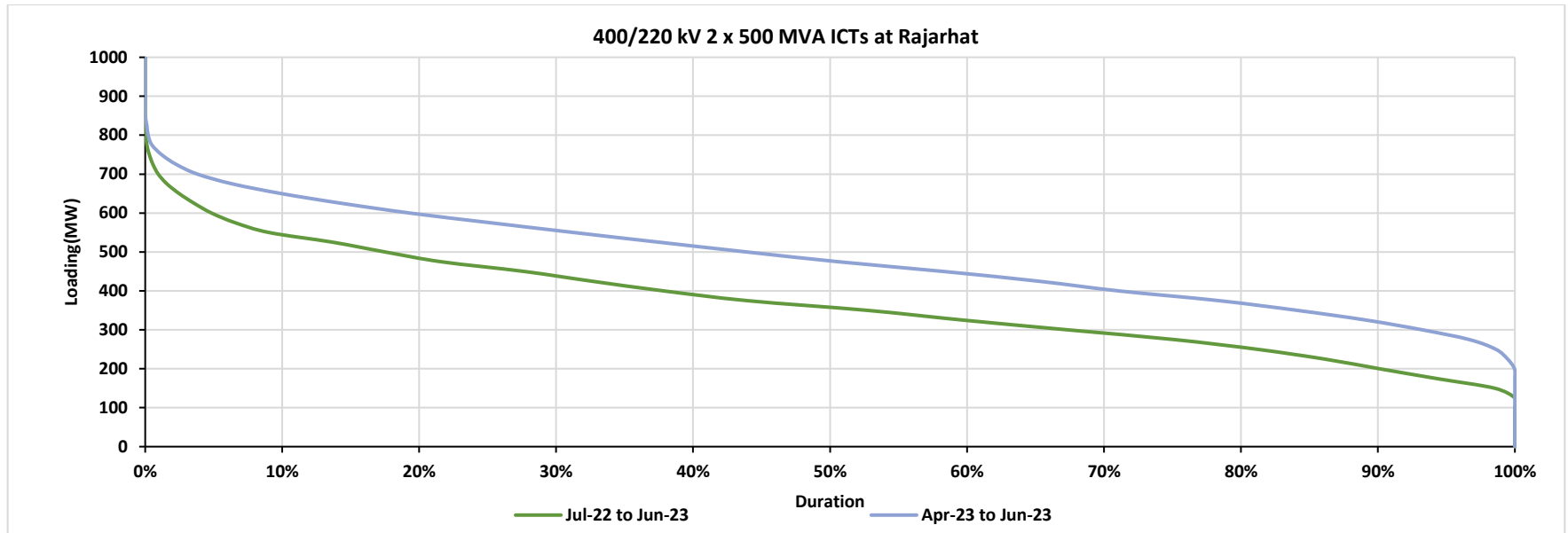
3. Augmentation of transformation capacity at Subhasgram (POWERGRID), Rajarhat (POWERGRID), and Jeerat-New (PMJTL) substations

- 3.1. In the 20th CMETS-ER held on 28-06-2023, the ERLDC input on “Reliability enhancement of south West Bengal transmission system in view significant demand growth” was deliberated, wherein following was agreed:
- (a) Critical loading of ICTs at Subhasgram (POWERGRID), Rajarhat (POWERGRID) and Jeerat-New (PMJTL) substations was deliberated, and it was decided that after analysis the proposal regarding augmentation of transformation capacity at said ISTS substations may be deliberated in the next CMETS-ER.
 - (b) WBSETCL was requested to coordinate with all state utilities including all distribution licensees and provide their action plan in regard to the issues highlighted by ERLDC in their submission and share the details of planned transmission infrastructure along with their expected timelines at the earliest.

3.2. The loading details of the ICTs at Subhasgram (POWERGRID), Rajarhat (POWERGRID) and Jeerat-New (PMJTL) substations and ICT load distribution curve was obtained from ERLDC. The data provided by ERLDC is as follows:

Month	Subhasgram (POWERGRID) S/s			Rajarhat (POWERGRID) S/s	Jeerat-New (PMJTL) S/s	
	400/220kV 4x315MVA + 1x500MVA ICTs Loading (MW)	WB drawal (MW)	CESC drawal (MW)	400/220kV 2x500MVA ICTs Loading (MW)	765/400kV 2x1500MVA ICTs Loading (MW)	
	400kV to 220kV			400kV to 220kV	765kV to 400kV	400kV to 765kV
Jul-22	1270.8	680.0	657.7	617.1	885.7	128.5
Aug-22	1300.7	648.8	688.8	612.3	888.0	301.1
Sep-22	1412.4	758.1	725.5	618.1	981.8	335.3
Oct-22	1168.9	533.2	690.3	574.9	627.7	317.7
Nov-22	1051.3	474.8	694.4	468.8	386.4	373.2
Dec-22	1019.5	538.9	575.1	403.9	398.6	405.2
Jan-23	851.4	529.0	398.4	383.6	382.1	428.0
Feb-23	927.6	472.4	516.9	448.8	365.3	374.9
Mar-23	983.3	564.8	555.2	510.7	517.0	343.7
Apr-23	1804.7	944.4	854.4	736.7	993.2	503.2
May-23	1607.9	753.5	862.8	720.1	1224.4	160.6
Jun-23	1780.8	921.3	888.7	850.3	1335.7	167.5





3.3. From the above, following is observed:

A. Subhasgram (POWERGRID) 400/220kV S/s: 2x315MVA + 1x500MVA ICTs under ISTS & 2x315MVA ICTs are of CESC

- Maximum combined drawl by WBSETCL and CESC has been about 1805MW. Maximum drawl by WBSETCL and CESC has been about 944MW and 889MW respectively.
- The present loading (1805MW) has already crossed the available transformation capacity of 1760MVA.
- It can be observed that maximum drawl by WBSETCL and CESC are of similar order.
- 400/220kV, 500MVA 6th ICT is under installation by CESC. After installation of 6th ICT, there would be 2x315MVA + 1x500MVA ICTs under ISTS and 2x315MVA + 1x500MVA ICTs of CESC. The cumulative transformation capacity would be 2260MVA. With installation of 6th ICT also, N-1 would not be fulfilled.
- During installation of 6th ICT also it was observed that there is similar maximum drawl at Subhasgram by WBSETCL and CESC. Now also the situation is same. With installation of 6th ICT, there would be same transformation capacity under ISTS and by CESC. However, assuming that ICT drawl would remain same or rather more in coming years, it observed that 7th ICT is required to meet N-1.
- In the clause 5.2.2 of the Manual on Transmission Planning Criteria (Jan 2023), it has been mentioned that the capacity of any single substation (load serving) at 400kV voltage level shall not normally exceed 2500MVA. With installation of 7th ICT, either 315MVA or 500MVA (500MVA is preferred), the cumulative transformation capacity would cross 2500MVA. As installation of 7th ICT is critical to meet N-1, **CEA may provide their views on the matter of transformation capacity becoming 2760MVA** at 400kV level (against recommended level of 2500MVA).
- POWERGRID vide email dated 21-07-2023 has provided following inputs with regard to installation of the 7th 400/220kV, 500MVA ICT (SLD at **Annexure-IV**):
 - Dismantling of existing 420kV, 125MVAr bus reactor installed in bay 418 and shifting/re-installation of the same to new bay no. 419 including construction of bay no. 419 and new foundation for bus reactor.
 - Installation of 7th 400/220kV, 1x500MVA ICT in bay no. 418 (vacated upon shifting of bus reactor) at 400kV level with adaptation of foundation and in bay no. 213 at 220kV level including cable 220kV, 2500sqmm Cu XLPE (single run) / 1-phase GIS bus duct of 500m.

- ERLDC vide letter dated 13-06-2023 (copy enclosed at **Annexure-X**) has also raised issue regarding critical loading of ICTs at Subhasgram and requirement of augmentation of transformation capacity.
- As the 7th ICT is required for meeting N-1 criteria for both ISTS and CESC ICTs on priority, implementation modality may be deliberated. In the interest of National Grid, it is proposed that ICT may be installed in ISTS, and WBSETCL & CESC may settle commercial matters bilaterally.

B. Rajarhat (POWERGRID) 400/220kV S/s: 2x500MVA

- Maximum drawl of about 850MW has been observed at Rajarhat S/s in last one year with N-1 being violated during most of the months (8/12 months), with about 18% time the loading being beyond 500MW.
- It is proposed that 3rd 400/220kV, 1x500MVA ICT along with associated bays in GIS may be installed under ISTS at Rajarhat (POWERGRID) S/s in 21 months (in view of GIS) from date of allocation.
- POWERGRID has confirmed space for installation of 3rd 400/220kV, 1x500MVA ICT along with associated bays in GIS (SLD at **Annexure-V**).

C. Jeerat-New (PMJTL) 765/400kV S/s: 2x1500MVA

- Maximum drawl of about 1335MW has been observed in last one year.
- Looking into the increasing trend of power requirement by West Bengal, it is expected that drawl at Jeerat-New may cross 1500MW in coming months or by next year. Thus, as a proactive measure it is proposed that 3rd 765/400kV, 1x1500MVA (3x500MVA single phase units) may be installed under ISTS in 18 months from date of allocation.
- PMJTL/POWERGRID has confirmed space for installation of 3rd 765/400kV, 1x1500MVA (3x500MVA single phase units) ICT along with associated bays (SLD at **Annexure-VI**). POWERGRID Medinipur Jeerat Transmission Limited (PMJTL) is a subsidiary of POWERGRID.

3.4. May be deliberated.

4. Talcher-III (2x660MW) Connectivity reg. – Agenda by NTPC Ltd.

4.1. In the 19th CMETS-ER, following transmission system for providing ISTS and Intra-state Connectivity was finalised:

- 660MW ISTS Connectivity: Talcher-III – Pandiabili 400kV D/c line
 - 660MW intra-state Connectivity (OPTCL): Talcher-III – Meramundali-B 400kV D/c (Quad) line
- 4.2. Now, NTPC Ltd. vide email dated 13-07-2023 has proposed to include following in the agenda of CMETS-ER:
- (a) Installation of 420kV, 1x125MVA bus reactor at Talcher-III switchyard
 - (b) Implementation of Talcher-III – Meramundali-B 400kV D/c (Quad) line by OPTCL
- 4.3. In view of the above, it is proposed to note installation of 420kV, 1x125MVA bus reactor along with associated bay at Talcher-III switchyard by NTPC Ltd.
- 4.4. With regard to implementation of Talcher-III – Meramundali-B 400kV D/c (Quad) line by OPTCL, **OPTCL may confirm.**
- 4.5. Further, as decided in the 19th CMETS-ER, **NTPC Ltd. is requested to confirm** the per circuit rating of DTL so as to take up implementation of ISTS end bays of commensurate rating. In the 19th CMETS-ER, applicant had informed that they shall confirm the same in due course of time. In order to take up implementation of ISTS end line bays in timely manner, NTPC Ltd. may provide the per circuit rating of DTL.
- 5. Scheduling of 96MW power from Dickhu HEP in Sikkim under GNA Regulations, 2022**
- 5.1. M/s Sneha Kinetic Power Projects Private Limited (SKPPPL) vide letter dated 06-06-2023 has requested the formalities to be fulfilled for scheduling of 96MW power from its Dikchu HEP in Sikkim under GNA Regulations, 2022.
- 5.2. In this regard a meeting was held on 26-06-2023 (minutes enclosed at **Annexure-VII**), wherein following has been decided:
- 96MW of power can be scheduled from Dikchu HEP (in Sikkim) of M/s SKPPPL under T-GNA in line with various provisions of the GNA Regulations, 2022. This arrangement shall strictly continue only till completion/commissioning of final intra-state connectivity system of Dikchu HEP by Govt. of Sikkim i.e. LILO of one circuit of Dikchu Pool – Singhik 220kV D/c line (operated at 132kV) at Dikchu HEP. Further, the ISTS transmission charges and deviation calculation for Dikchu HEP for T-GNA in ISTS shall be as per applicable Regulations of CERC.
- 5.3. Power Dept., Govt. of Sikkim may confirm the expected completion schedule of LILO of one circuit of Dikchu Pool – Singhik 220kV D/c line (operated at 132kV) at Dikchu HEP.
- 5.4. May be noted.

6. Evacuation system for additional generations in Odisha and intra-state 765kV strengthening – Agenda by OPTCL

6.1. During the joint study meeting of ER held on 11-07-2023, intra-state evacuation system for additional generations in Odisha viz. OPGC-Unit 5&6 (1320MW) and floating solar at Hirakud Dam (1200MW) along with 765kV strengthening with connection to ISTS was deliberated. Highlights of the joint study meeting are given below:

- In the 2028-29 time-frame, OPGC Unit 5&6 (1320MW) and floating solar at Hirakud Dam (1200MW) are expected in Odisha which are to be evacuated in the intra-state system. OPGC Unit-5&6 shall not be connected to existing OPGC Units-1 to 4 by any means (line/bus extension/bus-sectionaliser etc.) and the Unit-5&6 shall be connected directly and dedicatedly through its own switchyard to new substation in OPTCL network. The power from these generations is to be mainly transferred to new load centres on the eastern part of Odisha grid viz. Duburi, Paradeep, Mendhasal areas.
- In order to evacuate power from said upcoming generation projects and transfer power to western part of Odisha network, OPTCL proposed establishment of Kolabira 765/400kV substation with 765kV interconnections to Sundargarh S/s and planned Duburi 765/400kV S/s.
- Split bus arrangement has been implemented at Sundargarh (POWERGRID) S/s at 765kV level (SLD at **Annexure-VIII**) and the same shall be operationalised in next few years (before subject new generations of Odisha) as the fault level is found to be increasing the design limits. Further, at Sundargarh S/s only 2 no. 765kV GIS bays are available, which are in bus section-B.
- With connection of Kolabira to Sundargarh-B and also to Duburi through 765kV link, two separate 765kV corridors including inter-regional link (viz. Dharamjaygarh-A – Sundargarh-B – Duburi – Paradeep and Dharamjaygarh-B – Sundargarh-A – NLC-Talabira – Angul – Duburi – Paradeep) shall be created for meeting the power exchange requirement in Odisha with reliability. The Sundargarh-B section also has Darlipalli (2x800MW) generation at 765kV level.
- In view of the above, studies were carried out and following system was identified in intra-state (to be implemented by OPTCL):
 - (a) *Establishment of 765/400kV, 3x1500MVA Kolabira S/s along with 765kV, 2x330MVA + 420kV, 2x125MVA bus reactors*
 - (b) *Sundargarh-B – Kolabira 765kV D/c line*

- (c) Kolabira – Duburi 765kV D/c line
- (d) 400kV D/c DTL from OPGC Unit-5&6 to Kolabira (shall be connected directly and dedicatedly to Kolabira without any connection to existing units)
- (e) Injection from 1200MW Floating solar (500MW + 700MW) at 400kV at Kolabira
- (f) Shyam Steel (300MW) bulk consumer at Kolabira at 400kV

- It was agreed that the identified intra-state system may be taken up for ratification/approval in the CMETS-ER.

6.2. As per confirmation from POWERGRID vide email dated 13-07-2023, 2 no. 765kV GIS bays are available at Sundargarh-B section viz. bay no. 727 and 730. It is proposed that 765kV GIS ISTS bays no. 727 & 730 may be allocated to OPTCL for connection of their 765kV D/c line from Kolabira (OPTCL) S/s. Other necessary items like GIS duct, bushing (SF₆ to Air), line terminal equipment (CVT/LA/BPI/Line Trap etc.) for line termination may be installed by OPTCL.

6.3. Further, following intra-state strengthening in Odisha to be implemented by OPTCL under intra-state scheme may be noted:

- (a) Establishment of 765/400kV, 3x1500MVA Kolabira S/s along with 765kV, 2x330MVAR + 420kV, 2x125MVAR bus reactors
(space provision for future expansion may informed by OPTCL in the meeting)
- (b) Sundargarh-B (POWERGRID) – Kolabira (OPTCL) 765kV D/c line
- (c) Kolabira (OPTCL) – #Duburi (OPTCL) 765kV D/c line
- (d) OPGC (unit-5&6) – Kolabira 400kV D/c (Quad) line
- (e) Hirakud floating Solar – Kolabira 400kV D/c line

Note: #Duburi 765/400kV S/s to be established through LILO of Angul (POWERGRID) – Paradeep (ISTS) 765kV D/c ISTS line (under implementation in ISTS) was agreed to be implemented by OPTCL under intra-state scheme in the 18th CMETS-ER held on 29-03-2023. However, as per direction from National Committee on Transmission (NCT) the scheme has been referred to ERPC for their views/observations. With the views of ERPC, the scheme would be referred to NCT.

6.4. OPTCL may confirm regarding establishment of Kolabira 765/400kV substation in AIS / GIS considering both initial and future space requirements.

7. Intra state strengthening in DVC area for upcoming thermal and solar generations and strengthening of intra state infrastructure – Agenda by DVC

- 7.1. CTU vide email dated 20-04-2023 had requested all the STUs of ER regarding submission of data for studies for the upcoming interim Rolling Plan to be issued by Sep 2023.
- 7.2. In response to above referred email, DVC vide email dated 29-05-2023 submitted a Study Report inter alia including evacuation plan for new units at DTPS: 1x800MW, KTPS: 2x800MW, RTPS: 2x660 & Solar power of 1950MW, and system strengthening of DVC. In the said report, it is mentioned that the existing generation capacity of DVC is about 6897MW and present load demand (including Railway & JBVNL load) within valley area is to the tune of 4633MVA. By 2027-28, the expected load growth is about 6278MVA. Further, three units of Mejia-A viz. 1, 2 & 3 of 210MW each are about to retire by this timeframe. In the report, preliminary proposals for evacuation of power from new thermal / solar plants, reconductoring of existing intra-state transmission lines, augmentation of existing substations & new transmission lines are also mentioned.
- 7.3. In this regard, a joint study meeting between DVC and CTU was held on 13-06-2023 & 14-06-2023 at CTU office, Gurugram. The minutes of the meeting are enclosed at **Annexure-IX**. Major outcomes are given below:

A. The transmission system having immediate connection with ISTS are given below:

A1. Evacuation from upcoming thermal generations:

- (a) Power from the upcoming 2x800MW generations at Koderma can be evacuated through the existing 400kV network & additional 3rd ICT 400/220kV, 500MVA at Koderma.
- (b) Power from the upcoming 1x800MW generations at DTPS-Waria can be evacuated through the DTPS – Durgapur (POWERGRID) (Twin Moose) 400kV D/c along with new 400/220kV, 2x500MVA ICTs within the existing 220/132kV DTPS switchyard
- (c) Power from the upcoming 2x660MW generations at Raghunathpur can be evacuated through the existing 400kV network & additional 3rd ICT 400/220kV, 315MVA at Raghunathpur.

Note: The above transmission system is based on preliminary studies and the same would be finalised as and when DVC applies for ISTS Connectivity of above generations as per GNA Regulations 2022.

A2. Gola-B and Ramkanali 400kV substations

In the 6th CMETS-ER held on 29-04-2022, two new 400/220/132kV substations of DVC viz. Ramkanali (LILO of both circuits of RTPS – DSTPS 400kV D/c line) and Gola-B (LILO of both circuits of Ranchi – RTPS 400kV D/c line) through LILO of existing 400kV ISTS line was agreed to be implemented by DVC. The transformation capacity of Gola-B was planned as 400/220kV, 2x500MVA + 220/132kV, 2x200MVA and of Ramkanali was 400/220kV, 2x315MVA (shifted from DSTPS) + 220/132kV, 3x200MVA (3rd 220/132kV ICT may be installed progressively with load growth).

During the study of 2027-28 timeframe, it was observed that loading on 220/132kV ICTs is expected to be violating the N-1 criteria due to increased new load demand at Chandil and Jamshedpur areas. Accordingly, it was decided that Gola-B substation may be implemented with 220/132kV, 3x200MVA ICTs instead of 2x200MVA ICTs. Thus, Gola-B shall be established as 400/220kV, 2x500MVA + 220/132kV, 3x200MVA.

Further, 2x315MVA ICTs released from DSTPS were identified to be shifted to Ramkanali-B for establishment of new substation. As DVC has decided to implement Ramkanali-B and Gola-B substations through intra-state TBCB, it would not be prudent to use old ICTs in the TBCB scheme. Accordingly, the transformation capacity of Ramkanali-B may be modified as 400/220kV, 2x500MVA ICTs (to be sourced under intra state TBCB scheme). Thus, Ramkanali-B shall be established as 400/220kV, 2x500MVA + 220/132kV, 3x200MVA. The DSTPS ICTs shall be used elsewhere as detailed below.

A3. ICTs at all DVC generations at 400kV level (ISGS)

Replacement existing 2x315MVA, 400/220kV ICTs with 2x500MVA, 400/220kV ICTs at BTPS switchyard was agreed in 6th CMETS-ER. The ICTs released from Bokaro TPS were proposed to be shifted to Mejia (2nd) and RTPS/Ramkanali (3rd) ICT. However, N-1 constraint is observed at Bokaro TPS 400/220kV ICTs even with the 2x500MVA ICTs in future timeframe with load growth and additional generations in DVC area. Accordingly, it was decided that to augment the transformation capacity at BTPS, 3rd 400/220kV, 1x500MVA ICT may be installed at Bokaro TPS in place of earlier agreed replacement of 2x315MVA ICTs. Thus, BTPS will have 2x315MVA + 1x500MVA.

Further, the ICTs released from DSTPS would be utilized for Mejia TPS (2nd) and RTPS (3rd) ICT.

With the above rearrangement, the ICTs at various 400kV DVC generation switchyards and substations shall be as below:

Sl. No.	Location	Existing/Planned Capacity	Final Capacity	Remarks
1	DSTPS	2x315	2x500	Replaced ICT to be shifted to MTPS (2 nd) & RTPS (3 rd)
2	MTPS	1x315	2x315	Replaced ICT from DSTPS to be installed as ICT(2 nd)
3	RTPS	2x315	3x315	Replaced ICT from DSTPS to be installed as ICT(3 rd)
4	KTPS	2x315	2x315+1x500	Additional 500MVA ICT (3 rd) linked with KTPS (2x800MW)
5	BTPS	2x315	2x315+1x500	Additional 500MVA ICT (3 rd)
6	Gola-B	2x500+2x200	2x500+3x200	-
7	Ramkanali-B	2x315+3x200	2x500+3x200	-
8	DTPS	-	2x500	New ICT linked with DTPS (1x800MW)

B. Strengthening of intra-state system of DVC: for noting only

- B1. Augmentation of transformation capacity at various intra-state substations of DVC was required to meet the growing demand.
- B2. Power from about 1950MW upcoming solar generation may be evacuated through intra-state system. Reconductoring of intra-state lines to meet the growing demand as well as establishment of 2 nos. 220/33kV S/s to meet the additional load was noted.
- B3. For the evacuation of solar power from Maithon Solar Block 1 (234MW) & 2 (300MW), DVC is planning LILO of both circuits of Dhanbad-Maithon PG 220kV D/c at Maithon Solar Block. From the studies, it was observed that major portion of power rushes towards Maithon (POWERGRID) S/s, which in turn leads to overloading of under implementation Maithon – Asansol 220kV D/c HTLS line (1200A) of WBSETCL. As per information available on WBPDC website, new 800MW generating unit is under planning at Santaldih. With new units at Santaldih the loading on Maithon – Asansol

line was observed to be reduced. **WBSETCL may share their observations on this matter including status of new units of Santaldih.**

7.4. Matter may be deliberated.

8. Status of downstream 220kV or 132kV network by STUs from the various commissioned and under-construction ISTS substations in ER

8.1. Numbers of ISTS sub-stations have been commissioned and some are under construction for which the downstream system is being implemented by the STUs. Based on the information provided by the states, updated information on planned/under-construction downstream system is given at **Annexure-I**.

8.2. STUs may update the status of downstream system given at **Annexure-I** prior to the meeting for further deliberations in the meeting, if any.

9. Status of 400kV substations being implemented by STUs/entities in ER to be connected through ISTS

9.1. Various 400kV substations have been approved in the intra-state strengthening schemes in ER having interconnection with ISTS grid involving LILO of ISTS lines or direct connection to ISTS substations. Status of such intra-state substations as per available information is given at **Annexure-II**.

9.2. STUs may update the status of the transmission system given at **Annexure-II** prior to the meeting for further deliberations in the meeting, if any.

10. Status of space allocated at various ISTS substations to STUs for implementation of line bays under intra state system) for their intra state lines

10.1. Space at various ISTS substations have been allocated to STUs for creation of line bays for termination of their new intra-state. List of such ISTS substations as per available information is given at **Annexure-III**.

10.2. STUs may update the status of the bays given at **Annexure-III** prior to the meeting for further deliberations in the meeting, if any.

Annexure-I**Status of Downstream Transmission Network in ER**

Sl. No.	ISTS S/s	State	Voltage ratio, Trans. Cap	Downstream Voltage level (kV)	Unutilised bays	Status of ISTS	STU lines for unutilised bays	Status of Lines	
								Date of Award	Completion schedule
1.	Chaibasa	Jharkhand	400/220kV, 2x315MVA	220	2	Existing bay	Chaibasa (POWERGRID) – Jadugoda (JUSNL) 220kV D/c	Administrative approval taken	May 2025
2.	Daltonganj	Jharkhand	400/220/132kV, 2x315MVA+ 2x160MVA	132	2	Existing bay	Daltonganj (POWERGRID) – Chatarpur 132kV D/c	22-10-2019	Expected by May 2024.
3.	Dhanbad	Jharkhand	400/220kV, 2x500MVA	220	4	Existing bay	LILO of 1 st circuit of 220kV Dumka – Govindpur D/c line at Dhanbad (23km)	Price part open on 18 th April 23	16-05-2024
							Dhanbad - Baliyapur 220kV D/c line.	DPR prepared and send to government for administrative approval.	
4.	Keonjhar	Odisha	400/220kV, 2x315MVA	220	2	Existing bay	Keonjhar (POWERGRID) – Turumunga (OPTCL) 220kV D/c		Expected by Dec 2023.
5.	Rourkela	Odisha	400/220kV, 4x315MVA	220	-	-	Reconductoring of Rourkela – Tarkera 220kV D/c line with HTLS conductor	Tender will be awarded in first week of May.	Expected by Sep 2023.
6.	Subashgram	West Bengal	400/220kV, 2x315MVA+ 1x500MVA	220	2	Existing bay	Subashgram (POWERGRID) – Baraipur 220kV D/c line		220kV Baraipur substation charged. 132kV downstream viz. Baraipur-Serakol 132kV D/c delayed due to RoW. Line completed except stringing of 1 no. span due to pending court case.
7.	Rajarhat	West Bengal	400/220kV, 2x500MVA	220	2	Existing bay	Rajarhat (POWERGRID) – New Town AA IIC 220kV D/c		Line charged on 26-09-2022 from Rajarhat S/s. New Town AA IIC S/s is getting delayed due to some issues in

Sl. No.	ISTS S/s	State	Voltage ratio, Trans. Cap	Downstream Voltage level (kV)	Unutilised bays	Status of ISTS	STU lines for unutilised bays	Status of Lines	
								Date of Award	Completion schedule
									132kV GIS bus ducts & 220kV GIS.
8.	Sitamarhi (New)	Bihar	400/220/132kV, 2x500MVA + 2x200MVA	132	2	Existing bay	LILO of Benipatti - Pupri 132kV S/c at Sitamarhi (New)		Expected by October 2023.
9.	Saharsa (New)	Bihar	400/220/132kV, 2x500MVA + 2x200MVA	132	2-ISTS (addln.4 by state)	Existing bay	Saharsa (New) - Saharsa 132kV D/c line formed by LILO of Saharsa - Banmankhi and Saharsa - Uda Kishanganj 132kV S/c line	Line portion ready	04 nos. of bays are under construction by BSPTCL at Saharsa (New). These bays are expected in June 2023.
10.	Banka	Bihar	400/220/132kV, 2x500MVA + 2x200 & 1x315MVA	220	2	Oct 2024	Banka (POWERGRID) – Goradih (Sabour New) 220kV D/c line (around 45km) along with 2 nos. 220kV GIS line bays at Goradih (Sabour New) S/s	Line: Awarded on 03-03-2023. Bays: Tender has been floated.	Line: Expected to be completed within 18 months from award i.e. by 02-09-2024. Bays: 12 months from the date of issuance of Notification of Award.
11.	Durgapur	DVC	400/220kV, 3x315MVA	220	-	-	Reconductoring of Durgapur – Parulia (DVC) 220kV D/c line with HTLS conductor. (1000A)	Awarded in Feb 2022.	Expected by Aug 2023.

Annexure-II

**Status of 400kV & 220kV substations being implemented by STUs/entities in ER
to be connected to ISTS**

Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
A Bihar (to be implemented by BSPTCL)				
I	Bakhtiyarpur GIS	400/220/132kV, 2x500MVA + 2x160MVA	26-11-2019	1 st 500MVA: Aug 2023 2 nd 500MVA: Oct 2023 1 st 160MVA: Sept 2023 2 nd 160MVA: Dec 2023
a)	LILO of both circuits of Barh – Patna (PG) 400kV D/c (Quad) line-1 at Bakhtiyarpur 400 kV 2xD/c line	400kV 2xD/c	26-11-2019	Line ready to be charged matching with Bakhtiyarpur S/s.
II	Chappra (New)	400/220/132kV, 2x500MVA + 2x200MVA	Approved by Cabinet. Tender process being initiated.	Dec 2025
a)	LILO of 400 kV Barh (NTPC) – Motihari (DMTCL) D/C (Quad) transmission line at Chappra	400kV 2xD/c	Approved by Cabinet. Tender process being initiated.	Dec 2025
B Odisha (to be implemented by OPTCL)				
I	Gopalpur	400/220kV, 2x500MVA	Tendering activity to be taken up shortly.	Mar 2026
a)	Pandiabili (POWERGRID) – Gopalpur 400kV D/c (AAAC Twin Moose) line	400kV D/c	Tendering activity to be taken up shortly.	Mar 2026
II	Therubali	400kV switching station along with 420kV, 1x125MVA _r bus reactor	Survey completed. Land schedule is under preparation	2026-27
a)	Gopalpur – Therubali – Jeypore (POWERGRID) 400kV D/c line	400kV D/c	To be taken after tendering of Gopalpur S/s.	2026-27
III	Bhadrak	400/220kV, 2x500MVA	Tender was cancelled due to high cost. Exploring Self-funding.	2025-26
a)	LILO of Baripada – Duburi and Baripada – Pandiabili 400kV line sections at Bhadrak	400kV D/c	Tender was cancelled due to high cost. Exploring Self-funding.	2025-26
IV	Paradeep	400/220kV, 2x500MVA	Awarded in Dec 2022	Dec 2024
a)	Paradeep – Duburi 400kV D/c line	400kV D/c	Line work started.	Dec 2024
VI	Joda New	400/220kV, 3x500MVA	To be taken up under intra state TBCB. Assigned to PFC. Site	2025

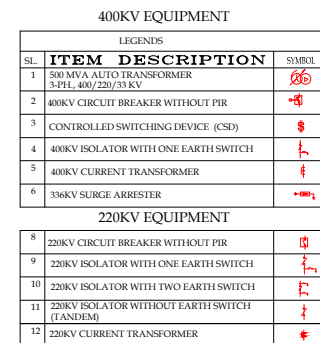
Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
			selection under progress	
a)	LILO of Rourkela (POWERGRID) – Talcher (NTPC) 400kV D/c line at Joda New	400kV D/c	To be taken up under intra state TBCB. Assigned to PFC.	2025
C Jharkhand (to be implemented by JUSNL)				
I	Chandil (New)	400/220kV, 2x500MVA	Price part opened. Sent to state government for approval.	24 months
a)	PVUNL – Chandil 400kV D/c (Quad) line	400kV D/c (Quad)		
b)	Chandil – Chaibasa (POWERGRID) 400kV D/c (Quad) line	400kV D/c (Quad)		
c)	Chandil – Dhanbad (ISTS) 400kV D/c (Quad) line	400kV D/c (Quad)		
II	Koderma	400/220/132/33kV, 2x500MVA + 2x200MVA + 2x80MVA		
a)	PVUNL – Koderma 400kV D/c (Quad) line	400kV D/c (Quad)		
III	Latehar			
a)	Patratu – Latehar 400kV D/c line	400kV D/c	Forest Stage-I clearance is awaited.	Mar 2024
b)	Latehar – Chandwa (POWERGRID) 400kV D/c line	400kV D/c	Work in Progress. However, progress is slow. This work is being executed by POWERGRID under Jharkhand Consultancy Project (JCP).	Dec 2023
D West Bengal				
(to be implemented by WBSETCL)				
I	New Laxmikanthpur GIS	400/132kV, 2x315MVA	Land identified. In process of acquisition.	
a)	LILO of one circuit of Jeerat (New) – Subhasgram 400kV D/c (Quad) line at New Laxmikanthpur (Interim arrangement: LILO of Haldia – Subhasgram 400kV D/c line at Laxmikanthpur)	400kV D/c	Interim arrangement: M/s HEL is yet to receive the clearance from OEM of their generating units for LILOing of 400KV Haldia-Subhasgram line.	

Sl. No.	Substation/Location	Transformation Capacity/ Element	Date of Award	Completion Schedule
II	Falakata	220/132kV, 2x160MVA	Initial civil works have been started.	Dec 2023
a)	LILO of Birpara – Alipurduar 220kV D/c line at Falakata substation (LILO portion length around 9km)	220kV 2xD/c		Dec 2023 (may get delayed due to poor progress of work by Vendor)
(being implemented by CESC – status may be updated by WBSETCL)				
III	Subhasgram (POWERGRID)	-	-	-
	Installation of new 400/220kV, 500MVA (6 th) ICT at Subhasgram (POWERGRID) S/s along with associated ICT bays and OLTC by CESC at its own cost	400/220kV, 1x500MVA (6 th ICT)	Go ahead clearance from CESC given to POWERGRID for tendering process. Agreement between POWERGRID & CESC executed on 26-05-2023.	-

Annexure-III

Space allocated at various ISTS substations to STUs for implementation of line bays under intra state system for their intra state lines

Sl. No.	Substation/ Location	Space for	Date of award of line and bays	Completion Schedule	Agreed in CMETS-ER
1.	Rourkela (POWERGRID)	2 No. 220kV lines bays for termination of Rourkela (POWERGRID) – Tikrapara 220kV D/c (HTLS) line	No clarity from beneficiary	On hold	1 st & 7 th
2.	Keonjhar (POWERGRID)	2 No. 220kV lines bays for termination of Keonjhar (POWERGRID) – Tikarpada 220kV D/c line	No clarity from beneficiary	On hold	1 st
3.	Maithon (POWERGRID)	2 No. 220kV lines bays for implementation of Maithon (POWERGRID) – Asansol 220kV D/c line	Line bays to be constructed by PGCIL as a deposit work of WBSETCL on consultancy basis, draft agreement is being vetted by concerned wings of WBSETCL & PGCIL and is expected to be executed shortly. Line survey completed and engineering & cost estimation are in progress.	Tender for line & WBSETCL end bay works will be floated within July 2023.	7 th



PRESENT SCOPE:- _____

FUTURE/EXISTING:- _____

**POWER GRID CORPORATION
OF INDIA LIMITED**
(A GOVERNMENT OF INDIA ENTERPRISE)

SUBSTATION:
Extension of 400/220kV Subhashgram Substation

DRG.NO. C/ENGG/CONS/CESC/SUBHASHGRAM/SLD

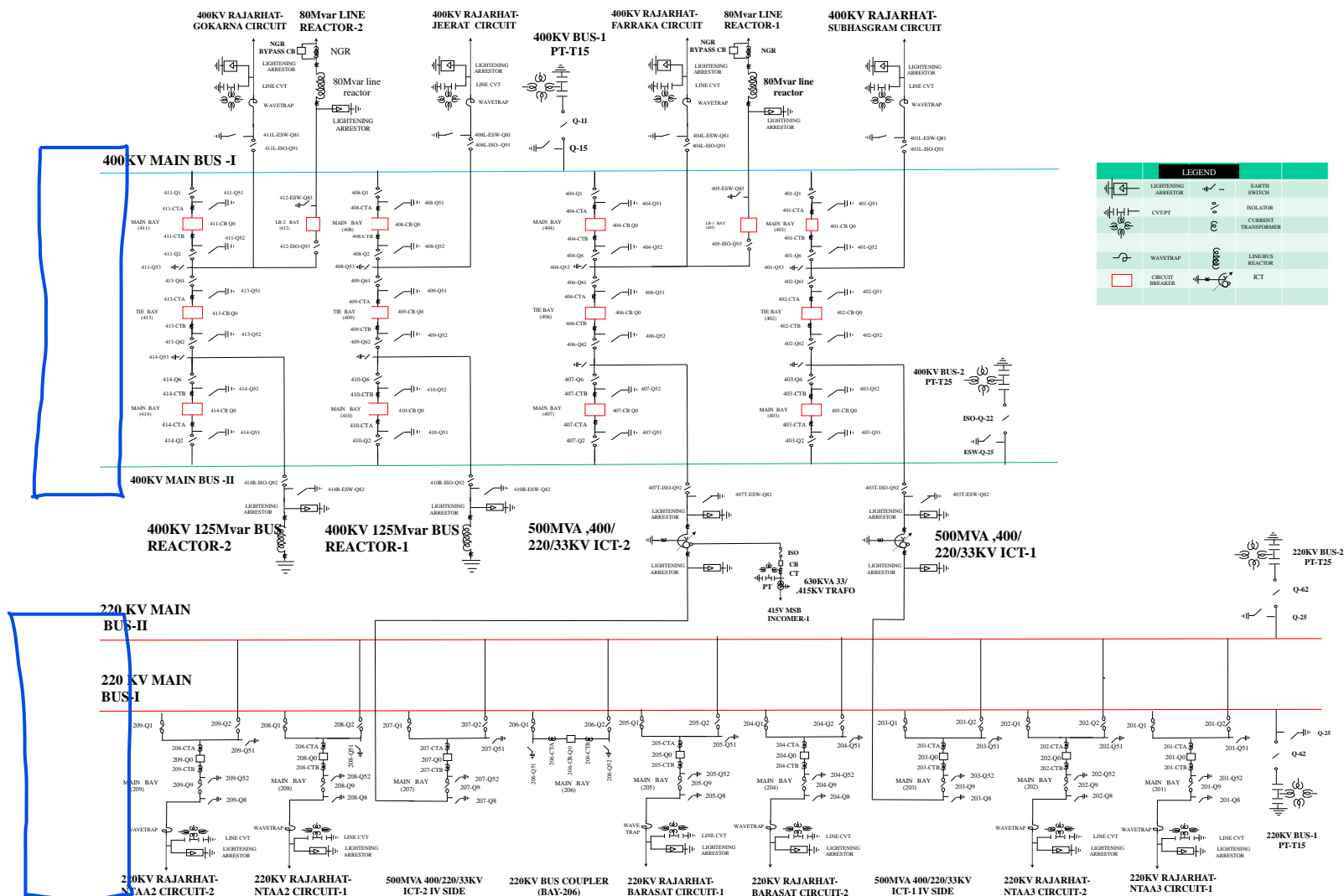
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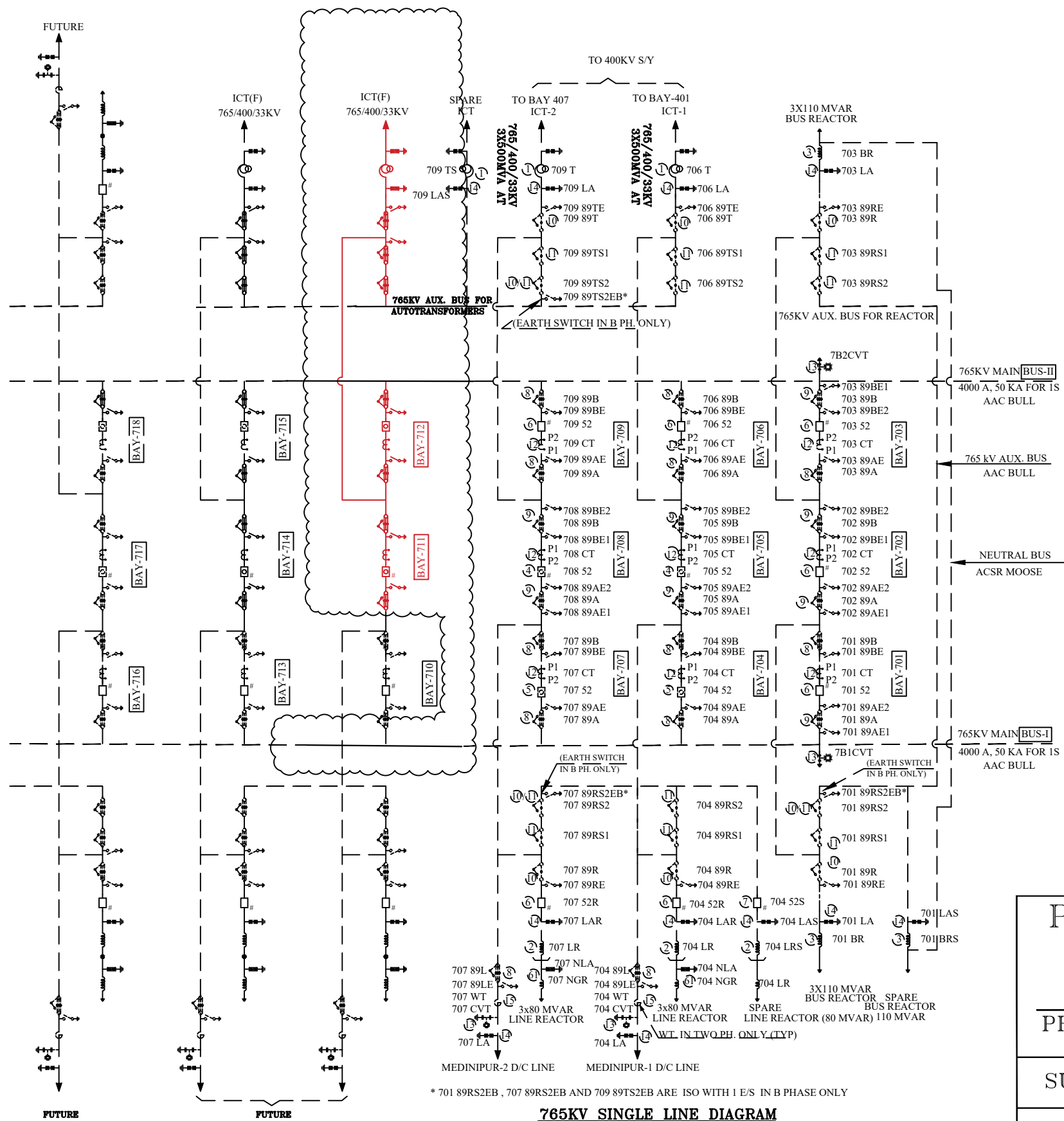


POWERGRID CORPORATION OF INDIA LIMITED

SINGLE LINE DIAGRAM 400/220KV GIS SUBSTATION

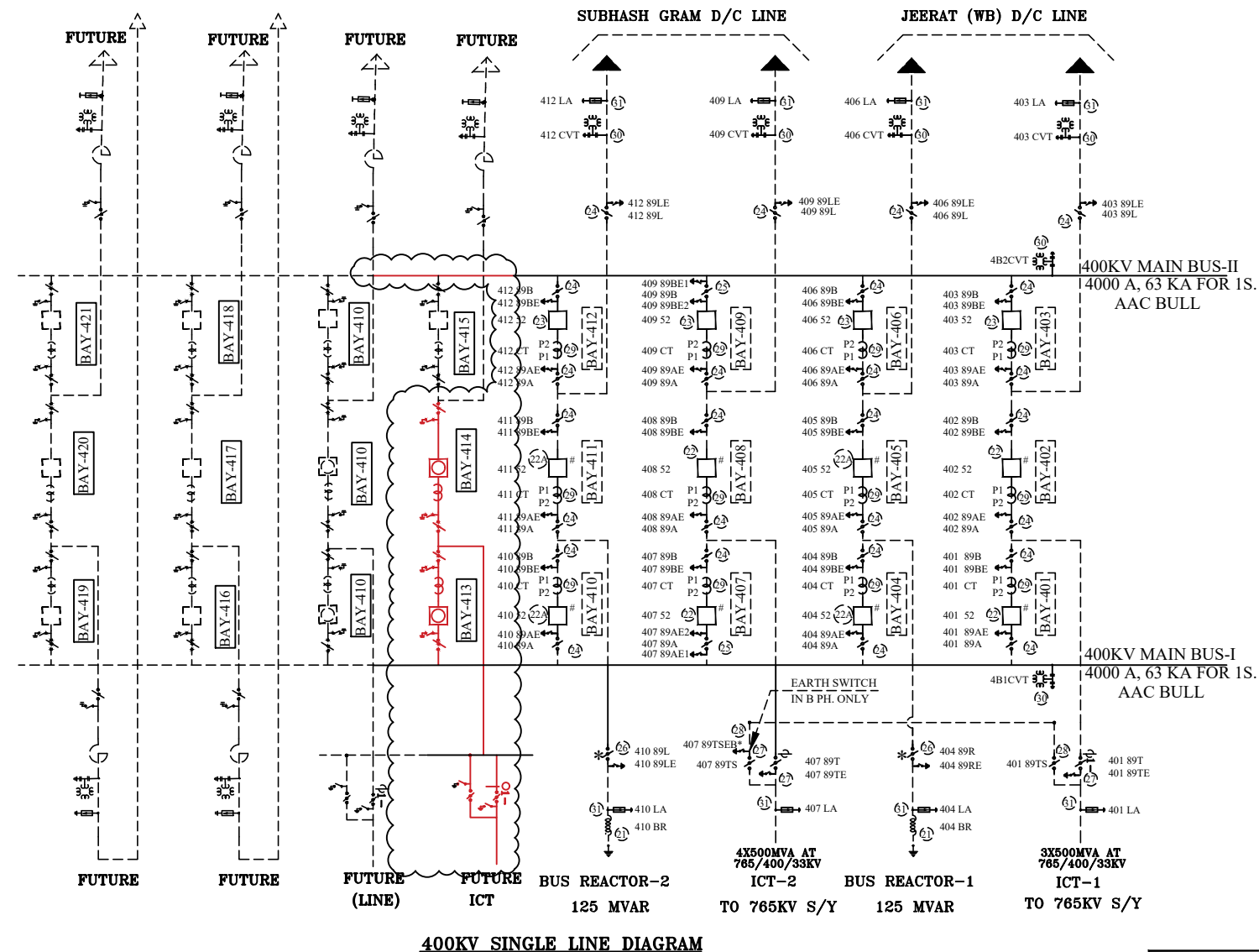
ER-2 RAJARHAT KOLKATA





POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)			
PROJECT : Space for installation of new 765/400kV, 1500MVA ICT (3rd) along with associated ICT bays.			
SUBSTATION : 765/400KV JEERAT S/S (EXTN)			
TITLE : BAY ALLOCATION AT 765/400kV JEERAT S/S FOR 765/400kV, 1500MVA 3rd ICT			
DRAWN	DATE	DRAWING NO.	REV.
		C/ENGG/TBCB/JEERAT/765KV/EXTN/	0

TB-3-395-510-001



400KV SINGLE LINE DIAGRAM

PROJECT : Space for installation of new 765/400kV, 1500MVA ICT (3rd) along with associated ICT bays.

SUBSTATION : 765/400KV JEERAT S/S (EXTN)

DATE	TITLE :	BAY ALLOCATION AT 765/400kV JEERAT S/S
		FOR 765/400kV, 1500MVA 3rd ICT- 400kV Side
	DRAWING NO.	

DRAWING NO.		REV.
DRAWN		

0



Ref: CTU/E/01/Dikchu

Date: 18-07-2023

To: As per Distribution List


Subject: Minutes of Meeting regarding scheduling of power from Dikchu HEP in Sikkim under GNA Regulations, 2022

Dear Sir/Ma'am,

A meeting to discuss the scheduling of 96MW power from Dikchu HEP in Sikkim under GNA Regulations, 2022 was held on 26th June, 2023 through video conferencing. In this regard, please find enclosed minutes of the meeting.

धन्यवाद/ Thanking you,

भवदीय / Yours faithfully,


18/07/2023

(राजेश कुमार) / (Rajesh Kumar)

वरिष्ठ महाप्रबंधक/ Sr. General Manager

Distribution List:

1. Chief Engineer (PSP&A-II) Central Electricity Authority Sewa Bhawan, R.K.Puram New Delhi-110066	2. Member Secretary Eastern Regional Power Committee 14, Golf Club Road, Tollygunge Kolkata-700033
3. Director (SO) Grid Controller of India Limited 9th Floor, IFCI Towers, 61, Nehru Place, New Delhi-110016	4. Executive Director Eastern Regional Load Despatch Centre 14, Golf Club Road, Jubilee Park, Golf Gardens, Tollygunge, Kolkata, West Bengal - 700095
5. Authorised Signatory Sneha Kinetic Power Projects Pvt. Ltd. C-35, Lane-1, Sector-2, New Shimla Shimla, Himachal Pradesh-171009	

Minutes of Meeting held on 26-06-2023 regarding scheduling of 96MW power from Dikchu HEP in Sikkim under GNA Regulations, 2022

- 1.0 Dy. COO (CTUIL) welcomed the participants to the meeting. The list of participants is enclosed at **Annexure-I**.
- 2.0 CTU informed that the present meeting has been convened based on the letter received from M/s Sneha Kinetic Power Projects Private Limited (SKPPPL) dated 06-06-2023 (enclosed at **Annexure-II**) wherein M/s SKPPPL has requested the formalities to be fulfilled for scheduling of 96MW power from its Dikchu HEP in Sikkim under GNA Regulations, 2022.
- 3.0 CTU mentioned the following about the matter:
 - An interim ISTS connectivity of 96MW was granted to M/s SKPPPL as per CERC order dated 03-12-2014 in Petition No. 157/MP/2014 wherein CERC allowed LILO of one circuit of Teesta III HEP – Kishanganj 400kV D/c (Quad) line (subsequently LILoed at Rangpo S/s) at Dikchu HEP as an interim arrangement connectivity of Dikchu HEP. In the said order, it is also mentioned that the interim arrangement is to be removed upon completion of originally planned 220kV Dikchu – Rangpo line (to be initially operated at 132kV) by Govt. of Sikkim.
 - The intra-state connectivity system (under the scope of Sikkim) was revised from original plan in the 1st meeting of ERPC-TP held on 14-02-2020, wherein following was decided in regard to Connectivity system of Dikchu HEP:

“the following scope of works in regard to connectivity system of Dikchu HEP was agreed:

 - (i) *LILO of one circuit of Dikchu Pool-Singhik 220kV D/c (Twin Moose) line (to be initially operated at 132kV) – by Govt. of Sikkim*
 - (ii) *LILO of one circuit of Teesta-III – Rangpo/Kishanganj 400kV D/c (Quad) line at Dikchu HEP would be disconnected from Dikchu HEP switchyard and original Teesta-III – Rangpo – Kishanganj 400kV D/c (Quad) line would be restored by generation developer upon commissioning of above LILo.”*
 - LILo of one circuit of Dikchu Pool – Singhik 220kV D/c line (operated at 132kV) at Dikchu HEP is being implemented under Comprehensive Scheme (being implemented by POWERGRID under Consultancy). POWERGRID vide email dated 23-06-2023 has informed that the above scheme is expected by Dec 2023.
 - Presently, no LTA exists from Dikchu HEP, and ERLDC confirmed that power is being evacuated from Dikchu HEP under STOA only.
 - Now M/s SKPPPL vide said letter has requested for the formalities required to schedule 96MW power under the GNA Regulations, 2022 without affecting

the operation of the plant. In this regard, it is to mention that the most suitable provision under GNA Regulations, 2022 was observed is **2nd proviso of Regulation 22.4 (a)**, which is quoted below:

“For Connectivity grantees covered under Regulation 4.1 of these regulations, the effective date of GNA of such Connectivity grantees shall be the start date of Connectivity or COD of ATS, whichever is later.

Provided that where only some of the transmission elements of the ATS have achieved COD before the COD of the ATS and the Connectivity grantee seeks part effectiveness of its Connectivity, the Nodal Agency shall make such part Connectivity and corresponding GNA effective, subject to availability of transmission system.

Provided also that where such GNA is yet to become effective, such entity shall be eligible to get its power scheduled partly or fully of the quantum of Connectivity sought for, subject to availability of transmission system by treating such access as deemed T-GNA, and shall not be required to pay T-GNA charges.”

- 4.0 In view of the above, it was proposed that once the scheduling of power under GNA Regulations, 2022 starts, the scheduling of power from Dikchu HEP may be done under T-GNA till commissioning of final intra-state connectivity system.
- 5.0 ERLDC mentioned that as per Regulation 26.1 of the GNA Regulations 2022, M/s SKPPPL for its Dikchu generation would not fulfill the eligibility requirements for grant of T-GNA as they are injecting entity. CTU mentioned that T-GNA may be allowed by Grid-India from Dikchu HEP to eligible entities under Regulation 26.1 till commissioning of final intra-state connectivity system.
- 6.0 ERLDC further mentioned that as per the present interim arrangements viz. LILO of one circuit of Teesta III HEP – Kishanganj 400kV D/c (Quad) line (subsequently LILOed at Rangpo S/s) at Dikchu HEP, under the outage of Dikchu – Rangpo 400kV line section, there is an operational constraint in evacuation of power (considering overload capacity) of both Teesta-III & Dikchu HEPs simultaneously during the high hydro condition due to the limiting constraints in 400kV cable installed at Teesta-III switchyard (2000A rated cable section in Quad Moose line). Accordingly, curtailment of power of Dikchu HEP would be required under T-GNA. ERPC also supported the operational constraints raised by ERLDC.
- 7.0 CTU clarified that Teesta-III HEP has been granted deemed GNA of 536MW. Further, they the generation developer has already opted for transition of balance quantum i.e. 664MW (1200-536), under Regulation 37.6 (1), which has already been agreed for grant on existing ISTS in the 19th CMETS-ER with start date as “Date from which scheduling under GNA starts as per CERC notification/communication”. As per Regulation 37.6 (1) (a), grant shall be made after submission of requisite Conn-BG by generation developer of Teesta-III HEP. Further, the Regulation 29.2 states that “The GNA grantees shall have priority over the T-GNA grantees for use of the ISTS.”. Thus, curtailment of power under T-GNA, if any, would be as per the provisions in the GNA Regulations, 2022.

- 8.0 It was also noted in the meeting that, the ISTS transmission charges and deviation calculation for Dikchu HEP for T-GNA shall be as per applicable Regulations of CERC.
- 9.0 Dikchu HEP developer noted that power scheduled with present ISTS interim arrangement under T-GNA is liable to curtailed as per provisions of GNA Regulations, 2022.
- 10.0 After detailed deliberations, it was agreed that 96MW of power can be scheduled from Dikchu HEP (in Sikkim) of M/s SKPPPL under T-GNA in line with various provisions of the GNA Regulations, 2022. This arrangement shall strictly continue only till completion/commissioning of final intra-state connectivity system of Dikchu HEP by Govt. of Sikkim i.e. LILO of one circuit of Dikchu Pool – Singhik 220kV D/c line (operated at 132kV) at Dikchu HEP. Further, the ISTS transmission charges and deviation calculation for Dikchu HEP for T-GNA in ISTS shall be as per applicable Regulations of CERC.

- x - x - x -

Annexure-I

List of participants

Sl. No.	Name	Designation	Organization	Email id
1.	Sh. Ashok Pal	Dy. COO	CTU	ashok@powergrid.in
2.	Sh. Rajesh Kumar	Sr. GM	CTU	rajeshkumar@powergrid.in
3.	Sh. Manish Ranjan Keshari	Ch. Manager	CTU	manish.keshari@powergrid.in
4.	Sh. Anupam Kumar	Manager	CTU	i.anupamk@powergrid.in
5.	Sh. Abhilash Thakur	Engineer	CTU	abhilash.28@powergrid.in
6.	Sh. Amit Kumar	Engineer	CTU	emailamit0014@powergrid.in
7.	Sh. P.P. Jena	EE	ERPC	ppjena.erpcc@gov.in
8.	Sh. Manish Maurya	Deputy Director	CEA	
9.	Sh. Amaresh Mallick	CGM	ERLDC, GRID-INDIA	amareshmallick@grid-india.in
10.	Sh. Saugato Mondal	Sr. DGM	ERLDC, GRID-INDIA	saugato@grid-india.in
11.	Sh. Manas Das	DGM	ERLDC, GRID-INDIA	manasdas@grid-india.in
12.	Sh. Saurav Kr Sahay	Chief Manager	ERLDC, GRID-INDIA	saurav.sahay@grid-india.in

Sneha Kinetic Power Projects Private Limited

CIN: U40108HP2004PTC030554



Ref: SNEHA/2023-24/20230606

Date: 6th June 2023

To,

The Chief Operating Officer (COO)
Central Transmission Utility (CTU)
Saudamini, Plot No. 2, Sector 29,
Gurgaon 122001, Haryana

Subject: Scheduling of DIKCHU HEP Power under CERC GNA Regulation 2022-reg.

Ref:

1. Grid Connectivity Intimation letter bearing reference no. C/CTU-Plg/E/Dikchu HEP/Connectivity dated 26th Feb 2016

Dear Sir,

This has reference to subject matter; we would like to bring in your kind notice that DIKCHU HEP have obtained 96 MW Grid connectivity from CTU vide intimation referred under reference (1) and said project is currently connected with CTU network at 400 kV voltage level (Interim Arrangement). DIKCHU HEP has been granted connectivity with ISTS network under interim arrangement till work related to 132 kV Intra State transmission network required for grid connectivity gets complete.

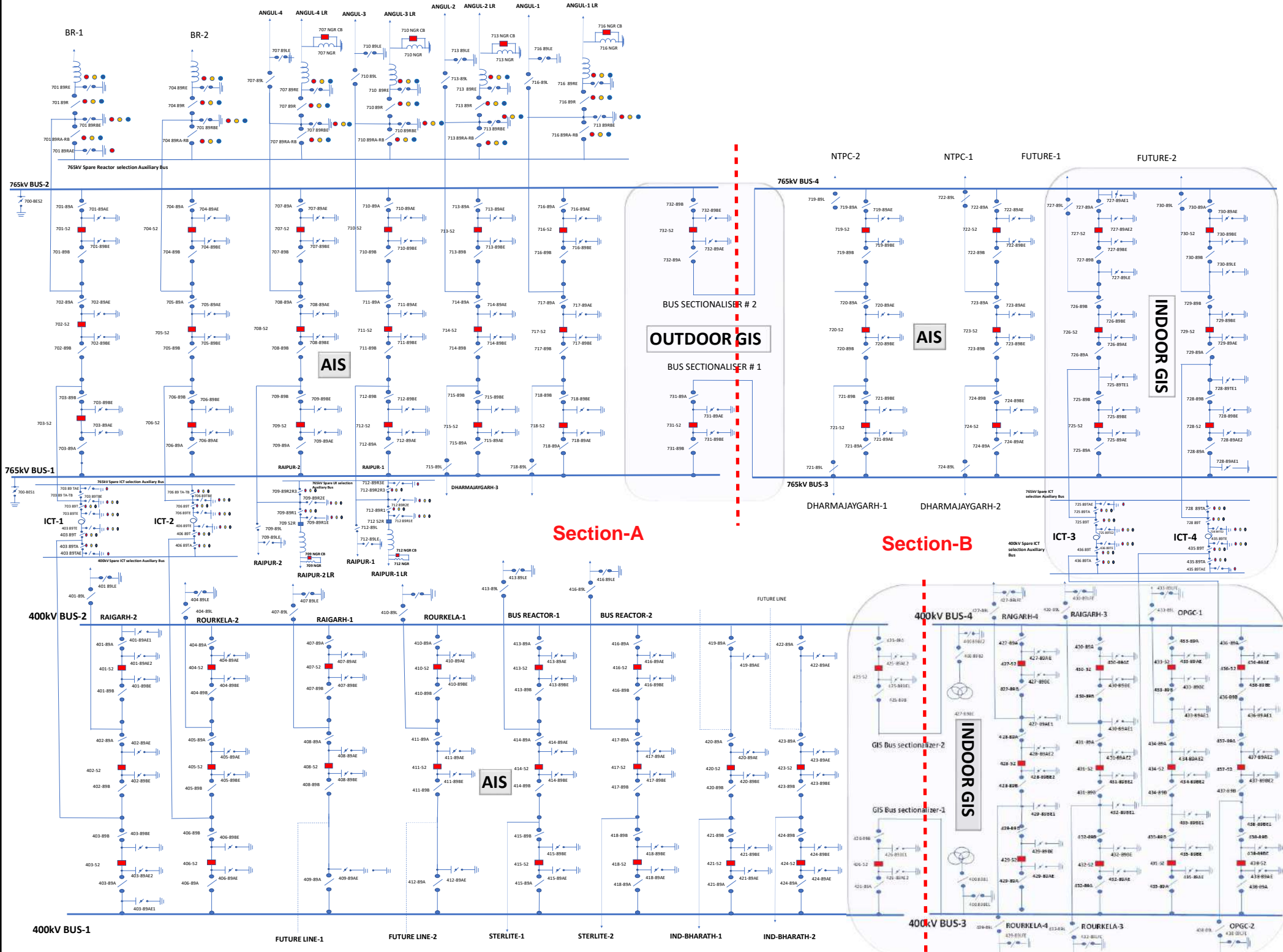
DIKCHU HEP has been in operation since March 2017 and power is being scheduled as per previous regulation i.e CERC Connectivity and LTA Regulation 2009. It is requested that the power from DIKCHU HEP may also continue to be scheduled under the new regime of CERC GNA Regulation 2022, without affecting the smooth operation of the plant.

Accordingly, we request you to kindly advise us to fulfil the formalities required to schedule power from DIKCHU HEP without affecting its operation.

Looking forward to your kind support.

For M/s Sneha Kinetic Power Projects Pvt. Ltd.

Authorized Signatory





सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)

(A Government of India Enterprise)

Ref: CTU/E/00/DVC

Date: 26-06-2023


Subject: Minutes of Joint Study Meeting between DVC & CTU held on 13-06-2023 & 14-06-2023 at CTU office, Gurugram

Sir/Ma'am,

A joint study meeting to discuss the future DVC transmission system strengthening was held on 13-06-2023 & 14-06-2023 at CTU office, Gurugram. In this regard, please find enclosed minutes of the meeting.

Thanking you,

भवदीय / Yours faithfully,


26/06/2023

(राजेश कुमार) / (Rajesh Kumar)

वरिष्ठ महाप्रबंधक/ Sr. General Manager

Record Note of Discussion (RNOD)
Joint Study Meeting between DVC & CTU held on 13-06-2023 & 14-06-2023
at CTU office, Gurugram

- 1.0 CTU vide email dated 20-04-2023 had requested STUs in Eastern Region to submit the data for studies for the upcoming interim rolling plan to be issued by Sep 2023. In this regard, DVC vide email dated 29-05-2023 had submitted a Report inter alia including evacuation plan for new units at DTPS: 1x800MW, KTPS: 2x800MW, RTPS 2x660 & Solar power of 1950MW, and T&D system strengthening of DVC. In the said report, it is mentioned that the existing generation capacity of DVC is about 6897MW and present load demand (including Railway & JBVNL load) within valley area is to the tune of 4633MVA. By 2027-28, the expected load growth is about 6278MVA. Further, three units of Mejia-A viz. 1, 2 & 3 of 210MW each are about to retire by this timeframe. In the report, preliminary proposals for evacuation of power from new thermal / solar plants, reconductoring of existing intra-state transmission lines, augmentation of existing substations & new transmission lines are also mentioned.
- 2.0 In view of the above, a joint study meeting between DVC and CTU was held on 13-06-2023 & 14-06-2023 at CTU office, Gurugram. List of Participants is at **Annexure-I**.
- 3.0 The Report prepared by DVC is enclosed at **Annexure-II**.
- 4.0 The brief highlights of the discussions are mentioned below:
 - a) DVC informed that they have segregated their network into 5 clusters/regions as shown in the SLD (enclosed at **Annexure-III**)
 - b) Preliminary studies have been done for 2 cases viz. (i) Non-Solar hours with peak thermal dispatch of DVC and Peak Demand (6090MW) and (ii) High Solar with reduced thermal dispatch of DVC and reduced Demand (4740MW)
 - c) Element wise deliberation on proposed transmission systems is given below:

Sl. No.	New Infrastructure details	Transmission System Deliberated	Remarks
A. New Infrastructure associated with new thermal generations			
1.	DTPS: 400/220KV DTPS switchyard with new 1x800MW unit	<u>Alternative-1:</u> (a) 400kV D/c (Twin Moose) DTPS-Parulia PG (b) 2 Nos. 400/220kV, 500MVA ICT with Existing 220/132kV DTPS Switchyard	

Sl. No.	New Infrastructure details	Transmission System Deliberated	Remarks
		<u>Alternative-2:</u> (a) 3 Nos. 400/220kV, 500MVA ICT and additional 220/132kV, 1x160MVA (5 th ICT) at existing 220/132kV DTPS Switchyard	
Discussion was held on the above two alternatives. In alternative-1, about 50% power is evacuated through 400kV D/c (Twin Moose) DTPS-Parulia PG line and balance is absorbed by DVC through 400/220kV, 2x500MVA ICTs at DTPS. In alternative-2 i.e. evacuation at 220kV through 3x500MVA ICT, there would requirement of additional 1x160MVA, 220/132kV ICT (5 th) at DTPS S/s. However, during the unavailability of 1x800MW generation (due to planned/unplanned shutdown) at DTPS in alternative-2, high loading is observed in the DSTPS-DTPS 220kV D/c line and DSTPS ICTs. Therefore, alternative-1 was found to be more desirable option, and accordingly was in principally decided for power evacuation from new 800MW unit at DTPS. It was noted that transmission system would be finalised when DVC applies for ISTS Connectivity as per GNA Regulations 2022.			
2.	KTPS: New 2x800 MW units in existing 2x500MW complex	Existing infrastructure & additional 3 rd ICT 400/220kV, 500MVA at KTPS	
Presently, Koderma is connected to ISTS through Koderma-Gaya 400kV D/c (Quad), Koderma – Biharshariff 400kV D/c (Quad) & Koderma- Bokaro 400kV D/c lines. Further, there are 2x315MVA ICTs at KTPS. With additional 2x800MW units at KTPS, N-1 constraint was observed with these existing 2x315MVA ICTs at KTPS. Accordingly, additional 1x500MVA would be required to mitigate this constraint. With this additional 3 rd 400/220kV, 500MVA ICT, new generation units at KTPS can be evacuated using existing ISTS and ICTs. It was noted that transmission system would be finalised when DVC applies for ISTS Connectivity as per GNA Regulations 2022.			
3.	RTPS: New 2x660MW units in existing 2x600MW complex	3 rd 1x315MVA, 400/220kV ICT (to be released from DSTPS after installation of 2x500MVA ICTs)	
DVC informed that 400/220kV, 2x315MVA ICTs are under installation at RTPS. With the installation of new units at Raghunathpur (2x660MW), 2x315MVA ICTs at RTPS were not found to be N-1 compliant. Accordingly, additional 1x315MVA ICT (released after replacement of 2x315MVA ICTs at DSTPS with 2x500MVA ICTs) would be required to mitigate this constraint. With this additional 3 rd 400/220kV, 315MVA ICT, new generation units at RTPS can be			

Sl. No.	New Infrastructure details	Transmission System Deliberated	Remarks
evacuated using existing ISTS and ICTs. It was noted that transmission system would be finalised when DVC applies for ISTS Connectivity as per GNA Regulations 2022.			
4.	220kV substation for new consumer at (DTPS-MTPS S/c LILO)	Establishment of new 220kV S/s through LILO of one circuit of 220kV D/c DTPS-MTPS Line alongwith suitable 220/132kV and /or 220/33kV ICTs	
DVC informed that to meet the new additional expected load, the above system is required. Accordingly, the proposed system was found to be in order.			
5.	220kV substation for new consumer at Kalyaneswari through LILO of Mejia-Kalyaneswari line	Establishment of new 220kV S/s at Kalyaneshwari-2 through LILO of one circuit of 220kV D/c Mejia - Kalyaneswari line alongwith suitable 220/132kV and/or 220/33kV ICTs	
DVC informed that to meet the new additional expected load, the above system is required. Accordingly, the proposed system was found to be in order.			
6.	Increase in load at Burnpur	S/C LILO of 220KV Mejia-Kalyaneswari (79KM) at Burnpur	
DVC informed that to meet the new additional expected load, the above system is required. Accordingly, the proposed system was found to be in order.			
B. Augmentation of ATR (220/132kV) & ICTs (400/220kV) to Avoid Overloading/ To Suffice N-1 Contingency [studies done on case-(i)]			
7.	400/220/132kV DTPS Switchyard	400/220kV, 2x500 MVA ICT	
The matter has already been discussed at Sl. No. 1 above.			
8.	400/220/132kV KTPS switchyard (2x315MVA ICT, 2x150MVA ATR)	400/220kV, 1x500MVA ICT & 220/132kV, 1x200MVA (already approved in ERPC meeting)	
The matter regarding 400/220kV ICTs has already been discussed at Sl. No. 2 above. DVC further informed that additional (3 rd) 220/132kV, 1x200MVA ICT at KTPS has already been approved in ERPC meeting held on 01-06-2022.			
9.	220/132kV Jamshedpur S/s (2x150MVA)	1x200MVA ATR	
N-1 constraint has been observed with existing 2x150MVA ICTs at Jamshedpur (DVC). Therefore, an additional (3 rd) 1x200MVA, 220/132kV ICT at Jamshedpur (DVC) was found to be in order.			
10.	400/220/132kV Gola-B S/s (2x200MVA ATR)	1x200MVA ATR	
From the studies, it was observed that loading on already agreed Gola-B – Gola 132kV D/c line is beyond the approved capacity due to increased new load demand at Chandil and Jamshedpur areas. Further, N-1 constraint was observed with planned 2x200MVA ICTs at Gola-			

Sl. No.	New Infrastructure details	Transmission System Deliberated	Remarks
<p>B. Accordingly, it was decided that Gola-B substation may be implemented with 220/132kV, 3x200MVA ATRs instead of 2x200MVA ATRs. Further, to mitigate the loading on the Gola-B – Gola 132kV D/c line, following was decided:</p> <ul style="list-style-type: none"> • Phase-I: Reconductoring of Gola-B - Gola line with HTLS. Ampacity to be informed by DVC. • Phase-II: Gola-B – Gola (2nd) 132kV D/c line with similar rating of the 1st D/c line with increased demand in future. 			
11.	400/220kV MTPS Switchyard (1x315MVA)	2 nd 1x315MVA, 400/220kV ICT (to be released from DSTPS after installation of 2x500MVA)	
<p>In order to improve reliability of drawl arrangement at MTPS, it was found in order to install 2nd 400/220kV, 315MVA ICT (released from DSTPS after replacement of 2x315MVA ICTs with 2x500MVA ICTs at DSTPS).</p>			
12.	400/220/132kV BTPS (2x315MVA, 400/220kV ICT)	1x500MVA, 400/220kV ICT (3 rd)	
<p>DVC informed that replacement of existing 2x315MVA, 400/220kV ICTs with 2x500MVA, 400/220kV ICTs at BTPS switchyard was agreed in 6th CMETS-ER. However, N-1 constraint is observed at Bokaro TPS 400/220kV ICTs even with the 2x500MVA ICTs in future timeframe with load growth and additional generations in DVC area.</p> <p>The ICTs released from Bokaro TPS were proposed to be shifted to as Mejia (2nd) and RTPS/Ramkanali (3rd) ICT. Further, 2x315MVA ICTs released from DSTPS were identified to be shifted to Ramkanali-B for establishment of new substation. DVC informed that it has now been decided to implement Ramkanali-B and Gola-B substations through TBCB mode. Therefore, it would not be prudent to use old ICTs in the TBCB scheme. Accordingly, it was decided that to augment the transformation capacity at BTPS, (3rd) 400/220kV, 1x500MVA ICT may be installed at Bokaro TPS in place of earlier agreed replacement of 2x315MVA ICTs. Further, the ICTs released from DSTPS would be utilized for Mejia TPS (2nd) and RTPS (3rd) ICT as mentioned at Sl. No. 11 and 3 respectively.</p>			
C. New Lines For Connection of the Proposed Solar/Thermal Plants			
13.	Evacuation of power from DTPS 800MW	New D/c DTPS-Parulia PG (400kV)	
<p>The matter has already been discussed at Sl. No. 1 above.</p>			
14.	Evacuation of solar power from Maithon Solar Block 1 (234MW) & 2 (300 MW)	LILO of 220kV D/c Dhanbad-Maithon PG at Maithon Solar Block	
<p>With the proposed system, it was observed that major portion of power rushes towards Maithon (POWERGRID) S/s, which in turn leads to overloading of under implementation Maithon – Asansol 220kV D/c HTLS line (1200A) of WBSETCL. Further, DVC informed that as per information available on WBPDC website new unit at expected at Santaldih. With new units at Santaldih the loading on Maithon – Asansol line was observed to be reduced. Accordingly, it was decided that the matter may be deliberated in a joint study meeting among CTU, DVC and WBSETCL.</p>			

Sl. No.	New Infrastructure details	Transmission System Deliberated	Remarks
15.	Evacuation of solar power from Tilaya Block 1 (150MW)	LILo of D/c 132kV Barhi-Koderma TPS at Tilaya S1	
16.	Evacuation of solar power from Tilaya Block 2 (285MW)	S/c 220kV Tilaya S2-Koderma TPS Line	
17.	Evacuation of solar power from Tilaya Block 3 (150MW)	S/c 220kV Tilaya S3-Koderma TPS Line	
The above system was found to be in order for evacuation of power from the Tilaya Solar block-2 & 3. For block-1, LILo of both circuits of Barhi – Koderma TPS 132kV D/c line may be implemented with HTLS (of rating commensurate with rating of HTLS of main line). Ampacity to be informed by DVC.			
18.	Evacuation of solar power from Panchet Block 1 (75MW)	S/c LILo of 132kV D/c Ramkanali - Panchet at Panchet Solar Block-1	
19.	Evacuation of solar power from Panchet Block 2 (80MW)	S/c LILo of 132kV proposed D/c Panchet - Kumardubi at Panchet Solar Block-2	Panchet – Kumardubi 132kV D/c line would established through LILo of Panchet Hydro – Maithon Hydro at Kumardubi
For block-1 & 2, LILOs may be implemented with HTLS (of rating commensurate with rating of HTLS of main line). Ampacity to be informed by DVC			
20.	Evacuation of solar power from Panchet Solar Block 1 (225MW) & 2 (225 MW)	S/c 400kV PHS-RTPS Line	
For evacuation of power from Panchet Solar Block 1 & 2 (2x225MW) to Raghunathpur at 400kV, ISTS connectivity may be required. As the power from these solar is expected to be absorbed by DVC, it was suggested that generation plant may be connected to DVC system. Accordingly, proposal of LILo of RTPS – CTPS 220kV D/c line at Panchet Solar Block was discussed and it was observed that power can be evacuated through the said LILo. Accordingly, the final evacuation system for Panchet Solar block (2x225MW) was decided as LILo of both circuits of RTPS – CTPS 220kV D/c line at Panchet Solar Block.			
21.	Evacuation of solar power from Konar Solar Block 1 (225MW)	S/c LILo of 220kV D/c Jamshedpur-BTPS at Konar Solar	
The above system was found to be in order.			
D. Reconductoring of Transmission Lines for load growth			
22.	-	Reconductoring of 220kV D/c DSTPS-Parulia (DVC)	

Sl. No.	New Infrastructure details	Transmission System Deliberated	Remarks
			It was observed that the loading on DSTPS-Parulia (DVC) 220kV D/c line violates the N-1 criteria during the unavailability of DTPS (1x800MW) generation, even in the decided alternative-1 at Sl. No. 1 above. Accordingly, it was agreed to reconductor the above line with HTLS. Ampacity to be informed by DVC.
23.	-	Reconductoring of 132kV D/c Gola-Chandil line	
			It was observed that loading on Gola – Chandil 132kV D/c line is beyond its existing rating under N-1 contingency due to increased and new load at Chandil area. Accordingly, it was decided to reconductor the above line with HTLS. Ampacity to be informed by DVC.
24.	-	Reconductoring of 132kV D/c NK-Patraru Radial line	
			It was observed that loading on NK-Patraru 132kV D/c line is beyond its existing rating under N-1 contingency due to increased load in North Karanpura area. Accordingly, it was agreed to reconductor the above line with HTLS. Ampacity to be informed by DVC.

- 5.0 The above transmission system which would be directly impacting ISTS would be discussed in the forthcoming CMETS-ER meeting.
- 6.0 Requirement of reactive compensation at 400kV level in DVC area: Generations in DVC area were observed to be running in leading mode (absorbing reactive power) in both peak and off-peak cases. DVC informed that the generation units of 500MW / 600MW are expected to absorb reactive power up to 25-30% of rated capacity as per their capability curve, however, due to some overheating/design issues the machines are capable of absorbing reactive power only about 10-12% of its rated capacity. Further, as majority of times the generations are running below rated capacity, the 400kV evacuating lines are observed to be loaded below SIL in normal operation. These conditions are resulting in surplus reactive power in the system and leading to over voltage scenarios. It was decided that DVC would take up the matter regarding lower setting for operating in leading power factor mode with their OEM. Nevertheless, it was decided that suitable number of bus reactors of 125MVar may be installed at various generation switchyard (at least one at each) to control the voltage excursions.

Annexure-I

**Attendance list of Joint Study Meeting between DVC & CTU
held on 13-06-2023 & 14-06-2023**

Sl. No.	Name of Officials	Designation & Organization	Email
1.	Sh. Jasbir Singh	CGM, CTUIL	jasbir@powergrid.in
2.	Sh. Rajesh Kumar	Sr. GM, CTUIL	rajeshkumar@powergrid.in
3.	Sh. Manish Ranjan Keshari	Chief Manager, CTUIL	manish.keshari@powergrid.in
4.	Sh. Anupam Kumar	Manager, CTUIL	i.anupamk@powergrid.in
5.	Sh. Abhilash Thakur	Engineer, CTUIL	abhilash.28@powergrid.in
6.	Sh. Amit Kumar	Engineer, CTUIL	emailamit0014@powergrid.in
7.	Sh. Jayanta Dutta	GM (DVC)	jayanta.dutta@dvc.gov.in
8.	Sh. Swarup Kumar Pal	Sr.Manager, DVC	swarup.pal@dvc.gov.in



ग्रिड-इंडिया
GRID-INDIA

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED
(A Government of India Enterprise)



[formerly Power System Operation Corporation Limited (POSOCO)]

पूर्वी क्षेत्रीय भार प्रेषण केन्द्र / Eastern Regional Load Despatch Centre

कार्यालय : 14, गोल्फ क्लब रोड, टॉलीगंज, कोलकाता - 700033

Office : 14, Golf Club Road, Tollygunge, Kolkata - 700033

CIN : U40105DL2009GOI188682, Website : www.erldc.in, Tel.: 033 23890060/0061

संदर्भ: पू.क्ष.भा.प्रे.के./ एस. ओ. /ERLDC/ SO/ 2023-24/317

13-06-2023

To
Chief Operating Officer,
Central Transmission Utility of India Ltd.,
Saudamini, 1st Floor,
Gurugram-122001

Sub: Transformation Capacity Augmentation at 400/220 kV Subhashgram S/s-reg.

Sir,

This is to draw your kind attention to recent loading of 400/220 kV ICTs at Subhashgram S/s. 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. Loading pattern for last one week is attached at Annexure-1 for your ready reference.

As you are aware, majority of the load of metropolitan city of Kolkata and South 24 Parganas district of West Bengal are catered through five nos. of 400/220 kV ICTs (1760 MVA) at Subhashgram. While five ICTs at Subhashgram have been commissioned progressively, demand growth in these pockets have grown at a faster rate.

It is gathered from POWERGRID that, procurement of 6th ICT (500 MVA) is still in tendering stage, and it is unlikely to be available by next summer season which may create acute transmission constraint in meeting Kolkata's demand.

Further, discussion has been going on for commissioning of 400/220 kV Laxmikantapur S/s for last two years, but no concrete outcome has come so far. A committee was formed by ERPC with members from ERLDC, WBSETCL, CESC and CTU to expedite it, but a definite timeline for this Sub-Station is not yet available.

With no option left otherwise in such a short duration, commissioning of 7th ICT (500 MVA) at Subhashgram may be considered to meet the demand and satisfy N-1 criteria. Although commissioning of seven ICTs (4*315 + 500*1 MVA) with total transformation capacity i.e. 2760 MVA will be more than maximum transformation capacity of 2500 MVA mentioned in CEA manual on transmission planning criteria, 2023, same may be feasible through a bus splitting arrangement. Also, considering the reasonable fault level and immediate necessity of augmentation of transformation


पंजीकृत कार्यालय : बी-9, प्रथम तल, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016
Registered Office : B-9, 1st Floor, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110016
Website : www.grid-india.in

capacity at Subhashgram S/s, possibility of an exemption to this criterion may be explored to enable commissioning of the 7th. ICT.

You are requested for needful action at your end.

Thanking you.

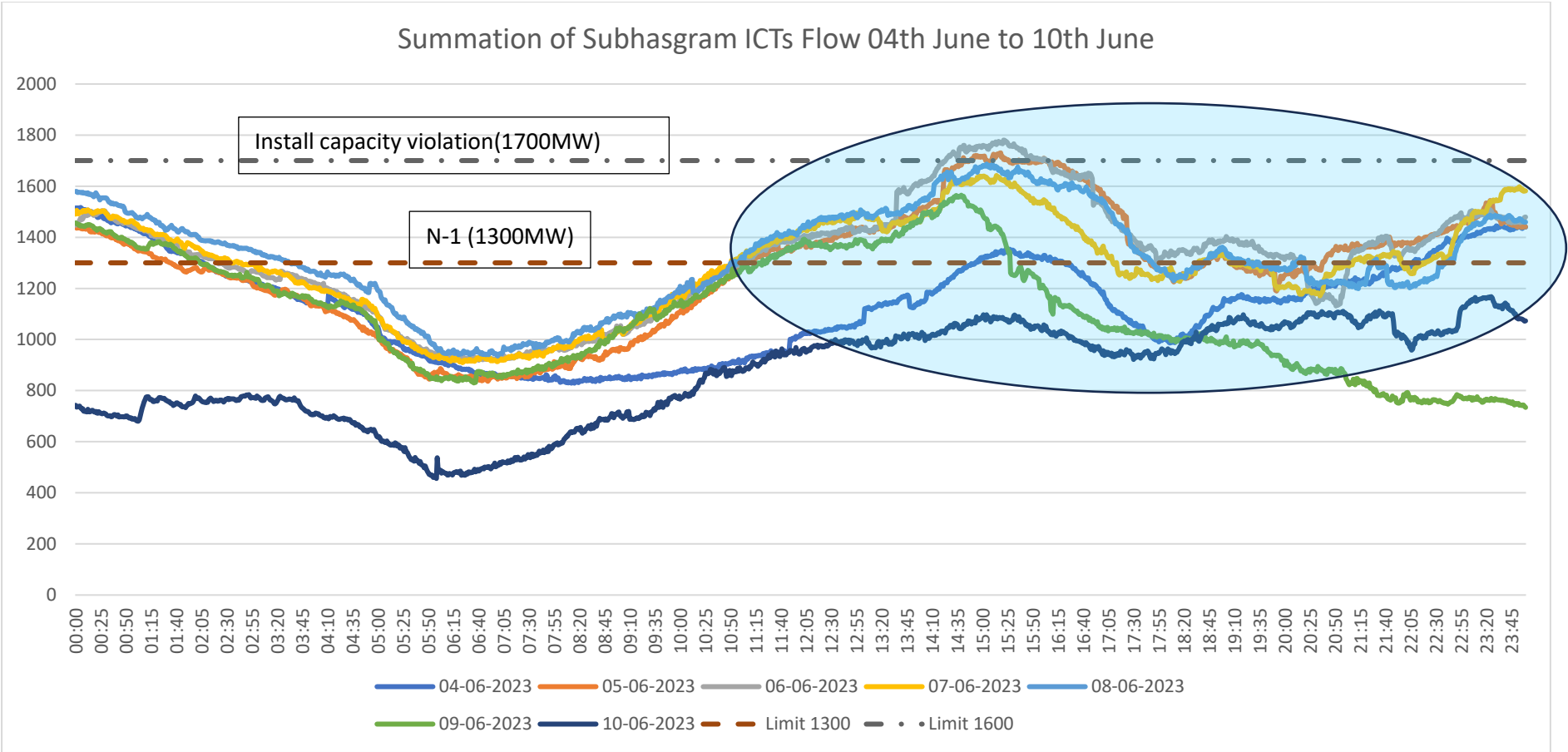
Yours faithfully


13/5/2023

Rajib Sutradhar
Executive Director

Copy to:

1. Member (GO&D), CEA. Sewa Bhawan, R.K.Puram, Sector-1, New Delhi-110 066
2. Member Secretary, ERPC, 14, Golf Club Road, Tollygunge, Kolkata-700033
3. Executive Director, NLDC, New Delhi-110016



Annex B.8

BOQ FOR PROCUREMENT OF REGIONAL ICT SPARES EASTERN REGION

Sl No.	Activity Description	Material Code	Item Description	Unit	Qty	Unit Price as per Mar 2023 SOR (Excl. GST)	GST @ 18%	Unit Price as per Dec 2022 SOR (Incl. GST)	Freight/Insurance/Loading/Unloading @ 4% ON SUPPLY	TOTAL Unit Price	REMARKS
1	400/220/33KV, 500MVA	1000004798	400/220/33KV, 500MVA ICT without Insulating Oil	EA	1	206018892	18%	243102292.6	8240755.68	251343048.2	
2	400/220/33KV, 500MVA	1000013947	Insulating Oil for 3Ph , 500MVA ICT	LOT	1	13278204	18%	15668280.72	531128.16	16199408.88	RATE AS PER DEC 2022
3	400/220/33KV, 500MVA	1000016764	Online Dissolved Gas & Moisture Analyser	EA	1	2066594	18%	2438580.92	82663.76	2521244.68	
4	400/220/33KV, 500MVA	1000025218	Online Insulating Oil Drying System (Cartridge type)	EA	1	829310	18%	978585.8	33172.4	1011758.2	
5	400/220/33KV, 500MVA		SPARE FOUNDATION	EA	1	5000000	18%	5900000		5900000	
6	ERECTION					1772583	18%	2091647.94		2091647.94	
									TOTAL	279067107.9	
1	400/220/33KV, 315MVA	1000006175	400/220/33KV, 315MVA ICT without Insulating Oil	EA	1	162413828	18%	191648317	6496553.12	198144870.2	
2	400/220/33KV, 315MVA	1000013953	Insulating Oil for 3Ph , 315MVA ICT	LOT	1	13268938	18%	15657346.84	530757.52	16188104.36	RATE AS PER DEC 2022
3	400/220/33KV, 315MVA	1000016764	Online Dissolved Gas & Moisture Analyser	EA	1	2066594	18%	2438580.92	82663.76	2521244.68	
4	400/220/33KV, 315MVA	1000025218	Online Insulating Oil Drying System (Cartridge type)	EA	1	829310	18%	978585.8	33172.4	1011758.2	
5	400/220/33KV, 315MVA		SPARE FOUNDATION	EA	1	5000000	18%	5900000		5900000	
6	ERECTION					1349872	18%	1592848.96		1592848.96	
									TOTAL	225358826.4	

Annex B.14



भारत सरकार
विद्युत् मंत्रालय
केन्द्रीय विद्युत् प्राधिकरण
तापीय परियोजना योजना एवं विकास प्रभाग
Thermal Project Planning & Development Division

संख्या: 278/ Stressed Projects/TPP&D/CEA/2023/680-683 दिनांक: 29.09.2023

विषय: Record of Discussion (RoD) of the meeting held on 18.09.2023 at 04:30 PM under the chairmanship of Chairperson, CEA at Sewa Bhawan, New Delhi to discuss the ongoing issues related to operationalization /construction of Ind-Barath (Utkal) Limited (JSW Energy Limited).

This is in reference to the meeting held under the chairmanship of Chairperson, CEA on 18.09.2023 at 04 :30 PM at 'Chintan' Conference room 2nd Floor, Sewa Bhawan (North), R.K. Puram Sec-1, New Delhi with officials from Energy Department, Govt. of Odisha, Ind Barath Utkal Ltd (JSW Energy), CTUIL & PFC Ltd. to discuss the ongoing issues related to operationalization/construction of TPP. In this regard, please find attached record of discussion of the meeting.

Encl: MoM.

भवदीय
सदीपात सिंह
29/9/2023
(एम.पी. सिंह)
मुख्य अभियंता

Distribution (by email):

1. Additional Chief Secretary (Energy), Govt. of Odisha, Kharavel Bhawan, Gopabandhu Marg, Keshari Nagar, Bhubaneswar, Odisha 751001 (energy@nic.in)
2. Managing Director/CEO, Ind Barath Utkal Ltd. (JSW Energy), Jharsuguda Odisha.(prashant.jain@jsw.in , veeresh.devaramani@jsw.in)
3. Chief Operating Officer, CTUIL. (pcgarg@powergrid.in)
4. Shri P.K. Sinha, ED (Project-I) , PFC Ltd. (pksinha@pfcindia.com)

Copy to:

1. PPS to Chairperson, CEA
2. PPS to Member(Thermal), CEA
3. Chief Engineer (TPM), CEA

Record of Discussion (RoD) of the meeting held on 18.09.2023 at 04:30 PM under the chairmanship of Chairperson, CEA at Sewa Bhawan, New Delhi to discuss the ongoing issues related to operationalization /construction of Ind-Barath (Utkal) Limited (JSW Energy Limited).

Chairperson, CEA welcomed all the participants. Representative from JSW Energy Limited informed that Ind-Bharat Energy (Utkal) Limited is an IPP having subcritical capacity of 700 MW (2x350) and located in Jharsuguda district of Odisha. The project was stalled due to financial reasons and admitted to Corporate Insolvency Resolution Process (CIRP) in Aug'18. Further, JSW Energy Limited also intimated the status of the project before NCLT which is as follow:

Unit-1: CoD was achieved in July'16. Post CoD, the unit was kept in service for few days and then stopped.

Unit-2: 60% erection work was completed.

2. JSW Energy Ltd. had taken over the project on 28th Dec'22. Plant revival activities were started after taken over by JSW Energy Ltd. from Jan'23. JSW Energy Limited intimated that revival of unit-1 was started on 01st Jan'23 and expected to be completed by 30th Sept'23. Further, it was also stated that revival of unit-2 was started on 01st Apr'23 and expected to be completed by 31st Mar'24.

Chairperson (CEA) instructed JSW Energy Limited to complete the revival of unit-2 till Dec'23.

3. Representative of JSW Energy Limited informed that requisite licenses/clearances and NoC have been received and overhauling of BOP systems like WTP, CHP, Ash handling, CW and ACW systems are in final stage. Boiler steam blowing process has already started today (i.e. 19.09.2023).

Further, it was intimated that 63 KM 400kV dedicated double circuit transmission line (DTL) from plant to Sundargarh was damaged whose revival work is in progress which will further take 06-08 months as around 40-50 towers are damaged. However, unit-1 of the plant is expected to get synchronized on 20th Oct'23.

4. JSW Energy Limited stated following concerns:

- Draft MOU verification was completed from all authorities (GRIDCO, IPICOL, IDCO, DoWR and Energy Department of Govt. of Odisha). Same is pending due to payment of old dues.
- Approval for water allocation was accorded by all Dept. (IPICOL, DoWR, SLFC, WAC) and water allocation committee cleared the same. Matter is pending due to payment of old dues (prior to acquisition by JSW energy) & signing of MOU.
- Application for Environment Clearance of unit-2 for term of reference (TOR) has been submitted. Same is in process and expected by Sep'23.
- Since, 63 KM DTL is damaged at many places due to non-operational from long time (7 years) whose revival work is in progress and expected to be completed by Feb'24. Further, CTU approved interim LILO arrangement with 400kV OPGC-Sundargarh line for start-up and synchronization. However, approval was accorded for drawl only and injection of power is not allowed.

5. JSW Energy Limited requested for evacuation of power through LILO arrangement (interim) till DTL get ready. Representative from CTUIL intimated that Odisha state

is also evacuating the power from the same line (Ib Valley OPGC to Powergrid Sundergarh SS) and further evacuation of power by JSW Energy Limited may lead to a condition of overloading a segment of the said line. JSW Energy Limited representative informed that study has been done & it was observed that 600 MW can be evacuated from the alternative LILO arrangement, which is around 10 kms from Ind Barath TPP.

6. JSW Energy Limited representative stated that implementation of LILO arrangement is in process and it will be completed within 20 days. Further, SPS will get implemented within 10 days. Further, Representative of CTUIL has informed that JSW Energy has applied for LILO connection of Unit-1. JSW Energy shall apply for GNA for Unit -2 as well so that a compressive analysis may be done.
7. JSW Energy Limited representative stated that permanent railway siding is under construction, till then alternate arrangement of transportation of coal via road mode is made for evacuation of 4.5 LT of coal. Till date, Plant is not having any PPA & expected to sell power in Energy Market.

Chairperson (CEA), instructed JSW Energy Limited to implement the SPS and to apply and complete the LILO arrangement within time frame and further, directed JSW Energy to approach the ERPC/ERLDC for evacuation of power from Ind-Barath (Utkal) TPP through LILO arrangement till DTL is made ready.

Meeting ended with vote of thanks to Chair.

XX-XXXX-XX



Annexure-I

List of Participants

Central Electricity Authority

1. Shri Ghanshyam Prasad, Chairperson - In Chair
2. Shri Praveen Gupta, Member (Thermal)
3. Shri M. P. Singh, Chief Engineer (TPP&D)
4. Shri J. N. Prasad, Chief Engineer (TPM)
5. Shri Himanshu Katiyar, Assistant Director (TPP&D)
6. Shri Ankit Khasa, Assistant Director (TPM)
7. Shri Satyam Soni, Assistant Director (TPP&D)

GRIDCO

1. Shri Trilochan Panda, Managing Director
2. Shri, V. K. Sahoo, Director (T&BD)

CTUIL

1. Shri Ashok Pal, Dy, Chief Operating officer
2. Shri, Manish Ranjan Keshari, Chief Manager

PFC Ltd.

1. Shri P. K. Sinha, Executive Director
2. Shri B. Praveen, General Manager

SLDC, Odisha

1. Shri S. K. Mishra, DGM

JSW Energy Ltd.

1. Shri Veeresh Devaramani, Head(Thermal)
2. Shri Rohit Chadha, Vice President (Corporate Affairs)
3. C. Venkatarama Reddy, Vice President
4. Shri Anurag Agrawal, General Manager
5. Shri Hanumantha Rao, Dy. General Manager

**Annex
B.17**

☐ ☐ ☐ ☐ ☐ ☐ ☐ / **Draft**

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

ERPC Outage Planning Procedure



पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee

September 2023

1.1 Background

Maintenance of grid elements shall be carried out by the respective users, transmission licensees, STUs and CTU in accordance with the provisions of the Central Electricity Authority (Grid Standards) Regulations, 2010.

As per clause No. 32(4) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 under Operating Code, it has been envisaged “To facilitate coordinated planned outages of grid elements, a common outage planning procedure shall be formulated by each RPC in consultation with the NLDC, concerned RLDC and concerned users.”

The timeline for Annual Outage Planning Process shall be as follows:

Activity	Agency	Cut-off date
Submission of proposed outage plan for the next financial year to ERPC with the earliest start date and latest finishing date	STUs, transmission licensees, generating stations and other entities directly connected to ISTS	31st October or as directed by CEA/MoP from time to time
Submission of LGBR of the control area to ERPC for both peak and off-peak scenarios	SLDC	31st October or as directed by CEA/MoP from time to time
Publishing draft LGBR and draft outage plan of regional grid for next financial year on the concerned ERPC’s website for inviting suggestions, comments, objections of stakeholders.	ERPC	30th November or as directed by CEA/MoP from time to time
Publishing final LGBR and final outage plan of regional grid for next financial year on the concerned ERPC’s website	ERPC	31st December or as directed by CEA/MoP from time to time

1.2 Introduction

- Outage planning shall be prepared for the grid elements in a coordinated and optimal manner keeping in view the system operating conditions and grid security. The coordinated generation and transmission outage plan for the national and regional grid shall take into consideration all the available generation resources, demand estimates, transmission constraints, and factor in water for irrigation requirements, if any. To optimize the transmission outages of the national and regional grids, to avoid grid operation getting adversely affected and to maintain system security standards, the outage plan shall also take into account the generation outage schedule and the transmission outage schedule.
- Annual outage plan of grid elements under regional control area and identified important grid elements identified under sub-clause (b) of clause (2) of Regulation 29 of IEGC regulations, shall be prepared in advance for the financial year by ERPC in consultation with the users, respective SLDCs, RLDCs and NLDC and reviewed before every quarter and every month.
- Annual outage plan shall be prepared in such a manner as to minimize the overall downtime, particularly where multiple entities are involved in the outage of any grid element(s).

- The outage plan of hydro generation plants, REGS and ESS and its associated evacuation network shall be prepared with a view to extracting maximum generation from these sources. Example: Outage of hydro generator may be planned during the lean water season. Likewise, outage of wind generator may be planned during lean wind season. Outage of solar generator, if required, may be planned during the rainy season.
- Protection relay related outages, auto-re-closure outages and SPS testing outages shall be planned on a monthly basis with the prior permission of ERPC, in consultation with ERLDC & NLDC as the case maybe.
- Outages in the transmission network could either be on account of planned maintenance activities or construction related activities or any emergency conditions arising in the field.
- As outage planning is an important part of operational planning, multi-layered checks would help in ensuring reliability of the power system. These checks need to be at the following levels:
 - Due diligence between the agencies involved in the transmission asset maintenance through bilateral discussion.
 - Operation Coordination Sub-Committee of ERPC (Outage Coordination Group).
 - Off-line simulations and planning at SLDC, ERLDC/NLDC level, as the case maybe.
 - Real time check at SLDC, ERLDC/NLDC level, as the case maybe.
- Maintenance of grid elements shall be carried out by the respective users in accordance with the provisions of the CEA Grid Standards. Outage of any element which is causing or likely to cause danger to the grid or sub-optimal operation of the grid shall be monitored by ERLDC. ERLDC shall report such outages (emergency/forced/beyond planned) to ERPC and ERPC shall issue suitable instructions to restore such elements in a specified time period.

1.3 Objective

- To finalise the following Outage Plan on Annual basis:
 - Outage planning of Generating units of ER
 - Outage planning of Transmission line and Elements
- The procedure aims to streamline the process of outage coordination between SLDCs, Grid-India (ERDL/NLDC), ERPC and Transmission Licensees and Generators.

1.4 Scope

- The procedure is applicable to ERLDC, NLDC, SLDCs STUs, Generating utilities, Transmission licensees. It would be applicable once the Annual outage plan is finalized by 31st December of each year for the next financial year by ERPC.

Activity (as per IEGC)	Sub-Activity (as per this procedure)	Utility	Cut-off Date
	Submission of: - (i) Month-wise peak/off-peak demand (MW) – restricted/unrestricted (ii) Month-wise energy requirement (in MU) – restricted/unrestricted	STUs/SLDCs	15th September

Submission of proposed outage plan for the next financial year to RPC with the earliest start date and latest finishing date	(iii) node wise demand in MW (peak/off-peak) for all ISTS drawl points for each month of the year.		
	(iv)Month-wise and source-wise power purchase and sale plan (both MU and MW)		
	<p>Submission of:</p> <p>(i)Annual Maintenance Program for each of the generating units(thermal, hydro and RES)</p> <p>(ii)Generating stations under R&M/long outage indicating date of outage and reasons of outage and expected date of return(thermal and hydro both)</p> <p>(iii)Unit-wise and station wise monthly energy generation (in MU) proposed from existing units/units to be commissioned in the next financial year alongwith its allocation.</p> <p>(iv) Generation(peak/off-peak) in MW ex-bus for each station</p> <p>(v)Partial and forced outage figures (in %) of generating units and auxiliary power consumption for the last 3 years.</p>	State GENCOs/ CSGS/IPP/CPP	15 th September
	Submission of Planned Unit Shutdown/AMP of each of the generating units(thermal/hydro/solar)	State GENCOs/ CSGS/IPP/CPP	15 th September
	<p>Submission of:</p> <p>(i)monthly and annual planned outage of transmission system</p> <p>(ii) Timeline and system parameters of new transmission elements to</p>	All ISTS licensees	15 th September

	be commissioned in the next financial year.		
	Preparation of base case	ERLDC/ERPC	20th September
	All India System Study Report from CEA	CEA	30th September
	Publish of Detailed Annual System Study Report	ERPC	30 th September
	Submission of comments on Annual System Study Report	STUs/SLDCs/ State GENCOs/ CSGS/IPP/CPP/all ISTS licensees	15 th October
Submission of LGBR of the control area to RPC for peak and off-peak scenarios	Submission of LGBR of the control area to RPC for peak and off-peak scenarios	SLDCs	31 st October
Publishing draft LGBR and draft outage plan of regional grid for next financial year on the concerned RPCs website for inviting suggestions, comments, objections of stakeholders.	Preparation of draft LGBR based on Annual System Study Report and respective states' LGBR	ERPC	15 th November
	Publish draft LGBR and draft outage plan of regional grid for next financial year	ERPC	30 th November
Publishing final LGBR and final outage plan of regional grid for next financial year on the	Submission of public comments on draft LGBR and draft outage plan of regional grid for the next financial year	Public	15 th December
	Publishing of final LGBR and final outage plan of regional grid for next financial year	ERPC	31 st December

concerned RPC's website			
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In continuation to above, the monthly shutdowns of Generating Units to be discussed and approved in OCC meeting of ERPC. The procedure and timeline for studies/re-conciliation with LGBR to facilitate the same is as follows: -

Activity	Utility	Cut-off date*
Submission of monthly planned outage of generators/transmission system elements	ISGS/all licensees ISTS	05 th of M-1
Updation of annual base case with monthly scenarios.	ERLDC	05 th of M-1
Preparation of System Study with planned outage details and updated base case and submission to respective RPC.	ERLDC	07 th of M-1
Publish of System Study with report on Deviations from LGBR resulting in system constraints.	ERPC	09 th of M-1
Submission of revised monthly outage plan	ISGS/all licensees ISTS	10 th of M-1
Approval of next month outage	ERPC	By 15 th of M-1

*M – month of shutdown

1.5 Applicability

- The procedure is applicable to important grid elements published by ERLDC/NLDC in consultation with ERPC, users, SLDCs.
- To be applicable to other grid elements like bus, bays and other elements as mandated in CEA Regulations.
- The Important Grid elements would include the following:
 - All Inter Regional Transmission Lines
 - All Trans-national Transmission Lines
 - All HVDC Transmission Lines and HVDC elements including Poles & Back-to-back Blocks
 - All 400 kV and above AC Transmission Lines

- All 220 kV AC Transmission lines belonging to ISTS Licensees and ISGS and all transmission lines emanating from ISGS and ISTS substations irrespective of voltage level.
- All 400 kV and above Inter-connecting transformers (ICTs), Bus Reactors, Filter Banks, Bus Series Reactor and FACTS Devices connected at 400 kV and above voltage level along with all bays associated with these elements.
- All natural ISTS lines.
- 220 kV and above Transmission elements feeding loads of a strategic/sensitive nature.
- All generating units which are regional entities.

1.6 Procedure for planning outage of generating units

1.6.1 Annual Outage Plan:

- Generating stations of the Eastern Region would submit proposed outage plan for the next financial year to ERPC Secretariat latest by 31st of October or as directed by CEA/MoP from time to time in the prescribed format.
- The data shall include the dates, nature of maintenance work planned whether mandatory or otherwise, duration of outage and related information.
- Draft outage plan of generating units for next financial year would be published on the ERPC's website for inviting suggestions, comments, and objections of stakeholders by 30th November or as directed by CEA/MoP from time to time.
- Final outage plan of generating units for next financial year on the ERPC's website by 31st December or as directed by MoP/CEA from time to time.
- All generating stations shall follow the annual outage plan. If any deviation is required, the same may be allowed with the prior permission of ERPC in consultation with beneficiaries & ERLDC.

1.6.2 Monthly Outage Plan:

- The annual outage plan shall be reviewed in monthly Meetings of Operation Coordination Sub-Committee of ERPC on a monthly and quarterly basis in coordination with all the parties concerned, and adjustments or additions of new outages shall be made wherever necessary.
- Outage planning should be done in a judicious way to make available maximum no. of running units during high demand season of the ER Grid and specific state high demand period.

1.7 Procedure for Planning Outage of Transmission lines and Grid Elements

1.7.1 Annual Outage Plan:

- STUs, transmission licensees and other entities directly connected to ISTS of the Eastern Region would submit proposed outage plan for the next financial year to ERPC Secretariat by 31st of October in the prescribed format.
- The data shall include the dates, nature of maintenance work planned whether mandatory or otherwise, duration of outage and related information.
- Draft outage plan of transmission lines and equipment for next financial year would be published on the ERPC's website for inviting suggestions, comments, and objections of stakeholders by 30th November.
- Final outage plan of transmission lines and equipment for next financial year on the ERPC's website by 31st December.

- The above annual outage plan shall be reviewed by ERPC Secretariat on quarterly and monthly basis in coordination with all parties concerned, and adjustments made wherever found to be necessary. All deviations from outage plan shall be uploaded on ERPC website.

1.7.2 Monthly Outage Plan/ Procedure for Discussing Outages in OCC Meeting:

- For the purpose of Load Generation Balance (LGB)/ Outage planning process, OCC (Operation Coordination Sub Committee) of ERPC shall, in general, be the forum for reviewing and deciding the outage planning.
- Any deviation in annual outage plan may be reviewed based on merit/urgency by OCC of ERPC.
- **Indenting Agency:** The agency which gives the requisition for outage of any power system element shall be called Indenting Agency. Any of the following may request for outage of any power system elements:
 - Transmission Licensees / State Transmission Utilities
 - Generating Companies
- Indenting Agency shall submit the proposed shutdown for the next calendar month latest by 5th day (Inter- Regional Element Outage List) & 5th day (Intra-Regional Element Outage List) of the current month to ERPC Secretariat/NLDC/NPC Secretariat as per Format (included in Annexure 1). In the said proposal apart from the main power system element(s) to be taken out of service and its purpose, the agency should also mention the duration of non-availability of each sub-station equipment such as bus section, CB, isolator or any other switchgear as well as non-availability of any protection feature or PLCC, in as much detail as possible.
- ERPC Secretariat shall compile all the received proposals and circulate to SLDCs/ERLDC by 8th day of every month for feedback, if any.
- ERLDC shall study the impact of these outages and furnish to ERPC Secretariat.
- OCC Meeting/System Study subcommittee of ERPC shall study the impact of these outages and based on its recommendations, ERPC shall discuss proposed outages in the OCC meeting (preferably between 10- 15th of every month) and prepare a list of transmission outages with the precautions to be taken.
- Any transmission element approved outages in OCC may be allowed to re-schedule within the same month.
- All the entities need to attend OCC (Outage Co-ordination Meeting) for the concerned element outage as per the requisition list. In case of absence of any entity in OCC, it will be treated as deemed consented.
- While submitting monthly outage plan for outage OCC meeting of ERPC, it was decided that shutdowns which have been approved by ERPC/ERLDC in consecutive three outage OCC meetings but have not been availed by utilities would not be included for future OCC requisition list. This step aims to remove shutdown requests that have not been utilized in the past, streamlining the planning process and improving resource allocation. At present the number of shutdown requisition is limited to 1.25 times of the maximum shutdown availed in a month during the last financial year. So, by adopting these methods, the planning process can be better aligned with realistic shutdown requirements and thus this approach will ensure optimal utilization of resources and reduce the burden of unnecessary studies. (**Methodology approved in the Outage OCC Forum, Refer MOM of 204th OCC**).
- In case of shutdown of inter-regional lines and intra-regional lines affecting the transfer capability or reliability of any inter regional corridor, the Indenting agency shall submit the shutdown proposal in both the concerned RPCs/NLDC/NPC. To facilitate this, broad list of

such lines is provided in list of important grid elements whose criteria is defined in Annexure1 which will be reviewed and updated by NLDC from time to time. The indenting agency may do an internal screening of its outage plan centrally to avoid multiple outages in the same corridor simultaneously. Bilateral discussion between the agencies involved may also be done to minimize outage duration before submitting the outage plan to RPCs.

- While approving the shutdowns it shall be ensured that multiple outages in the same corridor are not be approved simultaneously. It also needs to be ensured that all other concerned entities also complete their maintenance works requiring the same shutdown during the same period so that multiple shutdowns of any particular element for maintenance work by multiple agencies are avoided. Multiple outages of transmission element for the same work during the year may also be avoided.
- Indenting agency should put all the effort to the possible extent in order to combine the line maintenance with non-switchable line reactor maintenance. Indenting agency should put all the effort to the possible extent in order to combine the maintenance of bay elements along with line to minimized outage period.
- It also be noted that, while applying for outages, indenting agency needs to ensure the healthiness of DIA to which the transmission element is connected. i.e., in case of One and half CB scheme, other side DIA and for DMT scheme healthiness of TBC needs to be intimated.
- While applying outage of a bus coupler, an intending agency needs to put up the requisition at the time of bus outage of that particular AIS substation. Bus-coupler shutdown of AIS substations should be clubbed with program of Bus shutdown to minimize the outage duration of transmission element.
- While applying outage of a 765kV line reactor, an intending agency needs to put up the requisition at the time of outage of that particular feeder to the extent possible.
- If owner of transmission lines is different from bay owner, then both asset owner shall try to coordinate within themselves to avail the outage in combined manner to minimize outage period to the extent possible.
- Reason of availing any outage and time duration of outages should be reasonable. Indenting agency needs to submit any findings/observations, site photographs, substation diagrams and confirmation of suitable weather condition to carry out the work well before availing the shutdown on case-to-case basis depending upon the nature of the outage.
- ERPC shall publish the approved list of transmission elements outage plan after the outage meeting. Any shutdown proposal which requires approval of two RPCs shall be considered approved only if it is approved in both the RPCs.
- ERLDC may defer or conduct studies again before giving clearance of any planned outage in case of any of the following:
 - Major grid disturbances (Total black out in Region)
 - System isolation / separation
 - Black out in a control area
 - Any other event in the system that may have an adverse impact on the system security by the proposed outage with proper justification.

1.8 Procedure for Availing the Outage

- At present, following outage categories are being followed:

- **Planned Outage Category:** *Planned outages are being discussed in respective Operation Coordination Committee (OCC) meeting of ERPC on monthly basis and availed based on the actual grid conditions.*
- **Post OCC Category:** *Under exceptional cases such as construction activities or urgent nature of works, outage shall be proposed by indenting agency to ERPC.*
- **Emergency Category:** *For attending emergency nature of works, asset owner shall send the proposal mentioning the nature of emergency directly to ERLDC control room and shutdown may be facilitated based on the actual grid condition in*
- *co-ordination with NLDC, SLDC.*

1.8.1 Procedure for applying shutdowns under OCC approved category:

- **Request for outages which are approved by OCC** must be sent by the owner of the transmission asset **at least 3 days in advance to ERLDC by 12:00 hours**, together with the details.
- If ERLDC requires any further information regarding the applied shutdown, the same should be provided by 15:00hrs of D-3 day by indenting agency to ERLDC.
- In case the outage of inter-regional links, trans-national or any 765 kV links or any links outage which need ATC revision, ERLDC shall forward the request for shutdown along with their consent and observation as per Format V to NLDC/other concerned RLDCs with clear observations regarding possible constraints /contingency plan and consent including study results by 10:00 hours of D-2 day.
- For all testing or operation related to automatic voltage regulators (AVRs), Power System Stabilizers (PSSs), Power Plant Controllers (PPC), RGMO, etc. indenting agency would send request to ERLDC through Web portal / through mail **at least 3 days in advance to ERLDC by 12:00 hours.**
- In case the owner is not availing the OCC approved outage, the same shall be intimated to the ERLDC at least 3 days in advance with a copy to MS/ERPC for approval from ERPC side. After due communication from ERPC, ERLDC will process accordingly.
- If consent/concurrence of other SLDC/NLDC/Agency is required for a particular shutdown then the said shutdown will also be forwarded to SLDC & agency by 16:00 hours of D-3 day.
- NLDC/SLDC/Agency shall submit their consent/ approval/ concurrence/ comment with recommendations & study results to ERLDC by 12:00 hrs. of D-2 day. If no consent/approval/concurrence/comment is received by this time, the request of shutdown shall be deemed cancelled.
- ERLDC will issue approvals for shutdowns by 12:00 hrs of D-1 day & same shall be intimated to all concerned on the same day. A list of all the outages approved for the day 'D' shall be forwarded to NLDC for all India compilation by ERLDC.

1.8.2 Procedure for proposing shutdowns under Post OCC category:

Under exceptional cases such as construction activities or urgent nature of works, outage shall be proposed by indenting agency to ERPC on D-5 basis. Indenting agency shall propose the outage to concerned RPCs in case of inter-regional (IR)/intra-regional transmission elements affecting IR TTC/ATC on **D-5 basis**. RPCs would also consult respective SLDCs/RLDC/NLDC, as the case may be, before approval on D-4. Only after approval from respective RPCs, shutdown will be considered by RLDC/NLDC. Outage facilitation priority may be given to OCC approved outages.

- The agencies involved shall ensure availing of outages as per the approved schedule time.

- A list of all the outages approved for the next day shall be forwarded to NLDC for all India compilation.
- On the day of outage, the outage availing agency shall seek the code for availing outage from ERLDC/NLDC (wherever applicable). The agencies involved shall endeavor to avail the outage within 15 minutes of availing the code but not later than 60 minutes. In case, due to any contingency, the outage could not be availed within 60 minutes, a fresh code needs to be obtained by all concerned agencies stating the reason there of. Record of scheduled and actual time of outage and restoration shall be maintained at ERLDC/NLDC.
- As any deviation in the outage from the schedule can affect other planned outages as well as affect reliability and electricity markets, indenting agency must strictly adhere to the shutdown timings.
- ERLDC if required shall conduct further system studies based on the system condition and approve the shutdown at least two days in advance.
- Planned Outages which are approved in OCC meeting shall only be considered for approval on D-3 basis and priority shall be given to OCC approved outages in case of shutdowns applied on the same corridor.
- Planned Shutdown procedure with timeline along with flow chart of the process is given in Annexure-2. The flowchart includes emergency shutdown procedure.

1.8.3 Procedure for proposing shutdowns under Emergency category:

- All outages which are not approved in the OCC meeting / Post OCC category, however having impact on human and equipment safety shall be considered under Emergency Outage category.
- All emergency outages are to be applied in Real Time with supportive documents including –
 -
 - The reason due to which emergency situation has arisen.
 - Proof (photographic, docs, display etc.) with an appropriate time stamp that substantiates/validates the reason cited as an emergency.
 - Details of work to be done to rectify the emergency issue.
 - Information of when last time maintenance activity of the element under purview was taken under maintenance activity. (if, readily available with indenting agency).
- Emergency outages shall be allowed subject to system conditions and its severity. In this case, if required, planned outage may be deferred, if possible.
- Emergency outages shall be allowed immediately or within the short possible time, based on the severity of the emergency and system condition on instance-to-instance basis.
- While issuing clearance of the shutdown ERLDC shall clearly mention the following (**vide format at Annexure 3**):
 - Date and Serial Number
 - Name of the element /elements which shall remain under outage.
 - Name of the agency /agencies availing the outage.
 - Date and duration of the outage
 - Nature of the outage
 - Reason for availing the shutdown
 - Specific network /system conditions to be maintained including impact of the outage
 - Sequence of switching instruction if any.

1.9 Restoration of Outages

- All effort shall be made by the Indenting agency to normalise the shut down within approved time period so that the transmission element is normalised within the approved time period.
- On completion of the outage work, the outage availing agency shall seek the code for normalisation of elements from ERLDC.
- While returning the shutdown of any transmission element, availing agency will intimate ERLDC regarding healthiness of the element to be charged with its all-associated bays. In case of outage any associated bays of the element, same shall be intimated to ERLDC.
- While applying outage of a transmission element where two end point of that element is connected with two generating stations, ERLDC will coordinate with the concerned utilities to charge the line as per the procedure approved in ERPC Forum (**150th OCC, Refer Section 6.12**).
- The agencies involved shall endeavour to normalise the outage within 15 minutes of availing the code but not later than 60 minutes. In case, due to any contingency, the normalisation could not be done within 60 minutes, a fresh code needs to be obtained by all concerned agencies stating the reason thereof.
- In case of extension of a shutdown, the Indenting agency would furnish the reasons of extension, and expected normalisation time to ERLDC/SLDC at least two and half hours before the scheduled normalisation time to take care of any change in schedule.
- In case shutdown is extended beyond scheduled period by more than one day, then utility should approach for ERPC consent/approval with proper reason and justification of delay to SLDC/ERLDC/NLDC as the case may be with a copy to ERPC. SLDC/ERLDC/NLDC would take appropriate decision considering the grid situation.
- Under such circumstances SLDCs/ ERLDC/NLDC shall review the impact of such delay on the shutdown already approved transmission system and would reserve the right to review for according/cancellation of the shutdown.
- In case of repeated delay in normalisation of outages by any agency, the same shall be reported by SLDCs/ERLDC/NLDC to ERPC.

ANNEXURE 1: CRITERIA FOR IMPORTANT GRID ELEMENTS OF EASTERN REGION

Important Grid Elements of Eastern regional Grid has been issued in compliance with IEGC 29.2 (b).

1. The criterion that has been adopted for including a transmission line in this list is as follows:
 - a) All HVDC Transmission elements including Poles & Back-to-back Blocks.
 - b) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors, Transformers, TCSC, FSC, Filter Banks and STATCOM connected at 400 kV and above voltage level.
 - c) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors, Transformers, TCSC, FSC, Filter Banks and STATCOM owned by ISTS Licensees, Central Sector Generating Stations, ISGS and Generating Stations whose dispatch schedules are being done by ERLDC
 - d) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors and Transformers connected to ISTS Licensees, Central Sector Generating Stations, ISGS and Generating Stations whose dispatch schedules are being done by ERLDC
 - e) All Transmission Lines, Bays, Buses, Bus Reactors, Line Reactors and Transformers at 400 kV and above voltage level in state control areas (SLDC jurisdiction).
 - f) All Transmission elements from the territory of one State control area to other state control areas.
 - g) All Transmission elements affecting system security or forming part of Islanding Scheme.
 - h) 220 kV Transmission elements feeding loads of a strategic/sensitive nature
 - i) All cross-border AC and DC transmission elements
2. The transmission lines in the above context means a grid element from bus-bar to bus bar and includes all equipment such as associated circuit breakers, Line reactors , isolators, CVT's , CT's, LAs etc.
3. The criteria that have been adopted for including a generating unit is as follows:
 - a) All Regional entities
 - b) All thermal units of 200 MW and above
 - c) All Hydro units of 25 MW and above

4. Format – IA: PROPOSAL OF TRANSMISSION ELEMENT OUTAGES OF XXXXXXXX PROPOSED IN OCC MEETING OF ERPC FOR MONTH OF XXXXXX AND SEEKING RPC APPROVAL

PROPOSAL OF TRANSMISSION ELEMENT OUTAGES OF XXXXXXXX PROPOSED IN OCC MEETING OF ERPC FOR MONTH OF XXXXXX AND SEEKING RPC APPROVAL									
SL. NO.	NAME OF THE ELEMENTS	FROM		TO		REMARKS (DOB/OCB)	S/D TO BE AVAILED BY	REASON OF OUTAGE	Remarks
		DATE	TIME	DATE	TIME				

Format – IB: PROPOSAL OF TRANSMISSION ELEMENT OUTAGES OF XXXXXXXX PROPOSED IN OCC MEETING FOR MONTH OF XXXXXX

Sr. No.	Name of Requesting Agency	Element Name	Element Type	Daily/Continuous	Reason	Requested From Date	Requested From Time	Requested To Date	Requested To Time	Requester Remarks	No. of Days	Consent	Remarks

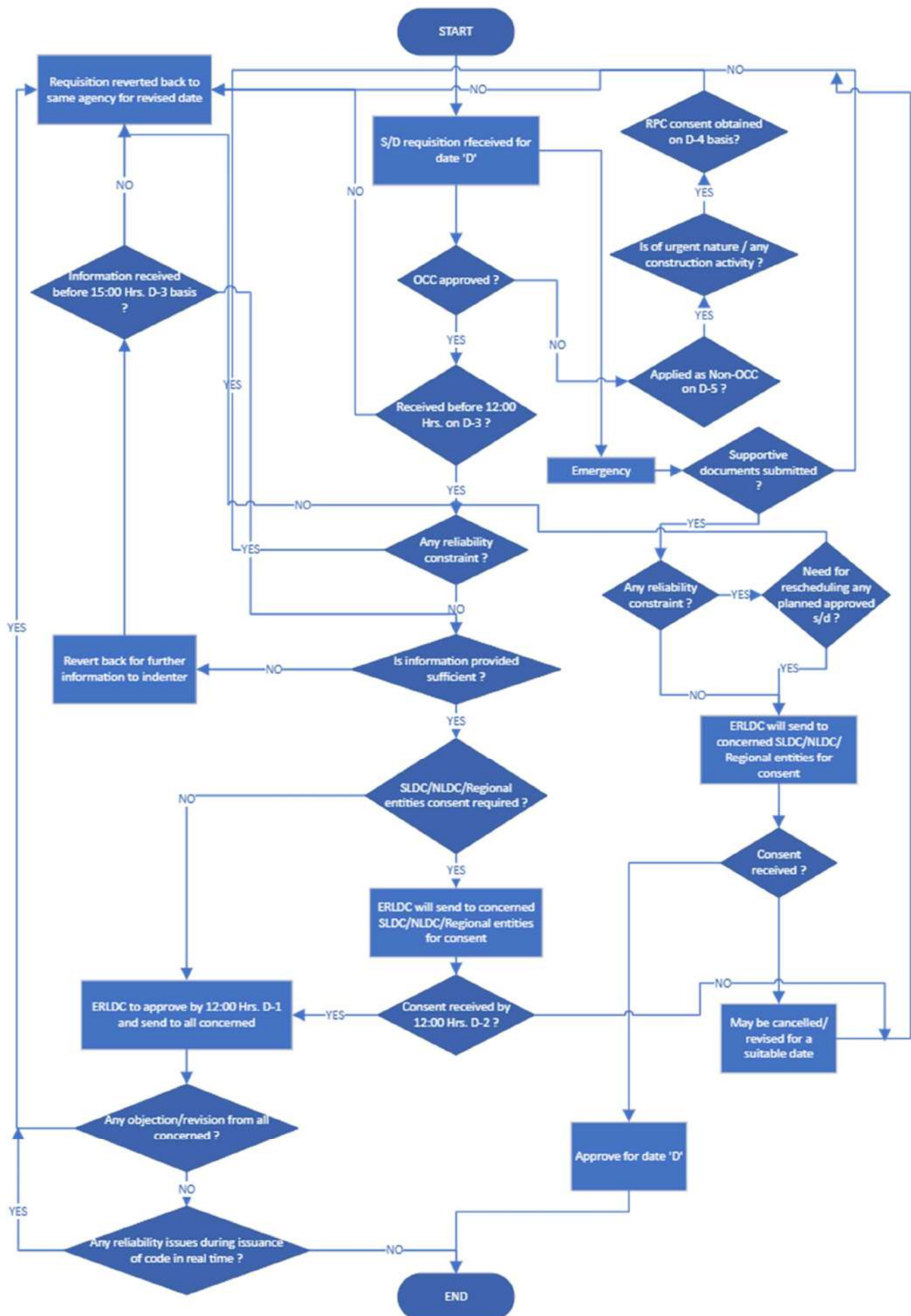
In view of the network security ERLDC will also consider the following criteria for important grid element, inline with the IEGC and CEA grid standards operation liaison

1. Switching operation for all 400 kV and above elements and tie lines can be performed only after obtaining operating code from ERLDC.
2. Before performing any operation (including switching in and switching out) by any of the USER, which would have an impact on the security and reliability of the regional grid, the same shall be intimated to ERLDC by the USER along with the likely time and status of normalization. SLDC should intimate such operation by any of their state control areas entities to ERLDC.
3. In respect of two main and transfer bus switching scheme at 400 kV substations, ERLDC shall be informed whenever the 400 kV transfer breakers at any substation is utilized for switching any line/ICT.
4. In respect of 765/400kV substation/Power station switchyard having breaker and a half switching scheme, outage within the substation (say main or tie circuit breaker) not affecting power flow on any line/ICT can be availed by the constituents only after obtaining code from ERLDC. However, while availing such shutdowns or carrying out switching operations it must be ensured by the substation that at least two Dias are complete even after such outage from the viewpoint of network reliability. Any outage not fulfilling the above condition needs the approval of ERLDC.
5. Transmission elements/bays/buses commissioned after finalization of this documents and falls under above criteria will be under purview of important regional grid elements

ANNEXURE 2: SHUTDOWN PROCEDURE, TIMELINE AND FLOWCHART

SI No	Activity	Day & Time
1	Request of shutdown from Indenting agency to concerned ERLDC.	12:00 hrs/D-3
2	Forwarding request of shutdown requiring NLDC approval from ERLDC to other concerned RLDCs and NLDC (along with the recommendations and study result)	10:00 hrs/D-3 to 10:00hrs/D-2
3	Comments of other RLDCs or NLDC	18:00hrs/D-2
4	Approval or Rejection of Request	12:00hrs/D-1

***D = The date for which Shutdown is applied**



ANNEXURE 3: FORMAT FOR MESSAGE TO BE ISSUED BY ERLDC FOR PLANNED OUTAGE CLEARANCE

पावर सिस्टम ऑपरेशन निगम लिमिटेड पूर्व क्षेत्रीय भारी षण क कोलकाता- 700033

संदेश संख्या: ERLDC/ddmmyy/Rev-

Date :

वर्णक: भारी भारी बंधक, पूर्व क्षेत्रीय भारी षण क, कोलकाता

SUB: SHUTDOWN CLEARANCE

The following shutdown may be availed

1	Element Name	Requesting Agency	Consenting Agency	Nature	Type	From		To	
						Date	Time	Date	Time
	Reason								
	Condition								
2	Element Name	Requesting Agency	Consenting Agency	Nature	Type	From		To	
						Date	Time	Date	Time
	Reason								
	Condition								
3	Element Name	Requesting Agency	Consenting Agency	Nature	Type	From		To	
						Date	Time	Date	Time
	Reason								
	Condition								

Notes : 1)
2)
3)
4)

भारी भारी बंधक

Format V: Monthly Shutdown Report for Transmission Elements by RLDCs

Sl. No.	Name of Constituent	No. of outages planned in OCC	No. of planned outages in Post OCC	Total planned outages	Number of final outages approved	Number of actual outages availed	Availed vs Planned (%)	Availed vs Approved (%)
		(a)	(b)	(c) = (a+b)	(d)	(e)	(f) = (e/c)	(g) = (e/d)
1	Constituent-1							
2	Constituent-2							
3								
4								
.								
.								
.								
	XXX Region							

Annex B.26

Partha Ghosh (पार्थ घोष)

From: Sourav Bera <bera.sourav@tcs.com>
Sent: 11 October 2023 16:49
To: Partha Ghosh (पार्थ घोष)
Cc: Anando Bhattacharya; MANOJ KUMAR VERMA
Subject: RE: Integration of Meters in AMR system
Attachments: Non-AMR meter list.xlsx

TCS Confidential

Dear Sir,
As per your mail and details of SEM/Stations shared for AMR Phase-5 implementation, below are the details of technical scope and subsequent commercial. Commercial values are indicative, we will be sharing final offer copy shortly.

Scope: As per SEM details, total 320 no of Meters has to be integrated with AMR system. Out of which, 242 Meters are already present in Sub Stations, another 78 Meters has been kept for upcoming buffer of New Sub Stations and Meters.

Considering the fact, requirement of DCU (Data Concentrator Unit) has been provisioned as below.

Location	Sub Station Type	Location Count	Meter Count	DCU considered	Remarks
NEW	Normal	31	67	31	242 Meters which already present. 02 DCU considered for some Kiosk stations, for long distance.
NEW	Kiosk	9	89	13	
Existing	Normal	11	32	00	
Existing	Kiosk	18	54	06	
NEW-Buffer	Normal	9	33	09	78 Meters for buffer.
NEW-Buffer	Kiosk	5	45	06	
TOTAL		83	320	65	

Cables, PVC Pipe and Fiber Optical Cable qty has been provisioned as per the estimation.
New Rack Server with Windows Operating System and 24 ports Network Switch have been considered(one time). These items will be installed at ERLDC Data Centre. These will be working as a redundant backup system and Data Repository for entire AMR. As the number of Meters getting increased, redundant data repository is a must for proper system operation.

- Project timeline has been considered as below, as discussed with PGCIL. Total Duration (28 Months)

M1 (Dec-23)	M6 (May-24)	M7 (Jun-24)	M18 (May-25)	M19 (Jun-25)	M28 (Mar-26)
06 months, For Supply & implementation		12 months Warranty Support		10 months comprehensive AMC Support	

** Considering LOA placement & project start in Dec-23 1st week.

Technical & Operational Terms:

- Integrating DCUs with the existing LAN setup of PGCIL. LAN connection (including configured port and physical panel) needs to be provided by PGCIL.
- In case of unavailability of LAN network (either physically or lack of network configuration), AMR system will not be installed in that location since GPRS based communication is now being prohibited as per PGCIL guidelines.

Details of Commercial as Below:

For Hardware Supply:

SL No	Item Description	Unit	Qty	Unit Price (INR)	Total Price (INR)
1	Supply of all required accessories	Per SEM	320	1066.60	341312
2	Data Concentrator Unit/ Data Accumulator Unit	Per Unit	65	95580	6212700

3	Armoured RS485 Cable	Per Metre	12000	109.22	1310640
4	PVC Pipe of ISI make min dia 50 mm or higher	Per Metre	10000	102.65	1026500
5	Fibre Optical Cable with Converters and other accessories.	Per Metre	16500	98	1617000
6	HPE ProLiant DL360 Gen10 Plus Rack Server	Per Unit	1	506442	506442
7	Operating System, Microsoft Windows Server- 2022, 16 Core license Pack	Per Unit	1	164429	164429
8	HPE Configurable Network Switch-24 ports	Per Unit	1	94711	94711
Total Cost of Supply in INR (without applicable Taxes)					1,12,73,734

For Erection & 12 months Warranty

SL No	Item Description	Unit	Qty	Unit Price (INR)	Total Price (INR)
1	Meter Integration & configuration at Data Centre.	Per SEM	320	11966	3829120
2	Meter Integration & configuration at Sub Stations.	Per Unit	320	15321	4902720
3	LAN Integration Service at Sub Stations	Per Location	54	17120	924480
4	Additional Charges for LAN Integration at Kiosk sites	Per Location	14	17120	239680
5	Additional Charges for Laying of Armoured Cable at Kiosk Sites	Per Metre	12000	39	468000
Total Cost of Erection & Warranty in INR (without applicable Taxes)					1,03,64,000

For 10 months Comprehensive AMC:

SL No	Item Description	Unit	Qty	Unit Price (INR)	Total Price (INR)
1	Comprehensive AMC Charges for 10 months	Per SEM	320	13857.25	4434320
Total Cost of AMC in INR (without applicable Taxes)					44,34,320

Total Cost of Ownership in figures without taxes: 2,60,72,054.00 /-

BG @3% of total LOA value. BG Validity: Contract period plus additional 3 months buffer.

Price validity: 25 Nov 2023

Thanks and Regards,
Sourav Bera

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From: Partha Ghosh {पार्थ घोष} <partha.ghosh@powergrid.in>

Sent: Friday, September 29, 2023 6:13 PM

To: Sourav Bera <bera.sourav@tcs.com>

Cc: Anando Bhattacharya <anando.bhattacharya@tcs.com>

Subject: FW: Integration of Meters in AMR syatem

External Email – Be cautious while opening any links or attachments.

Dear Sir,

Please provide necessary offer for 5th phase AMR in Eastern Region by 05.10.2023 for further discussion with ERPC.

Thanks

PARTHA GHOSH
RHQ/AM, ERTS-II
POWERGRID
9434748263

From: ERLDC Commercial <erldcommml@grid-india.in>

Sent: Friday, September 29, 2023 5:43 PM

To: Partha Ghosh {पार्थ घोष} <partha.ghosh@powergrid.in>

Cc: Manas Das (मानस दास) <manasdas@grid-india.in>; Ankit Jain (अंकित जैन) <ankitjain@grid-india.in>; Sukumar Sardar (सुकुमार सरदार) <sukumar@grid-india.in>

Subject: Integration of Meters in AMR syatem

Sir,

Kindly find the attached document regarding list of meters to be connected in AMR. Apart from the Existing 235 meters mentioned in the list , around 50 meters for upcoming future projects & 10% extra margin may also be considered. Hence It is requested to consider around 320 number of meters to be connected in next phase of AMR. It is also suggested to make provision for AMR connectivity of new meters during FTC process.

Thanks and Regards,

सादर धन्यवाद

ERLDC (Market Operation)

इ.आर.एल.डी.सी (मार्केट आपरेशन)



* Mail domain of GRID-INDIA changed from erldcommml@posoco.in to erldcommml@grid-india.in. Kindly mail to grid-india domain (erldcommml@grid-india.in)

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

1	BIHAR	Demand (MW)	Energy Requirement (MU)
	NET MAX DEMAND	5508	2958
	NET POWER AVAILABILITY- Own Sources	554	314
	Central Sector+Bi-Lateral	6017	3429
	SURPLUS(+)/DEFICIT(-)	1064	785
2	JHARKHAND		
	NET MAXIMUM DEMAND	1800	1037
	NET POWER AVAILABILITY- Own Source	451	164
	Central Sector+Bi-Lateral+IPP	787	486
	SURPLUS(+)/DEFICIT(-)	-753	-387
3	DVC		
	NET MAXIMUM DEMAND	3192	2069
	NET POWER AVAILABILITY- Own Source	5820	3218
	Central Sector+MPL	334	190
	Bi- lateral export by DVC	2000	1287
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	962	52
4	ODISHA		
	NET MAXIMUM DEMAND (OWN)	5400	3107
	NET MAXIMUM DEMAND (In Case of CPP Drawal)	5804	3023
	NET POWER AVAILABILITY- Own Source	3192	1773
	Central Sector	1567	894
	SURPLUS(+)/DEFICIT(-) (OWN)	-641	-440
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal)	-1045	-356
5	WEST BENGAL		
	WBSEDCL		
5.1	NET MAXIMUM DEMAND	6664	3186
	NET MAXIMUM DEMAND (Incl. Sikkim)	6669	3190
	NET POWER AVAILABILITY- Own Source (Incl. DPL)	5379	2567
	Central Sector+Bi-lateral+IPP&CPP+TLDP	2315	1220
	EXPORT (To SIKKIM)	5	4
	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	1025	597
5.2	CESC		
	NET MAXIMUM DEMAND	1740	774
	NET POWER AVAILABILITY- Own Source	460	367
	IMPORT FROM HEL	540	322
	TOTAL AVAILABILITY OF CESC	1000	689
	DEFICIT(-) for Import	740	-85
			-85
	WEST BENGAL (WBSEDCL+CESC+IPCL)		
	(excluding DVC's supply to WBSEDCL's command area)		
	NET MAXIMUM DEMAND	8404	3960
	NET POWER AVAILABILITY- Own Source	5839	2934
	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	2855	1542
	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXPORT	290	516
	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXPORT	285	512
6	SIKKIM		
	NET MAXIMUM DEMAND	118	64
	NET POWER AVAILABILITY- Own Source	4	1
	Central Sector	81	31
	SURPLUS(+)/DEFICIT(-)	-34	-32
	EASTERN REGION		
	NET MAXIMUM DEMAND	23943	13195
	NET MAXIMUM DEMAND (In Case of CPP Drawal of Odisha)	24340	13111
	BILATERAL EXPORT BY DVC (Incl. Bangladesh)	2000	1287
	EXPORT BY WBSEDCL TO SIKKIM	5	4
	EXPORT TO B'DESH & NEPAL OTHER THAN DVC	642	462
	NET TOTAL POWER AVAILABILITY OF ER	25501	13689
	(INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)		
	SURPLUS(+)/DEFICIT(-)	1553	489
	SURPLUS(+)/DEFICIT(-) (In Case, 600 MW CPP Drawal of Odisha)	1157	573



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत शक्ति सर्वेक्षण और भार पूर्वानुमान प्रभाग
Power Survey & Load Forecasting Division

Sewa Bhawan, New Delhi
Dated 21st September, 2023

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

विषय: आगामी टीसीसी/आरपीसी बैठक के लिए एजेंडा आइटम.

Sir,

Please find attached agenda items, related to Disaster management plan and Crisis management plan (DMP/CMP), to be incorporated in the agenda of ensuing TCC/RPC meeting.

This issues with the approval of Chairperson, CEA.

(एल.के.एस राठौड़) 21/9/2023

निदेशक (पी. डी. एम. एवं एल.एफ.)

Agenda Items for ensuing TCC/RPC Meeting:

Implementation of Crisis Management Plan (CMP) and Disaster Management Plan (DMP) in Power Utilities:

As per section 37 of the Disaster Management Act 2005, each Ministry/Department of the Government of India is required to prepare a Disaster Management Plan (DMP). Also, as per the Crisis Management Plan (CMP) of the Government of India prepared by the Cabinet Secretariat, each Central Nodal Ministry is required to prepare a detailed Crisis Management Plan for dealing with crisis situations falling in the areas of their responsibility.

Accordingly, the Ministry of Power prepares DMP and CMP for the power sector in association with Central Electricity Authority. The CMP for power sector is reviewed periodically by Secretary (Security), Cabinet Secretariat. The latest review meeting was held on 23.11.2022 wherein Secretary (Security) emphasized on the following points related to DMP and CMP:

- i. Each power utility shall create a fund which would be 1.5% of the annual revenue of the Utility for meeting the requirement of crisis/disaster management plan.
- ii. Power Utilities shall prepare Disaster Management Plan (DMP) and Crisis Management Plan (CMP) separately for their organisation.
- iii. The Plan/report shall cover the management of different crisis scenarios as enlisted in the Ministry of Power Crisis management plan given in the table below:

S.No.	Crisis Situations in Power Sector
1.	Terrorist Threats and Attacks
2.	Bombs Threats, Hoax & Bomb Explosions
3.	Explosion in Equipment
4.	Crowd or Mob Attack
5.	Threat from UAV(Drone) attack
6.	Strike
7.	Sabotage
8.	Cyber-attack
9.	Fire/Forest Fire

- iv. The report shall also indicate the response of the various teams, observations, and effectiveness for handling the emergency situation and the scope for improvements (new learnings, DOs, and Don'ts), etc.;
- v. Sensitize and motivate both public and private sector power utilities to conduct mock drills on regular basis and submit the quarterly report.
- vi. Involvement of other agencies such as District-level authorities/ NDRF/SDRF during the mock drill exercises conducted.
- vii. Sharing the calendar of mock drills to be conducted by power utilities for next Year.

These plans/reports shall be up-dated and revised on a periodic basis to include any new inputs received from various stakeholders/new learnings during mock drill exercises conducted/ or on the directives of the National Disaster Management Authority or Cabinet Secretariat.

Secretary (Security) has repeatedly stressed the aforementioned points in the review meetings held earlier and the same was communicated by CEA so many times. However, the majority of the power utilities have not communicated any action taken by them in this regard. They are also not submitting the quarterly mock drill report.

The power utilities in ER states shall furnish the Quarterly report for the mock drill exercises conducted for handling various crisis and disaster situations. The format of report to be submitted to CEA is attached at **Annexure-I**.

The matter shall be taken-up in ensuing Sub-Committee /TCC/RPC meeting and expedite the same to make the effectively implementation of DMP/CMP at regional level in Power sector.

Quarterly Report on Mock Drill conducted for Crisis/Disaster Situations

1. Name of the Organization:
2. Period (Quarter of the year to be specified e.g. Apr to June, July to Sep etc.):
3. Mock Drill Details:

S No.	Name of Project/Station	Crisis/ Disaster situation	Brief description of the mock drill conducted	Key learnings/outcomes	Participation of Local Administration/NDRF/ SDRF

4. Tentative Schedule of Mock drill exercises to be conducted in next quarter:

S No.	Name of Project/Station	Crisis/ Disaster situation for which mock drill will be conducted
