Agenda

for

168th OCC Meeting

Date:17.06.2020

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Agenda for 168th OCC Meeting to be held on 17th June 2020

PART A

Item no. A.1: Confirmation of minutes of 167thOCC meeting of ERPC held on 16.03.2020

The minutes of 167th OCC meeting were uploaded in ERPC website and circulated vide letter dated 30.04.2020 to all the constituents.

Members may confirm the minutes of 167th OCC meeting.

PART B: ITEMS FOR DISCUSSION

ItemNo.B.1: Single User-credential for submission of schedule data for Inter-regional (IR) LTA/MTOAtransactions---ERLDC

Real time market (RTM) is going to be implemented on all-India basis from 1st April, 2020 onwards. For RTM, available Inter Regional (IR) margin for each RTM delivery period needs to be calculated on real time basis and transactions need to in sync for all the timeblocks.

Inter-Regional schedule prepared by the RLDC consists of ISGS, URS, LTA, MTOA, STOA and PX transctions. Presently Inter Regional (IR) schedule is prepared by each RLDC separately as per the data submitted by the utilities in RLDC WBES (Web Based Energy Scheduling) application. Since the computations are to be carried out on real time basis, mismatch between two separate entries by seller / buyer, if any, for various transactions need to be avoided.

It may kindly be noted that Regulation 6.4.14 of the Grid Code provides for mutually agreed schedules submission for all ISGS/ LTA/MTOA transctions. In view of above, it has been decided to streamline the scheduling process asbelow:

1. IR LTA/MTOA schedule data entry shall be done by one authorised entity at one RLDCWBESapplication.

2. Authorised entity for data submission shall be the “Applicant” of the LTA/MTOA transaction among buyer/ seller / applicant of that transaction. In case of no applicant for the LTA/MTOA, then Data submission right is issued to the buyer of thetransaction.

3. The designated utility for data submission (“Applicant” of the LTA/MTOA) shall submit the schedule quantum which is mutually agreed quantum between Buyer and Seller utility at the RLDC in which applicant isregistered.

4. Log in credential to the “Applicant” shall be issued by the RLDC in which “Applicant” is geographicallylocated.

The modified Web Based Scheduling to accommodate above mentioned procedure is under development and shall be operationalised by 01st April, 2020.

Procedure of selection of authorized entity for LTA/MTOA transctions and Location of RLDC WBES in which schedule data to be submitted:

Transaction type	Punching Rights given to	Cases	Location of entry
Inter-Regional	Applicant	If Applicant is Seller	Seller Region WBES
		If Applicant is Buyer	Buyer Region WBES
Intra-Regional	Applicant	-	Region where transaction is taken place

In 167thOCC , The house was informed that revised DSM mechanism-sign change criterion, Real time market, ramp rate and segregation of peak & off peak would be implemented from 01st April 2020.

OCC advised all the constituents to authorize one entity for IR LTA/MTOA schedule data entry as per the regulation to avoid the errors in data entry.

ERLDC informed that trial operation of Real time market (RTM) would start one week earlier to 01st April 2020.

Members may discuss.

ItemNo.B.2: Implementation of Automatic Demand Management Scheme (ADMS)- ERLDC

The latest status along with proposed logic as follows:

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementationlogic)
1	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 25.11.16	F <49.9 AND deviation > 12 % or 150 MW
2	DVC	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 17.06.2016	
3	Bihar	F <49.7 AND deviation > 12 % or 150 MW	They would place the order to Chemtrol for implementation.	F <49.9 AND deviation > 12 % or 150 MW
4	Jharkhand	1. System Frequency < 49.9 Hz AND deviation > 12 % or 25 MW 2. System Frequency < 49.9 Hz AND deviation > 12 % or 50 MW 3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW	In service from 21st August 2019.	Condition 1: Block I feeders will be selected for loadshedding Condition 2: Block I & II feeders will be selected for loadshedding Condition 3: Block I, II & III feeders will be selected for load shedding
5	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40MW)	10 Months Sent for PSDF approval. It was informed that tender for the work has beenfloated.	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operated when discom are in schedule but GRIDCO is overdrawing due to less generation at state embedded generators

6.	Sikkim			Sikkim informed that they have submitted a proposal to PSDF Committeefor installation of OPGW cables whichis under approval stage. Sikkim added that ADMS scheme would beimplemented after installation of OPGW

In 42nd TCC, Bihar informed that the testing of ADMS would be done by end of December 2019.

Odisha informed that ADMS would be implemented by May 2020.

Sikkim informed that installation of OPGW is in progress, ADMS would be implemented after the installation of OPGW & renovation of sub-station tentatively by 2020.

TCC advised Odisha and Sikkim to implement ADMS at the earliest.

After detailed deliberation, TCC opined that uniform logic and settings are to be implemented for all the states. TCC advised to discuss the issue in next OCC Meeting to formulate uniform logic and setting ofADMS.

In 165th OCC, Bihar informed that ADMS had been tested on 10th January 2020 but it was not successful.

ERLDC gave a presentation on the uniform logic. The proposed logic for ADMS operation is given below:

If frequency is less than 49.9 Hz for 3 minutes
and
Overdrwal/Under injection > 150 MW or 12 %

OCC advised all the states to go through the presentation and submit their comments to ERPC and ERLDC for finalization of ADMS logic.

In 166th OCC, OCC agreed to the ERLDC proposed logic.

OCC advised all the states to implement above logic in ADMS. It was also decided that the performance of the ADMS would be analyzed in monthly OCC Meetings if necessary, the logic would be reviewed.

Members may update.

ItemNo.B.3: Implementation of Automatic Generation Control in Eastern Region

In compliance to CERC's direction in order dated 06/12/2017 in petition no 79/RC/2017, AGC was commissioned in NTPC Barh on 01st August 2019 and operationalized since 23rd August, 2019.

Vide order dated 28th August 2019, CERC in Petition No.: 319/RC/2018 directed that all the ISGS stations whose tariff is determined or adopted by CERC shall be AGC-enabled and the ancillary services including secondary control through AGC be implemented as per the following direction:

I. All thermal ISGS stations with installed capacity of 200 MW and above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC are directed to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by NLDC. NLDC shall notify the said requirements within one month of thisorder.
II. All such ISGS stations whose tariff is determined or adopted by CERC shall have

communication from the nearest wide band node to the RTU in the unit controlroom.

III. The Central Transmission Utility (CTU) is directed to have communication availability from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations in a redundant and alternate path ensuring route diversity and dualcommunication.

IV. The NLDC is also directed to commission the required communicationinfrastructure.

V. The expenditure as a result of compliance of the above directions may be claimed as per relevant regulations or provisions of thePPA.

VI. The NLDC is directed to monitor implementation of the above directions so that all the ISGS stations whose tariff is determined or adopted by CERC are AGC-enabled within six months of thisorder.

VII. The framework regarding compensation for AGC support and deviation charges as stipulated in the Commission's Order in Petition no. 79/RC/2017 dated 06.12.2017 shall apply to the five pilot projects as also to other ISGS as and when they are AGC enabled. This arrangement shall remain in place till the relevant regulations inter alia on compensation for AGC services are framed by theCommission.

VIII. NLDC/RLDCs are allowed to operate the AGC system for enabling the signals to the power plants at theearliest.

IX. All new thermal ISGS stations with installed capacity of 200 MW and above and hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC shall mandatorily have the capability to provide AGCsupport.

All concerned plants may please ensure taking necessary action for arranging the communication (through redundant and alternate paths) from the existing nearest wideband communication node to their unit control rooms through two fiber optic cables, in coordination with CTU. It may please be noted that all the ISGS stations whose tariff is determined by or adopted by CERC should be AGC-enabled before 28th February 2020, as per order ofCERC.

A. Status of implementation of AGC for ISGSstations

Status of implementation as updated in 166th OCC Meeting and 5th TeST Meeting as follows:

Sl No	**Station**	**Status of Communication link from plant substation to PGCIL node**	**Status of communication system integration from unit to plantsubstation**	**Target date for implementation of AGC at plant**
1	Farakka STPS - I & II	Both links established	Pending	June 2020
2	Kahalgaon STPS - II	Both links established	Pending	June 2020
3	Barh STPS	Both links established	Installed	Running since August2019
4	NPGC, Nabinagar	Links from Gaya and Patna has beenestablished.	NPGC, Nabinagar informed that OPGW is available but end equipment need to be procured and installed to establish communication link from their station to NLDC. NTPC further informed that they have placed orderfor providing the endequipment.	June 2020

5	Maithon Power Limited	One link established. Other link, Ranchi-Maithon(RB) would complete by March, 2020.	In progress	April 2020
6	Talcher STPS - I	Both links established.		June 2020
7	Kahalgaon STPS - I	Both links established.	NTPC informed that they are approaching CERC for exemption.	
8	Nabinagar Thermal Power Project - BRBCL	Only one link Sasaram-Nabinagar OPGW installation is pending. It would take two years for completion.		June 2020
9	Darlipalli STPS	Communication established.	Integration is in progress	June 2020
10	Teesta - V	One link established		June 2020
11	Farakka STPS - III	Link established		June 2020
12	MTPS Stage – II (Kanti)	Link established		June 2020
13	Rangit HPS	One link established		June 2020

Note: OPGW from Barh to Gorakhpur is redundant path for ER to NR which would be completed by March, 2020.

B. Status of implementation of AGC as a pilot project instates

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

Odisha informed that SLDC and OPGC will sit together and finalise the scheme.

WBPDCL informed that they have already collected offer from Siemens for implementation of AGC and they are awaiting the concurrence from SLDC.

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

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

Summary of status of implementation:

State	Station/Unit	Action plan

DVC	Mejia unit#7 &8	• NIT has beenfloated. • Orderplacement 30th March2020 • Commissioningof AGC 31st July2020
West Bengal	Unit-5 of Bakreswar TPP	SLDC, WB to establish the required hardware for generating AGC signal at SLDC.
Odisha	Unit#3 of OPGC	Joint meeting between SLDC, Odisha and OPGC was held wherein, it was decided to visit Barh, NTPCandNLDCtogetacquaintedwiththeAGC implementation and formulate a plan.

Members may update.

ItemNo.B.4: Outage of important transmission lines

1. 400 kV Kishenganj-Patna D/Clines:

In 162nd OCC, Powergrid informed that one circuit of 400 kV Kishenganj-Patna D/C line would be restored through ERS by December 2019. Powergrid added that permanent restoration of both the circuits of 400 kV Kishenganj-Patna D/C lines would be completed by March 2020.

MS, ERPC submitted that Powergrid had repeatedly changed their schedule of restoration of the line. He advisedPowergrid to give a report on restorationschedule committed till date in chronological order along with the reason for changing the scheduled dates.

He added that a Committee would visit the site once again in 2nd week of November 2019 to assess the situation.

In 163rd OCC, Powergrid informed that both circuits of 400 kV Kishenganj-Patna D/C line would be restored through ERS by December 2019. Powergrid added that permanent restoration of both the circuits of 400 kV Kishenganj-Patna D/C lines would be completed by March2020.

Thereafter, Powergrid vide letter dated 3rd January 2020 informed that the temporary restoration of the line using ERS could not be completed due to pathetic condition of approach road, unprecedented cold weather condition and continued heavy water current in the Ganga river.

Powergrid added that restoration work is under progress in war footing basis and it is expected to be restored temporarily by 3rd/4th week of January 2020 however permanent restoration is expected to be completed by end of March 2020.

In 24th January 2020 meeting held at Patna, Powergrid informed that both circuits of 400 kV Kishenganj-Patna D/C line was restored through ERS on 22nd January 2020.

In 166th OCC, Powergrid informed that that permanent restoration of both the circuits of 400 kV Kishenganj-Patna D/C lines would be completed by April 2020.

In 167thOCC , Powergrid informed that that permanent restoration of both the circuits of 400 kV Kishenganj- Patna D/C lines would be completed by April 2020.

Powergrid may update.

2. 400 kV Barh-Motihari D/C and 400 kV Barh-Gorahkpur D/Clines

Eastern Region Power Committee (ERPC) letter dated 21.11.2019, a six month restoration time starting from the zero date of 15.12.2019 was granted to DMTCL to restore the 400 kV D/C Barh-Motihari-Gorakhpur Lines

by re-erecting 6 towers on pile foundations following the washing away of four towers on account of heavy water discharge and change in course of Gandak river last monsoon season.

DMTCL vide its letter dated 21st May 2020 informed that due to the severe impact of COVID 19 Pandemic as well as other Force Majeure events such as unseasonal heavy rains which ultimately affected the pace of DMTCL transmission line restoration work progress and requested for a suitable extension in terms of timelines for completion of restoration work.

To appraise DMTCL challenges, issues, work progress and current position related to restoration work, a consolidated presentation is submitted at Annexure B20.

Members may update.

Item No. B.5: Consolidated First Time Charging procedure--ERLDC

In line with the IEGC and CERC (Terms and Condition of Tariff) 2019-24, a consolidated procedure has been formulated to enable NLDC/RLDCs to facilitate integration of a new or modified power system element. This consolidated First time Charging(FTC) procedure is applicable to all the generating station those are regional entities (as defined in IEGC) as well as all the Power system elements belongs to 400kV level and above irrespective of ownership, 220 kV lines emanating from ISGS /ISTS substations, Inter Regional/ Inter- state/Transnational transmission lines irrespective of voltage level/ownership, HVDC links/poles irrespective of ownership, FACTS devices (TCSC/FSC/STATCOM/SVC), Station Transformers (STs) connected at generating station those are regional entities.

Consolidated Procedure for First Time Charging (FTC) is available at following link:
https://erldc.in/documents-first-time-charging-documents/first-time-charging-documents/
All concerned are requested to follow this procedure for the smooth operation of the all India electricity grid.

Members may note and follow the procedure.

Item No. B.6: Operationalizing Bus splitting at Biharsariff--ERLDC

Bus split arrangement at Biharsariff was already commissioned, however it was not put in service as split bus arrangement was causing uneven loading in 400/220 kV ICTs at Biharsariff. Thus earlier it was decided that the same will be put in service after commssiong of 4th ICT at Biharsariff. After commissioning of 4th ICT simulation studies are carried out at ERLDC and same is also shared with Bihar SLDC. From the study it is observed that Bus-split at Biharshariff has no significant effect on loading of 400 KV lines but 400/220 KV ICT flows is getting significantlyskewed.

- N-1 contingency of 500 MVA ICT-IV leads to 265 MW loading on ICT –II (315 MVA rating) where in base case without bus-split, total ICT loading at Biharshariff was 560 MW and Bihar demand 4650MW.
- If we consider summer peak case having 6000 MW Bihar demand with 660 MW Biharshariff ICTs loading, N-1 contingency of 500 MVA ICT-IV leads to 301 MW loading on ICT –II (315 MVArating).

In 166th OCC, ERLDC informed that no network constraint had been observed during the simulation study.

OCC advised Bihar to check the demand considered for the simulation study and send their comments to ERLDC within a week, if any.

In 167th OCC ,OCC advised Bihar to send the updated demand details to be considered for the simulation study to ERLDC.

BSPTCL via their letter dated 12th March 2020, informed that in simulation Bihar load is considered as 5300 MW they have already met 5891 MW in last summer. Further they pointed considering the stability in power supply in view of upcoming election period in Bihar, bus split arrangement shall not be prudent.

Members may discuss.

Item No. B.7: Review of implementation of PSDF approved projects of Eastern Region.

NLDC (POSOCO) being the Nodal Agency for PSDF schemes, is carrying out PSDF Secretariat function under directions of MoP. Recently NLDC is directed by MoP to disburse the PSDF sanctioned funds as early as possible as its non-utilization is being viewed seriously by MoP on variousfora.

In view of the above, status review of the projects being executed under PSDF funding in Eastern Region, is required to be carried out on regular basis for expediting theprojects.

All the constituents are requested to furnish/update the status of their respective project in every OCC and also requested to submit requisition for disbursement to NLDC at the earliest by 1st February 2020, so that amount may be released by 31st March 2020.

Member Secretary, ERPC informed that there is no progress in some projects which are already granted fund from PSDF. Such projects would be scraped and the fund would be diverted to other projects. Therefore, he advised all the state utilities to accelerate the work.

Members may update.

Item No. B.8: Commissioning of 2 X 240MVAR LR of Mednipur Line at New Ranchi SS as Bus Reactor: Powergrid

2 nos of 765 kV Line bays along-with 240 MVAR switchable line reactors at New Ranchi SS for 765kV Ranchi-Medinipur line (Line under TBCB) under ERSS XVIII will be ready for charging by March, 2020. The schedule commissioning of the said Reactor is 01/08/2020. The 765kV New ranchi Mednipur D/C Line is anticipated to be ready for charging by June, 2020.

As per the voltage profile of 765kV Bus at New Ranchi SS for the month of February , 2020 (trend enclosed) the voltage of 765kV bus remains in the range of 780-790 KV. After taking the both 240 MVAR Line Reactors in service the voltage condition of 765KV Bus at New Ranchi will improve.

The said agenda was discussed in 42nd TCC/ERPC meeting and it it was opined that further discussion may be carried out in lower forum of ERPC before approval of the same. Ahead of schedule commissioning of the above assets may kindly be agreed considering the requirement of grid.

In 167th OCC ,Powergrid informed that 240 MVAR switchable line reactors of 765kV Ranchi-Medinipur line (only the line under TBCB project) at New Ranchi SS is ready for commission. Powergrid requested to consider the charging of the line reactors as bus reactor at New Ranchi S/s in end of March 2020 instead of scheduled commissioning date of 1st Aug2020.

After detailed deliberation, OCC allowed for charging of 240 MVAR switchable line reactors of 765kV Ranchi-Medinipur line as bus reactors at New Ranchi.

OCC advised Powergrid to place the detailed explanation on contribution of the reactors in controlling the voltage profile in next OCC Meeting.

Powergrid may explain

Item No. B.9: Testing and Calibration of Special Energy Meter: Powergrid

As per decision of 42nd TCC/ERPC and 41st CCM meeting, the testing and calibration of SEM to be carried out which are old and highly time drifted and accordingly the list of 314 SEM's have been also received fromERLDC.

Matter regarding testing & calibration and time drifting has been taken up with concerned vendors involved in testing and calibration. Vendors are ready for doing the testing however they are not ready to set right the time drifting as it is only possible through OEM i.e. L&T. The matter has also been taken up with OEM (M/s L&T), who have confirmed that the heavily time drifted meter shall required to be sent to factory for time correction.

In view of the above it is proposed that time drifting issue may be excluded from the scope of testing and calibration of SEMs. Bulk time drifting issue may be taken up separately.

In 167thOCC ,Powergrid informed that 140 Time Drifted SEMs were already replaced.

OCC opined that in order to take the appropriate decision, the cost involvement in calibration, Testing and time correction to be compared with cost of new meters.

OCC advised Powergrid to take the cost estimation for correction of time drift, testing & calibration and send the details to ERPC and ERLDC.

Powergrid may explain.

Item No. B.10: Proposal for procurement of SEM on account of Bhutan.--Powergrid

In 166th OCC, DCD (data downloading device) used to download the energy meter data from SEM energy meter of 400kV Siliguri and 220kV Binaguri feeder has gone faulty because of which Malbase substation is not able to send the meter data to the concerned authority since 06.01.2020.

Powergrid informed that no spare DCDs are available.

After detailed discussion, it was decided that some DCDs are to be procured and kept as spares.

OCC advised Powergrid to prepare an estimate and send the details to ERPC Secretariat.

Thereafter, Powergrid informed that at present there are multiple connectivity exists between Bhutan & India (Jigmeling, Malbase, Tala& Chukha) from Eastern Region. At Bhutan side also, SEM installed as per POWERGRID TS & installed on behalf of PTC. During normal maintenance activity it is observed that due to different snag in the SEM or associated data collecting devices, the SEM data could not be received at ERLDC/NLDC.

The matter already discussed in 166th OCC Meeting held on 20 Feb 2020. In 166th OCC, it was recommended for procurement of few DCD's & SEM on account of different S/S of Bhutan, where SEMs are already installed on behalf ofPTC.

The technology up-gradation had already taken place in SEM, therefore, it is better to migrate from old SEM where DCD is still required to new type SEM where data can be fetched by Laptop.

Based upon requirement of the SEM the said items will be handed over to Bhutan by POWERGRID on behalf of PTC. However, Installation & maintenance of all SEM & associated devices installed at Bhutan will be sole responsibility of concerned transmission licensee of Bhutan only. At present GENUS make is SEM is already available with Eastern Region and the same make is considered for Bhutan also and approximate cost of procurement of 20 nos SEMs shall be Rs. 3,19,166/- including GST.

Above SEM will be kept in stock at nearby POWERGRID S/S (Alipurduar/Binaguri) &based upon requirement generated at Bhutan it will be handed over on receipt of request through PTC. Necessary installation & maintenance to be taken care by Bhutan only. Cost to be recovered from PTC on one time reimbursementbasis.

In 167thOCC ,Powergrid informed that based on the requirement of the SEMs, the said items will be handed over to Bhutan by Powergrid on behalf of PTC. However, Installation & maintenance of all SEMs & associated devices installed at Bhutan will be sole responsibility of concerned utility of Bhutan only.

OCC advised Powergrid to coordinate with Bhutan for completion of the work.

OCC decided that the entire cost for completion of above work would be recovered from PTC.

Powergrid may explain.

Item No. B.11: Auxiliary Power consumption by Powergrid-- GRIDCO

GRIDCO informed that in 163rd OCC Meeting, OCC advised Powergrid to file a petition before OERC for exemption of Security Deposit, Maximum charges, Meter rent etc.

GRIDCO added that Powergrid not yet approached OERC.

In 166th OCC, Powergrid informed that they are in process of filing the petition before OERC. The petition would be filed by end of February 2020.

In 167th OCC Powergrid informed that petition would be filed in March 2020.

ERPC has received letter from GRIDCO which is enclosed at **Annexure B11**.

Powergrid may explain.

Item No. B.12: Shutdown of 400kV Nabinagar-Sasaram D/C line and 400kV Sasaram-Daltonganj D/C line -- Powergrid

The shut down of 400KV Nabinagar - Pusauli Line is allowed from 20th June 2020 for the rectification of bent tower.

BRBCL is requested to take necessary action to carry out the unit overhauling from 20th June 2020 and requested to intimate all the beneficiaries of Nabinagar STPS.

Powergrid is requested to submit the revised shutdown plan to ERLDC.

Members may note.

Item No. B.13: Data communication from Teesta III to ERLDC---TUL agenda

Teesta-III data is not getting communicated to ERLDC control room since 15-05-20 due to problem in 400KV Kishanganj-Teesta-III PLCC panel at Kishanganj substation. Every time the following alarms were noticed at 400KV Kishanganj -Teesta-III PLCC panel at Kishanganj end.

1. RF hybrid Tx Alarm
2. SURV card Tx Alarm

Once the panel has been re-set at 400KV Kishanganj -Teesta-III PLCC panel at Kishanganj end, Teesta-III data gets communicated for a while and then again the same problem repeats.

Recently it was observed that the Teesta-III speech to ERLDC control room is also getting disturbed and repeated false rings are going to ERLDC control room. Due to this problem, speech port was disabled at kishanganj end.

An alternative route for the Teesta-III data communicating to ERLDC control room, via Dikchu HEP PLCC-Rangpo S/S PLCC to ERLDC control room For establishing this route, the following arrangements has to be done:

a. Wiring modification at Teesta-III-Dikchu PLCC
b. Wiring modification at Dikchu HEP PLCC
c. Wiring modification at Rangpo S/S PLCC
d. Laying of OPGW cable from Rangpo S/S PLCC to control room (if required)
e. Modem installation at Teesta-III(PHY)
f. Modem installation at Rangpo S/S control room
g. Configuration to be done by ABB in all locations
h. Frequency band will be arranged by TUL

Members may discuss.

Item No. B.14: Implementation of differential protection at 400kV Teesta III- kishanganj lines—TUL

TUL vide mail informed that OPGW fiber linking is being carried out for Teesta III- Kishanganj line with termination at TEESTA-III & Kishanganj s/s ends, by POWERGRID. It is proposed that POWERGRID may be entrusted the responsibility ,as part of ongoing central sector OPGW project, to extend end-to-end OPGW dark Fiber links for Teesta III- Dikchu - Rangpo Line.

In view of the above ,it is proposed that in addition to 400 kV Teesta III – Kishanganj S/C line , differential protection be provided 400 kV Teesta III – Dikchu – Rangpo section also, since these are very short lines(less than 30 Km).

Members may discuss.

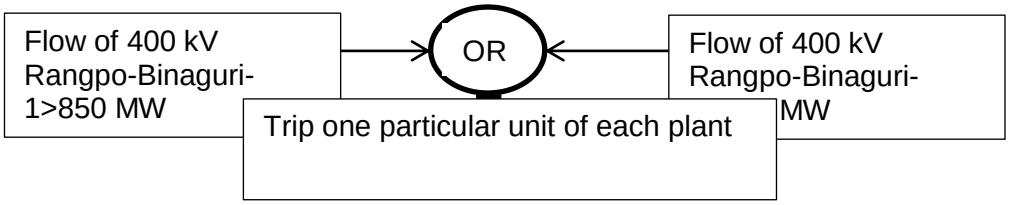
Item No. B.15: SPS for taking care of N-2 Contingency of 400 kV outgoing lines form Sikkim Complex--ERLDC

As per the decision taken in 161 OCC meeting no SPS is required when all the four 400 kV evacuating lines are in service. However, based on the study following proposal are made for the consideration of the forum:

1. When all 4 lines are in service only N-1 contingency of 400 kV Rangpo-Dikchu is critical due to cable portion of Teesta III- Kishanganj section. That part is taken care of by Teesta III local SPS.
2. When all 4 lines in service, following N-2 contingencies are critical

a. 400 kV Rangpo-Kishanganj & 400 kV Teesta-III-Kishanganj
b. 400 kV Rangpo-Kishanganj & 400 kV Rangpo-Binaguri one ckt
c. 400 kVTeesta-III-Kishanganj & 400 kV Rangpo-Binaguri one ckt

From the past experience and due to sharing some common corridor N-2 contingency of 400 kV Rangpo-Kishanganj & 400 kV Teesta-III-Kishanganj is a credible contingency. Following SPS logic may be implemented for ensuring reliability during the above mentioned three critical N-2 contingency:
SPS:



Members may discuss.

Item No. B.16: Sharing of Day Ahead Load Forecast --ERLDC

IEGC-2010 [5.3 (c)], mandates

Quote
Each SLDC shall develop methodologies/mechanisms for daily/weekly/monthly/yearly demand estimation (MW, MVAr and MWh) for operational purposes. Based on this demand estimate and the estimated availability from different sources, SLDC shall plan demand management measures like load shedding, power cuts, etc. and shall ensure that the same is implemented by the SEB/distribution licensees.
Unquote

Further as per approved, Detailed Procedure For Ancillary Services Operations (attached) “each SLDC shall prepare the block-wise daily forecast of demand (Format AS4) on day-ahead basis by 1500 hrs of current day for next day taking into account various factors such as historical data, weather forecast data, outage plan of units/transmission elements, etc.”

In fulfilment of above Jharkhand, Odisha and West Bengal SLDCs are already submitting their day ahead forecast in AS4 format

Bihar, DVC and Sikkim are requested to share the same in AS4 format

Item No. B.17: Non Submission of Node wise data for POC calculation--ERLDC

As per prevailing POC regulation, every quarter each DIC needs to submit node wise injection/withdrawal data for all 132 kV and above nodes for calculation of POC charges.

However, from last may quarter only GRIDCO is submitting the requisite data all other DICs are requested to submit the same whenever asked by Implementing Agency.

Members may note and submit the relevant information.

PART C: ITEMS FOR UPDATE

Item No. C.1 : ER Grid performance during February to May, 2020

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month February to May – 2020 were as follows:

Month	Average Consumption (mu)	Maximum Consumption(mu)/ Date	Maximum Demand(MW) Date/Time	Minimum Demand(MW) Date/Time	Schedule Export (Mu)	Actual Export (Mu)
March, 2020	357	401.6; 18/03/20	19399 MW on 18-03-2020; at 19:09 hrs	11232 MW on 29-03-2020; at 14:33 hrs	3108	3051
April, 2020	331	388.6; 14/04/20	17424 MW on 14-04-2020; at 23:20 hrs	9373 MW on 21-04-2020; at 16:10 hrs	2482	2428
May, 2020	363	431.6; 18/05/20	20596 MW on 18-05-2020;at 23:34hrs	8947 MW on 01-05-2020; at 16:26hrs	3154	3144

ERLDC will present Highlight/ Performance of Eastern Regional Grid during OCC meeting.

ERLDC may present the performance of Eastern Regional Grid.

Item no. C.2: Governor response for the month of May 2020

Frequency response characteristics (FRC) has been analyzed pan India for two events of sudden frequency change occurred during the month of May 2020. The details of these events and the overall response of Eastern region have been summarized in the Table given below.

Event	Frequency Change	ER FRC
Event: On 28th May 2020, at 17:26:50.760 hrs, 5346 MW generation loss at Sasan, Vindhyachal and Rihand STPP in WR.	**50.021 Hz to 49.549 Hz**. Frequency reduced to **49.649 Hz at Nadir point**.	**20%**

Despite of repeated reminders to generating stations, **generation output data are yet to be received from NTPC Talcher STPP, NTPC Barh, BRBCL, NPGC, NTPC Darlipalli, JITPL, Adhunik. FRC data are yet to be received from SLDC Jharkhand, SLDC DVC and SLDC GRIDCO**. Based on data received from generating stations and SCADA data archived at ERLDC, performance of regional generating stations and state control areas has been analyzed for both the events and summarized in table below.

Category	Name of generating stations and state control area
Satisfactory response	MPL, Teesta III, Teesta V, Dikchu

Category	Name of generating stations and state control area
Response has been observed but tuning required	Kahalgaon Stage 1 and 2, GMR; WB SLDC FRC
Non-Satisfactory response	Farakka Stage 2 and 3,
Unit not available	Darlipalli

Among state generating units, **satisfactory response** has been observed for **Budge Budge unit 1 and 2**. Tuning of governors are required for Budge Budge unit 3, Koderma unit 1 and 2 and RTPS unit 1. Details can be found in table below.

Name of Plant	Remarks
Kahalgaon Stage 1	Response did not last for more than 30 seconds. For unit 1, generation reduced after initial response. Initial response from all units were satisfactory.
Kahalgaon Stage 2	Initial response was oscillatory. Response of unit 6 did not last for more than 1 min. Final response from all units were satisfactory
GMR	Only unit 1 was in service. Initial response did not last for more than 10 seconds. Within 2 min, generation increased again. Time to achieve final response may be reduced. Final response was satisfactory.
Budge Budge	Response from unit 1 and 2 were satisfactory. Initial response from unit 3 did not last for more than 10 seconds. Within 2 min, generation increased again. Time to achieve final response may be reduced. Final response was satisfactory.
Koderma	Final response was satisfactory. Governor may be tuned for both units to reduce time (around 90 seconds) taken to reach final response. Initial response did not last for more than 10 seconds.
RTPS unit 1	Response was not satisfactory and initial response did not last more than 10 seconds

All the generating units and SLDCs are advised to share the reason for non-satisfactory response (whichever applicable) along with remedial action taken. All the regional genearing stations and SLDCs are requested to nominate one nodal person for sharing FRC related informations

Item no. C.3: Status of UFRs healthiness installed in Eastern Region

In 161st OCC, Bihar was advised to review the UFR feeders as per the revised system configuration and suggested to shift the UFRs to unimportant radial loads.

In 42nd TCC, BSPTCL informed that they had already replaced the defective UFR. BSPTCL added that they are in process of reviewing the UFR list.

In 167 th OCC Meeting BSPTCL informed that they are in process of reviewing the UFR list.

Members may submit UFRs healthiness certificate to ERPC .

Bihar may update

Item no. C.4: Status of Islanding Schemes healthiness installed in Eastern Region

At present, the following islanding schemes are in service:

1. CESC as a whole Islanding Scheme,CESC
2. BkTPS Islanding Scheme,WBPDCL
3. Tata Power Islanding Scheme,Haldia
4. Chandrapura TPS Islanding Scheme,DVC
5. Farakka Islanding Scheme,NTPC
6. Bandel Islanding Scheme,WBPDCL

In 108th OCC meeting, respective constituents agreed to certify that the islanding schemes under their control area are in service on monthly basis.

In 163rd OCC,DVC informed that since all units of CTPS-A would be retired shortly, instead of Chandrapura TPS islanding scheme, they are planning to implement an islanding scheme with units 5 & 6 of Mejia TPS (old).

OCC advised DVC to submit the detailed draft plan of the islanding scheme to ERPC and ERLDC.

In 167thOCC ,DVC informed that units 5 & 6 of Mejia TPS were old and not in service. They are planning to implement the islanding scheme with unit 7 and unit 8 of Mejia TPS.

OCC advised DVC to share the plan of their new islanding scheme to ERPC. OCC also advised CESC to send the updated details of their islanding scheme to ERPC.

Members may submit healthiness certificate to ERPC.

DVC may update.

A. Status of Islanding Scheme of IBTPS

Islanding schem of IBTPS was discussed and finalized in earlier OCC and PCC meeting, OPGC ensured that the islanding scheme will be in place within 6 months post finalization of scheme.

In 167thOCC ,OCC advised OPGC to share the status of islanding scheme to ERPC.

OPGC may update.

B. Status of Islanding Scheme of KBUNL

As the islanding Scheme discussion is not progressing , it is desired that one Meeting at ERPC or KBUNL may be called where the scheme finalization may becompleted.

In 167thOCC ,KBUNL informed that they are ready to implement the islanding scheme but they need confirmation from Bihar on availability of radial load at Gopalganj.

OCC advised BSPTCL to go through the islanding scheme finalised in earlier OCC Meetings and advised to take necessary action to provide the radial load for the islanding scheme.

Members may discuss.

Item no. C.5: Transfer capability determination by the states

Latest status of State ATC/TTC declared by states for the month of July-2020

SlNo	State/Utility	TTC (MW)		RM(MW)		ATC Import(MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	5687	--	100	--	5587	--	Jul-20
2	JUSNL	1146	--	34	--	1112	--	Jul-20
3	DVC	1628	2742	66	52	1562	2690	Jun-20
4	OPTCL	2130	1041	84	64	2046	977	Jul-20
5	WBSETCL	4625	--	400	--	4153	--	Jun-20
6	Sikkim	295	--	2.5	--	292.5	--	Dec-19

Members may update.

Item no. C.6: Mock Black start exercises in Eastern Region – ERLDC

Mock black start date for financial year 2019-20 is as follows:

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2019	Done on 19th July 2019	Last Week of January 2020	28 March 2020
2	Maithon	1st week of June 2019	Taken up only after replacing the governing systems of the units	1st Week of February 2020	After June 2020
3	Rengali	2nd week of June 2019	Done on 27th June 2019	Last week of November 2020	Done on 17th January 2020
4	U. Indarvati	3rd week ofJune 2019	Done on 7th November 2019	2nd week of February 2020	March 2020
5	Subarnarekha	1st week of October 2019	Done 20th August 2019	1st week of January 2020	After Aug 2020
6	Balimela	3rd week of October 2019	Done on 17th July 2019	1st week of March 2020	*Done on 12th Feb 2020*
7	Teesta-V	2nd week of May 2019	Done on 28th Nov 2019	Last week of February 2020	
8	Chuzachen	Last Week of Dec 2019	Done on 5th December 2019	Last week of March 2020	
9	Burla	Last Week of June 2019	Done on 20th July 2019	Last week of February 2020	Done on 11th Feb 2020
10	TLDP-III	1st Week of June 2019	November-19	2nd Week of January 2020	
11	TLDP-IV	Last Week of June 2019	December-19	1st Week of February 2020	
12	Teesta-III	Last Week of Oct 2019		First Week of March 2020	
13	Jorthang	First Week of May 2019		First Week of Feb 2020	
14	Tasheding	2nd Week of May 2019		2nd Week of Feb 2020	
15	Dikchu	Sep 2019		3rd Week of Feb 2020	Attempted on 19th Feb 2020 but not successful

Members may update.

Item no. C.7: Summary of Status Update on Previous agenda items in OCC

OCC	Agenda	Decision	Status Update
155	**C.22: Collection of modeling data from**	OCC advised all theconstituents to submit the details of	

	Renewable as well as conventional energy generators: ERLDC	renewable power plants of 5 MW and above. 157th OCC advised all the SLDCs to submit the details to ERPC and ERLDC. Format along with an explanation for collection of Wind and Solar Data has been shared by ERLDC to all SLDC. *OCC advised Bihar, West Bengal and Orissa to submit the relevant details to ERLDC.*	
156	**Low frequency Oscillation at MTDC BNC-ALP-Agra**	OCC Advised ERTS-2 to submit the analysis report to ERLDC/ERPC 159th OCC Powergrid informed that the issue was referred to ABB, Sweden. *The report is yet to be received from ABB*	
156	**Item No. B.12: Status of Auto-Reclosure on Lines from Tala and Chukha Hydro Power Plant (Bhutan)**	DGPC informed that an Expert Committee was constituted to enable the autorecloser for transmission lines connected to Tala and Chuka hydro stations. The Committee had recommended for implementation of the autorecloser at Tala andChuka. DGPC added that they are planning to implement the autorecloser scheme for the transmission lines connected at Chuka by May 2019. Based on the experience gained, they would implement the autorecloser scheme for the transmission lines connected at Tala. DGPC informed that they are implementing autorecloser at Tala also. The A/R isimplemented at Binaguri end and there have been various cases where successful A/R has occurred at Binaguri but due to no A/R attempt Tala has a blackout in June 2019. In addition, in month of Aug also many times 400 kV lines successfully reclosedfrom Binaguri end.	

		The experience on 220 kVChukha-Birpara in the form of successful A/R has been observed on 25th June 2019. DGPC has informed that after the deliberation in their group, they would be implementing the A/R at Tala by the end on August 2019. *DGPC informed that by Feb2020 end, they will implement the A/R atTala.*	

Bhutan vide mail informed the following:

1. 220kV Chhukha – Birpara Feeder 1 & 2 have been enable on June 21, 2019 at CHP end
   (As of now, we have experienced a successful closing of AR on both the lines during the line fault)
2. 400kV Tala-New Siliguri Feeder 1, 2 & 4 have been enable on May 29, 2020 at THP end.
3. 400kV Malbase-New Siliguri Feeder was enable since 2017 (AR has been successfully working)
4. 400kV Tala-Malbase & 220kV Malbase-Birpara feeder is not enable due to the issue with PLCC at Malbase end.

Members may update.

Itemno.C.8: Monitoring of Next Six-Month New Element Integration in OCC and Its Update on Monthly Basis--ERLDC

It has been observed that many elements are getting interconnected into the system and beforehand details are not available with the system operator resulting in difficulty in carrying our operational planning activity. In view of this, as a regular agenda all ISTS and ISGS/IPP to update the OCC regarding any new elements at 220 kV and above which will be integrated in next six month with the grid. For State Grid, SLDC will be submitting the details on behalf of its intrastate Generation and transmission system. The format is given below:

Transmission Elements	Agency/ Owner	Scheme (ERSS/ TBCB/ Standing Committee/State	Schedule Completion	Projected Month for Completion	Issue Being Faced

In previous several OCC, Transmission licensees and SLDCs are requested to submit RLDC/RPC following details on monthly basis

- List of transmission element /generators of State and ISTS licensees synchronised in the lastmonth.
- List of transmission element /generators expected to be synchronised during next month or in nearfuture

Some SLDCs are submitting the list of intrastate and interstate line on regular basis, however transmission element /generators expected to be synchronised during next month or in near future is not submitted by any SLSC/Transmission licensee to RLDC/RPC.

In 162nd OCC, OCC advised all the constituents, SLDCs and ISTS licensees to submit the detailsthe list of transmission elements / generators already synchronized / charged in the previous month as well as those expected to be commissioned in the near future (as per the

format specified) to ERLDC

In 163rd OCC, OCC advised all the constituents, SLDCs and ISTS licensees to submit the details to erldcprotection@posoco.co.inas per the format.

List of upcoming Transmission Element is received from Bihar and Jharkhand.

In 166 th OCC Meeting ERLDC informed that relevant details had been received from Powergrid ER-II.

OCC advised other concerned transmission licensees to submit the details to ERLDC at the earliest.

List of upcoming Tranmssion Element is received from Bihar and Jharkhand.

DVC, OPTCL , WBSETCL and Sikkim to send the Details immediately.

DVC, OPTCL , WBSETCL and Sikkim may update.

Itemno. C.9: Reconductoring work of 400 kV Rangpo-Binaguri D/Clines

In 166th OCC, Powergrid updated that reconductoring of 19 km of both the circuits out of 110 km line had been completed.

In 167th OCC , Powergrid updated that reconductoring of 38 km of both the circuits out of 110 km line had been completed.

Powergrid may update

Itemno. C.10: Verification of transmission line parameter during shutdown--ERLDC

During the charging of any new transmission line, its owner provides corresponding line length, using that and standard per KM parameters as available CEA transmission planning criteria manual, R X & B parameter of the lines are determined and same is used in simulation studies. However such modeling may not be 100 % accurate representation of the line. Further for old lines the paramet may differ slightly due to increasing sag over time. Thus to take of same it is

proposed that the transmission utility may carry out offline measurement of the line parameter during a planned shutdown of line. The measured value may be shared with ERLDC/ERPC.

In 167thOCC ,OCC advised concerned utilities to communicate details to ERLDC.

Members may submit the details.

Itemno. C.11: Sharing of test report after major annual overhauling of Powerplants--ERLDC

During major annual overhauling of Powerplants, many tests are conducted at the site level to accesses the healthiness of the unit and determine its characteristics. Some of these test reports are helpful in verifying and tunnnig of the offline simulation model of the generating unit. Thus it is proposed to submit some of the test reports like OCC, SCC, excitation step test, V-curve, etc. after such major overhauling toERPC/ERLDC.

In 167th OCC ,OCC advised concerned utilities to send the details to ERLDC.

Members may submit the details.

Itemno.C.12: Sharing of information/data after major retrofitting work of Powerplants--ERLDC

Some of the powerplants go through major retrofitting work, like change in excitation system, governor module etc. however, information of the same is not shared on regular basis. Thus it is proposed to submit details of such retrofication work along with relevant data to model the same in simulation software (as per already circulated format) whenever such retrofitting work is taken up.

In 167th OCC ,OCC advised concerned utilities to send the details to ERLDC.

Members may submit the details.

Itemno.C.13: Submission of Thermal Loading of Transmission line and associated terminal equipment by ISTSlicensee

Thermal Loading of Transmission line and associated terminal equipment is one of the most vital data which is utilized for Operation Purpose, calculation of ATC/TTC and various other studies. This information has to be submitted by the transmission utilities. However even after regular follow-up in past several OCC meetings, significant delay has been observed in submission. Status of submission of data upto first week of December 2019 is as follows:

Name of Utility	**Whether End Equipment Rating Submitted or Not?**
PGCIL ERTS-1 and ERTS-2	*Received from Powergrid ER-II.*
DMTCL	NA
POWERLINKS	NA
Sterlite (ENICL, OGPTL, PKTCL)	NA
TVPTL	NA
Alipurduar Transmission Limited	NA
Powerlink	NA
CBPTCL	NA
OPTCL	Submitted (Revised list given to OPTCL for submission)
WBSETCL	Submitted
BSPTCL	Submitted
DVC	Submitted
JUSNL	NA

In 167th OCC ,OCC advised concerned utilities to send the details to ERLDC.

Members may update.

Item no. C.14: Difficulty in verifying ISTS outage / availability and submission of the verified file to ERPC for the previous month by 20th of the next month --ERLDC

As per para 6 of Appendix-II (Procedure for Calculation of Transmission System Availability Factor for a Month) of CERC terms and conditions of tariff regulations 2019-2024 , ERLDC is required to submit

the verified availability files of all ISTS licensees of Eastern Region to ERPC by 20th of every month. As a part of the verification process, ERLDC seeks clarifications / evidences from POWERGRID / other ISTS licensees (proofs of natural calamity, DR/EL etc) along with relevant observations within a week after receipt of the outage file from licensees; with the request to provide the details within 3 days. While on a few occasions POWERGRID has furnished the requisite clarifications / evidences in time, in general the details are received after more than 3 days. This causes difficulty in submission of the verified availability file to ERPC by 20th of each month.

Members please note.

Item no. C.15: Furnishing availability of hot spare units by PGCIL on monthly basis--ERLDC

Vide letter no: ERLDC/SO/2019/142/3734 dtd. 30/12/2019 , POWERGRID was requested to provide the availability and transactions of hot spare units (transformers and reactors) in Eastern region owned by them along with the monthly list of transmission outages sent to ERLDC for availability verification. However, the details pertaining to hot spare units are not sent on monthly basis.

Members please note.

Item no. C.16: Furnishing of transmission system Reliability Indices by PGCIL on monthly basis--ERLDC

As per CERC *Standards of Performance* Regulations, 2012, all ISTS licensees of Eastern Region are supposed to send the Reliability Indices in respect of their own transmission elements on monthly basis along with the outage file. However, it is noted that POWERGRID and TPTL is not sending the mentioned details for last few months.

Powergrid and TPTL may please note.

Item No. C17: Phase Sequence issue at Lower voltage level observed in Bihar System during charging of 400 kV Barh-Motihari 2. --ERLDC

On 17th March 2020, ERLDC in coordination with Bihar SLDC, NTPC barh and DMTCL were attempting for taking 400 kV Barh-Motihari 2 circuit (ERS arrangement) in service and feeding radial loads of Motihari (200 MW Max).

It was agreed between utilities that 400 kV Motihari Bus will be back charged through 132 kV Motihari (DMTCL)-Motihari (BSPTCL) ckts which were getting in-feed from 220 kV Darbhanga (DMTCL)-Motipur (BSPTCL). After this the 400 kV Barh-Motihari circuit 2 will be charged from Motihari end till NTPC Barh so that Barh end could check the phase sequence at their end before synchronizing the line. The extension of this back charging to charge 400 kV Barh-Motihari circuit 2 from Motihari end did not succeed due to issue of dynamic overvoltage as voltage was quite high and line tripped on over voltage stage 1 protection in 5 seconds. However, this charging ensured healthiness of the transmission line but phase sequence could not be checked at Barh end.

Next attempt was taken to charge the 400 kV Barh-Motiharickt 2 from Barh end till line CVT at Motihari DMTCL end and Back charging of 400 kV Motihari from 132 kV system and check phase sequence between Line CVT and Bus CVT at 400 kV level. During this, it was found that phase sequence of R and B phase at Motihari Bus (132 kV system of BSPTCL) is not matching the Line CVT (ISTS system) which came as a surprise to ERLDC and Barh NTPC Operator and immediately the activity was stopped.

After, Deliberation with SLDC and BSPTCL it was known that there is a phase sequence issue at lower kV in the 132 kV Motihari and 220/132 kV Motipur section w.r.t. ISTS system. The R and B phase of ISTS system do not match with R and B phase of lower kV system in this pocket of Bihar and thus it can be synchronized only in radial mode with one point of ISTS and cannot be run parallel with any other ISTS interconnection.

In view of the above, with such a complex network, it would be essential for the ERLDC System Operator to have information about:

1. Other nodes in any of the eastern region states where the phase configuration adopted differs with the ISTS system.
2. Standard Operating procedure to operate such kind of system without impacting the loads (3 Phase loads/generation will be impacted due to change in phase sequence)
3. What action can be taken with growing 400 kV and 220 kV systems to ensure such limitation can be avoided for ensuring better reliability of supply by connection from multiple ISTS system by resolving such phase sequence issue.

BSPTCL may explain.

Item No. C.18: Issue of Over –Compensation on 400 kV Barh-Patna 1 &2 at Patna Substation--ERLDC

In the 19th SCM of Eastern Region, conversion of Bus Reactor of 125 MVAR as line reactor of 400 kV Barh-Patna 2 circuit was approved by CTU/CEA. 400 kV Barh-Patna 2 is Quad Moose with 93.1 km line length (68 MVAR Line Charging MVAR) and 125 MVAR line reactor. Thus, it is making it overcompensated by 1.8 times. Similar thing is observed for 400 kV Barh-Patna 1 circuit which has 80 MVAR line reactor at Patna end and thus making it over-compensated. **These may cause LC oscillation during switching operation and A/R operation in case of single-phase fault and can result in damage to the circuit breaker and tripping of lines on overvoltage**

In addition to these, these circuits also have 400 kV Patna-Balia 1 & 2 in their respective diameter and if the line reactor are used as bus reactor then due to any switching of main breaker of bus reactor , these is high susceptibility for LC oscillation.

Line Details	**L/R at Patna end**	**Elements in Same Diameter at Patna end**
400 kV Barh-Patna 1 (93.1 km Quad moose)	80 MVAR Line reactor at Patna end	400 kV Patna-Balia 2 (50 MVAR Line reactor at Balia) : 195 km line length
400 kV Barh-Patna 2 (93.1 km Quad moose)	125 MVAR Line Reactor at Patna end	400 kV Patna-Balia 1 (50 MVAR Line reactor at Balia) : 195 km line length

In line with the above issue, it is essential that CTU/PGCIL to submit the LC oscillation study for the charging of above 80 and 125 MVAR Line reactor to ERLDC/ERPC and action that has been taken to avoid any overvoltage, LC oscillation or breaker stress issue which can result in its damage and prolonged outage. It is expected that these studies have already been done based on which the above conversions were accorded in the 19th SCM meeting. The study detail will help ERLDC in deciding on real-time charging to avoid any issue and during subsequent operation.

Powergrid may explain.

Item No. C.19: Single Bus Operation at 220 kV Chandil--ERLDC

220/132 kV Chandil is an important substation of Jharkhand, having three 220 kV lines outgoing lines connecting Ramanchandrpur, Ranchi(PG), and Santhaldih (WBPDCL), it also has 3 x 150 MVA and 1 x 100 MVA, 220/132 kV ATRs, with a peak load of around 200-250 MW.

However, even after being such an important substation, Chandil has only a Single Bus scheme at 220 kV level, which is significantly reducing the reliability of the substation. Previously a committee was also formed to explore the possibility of upgrading the substation to a double bus scheme, however, after going for sight visit committee was of the view that upgrading to double bus is not possible without acquiring additional space, thus committee recommended to go with bus sectionalizer.

JUSNL may share any plan that they have for improving the reliability of Chandil Substation.

Item No. C.20: Nomination of nodal persons for communication related to tripping of grid elements and primary frequency response observed at generating stations--ERLDC

For analysis of tripping incident of any grid elements and primary frequency response of generating units in Eastern Region, high resolution data from various generating stations, transmission utilities, SLDCs and other users. For smooth communication regarding this transfer of data, all the regional generating stations, transmission utilities and SLDCs are requested to nominate at least two persons as nodal person(s) for tripping analysis of any grid element and for primary frequency response analysis of generating units. Name, contact number and email address of nominated persons may be shared as per following table.

	Nodal Person(s) for tripping analysis (At least 2 persons)		**Nodal Person(s) for primary frequency response analysis (At least 2 persons)**	
Entity	**Nodal Person-1 Name & Contact Details (Phone, emai id)**	**Nodal Person-2 Name & Contact Details (Phone, emai id**	**Nodal Person-1 Name & Contact Details (Phone, emai id**	**Nodal Person-2 Name & Contact Details (Phone, emai id**
NTPC Farakka				
NTPC Kahalgaon				
NTPC Talcher				
NTPC Barh				
NTPC Darlipalli				
BRBCL				
NPGC				
MPL				
Adhunik				
GMR				
JITPL				
KBUNL			Not Applicable	
Teesta V				
Teesta III				
Rangit			Not Applicable	
Chujachen			Not Applicable	
Jorethang			Not Applicable	
Tashiding			Not Applicable	
Dikchu				
Bihar SLDC				
Jharkhand SLDC				
DVC SLDC				
GRIDCO SLDC				
WB SLDC				
Sikkim SLDC			Not Applicable	
POWERGRID ER -1			Not Applicable	
POWERGRID ER -2			Not Applicable	
POWERGRID Odisha			Not Applicable	
DMTCL			Not Applicable	

Members may nominate.

Item No. C.21: Nomination of nodal persons for communication related to primary frequency response testing of ER generating units—ERLDC

In compliance to the IEGC regulation, regarding periodic testing of primary frequency response of generating units, bidding process was completed in coordination with all the generating stations. The independent agencies and price per unit to carry out testing has also been finalised. List of generating units where testing is to be done is given below. All the generating stations are requested to nominate at least two persons (one for technical related work and one for contractual related work) and share contact details (Name, Contact No, Mail id) as per following table.

Sr. No	Station	Generating Unit	Testing utility	Contact information of Nodal Person (Technical)	Contact information of Nodal Person (Contractual)	Latest Status of work
1	TALCHER STAGE 2	1	M/s Solvina India Pvt. Ltd			
2		2				
3		3				
4		4				
5	Farakka	1				
6		3				
7		4				
8		5				
9		6				
10	Kahalgaon	1				
11		5				
12		6				
13		7				
14	Darlipalli	1				
15	TSTPP	1				
16		2				
17	Barh	4				
18		5				
19	Adhunik	1				
20		2				
21	BRBCL	1				
22		2				
23	NPGC	1				
24	Teesta V	1				
25	Teesta III	1				
26		2				
27		4				
28		5				
29		6				
30	Dikchu	1				
31		2				
32	MPL	1	M/s Siemens Ltd.			
33		2				
34	GMR	1				
35		2				
36	JITPL	1				
37		2				

All the generating stations were informed about testing via communication dated 22nd April 2020 (generating stations to be tested by M/s Siemens Ltd.) and 13th May 2020 (generating stations to be tested by M/s Solvina India Pvt. Ltd). All the generating stations are requested to place order on the respective agencies for further

start of testing. Progress in this regard may be shared with ERLDC as shown in above table. In case of any difficulty, following persons from ERLDC may be contacted.

Name	Contact No	Mail id
Saurav Kumar Sahay	9432013173	saurav.sahay@posoco.in
Raj Protim Kundu	9903329591	rajprotim@posoco.in

One meeting via video conferencing will be organized by ERLDC with generating stations and respective testing agencies to discuss the details of testing process.

Members may nominate.

PART D:: OPERATIONAL PLANNING

Item no. D.1: Anticipated power supply position during July 2020

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of July 2020 were prepared by ERPC Secretariat on the basis of LGBR for 2019-20 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is enclosed at **Annexure D1.**

Members may confirm.

Item no. D.2: Shutdown proposal of transmission lines and generating units for the month of July 2020

Generator shutdown for July2020 is enclosed at **Annexure D2.**

ERLDC may place the list of transmission line shutdown discussed on 15th June 2020 through VC.

M**embers may confirm.**

Item no. D.3: Prolonged outage of Power System elements in Eastern Region as on 10-06-2020

(i) Thermal Generating units:

S.No	Station	State	Agency	Unit No	Capacity MW	Reason(s)	Outage Date
1	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	1	49.5	R & M WORK	14-Mar-2018
2	BALIMELA HPS	ODISHA	OHPC	2	60	R & M WORK	20-Nov-2017
3	KOLAGHAT	WEST BENGAL	WBSETCL	1	210	POLLUTION PROBLEM	10-May-2018
4	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	5	37.5	R & M WORK	25-Oct-2016
5	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	7	37.5	ANNUAL MAINTENANCE	06-Dec-2019
6	KOLAGHAT	WEST BENGAL	WBSETCL	2	210	ESP FIELD MAINTENANCE	26-Dec-2019
7	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	6	37.5	R & M WORK	16-Oct-2015
8	BALIMELA HPS	ODISHA	OHPC	1	60	R & M WORK	05-Aug-2016

9	CHANDRAPURA TPS	DVC	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-2017
10	DPL	WEST BENGAL	WBPDCL	7	300	MAINTENANCE	04-Jun-2020
11	NABINAGAR(BRBCL)	BIHAR	NTPC	2	250	TO ATTEND APH GEARBOX SEAL OIL LEAKAGE THEREAFTER PUT UNDER RSD/LOW SYSTEM DEMAND FROM 00:00HRS OF 24.05.20	21-May-2020
12	ADHUNIK	JHARKHAND	APNRL	2	270	lube oil leakage of turbine LO pipe line	07-Jun-2020
13	BALIMELA HPS	ODISHA	OHPC	4	60	SPARKING IN PMG	02-Mar-2020
14	KOLAGHAT	WEST BENGAL	WBSETCL	4	210	FURNACE DRAFT VERY HIGH	17-Nov-2019
15	KODERMA	DVC	DVC	2	500	ECONOMISER TUBE LEAKAGE	05-Jun-2020
16	BARAUNI TPS	BIHAR	BSPHCL	6	110	ELECTRICAL PROTECTION TRIP;PROBLEM IN BEARING GEAR MOTOR	25-Feb-2020
17	U.KOLAB	ODISHA	OHPC	3	80	GUIDE BEARING TEMPERATURE HIGH	07-Jan-2020
18	SAGARDIGHI	WEST BENGAL	WBSETCL	2	300	AUXILLARY SUPPLY FAILED	18-Mar-2020
19	BOKARO'B'	DVC	DVC	3	210	PROBLEM IN ASH POND	12-Sep-2019
20	KOLAGHAT	WEST BENGAL	WBSETCL	3	210	BOTTOM ASH PROBLEM	24-Nov-2019

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

(ii) Hydro Generating units:

S.No	Station	State	Agency	Unit No	Capacity (MW)	Reason(s)	Outage Date
1	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	5	37.5	R & M WORK	25-Oct-2016
2	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	7	37.5	ANNUAL MAINTENANCE	06-Dec-2019
3	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	1	49.5	R & M WORK	14-Mar-2018
4	BALIMELA HPS	ODISHA	OHPC	2	60	R & M WORK	20-Nov-2017
5	BALIMELA HPS	ODISHA	OHPC	1	60	R & M WORK	05-Aug-2016
6	BURLA HPS/HIRAKUD I	ODISHA	OPTCL	6	37.5	R & M WORK	16-Oct-2015

It is seen that about 282 MW hydro capacities in Odisha is under forced outage / planned outage in the period of peak monsoon and therefore not available for providing the much needed peaking support during evening peak. SLDC / OHPC may please indicate restoration plan of the units

(iii) Transmission elements

SL NO	Transmission Element / ICT	Agency	Outage Date	Reasons for Outage

1	400 KV IBEUL JHARSUGUDA D/C	IBEUL	29-04-2018	TOWER COLLAPSE AT LOC 44,45
2	220 KV PANDIABILI - SAMANGARA D/C	OPTCL	03-05-2019	49 NOS OF TOWER COLLAPSED.AS REPORTED BY SLDC OPTCL, TOTAL 60 NOS OF TOWER IN BETWEEN 220KV PANDIABILI – SAMANGARA LINE IN WHICH 48 NOS TOWERS FULLY DAMAGED AND 12 NOS TOWERS PARTIALLY DAMAGED. WORK UNDER PROGRESS.
3	400 KV MOTIHARI(DMTCL)-GORAKHPUR-I	POWERGRID/DMTCL	13-08-2019	LINE SWITCHED OFF DUE TO ANTICIPATED TOWER COLLAPSE AT LOC 27/0(132) DUE TO CHANGE OF COURSE OF GANDAK RIVER.TOWER COLLAPSED REPORTED AT LOC 27/0(132) ON 15/08/19 AT 07:00 HRS. 400KV BARH -GORAKHPUR 1 CHARGED AT 18:57 HRS ON 05.02.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI.
4	400 KV MOTIHARI(DMTCL)-GORAKHPUR-II	POWERGRID/DMTCL	13-08-2019	Earlier reconfigured Barh - Gorokpur # II again LILOED back at Motihari and the portion beyond Motihari shall be termed as 400 KV MOTIHARI(DMTCL)-GORAKHPUR-II
5	400 KV BARH-MOTIHARI(DMTCL) -I	POWERGRID/DMTCL	04-09-2019	TOWER COLLAPSE AT LOCATION 26/0 AND 25/5. 400KV BARH -GORAKHPUR 2 CHARGED AT 10:06 HRS ON 31.01.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI. 400KV BARH -GORAKHPUR 1 CHARGED AT 18:57 HRS ON 05.02.20 AS INTERIM ARRANGEMENT BYPASSING LILO PORTION OF MOTIHARI.
6	400KV-MERAMUNDALI-NEW DUBRI-D/C	OPTCL	20-03-2020	3 NOS. OF D/C TOWER COLLAPSED AT LOC NO 17 , 18 AND 19 AT APPROX 10 KM FROM MEERAMUNDALI.
7	315 MVA 400/220 kv ICT II at Jeypore	POWERGRID	29-03-2020	PRD operated,Rupture of R phase diaphragm in OLTC chamber
8	220 kV Howrah - KTPP II	WBSETCL	01-04-2020	Tower collapse at loc no 66 due to soil erosion
9	400 KV KOLAGHAT-NEW CHANDITALA	WBSETCL	25-04-2020	For connectivity in between 220KV KTPP-Howrah Ckt and 400KV KTPP-New Chanditala ckt. Part of line to be used at 220 KV to supply power to Howrah from Kolaghat
10	220/132 KV 100 MVA ICT 3 at Chandil	JUSNL	30-04-2020	ICT BURST AND DAMAGED AFTER FIRE REPORTED
11	220 KV-BEGUSARAI-NEW PURNEA-2	BSPTCL	17-05-2020	B-N Dist-146.8km FC-Ib-1.18kA FROM NEW PURNEA,TRIPPED AGAIN ON SOTF AT 12:00 HRS
12	220 KV Havelikharagpur-Sheikhopursarai D/C	BSPTCL	27-05-2020	3 Nos tower tower collapse
13	220KV-BIRPARA-MALBASE-1	POWERGRID/ BHUTAN	30-05-2020	Tower Diversion work of Loc No.-57 due to course change of Torsa River
14	220/132 KV 100 MVA ICT I AT LALMATIA	FSTPP/JUSNL	22-01-2019	Failure of HV side breaker
15	220 KV NEW-PURNEA MADHEPURA CKT-I	POWERGRID	05-06-2020	LBB of 220 KV New Purnea-Madhepura I operated
16	220KV 220KV-DALKHOLA (WB)-DALKHOLA (PG)-2	WBSETCL	08-06-2020	LINE UNDER S/D
17	220KV-BUDHIPADAR-KORBA-2	OPTCL	09-06-2020	Earth wire snapped between loc no 5 & 6.
18	220KV TTPS-TSTPP-1	OPTCL	09-06-2020	B_ph ocnductor snapped at loc. 96

(Reported as per Clause 5.2(e) of IEGC)

** Transmission licensees whose line were out due to tower collapse/ bend, may please update the detail restoration plan and as on date work progress status inOCC.

Also Monthly progress report to be submitted to ERLDC/ERPC till restoration of the element.

Members may update.

PART E::ITEMS FOR INFORMATION

The following agenda items are placed for information and necessary compliance:

Item No. E.1: Submission of data in MERIT Order portal--CEA

CEA vide mail dated 9th July 2019 informed that the MERIT Order portal had been launched on 23rd June, 2017 by Honourable Minister of Power. One of the most important advantages of "Merit" Portal is Transparent information dissemination pertaining to marginal variable cost and source wise purchase of electricity and indication of supply side reliability, adequacy, and cost of power procurement.

However, it has been observed that many of the states are not filling the data regularly and sometimes the data filled varies widely from the data available on the respective RLDCs daily reports.

It is requested that the states may be advised to fill the data regularly and check that correct data is filled on the MERIT Portal.

In 159th OCC, all the SLDCs were advised to fill the correct data in MERIT portal on regular basis.

Item No. E.2: Status of 1st Third Party Protection Audit:

The compliance status of 1st Third Party Protection Audit observations is as follows:

Name of Constituents	Total Observations	Complied	% of Compliance
Powergrid	54	46	85.19
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	49	72.06
Odisha	59	42	71.19
JUSNL	34	25	73.53
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

** Pending observations of Powergridare related to PLCC problems at other end.*

The substation wise status of compliance are available at ERPC website (Observations include PLCC rectification/activation which needs a comprehensive plan).

In 118th OCC, all the constituents were advised to comply the pending observations at the earliest. All the STUs informed that most of the observations are related to funding from PSDF. DPRs have been submitted to PSDF committee.

Item No. E.3: Commissioning of new transmission elements in Eastern Region

The details of new units/transmission elements commissioned in the month of March to May – 2020 based on the inputs received from beneficiaries

SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	132 KV D/C Gumla-Simdega T/L	JSUNL	03-03-2020		
2	220 KV Darbhanga (BSPTCL) - Darbhanga(DMTCL) - 2	BSPTCL	03-03-2020	13:06	Due to non-commissioning of the bay at Darbhanga (BSPTCL) end, Line was connected to motipur by connecting one ckt of Darbhanga (BSPTCL)-Motipur with this line. After commissioning of the bay, Line charged as per original plan.
3	220 KV Godda-Lalmatia I	JSUNL	04-03-2020	12:49	
4	220 KV Godda-Lalmatia II	JSUNL	04-03-2020	13:00	
5	220 kV Meramundali-Narsinghpur-I	OPTCL	06-03-2020		220/33 kV Grid S/S, Narsinghpur charged by LILO arrangement in 220 kV Meramundali Bhanjanagar ckt -I
6	220kV Bhanjanagar-Narsinghpur-I	OPTCL	06-03-2020		
7	765KV/132KV 255 MVA ICT 1 AT DARLIPALI	NTPC	09-03-2020	14:02	
8	400KV-Baharampur-Bheramara-3 Along With Associated 400KV Main Bay (Bay No 416)	PGCIL	06-05-2020	13:37	Only India Portion
9	400 KV Berhampur- Bheramara Ckt IV	PGCIL	07-05-2020	12:02	Only India Portion
10	220/132 KV,150 MVA ICT-I at Godda	JSUNL	11-05-2020	14:18	
11	220/132 KV,150 MVA ICT-II at Godda	JSUNL	11-05-2020	14:20	

Item No. E.4: UFR operation during the months of March to May 2020

Frequency profile for the months as follows:

Month	Max (Date/Time)	Min (Date/Time)	% Less IEGC Band	% Within IEGC Band	% More IEGC Band
March, 2020	50.32; 22/03/20; 17:04:10	49.69; 19/03/20 & 31/03/20; 15:29:30&05:12:10	**5.74**	**71.16**	**23.10**
April, 2020	50.30; 04/04/20;18:02:10	49.61; 01/04/20;22:07:30	**4.99**	**75.20**	**19.81**
May, 2020	50.29; 26/05/20 & 28/05/20; 18:04:10& 19:01:00	49.57; 28/05/20; 17:27:10	**4.23**	**76.69**	**19.08**

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

Annexure B11

GRIDCO LIMITED

(A Govt. of Odisha Undertaking)
(Formerly Grid Corporation of Orissa Limited)
Regd. Office: Janpath, Bhubaneswar-751022
CIN: L40109OR1995GC003960

DC-CGM-PP-05/2020- 1702 Date: 10/06/2020

To

The Member Secretary, ERPC,
14, Golf club Road, Tollygunj, Kolkata-700033
Fax No:-033-24221802, 24221358
Email-erpc.gov.in

Sub: Agenda of GRIDCO to 168th OCC Meeting to be held at ERPC on dated 17.06.2020

Sir,

This is regarding Auxiliary Power Consumption by Powergrid Substations- Agenda-No.1

As per decision of Commercial sub-committee meeting of ERPC , Kolkata held on 02.08.2017 against agenda item No. 17 "Accounting of Tertiary Loading Arrangement at PGCIL Grid Substation in ER" and subsequent rectification in 36th TCC & ERPC meeting held on 13th & 14th September 2017 against item No. 20 it was decided that the drawl of Auxiliary Power from tertiary winding of different Power grid and the States would make back to back commercial arrangements for this power.

In this regard a special meeting was held at ERPC, Kolkata on 10.07.2018 to resolve this issue where the decisions taken were as follows:

1. Drawl of auxiliary power through tertiary winding by powergrid substations shall be treated as drawl by powergrid from the DISCOMs.
2. For this, Powergrid shall approach the concerned DISCOMs and shall complete all the necessary formalities to become a consumer of the concerned DISCOM.
3. For Odisha system, Power Grid may approach GRIDCO for necessary help in completing the formalities.

4. For Odisha system, while calculating the DSM liability, drawl of auxiliary power by Powergrid substations shall be treated as drawl by GRIDCO. Total power drawn in a month as auxiliary power shall be treated as drawl by DISCOM from GRIDCO and shall be accordingly commercially settled between DISCOM and GRIDCO.
5. This methodology of settlement shall be effective from 23rd October,2017.
6. This procedure of settlement shall be continued for the coming few months. Therefore, if necessary, this methodology of settlement shall be review at ERPC.

In compliance to the above decision Powergrid did not become the consumer of Odisha DISCOMs observing all sorts of formalities as per OERC Supply Code, 2004.

This matter was again put forth in 161st OCC meeting, where Powergrid informed that Odisha DISCOMs are charging for registration and security fees. These fees are not payable by Powergrid as DISCOMs don't have to construct any infrastructure for this power. In other States, Powergrid had not paid these charges.

GRIDCO informed that DISCOMs were raising the bills as per the OERC regulations.

To the above submission of GRIDCO, it was decided to resolve this issue in 163rd OCC meeting to be held on 15.11.2019 in Odisha in presence of Powergrid and Odisha DISCOMs.

Again the above issue was deliberated in 163rd OCC meeting held at Puri, Odisha on 15.11.2019 where the decision taken were as follows:

"Deliberation in the meeting

Powergrid informed that DISCOMS (WESCO & CESU) are asking POWERGRID to pay for the Security Deposit, Maximum Demand charges and Meter rent etc. Powergrid stressed that, as the entire infrastructure for auxiliary power consumption through tertiary was provided by POWERGRID only and not by the DISCOMs, these charges are not applicable in this case. Powergrid further informed that they are not paying such charges for other states.

DISCOMs informed that they are requesting for the payment of Security Deposit, Maximum Demand charges and Meter rent etc. in line with the OERC regulations.

DISCOMs informed that they would not have any objection in case OERC allows any exemption to Powergrid in this matter.

After detailed deliberation, OCC advised Powergrid to file a petition before OERC for exemption of Security Deposit, Maximum Demand charges and Meter rent etc.

Again the same issue was raised by GRIDCO in 164th OCC meeting held at ERPC Kolkata in line with the request letter of DISCOMs for withdrawal of the quantum of auxiliary power consumption of Powergrid from the BSP bill till finalization of Petition to be filed by PGCIL in OERC.

The above issue was deliberated in the OCC meeting where Powergrid informed that they are in process of filling the petition in OERC and respected Member Secretary Sir allowed further One month time period for filling the petition.

Further in the Power System Operational Co-ordination (PSOC) meeting held on 28.01.2020 at SLDC , Odisha, the representative of DISCOMs submitted to SLDC for not to include the quantum of auxiliary power consumption of Powergrid in the energy accounting prepared by SLDC on the reason that Powergrid is not taking any interest to become the consumers of DISCOMs by depositing security money nor filling any Petition in OERC for waival of the same as per decision of 163rd OCC meeting. In the meeting GRIDCO was advised to put forth this matter in166th OCC meeting for quick disposal by ERPC for resolving the said issue.

Further in 166thOCC, Powergrid informed that they are in process of filing the petition before OERC. The petition would be filed by end of February 2020.

Till now Powergrid has not Taken any step to resolve the issue.

Further it is submitted that GRIDCO has been paying the amount to NTPC for the quantum of energy consumed by Powergrid towards auxiliary consumption since Oct'2017, whereas PGCIL is not putting any heed to pay the cost of such power to discoms for which GRIDCO is not able to realise the same from the DIDCOMs. Inspite of several reminders and persuasions, they have not sorted out the problems with DISCOMs nor moving to OERC on their issues regarding to become consumers of DISCOMs. It is therefore requested to allow GRIDCO to realise the revenue directly from Powergrid at the rate determined by OERC towards emergency power supply to CGP/Generating stations plus interest as applicable and Electricity Duty. The amount so derived will be adjusted from their transmission bills.

Yours faithfully.

10/06/2020

CGM(PP)

ANNEXURE - D1

ABSTRACT OF STATEWISE/SYSTEMWISE/CONSTITUENTWISE PEAK DEMAND- vs- AVAILABILITY IN EASTERN REGION FOR THE PERIOD FROM APRIL-2020 TO MARCH-2021

(ALL FIGURES IN MW & NET)

SL.NO		PARTICULA	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
1		BIHAR												
	i)	NET MAX DEMA	5495	5880	6100	5930	6390	6450	5595	4900	4850	5100	5150	5300
	ii)	NET POWER AVAI	563	515	484	532	543	545	591	568	590	645	651	639
		Central Sector+Bi	3585	4177	4158	4325	4399	4442	4481	4680	4613	4845	4607	4950
	iii)	SURPLUS(+)/DEF	-1347	-1188	-1458	-1074	-1448	-1464	-523	348	353	390	108	289
2		JHARKHAND												
	i)	NET MAX DEMA	1450	1455	1450	1400	1420	1450	1425	1430	1450	1450	1400	1400
	ii)	NET POWER AV/	296	341	341	386	386	386	386	341	341	283	214	236
		Central Sector+Bi	873	918	947	950	1008	1004	1000	958	923	973	977	982
	iii)	SURPLUS(+)/DEF	-281	-196	-162	-64	-26	-60	-39	-131	-186	-194	-209	-182
3		DVC												
	i)	NET MAX DEMA	3050	3065	3130	3130	2980	2970	2945	2980	3000	3150	3080	3100
	ii)	NET POWER AV/	4930	5116	5086	5026	5244	5287	5522	5325	5280	5158	5145	5355
		- Central Sector+	407	480	457	529	529	529	528	519	494	487	509	511
		BI-LATERAL EX	2053	2069	1934	1821	1673	1587	1498	1650	1632	2103	2268	2271
	iii)	SURPLUS(+)/DEF	234	462	479	603	1120	1258	1607	1215	1142	392	305	495
4		ODISHA												
	i)	NET MAX DEMA	5200	5180	4975	4760	5130	5100	5410	4700	5025	5000	5030	5290
	ii)	NET POWER AV/	3768	3714	3746	3529	4110	4032	3742	3522	3600	3472	3385	3668
		- Centr	1644	1739	1690	1743	2081	2104	2096	1930	1915	2033	2029	1986
	iii)	SURPLUS(+)/DEF	212	273	461	512	1061	1036	428	752	490	505	384	364
5		WEST BENGAL												
5.1		WBSEDCL												
	i)	NET MAX DEMA	7190	7140	7315	7276	7235	7335	7375	6065	6085	6015	6460	7825
	ii)	IPCL DEMAND	85	86	84	83	83	83	83	81	79	79	82	84
	iii)	TOTAL WBSEDCL's D	7480	7431	7609	7569	7528	7628	7668	6356	6374	6099	6547	7914
	iv)	NET POWER AV/	4609	4564	4577	4707	4352	4655	4824	4398	4503	4604	4544	4681
		Contribution fro	465	465	465	465	465	465	465	465	407	396	465	465
		- Central Sector+Bi	2587	2627	2758	2777	2886	2846	2855	2443	2281	2410	2547	2671
	v)	EXPORT (TO B'D	205	205	210	210	210	210	210	210	210	5	5	5
	vi)	SURPLUS(+)/DEF	181	225	190	380	175	338	475	951	817	1311	1009	-97
5.2		CESC												
	i)	NET MAX DEMA	2150	2350	2370	2160	2000	2050	2000	1850	1450	1360	1600	1820
	ii)	NET POWER AV/	750	750	750	750	750	750	750	750	500	750	750	750
		IMPORT FROM OTHE	860	1060	1080	870	710	760	710	560	410	340	310	530
		IMPORT FROM I	540	540	540	540	540	540	540	540	540	270	540	540
	iii)	TOTAL AVAILAI	2150	2350	2370	2160	2000	2050	2000	1850	1450	1360	1600	1820
	iv)	SURPLUS(+)/DEF	0	0	0	0	0	0	0	0	0	0	0	0
6		WEST BENGAL (WBSEDCL+DPL+CESC+IPCL) (excluding DVC's supply to WBSEDCL's command area)												
	i)	NET MAX DEMA	9425	9576	9769	9519	9318	9468	9458	7996	7614	7454	8142	9729
	ii)	NET POWER AV/	5824	5779	5792	5922	5567	5870	6039	5613	5411	5750	5759	5896
	iii)	CS SHARE+BILA	3987	4227	4378	4187	4136	4146	4105	3543	3231	3020	3397	3741
	iv)	SURPLUS(+)/DEFI	386	430	400	590	385	548	685	1161	1027	1316	1014	-92
	v)	SURPLUS(+)/DEFI	181	225	190	380	175	338	475	951	817	1311	1009	-97
7		SIKKIM												
	i)	NET MAX DEMA	105	105	100	95	100	100	110	128	128	127	122	113
	ii)	NET POWER AV/	8	8	8	8	8	8	8	4	2	2	2	2
			166	173	172	175	186	185	184	176	151	162	182	184
	iii)	SURPLUS(+)/DEF	69	77	80	88	94	93	81	52	25	37	62	73
8		EASTERN REGION At 1.02 AS DIVERSITY FACTOR												
	i)	NET MAX DEMA	24239	24765	25023	24348	24841	25037	24454	21699	21634	21844	22475	24443
	ii)	BI-LATERAL EX	2053	2069	1934	1821	1673	1587	1498	1650	1632	2103	2268	2271
	iii)	EXPORT BY WBS	205	205	210	210	210	210	210	210	210	5	5	5
	iv)	NET TOTAL POV (INCLUDING CS ALLOCATION +BILATERAL+CPP+HEL)	26050	27187	27259	27311	28196	28536	28682	27179	26550	26829	26856	28149
	v)	PEAK SURPLUS(AFTER EXPORT (v = iv -i -ii - iii)	-447	148	91	933	1473	1703	2520	3620	3074	2877	2108	1430

ERPC/LGBR 20-21

ANNEXURE -D1

ABSTRACT OF STATEWISE/SYSTEMWISE/CONSTITUENTWISE ENERGY REQUIREMENT- vs- AVAILABILITY IN EASTERN REGION FOR THE PERIOD FROM APRIL-2020 TO MARCH-2021

(ALL FIGURES IN MU & NET)

SL.NO		PARTICULA	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	TOTAL 2019-20
1		BIHAR													
	i)	NET ENERGY RI	2915	3380	3500	3400	3790	3685	3125	2550	2570	2820	2400	2810	#####
	ii)	NET ENERGY AVAILA	237	210	188	222	220	250	272	263	299	314	276	302	3053
	iii)	Central Sector+Bi	2147	2364	2386	2718	2754	2637	2533	2413	2399	2608	2149	2495	##### #####
	iv)	SURPLUS(+)/DEF	-531	-806	-926	-460	-816	-797	-319	126	129	102	24	-13	#####
2		JHARKHAND													
	i)	NET ENERGY RI	850	860	860	870	850	840	850	830	840	850	800	860	#####
	ii)	NET ENERGY AV	198	208	205	232	243	219	233	213	217	150	126	134	2377
	iii)	Central Sector+Bi-	507	561	579	654	697	669	635	539	521	562	488	545	6956
	iv)	SURPLUS(+)/DEF	-144	-92	-76	15	91	48	18	-78	-102	-138	-186	-181	-826
3		DVC													
	i)	NET ENERGY RE	2010	2090	1990	2025	1950	1860	1920	1915	2000	2065	1810	2080	#####
	ii)	NET ENERGY AV	3128	3334	3202	3235	3399	3279	3503	3427	3416	3357	3019	3484	#####
	iii)	Central Sector+MI	214	277	278	372	372	357	331	268	283	275	246	276	3550
	iv)	Bi- lateral expor	1478	1540	1393	1355	1245	1143	1115	1188	1215	1565	1524	1690	##### #####
	v)	SURPLUS(+)/DEF	-146	-19	96	227	576	633	800	592	484	2	-69	-9	3168
4		ODISHA													
	i)	NET ENERGY RE	2745	2970	2935	2855	3255	3020	3315	2865	2560	2730	2530	2940	#####
	ii)	NET ENERGY AV A	2248	2333	2177	2207	2504	2517	2451	2004	2116	2106	1901	2261	#####
	iii)	Central Sector	940	1063	1060	1153	1422	1344	1347	1136	1118	1263	1112	1210	#####
	iv)	SURPLUS(+)/DEF	443	426	302	506	670	842	483	275	674	639	483	530	6273
5		WEST BENGAL													
5.1		WBSEDCL													
	i)	WBSEDCL'S OWI	3903	4290	4285	4380	4330	4015	3480	2750	2730	3015	3000	3875	44052
	ii)	SUPPLY TO IPCL	61	64	60	62	62	60	62	58	59	59	57	62	726
	iii)	TOTAL WBSEDCL's Dem	4112	4507	4496	4598	4548	4226	3698	2959	2945	3078	3060	3941	46167
	iv)	NET ENERGY AV	2522	2539	2531	2549	2262	2436	2811	2391	2538	2686	2399	2726	#####
	v)	Contribution fro	322	334	322	334	334	322	334	322	284	275	301	334	3816
	vi)	Central Sector+Bi-la	1342	1566	1731	2063	2151	1971	1822	1412	1304	1352	1226	1383	##### #####
	vii)	EXPORT (TO B'D	148	153	151	156	156	151	156	151	156	4	3	4	##### #####
	viii)	SURPLUS(+)/DEF	74	-69	88	348	199	504	1268	1167	1181	1235	865	502	7363
5.2		CESC													
	i)	NET ENERGY RE	1049	1250	1205	1195	1075	1080	970	790	695	685	669	855	#####
	ii)	NET ENERGY AV	526	558	537	554	533	527	523	393	324	438	423	501	5837
	iii)	.....	157	294	282	245	161	180	118	88	59	70	69	54	1777
	iv)	)M HEL	366	398	386	396	381	373	329	309	312	177	177	300	3904
	v)	TOTAL AVAILAI	1049	1250	1205	1195	1075	1080	970	790	695	685	669	855	#####
	vi)	SURPLUS(+)/DEF	0	0	0	0	0	0	0	0	0	0	0	0	0
6		WEST BENGAL (WBSEDCL+DPL+CESC) (excluding DVC's supply to WBSEDCL's command area)													
	i)	NET ENERGY RE	5013	5604	5550	5637	5467	5155	4512	3598	3484	3759	3726	4792	##### 56296
	ii)	NET POWER AV/	3370	3430	3390	3436	3128	3285	3668	3106	3146	3398	3123	3561	#####
	iii)	CS SHARE+BILA	1865	2258	2399	2704	2693	2524	2269	1809	1675	1599	1472	1737	#####
	iv)	SURPLUS(+)/DEFI	222	84	239	504	355	655	1424	1318	1337	1239	868	506	8752
	v)	SURPLUS(+)/DEFI	74	-69	88	348	199	504	1268	1167	1181	1235	865	502	0 #####
7		SIKKIM													
	i)	NET ENERGY RE	51	46	46	48	45	45	50	62	62	63	65	58	642
	ii)	NET POWER AV/	3	3	3	3	3	3	3	1	1	1	1	2	27
		- Central Sector	84	103	112	123	131	127	118	87	77	84	72	83	1201
	iii)	SURPLUS(+)/DEF	36	60	69	78	89	85	71	25	16	21	8	27	586
8		EASTERN REGION													
	i)	NET ENERGY RE	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	0 #####
	ii)	BILATERAL EXP	1478	1540	1393	1355	1245	1143	1115	1188	1215	1565	1524	1690	##### #####
	iii)	EXPORT BY WBS	148	153	151	156	156	151	156	151	156	4	3	4	##### #####
	iv)	NET TOTAL ENE (INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	##### #####
	v)	ENERGY SURPLI AFTER EXPORT (v = iv -i -ii - iii)	-268	-500	-447	714	808	1315	2321	2108	2381	1861	1126	856	##### #####

ERPC/LGBR 20-21

ANNEXURE - D2

ERPC:KOLKATA

Proposed Maintenance Schedule of Thermal Generating Units of ER during 2020-21
(as finalised in draft LGBR meeting held on 06.12.2019)

System	Station	Unit	pacity (M	Period		No. of Days	Reason
				From	To		
BSPHCL	MTPS STG	1	110	10.06.20	05.07.20	26	Annual Overhauling
	Barauni TPS Stg-I	7	110	23.11.20	17.12.20	25	Boiler Overhauling
TVNL	Tenughat TPS	1	210	20.01.21	24.02.21	36	Annual Overhauling
		2	210	10.03.21	31.03.21	22	Annual Overhauling
DVC	Koderma TPS	1	500	01.04.20	11.05.20	41	COH(Blr,FGD&DeNOX Burner,Turb,Gen)
	Mezia TPS	2	210	03.04.20	13.05.20	41	COH(Blr-RLA&Turb-RLA,Gen)
	BTPS-A	1	500	20.05.20	24.06.20	35	BOH,FGD& De-Nox Burner
	Mejia TPS	**4**	**210**	**17.06.20**	**27.07.20**	**41**	COH(Blr&Turb-RLA,Gen)
	Mejia TPS	**8**	**500**	**01.07.20**	**05.08.20**	**36**	BOH,FGD& De-Nox Burner
	DSTPS	**2**	**500**	**12.08.20**	**21.09.20**	**41**	COH(Blr,FGD&DeNOX Burner,Turb,Gen)
	Mejia TPS	**5**	**250**	**26.10.20**	**20.11.20**	**26**	BOH& Gen. (As agreed)
	CTPS	**8**	**250**	**28.11.20**	**07.01.21**	**41**	COH(Blr,Turb,Gen)
	RTPS	**1**	**600**	**14.01.21**	**18.02.21**	**36**	**AOH,Blr,FGD,De-Nox Burner,LPT,Gen.**
	Mezia TPS	**6**	**250**	**25.02.21**	**19.03.21**	**23**	**BOH**
ODISHA	TTPS	1	60	30.05.20	16.06.20	18	AOH
		1	60	12.07.20	13.07.20	2	Short Maintemnance
		2	60	14.06.20	13.07.20	30	AOH
		3	60	21.08.20	07.09.20	18	AOH
		4	60	13.09.20	22.10.20	40	AOH
		5	110	07.11.20	01.12.20	25	AOH
		6	110	05.01.21	29.01.21	25	AOH
	IB TPS	1	210	10.11.20	30.11.20	21	AOH
		2	210	07.07.20	31.07.19	25	AOH
		3	660				NO MAINTENANCE
		4	660				NO MAINTENANCE
WBPDCL	Kolaghat TP	1	210	07.06.18	30.06.20	91	**R&M in PROGRESS**
		2	210	10.05.20	19.05.20	10	Boiler License renewal
		3	210	02.01.21	15.02.21	45	AOH/Boiler Overhauling
		4	210	01.02.21	10.02.21	10	Boiler License renewal
		5	210	17.02.21	16.03.21	28	AOH/Boiler Overhauling
		6	210	22.08.20	31.08.20	10	Boiler License renewal
	Sakreswar TP	2	210	20.07.20	28.08.20	40	Capital Overhauling
		1	210	01.11.20	10.11.20	10	Boiler License renewal
		3	210	25.11.20	22.12.20	28	AOH/Boiler Overhauling
		4	210	01.07.20	10.07.20	10	Boiler License renewal
		5	210	11.06.20	20.06.20	10	Boiler License renewal
	Bandel TPS	5	215	01.11.20	15.12.20	45	AOH/Boiler Overhauling
	Santaldih TP	5	250	01.12.20	10.12.20	10	Boiler License renewal
		6	250	01.09.20	28.09.20	28	Capital Overhauling
	Kagarighi TP	1	300	22.08.20	31.08.20	10	Boiler License renewal
		2	300	06.08.20	30.08.20	25	AOH/Boiler Overhauling
		4	500	01.11.20	10.11.20	10	Boiler License renewal
CESC	DGE-BUD	1	250	17.11.20	06.12.20	20	Not Specified
		2	250	08.12.20	14.12.20	7	Not Specified
		3	250	16.12.20	04.01.21	20	Not Specified
	HITAGARH	1	60	02.01.21	16.01.21	15	Not Specified
		2	60	18.01.21	21.01.21	4	Not Specified
		3	60	11.12.20	14.12.20	4	Not Specified
		4	60	16.12.20	30.12.20	15	Not Specified
	SOUTHER	1	67.5	06.08.20	09.08.20	4	Not Specified
		2	67.5	15.08.20	03.09.20	20	Not Specified
HEL	HALDIA	1	300				NO MAINTENANCE
		2	300	06.01.21	19.02.21	45	Not Specified
DPL	DPPS	7	300	01.01.21	10.01.21	10	Tit bit maintenance
		8	250	01.12.20	10.12.20	10	Tit bit maintenance
NTPC	FSTPP	**2**	**200**	**01.04.20**	**15.05.20**	**45**	ler +DDCMIS R&M+HP+IP+Critical piping (As agreed)
		4	**500**	**23.11.20**	**22.12.20**	**30**	Boiler
	KhSTPS	1	210	26.11.20	30.12.20	35	Boiler+Turbine+R&M
		3	**210**	**01.06.20**	**30.06.20**	**30**	Boiler+ R&M
		5	**500**	**01.04.20**	**05.05.20**	**35**	Boiler +HPT+IPT
		6	**500**	**01.09.20**	**05.10.20**	**35**	Boiler +HPT+IPT
	Barh	**5**	**660**	**21.03.20**	**04.04.20**	**15**	Boiler Approved Schedule
		5	**660**	**15.02.21**	**05.05.21**	**80**	Boiler Modification
	TSTPS	2	500	26.10.20	09.12.20	45	COH (As agreed)
		5	500	05.06.20	04.07.20	30	BOILER+GEN
		6	500	25.07.20	07.09.20	45	GEN+NOX+FGD
	KBUNL	3	195	15.02.21	12.03.21	26	AOH
		4	**195**	**09.03.20**	**13.04.20**	**35**	AOH
BRBCL	Nabinagar TP	3	**250**	**01.04.20**	**10.05.20**	**40**	n Generator,Boiler License renewal,LP Turbine inspection,Rotor threading
		2	**250**	**25.05.20**	**29.06.20**	**36**	renewal,LP Turbine inspection,Rotor threading,Generator inspection
NPGCL	Nabinagar STPS						No Maintenance
	GMR	2	350	06.01.21	04.02.21	30	Turbine Overhauling
		3	350	09.02.21	10.03.21	30	Turbine Overhauling
	JITPL	1	600				No planned maintenance
		2	600				No planned maintenance
	MPL	1	525	15.11.20	29.12.20	45	COH (As agreed)
	APNRL	1	270	01.07.20	14.08.20	45	COH
		2	270				No planned maintenance