MINUTES

OF

170TH OCC MEETING

Date: 24.08.2020

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700033

Eastern Regional Power Committee

Minutes of 170th OCC Meeting held on 24th August 2020

The meeting was conducted through Microsoft Teams online platform. List of participants is enclosed at **Annexure A**.

PART A

Item No. A.1: Confirmation of minutes of 169th OCC meeting of ERPC held on 27.07.2020.

The minutes of 169th OCC meeting were uploaded in ERPC website and circulated vide letter dated 11.08.2020 to all the constituents.

Members may confirm the minutes of 169th OCC meeting.

Deliberation in the Meeting

The members confirmed the minutes of 169th OCC Meeting.

PART B: ITEMS FOR DISCUSSION

Item No. B.1 Primary Frequency Response Testing of Generating Units—POSOCO.

NLDC vide letter dated 10th August 2020, communicated a procedure to be considered for Commercial Settlement during onsite testing of generators for Primary Response of regional generating units. Details are enclosed at **Annexure-B1**.

Members may discuss.

Deliberation in the meeting

ERLDC informed that as per IEGC regulations, Primary Frequency Response Testing of generators is a mandatory activity. It was informed that for compliance of the above regulations, selection of the vendor has already been completed and all the generators including IPP's and ISGS's have been informed accordingly. ERLDC further informed that all the power stations of ER except TSTPS-Kaniha, Adhunik, BRBCL, NPGC, Teesta-V & Dikchu have placed their LOA with M/S Solvina.

ERLDC mentioned that generally the testing would be carried out in three steps of generation level for each of the generating unit. The subjected generating unit must maintain the schedule to the desired level of generation during the period of testing in all the 3 steps. For this the Generating Stations which are having multiple units while testing at a particular level of a unit, the total schedule of that station can be maintained by adjusting generation in the remaining units. For Generating Stations which are having only one functional unit during testing can maintain their schedule by purchase or sale of power from Real Time Marketing. For hydro-generators the testing may preferably be done during the period of receding monsoon. Therefore, it was clarified that normal DSM charges would be applied during the period of testing.

After detailed deliberation, OCC felt that it is desirable to know the duration of the test and its

*possible impact on the scheduling to decide the commercial mechanism proposed in **Annexure-B1**.*

ERLDC informed that they are planning to hold a meeting with the testing agency, all regional generating stations and SLDC's wherein the testing procedure of all three steps viz. Full Load, 80% of Full Load and Technical Minimum would be discussed.

*OCC advised all the constituents to go through **Annexure-B1** and submit their comments to ERPC within a week for finalization of commercial mechanism.*

OCC advised all the remaining ISGS and IPP generators to place the LOA and give a schedule of the test beforehand so that beneficiaries are informed in advance and the same can be discussed in the upcoming OCC Meetings.

Item No. B.2 Testing of primary frequency response of state generating units by third party agency--ERLDC

The Hon'ble Central Electricity Regulatory Commission (CERC), vide notification dated 12th April 2017, had notified Indian Electricity Grid Code (Fifth Amendment) Regulations, 2017. As per this notification, following provision has been added at the end of Regulation 5.2 (g) of Part 5 of the Principal Indian Electricity Grid Code (IEGC) Regulations: "Provided that periodic checkups by third party should be conducted at regular interval once in two years through independent agencies selected by RLDCs or SLDCs as the case may be. The cost of such tests shall be recovered by the RLDCs or SLDCs from the Generators. If deemed necessary by RLDCs/SLDCs, the test may be conducted more than once in two years."

In compliance of IEGC, process of testing of primary frequency response of regional generating units (eligible for RGMO as per IEGC section 5.2 (f)) has been started by POSOCO.

All the SLDCs are requested to share their action plan for testing of primary frequency response of the generating units.

Deliberation in the Meeting

ERLDC informed that as per the regulation testing of primary frequency response of state generators by a third party is required to be undertaken by the respective SLDC's.

SLDC Odisha informed that they have not finalized a plan yet, but they will communicate the detailed plan to ERPC by 15th Sep 2020.

OCC advised all the SLDC's to prepare an action plan for their state generators having capacity of 200 MW or more and submit the details to ERLDC and ERPC within a week.

Item No. B.3 Outage of important transmission system

1. 400/220 KV GIS Darbhanga (DMTCL)--Bihar

BSPTCL vide letter dated 10th August 2020 informed that temporary shutdown of 400/220 KV Darbhanga Substation was availed on 28.07.2020 at 11:29 am owing to rising water level and vulnerable situation of the Substation. This is to inform that because of this outage, all associated transmission lines of BSPTCL were out resulting in loss of approx. 200 MW of load. They are facing hardship and difficulties due to non-adequate availability of power in the adjoining areas. This is causing growing resentment in the public. As such, earliest restoration of the Substation is of utmost importance for BSPTCL.

Therefore, it is requested to early action towards restoration of the Substation through dewatering of the area, if possible. Also, it is requested to make sound arrangement in the Grid by ensuring all safety and emergency restoration measures to avoid repetition of such type of situation in future.

DMTCL may update. Members may discuss.

Deliberation in the meeting

DMTCL informed that 400/220 KV Darbhanga Substation was restored on 10th Aug 2020.

OCC expressed serious concern over flooding of 400/220 KV Darbhanga substation. OCC advised DMTCL to take all the precautionary actions to avoid such incidences in future.

DMTCL informed that they are interacting with Powergrid to initiate mitigation plans to avoid such incidences in future. They are planning to lift the critical panels of their S/s up by 200-300 mm so that water does not come inside the panels. DMTCL is also planning to build a wall surrounding the sub-station to avoid entering of the water into the substation.

OCC advised DMTCL to communicate their mitigation plan to ERPC and ERLDC.

2. 400 kV Barh-Motihari D/C and 400 kV Barh-Gorakhpur D/C lines.

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 was submitted.

In 168th OCC meeting, DMTCL informed that due to the severe impact of COVID 19 Pandemic as well as other Force Majeure events such as unseasonal heavy rains, the progress of DMTCL transmission line restoration work got affected. DMTCL shared a detailed presentation on the work progress.

DMTCL further added that if weather conditions would be favorable then the work would have been completed by 15th July 2020.

Thereafter OCC advised DMTCL to complete the restoration work at the earliest and advised DMTCL to share the details of work progress on weekly basis to ERPC.

In 169th OCC Meeting DMTCL informed that because of bad weather conditions and high-water level in Gandak river they are getting less working hours to carry out the tower erection works. Therefore, the restoration works of 400 kV Barh-Motihari D/C and 400 kV Barh-Gorakhpur D/C lines are getting delayed. DMTCL further added that ERS of 400kV Barh-Motihari S/C line which had been used to restore the line on temporary basis was also washed out because of the heavy water flow. They informed that they are working hard to restore 400kV Barh-Motihari S/C line on permanent towers and the line would be restored within two days provided the water level recedes and they get the opportunity to work.

Thereafter OCC advised DMTCL to complete the restoration work at the earliest.

Thereafter, DMTCL also informed that the 400kV Darbhanga (DMTCL) S/s may get flooded as the water level in river Ganges has reached the highest level of last 30 years.

To this issue ERLDC opined that a bypass arrangement should be planned at 400kV Darbhanga (DMTCL) S/s so that the 400kV Kishanganj-Darbhanga-Muzaffarpur link could be kept in service in case of flooding of the substation.

OCC then advised DMTCL to interact with the respective transmission utilities for possibilities of making bypass arrangement at 400kV Darbhanga (DMTCL) S/s and submit the details to ERPC and ERLDC.

Further, OCC decided that a separate meeting with the concerned utilities may be convened to discuss the issue of bypass arrangement at 400kV Darbhanga (DMTCL) S/s in after receiving the preliminary details from DMTCL.

Thereafter DMTCL in a mail dated 13.08.2020 informed that despite extreme weather conditions, unprecedented discharge from the Valmiki dam, resulting floods, and high-water currents, their team at site has been able to complete the erection of tower location 27/0 mid-stream of Gandak river and has also completed the stringing of Barh-Motihari line (single ckt. single conductor per phase) on 07.08.2020. Post receiving required clearances, the line has been successfully charged on **08.08.2020** and power flow to the northern region of Bihar has been resumed.

Further DMTCL informed that they have submitted the details of restoration work and the issues/ challenges which impacted the restoration work progress which is given in the **Annexure B.3.2.**

DMTCL may update the progress of restoration work.

Deliberation in the meeting

DMTCL informed that since the water discharge is very high in the area where work is to be carried out, the work has to be stopped temporarily. They will be able to start the work only after receding of the water level in the area. They further informed that they would be able to restore lines by Mar 2021.

OCC expressed serious concern over delay in permanent restoration of 400 kV Barh-Motihari D/C and 400 kV Barh-Gorakhpur D/C lines and advised DMTCL to put all efforts to restore the line on permanent towers at the earliest.

3. 400 kV Kishenganj-Patna D/C lines:

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 advised Powergrid to give a report on restoration schedule 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 access 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.

On 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 166thand 167th 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 168th OCC meeting Powergrid informed that both the circuits of 400 kV Kishenganj-Patna D/C line would be restored by July 2020, but they required shutdown of both the lines for 20 days.

ERLDC informed that NLDC is not permitting shutdown of both the lines simultaneously and advised to take the shutdown of one circuit at a time.

Further Powergrid informed that shutdown of one circuit at a time is not possible.
OCC then advised Powergrid to share the relevant details with ERLDC to take up with NLDC.

In 169th OCC meeting Powergrid informed that 400 kV Kishanganj-Patna D/C line is under shutdown to restore the line on permanent towers. Powergrid further explained that the restoration work of 400 kV Kishanganj-Patna D/C line was delayed due to severe rain fall and huge in-flow of water from upstream. Powergrid therefore requested to extend the shutdown of 400 kV Kishanganj-Patna D/C lineup to 30th July 2020.

Powergrid further added that they will bring 400 kV Kishanganj-Patna D/C line into service by 30th July 2020 using ERS as they could not complete the tower erection work falling in the Kosi river. Powergrid explained that because of huge discharge of water from Nepal, it was not possible to erect the tower in Kosi river during this monsoon. They informed that they would take up this work after the monsoon and shift the line to permanent towers until that 400 kV Kishanganj-Patna D/C line would be on ERS. Powergrid mentioned that single moose conductor which is capable of carrying 500 MW has been used for each circuit of the ERS.

OCC then expressed serious concern over delay in permanent restoration of 400 kV Kishanganj-Patna D/C line and advised Powergrid to restore the line on permanent towers at the earliest. OCC then agreed for extension of shutdown of 400 kV Kishanganj-Patna D/C lineup to 30th July 2020 to restore the line on ERS. Further, OCC advised Powergrid to maintain the healthiness of the ERS till restoration of the line on permanent towers.

Powergrid may update about the permanent restoration of lines.

Deliberation in the meeting

Powergrid informed that they would complete the permanent restoration work of lines by last week of December 2020.

OCC expressed serious concern over delay in permanent restoration of 400 kV Kishanganj-Patna D/C line and advised Powergrid to restore the line on permanent towers at the earliest.

Item No. B.4 Renewal of contract for all installed SEM's of Phase-1 and 2 including AMR of Eastern Region—Powergrid

Existing contract period for Support of AMR/AMC of Phase-1 and Phase-2 has been completed on 30-Jun-2020. Total 656 SEM and 120 locations (129 DCU) are out of AMC scope since 30.06. 2020.Currently maximum SEMs are out of AMC support (66% SEM, out of AMC). On a special

request from PGCIL, TCS is continuing the AMC support for all 656 SEMs till now but further contract required to be renewed.

Considering the lockdown period since Mid of Mar-2020, maximum possible support has been provided by TCS and there is no major outage occurred for the weekly data availability of SEM.
TCS has submitted a techno-commercial proposal for renewal of their AMC Contract for another 5 years. Proposal value is total **4.98 Cr.** This proposal includes **05 years of comprehensive AMC support for all 656 meters and 129 DCUs including DCU replacement in 60 Locations**. As currently there is no active contract present with TCS for the AMC support, placing of AMC renewal LOA needs to be completed on priority basis. Based on the offer price submitted by TCS, now it is proposed to finalise the AMC contract on single tender basis with M/S. TCS.

Brief Scope of Work:

1. Comprehensive AMC support for the meters (656 SEM and 129 DCU) which have been installed in AMR Phase1 and Phase2.
2. AMC support includes replacement of Hardware which are installed at various Sub Stations (like DCU, Cables, PVC pipes, MOXA converters etc). Hardware replacement will be done as and when required.
3. As all DCU have already covered the service period (05 years plus), DCU replacement will be required. 60 number of DCUs have been considered for replacement in this proposal. (By considering the present scenario and future planning for faulty DCU replacement).
4. If more DCUs are required, then separate proposal will be submitted for the DCU replacement.
5. Connection of replaced meters will be done.

Members may discuss.

Deliberation in the meeting

Powergrid clarified that this contract renewal is for AMC of Phase-1 and Phase-2 SEMs (656 SEM and 129 DCU) installed in AMR. Powergrid further informed that the DCU's which were installed in 2013-14 have already completed 6-7 years and their life has been exhausted. Accordingly, in this current proposal they have considered replacing 60 DCU's out of 129 DCU's. The total cost also includes the cost of these DCU's which are to be replaced.

Powergrid further added that this is a preliminary offer received from TCS and further negotiation would be done with the vendor after getting the approval.

OCC in principle agreed to the proposal of AMC for SEMs (656 SEM and 129 DCU) under phase1 & phase 2 AMR including DCU replacement in 60 Locations and referred to Commercial Committee Meeting for further discussion.

Item No. B.5 Non updating of data on Merit Portal--CEA

The data on the Merit Portal is not being filled despite repeated reminders from ERPC. It is requested that the data for the back dates be filled and in the future the data be updated regularly. Further the data is being monitored by the Ministry of Power.

As the portal is of National significance, it is of paramount importance that the details be made available on the public portal, as it shall bring in greater transparency in the working of the power sector in India. Further the merit order data is useful for optimising the power procurement cost of the state itself. Regular updating of the data can also help other states optimize their own procurement cost. This shall help each and every state of the country.

The state wise details for the month of Aug 20 are given below:

STATE	DATE
Bihar	10.08.2020 - 18.08.2020
West Bengal	16.08.2020 & 18.08.2020
Sikkim	18.08.2020
Odisha	11.08.2020 - 18.08.2020
Jharkhand	18.08.2020
	14.08.2020 - 15.08.2020

Members may note and comply.

Deliberation in the meeting

OCC advised all the states to update the Merit Portal data on regular basis within stipulated time as the same is very much important for optimizing procurement cost. OCC further advised that if the states are facing any problem in updating the data, they may interact with ERPC and CEA.

Item No. B.6 Monthly Data on Category-wise consumption of electricity in States/UTs---CEA

1. CEA vide mail informed that Hon'ble MoSP(IC) has desired the month-wise category-wise consumption data in the various States/UTs from April,2019 to July, 2020. CEA requested all the concerned utilities of States to furnish the data at the earliest.

All the concerned utilities of States may furnish the data.

Deliberation in the meeting

SLDC DVC informed that they had already provided the data vide mail on 11.08.2020 & 21.08.2020.

SLDC Odisha, Bihar and Jharkhand agreed to submit the relevant details within three days.

SLDC West Bengal informed that currently they are not having the category wise data. They further informed that they would contact their distribution system and forward it to ERPC.

OCC advised Sikkim to submit the relevant information to ERPC.

2. CEA also informed that Hon'ble MoSP(IC) has also desired to know the reasons for the use of captive power plants by Industrial Consumers despite availability of adequate power in the country.

Members may discuss.

Deliberation in the meeting

OCC advised all the states to communicate the reasons regarding use of captive power plants by industrial consumers despite availability of power in the country to ERPC at the earliest.

Item No. B.7 Demand and Generation projections for PoC_Q3_2020-21—ERLDC.

The demand and generation projections for PoC_Q3_2020-21 is given in **Annexure B.7**. Data as received from the constituents is also attached in Annexure B7. Also Projected demand from Oct 2020 to Dec 2020 is also obtained by demand forecast using past 3 years data from 2017-2020. The same may be discussed in this forum for ratification.
Members may discuss.

Deliberation in the meeting

ERLDC informed that this agenda has already been discussed in the validation Committee meeting and the projections for Quarter-3 of 2020-21 were finalized.

Members noted.

Item No. B.8 Integration of Power from Renewable Energy Zones (REZs)—POSOCO.

With regard to integration of REZs expected up to 2021-22 time-frame, the All India PSSE file with different scenarios is being prepared for assessing Inter-Regional adequacy of the grid and based on which system strengthening, if any, would be carried out.

In view of the above, 9 nos. of scenarios have been prepared. Load generation scenarios, results of the system studies for Scenario-4 (High RE), June 2021-22 Afternoon Peak, study assumptions & inputs considered have already been uploaded on CTU website. The said system studies are preliminary analysis of the system conditions based on the discussions held with CEA and POSOCO.

Further system studies for balance 8 nos. of scenarios is under-preparation and shall be finalized after receipt of comments/observations from the stakeholders. It is requested to forward comments/observations on the referred scenario, if any, latest by 26-06-2020.

Comments were received from POSOCO vide letter dated 25.06.2020. No comments were received from any other constituents of ER. Accordingly, the updated system studies incorporating observations received from POSOCO were carried out for all the 9 nos. of scenarios. The system studies along with observations received from POSOCO/constituents were also discussed with CEA and POSOCO in meeting held on 23.07.2020.

In view of above, Load generation scenarios, study assumptions & inputs considered, system studies and study analysis are attached as Annexure B.8 in 170th OCC Agenda document for comments/observations. It is requested to forward comments/observations on the above, if any, at the earliest.

Members may discuss.

Deliberation in the meeting

OCC advised all the utilities to go through the Annexure B.8 of 170th OCC Agenda document and communicate the comments regarding the findings of the study to ERPC and ERLDC so that the same can be forwarded to CTU.

Item No. B.9 Updating Operating procedure of Eastern Region, 2020–ERLDC.

The Operating Procedure of every region must be updated and revised annually by the concerned RLDC, in compliance to section 5.1(f) of the IEGC. Accordingly, ERLDC vide email dated 14th July 2020 circulated the draft Operating Procedure of Eastern Region to all regional entities of Eastern Region for their valuable suggestions and observations. The procedure is finalized and uploaded at ERLDC website by 20-07-2020, taking into consideration comments received till 18-07-20.

In 169th OCC Meeting, OCC advised all the constituents to go through the operating procedure and submit their comments, if any to ERLDC within a week.

Thereafter, ERLDC informed that they have received some observations/comments regarding Updated Operating Procedure of Eastern Region. The points are given in the tabular format:

Sl. No	Item Sl. No	Description	Brief Remarks (Details data wise details will be shared shortly)
01.	3.2.1 & 3.2.2	Voltage control	Band must be mentioned at which Reactors will be put into service and when it will be withdrawn. Rajarhat B/R switching history will be provided as reference.
02.	5.0	Outage Procedure	Already after several discussion the outage procedure has been finalized in 162nd OCC. However, the proposed procedure is not matching with the finalized one. Details will be provided.
03.	6.6	Charging procedure	In point 5, there is a proposal for constitution of committee. As per previous experiences, it is very difficult for synchronization with different members from cross verticals and will delay the activity only.
04.	6.7	FTC procedure/documents	a. RIO certificate is asked from respective licensee. In B5 format every licensee is already certifying the same, then why it is asked again. b. Necessary protection setting confirmation is already provided in B2 formats. Detail protection settings not required. c. Details specification of equipment's is purely, licensee prerogative as all licensee is procuring as per CEA standard clause. Further detailing is not required.
05.	6.7.3.1	Installation of SEM	For other generators/IPP/ISGS, SEM will be handed over by POWERGRID but all necessary installation and further maintenance like time drifting etc to be done by respective generators/licensee only. May be included.
06.	7.4.4.3	Patrolling Report	Details of tripping findings will be shared as it is already in place, if any tripping occurred. However, patrolling report is a licensee specific format and will not be possible to submit in any specific format as mentioned.

Observations/comments in this regard received from Powergrid is enclosed at **Annexure-B.9**.

Members may discuss.

Deliberation in the meeting

ERLDC informed that they have received comments from Powergrid only.

OCC advised all the constituents to go through the given procedure and give their comments by 1st week of September 2020. OCC decided to discuss the procedure in a separate meeting with all the constituents.

Item No. B.10 Issues related to charging 400KV Meramundali – Bolangir (PG) line after availing the shutdown --- SLDC Odisha.

400KV Meramundali – Bolangir (PG) line availed shutdown on 12.08.2020 for replacement of 'Y' phase CVT at Meramundali end as per ERLDC approval No. ER-RQ 3597 Dt. 10.08.2020. On completion of shutdown work at the time of charging, ERLDC insisted for RIO inspection report. Further, ERLDC issued switch on code only after submission of an undertaking as follows:

"Y- Phase CVT inspection report from RIO will be submitted as early as possible and also any further equipment that will be replaced in future will be supported by proper inspection report from RIO prior to applying for switch on code".

Replacement of CT, PT, CVT, CB, LA isolator etc. is quite common in day to day maintenance. The prevailing COVID-19 pandemic situation synchronizing the visit of Electrical Inspectors with maintenance work is quite difficult. So, obtaining inspection report of Electrical Inspector for maintenance of each of these elements is not practically feasible.

Therefore, it is requested to review the procedure of these elements to smoothly carry out maintenance work in the prevailing situation.

Members may discuss.

Deliberation in the meeting

SLDC, Odisha explained that replacement of CT, PT, CVT, CB, LA isolator etc. is a day to day maintenance work and obtaining approval of Electrical Inspector would delay the charging of the line. SLDC, Odisha requested to review the procedure.

*In the meeting, ERLDC informed that as per the Chief Electrical Inspectorate, CEA letter dated 26th December 2019 (copy enclosed at **Annexure-B.10**), the replacement and upgradation work of substation equipment needs to be approved by Electrical Inspector. Therefore, ERLDC is insisting for Electrical Inspector clearance for any replacement work before charging the element.*

SLDCs and Transmission utilities in the meeting opined that replacement of CT, PT, CVT, CB, LA isolator etc. is a regular maintenance work and such replacement works need to be completed within short time span to bring the transmission line into service. They explained that availing Electrical Inspector clearance would take time in this COVID-19 pandemic situation and it may create operational constraint for the transmission system. Constituents in the OCC Meeting requested ERPC Secretariat to take up the issue with Chief Electrical Inspectorate, CEA for seeking necessary clarifications and reviewal of procedure, if required to ensure removal of these operational bottlenecks. Constituents also requested to follow the existing procedure till the clarification in this regard received from Chief Electrical Inspectorate, CEA.

ERPC Secretariat agreed to take up the issue with Chief Electrical Inspectorate, CEA for seeking necessary clarifications.

OCC recommended ERLDC to follow the existing procedure till the clarification received from Chief Electrical Inspectorate, CEA.

Item No. B.11 Modification of outage approval procedure for the lines connected to IPPs --- SLDC Odisha.

Modification may please be made for outage approval procedure for the following 400KV radial lines and equipments which has minimal or no impact on system so that concerned SLDC can approve the shutdown of following 400KV elements:

(a) 400 KV Meramundali – JSPL Ckt. I & II.

(b) 400 KV Meramundali – GMR(GKEL) SC Feeder.

(c) 400 KV new Duburi – TSL DC line (charged in 220KV).

Members may discuss.

Deliberation in the meeting

ERLDC informed that outage approval of 400 KV lines would be given by ERLDC after carrying out detailed studies.

OCC advised SLDC Odisha to place the issues being faced with the existing procedure, if any to ERLDC. The same would be resolved after detailed discussion.

Item No. B.12 Agenda of NTPC Talcher, Kaniha.

1. The Calibration of the energy meters (SEMs) at TSTPS premises is overdue (last calibration carried out between 19.09.2013 to 04.10.2013). This was pointed by various audit teams including Govt. auditors and was raised in OCC meetings. The annual audit report of Talcher-Solar CDM project for 2019-20 is kept abeyance only because of the above issue. Calibration of these meters (Solar meters in priority) to be carried out at the earliest.
2. Ramp Rate issue: frequent ramp-up and ramp-down (187 to 274 occasions on monthly basis) and in consecutive blocks affecting ramping performance as well as machine health. (Copy of letter submitted to ERLDC/ERPC in July-2020 enclosed as **Annexure B.12**). Similar scheduling was also observed recently for the date 02 Aug-20 (Block 48-55), 12Aug-20 (Block 8-11, 39-41). Consecutive block ramp up/down scheduling (Direction change) may be avoided.
3. Due to inherent nature of boilers in TSTPS, to avoid flame failure tripping, we must take support of secondary fuel oil to carryout soot blowing in low load operation. This has increased the specific oil consumption beyond normative (0.5 ml/KWh). Low load scheduling may be reviewed and avoided

Members may discuss.

Deliberation in the meeting

Powergrid ER-1 informed that currently they have a stock of 150 meters.

OCC advised NTPC Talcher to collect 8 nos. of SEM's from Powergrid Patna Office to replace the old SEMs.

Regarding ramp rate issues, NTPC gave a presentation on the issue in the OCC Meeting.

ERLDC informed that because of surrender of power from beneficiaries due to less demand, such scheduling was given to NTPC stations.

After detailed deliberation, OCC noted the concern of NTPC and advised NTPC to submit few cases along with the relevant data to ERPC Secretariat to take up the issue at appropriate level to address the issue.

Regarding oil consumption beyond normative (0.5 ml/KWh) at continuous low load operation, OCC opined that since the technical minimum operation is being followed as per the CERC regulations, NTPC may take up this issue with CERC for necessary guidance.

Item No. B.13 Constitution of a committee for independent verification of self-declarations and auditor's / accountant's certificates on random basis and in the case of complaints.

CEA vide letter dated 17th August 2020 informed that In pursuance of DPIIT order No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 regarding Public Procurement (Preference to Make in India), order 2017 (PPP-MII)-'clause 9(d)' and MoP Order No. 11/05/2018/Coord dated 28.07.2020-'clause 6', a Committee has been constituted for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in case of complaints. The composition of the Committee is given below:

Chairperson	Member (Planning), CEA
Member	Chief Engineer (PSETD), CEA
Member	Chief Engineer (HETD), CEA
Member	Chief Engineer (TETD), CEA
Member	Chief Engineer (DP&R), CEA
External Expert	As may be co-opted by CEA
Convener	Chief Engineer (R&D), CEA

In this regard, it is required to submit to this office the procurement wise details and self-declaration certificates submitted by the suppliers regarding local contents of the purchases.

Before furnishing the details to Verification Committee, the self-declarations certificate about local contents etc. may also be verified at your end and an analysis report of the same may be furnished.

Compliance report regarding cyber security/safety of the equipment/process to be rendered as safe to connect, regular safety audit certificates (as mentioned in the Annexure-III of the aforesaid MoP Order) based on the requirement of the tender issued by the procuring entity may also be furnished in respect of each purchases.

Also, procuring entities are requested to add a clause in their tender documents mentioning that the "*Self-declarations/ auditor's/ accountant's certificates submitted by the manufacturer/ supplier may be verified randomly by the committee constituted as per MoP Order 28-07-2020. In case of false documents/misrepresentation of the facts requisite action against such manufacturer/ supplier will be taken based on the recommendation of the Committee*."

The communication in this regard may be made with Ms. Sheetal Jain, Deputy Director, CEA, R K Puram, New Delhi 110066. Phone No. 011-26732286 Email **cerndcea@gmail.com**

Members may note and comply.

Deliberation in the meeting

OCC advised all the constituents to submit the certificates provided by the suppliers and manufacturers to CEA through the given email.

Item No. B.14 Request for data of the equipment/components to be included in Approved List of Model and Manufacturers (ALMM) Development of a Web Portal and creation of required fields in the Portal.

CEA vide mail communicated that MOP has brought out the Order No. 11/05/2018-Coord dated 23-07-2020 (Copy enclosed in **Annexure B.14**) mentioning creation of ALMM. As you are aware that a

dynamic Web Portal is to be developed for ALMM. In this regard it is requested that equipment wise rating of all the equipments used in your Organization and their parameters that are considered mandatory (to be filled in the "respective fields" of the Portal) and are usually considered during the procurements/ tendering may be provided to this office in a tabulated form. These data will facilitate the creation of required 'data fields' in the Portal for easy accessibility and navigation.

Product wise Vendor details may also be given.

Kindly provide information on email: **cerndcea@gmail.com.**

Members may note and comply.

Deliberation in the meeting

OCC advised all the constituents to communicate the list of equipments to CEA through the given email.

Item No. B.15 Scheduling of ISGS units to meet the technical minimum requirement–SLDC, Odisha.

It is observed that in-spite of zero requisition submission for certain ISGS stations like Farakka-I, II & III and Kahalgaon-I & II through out of 96 blocks of a day, as a normal practice ERLDC is scheduling certain quantum of power from those generating stations in some blocks of the day to meet technical minimum requirement of unit.

Sometimes, this forcefully scheduled power is creating under drawl situations at high frequency conditions when system demand is low. Further, to do away with this power, GRIDCO is forced to sell this power at a lower cost than the variable cost of the scheduled power, thereby creating a financial burden and audit issue. Therefore, ERLDC may please be advised to review the practice of scheduling of power from ISGS stations during zero requisition period. Further, it is requested that in case of zero requisition by any constituent, the power share of that constituent may be scheduled among the other beneficiaries who are availing power during other part of the day.

In 169th OCC Meeting, SLDC Odisha requested ERLDC to explore the requirement of power to other beneficiaries of the respective stations during zero requisition period to avoid injection of power during low demand conditions in Odisha.

Thereafter, ERLDC informed that the schedule is being enforced to ensure the technical minimum of the unit. The other beneficiaries of the station are also being consulted while giving such schedule. Because of huge variation in demand pattern it is difficult to avoid such conditions.

OCC then advised SLDC, Odisha to plan their own resources such as hydro generation to manage such conditions and coordinate with ERLDC, if necessary.

SLDC Odisha as per mail dated 14.08.2020 had again raised the issue along with the details of ISGS share requisition, schedule of Odisha and other states under ERLDC for the month of June 2020 are given which is attached at **Annexure B.15**.

SLDC Odisha may explain.

Deliberation in the meeting

SLDC, Odisha requested that in case of zero requisition from Odisha, the other beneficiaries who

are giving requisition should be given their full entitlement to meet the technical minimum and even after the technical minimum of the unit is not satisfied, then the remaining power may be allocated to Odisha to meet the technical minimum of the unit.

ERLDC informed that before allocating the power to Odisha, they are consulting the other beneficiaries on additional power requirement.

SLDC, Odisha explained that since the unit is running for the beneficiaries who are giving the requisition of power, the allocation of power to meet the technical minimum should be allocated to the respective beneficiaries only, not to be shared with the other beneficiaries who are giving zero requisition.

OCC advised SLDC Odisha and ERLDC to discuss and resolve the issue.

Item No. B.16 Additional Agenda

1. Declaration of high demand / low demand season for 2020-21----ERLDC

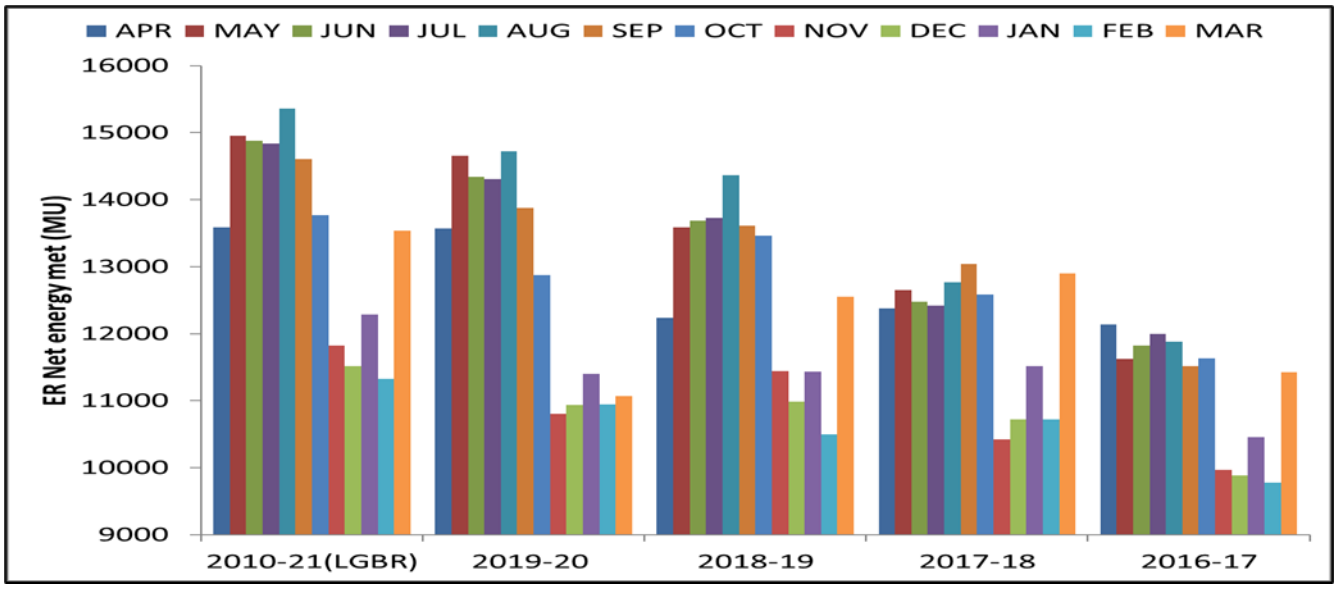
Regulation 42 of CERC (Terms and Conditions of Tariff) Regulations, 2019, pertaining to computation and payment of capacity charge for thermal generating stations, contains the following provisions:

> *"The capacity charge shall be recovered under two segments of the year, i.e. High Demand Season (period of three months) and Low Demand Season (period of remaining nine months), and within each season in two parts viz., Capacity Charge for Peak Hours of the month and Capacity Charge for Off Peak Hours of the month"*
> *"The number of hours of "Peak" and "Off-Peak" periods during a day shall be four and twenty, respectively. The hours of Peak and Off-Peak periods during a day shall be declared by the concerned RLDC at least a week in advance. The High Demand Season (period of three months, consecutive or otherwise) and Low Demand Season (period of remaining nine months, consecutive or otherwise) in a region shall be declared by the concerned RLDC, at least six months in advance:*
> *Provided that RLDC, after duly considering the comments of the concerned stakeholders, shall declare Peak Hours and High Demand Season in such a way as to coincide with the majority of the Peak Hours and High Demand Season of the region to the maximum extent possible"*

An exercise has been done for identification of high demand season for Eastern Region for 2020-21 (as per draft LGBR for 2020-21), 2019-20, 2018-19, 2017-18 and 2016-17. The months with the highest net energy met in Eastern Region are as below:

Year	Highest demand met
2020-21 (LGBR)	AUG, MAY, JUN
2019-20	AUG, MAY, JUN
2018-19	AUG, JUL, JUN
2017-18	SEP, MAR, AUG
2016-17	APR, JUL, AUG

Variation of energy consumption during various months of the year is shown below:



Ranking of the months based on energy consumption is given below:

Month	2010-21(	2019-20	2018-19	2017-18	2016-17
APR	7	6	8	8	**1**
MAY	**2**	**2**	5	4	6
JUN	**3**	**3**	**3**	6	4
JUL	4	4	**2**	7	**2**
AUG	**1**	**1**	**1**	**3**	**3**
SEP	5	5	4	**1**	7
OCT	6	7	6	5	5
NOV	10	12	9	12	10
DEC	11	11	11	10	11
JAN	9	8	10	9	9
FEB	12	10	12	11	12
MAR	8	9	7	**2**	8

Based on the detailed analysis, it is observed that net energy met by Eastern Region is high in the months of August, May and June. **Therefore, the month of August, May and June are selected as high demand season for the year of 2021-22 for the Eastern Regional Grid.**

Members may discuss.

Deliberation in the meeting

*ERLDC gave a presentation on selection of high demand season for the year 2021-22. The presentation is enclosed at **Annexure-B16.1**.*

OCC advised all the states and generators to go through the details and submit their comments to ERPC and ERLDC within 15 days. OCC decided to discuss the issue in next OCC meeting to finalise the high demand season.

2. Repeated tripping of units and generating stations---ERLDC

Deliberation in the meeting

ERLDC gave a presentation on repeated tripping of generating units during the month of July 2020. The presentation is enclosed at ***Annexure-B16.2****.*

OCC advised all the generators to take necessary action to avoid unwanted tripping of the units. OCC advised to submit a detailed report to ERLDC and ERPC at the time of restoration with the following details:

- *Root cause of the tripping*
- *Outage duration*
- *Remedial action taken after the tripping*
- *DR/EL output in case of tripping of unit due to electrical fault*

PART C: ITEMS FOR UPDATE

Item No. C.1: ER Grid performance during July 2020.

The average and maximum consumption of Eastern Region and Max/Min Demand (MW), Energy Export for the month of July – 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)
July, 2020	464	505 MU; 18/07/20	22914MW. 18-07-2020; 22:48	15279MW;19-07-2020; 17:06	3882	3730

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

ERLDC may present the performance of Eastern Regional Grid.

Deliberation in the Meeting

ERLDC gave a presentation on the performance of Eastern Regional Grid which is enclosed at ***Annexure C.1****.*

Members noted.

Item No. C.2: Performance primary frequency response of generating stations in Eastern Region for the event in the month of July 2020.

Frequency response characteristics (FRC) has been analyzed pan India for four events of sudden frequency change that occurred during the month of July 2020. The details of those events and the

overall response of Eastern region have been summarized and given as Annexure-C2 in 170th OCC Agenda document.

Members may note and comply.

Deliberation in the meeting

OCC advised all the generators to go through the Annexure C.2 of 170th OCC Agenda document and comply the observations.

OCC further advised all the generators to share their action plan with ERLDC on improvement of the response.

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

UFR healthiness certificate for July 2020 has been received from WBSETCL.

Members may update.

Deliberation in the meeting

Further CESC informed that they have submitted the UFR healthiness certificate on 07.08.2020.

OCC advised all the constituents to communicate the status of UFRs healthiness to ERPC on monthly basis.

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 168th OCC meeting DVC informed that during the preliminary study they identified that the implementation of islanding scheme with Mejia units 7 and 8 was not possible therefore now they had considered Chandrapura unit 7&8 for the implementation of islanding scheme.

ERLDC advised DVC to submit at least a preliminary draft plan to ERPC and ERLDC.

DVC vide mail dated 24.07.2020 has forwarded the proposed Islanding scheme, the details of which are given in ***Annexure C.4.***

Healthiness certificate for July 2020 has been relieved from NTPC, BKTPP, BTPS and Tata Power Islanding scheme.

Members may update and discuss.

Deliberation in the meeting

ERLDC informed that they will study the proposal of Islanding scheme given by DVC and thereafter

they will give their comments.

A. Status of Islanding Scheme of IB-TPS.

Islanding scheme 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 167th OCC, OCC advised OPGC to share the status of islanding scheme to ERPC.

In the 169th OCC Meeting OPGC representative was not present.

OPGC may update the status of Islanding scheme.

Deliberation in the meeting

OCC advised OPGC to submit the latest status on implementation of islanding scheme to ERPC and ERLDC.

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 be completed.

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 finalized in earlier OCC Meetings and advised to take necessary action to provide the radial load for the islanding scheme.

In the 168th OCC meeting after detailed deliberation, OCC decided to conduct a separate meeting with KBUNL and BSPTCL to discuss the islanding scheme of KBUNL within this week.

In line with decision taken in 168th OCC, a meeting was held through WebEx on 22-June-2020 for discussing and finalizing islanding scheme of KBUNL St-II. Meeting was attended by participants from BSPTCL, Bihar SLDC, KBUNL (NTPC) and ERLDC. Minutes of Meeting was attached in Annexure C.4 of the 169th OCC Meeting minutes document.

In 169th OCC Meeting ERLDC informed that as per the decision taken in the separate meeting, Bihar and KBUNL must submit some details to ERLDC for finalization of the scheme.

ERLDC further added that they had received some details from SLDC Bihar, but few details are yet to be received. Further ERLDC mentioned that no details have been received from KBUNL.

Thereafter, OCC advised Bihar and KBUNL to submit all the relevant details to ERLDC at the earliest.

KBUNL and SLDC BIHAR may update.

Deliberation in the meeting

ERLDC informed that they have received relevant details from Bihar and they are yet to receive the relevant data from KBUNL.

OCC advised KBUNL to share the data with ERLDC at the earliest.

KBUNL informed that certain generator and turbine data is not readily available with them. KBUNL agreed to submit the data to ERLDC after interacting with the OEM.

Item No. C.5: Bus split arrangement at 400 KV Sundergarh (Jharsuguda)--ERLDC

In the 16th meeting of Standing Committee on Power System Planning of ER, held at New Delhi on 2nd May 2014, bus splitting arrangement at Sundergarh (Jharsuguda) substation at 765kV & 400kV voltage levels was agreed. The bus split scheme at Sundergarh has been completed in Nov '19. Comments were also sought on the proposal of CTU shared with email.

Subsequently ERLDC has independently carried out the Bus-splitting simulation studies. In the simulation 400 kV Buses at OPGC was considered as coupled (which is how system is operating at present), while in the shared by CTU study same was decoupled. Through simulation it was observed that system remains N-1 secured without any skewed flow when Sundergarh operates in Bus Split mode at 400 kV level, which is in line with CTU study report.

Fault level pre and post bus split observed in simulation is as follows:

Substation	Fault level before bus Splitting	Fault level Post bus Splitting
400 kV Sundergarh (Jharsuguda)	66.5 kAmps	46.4 kAmps /46.5 kAmps

Subsequently by letter dated 14th July 2020 CTU suggested to implement bus split arrangement at 400 kV Jharsuguda citing reference to CEA 3rd July 2020 letter.

In the 169th OCC meeting Powergrid informed that they were ready to operationalize the bus split arrangement at400 kV Jharsuguda S/s.

Further, ERLDC informed that they had carried out a simulation study wherein it was found that there is no issue in meeting N-1 contingency with the Bus splitting at 400 kV Jharsuguda S/s and the results were almost matching with the CTU study. They further informed that the bus splitting scheme could be put in service. However, two group protection settings must be implemented at 400 kV Jharsuguda S/s and nearby substations for proper operation of protection relays during common bus operation and split bus operation at 400kV Jharsuguda S/s. Similarly, the zone settings of remote end substations are to be reviewed considering changes in the longest and shortest line.

It was also informed that the protection issues were already discussed in 92nd PCC Meeting held on 22nd July 2020 wherein PCC advised all the concerned constituents to review the protection settings considering the above-mentioned points.

After detailed deliberation, OCC agreed for operationalization of the bus split arrangement at400 kV Jharsuguda S/s. OCC then advised Powergrid to coordinate with the remote end substations for implementation of the revised protection settings and inform a suitable date to ERLDC for putting the bus splitting scheme in operation.

ERLDC and Powergrid may update.

Deliberation in the meeting

Powergrid and ERLDC informed that the bus splitting scheme is in service from 10th August 2020.

Item No. C.6: Transfer capability determination by the states.

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

Sl. No	State/Utility	TTC (MW)		RM(MW)		ATC Import (MW)		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	6450	--	129	--	6321	--	Sep-20
2	JUSNL	1144	--	33	--	1111	--	Sep-20
3	DVC	1628	2742	66	52	1562	2690	Jun-20
4	OPTCL	2112	1071	83	60	2029	1011	Aug-20
5	WBSETCL	4492	--	400	--	4092	--	Aug-20
6	Sikkim	295	--	2.5	--	292.5	--	Dec-19

Sikkim has stopped sending the TTC values as well as PSSE files.

Members may update.

Deliberation in the meeting

ERLDC informed that they have received ATC/TTC figures from DVC and Odisha but they are not getting any response from West Bengal and Sikkim.

OCC advised Sikkim and West Bengal to submit the ATC and TTC to ERLDC at the earliest.

Item No. C.7: 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 of June 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

In the 169th OCC Meeting, Odisha informed that they are planning to conduct the mock black start exercise for Burla and Rengali in Sept 2020. They further informed that because of COVID-19 situations they were unable to carry out the black start exercise for Balimela HEP as per schedule in July 20 and they will conduct the same by Sep 2020.

Members may update.

Deliberation in the meeting

Odisha informed that they would carry out the mock black start exercise in the month of September 2020.

Item No. C.8: Multiple outages of Isolators& Circuit Breakers at Ramchanderpur S/S (JUSNL)--ERLDC

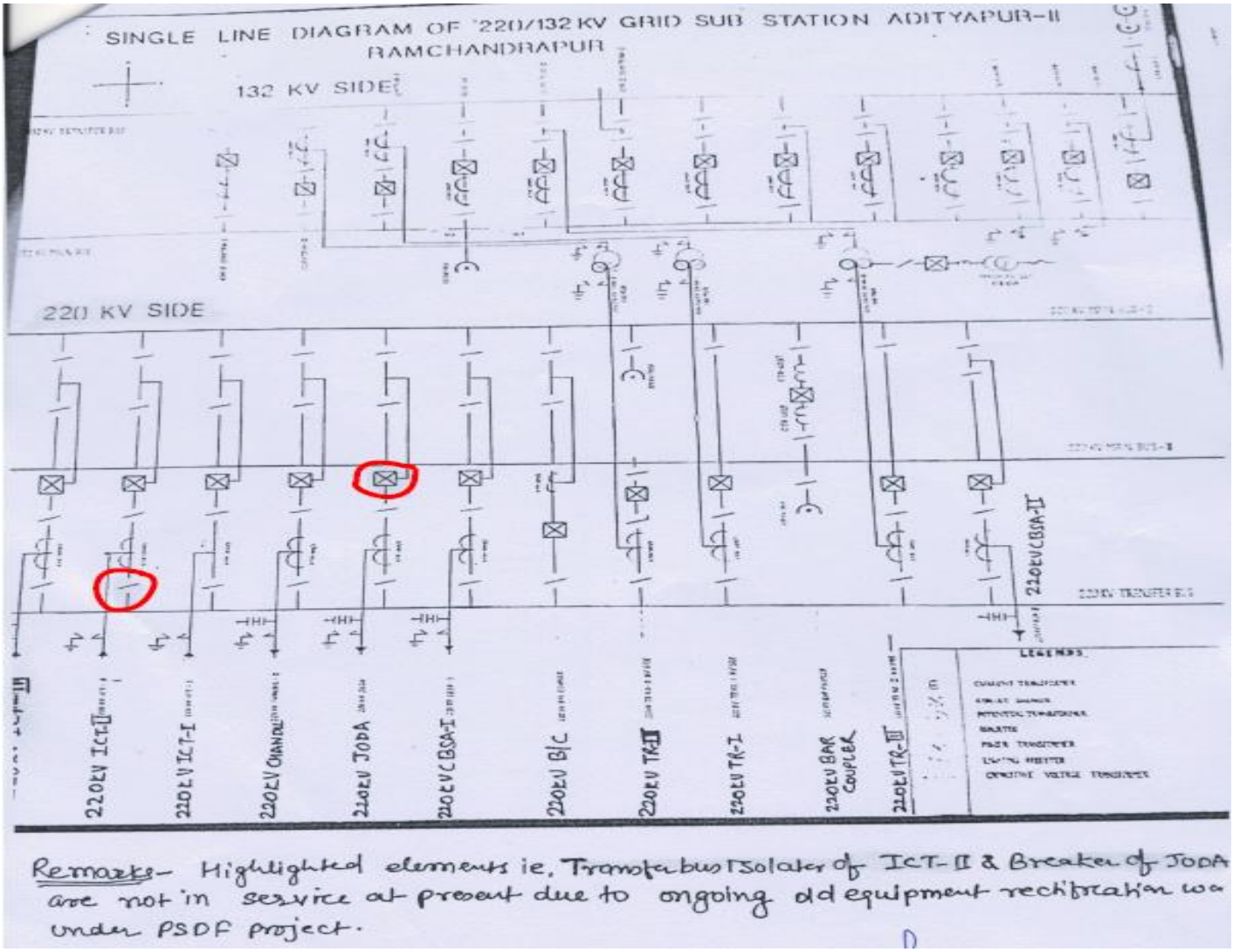
ERLDC had issued shutdown to indenting agency PGCIL of 400KV/220KV 315 MVA ICT-2 at JAMSHEDPUR for 29/Jun/2020 from 09:00-17:00 Hrs vide approval number: APP NO : RQ3258 to facilitate replacement of porcelain insulator string with Polymer insulator string at Jamshedpur S/S switchyard due to high pollution. After returning shutdown closing code was issued ER/06/C/01349 at 29/06/2020 16:30 Hrs. However, It could be charged from 400 KV side only as 220 KV side(Ramchanderpur) ICT-2 could not be charged due to problem in Bph CB pole of this ICT-2 at Ramchanderpur (Entire 220kV switchyard at Ramchanderpur is owned & maintained by JUSNL).

Being a double main transfer bus scheme at Ramchanderpur ICT still could not be taken into service via transfer bus coupler as Isolator associated with ICT-2 connecting to transfer bus was not resent. While issuing consent for the above shutdown vide mail dated Fri, Jun 26, 1:33 PM JUSNL didn't mention the non-availability transfer bus coupler Isolator associated with ICT-2. Being an important load center and connecting point to other regions such non-availability of key elements are unwarranted. It has also come into notice that several isolators and breaker remains either out of service or non-existent at Ramchanderpur S/S. Being an ISTS connected station availability of all elements are necessary for secure and reliable system operation.

Following are list of List of Isolators & Circuit Breakers that remains out of service &non

Breaker/Isolator Number	Associated Element Name	Status(In Service/Out of Service/Non-existent)	Reason for not being in service & Duration of outage
Breaker	220 kV Joda Breaker	Out of service	Due to ongoing Old equipment replacement work under PSDF project. Expected to be functional within 10-15 days depending upon availability of S/D.
isolator	220kV Tr. Bus isolator of ICT-2	Out of service	Due to ongoing Old equipment replacement work under PSDF project. Expected to be functional within 10-15 days depending upon availability of S/D.
isolator	220kV Main Bus-2 isolator of Tr no-1	Non- existent	Not Present since inception of this GSS.
isolator	220kV Main Bus-1 isolator of Tr no-2	Non- existent	Not Present since inception of this GSS.
isolator	220kV Main Bus-2 isolator of Tr no-3	Non- existent	Not Present since inception of this GSS.

THE SLD OF 220 KV RAMACHANDERPUR S/S (JUSNL)



In the 169th OCC Meeting, Jharkhand informed that replacement of isolator and circuit breakers is in progress under PSDF project. They have applied for shutdown from 1st Aug for normalizing all the Breakers and Isolators.

Thereafter, ERLDC informed that they are not getting any information on healthiness of the elements as a result they are facing problem in real time operation.

OCC then advised SLDC, Jharkhand and other utilities to ensure availability of all elements in ISTS connected stations for secure and reliable system operation and inform about any outage of the elements in their substation to ERLDC at the earliest.

JUSNL may update about the restoration of above elements.

Deliberation in the meeting

JUSNL informed that the work would be completed by 30th Aug 2020.

Item No. C.9: Prolonged outage of bays in Koderma (DVC) substation: ERLDC

The main CB of 400 KV Koderma-Bokaro-2 at Koderma was out since 25.12.2019 due to damage in the double interrupter chamber and the line is charged through the tie CB with B/R-2. On 15.07.2020, due to leakage of oil pressure of the main CB of B/R-2, DVC requested emergency S/D of the line due to the unavailability of main CB. Tie CB of B/R-1 and Gaya-1 was also out since 22.10.2019 due to oil leakage from B-ph CT and problem in CB hydraulic mechanism. Such prolonged outages of breakers at such an important substation which has connectivity to ISTS system as well as generating station hamper the reliability and security of the system operation.

In 169th OCC Meeting, DVC mentioned that bays of the Gaya line are made available. Work has already been started for restoring the Koderma line bays and the same would be available by 2nd Aug 20.

DVC may update the status of restoration of above mention bays.

Deliberation in the meeting

DVC informed that the main CB of 400kV Koderma-Bokaro line at Koderma has been charged since 2nd Aug 2020. Further DVC mentioned that tie CB of Gaya-1 will be made available by 31st Aug 2020.

Item No. C.10: PSS tuning status in Eastern Region. --ERLDC

Details of units where PSS have not been tuned in last three years were given in Annexure C.13 of 169th OCC minutes. It was observed that utilities such as OPGC, OHPC, WBSEDCL, NTPC, GMR and few others have not yet submitted their plan for PSS tuning to ERLDC/ERPC.

A report on analysis of PSS tuning done so far was also circulated separately.

In 169th OCC Meeting, OCC advised all the concerned generators to submit the plan for PSS tuning to ERLDC and ERPC.

Thereafter, OCC advised ERLDC to discuss the issue along with RGMO in a separate meeting.

Members may update.

Deliberation in the meeting

OCC advised all the concerned generators to submit the plan for PSS tuning to ERLDC and ERPC.

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Item No. C.11: Finalization of procedure for PSS tuning of power plants -- ERLDC

Power System Stabilizer (PSS) tuning is an ongoing exercise in Eastern regional grid after observation of various low frequency oscillation from time to time in the grid. In line with this, OCC has decided that all generating plants in eastern region will submit their PSS tuning plan to ERLDC/ERPC and the test reports for validation.

Considering above and other technical and regulatory requirement of CEA and CERC PSS tuning is being done at different generating station, however at present no formal guideline is available for carrying out the same. Due to which it was observed that result shared by the generating units are not standardized and sometimes some tests are missed out.

To take care of the same a draft procedure for PSS tuning is prepared to be shared in the upcoming OCC Meeting. All are requested to go through it and give comments so that it can be finalized.

In 169th OCC Meeting, OCC advised all the generators to go through the draft procedure enclosed in Annexure-B9 of 169th OCC Minutes document and submit their comments to ERLDC within 15 days.

OCC then advised ERLDC to place this procedure in the separate meeting on RGMO wherein most of the generators are present in the meeting.

ERLDC may update.

Deliberation in the meeting

ERLDC informed that as of now they have not received any comments.

OCC advised all the generators to go through the procedure and submit their comments to ERLDC at the earliest.

Item No. C.12: Operationalizing Bus splitting at Biharshariff--ERLDC

Bus split arrangement at Biharshariff 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 commissioning 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 significantly skewed.

- 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 MVA rating).

In 169th OCC Meeting, ERLDC informed that Bihar had submitted a report wherein Bihar agreed for the implementation of bus-split arrangement.

Further, ERLDC added that Bihar has to make load shedding scheme to avoid the tripping of 315 MVA ICT on overload during tripping of 500 MVA ICT.

Thereafter, OCC opined that depending on the power flows after putting the bus splitting scheme in service, the SPS scheme should be decided.

OCC then advised Powergrid to make necessary changes in protection settings for implementation of the bus-split arrangement and to coordinate with remote end sub-stations. OCC further, advised Powergrid to intimate a suitable date to ERLDC for putting the bus splitting scheme in service at Biharshariff.

Powergrid and BSPTCL may update.

Deliberation in the meeting

Powergrid informed that they have computed the protection settings for split mode operation and forwarded to their corporate office for review and comments. Powergrid added that they will update status as soon as they receive the information from their corporate office.

Item No. C. 14: Nomination of nodal persons for communication related to tripping of grid elements and primary frequency response observed at generating stations --ERLDC.

For smooth communication regarding this transfer of data, all the regional generating stations, transmission utilities and SLDCs were requested in 168th OCC meeting 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. Nomination was not received from new regional generating and all SLDCs. List is shown in following table. These generating units and SLDCs are requested to nominate at the earliest.

Entity	Nomination for communication for tripping related information	Nomination for communication for FRC/ FGMO/ RGMO related information
NTPC Darlipalli	**Yet to be received**	Nomination received
Adhunik	**Yet to be received**	Nomination received
GMR	**Yet to be received**	Nomination received
KBUNL	**Yet to be received**	Nomination received
Rangit	**Yet to be received**	Nomination received
Jharkhand SLDC/JUSNL	Nomination received	**Yet to be received**
WB SLDC	**Yet to be received**	**Yet to be received**

Members may update.

Deliberation in the meeting

ERLDC informed that they are yet to receive nomination from Jharkhand and West Bengal.

OCC advised Jharkhand and West Bengal to nominate the nodal person and send the details to ERLDC at the earliest.

It was informed that a separate meeting on RGMO with SLDCs and State Generating utilities are scheduled to be held on 31st August 2020. OCC advised all the concerned constituents to attend the meeting for fruitful discussion in the meeting.

PART D: OPERATIONAL PLANNING

Item No. D.1: Anticipated power supply position during September 2020.

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

Deliberation in the meeting

*Updated anticipated power supply position for the month of Sep 2020 is given in **Annexure D1**.*

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

Generator shutdown for September 2020 is shown below.

Proposed Maintenance Schedule of Thermal Generating Units of ER during 2020-21 in the month of Sept 20 (as finalised in draft LGBR meeting held on 06.12.2019)

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
ODISHA	TTPS	4	60	13.09.20	22.10.20	40	AOH
WBPDCL	Santaldih TPS	6	250	01.09.20	28.09.20	28	Capital Overhauling
NTPC	KhSTPS	6	500	01.09.20	05.10.20	35	Boiler + HPT + IPT

ERLDC may place the list of transmission lines shutdown discussed on 19th August 2020.

Deliberation in the meeting

NTPC informed that shutdown of Unit-I of TTPS will be taken from 30th Aug 2020 to 18th Sep 2020. The shutdown of Unit-II will be taken from 24th Sep 2020.

*DVC informed that in view of COVID 19 pandemic, they are unable to carry out the overhauling of their units and submitted a revised overhauling plan which is enclosed at **Annexure-D2.1**.*

WBPDCL Santaldih informed that they are taking the unit #6 shutdown as per the schedule.

NTPC Kahalgaon informed that they were planning to take the shutdown from 5th Sep 2020 but because of lockdown it has been delayed and they agreed to communicate the revised dates.

OCC advised all the generators to inform the beneficiaries in advance about the deviation in schedule given in LGBR and take their consent before taking the unit under shutdown.

*Approved shutdown list of transmission elements for September 2020 is enclosed at **Annexure-D2.2**.*

1. **Shutdown for Diversion of 220kV D/C Siliguri-Kishanganj TL in between location no.-187 & 188 and 168 & 169 due to development of 4-Lane Islampur Bypass by NHAI—Powrgrid.**

NHAI is constructing a 4-Lane Islampur bypass on NH-31.Due to development of the by-pass road , NHAI have asked to shift 4 nos. tower of 220kV D/C Siliguri-Kishanganj TL due to vertical clearance violation with respect to CEA norms.

As a part of that in order to shift the towers, 2 Nos. new foundation, 2 Nos. new tower erection &1.35 KM Stringing to be done for tower shifting in between Loc No.-168 & 169 and 2 Nos. new foundation, 2 Nos. new tower erection & 1.75 KM Stringing to be done for tower shifting in between Loc No.-187 & 188.

They are planning to complete the tower foundation activity by 09.09.2020 (if weather remains favourable & no disturbance due to ROW) and further in order to take up the Erection & Stringing work at both the stretches simultaneously (in between location no.-187 & 188 and 168 & 169), it is proposed to accord Shut-down of 220kV D/C Siliguri-Kishanganj TL from 10.09.2020 to 30.09.2020 on continuous basis.

Since the transmission line diversion work has been taken up due to NH-31 road construction work carried out by NHAI which is a Central Govt. Organization under Ministry of Road Transport as such the outage of the line suffered due to this diversion work may be considered as deemed available.

220kV D/C Siliguri-Kishanganj TL in between location no.-187 & 188

220kV D/C Siliguri-Kishanganj TL in between location no.-168 & 169

Members may update.

Deliberation in the meeting

*It was informed that the shutdown would be allowed as per the list given in **Annexure-D2.2**. The deemed availability would be considered as per the CERC regulations.*

Item No. D3: **Major Generating Units/Transmission Element outages/shutdown in ER Grid (as on 10.06.2020).**

SL. No	Station	State	Agency	Unit No	Capacity	Reason(s)	Outage Time	
1	BALIMELA HPS	ODISHA	OHPC	1	60	R & M WORK	05-Aug-2016	00:00
2	BALIMELA HPS	ODISHA	OHPC	2	60	R & M WORK	20-Nov-2017	00:00
3	BURLA HPS/HIRAKUD I	ODISHA	OHPC	1	49.5	R & M WORK	14-Mar-2018	17:20
4	BURLA HPS/HIRAKUD I	ODISHA	OHPC	5	37.5	R & M WORK	25-Oct-2016	09:00
5	BURLA HPS/HIRAKUD I	ODISHA	OHPC	6	37.5	R & M WORK	16-Oct-2015	09:00
6	BURLA HPS/HIRAKUD I	ODISHA	OHPC	7	37.5	ANNUAL MAINTENANCE	06-Dec-2019	12:00
7	CHANDRAPURA TPS	DVC	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-2017	00:00
8	KOLAGHAT	WEST BENGAL	WBPDCL	1	210	POLLUTION PROBLEM	10-May-2018	23:05
9	KOLAGHAT	WEST BENGAL	WBPDCL	2	210	ESP FIELD MAINTENANCE	26-Dec-2019	22:48
10	FSTPP	WEST BENGAL	NTPC	5	500	Feed water control valve gland leakage	13-Aug-2020	14:20
11	JITPL	ODISHA	JITPL	2	600	BOTTOM ASH SCRAPPER CONVEYOR PROBLEM	06-Aug-2020	00:05
12	KBUNL	BIHAR	NTPC, BSPHCL	2	195	SHAFT VIBRATION HIGH	24-Jul-2020	02:41
13	KHSTPP	BIHAR	NTPC	3	210	BREACH IN ASH POND DYKE	06-Aug-2020	16:04
14	KHSTPP	BIHAR	NTPC	4	210	BREACH IN ASH POND DYKE	06-Aug-2020	15:18
15	KHSTPP	BIHAR	NTPC	5	500	TURBINE VIBRATION	05-Aug-2020	20:51
16	KHSTPP	BIHAR	NTPC	6	500	BREACH IN ASH POND DYKE	06-Aug-2020	15:25
17	KHSTPP	BIHAR	NTPC	7	500	BREACH IN ASH POND DYKE	10-Aug-2020	12:26
18	NABINAGAR(BRBCL)	BIHAR	NTPC	2	250	Generator bearing high vibration	12-Aug-2020	02:20
19	BALIMELA HPS	ODISHA	OHPC	4	60	SPARKING IN PMG	02-Mar-2020	17:40
20	BARAUNI TPS	BIHAR	BSPHCL	6	110	ELECTRICAL PROTECTION TRIP; PROBLEM IN BEARING GEAR MOTOR	25-Feb-2020	06:56
21	DPL	WEST BENGAL	WBPDCL	7	300	ID FAN TRIPPED	09-Aug-2020	03:34
22	MUZAFFARPUR TPS	BIHAR	BSPHCL	1	110	BTL	10-Aug-2020	23:18
23	U. KOLAB	ODISHA	OHPC	3	80	GUIDE BEARING TEMPERATURE HIGH	07-Jan-2020	07:55

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

Hydro Unit Outage report:

SL. No	Station	State	Agency	Unit No	Capacity	Reason(s)	Outage	
1	BALIMELA HPS	ODISHA	OHPC	1	60	R & M WORK	05-Aug-2016	00:00
2	BALIMELA HPS	ODISHA	OHPC	2	60	R & M WORK	20-Nov-2017	00:00
3	BURLA HPS/HIRAKUD I	ODISHA	OHPC	1	49.5	R & M WORK	14-Mar-2018	17:20
4	BURLA HPS/HIRAKUD I	ODISHA	OHPC	5	37.5	R & M WORK	25-Oct-2016	09:00
5	BURLA HPS/HIRAKUD I	ODISHA	OHPC	6	37.5	R & M WORK	16-Oct-2015	09:00
6	BURLA HPS/HIRAKUD I	ODISHA	OHPC	7	37.5	ANNUAL MAINTENANCE	06-Dec-2019	12:00

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.

Line Long Outage Report:

SL NO	Transmission Element / ICT	Agency	Outage DATE	Reasons for Outage	Expected Restoration date
1	220/132 KV 100 MVA ICT I AT LALMATIA	FSTPP/JUSNL	22-01-2019	Failure of HV side breaker	
2	220 KV PANDIABILI - SAMANGARA D/C	OPTCL	03-05-2019	Tower collapse	
3	400 KV MOTIHARI(DMTCL)-GORAKHPUR-I	POWERGRID/DMTCL	13-08-2019	Tower Collapsed at location 27/0(132) due to change of river course of GANDAK river. Part of the line charged as 400KV Barh - Gorakhpur-since 05.02.20 as an interim arrangement bypassing Motihari LILO portion.	
4	400 KV MOTIHARI(DMTCL)-GORAKHPUR-II	POWERGRID/DMTCL	13-08-2019	Tower Collapsed at location 27/0(132) due to change of river course of GANDAK river.	
5	400 KV BARH-MOTIHARI(DMTCL) -I	POWERGRID/DMTCL	04-09-2019	Tower Collapsed at location 27/0(132) due to change of river course of GANDAK river. Part of the line charged as 400KV Barh - Gorakhpur-since 05.02.20 as an interim arrangement bypassing Motihari LILO portion.	
6	400KV-MERAMUNDALI-NEW DUBRI-D/C	OPTCL	20-03-2020	3 number Tower Collapsed at location 17 ,18 & 19 10 Km from Meramundali S/S.	
7	220 kV Howrah - KTPP II	WBSETCL	01-04-2020	Tower collapse at loc no 66 due to soil erosion	
8	400 KV KOLAGHAT-NEW CHANDITALA	WBSETCL	25-04-2020	Line was opened to restore 220 kV Howrah – kolaghat using some portion 400KV KTPP-New Chanditala ckt.	

9	220/132 KV 100 MVA ICT 3 at Chandil	JUSNL	30-04-2020	Fire Hazard	
10	132 KV NEW KISHANGANJ -BARSOI S/C and 132KV-PURNEA (PG)-KISHANGANJ(OLD) S/C	BSPTCL	02-07-2020	Out due to heavy soil erosion at loc no 140 and 141 by river Kankai. line charged as 132 KV Purnea (PG) - Barsoiw.e.f 21.07.20 at 19:05 Hrs temporarily by suitable jumper arrangement at the crossing point of 132 kV Kisanganj(New) - Barsoi and 132 kV Purnea(PG) - Kisanganj (old).	
11	220kV Barauni-Hajipur Ckt-1	BSPTCL	28-09-2019	Tower collapse at location 38 & 39. Ckt-2 is on ERS since 13.01.2020.	
12	220KV-DARBHANGA (DMTCL)-DARBHANGA-2	BSPTCL	28-07-2020	Waterlogging in 400/220 KV Darbhanga (DMTCL) S/s due to flood	
13	220KV-DARBHANGA(DMTCL)-LAUKAHI-1	BSPTCL	28-07-2020	Waterlogging in 400/220 KV Darbhanga (DMTCL) S/s due to flood	
14	220kV HAJIPUR-AMNOUR-1	BSPTCL	05-08-2020	220/132/33KV Amnour GIS substation of BGCL under SLDC Bihar was switched off at 02:19 hrs on 05.08.20 due to Flood.	
15	220kV HAJIPUR-AMNOUR-2	BSPTCL	05-08-2020	220/132/33KV Amnour GIS substation of BGCL under SLDC Bihar was switched off at 02:19 hrs on 05.08.20 due to Flood.	

As per long outage list, most of the important grid elements, inter-state as well as intra-state, are under outage for long time due to tower collapse and other issues.

Transmission licensees/ Utilities are requested to update expected restoration date & work progress regarding restoration regularly to ERLDC/ERPC on monthly basis by 5th of each month so that status of restoration can be reviewed in OCC. Utilities are also requested to update outage of any elements within their substation premises like isolator/breaker to ERLDC/ERPC regularly.
(Reported as per Clause 5.2(e) of IEGC)

Members may update.

Deliberation in the meeting

Members noted.

Item No. D.4 Commissioning of new units and transmission elements in Eastern Grid in the month of July 2020.

The details of new units/transmission elements commissioned in the month of July -2020 based on the inputs received from beneficiaries:

SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	400KV/220KV 500 MVA ICT 3 AT MAITHON(PG)	PGCIL	29.07.20	11:09	
2	220 kV Purnea - Khagaria - LILO	BSPTCL	28.07.20	13:25	
3	132 KV PurnaBarsoi l	BSPTCL	21.07.20	19:05	(Reconfiguration of 132 kvPurnea (pg)- Kishanganj (old) and 132 kvKishanganj new-

					Barsoi T/L to feed Barsoi)
4	220KV New Bolangir - Bolangir PGCIL Circuit – II.	OPTCL	30.07.20	23:13	
5	400KV-RAJARHAT-GOKARNA-1	PGCIL	12.07.09	16:09	
6	400KV-RAJARHAT-FSTPP-1	PGCIL	12.07.09	13:15	

Members may update.

Deliberation in the meeting

Members noted.

Item No. D.5 UFR operation during the month of July 2020.

Frequency profile for the month is as follows:

Month	Max (Date/Time)	Min (Date/Time)	% Less IEGC Band	% Within IEGC Band	% More IEGC Band
July, 2020	50.39; 05/07/2020; 03:44:00	49.62; 14/07/202022:08:00	**6.7**	**78.17**	**15.13**

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

Deliberation in the meeting

Members noted.

****

Annexure A

LIST OF ATTENDEES OF 170th OCC MEETING

SL NO.	NAME	DESIGNATION	ORGANISATION	PHONE NO.
1	ERPC, Kolkata	HOST	ERPC	
2	S kejriwal	MEMBER SECRETARY I/C	ERPC	
3	D.K Bauri	SUPERITENDING ENGINEER	ERPC	9883617236
4	J G RAO	EXECUTIVE ENGINEER	ERPC	
5	A De	ASST. DIRECTOR-I	ERPC	
6	Yogesh Singla	DEPUTY GENERAL MANAGER	KBUNL	
7	Manas Das		ERLDC, POSOCO	9007070925
8	Amaresh Mallick	CHIEF GENERAL MANAGER	ERLDC, POSOCO	9436302720
9	P. P. Jena	AAST. DIRECTOR-I	ERPC	
10	B. B Bhoi		POSOCO	9432351830
11	Prakash Kumar Gupta	WBPDCL		
12	Gopal Mitra	CHIEF GENERAL MANAGER	ERLDC, POSOCO	9831297392
13	Debajyoti Majumdar	MANAGER	POSOCO	9903593500
14	Saswat Swain	ASST. DIRECTOR-II	ERPC	9337791451
15	Vivek Karthikeyan	CHIEF MANAGER	STERLITE POWER	8966903034
16	Tushar Ranjan Mohapatra	MANAGER	ERLDC, POSOCO	
17	Pinki Debnath	MANAGER	ERLDC, POSOCO	
18	P. K Sathpathy	SR. GENERAL MANAGER	OPTCL	9438907410
19	Surajit Banerjee		POSOCO	9433041823
20	Nishant Kumar Shankwar	MANAGER	DMTCL	7987210324
21	Rajdeep Bhattacharya	REGIONAL ENGINEER	BSPHCL, Kolkata	9830380689
22	Diptikanta Panda			
23	Laldhari Kumar		ERLDC, POSOCO	9831379478
24	Sanjay Kumar Singh			
25	Koushik Banerjee			
26	Shyamal Konar			
27	Alok Pratap Singh			
28	Chandan Kumar	MANAGER	ERLDC, POSOCO	9869251460
29	Pravat Ranjan jena			
30	Chandan Mallick	Dy. Mgr	ERLDC, POSOCO	
31	Nimish Seth			
32	Pkd			
33	Ghosh Sayani			
34	Ranadip Das			
35	Sanjaya Kumar Mishra			
36	Saurav Sahay		ERLDC, POSOCO	
37	Nimisha Kumari		BSPTCL	7763817773
38	Sanjay Kumar Sahu			
39	Karikalchozan M	ASST. GENERAL MANAGER	NTPC	
40	SLDC, DVC		DVC	
41	Sunil Kumar Sharma		NTPC ER-I	
42	Ashimananda Pal			
43	Gitesh			
44	D.K Jain	EXECUTIVE DIRECTOR	ERLDC, POSOCO	
45	Chaterjee Biplab		TATA POWER	9204857100
46	Raj Protim Kundu		ERLDC, POSOCO	
47	Prasant Senapthy	ASST. GENERAL MANAGER	GMR	8114918762
48	Raj Kishore Mandal			
49	Gagan Kumar	EXECUTIVE ENGINEER	SLDC, BSPTCL	7992486100
50	Shaibal Ghosh	DY. MANAGER	ERLDC, POSOCO	8584072079
51	Jogesh Chandra Patra		TSTPS NTPC	
52	Arunava Sengupta			
53	Sanjaya Kumar Sharma			
54	Abhinava Basu	ASST. EXECUTIVE ENGINEER	BSPTCL	7033091492
55	Lenin Bodigadla	EXECUTIVE ENGINEER	ERPC	
56	Ranadip Das			
57	S K Pramanik			
58	Chinmoy Sarkar			
59	CGM OPTCL	CHIEF GENERAL MANAGER	OPTCL	
60	Abhijit Chakraborty	Dy. CHIEF ENGINEER	DVC	8670221267
61	Dibyendu Bhattacharya			
62	Rahul Anand			
63	Partha	CHIEF MANAGER	POWERGRID	9434748263
64	Gitesh			
65	Preetam Banerjee			
66	Mohanty A. K		OHPC	
67	Jayanta Dutta			
68	Vijayananda Selmetty			

पावर सिस्टम ऑपरेशन कॉर्पोरेशन लिमिटेड
(भारत सरकार का उद्यम)
POWER SYSTEM OPERATION CORPORATION LIMITED
(A Govt. of India Enterprise)

केन्द्रीय कार्यालय : 61, आई एफ सी आई टावर, 7,8 एवं 9वीं मंजिल, नेहरु प्लेस, नई दिल्ली -110019
Corporate Office : 61, IFCI Tower, 7,8 & 9th Floor, Nehru Place, New Delhi- 110019
CIN : U40105DL2009GOI188682, Website : www.posoco.in, E-mail : posococc@posoco.in, Tel.: 011- 40234672

संदर्भ: POSOCO/NLDC/SO/Primary Response Testing/ **दिनांक:** 10th Aug 2020

सेवा मे,

Member Secretary-NRPC/WRPC/SRPC/ERPC/NERPC

सन्दर्भ :

1. POSOCO communication dated 12th Oct 2018, dated 23rd May 2019, dated 26th Jun 2019 and dated 4th Oct 2019.
2. POSOCO communication dated 22nd Apr 2020 informing generators about allocation of units for primary response testing by M/s Siemens Ltd.
3. POSOCO communication dated 13th May 2020 informing generators about allocation of units for primary response testing by M/s Solvina India Pvt. Ltd.

विषय: Regarding – Primary frequency response testing of Generating Units as per IEGC

महोदय,

Please refer to the above correspondences in reference to Primary Frequency Response testing of generators as per Indian Electricity Grid Code (IEGC). As per information available at NLDC, with the active support of RPCs, some of the generating stations have already finalized Letter of Award (LoA) with the identified testing agencies i.e. M/s Siemens ltd. and M/s Solvina India Pvt. Ltd., while others are in process of finalizing the LoA. As requested earlier, a further nudge from the RPC forum would definitely help in early placing of LoAs by all the generating stations.

It is expected that generators would soon request RPCs for approving program schedule i.e. dates for carrying out onsite testing. Apart from the above, the commercial settlement would also be required to be carried out by RPC secretariat. In this regard, some points are attached for consideration. The points are enclosed as *Annexure-1*. Hope that this would be helpful while finalizing the program for onsite testing and settlement of commercial issues.

The cooperation of RPCs is requested for successfully carrying out the primary response testing of generators.

सधन्यवाद,

भवदीय

10/08/2020

(देबाशिस दे)
कार्यपालक-निदेशक-रा॰भा॰प्रे॰कें॰

प्रतिलिपि सूचनार्थ:

1. Executive Director, WRLDC/SRLDC/ERLDC/NERLDC
2. CGM(I/c), NRLDC

Annexure-I

Commercial Settlement during onsite testing of generators for Primary Response

The Hon'ble Central Electricity Regulatory Commission (CERC), vide notification dated 12th April 2017, had notified Indian Electricity Grid Code (Fifth Amendment) Regulations, 2017. As per this notification, following proviso has been added at the end of Regulation 5.2 (g) of Part 5 of the Principal Indian Electricity Grid Code (IEGC) Regulations: "*Provided that periodic checkups by third party should be conducted at regular interval once in two years through independent agencies selected by RLDCs or SLDCs as the case may be. The cost of such tests shall be recovered by the RLDCs or SLDCs from the Generators. If deemed necessary by RLDCs/SLDCs, the test may be conducted more than once in two years.*"

The regulations specify that the onus of testing lies with generators. In compliance of the regulation mentioned above, POSOCO has carried out necessary actions. The requirements of the onsite testing are mentioned in the Expression of Interest (EoI) documents. The onsite testing of primary response is to be carried out at three different generation levels. The generation of unit may be required to vary from its antecedent generation. This means that unit would be required to operate at three different levels and its output would vary further in response to frequency input injection.

The test is one of various tests which are carried out by plants e.g. Performance Guarantee(PG) Tests, Reactive Power Capability tests, PSS tuning etc. The modalities to handle this change in output of generating units may be same as being done for similar tests as mentioned above. Following could be the alternatives for scheduling and accounting during the above period:

i. Generators themselves arrange for the schedule as being done for all other tests such as PG tests etc.
   a. Through their long term and medium term beneficiaries and beneficiaries agree for such scheduling by RLDCs during testing period.
   b. Through sale in Real Time Market by generators.

ii. Generators are given schedule through RRAS mechanism. RRAS Regulations do not allow such scheduling.

iii. Generators are totally dependent on DSM with normal scheduling.

In all above cases normal Deviation settlement Mechanism (DSM) Regulations can be appliable.

There has been request from some of generators that DSM during such testing period may be relaxed i.e. Actual Generation (AG) is made equal to Scheduled Generation (SG).

However, it need to be kept in mind that this testing is to be done for all generators including Independent Power Producers (IPP), merchant plants etc. and therefore the option of RRAS is not available to all the generators. Similarly, making SG=AG would be difficult for generator selling only under Short-Term Open Access (STOA). Therefore, in order to be non-discriminatory, Alternative-1 given above seems to be best suited. The similar methodology may also be adopted to carry out tests on generating units when they are on Reserve Shutdown or get tripped during the testing.

Further, in order to avoid centralised interference and affecting the schedule, any centralised dispatch instruction would not be given to the plant. Thus the unit shall be excluded from AGC during the testing and time blocks of testing would not be considered for ramping assessment. The plant shall be excluded from RRAS/SCED to manage their schedules.

It is requested that these points may please be deliberated in the RPC meetings and same is finalised apart from scheduling the testing program for tests at different stations. It is also suggested that while deciding the onsite testing program low demand season can be avoided to the extent possible. The testing of hydro based generating plants may be carried out during fall of monsoon to avoid spillage of water and achieve maximum rated generation capacity.

Note: *It may be noted that in multi-unit generating stations, the generating stations can also manage schedule through change in actual generation in other units (units not under testing) corresponding to actual change required in units under testing.*

Darbhanga-Motihari Transmission Company Limited

August 11, 2020

Ref. No.: DMTCL.REG.EXM.019.00.11082020

To,
Chief Engineer (Transmission)
Bihar State Power Transmission Co. Ltd.
04th Floor, Transmission Vidyut Bhawan
Bailey Road, Patna – 800021

Sub.: Force majeure events affecting restoration work of 400 kV D/C Barh-Motihari-Gorakhpur Line - Update on our Force Majeure (FM) event

Ref.:

1. DMTCL Force Majeure event update via notification no. DMTCL.REG.EXM.012.00.10072020, dated 10.07.2020
2. DMTCL Force Majeure event update via notification no. DMTCL.REG.EXM.011.00.27062020, dated 27.06.2020
3. DMTCL Force Majeure event update via notification no. DMTCL.REG.EXM.009.00.10062020, dated 10.06.2020
4. DMTCL Force Majeure event update via notification no. DMTCL.REG.EXM.007.00.23052020, dated 23.05.2020
5. DMTCL Force Majeure event update via notification no. DMTCL.REG.EXM.004.00.08052020, dated 08.05.2020;
6. DMTCL update on Force Majeure event vide letter no. DMTCL.REG.EXM.003.00.22042020, dated 22.04.2020;
7. DMTCL update on Force Majeure event vide letter no. DMTCL.REG.EXM.002.00.04042020, dated 04.04.2020;
8. DMTCL Force Majeure event notification no. DMTCL.REG.EXM.050.00.25.03.2020, dated 25.03.2020;

Dear Sir,

Further to our notice of Force Majeure dated 25.03.2020 and subsequent updates on FM event as under reference above (Ref 1-7), we had updated that restoration site has been effected due to Covid-19 pandemic and subsequent lockdowns, unseasonal rains and unprecedented discharge from Valmiki barrage in Gandak river which has adversely affected the restoration work progress. Accordingly, vide our letter dated 10.07.2020 we had informed that we shall endeavor to restore the lines partially through temporary arrangement using tower location no. 27/0 and permanent restoration would take a longer time owing to FM events such as unseasonal heavy rains and Covid19 situation; for which timeline extension of 5 months post monsoon season has also been requested.

In relation to temporary restoration, **we are pleased to inform you that despite extreme weather conditions, unprecedented discharge from the Valmiki dam and resulting floods (as has been widely published across the print, social and television medias), and high-water currents, our team at site has been able to complete the erection of tower location 27/0 mid-stream of Gandaki river and has also completed the stringing of Barh-Motihari line (single ckt. single conductor per phase) on 07.08.2020. Post receiving required clearances, the line has been successfully charged on 08.08.2020 and power flow to the northern region of Bihar has resumed (in just about a month after the ERS system was washed away on 08.07.2020)**. *(Site pictures attached in Annexure-1 for reference)*.

In addition to this, we want to bring to your kind attention that severe limitations and challenges that has been faced by site teams in the restoration work due to conditions as mentioned below:

Extension of lockdown period by Govt. of Bihar

Due to increasing number of Covid-19 cases in many districts in Bihar, lockdown which was imposed across Bihar till 31.07.2020 was further extended till 16.08.2020 as situation is still grave *(Government of Bihar order attached in Annexure-2)*. In addition to this DM of Motihari has issued orders imposing restriction on activities on account of covid-19 pandemic. *(Order attached in Annexure-3 for reference)*

Impact of heavy rains at site

Heavy rains are still continuing at site which have hampered the progress of work. Due to rains, teams working at site were having very limited period in day for working also its was difficult to do erection and stringing on wet structure/tower. Erection and stringing activity were carried out with the help of big boats. Extra boats were deployed for expediting the erection and stringing activity at additional cost. Material movement to the tower location 27/0 which is in the middle of river was also done with the help of boats which consumes significant amount of time in loading and unloading.

Impact of heavy and uneven discharge from Valmiki barrage

From the last weeks of June-20 the discharge of water from Valmiki barrage which is in the upstream of the river Gandak has been unprecedented *(Newspaper coverage for heavy discharge in Annexure 4 for reference)* which was on record high on 21st-July-2020 - 4,36,500 cusec of water was discharged from Valmiki barrage which is approximately near to the highest discharge level in last four years which was there in Aug-2017 *(Comparative graph of discharge in previous years in Annexure-5)* which has resulted in flooding of the Gandak river banks and complete restoration area where work was in progress. Also, in the month of July uneven discharge was observed which resulted in washing away of riverbanks on Gopalganj side where our ERS poles were erected, resulting in bending of ERS poles and subsequently tripping of line and later washing away of ERS pole.

Due to such high and unceasing discharge from barrage, restoration work is severely hampered, and it has further affected:

- Balance piling work on tower locations on Gopalganj end (Tower no. 26/0 (Barh-Motihari line) and 26/3 (Motihari-Gorakhpur line). No progress could be achieved there as currently complete area is flooded with water
- Access to tower locations – Access road used for material and manpower movement from Areraj end got completely washed away and road from Gopalganj end got submerged in water. For temporary restoration works we had to use boats are for manpower and material movement

Notwithstanding above issues faced which has made the construction activity challenging, teams were able to complete the temporary restoration by charging the Barh-Motihari line on 08.08.2020. Further we assure you that, as a prudent operator, we will continue with our pursuit to recommence restoration works as soon as it becomes safe to work in the river and water levels recedes. We therefore request you to kindly take note of the update above and consider the present situation as persistence of force majeure event as notified through our Force Majeure intimation dated 25.03.2020.

We will keep you updated on a regular basis based on emerging site situations and subsequent Orders passed by Government of India and the state of Bihar in relation to the ongoing Force Majeure owing to COVID-19 lockdown, heavy rains and unprecedented discharge from Valmiki barrage during this time of the year.

Thanking you,

For,
Darbhanga-Motihari Transmission Company Limited

Vijayanand Semletty
Authorized Signatory

Encl.:

Annexure 1 – Site pictures of temporary restoration work
Annexure 2 – Bihar government order for lockdown extension till 16.08.2020 due to increase in Covid-19 cases
Annexure 3 – Motihari DM order for restriction imposed due to covid-19
Annexure 4 – Newspaper coverage of heavy discharge from Valmiki barrage in Gandak river and its effect
Annexure 5 - Comparative graph of discharge from Valmiki barrage in previous years

Generation Projection (Oct 2020 - Dec 2020)

Annexure B.7

				Generation declared Commercial from 1st Jan'20 to 30th Jun'20					Generation declared/expected to be declared Commercial from 1st Jul'20 to 30th Sep'20							
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/PoC Data
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)		
29	Karcham Wangtoo	NR	1072											1072		
30	Bairasul	NR	110											110		
31	Chamera 1	NR	555											555		
32	Chamera 2	NR	236											236		
33	Chamera 3	NR	232											232		
34	Naptha Jhakri	NR	1602											1602	As per data given by SJVN	1610
35	Lanco Budhil	NR	71											71		
36	DULHASTI	NR	374											374		
37	Salal	NR	713											713		
38	Sewa-II	NR	128											128		
39	URI 1 HPS	NR	486											486		
40	URI II HPS	NR	239											239		
41	Sree Cement	NR	190											190		
42	Parbati III	NR	370											370		
43	Rampur HEP	NR	448											448	As per data given by SJVN	449
44	KOLDAM	NR	885											885	As per NTPC	792
45	Kishanganga	NR	295											295		
46	Sainj HEP	NR	102											102		
47	Tanda Stg-2	NR		Tanda Stg-2	5	660	432	432						432	As per NTPC	433
48	Bhadla Solar	NR_RJ												0		
49	West Bengal	ER	4892											4892		
50	Odisha	ER	3362	OPGC Stage-II	4	660	432	432						3794	As per Data given by Odisha	4168
51	Bihar	ER	110											110		
52	Jharkhand	ER	353											353		
53	Sikkim	ER	0											0		
54	Chujachan	ER	118											118		
55	DVC	ER	4175											4175		
56	Durgapur Steel	ER														
57	Koderma TPP	ER														
58	Bokaro TPS	ER														
59	Raghunathpur	ER														

Generation Projection (Oct 2020 - Dec 2020)

Annexure B.7

				Generation declared Commercial from 1st Jan'20 to 30th Jun'20					Generation declared/expected to be declared Commercial from 1st Jul'20 to 30th Sep'20							
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/PoC Data
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)		
60	MPL	ER	996											996		
61	Teesta V	ER	532											532		

Generation Projection (Oct 2020 - Dec 2020) — Annexure B.7

Sl. No.	Entities	Region	Projections based on 3 Years Data	Generation declared Commercial from 1st Jan'20 to 30th Jun'20					Generation declared/expected to be declared Commercial from 1st Jul'20 to 30th Sep'20					TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/PoC Data
				Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total			
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)		
62	Kahalgaon	ER	2208											2208	As per NTPC	2171
63	Farakka	ER	1953											1953		1960
64	Talcher	ER	931											931		
65	Rangit	ER	63											63		
66	Adhunik Power	ER	384											384		
67	Barh	ER	1208											1208	As per NTPC	1238
68	Kamalanga TPP (GMR)	ER	605											605		
69	JITPL	ER	626											626		
70	Jorethang	ER	91											91		
71	Bhutan	ER	832	Mangdechu HEP	1	180	178	713						1544		
				Mangdechu HEP	2	180	178									
				Mangdechu HEP	3	180	178									
				Mangdechu HEP	4	180	178									
72	Teesta-III	ER	1016											1016		
73	Dikchu HEP	ER	108											108		
74	Nabinagar BRBCL	ER	704											704		
75	Tashiding HEP	ER	88											88		
76	Kanti Bijlee Stg-2 (KBUNL)	ER												0	As per last quarter	350
77	Nabinagar STPS (NPGC)	ER	620											620		
78	Darlipalli STPP ST-I	ER		Darlipalli STPP ST-I	1	800	524	524						524	As per NTPC	560
79	MP	WR	5260											5260	As per data given by MP	6164
80	Maharashtra	WR	13913											13913		
81	Chattisgarh	WR	2330											2330		
82	Gujarat	WR	10889											10889	As per data given by Gujarat	11852
83	Goa	WR	0											0		
84	D&D	WR	0											0		
85	DNH	WR	0											0		
86	Vindhyachal	WR	4586											4586	As per NTPC	4415
87	Ratnagiri Dabhol	WR	656											656		

DEMAND FORECAST USING PAST 3 YEARS DATA (Oct 2020 - Dec 2020)

										1	2	3	4		
	2017-18			2018-19			2019-20								
	Oct-17	Nov-17	Dec-17	Oct-18	Nov-18	Dec-18	Oct-19	Nov-19	Dec-19	2017-18 Average	2018-19 Average	2019-20 Average	Projected Demand for (Oct 2020 - Dec 2020) before normalization	Data given by DICs	Comments
Chandigarh	244	189	189	217	199	251	237	211	306	207	222	251	271		
Delhi	4,723	3,965	4,008	4,713	3,788	4,417	4,605	3,631	5,245	4,232	4,306	4,494	4,606		
Haryana	7,860	6,593	7,042	7,948	6,445	6,865	7,779	6,138	7,049	7,165	7,086	6,989	6,904		
Himachal Pradesh	1,425	1,491	1,560	1,520	1,605	1,700	1,542	1,629	1,729	1,492	1,608	1,633	1,719	1670	As per data given by HP
Jammu & Kashmir	2,063	1,988	2,206	2,285	2,204	2,464	2,434	2,193	2,484	2,086	2,318	2,370	2,543		
Punjab	8,337	5,713	6,050	7,990	6,071	6,440	7,348	5,503	6,767	6,700	6,834	6,539	6,530		
Rajasthan	10,357	11,215	11,290	11,450	11,809	13,276	10,533	11,980	13,464	10,954	12,178	11,992	12,747		
Uttar Pradesh	17,966	13,247	14,427	16,745	15,627	14,706	17,347	15,271	17,412	15,213	15,693	16,677	17,324		
Uttarakhand	1,920	1,886	2,025	1,943	1,897	2,158	1,797	1,818	2,233	1,944	1,999	1,949	1,970		
Northern Region	**50,289**	**42,390**	**45,360**	**49,635**	**44,899**	**44,899**	**49,615**	**44,189**	**51,159**						
Chattisgarh	3,635	3,231	3,202	4,270	3,774	3,401	4,079	3,544	3,748	3,356	3,815	3,790	4,088		
Gujarat	16,590	14,735	14,664	16,606	14,610	14,272	16,499	15,992	16,097	15,330	15,163	16,196	16,429	16,400	As per data given by Gujarat
Madhya Pradesh	10,453	11,797	12,301	11,496	10,007	13,215	8,820	13,147	14,623	11,517	11,573	12,197	12,442	13,302	As per data given by MP
Maharashtra	18,248	21,012	19,956	23,159	22,378	21,089	20,750	21,471	22,403	19,739	22,209	21,541	22,966		
Daman & Diu	349	336	362	341	329	328	347	332	338	349	333	339	330	250	As per Data given by Daman & Diu
Dadra Nagar Haveli	790	781	766	780	704	803	805	805	821	779	762	810	815	650	As per data given by DNH
Goa	517	494	490	536	513	512	590	611	625	500	520	609	651		
ESIL	619	641	691	641	704	708	519	487	560	619	684	522	511		
Western Region	**46,392**	**49,569**	**49,635**	**55,821**	**54,171**	**53,292**	**50,631**	**54,375**	**56,739**						
Andhra Pradesh	7,750	8,166	8,400	9,453	9,056	8,190	7,988	8,426	9,118	8,105	8,900	8,511	8,911		
Telangana	7,538	7,750	9,424	10,600	9,735	9,019	8,532	9,408	11,182	8,237	9,785	9,707	10,713		
Karnataka	8,404	9,688	10,100	10,766	11,233	11,230	9,090	10,670	12,803	9,397	11,076	10,854	11,900		
Kerala	3,535	3,645	3,553	3,644	3,678	3,727	3,576	3,714	3,705	3,578	3,683	3,665	3,729		
Tamil Nadu	13,485	14,222	13,648	14,333	13,827	13,986	14,319	13,829	13,710	13,785	14,049	13,953	14,096		
Pondicherry	369	350	345	368	354	368	415	396	373	355	363	395	411		
Goa SR															
Southern Region	**38,905**	**40,720**	**42,458**	**45,226**	**43,837**	**45,302**	**41,492**	**42,827**	**48,664**						
Bihar	4,515	3,917	4,038	5,084	4,425	4,151	5,020	4,323	4,614	4,157	4,553	4,652	4,950		
DVC	2,573	2,731	2,737	2,837	2,837	2,957	2,831	2,807	2,848	2,680	2,877	2,829	2,944		
Jharkhand	1,206	1,245	1,200	1,247	1,289	1,291	1,277	1,280	1,356	1,217	1,276	1,304	1,353		
Odisha	4,370	4,108	4,151	5,219	4,516	4,042	4,656	4,026	4,198	4,210	4,592	4,293	4,449	4000	As per Data given by Odisha
West Bengal	7,777	6,610	6,045	8,850	7,551	6,225	8,219	6,801	6,021	6,811	7,542	7,014	7,325		
Sikkim	90	96	94	93	101	106	96	102	111	93	100	103	108		
Bhutan															
Eastern Region	**19,836**	**18,161**	**17,733**	**22,733**	**20,322**	**18,023**	**21,706**	**19,212**	**18,068**						

DEMAND FORECAST USING PAST 3 YEARS DATA (Oct 2020 - Dec 2020)

										1	2	3	4		
	2017-18			2018-19			2019-20								
	Oct-17	Nov-17	Dec-17	Oct-18	Nov-18	Dec-18	Oct-19	Nov-19	Dec-19	2017-18 Average	2018-19 Average	2019-20 Average	Projected Demand for (Oct 2020 - Dec 2020) before normalization	Data given by DICs	Comments
Arunachal Pradesh	139	136	136	125	128	131	137	146	139	137	128	141	139		
Assam	1,745	1,478	1,453	1,704	1,525	1,418	1,770	1,508	1,380	1,559	1,549	1,553	1,547		
Manipur	170	178	187	185	189	211	183	201	216	178	195	200	213		
Meghalaya	300	339	368	336	352	365	338	350	365	336	351	351	361		
Mizoram	86	90	95	97	102	111	102	107	125	90	103	111	123		
Nagaland	135	132	127	131	135	133	148	148	153	131	133	150	156		
Tripura	327	276	259	269	258	228	291	257	224	287	252	257	235		
N. Eastern Region	**2,499**	**2,380**	**2,314**	**2,700**	**2,620**	**2,511**	**2,878**	**2,639**	**2,530**						
All India (sum of all regions)	**1,57,921**	**1,53,220**	**1,57,500**	**1,76,115**	**1,65,849**	**1,64,027**	**1,66,322**	**1,63,242**	**1,77,160**	**1,56,214**	**1,68,664**	**1,68,908**	1,86,509		
All India Peak Met	**1,57,394**	**1,49,036**	**1,51,567**	**1,70,604**	**1,61,678**	**1,62,609**	**1,64,259**	**1,55,321**	**1,70,492**	**1,52,666**	**1,64,964**	**1,63,357**	1,71,021		

Notes

1. Projections are based on the past 3 years' monthly Peak Demand Met data available on the website of CEA
2. The above projections are being done for financial year 2020-2021 (Q3) i.e Oct, 2020-Dec, 2020
3. Projections are being done based on the forecast function available in MS Office Excel

पावरग्रिड
POWERGRID

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

To
G. Rao
EE (Power System)
ERPC, Kolkata

Date- 17.08.2020

Sub: - Consolidated observation from POWERGRID regarding updated procedure of ERLDC-Reg:

Dear Sir,

The RLDC Operating Procedure is prepared under Para 5.1 (f) of IEGC which mandates The Indian Electricity Grid Code (IEGC) regulation 5.1 (f) mandates RLDC to develop and maintain the Operating Procedure in consultation with the regional entities for guidance of the staff of RLDC. The Operating Procedure has to be consistent with the IEGC to enable compliance with the requirement of the IEGC. It is worth highlighting the Procedure is for Guidance of RLDC to ensure compliance of IEGC, creation of additional procedures is not envisages. Still considering the agenda points and continuation with earlier mail followings may be noted:-

Clause 3.7	In case of any requirement, ERLDC will issue specific instruction for STATCOM to change their set point based on anticipated event to provide grid support.	Specific instructions may be issued on case to case basis, but Broad guidelines to be issued for assisting RLDC operators in changing the set points of STATCOM. Criteria/Condition for enabling various set points to be mentioned specifically.
Clause 3.1	During conditions of high voltage in the grid, the switchable filter banks installed at the HVDC terminal stations shall be switched off wherever feasible in consultation with the NLDC and at the terminal substations. Reactive power documents of ER may be referred for HVDC filter bank switching as per Mono/Bi-polar pole, Power order, RVO etc.	HVDC filter banks are switched by HVDC controller as per Power Order requirements. Manual switching of HVDC filter banks for voltage control may to be avoided and used only in case extreme necessity. Moreover, HVDC filters are specifically meant for HVDC system only, for controlling AC system voltage, other means like Reactors/Line switching are generally to be followed.
Clause 3.2.1.a	The Bus reactor be switched in	Broad guidelines of voltage band for switching in and switching out of reactor to be mentioned. At Rajarhat, even it is observed that, reactor even taken into service at 400-405 KV band and numerous switching done in a short period.
Clause 3.2.1.a	Checking possibility of rerouting /change of power flow on HVDC terminals so that loading on parallel EHV network can be altered that may result in reduction in voltage.	To be shifted before the Filter Switching action.

Chapter 5	Outage Planning Procedure	Already after several discussions the outage procedure has been finalized in 162nd OCC. However the proposed procedure is not matching with the finalized one.
Clause 5.5.9	While applying outage of a transmission element where two end point of that element Is connected with two generating stations, charging sequence must be declared along with the outage application.	The charging sequence can not be declared by transmission line owner along with outage requisition. The same may be decided by RLDC or the generating stations as per the system condition in real time.
Clause 5.5.11	Similarly, if owner of transmission lines is different from bay owner, then both asset owner should apply combined outages to minimise outage period.	The outage may be allowed subject to system condition. To combine apply outage is not possible/feasible in wake of different organizational norms, resource mobilisation, weather suitability etc.
Clause 5.5.10	It is advised that outages must be availed in combined manner ex: AMP work of Line reactors should be done along with Line outages to avoid multiple times outage of transmission element.	Transmission line and Line reactor are two totally different type of equipment with different maintenance requirements. By doing AMP separately, it helps is overall optimisation of outage time and utilisation of resources. Switchable reactors are separate element and bay, thus they can be taken separately under outage. In case the voltage is high, RLDC may defer the shutdown of line reactor on case to case basis.
Clause 5.5.13	Reason of availing any outage should be comprehensive and time duration of outages should be reasonable. Indenting agency shall submit patrolling report, site photographs, substation diagrams and weather condition well before availing the shutdown.	The requirement for said documents may be explained. The S/D is requested only after due diligence based on interal procedure and assesment and can't be shared. The weather information is already available to RLDC through IMD. No requirement of site photographs, patrolling reports, substation diagram, for RLDC Operating staff is envisaged.
Clause 5.5.14	In case of first time synchronisation of any new element, ERLDC will conduct system study along with CTU study can suggest any SPS if required.	Does not pertain to Chapter 5.
Clause 5.5.19	Vide clause 5.7.4 (g) of IEGC ERLDC is authorised to defer any planned outage in case of any of the following taking into account the statutory requirements:	Planned shutdown involves resource allocation and mobilisation, manpower management etc and cancellation of S/D results into huge financial loss and therefore should be deferred only in case of extreme necessity. Keeping in view, RLDC shall provide the reason for decline of outage along with supporting system study, Contingency Analysis results to the indenting utility.

Clause 5.6.3	If RLDC require any further information regarding the applied shutdown, the same should be provided by 12:00hrs of D-3 working days by indenting agency to RLDC	The information shall be submitted by D-2 days. It might not be possible for utility to arrange the information within 2 hrs. Considering that the outage request can be submitted till 10:00 hrs on D-3. Moreover discussion in 162nd OCC to be followed in this regard.
Clause 6.2	Whenever any protection system including main protection, Bus Bar protection, LBB protection, Auto reclose etc. at generating station or grid substation is required to be taken out of service for any maintenance/replacement work, an operational code would be taken from SLDC/ERLDC.	This shall be for information and records only, for RLDC/SLDC. This is in accordance with IEGC 5.6.2/b.
Clause 6.5.6	Single pole auto-reclose facility on 400 kV / 220 kV lines should always be in service. ERLDC's approval would be required for taking this facility out of service.	No approval required from RLDC. Only information requires to be sent prior to taking AR out of service. This is in accordance with IEGC 5.6.2/b.
Clause 6.6	In this regard, the following guidelines may be followed by all ISTS licensees / CTU / STU:- Efforts to be made to anti-theft charge the line as far as possible from the nearest distribution line.	As per IEGC, the Operating Procedure document is for guidance of RLDC staff for Operation of Grid as per existing Grid Code. Thus creating new procedures for CTU/ISTS/STU is beyond the scope of the document.
Clause 6.6.3	STU / SLDC after examining the proposal may accord approval, if feasible, with necessary modifications of protection scheme of their distribution system.	As per IEGC, the Operating Procedure document is for guidance of RLDC staff for Operation of Grid as per existing Grid Code. Mandating Guidelines to CTU/ISTS/STU/SLDC staff is beyond the scope of the document.
Clause 6.6.5	On receipt of such request, ERPC to constitute a committee comprising representatives from ERPC, NLDC, ERLDC, owner of the new line, STUs / SLDCs likely to be affected and CTU for a joint study on the effects of such interconnection on the integrated grid.	Such procedure shall cause delay in antitheft charging. Which could result in theft in the line. Moreover, advising RPC is beyond the scope of the document.
Clause 6.7.1.1 and 6.7.1.2	FTC of ISTS elements…….Detailed Technical Specifications to be sumitted by utilities	Detailed Specification of the elements is a design detail and not required by RLDC for system operation. The operating parameters details which are essential for grid operation shall be shared like conductor parameter, line length, conductor configuration etc.
6.7.2.3	In addition to these documents, charging instructions, details of approval of the transmission scheme from the Standing Committee / CTU, availability of line reactors as per approved scheme, approval for changes in the approved scheme, technical parameters of the	This is an interaction between RLDC and CTU/STU, this shall not cause any delay in first time charging of element belonging to transmisison utility.

	made available by CTU/STU, as the case may be, to RLDCs/NLDC.	
6.7.2.4	Within 3 days of submission of above information by the Transmission Licensee, concerned RLDC shall acknowledge the receipt of the same, as per Format II, and seek clarifications, if any. The transmission licensee shall submit the desired information/documents to the concerned RLDC within next three days.	3 days time to acknowledge is too high, the response and query if any need to be provided within 24 hrs.
6.7.2	All attempts would be made by the real time operating personnel at the ERLDC to facilitate charging and commissioning of the new element at the earliest, subject to availability of real time data and favourable system conditions ensuring system reliability and security.	RLDC shall submit the reasons for delay, if any, to respective transmission licensee.
6.7.4.4	In case of an inter-regional element, both the respective RLDCs would be involved and a copy of the communications may be forwarded to NLDC also in such cases.	Communication to NLDC shall be done by RLDC since its an internal communication
7.4.4.3.	Patrolling Report of Transmission line tripped under fault	Healthiness certificate (Certification by Tr.Licensee in mail/letter, not covering any format) shall be provided to RLDC. Patrolling report does not pertain to system operation requirements, thus not required. No statute mandates submission of patrolling report. DR/EL and operational data is mandated and same shall be submitted.

This is a consolidated study of the points and may be looked into. Moreover, till now with existing procedures also, the operation is running smoothly, and as such if not mandated by regulations, frequent changing of the procedure is not proper also.

Thanks

P. Ghosh 17.08.2022

Partha Ghosh
CM (AM)
ERTS-II

cc: Sr. GM (SOSS)/ERLDC/POSOCO.

भारत सरकार/Govt. of India
विद्युत मंत्रालय/Ministry of Power
केन्द्रीय विद्युत प्राधिकरण/Central Electricity Authority
मुख्य विद्युत निरीक्षणालय प्रभाग/Chief Electrical Inspectorate Division
****

Sub: Mandatory inspections of all elements under CEA (Measures relating to Safety and Electric Supply) amendment Regulations, 2015-Reg.

Please refer to letter no. NRPC/Operation/106/01/2019/14764 dated 03.12.2019 on the above subject, wherein it is mentioned that matter regarding mandatory inspection of replacement of sub-station equipment like CT, PT, CVT, Isolator, CB and LA was deliberated in 163rd, 164th and 165th OCC meetings of NRPC and OCC forum opined that such routine replacement and upgradation work may be allowed on the basis of undertaking stating that all the safety measures have been taken care by respective transmission and generating utilities and a copy of the application along with undertaking to the concerned authority for safety clearance may be submitted.

In this regard, it is submitted that sub-regulation 43 (2) of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 (as amended) states that

"Before making an application to the Electrical Inspector for permission to commence or recommence supply after an installation has been disconnected for six months and above at voltage exceeding 650 V to any person, the supplier shall ensure that electric supply lines or apparatus of voltage exceeding 650 V belonging to him are placed in position, properly joined and duly completed and examined and the supply of electricity shall not be commenced by the supplier for installations of voltage needing inspection under these regulations unless the provisions of regulations 12 to 29, 33 to 35, 44 to 51 and 55 to 77 have been complied with and the approval in writing of the Electrical Inspector has been obtained by him:

Provided that the supplier may energise the aforesaid electric supply lines or apparatus for the purpose of tests specified in regulation 46."

Also the Regulation 43(4) states that

"The owner of any installation of voltage exceeding 650 V who makes any addition or alteration to his installation shall not connect to the supply his apparatus or electric supply lines, comprising the said alterations or additions unless and until such alteration or addition has been approbed in writing by the Electrical Inspector."

Further, the regulation 29(1) of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 states that

"No electrical installation work, including additions, alterations, repairs and adjustments to existing installations, except such replacement of lamps, fans, fuses, switches, domestic appliances of voltage not exceeding 250V and fittings as in no way alters its capacity or character, shall be carried out upon the premises of or on behalf of any consumer, supplier, owner or occupier for the purpose of supply to such consumer, supplier, owner or occupier except by an electrical contractor licensed in this behalf by the State Government and under

May be included in the agenda for upcoming OCC meeting

SE(O)

Ch. Akshay, AE(O)

the direct supervision of a person holding a certificate of competency and by a person holding a permit issued or recognized by the State Government.

Provided that in the case of works executed for or on behalf of the Central Government and in case of installation in mines, oil fields and railways, the Central Government and in other cases the State Government, may by notification in the Official Gazette, exempt on such conditions as it may impose, any such work described therein either generally or in case of any specified class of consumers, suppliers, owners or occupiers."

Therefore, according the safety regulation replacement and upgradation work of substation equipment need to be approved by Electrical Inspector.

This issues with the approval of Chairman, CEA.

(Ravinder Gupta)
Chief Engineer

Member Secretary, NRPC Bhawan, New Delhi-110016

CEI/1/4/2019/ ६१९

Dated: 26.12.2019

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)

Ref: 9501/O&M/GM/ **Date: 21st Jul' 2020**

To
Executive Director,
ERLDC, Kolkatta

Respected Sir,

Sub: regarding consecutive ramp up/down and non-achieving desired ramp rate

The ramping capability of minimum 1% per min has been implemented since 1st Apr-20. Since then, Generating stations are coping up to maintain the desired ramp-rate by augmenting or retuning the system. Here at TSTPS, we have also retune the system to maintain the ramp up/down capability. The following are the observation hampering our ramping performance as well as machine health.

1. Cyclic ramp-up and ramp-down in consecutive blocks affecting our ramping performance as well as machine health
2. Sometimes ramping of small value as low as 0.1MW is considered in first block and 1% ramping in succeeding block thereby depriving the benefit of first block 0.5% ramping for F/D computation

In the first case, detailed block-wise data (for the date 5th Jul-20, Bl-21 to Bl-25) is shown in Annexure-A where the SG is changing in every block between tech min (511MW) and 653 MW. Similar scheduling was also observed recently for the date 12-Jul-20 20 (block 04-11, 929.5-787MW and block 20-34, 511-653MW), 13-Jul-20 (block 02-07, 929.5-787MW) and 20-Jul-20 (block 12-26, 929.5-611MW). As per the regulation, generating units are required for flexible operation primarily to balance the ever-increase variable renewable energy and to some extent stabilisation of grid. Ramping in one direction for a sustainable period before change in ramping direction is desirable to generating machines barring some occasional emergency requirement. But the often/block-to-block cyclic ramping is needlessly stressing our generating unit, as it is very difficult for mechanical systems of the unit to manage change in electrical system of the grid.

Even then, going by ideal condition to maintain the schedule (assuming AG of 646MW at end of Block-21) station can never achieve 1% ramp-rate with declared 1% ramp in such situation.
To achieve 0.5% ramp for ramp performance assessment in such situation, station has to ramping up or down in the multiple of 142MW in each succeeding blocks which will never be possible after one or two blocks (shown in the table/graph case-1 of Annexure-A).
By restricting the machine ramp to 1% as declared and considering the tech min load in such situation; station will never achieve 0.5% ramp for ramp performance assessment for the total period (shown in the table/graph case-2 of Annexure-A).

Hence this condition may be reviewed and consecutive ramp up/down in such situation may be avoided.

In the second case, detailed block-wise data (for the date 31st May-20, Bl-93 to Bl-95) is shown in Annexure-B where absolute ramp of 0.1MW and 142MW in Bl-94 and 95 respectively was given. For a large station like TSTPS-1, 0.1MW ramp (0.010753% per block) is almost no ramp and in the succeeding block station has to demonstrate 1% ramp instead of 0.5% because of this 0.1MW ramp in the preceding block.
As per the guidelines *"while calculating F, for the blocks where the scheduled ramp in preceding block was zero, or in the opposing direction, if the ramp in actual generation is greater than or equal to 0.5%/min, that block shall be counted in F (i.e. ISGS shall be considered to have achieved 1%/min in that block)*".

Hence in such case, minimum value of change in SG may be reviewed so as to consider it as a ramp and accordingly SG may be rounded off to nearest decimal for ramp consideration.

(N S Rao)
General Manager (O&M)

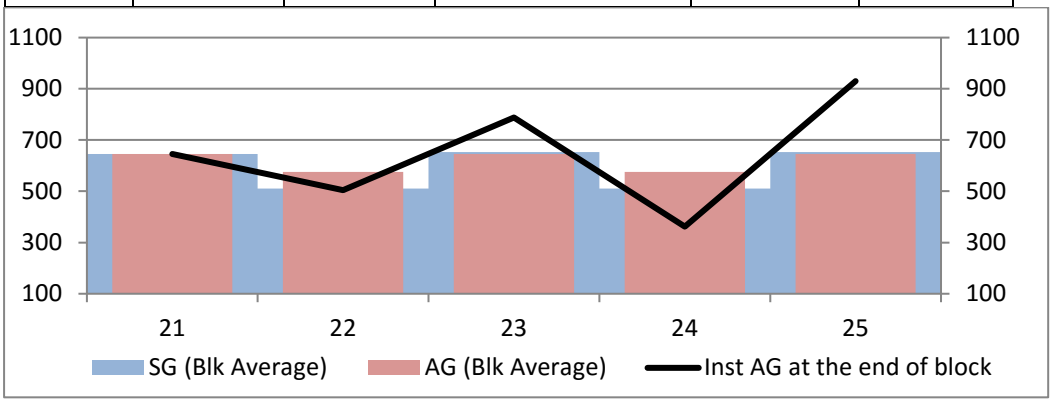
Copy:
1. Member Secretary (ERPC): for kind information
2. General Manager (SIIS), CC-NTPC: for kind information

Annexure-A

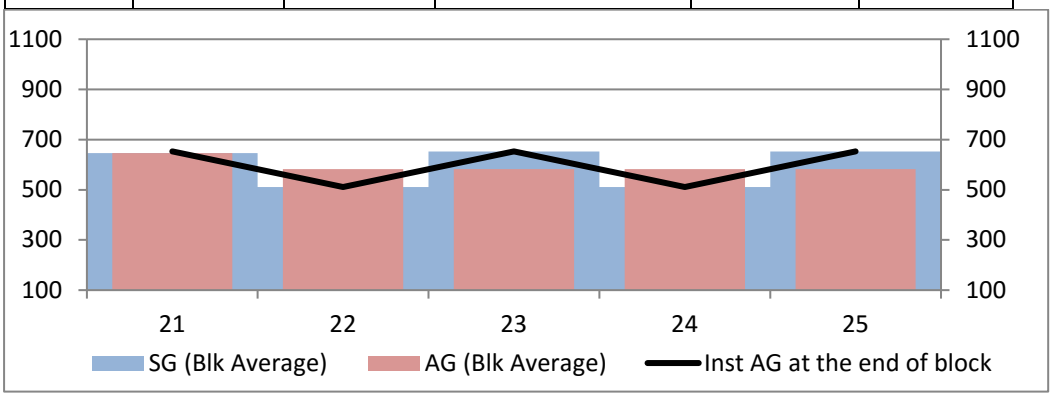
Date: 5th Jul-20, TSTPS-1

Blk No	DC	SG	Scheduled Ramp Rate (MW/Block)	AG	Actual Ramp Rate (MW/Block)	Desired ramp %/min for F Calculation (0.95 or 0.475)	F (True/False) Actual Ramp ≥ 1%/min
20	950	788	-52	766.3	-70	0.475	FALSE
21	950	646	-142	644.7	-121.6	0.95	FALSE
22	950	511	-135	538.3	-106.4	0.95	FALSE
23	950	653	+142	567.9	+29.6	0.475	FALSE
24	950	511	-142	546.7	-21.2	0.475	FALSE
25	950	653	+142	607.3	+60.6	0.475	FALSE
26	950	795	+142	756.8	149.5	0.95	TRUE

Case-1	To achieve 0.5% Ramp (71MW), machine ramping not possible and also generation reduced below tech min.				
Block No	SG (Blk Average)	AG (Blk Average)	Inst AG at the end of block	Require machine Ramp	Ramp (wrt Avg AG)
21	646	646	646		
22	511	575	504	-142	-71
23	653	646	788	284	71
24	511	575	362	-426	-71
25	653	646	930	568	71



Case-2	Restricting machine ramp to 1% and considering tech min load: 0.5% ramp will never be achieved				
Block No	SG (Blk Average)	AG (Blk Average)	Inst AG at the end of block	Require machine Ramp	Ramp (wrt Avg AG)
21	646	646	653		
22	511	582	511	-142	-64
23	653	582	653	142	0
24	511	582	511	-142	0
25	653	582	653	142	0



Annexure-B

Date: 31st May-20, TSTPS-1

Blk No	Net Injection Schedule (MW)	Scheduled Ramp Rate (MW/Blk)	Actual Ex bus Avg Generation (MW)	Actual Ramp Rate (MW/Block)	Desired ramp %/min for F Calculation (0.95 or 0.475)	F (True/False) Actual Ramp ≥ 1%/min
92	927.05771	0	930.69778	-4.043728	0.95	FALSE
93	927.40196	0.344251	931.40212	0.70434	0.475	FALSE
94	927.30196	-0.1	935.94081	4.538692	0.475	FALSE
95	785.30196	-142	845.60902	-90.3318	0.95	FALSE
96	643.30196	-142	683.31014	-162.2989	0.95	TRUE

Annexure B.14

No.11/05/2018-Coord.
Government of India
Ministry of Power

Shram Shakti Bhawan, New Delhi
Dated the 23rd July, 2020.

ORDER

Sub: Measures for contributing towards 'Atmanirbhar Bharat' and 'Make in India' through phased indigenisation in Power Sector.

Whereas Ministry of Power after analysis of data relating to import of the equipment in power sector and consultations with the stakeholders engaged in manufacturing of the equipment as well as developers of power projects in generation, transmission, and distribution, has taken note of the fact that despite Government of India policy of 'Make in India', many equipment in this sector are being imported even though sufficient domestic manufacturing capacity and competition exists.

Whereas DPIIT from time to time since 2017 has issued orders with the latest version issued vide No.P-45021/2/2017-PP (BE-II) on 04.06.2020 to promote Make in India and domestic manufacturing of goods and services in India with a view to enhancing income and employment and the said order needs to be fully implemented in power sector.

Whereas, for power sector to become an integral part of national campaign of 'Atmanirbhar Bharat' and to contribute to 'Make in India' policy of Government of India, it is essential that developers in the generation, transmission, and distribution of power, are also encouraged to effectively and wholeheartedly contribute in this endeavor.

Whereas Power is a sensitive and strategically important sector and is a critical infrastructure for development of our country, as our national defense, vital emergency services, critical national infrastructure, communication, data services, health services, logistics, manufacturing etc. all depends on reliable power supply and any possibility of malware/cyber threat in the power systems leads to vulnerability with the potential of bringing down the whole system with consequential impact on all other sectors of our country. Therefore, 'Atmanirbhar Bharat' has a much higher level of significance for this sector. Therefore, there is a need to encourage, adopt and use only 'Make in India' equipment/materials/parts/items in the power sector in order to protect the safety and security of our country.

Now therefore the following order is issued:

1. This order is issued in consonance with the order of the DPIIT referred above.

2. All equipment/materials/parts/items required in the power sector which are domestically manufactured with sufficient domestic capacity shall necessarily

be used from the domestic manufacturers only as per the extant provisions of the Public Procurement (Preference to Make in India) Orders issued by DPIIT and MoP.

Contd……2/-

3. In respect of equipment/materials/parts/items wherein domestic capacity is not available and imports are inevitable, the MoP shall list out all these equipment and prepare an Action Plan for their indigenisation over a specified time frame of 2-3 years. For this an enabling policy framework through support to Start-ups, phased manufacturing programme, vendor development, Research & Development, tax & other incentives needs to be developed.

4. Till such time indigenous manufacturing capacity for all equipment/materials/ parts/items required in the power sector are developed, the goods so imported shall be tested in certified laboratories designated by MoP to check the presence of any embedded malware/trojans or other cyber threats and also to check adherence to Indian Standards. For testing of goods from prior reference countries, the testing protocol shall be approved by Ministry of Power (MoP).

5. Ministry of Power shall prepare an 'Approved list of Models and Manufacturers' (ALMM) in power sector. All Power Projects which are bid out as per the standard bidding guidelines will be required to procure equipment from manufacturers figuring in the approved list.

6. Financing from REC and PFC will be structured in such a manner that lower rates of interest will be charged on the developers who will use domestically manufactured equipment.

This issues with the approval of Hon'ble MoS (IC) for Power and NRE.

(R.K. Das)
Under Secretary to the Government of India
Tel. No.011-23752495

To:

1. All Ministries/ Departments of Government of India (As per list)
2. Secretary (Coordination), Cabinet Secretariat
3. PS to Hon'ble PM, Prime Minister's Office
4. Vice Chairman, NITI Aayog
5. Director General, Comptroller and Auditor General of India
6. Secretary, DPIIT, Chairman of Standing Committee for implementation of Public Procurement Order, 2017

7. Joint Secretary, DPIIT, Member-Convener of Standing Committee for implementation of Public Procurement Order, 2017
8. Chairperson, CEA
9. CMDs of CPSEs/ Chairmen of DVC & BBMB/ MD of EESL/ DG(NPTI)/ DG(CPRI)/ DG(BEE)
10. All JSs/ EA, MoP

Copy to:

1. PS to MoS (IC) for Power and NRE
2. Sr. PPS to Secretary (Power)
3. Sr. PPS to Additional Secretaries in MoP

ISGS Share Requisition & Schedule of Odisha & Other States Under ERLDC for the Month Of June 2020

Date	Entity	FSTPS I & II(In MU)			FSTPS III(In MU)			KHTPS I(In MU)			KHTPS II(In MU)			TSTPP I(In MU)		
		Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule
1	Bihar	11.2368	4.6110	5.0578	2.4208	1.6621	1.8202	7.6791	5.5863	5.9591	1.6135	1.2707	1.2945	9.2010	8.2327	8.5851
	Jharkhand	3.0686	0.8473	1.1059	1.9067	0.5204	1.0316	0.5872	0.4466	0.4629	0.4045	0.2865	0.2904	1.7105	1.3846	1.3943
	Sikkim	0.5834	0.1481	0.2060	NA	NA	NA	0.2844	0.1600	0.1675	0.1069	0.1036	0.1036	0.5354	0.5242	0.5292
	West Bengal	11.4273	1.4953	3.0934	4.2344	0.9716	2.2556	1.1136	0.5684	0.6592	0.0000	0.0000	0.0000	2.0546	1.3911	1.4801
	Odisha	4.8780	1.0800	1.7284	1.8698	0.8959	1.3618	2.7959	2.2716	2.3983	0.6642	0.5673	0.5687	7.0939	6.4289	6.4906
2	Bihar	11.2368	4.1779	4.9078	2.4208	1.5858	1.7583	6.6926	5.5115	5.6378	1.6135	1.3687	1.3859	9.2010	8.9354	8.9433
	Jharkhand	3.0686	1.0983	1.3325	1.9067	1.1979	1.4227	0.5087	0.4217	0.4439	0.4045	0.3666	0.3666	1.7105	1.5677	1.5677
	Sikkim	0.5834	0.2583	0.2944	NA	NA	NA	0.2477	0.1915	0.2064	0.1069	0.0646	0.0694	0.5354	0.5354	0.5354
	West Bengal	11.4273	2.6459	3.8708	4.2344	2.3959	2.9801	0.9699	0.6089	0.6869	0.0000	0.0000	0.0000	2.0546	1.9690	1.9690
	Odisha	4.8780	0.0000	0.8163	1.8698	0.0000	0.5037	2.4352	0.0000	0.3196	0.6642	0.0000	0.0399	7.0939	0.0000	0.0904
3	Bihar	11.2368	5.7390	5.7563	2.4208	1.9466	1.9623	7.1513	6.0586	6.1306	1.6135	1.5390	1.5403	9.1909	9.1909	9.1909
	Jharkhand	3.0686	1.3938	1.5139	1.9067	1.5961	1.6893	0.5483	0.5116	0.5247	0.4045	0.3666	0.3712	1.7085	1.5806	1.5700
	Sikkim	0.5834	0.2735	0.2888	NA	NA	NA	0.2648	0.1953	0.2007	0.1069	0.0802	0.0804	0.5348	0.5348	0.5348
	West Bengal	11.4273	5.0210	5.3378	4.2344	2.9345	3.2395	1.0371	0.9675	0.9916	0.0000	0.0000	0.0000	2.0523	2.0523	2.0523
	Odisha	4.8780	0.0000	0.3960	1.8698	0.0000	0.2921	2.6038	0.0000	0.1741	0.6642	0.0000	0.0289	7.0861	0.0000	0.0000
4	Bihar	11.2368	4.8959	5.1789	2.0927	1.5633	1.6635	7.2744	5.3440	5.7734	1.5245	1.0958	1.1285	8.8012	7.4295	7.8442
	Jharkhand	3.0686	1.3044	1.4142	1.6483	1.1757	1.3334	0.5540	0.5042	0.5241	0.3822	0.3485	0.3567	1.6366	1.5631	1.5866
	Sikkim	0.5834	0.3647	0.3647	NA	NA	NA	0.2693	0.2634	0.2636	0.1010	0.0977	0.0977	0.5122	0.5122	0.5122
	West Bengal	11.4273	5.9166	6.2720	3.6605	2.9548	3.2197	1.0547	1.0547	1.0547	0.0000	0.0000	0.0000	1.9654	1.9654	1.9654
	Odisha	4.8780	0.0000	0.2014	1.6163	0.0000	0.1846	2.6480	0.0000	0.1862	0.6276	0.0000	0.0048	6.7862	0.0000	0.0209
5	Bihar	11.2368	2.7224	4.6287	2.4208	0.9857	1.6593	6.4741	2.4463	4.4011	1.3559	0.5125	0.6886	9.1930	5.2032	6.4107
	Jharkhand	3.0686	0.8532	1.2422	1.9067	1.2275	1.3968	0.4930	0.3348	0.4019	0.3400	0.2299	0.2460	1.7090	1.5110	1.5628
	Sikkim	0.5834	0.2051	0.2638	NA	NA	NA	0.2397	0.2090	0.2219	0.0899	0.0899	0.0899	0.5349	0.5349	0.5349
	West Bengal	11.4273	3.7574	4.8260	4.2344	2.6054	3.2450	0.9386	0.7566	0.8732	0.0000	0.0000	0.0000	2.0528	2.0528	2.0528
	Odisha	4.8780	0.0000	0.0355	1.8698	0.0000	0.5448	2.3565	0.0869	0.9093	0.5582	0.0205	0.1484	7.0877	1.8787	2.7730
6	Bihar	11.2368	3.1977	4.2998	2.4208	1.2065	1.5655	6.6789	3.1122	4.3155	1.2553	0.6236	0.7235	9.2010	7.4713	7.5368
	Jharkhand	3.0686	1.3024	1.5204	1.9067	1.0807	1.4515	0.5074	0.4952	0.5021	0.3147	0.3119	0.3119	1.7105	1.6913	1.6913
	Sikkim	0.5834	0.1709	0.2498	NA	NA	NA	0.2472	0.2112	0.2255	0.0832	0.0760	0.0768	0.5354	0.5354	0.5354
	West Bengal	11.4273	4.5988	5.5707	4.2344	2.7384	3.4129	0.9680	0.9564	0.9615	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8780	0.0000	0.7382	1.8698	0.0000	0.4992	2.4304	0.1257	0.8365	0.5167	0.0197	0.1229	7.0939	1.6257	2.0237
7	Bihar	11.2368	4.0398	4.9952	2.4208	1.7437	1.7744	6.1836	4.6596	5.2940	0.7786	0.6559	0.7396	9.2010	7.8712	7.9212
	Jharkhand	3.0686	0.8861	1.3323	1.9067	1.0336	1.4363	0.4775	0.3861	0.4360	0.1952	0.1570	0.1782	1.7105	1.4515	1.4986
	Sikkim	0.5834	0.3647	0.3647	NA	NA	NA	0.2291	0.2291	0.2291	0.0516	0.0516	0.0516	0.5354	0.5354	0.5354
	West Bengal	11.4273	3.7106	4.8238	4.2344	2.2436	3.0908	0.8973	0.6725	0.8056	0.0000	0.0000	0.0000	2.0546	1.7121	1.7356
	Odisha	4.8780	0.0000	0.7542	1.8698	0.0000	0.5726	2.2530	0.0000	0.6303	0.3205	0.0000	0.1544	7.0939	1.1823	1.6042
8	Bihar	11.2368	5.2150	5.2667	2.4208	1.9630	1.9881	7.6791	7.0200	7.0275	1.1067	1.0703	1.0703	9.2010	9.2010	9.2010
	Jharkhand	3.0686	1.7136	1.7635	1.9067	1.6871	1.6872	0.5872	0.5872	0.5872	0.2775	0.2775	0.2775	1.7105	1.7105	1.7105
	Sikkim	0.5834	0.3305	0.3354	NA	NA	NA	0.2844	0.2814	0.2814	0.0733	0.0711	0.0711	0.5354	0.5354	0.5354
	West Bengal	11.4273	5.1344	5.5014	4.2344	3.1340	3.3965	1.1136	0.9976	1.0230	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8780	0.0000	0.7542	1.8698	0.0000	0.5726	2.7959	0.0000	0.6303	0.4556	0.0000	0.1544	7.0939	1.1823	1.6042
9	Bihar	11.2368	5.1070	5.1318	2.4208	1.8854	1.8854	7.6791	7.1392	7.1302	0.9656	0.9133	0.9133	9.2010	9.2010	9.2010
	Jharkhand	3.0686	1.9183	1.9183	1.9067	1.9067	1.9067	0.5872	0.5872	0.5872	0.2421	0.2421	0.2421	1.7105	1.7105	1.7105
	Sikkim	0.5834	0.3571	0.3571	NA	NA	NA	0.2844	0.2814	0.2814	0.0640	0.0319	0.0319	0.5354	0.5354	0.5354
	West Bengal	11.4273	6.1024	6.4855	4.2344	4.0756	4.0616	1.1136	1.1136	1.1136	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8780	0.0000	0.0141	1.8698	0.0000	0.1595	2.7959	0.9028	0.8951	0.3975	0.0972	0.0955	7.0939	5.4021	5.2988
10	Bihar	11.2832	7.8798	7.8703	2.4208	2.2699	2.2751	7.6791	7.6791	7.6791	0.9373	0.9373	0.9373	9.2010	9.2010	9.2010
	Jharkhand	3.0814	2.2205	2.2271	1.9067	1.8670	1.8647	0.5872	0.5872	0.5872	0.2350	0.2350	0.2350	1.7105	1.7105	1.7105
	Sikkim	0.5858	0.4092	0.4107	NA	NA	NA	0.2844	0.2695	0.2695	0.0621	0.0344	0.0344	0.5354	0.5354	0.5354
	West Bengal	11.4745	7.0885	7.2148	4.2344	4.0415	4.0671	1.1136	1.0208	1.0208	0.0000	0.0000	0.0000	2.0546	1.9262	1.9262
	Odisha	4.8981	0.5283	0.6206	1.8698	0.2337	0.2743	2.7959	1.1941	1.1706	0.3859	0.1105	0.1285	7.0939	6.4525	6.3339

Date	Entity	FSTPS I & II(In MU)			FSTPS III(In MU)			KHTPS I(In MU)			KHTPS II(In MU)			TSTPP I(In MU)		
		Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule
11	Bihar	11.2434	9.0029	9.1148	2.4208	2.1732	2.1845	7.6420	7.4500	7.4500	0.5430	0.5430	0.5430	9.2010	9.2010	9.2010
	Jharkhand	3.0704	1.7049	1.8931	1.9067	1.6153	1.7269	0.5845	0.5581	0.5581	0.1361	0.1361	0.1361	1.7105	1.6369	1.6422
	Sikkim	0.5837	0.4839	0.4931	NA	NA	NA	0.2830	0.2771	0.2775	0.0360	0.0360	0.0360	0.5354	0.5354	0.5354
	West Bengal	11.4340	5.8520	6.2684	4.2344	1.7952	2.7559	1.1082	0.8689	0.8692	0.0000	0.0000	0.0000	2.0546	1.9476	1.9486
	Odisha	4.8808	0.3558	0.8057	1.8698	0.1558	0.5675	2.7823	0.6225	0.6240	0.2235	0.0554	0.0544	7.0939	4.2051	4.1435
12	Bihar	11.2434	7.8703	7.8813	2.4208	2.0593	2.0816	7.6724	7.2380	7.2380	1.0343	0.9923	0.9929	9.2010	9.1848	9.1848
	Jharkhand	3.0704	0.9747	1.3947	1.9067	0.9810	1.2884	0.5866	0.3664	0.3679	0.2593	0.1741	0.1741	1.7105	1.3528	1.3719
	Sikkim	0.5837	0.2021	0.2967	NA	NA	NA	0.2841	0.2162	0.2151	0.0685	0.0595	0.0595	0.5354	0.5354	0.5354
	West Bengal	11.4340	3.6769	5.4586	4.2344	1.8768	2.7141	1.1126	0.4630	0.4830	0.0000	0.0000	0.0000	2.0546	1.1985	1.2243
	Odisha	4.8808	0.5336	1.5112	1.8698	0.2337	0.7650	2.7934	0.5800	2.5836	0.4258	0.0897	0.0881	7.0939	2.4110	2.4144
13	Bihar	11.2434	6.6945	7.0731	2.4208	1.5598	1.6413	7.6791	5.7907	5.8123	1.0876	0.9673	0.9673	9.2010	8.9518	8.9518
	Jharkhand	3.0704	0.9610	1.5974	1.9067	1.0137	1.5143	0.5872	0.3491	0.3627	0.2727	0.1818	0.1820	1.7105	1.4540	1.4502
	Sikkim	0.5837	0.0372	0.1870	NA	NA	NA	0.2844	0.2518	0.2562	0.0721	0.0713	0.0713	0.5354	0.5354	0.5354
	West Bengal	11.4340	5.3669	6.5049	4.2344	2.0447	2.9913	1.1136	0.6380	0.6493	0.0000	0.0000	0.0000	2.0546	1.7196	1.7148
	Odisha	4.8808	0.2668	1.4930	1.8698	0.1948	0.8440	2.7959	1.8057	1.8487	0.4477	0.2892	0.2843	7.0939	6.2822	6.1731
14	Bihar	11.2434	6.6945	7.0731	2.4208	1.5598	1.6413	7.6791	5.7907	5.8123	1.0876	0.9673	0.9673	9.2010	8.9518	8.9518
	Jharkhand	3.0704	0.9610	1.5974	1.9067	1.0137	1.5143	0.5872	0.3491	0.3627	0.2727	0.1818	0.1820	1.7105	1.4540	1.4502
	Sikkim	0.5837	0.0372	0.1870	NA	NA	NA	0.2844	0.2518	0.2562	0.0721	0.0713	0.0713	0.5354	0.5354	0.5354
	West Bengal	11.4340	5.3669	6.5049	4.2344	2.0447	2.9913	1.1136	0.6380	0.6493	0.0000	0.0000	0.0000	2.0546	1.7196	1.7148
	Odisha	4.8808	0.0000	1.2061	1.8698	0.0000	0.6212	2.7790	0.0000	0.3058	0.4511	0.0187	0.0413	7.0939	1.2956	1.4116
15	Bihar	11.2434	5.4747	6.2401	2.4208	1.6273	1.6591	7.6791	5.0925	5.1660	1.1006	0.8049	0.8049	9.2010	7.3925	7.4092
	Jharkhand	3.0704	0.4403	1.2900	1.9067	0.4279	1.0813	0.5872	0.2992	0.3571	0.2759	0.1808	0.1845	1.7105	1.3077	1.3708
	Sikkim	0.5837	0.0904	0.2599	NA	NA	NA	0.2844	0.2399	0.2445	0.0729	0.0729	0.0729	0.5354	0.5354	0.5354
	West Bengal	11.4340	4.4460	5.8647	4.2344	2.0663	2.6401	1.1136	0.8932	0.9534	0.0000	0.0000	0.0000	2.0546	1.7549	1.8269
	Odisha	4.8808	0.0000	1.3824	1.8698	0.0000	0.7915	2.7959	0.0000	0.3314	0.4531	0.0000	0.0056	7.0939	0.7923	1.4805
16	Bihar	11.1792	2.8733	5.0450	2.4208	1.4777	1.4777	7.6791	3.8380	5.0239	1.0989	0.5946	0.6072	9.2010	5.3966	6.5444
	Jharkhand	3.0513	0.6697	1.3361	1.9067	1.1766	1.1766	0.5872	0.3446	0.4283	0.2755	0.1776	0.1823	1.7105	1.3957	1.5235
	Sikkim	0.5803	0.1205	0.2809	NA	NA	NA	0.2844	0.2695	0.2721	0.0728	0.0720	0.0721	0.5354	0.5298	0.5321
	West Bengal	11.3676	4.7707	6.8541	4.2344	3.1334	3.1334	1.1136	0.6380	0.8138	0.0000	0.0000	0.0000	2.0546	1.7121	1.8462
	Odisha	4.8525	0.0400	1.3217	1.8698	0.6226	0.6103	2.7959	0.0000	0.5883	0.4524	0.0000	0.0119	7.0939	0.4478	1.9210
17	Bihar	10.5295	5.4812	5.7722	2.4208	1.9385	1.9385	7.6791	6.4326	6.4809	1.1006	0.9914	0.9922	9.2010	9.0284	9.0299
	Jharkhand	2.8717	1.3697	1.7248	1.9067	1.3968	1.3968	0.5872	0.4740	0.4815	0.2759	0.2204	0.2204	1.7105	1.5159	1.5198
	Sikkim	0.5464	0.3194	0.3829	NA	NA	NA	0.2844	0.1836	0.1883	0.0729	0.0450	0.0453	0.5354	0.5354	0.5354
	West Bengal	10.7040	3.5758	5.3216	4.2344	2.9933	2.9933	1.1136	0.6844	0.7388	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.5692	0.0000	1.1260	1.8698	0.5655	0.5543	2.7959	0.0000	0.1820	0.4531	0.0000	0.0027	7.0939	0.9956	1.0712
18	Bihar	9.8343	6.4909	6.7905	2.4208	1.8104	1.8968	7.6791	6.4442	6.5148	1.3197	1.0840	1.0984	9.1847	8.8343	8.8572
	Jharkhand	2.6856	1.7175	2.0986	1.9067	1.3225	1.5593	0.5872	0.4903	0.5048	0.3309	0.2759	0.2812	1.7075	1.6704	1.6760
	Sikkim	0.5105	0.4361	0.4597	NA	NA	NA	0.2844	0.2725	0.2746	0.0875	0.0864	0.0864	0.5344	0.5344	0.5344
	West Bengal	10.0009	5.4794	6.4770	4.2344	1.7336	2.9903	1.1136	0.8352	0.9007	0.0000	0.0000	0.0000	2.0509	2.0509	2.0509
	Odisha	4.2691	0.0000	1.0419	1.8698	0.0000	0.5439	2.7959	0.0000	0.2037	0.5433	0.0000	0.0226	7.0814	1.4779	1.6262
19	Bihar	9.8343	4.0600	5.9600	2.4208	1.5308	1.5308	7.6791	4.9879	5.6311	1.5756	1.0429	1.0900	9.2010	6.9734	7.2649
	Jharkhand	2.6856	0.6704	1.3884	1.9067	0.9709	0.9731	0.5872	0.2639	0.3681	0.3950	0.1333	0.1679	1.7105	0.8870	1.0724
	Sikkim	0.5105	0.1010	0.2577	NA	NA	NA	0.2844	0.2281	0.2386	0.1044	0.0960	0.0967	0.5354	0.5354	0.5354
	West Bengal	10.0009	3.9044	6.7364	4.2344	3.3276	3.3276	1.1136	0.8120	0.9111	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.2691	0.0000	1.3759	1.8698	0.6199	0.6076	2.7959	0.1747	0.6830	0.6486	0.3069	0.3369	7.0939	1.6757	2.6719
20	Bihar	9.8343	6.0792	6.3186	2.4208	1.6400	1.6400	7.5177	5.8387	5.8539	1.5019	1.1165	1.1422	8.7663	7.5020	7.5330
	Jharkhand	2.6856	0.4789	0.9375	1.9067	1.0886	1.0886	0.5729	0.3112	0.3686	0.3766	0.2269	0.2737	1.6244	1.2000	1.2218
	Sikkim	0.5105	0.2606	0.3156	NA	NA	NA	0.2783	0.2383	0.2434	0.0995	0.0868	0.0883	0.5098	0.5098	0.5098
	West Bengal	10.0009	7.9188	8.3077	4.2344	3.8605	3.8605	1.0900	1.0900	1.0900	0.0000	0.0000	0.0000	1.9565	1.9565	1.9565
	Odisha	4.2691	0.1239	0.8477	1.8698	0.4083	0.4015	2.7366	0.3495	0.6765	0.6183	0.0861	0.1749	6.7554	1.9034	2.2983

Date	Entity	FSTPS I & II(In MU)			FSTPS III(In MU)			KHTPS I(In MU)			KHTPS II(In MU)			TSTPP I(In MU)		
		Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule	Entitlement	Requisition	Schedule
21	Bihar	9.8343	6.1677	6.4953	2.4208	1.7306	1.7306	7.5808	5.5203	5.7509	1.5563	1.1325	1.1745	8.8345	7.8670	7.8914
	Jharkhand	2.6856	0.7506	1.5271	1.9067	1.2335	1.2335	0.5792	0.2895	0.4049	0.3902	0.1974	0.2458	1.6433	0.9459	1.0690
	Sikkim	0.5105	0.2606	0.3506	NA	NA	NA	0.2807	0.2001	0.2240	0.1031	0.0794	0.0815	0.5141	0.5141	0.5141
	West Bengal	10.0009	2.7126	4.8883	4.2344	2.4841	2.4841	1.0992	0.5082	0.7513	0.0000	0.0000	0.0000	1.9729	1.6532	1.7021
	Odisha	4.2691	0.0000	1.3352	1.8698	0.7876	0.7720	2.7599	0.0000	0.6160	0.6407	0.0000	0.0906	6.8120	0.0000	0.6505
22	Bihar	10.2775	6.2470	6.8811	2.4208	1.7094	1.7094	7.3723	4.9293	5.0805	1.5883	1.0768	1.0932	9.0560	7.9315	7.9591
	Jharkhand	2.8115	0.7834	1.4803	1.9067	1.3237	1.3237	0.5646	0.3559	0.4089	0.3982	0.2490	0.2536	1.6841	1.6122	1.6195
	Sikkim	0.5338	0.2340	0.3267	NA	NA	NA	0.2730	0.1782	0.1993	0.1052	0.0937	0.0938	0.5270	0.5270	0.5270
	West Bengal	10.4556	3.6243	5.6091	4.2344	2.9237	2.9237	1.0691	0.6747	0.8105	0.0000	0.0000	0.0000	2.0223	2.0223	2.0223
	Odisha	4.4632	0.2668	1.4839	1.8698	0.8951	0.8775	2.6841	0.4447	0.8679	0.6538	0.1025	0.1248	6.9826	2.2213	2.3493
23	Bihar	11.2434	7.7625	7.7527	2.4208	1.7528	1.7528	6.0276	5.0147	5.1939	1.3720	1.2530	1.2556	8.9806	8.5563	8.5497
	Jharkhand	3.0704	1.7265	1.9436	1.9067	1.6133	1.6133	0.4609	0.4136	0.4234	0.3440	0.3081	0.3118	1.6693	1.6693	1.6693
	Sikkim	0.5837	0.3723	0.4006	NA	NA	NA	0.2232	0.1930	0.2074	0.0909	0.0675	0.0683	0.5225	0.5225	0.5225
	West Bengal	11.4340	5.5886	6.2522	4.2344	2.9074	2.9074	0.8741	0.6556	0.7382	0.0000	0.0000	0.0000	2.0052	2.0052	2.0052
	Odisha	4.8808	0.2668	1.1419	1.8698	0.8193	0.8032	2.1946	0.8230	1.2729	0.5648	0.2142	0.2336	6.9237	3.8696	3.8272
24	Bihar	11.2434	7.2390	7.4444	2.4208	1.9676	1.9676	6.0276	5.3818	5.5823	1.3147	1.3147	1.3147	9.2010	9.2010	9.2010
	Jharkhand	3.0704	1.6593	2.0168	1.9067	1.4673	1.4673	0.4609	0.4563	0.4569	0.3296	0.3262	0.3262	1.7105	1.7105	1.7105
	Sikkim	0.5837	0.2021	0.2817	NA	NA	NA	0.2232	0.1535	0.1612	0.0871	0.0871	0.0871	0.5354	0.5354	0.5354
	West Bengal	11.4340	4.8045	7.0335	4.2344	3.3359	3.3359	0.8741	0.8741	0.8741	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8808	0.4058	1.4252	1.8698	0.6533	0.6405	2.1946	0.3658	0.5317	0.5412	0.0902	0.0955	7.0939	2.6977	0.0962
25	Bihar	11.2434	4.8798	5.8468	2.4208	1.5178	1.5178	6.0276	4.1011	5.0609	1.3147	0.8606	0.8963	9.2010	6.9204	7.2853
	Jharkhand	3.0704	2.1114	2.2742	1.9067	1.6144	1.6144	0.4609	0.3756	0.4156	0.3296	0.2953	0.2970	1.7105	1.5142	1.5595
	Sikkim	0.5837	0.2925	0.3311	NA	NA	NA	0.2232	0.2000	0.2051	0.0871	0.0871	0.0871	0.5354	0.5354	0.5354
	West Bengal	11.4340	8.5223	8.7929	4.2344	3.9639	3.9639	0.8741	0.8741	0.8741	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8808	0.8894	1.3768	1.8698	0.5931	0.5803	2.1946	0.8230	1.3150	0.5412	0.2030	0.2254	7.0939	5.9116	6.1275
26	Bihar	11.2434	2.7144	5.3290	2.4208	0.8324	1.5156	6.6376	3.2451	4.8278	1.4270	0.7286	0.8629	9.2010	5.7276	6.5779
	Jharkhand	3.0704	1.2214	1.7968	1.9067	0.7487	1.2459	0.5059	0.3254	0.3968	0.3578	0.2474	0.2617	1.7105	1.5352	1.6081
	Sikkim	0.5837	0.1223	0.3097	NA	NA	NA	0.2458	0.2141	0.2223	0.0946	0.0848	0.0848	0.5354	0.5354	0.5354
	West Bengal	11.4340	1.8067	5.0768	4.2344	0.8213	2.4057	0.9625	0.4189	0.6605	0.0000	0.0000	0.0000	2.0546	1.7977	1.8486
	Odisha	4.8808	0.0889	1.9582	1.8698	0.0779	0.9808	2.4165	0.2286	0.9172	0.5874	0.0584	0.1263	7.0939	2.7155	3.5820
27	Bihar	11.2434	6.3740	6.4373	2.4208	1.5685	1.5685	6.5229	5.4502	5.6247	1.4454	1.2458	1.2719	9.2010	8.4894	8.5072
	Jharkhand	3.0704	1.2670	1.8306	1.9067	1.3734	1.3734	0.4973	0.3469	0.3769	0.3624	0.2640	0.2739	1.7105	1.4991	1.5089
	Sikkim	0.5837	0.3989	0.4552	NA	NA	NA	0.2415	0.2054	0.2154	0.0958	0.0958	0.0958	0.5354	0.5354	0.5354
	West Bengal	11.4340	2.2442	4.6471	4.2344	2.3601	2.3601	0.9458	0.3343	0.5222	0.0000	0.0000	0.0000	2.0546	1.8221	1.8351
	Odisha	4.8808	0.0000	1.5064	1.8698	0.8377	0.7813	2.3747	0.1867	0.7059	0.5950	0.0451	0.1158	7.0939	1.8426	1.9520
28	Bihar	11.2455	3.2662	5.7109	2.4208	1.5969	1.5969	6.7898	3.2205	4.6583	1.4994	0.8184	0.8837	9.2010	7.8855	8.0947
	Jharkhand	3.0710	0.7509	1.4835	1.9067	1.3533	1.3533	0.5176	0.2472	0.3606	0.3759	0.1906	0.2065	1.7105	1.0608	1.1029
	Sikkim	0.5838	0.2234	0.3569	NA	NA	NA	0.2514	0.2467	0.2467	0.0994	0.0994	0.0994	0.5354	0.5354	0.5354
	West Bengal	11.4361	1.5000	4.3956	4.2344	2.1321	2.1321	0.9844	0.1275	0.4233	0.0000	0.0000	0.0000	2.0546	0.9603	1.1094
	Odisha	4.8818	0.0000	1.7670	1.8698	0.9542	0.9355	2.4715	0.0000	0.7300	0.6173	0.0000	0.0309	7.0939	0.1750	0.7927
29	Bihar	11.2477	5.6616	5.6616	1.8156	1.1372	1.1372	5.7057	5.1158	5.2558	1.4031	1.1753	1.1899	9.2010	8.5038	8.5038
	Jharkhand	3.0716	1.1245	1.5788	1.4300	0.9046	0.9046	0.4367	0.3134	0.3787	0.3518	0.2859	0.2859	1.7105	1.3418	1.3418
	Sikkim	0.5839	0.1094	0.2550	NA	NA	NA	0.2113	0.1468	0.1669	0.0930	0.0800	0.0800	0.5354	0.5354	0.5354
	West Bengal	11.4383	1.6073	4.5649	3.1758	1.7169	1.7169	0.8273	0.6185	0.6913	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8827	0.3812	1.6256	1.4023	0.7581	0.7423	2.0772	0.3524	0.8330	0.5776	0.1043	0.1285	7.0939	1.4051	1.3719
30	Bihar	11.2477	6.5454	6.4057	0.0000	0.0000	0.0000	5.1791	4.6726	4.8049	1.4462	1.2974	1.2974	9.2010	8.6768	8.6914
	Jharkhand	3.0716	2.2338	2.2629	0.0000	0.0000	0.0000	0.3969	0.3788	0.3804	0.3626	0.3476	0.3476	1.7105	1.7105	1.7105
	Sikkim	0.5839	0.2279	0.2456	NA	NA	NA	0.1918	0.1655	0.1661	0.0958	0.0958	0.0958	0.5354	0.5354	0.5354
	West Bengal	11.4383	6.5069	6.7663	0.0000	0.0000	0.0000	0.7512	0.7512	0.7512	0.0000	0.0000	0.0000	2.0546	2.0546	2.0546
	Odisha	4.8827	0.6099	0.9011	0.0000	0.0000	0.0000	1.8860	0.7506	0.9889	0.5953	0.2989	0.2934	7.0939	6.0980	5.9730

Annexure B.16.1

Study for High and Low demand season declaration for 2021-22

Summary

- As per regulation 42, ERLDC to declare High and Low demand season declaration for 2021-22 by September 2020 after duly considering the comments of the concerned stakeholders
  - High demand season will be period 3 months , consecutive or otherwise
  - Low demand season will be period 9 months , consecutive or otherwise
- High and Low demand season for Eastern Region for 2020-21 (as per draft LGBR for 2020-21), 2019-20, 2018-19, 2017-18 and 2016-17 are shown in next slide
- **During 2020-21, the months of July, August and September was declared as high demand season**.

Identification of Months with high net demand met (MU)

States	2020-21 (LGBR)	2019-20	2018-19	2017-18	2016-17	Average
ER	**AUG, MAY, JUN**	**AUG, MAY, JUN**	**AUG, JUL, JUN**	**SEP, MAR, AUG**	**APR, JUL, AUG**	**APR, JUL, AUG**
Bihar	AUG, SEP, JUN	AUG, MAY, JUN	AUG, SEP, JUL	SEP, OCT, AUG	AUG, OCT, JUL	AUG, SEP, JUN
Jharkhand	JUL, JUN, MAY	MAY, JAN, DEC	JAN, AUG, MAY	JAN, MAR, AUG	JAN, MAR, APR	JAN, MAY, DEC
DVC	MAY, MAR, JAN	MAY, JUL, APR	MAR, JAN, MAY	JAN, DEC, MAR	MAR, APR, OCT	JAN, MAY, JUL
GRIDCO	OCT, AUG, SEP	SEP, AUG, APR	AUG, OCT, SEP	OCT, MAR, SEP	JUL, AUG, JUN	AUG, OCT, SEP
WB	JUL, MAY, JUN	JUL, MAY, JUN	AUG, JUL, JUN	SEP, JUN, AUG	APR, JUN, JUL	JUL, JUN, AUG
Sikkim	FEB, JAN, NOV	JAN, DEC, FEB	DEC, JAN, MAR	DEC, JAN, NOV	MAR, JAN, DEC	JAN, DEC, FEB

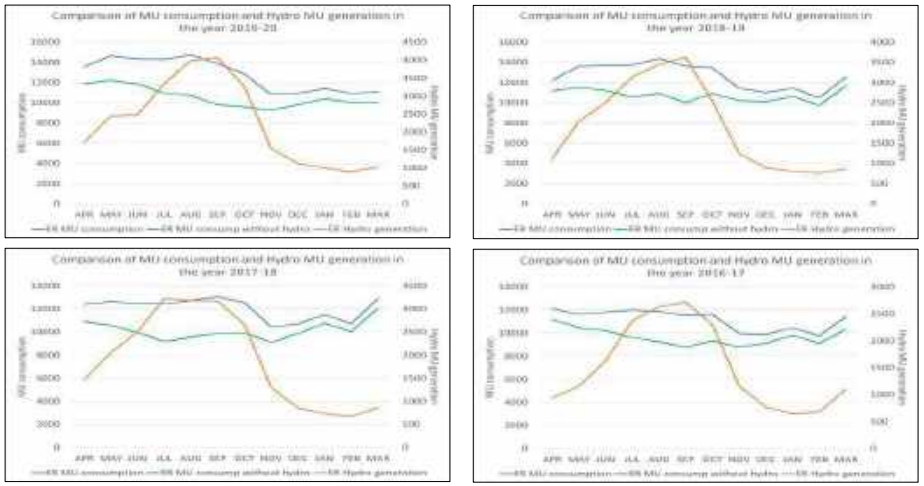
Average is the average of MU figures for 2020-21, 2019-20, 2018-19, 2017-18 and 2016-17

Ranking of months based on net demand met of ER

Month	2020-21(LGBR)	2019-20	2018-19	2017-18	2016-17	Average
APR	7	6	8	8	**1**	**1**
MAY	**2**	**2**	5	4	6	6
JUN	**3**	**3**	**3**	6	4	4
JUL	4	4	**2**	7	**2**	**2**
AUG	**1**	**1**	**1**	**3**	**3**	**3**
SEP	5	5	4	**1**	7	7
OCT	6	7	6	5	5	5
NOV	10	12	9	12	10	10
DEC	11	11	11	10	11	11
JAN	9	8	10	9	9	9
FEB	12	10	12	11	12	12
MAR	8	9	7	**2**	8	8

ER MU consumption without hydro

- As per IEGC, hydro generation is must run units. During the high hydro season (Monsoon season), almost all the hydro generating units are being run round the clock.
  - Almost same time, ER MU consumption also increases.
- Thermal generating units may be made available when demand is at higher side and hydro generation is also not available
  - ER Hydro generation in MU is subtracted from MU consumption by ER and the difference between two values are used



Identification of Months with high net demand met (MU)

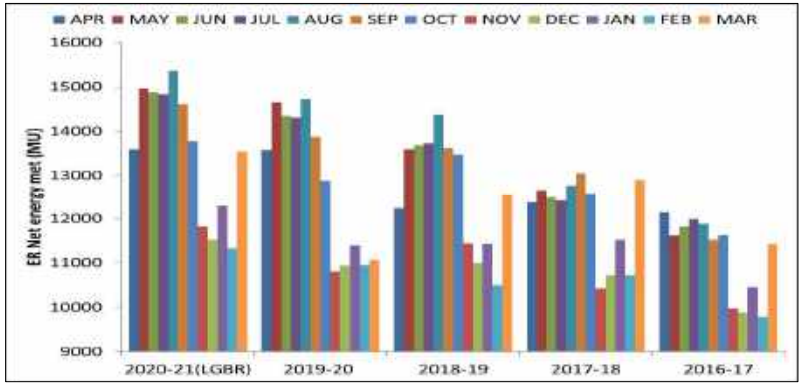
Year	ER demand without hydro gen	ER demand
2019-20	MAY, APR, JUN	AUG, MAY, JUN
2018-19	MAR, MAY, JUN	AUG, JUL, JUN
2017-18	MAR, APR, JAN	SEP, MAR, AUG
2016-17	APR, MAY, MAR	APR, JUL, AUG
Average	APR, MAY, MAR	APR, JUL, AUG

Ranking of months based on net demand met of ER without hydro units

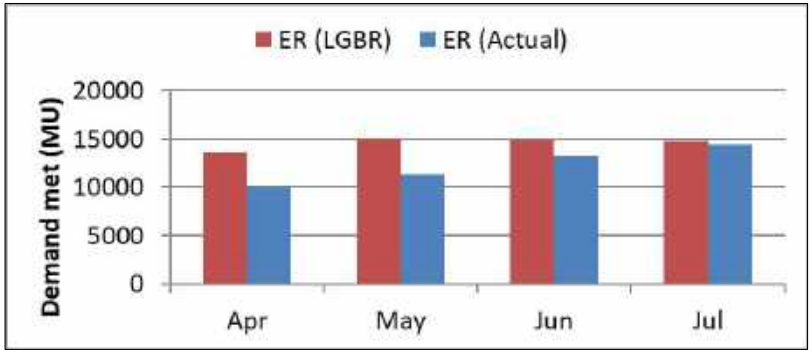
Month	2019-20	2018-19	2017-18	2016-17	Average
APR	2	4	2	1	1
MAY	1	2	4	2	2
JUN	3	3	6	4	4
JUL	4	8	11	6	7
AUG	5	6	10	8	6
SEP	10	11	8	12	11
OCT	11	5	7	7	8
NOV	12	9	12	11	12
DEC	9	10	9	9	10
JAN	6	7	3	5	5
FEB	7	12	5	10	9
MAR	8	1	1	3	3

Annexure

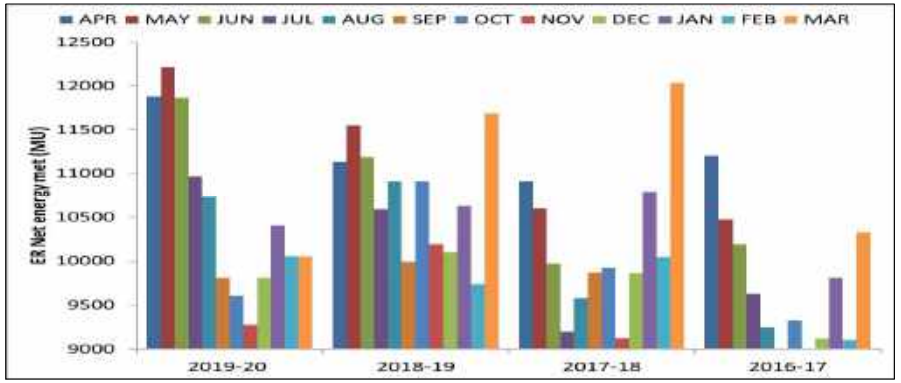
Month wise net energy met by ER in MU



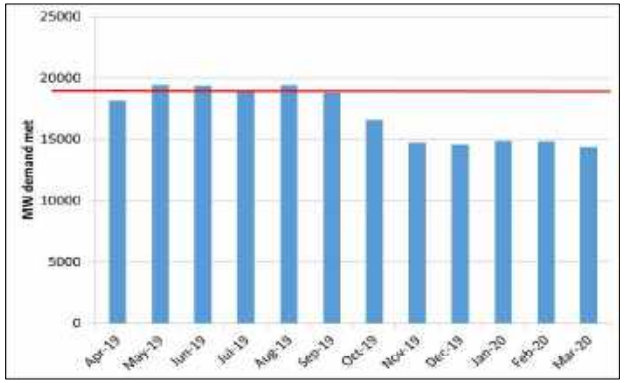
Comparison between LGBR data and Actual demand met by ER up to July, 2020



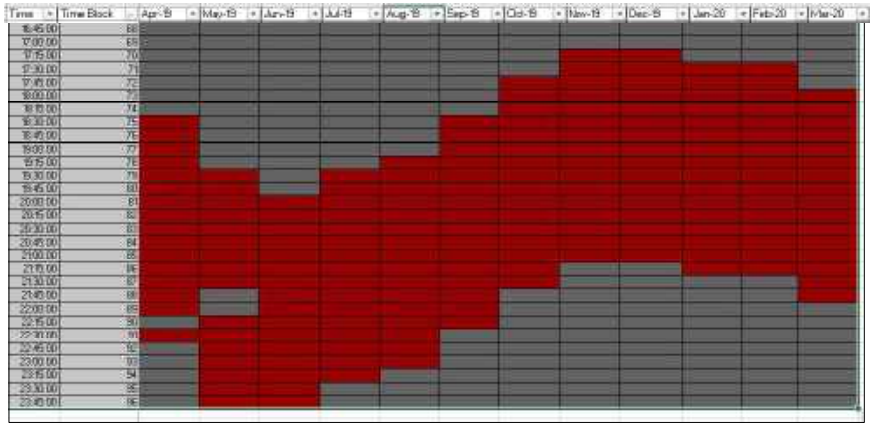
Month wise net energy met by ER without hydro generation in MU



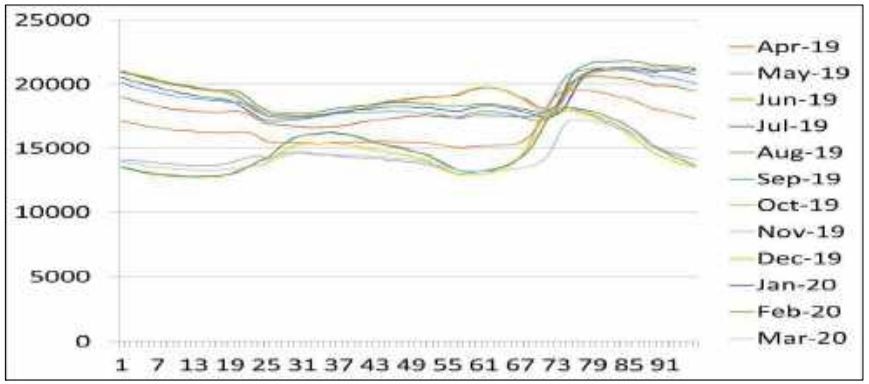
Monthly average MW demand met by ER



Monthly peak hours for 2019-20 (as per average block wise demand met in MW)

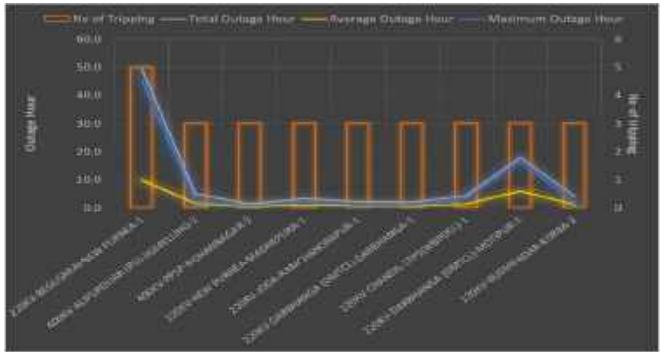


Blockwise average MW demand met in 2019-20



Presentation for repeated tripping of units and generating stations

Repeated tripping of transmission lines during the month of July 2020

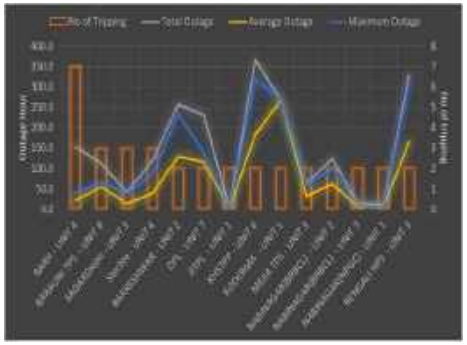


Transmission utilities are requested to maintain the healthiness of the transmission lines and their protection system so that occurrence of tripping can be avoided.

List of this transmission lines with repeated tripping due to same reason

Name of the line	Reason	No of tripping	Utility to respond
220KV-BEGUSARAI-NEW PURNEA-1	B phase to earth fault at 70 - 80 km from New Purnea.	3	BSPTCL/ PG ERTS - 1
220KV-JODA-RAMCHANDRAPUR- S/C	Y phase to earth fault at various location	3	OPTCL/ JUSNL
220KV-DARBHANGA (DMTCL)-DARBHANGA-1	Operation of overcurrent, earth fault and overvoltage protection	3	BSPTCL/ DMTCL
220KV-BUDHIPADAR-KORBA-2	B phase to earth fault at 108 km from Budhipadar	2	OPTCL/ CSPTCL

Repeated tripping of generating units during the month of July 2020



Name of the line	Reason	No of tripping	Utility to respond
BARH - UNIT 4	Boiler tube leakage	4	NTPC
Sterlite - UNIT 4	Due to Ash related problem	2	SEL/ GRIDCO SLDC

Repeated tripping of generating units during the month of July 2020

- Generating utilities are requested to maintain the healthiness of the Generating units, auxiliary system and protection system so that occurrence of tripping can be avoided.

- In case of tripping of unit, generating units are advised to share a detailed report to ERLDC and ERPC at the time of restoration with following details:

  - Root cause of the tripping
  - Outage duration
  - Remedial action taken after the tripping
  - DR/EL output in case of tripping of unit due to electrical fault

Annexure C.1

172th OCC Outage Meeting

Meeting on "Maintenance of Transmission Lines/Equipment" through WEBEX on 19-08-20

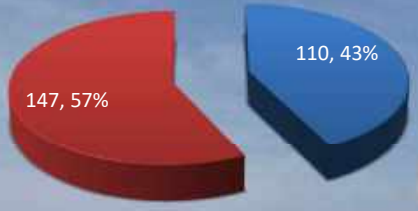
ERLDC Outage Department

171st Shutdown Review (July 2020)

- Total Number of Outages Approved at OCC – 683
- Total Number of Outages Applied in (D-3) – 259
- Total Number of Outages **Not** Applied in (D-3) - 424
- Total Number of Outages Approved in (D-2) – 259
- Total Number of outages Availed on D – 259

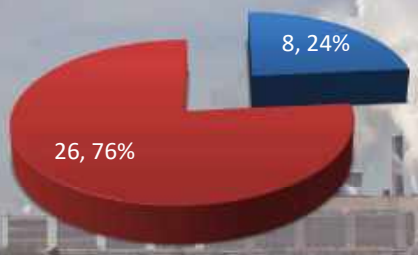
OCC Approved outages for July 2020

AC Line

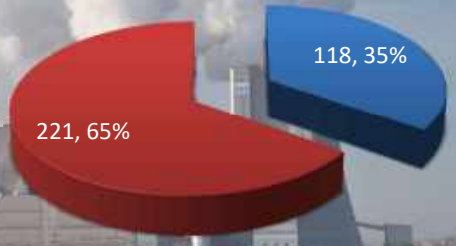


Bus

ICT

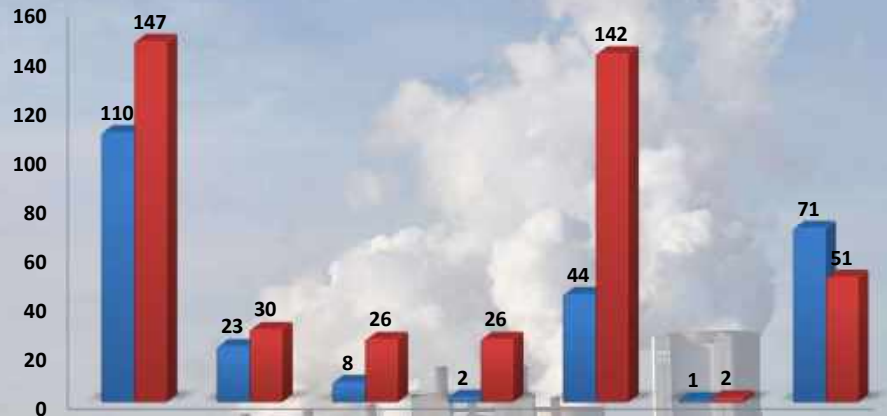


Rest

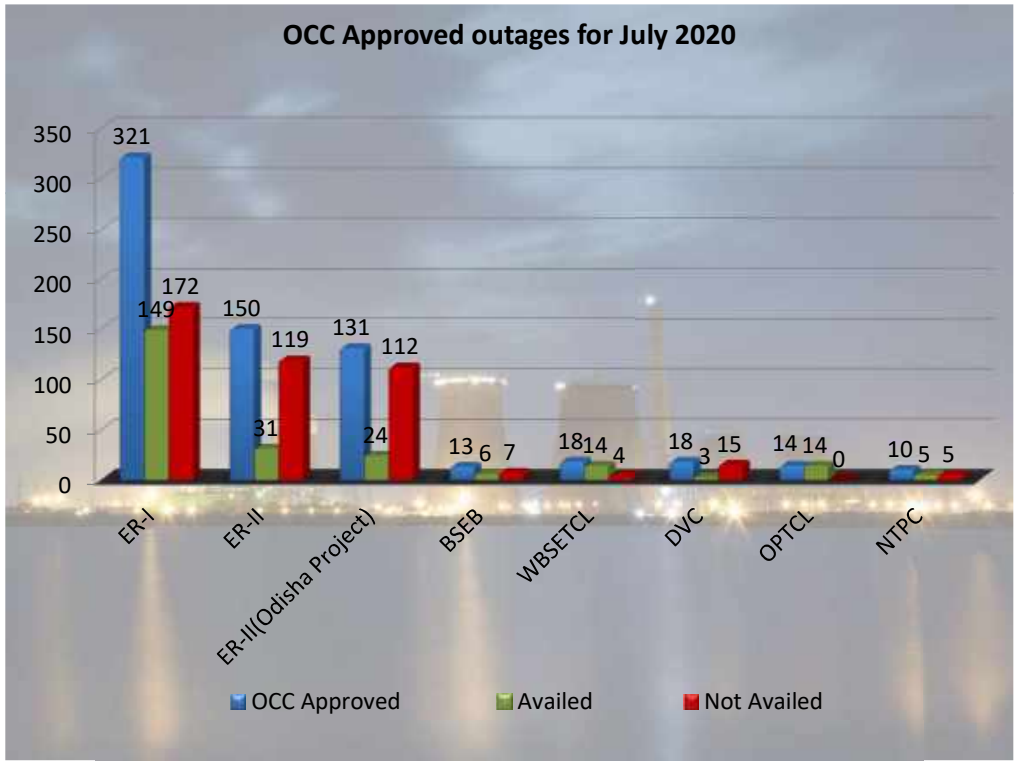


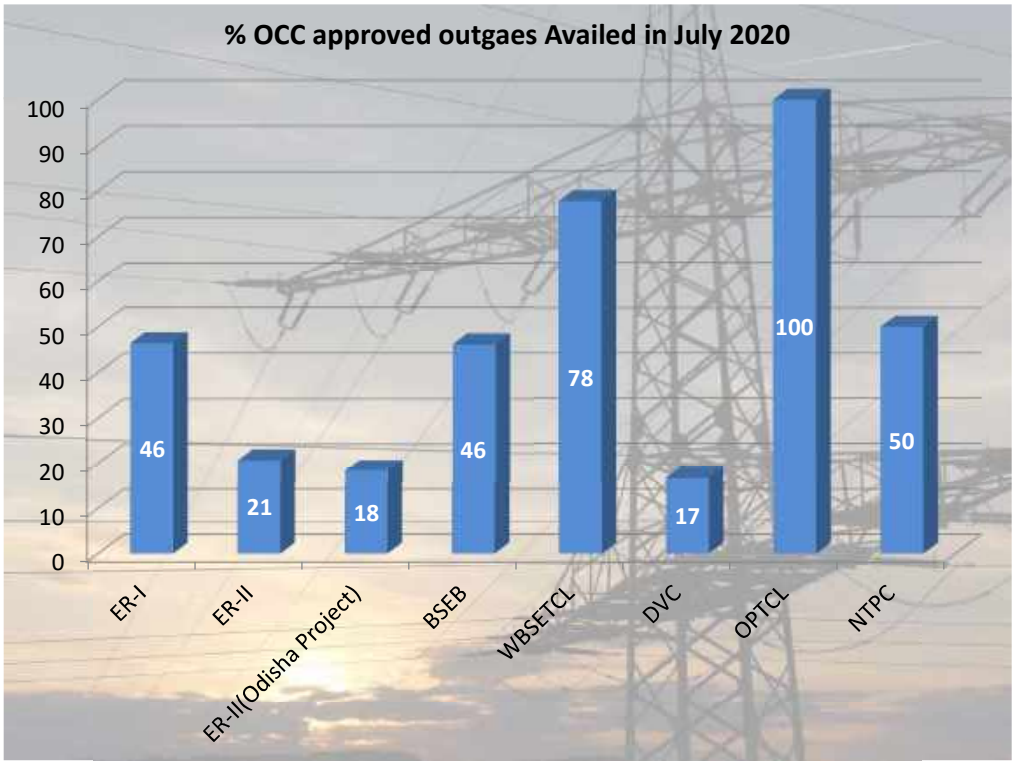
Availed
Not Availed

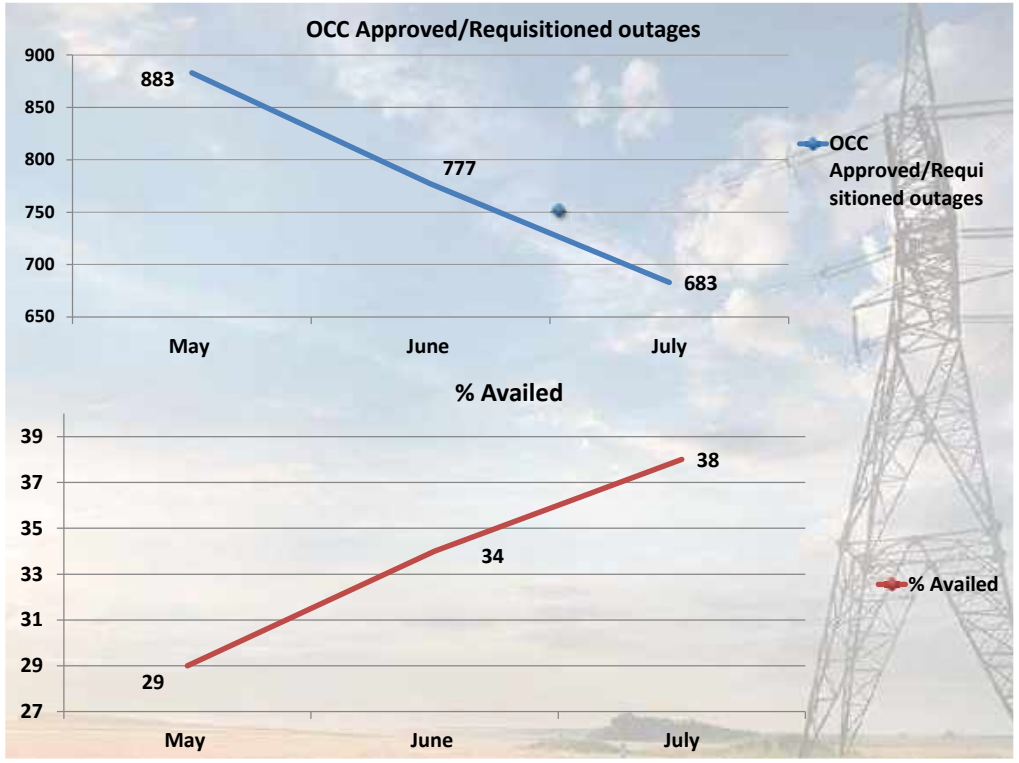
OCC Approved outages for July 2020

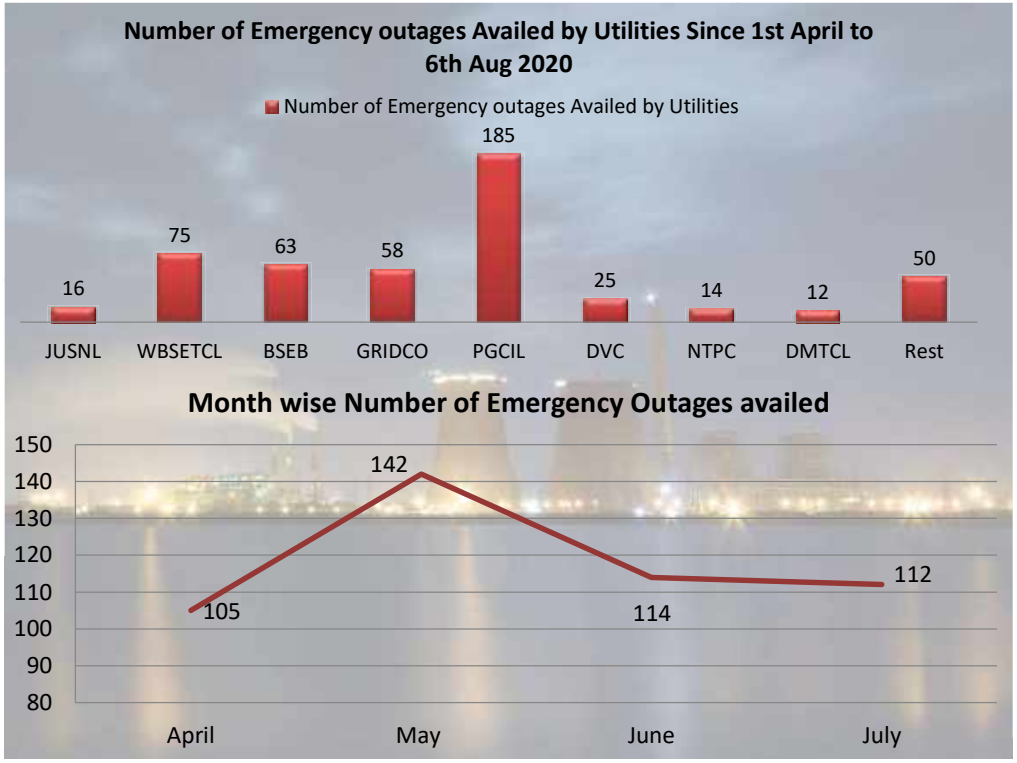


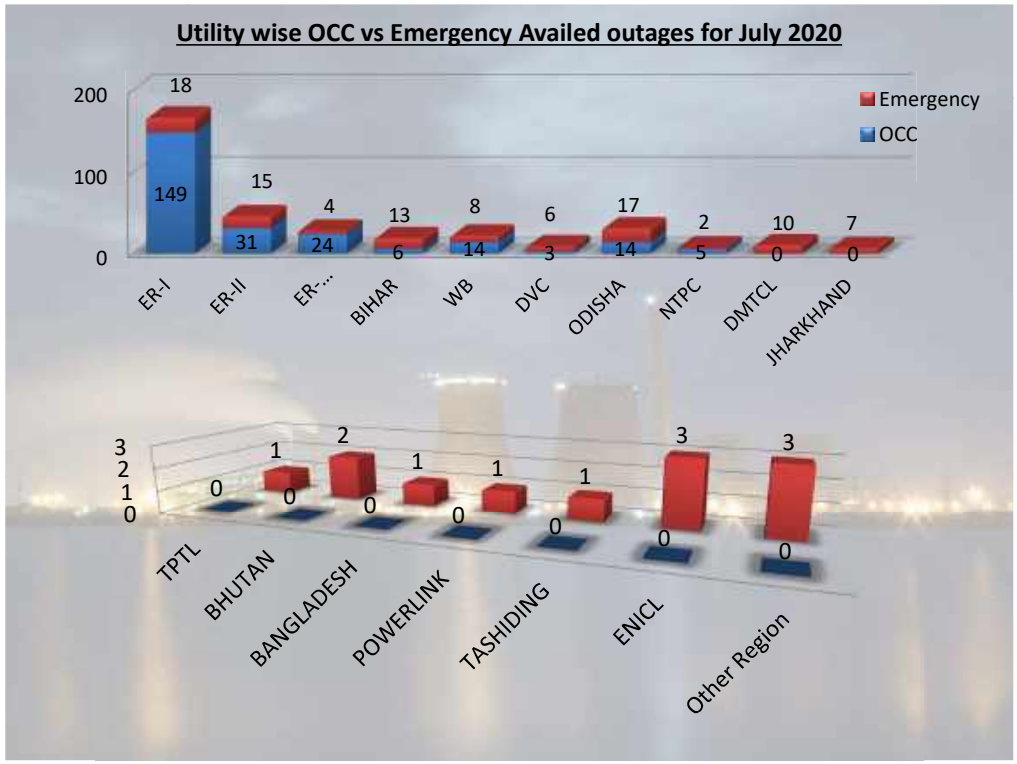
	AC Line	Bus	ICT	Reactor	Bay	Statcom	A/R
Availed	110	23	8	2	44	1	71
Not Availed	147	30	26	26	142	2	51

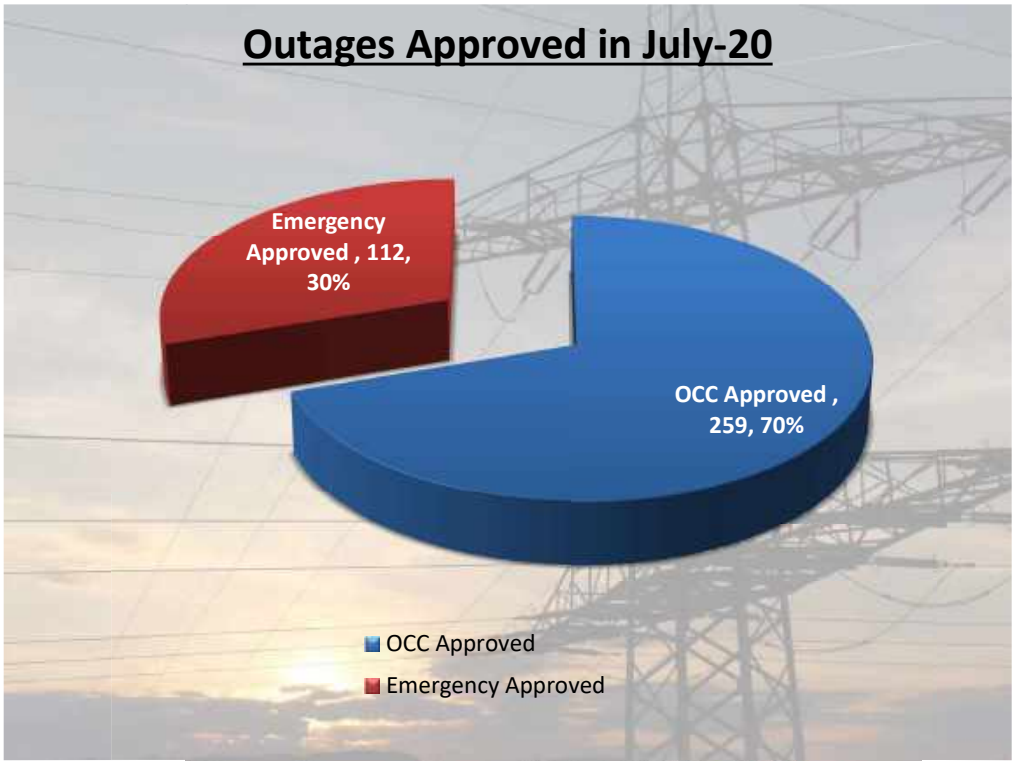

OCC Approved outages for July 2020
350
300
250
200
150
100
50
0
321
149
172
150
31
119
131
24
112
13
6
7
18
14
4
18
3
15
14
14
0
10
5
5
ER-I
ER-II
ER-II(Odisha Project)
BSEB
WBSETCL
DVC
OPTCL
NTPC
OCC Approved
Availed
Not Availed

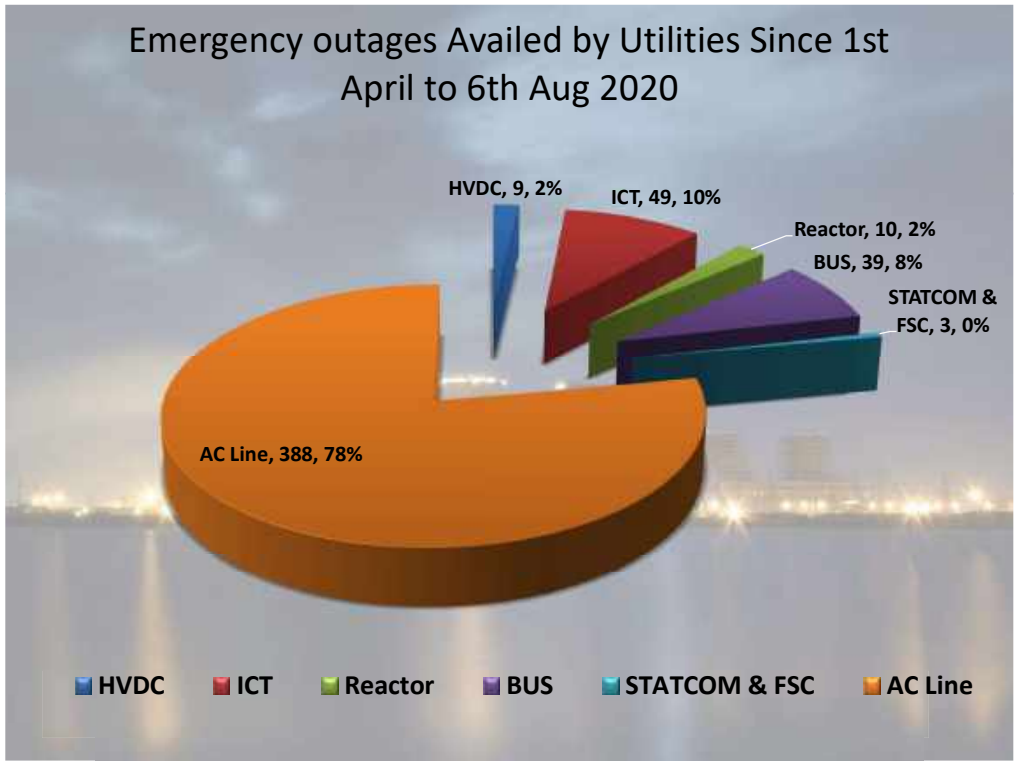

% OCC approved outgaes Availed in July 2020
100
90
80
70
60
50
40
30
20
10
0
46
21
18
46
78
17
100
50
ER-I
ER-II
ER-II(Odisha Project)
BSEB
WBSETCL
DVC
OPTCL
NTPC

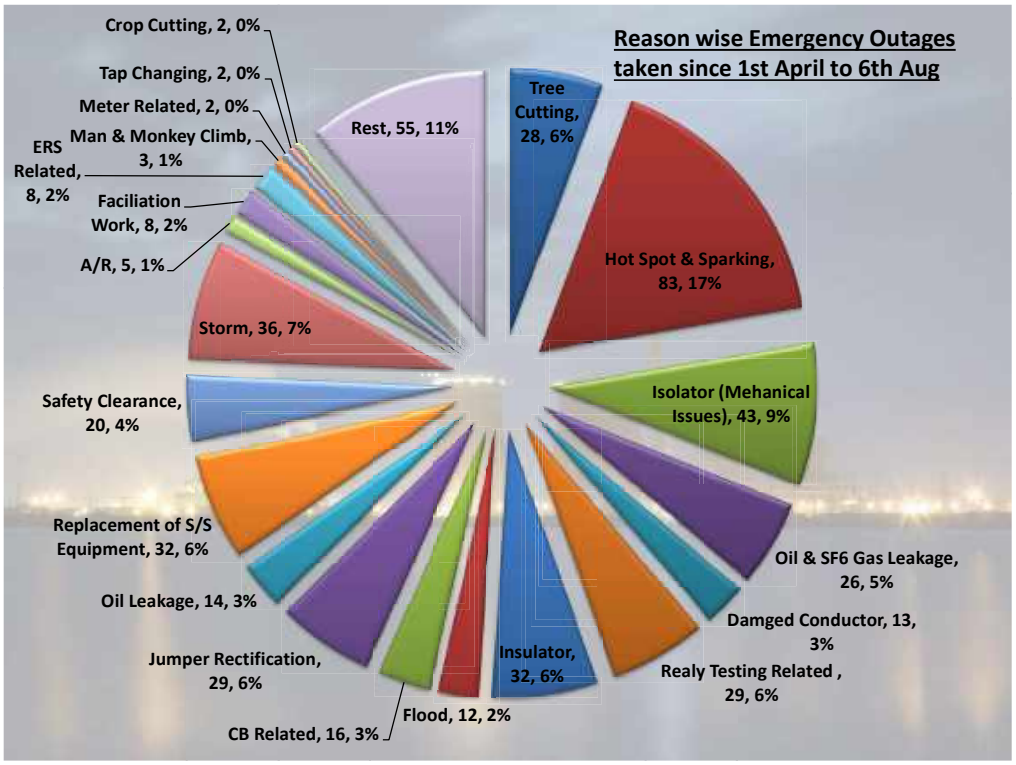

OCC Approved/Requisitioned outages
900
850
800
750
700
650
883
777
683
May
June
July
OCC Approved/Requisitioned outages
% Availed
39
37
35
33
31
29
27
29
34
38
May
June
July
% Availed


Number of Emergency outages Availed by Utilities Since 1st April to 6th Aug 2020
Number of Emergency outages Availed by Utilities
16
75
63
58
185
25
14
12
50
JUSNL
WBSETCL
BSEB
GRIDCO
PGCIL
DVC
NTPC
DMTCL
Rest
Month wise Number of Emergency Outages availed
150
140
130
120
110
100
90
80
105
142
114
112
April
May
June
July


Utility wise OCC vs Emergency Availed outages for July 2020
Emergency
OCC
200
100
0
18
149
15
31
4
24
13
6
8
14
6
3
17
14
2
5
10
0
7
0
ER-I
ER-II
ER-...
BIHAR
WB
DVC
ODISHA
NTPC
DMTCL
JHARKHAND
3
2
1
0
0
0
1
0
2
0
1
0
1
0
1
0
3
0
3
0
TPTL
BHUTAN
BANGLADESH
POWERLINK
TASHIDING
ENICL
Other Region


Outages Approved in July-20
Emergency Approved , 112, 30%
OCC Approved , 259, 70%
OCC Approved
Emergency Approved


Emergency outages Availed by Utilities Since 1st April to 6th Aug 2020
HVDC, 9, 2%
ICT, 49, 10%
Reactor, 10, 2%
BUS, 39, 8%
STATCOM & FSC, 3, 0%
AC Line, 388, 78%
HVDC
ICT
Reactor
BUS
STATCOM & FSC
AC Line


Reason wise Emergency Outages taken since 1st April to 6th Aug
Crop Cutting, 2, 0%
Tap Changing, 2, 0%
Meter Related, 2, 0%
Man & Monkey Climb, 3, 1%
ERS Related, 8, 2%
Faciliation Work, 8, 2%
A/R, 5, 1%
Rest, 55, 11%
Tree Cutting, 28, 6%
Hot Spot & Sparking, 83, 17%
Isolator (Mehanical Issues), 43, 9%
Oil & SF6 Gas Leakage, 26, 5%
Damged Conductor, 13, 3%
Realy Testing Related , 29, 6%
Insulator, 32, 6%
Flood, 12, 2%
CB Related, 16, 3%
Jumper Rectification, 29, 6%
Oil Leakage, 14, 3%
Replacement of S/S Equipment, 32, 6%
Safety Clearance, 20, 4%
Storm, 36, 7%

Documents/Evidence/Declaration needed for Outage Application

- ✓ Utility must apply shutdown in proper format circulated by ERLDC.
- ✓ Any requirement of -
  - ❑Load restriction
  - ❑Generation reduction or
  - ❑Outage of any other element

  while applying shutdown must be mentioned.
- ✓ All ODB shutdowns shall be allowed up to 17:00hrs.
- ✓ Utility must submit SLD showing affected portion while applying shutdown.
- ✓ Photographs with time stamp(clear & visible), patrolling records along with tower type must be submitted while applying planned/emergency shutdown.
- ✓ Reason of any shutdown should be comprehensive and scope of work involved should be stated in detail.
- ✓ States must provide an updated list of their essential loads on regular intervals

- ✓ While applying any bay shutdown, utility must declare the DIA elements with name (not number) and whether power outage will be occurred in real time. Such shutdowns should be discussed in shutdown meeting.
- ✓ Inter regional Shutdowns for the coming month must be submitted within 5th and intra regional shutdowns within 8th of current month.
- ✓ Utilities must submit the proper reason of deferment of shutdowns on or before the day of shutdown.
- ✓ Bay shutdowns of GIS S/Stns should be clubbed with program of line shutdown to minimize transmission outage time.
- ✓ Shutdown time & duration should be reasonable.
- ✓ Any delay in availing shutdown and delay in revival must be intimated to RLDC Real time & Outage coordination Team within due time
- ✓ Utilities are requested to plan annual program for transmission outages
- ✓ Utilities should provide us with consolidated & updated bay details list (owned & or maintained by them) in format provide by ERLDC so as to keep track over availability of dia elements & ensuring grid security while maintaining reliable outage operations
- ✓ While seeking for outage of Bus/ICT/AC lines proper distribution of feeders may be intimated to ERLDC in due format

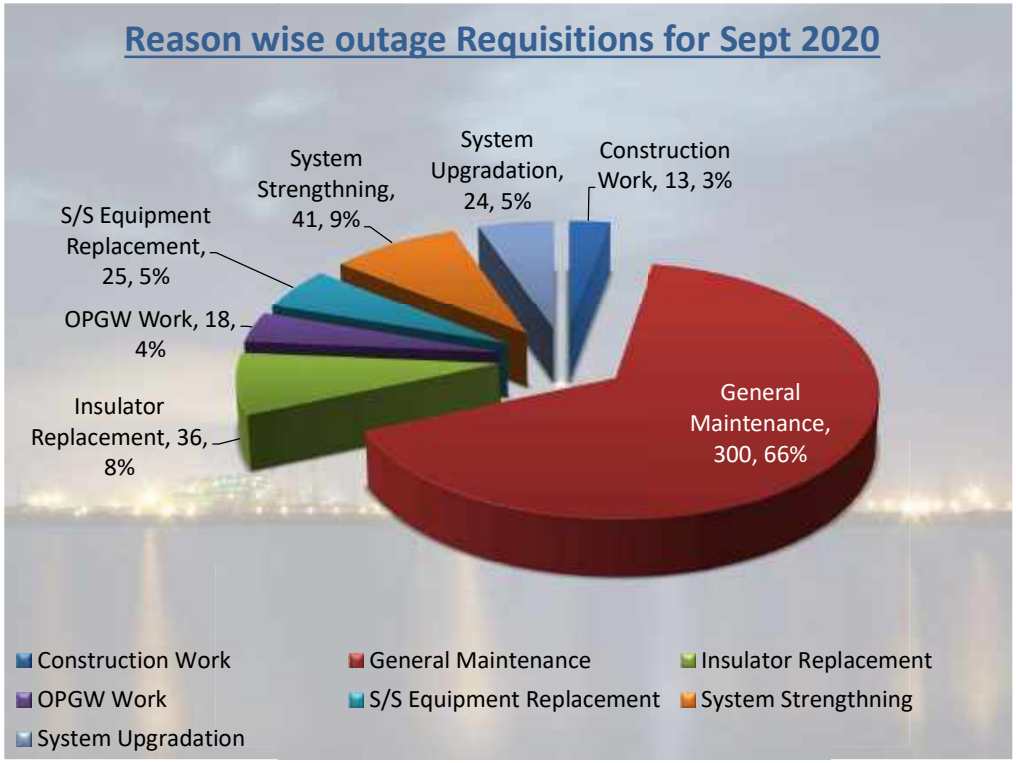
- ✓ In case of Bay swapping or changing, intimation should be given in mail to ERLDC Real time & Outage Coordination Team
- ✓ Before availing any element shutdown indenting agency must submit undertaking for Fair & reasonable weather condition at site suitable for work completion along with status of good telemetry data
- ✓ Status of healthiness & availability of isolators (line side, bus side, bus transfer etc.), TBC, Transfer bus etc. is to be intimated before availing shutdown
- ✓ While requisitioning or giving consent for an outage the station scheme should be intimated along with mentioning status of bus coupler, transfer bus, associated dia elements to ensure smooth transfer of elements to other bus or transfer bus
- ✓ While an element is returned it should be clearly mentioned that all its dia elements are returned, if any dia/tie remains incomplete necessary intimation should be forwarded to ERLDC Real time & Outage Coordination Team
- ✓ For restoration of any element after shutdown undertaking mentioning no equipment replace , no bay configuration changed , no relay setting changed etc. during the period of shutdown is to be submitted unless otherwise. In the event of replacement of any electrical installation RIO/State Inspector Office clearance certificate must be shared with RLDC Real time & Outage coordination Team before applying for charging code

- ✓ While applying for an outage on D-3 basis following additional data apart from data required in outage format shall be furnished by the indenting agency –
  - Effect on power flow if any
  - Load restriction if any
  - SLD if asked
  - Information on availability of Transfer Bus in case DMT scheme/ availability of complete dia elements in case of one and half breaker arrangement
  - Information on availability of breakers and isolators or any other element remaining out of service during the time of requisition
  - Details of feeder distribution
  - Details Bus shifting of elements if done

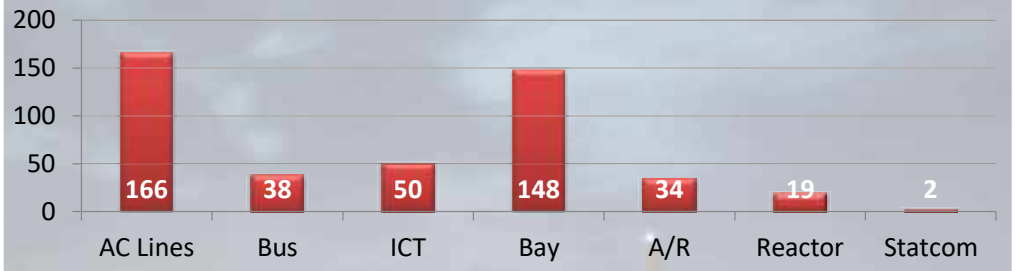
The above set of information must be readily provided to Grid Operators by the indenting agencies when asked in real time apart from following –

- The local weather information
- Status of Analog/ Digital data at S/S

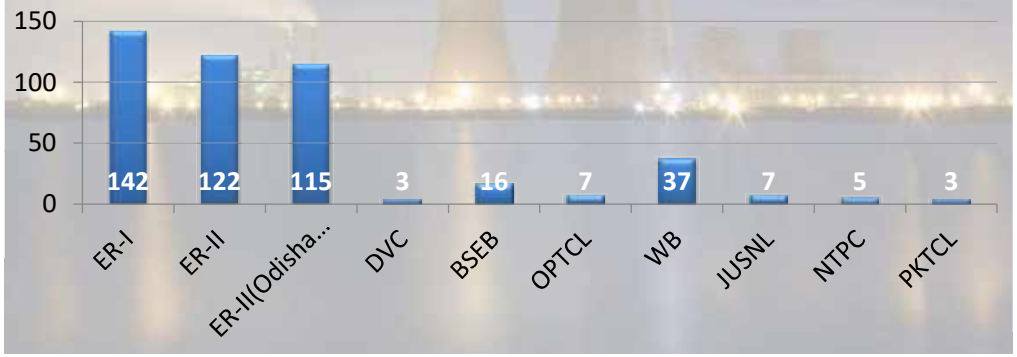
Reason wise outage Requisitions for Sept 2020



Element wise outage Requisitions for Sept 2020



Utility wise outage Requisitions for Sept 2020



Philosophy towards formulation and implementation of Grid Islanding Scheme considering 2 x 250 MW units (U # 7 & 8) of Chandrapura TPS, DVC connected to 220KV Grid System

The present islanding scheme in DVC is under service at Chandrapura TPS considering Unit # 1, 2 & 3 having capacity of 3 x 130MW (namely, CTPS – A plant) along with connected load of CTPS – A itself. However, U # 1 & 2 were put out of bar.

Hence, a new suitable venue in DVC is felt to be identified towards formulation and implementation of a new Grid Islanding scheme. Accordingly, U # 7 & 8 of Chandrapura TPS having capacity of 2 x 250MW (namely, CTPS – B plant) has been considered after much thinking and threadbare discussions. These units are connected to 220KV grid. Single line connection diagram (DVC Grid) is shown in Annexure – I.

The Grid islanding scheme is proposed to be implemented in two stages namely,

stage I : Islanding from grid &

stage II : Load – Generation balance through sequential load shedding

considering the 2 x 250MW generators of CTPS – B plant along with connected loads of CTPS – A (120 MVA), BIADA (73 MVA), Putki (180 MVA), Patherdih (141 MVA) & Nimiaghat (40 MVA).

The feasibility of the scheme at this preliminary stage is elaborated as below:-

1. Minimum generation of a unit to be considered as 170MW.
2. Monitoring of Total Generation in MW to be implemented using feed from Ex-Bus MW transducers available at 220kV Switchyard of CTPS – B.
3. The Grid Islanding relay (R1) to be placed at CTPS – B end considering 220KV Bus voltage & frequency of CTPS – B as reference.

   [Note :

   a. The old Islanding panel, placed at CTPS – A, may be used after shifting of the same from CTPS – A to CTPS – B. The OEM of this panel i.e. GE (erstwhile ALSTOM) confirmed that the existing panel could be suitably modified.

   b. Entire scheme design including setting of different relays will be taken care of after freezing of the scheme outline.]

4. After actuation of R1 relay – R2, R3, R4, R5, and R6 Relays which will be connected to IEC-61850 compliant substation bus of CTPS – A (220KV), CTPS – A(132KV), Putki (132KV), Patherdih (132KV) & Nimiaghat (132KV) will get actuated through –

   a. OPGW network with gateway & SDH (synchronous digital hierarchy) to be used for communication of inter-tripping logic through tele-protection GOOSE messaging after creation of VLAN.

   b. Media converter (AC/DC operated) for Gateway-SDH link/connectivity to be incorporated, if required (where length between gateway-SDH is greater than 50mtr.).

   and give trip command (stage – I tripping) as per following –

Substation Bus (IEC - 61850)	Relay	Trip command to -
CTPS_B	R1	CTPS – Dhanbad line (L # 203, 204) CTPS – BTPS line (L # 205, 206)
CTPS_A (220KV)	R2	CTPS – Kalyaneswari line (L # 201, 202) CTPS – BSL line (L # 253 & 254)
CTPS_A (132KV)	R3	CTPS – Gola (L # 6 & 7) CTPS – Purulia (L # 58 & 59) CTPS – Ramkanali/Jamuria (L # 60, 61) CTPS - Rajabera (L # 62, 63)
Patherdih	R5	Patherdih - MHS line (L # 14 & 15) Patherdih - Sindri line (L # 49 & 50) 132/25KV Transformer (Traction Load)
Nimiaghat	R6	Nimiaghat – Giridih line (L # 86 & 87) 132/25KV Transformer (Traction Load)

All Railway feeders/Traction load connected to the above buses to be disconnected during stage 1 operation to avoid unbalance loading.

5. The islanded connection after stage – I tripping is shown in Annexure – II and connected loads (CD in MVA) will be as below having average value of 416 MVA –

CTPS_A	119.90	MVA
BIADA	73.05	MVA
Putki	180.45	MVA
Patherdih	141.40	MVA
Nimiaghat	40.00	MVA
Total Load	554.80	MVA
75% of load	416.10	MVA

Apparently there will be no problem in Load – Generation balance in normal condition –

Generation considered: 225 x 2 MW = 450 MW

Average Load connected: 416 MVA or 400 MW

Considering droop of the TG is 5%,

(450 – 400) MW = 50 MW corresponds to $\frac{5}{450}$ x 50 = 0.56 %

If occurrence freq. is 50 Hz, then it may shoot up to 50 + 50 x 0.56 % = 50.28 Hz.

It will be easily taken care of.

6. However, if

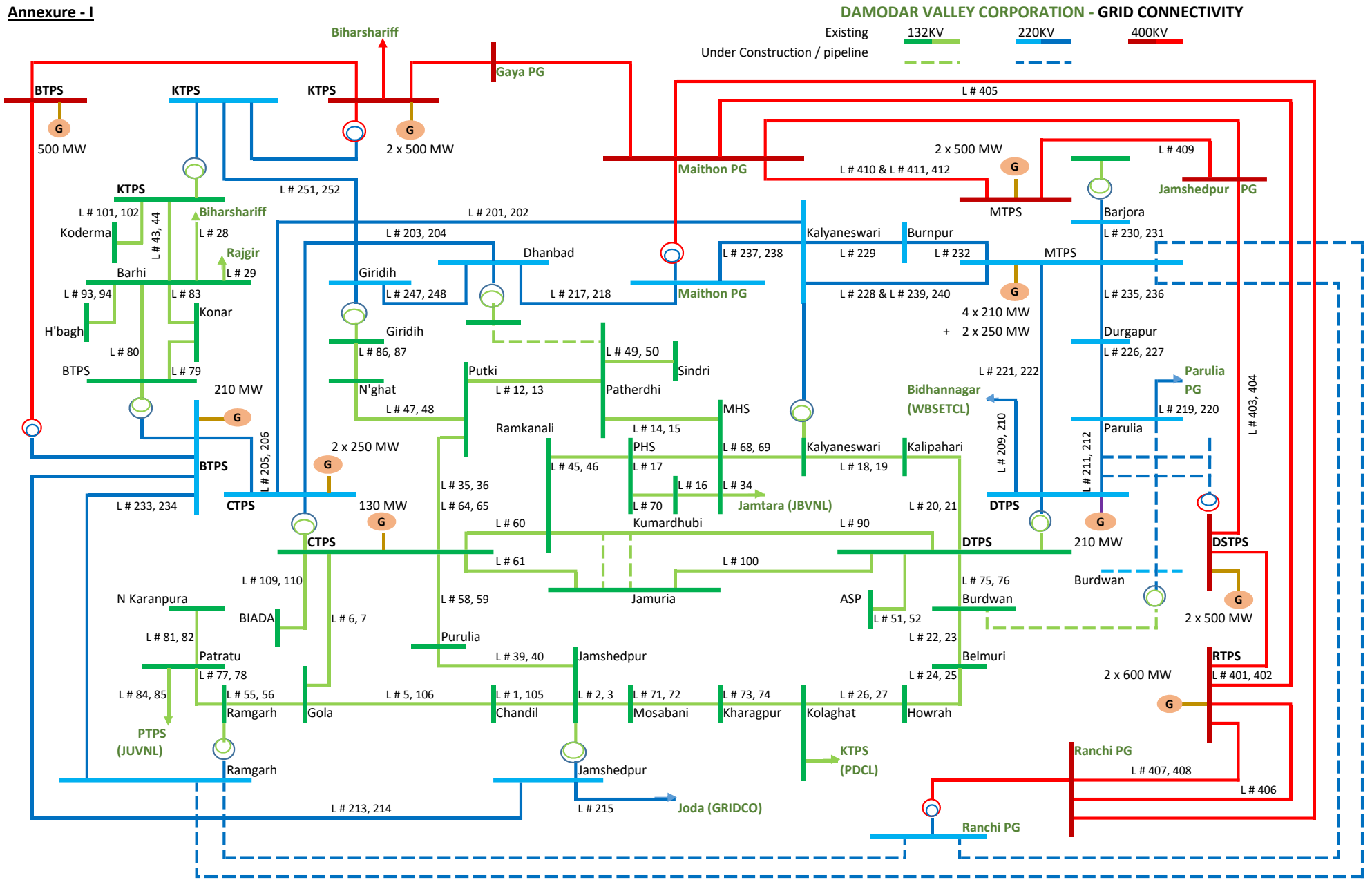
a. Gen.>>Load demand or freq. would exceed a given set point, then one unit (lowest MW) will get tripped and

b. Only one unit is in service then

subsequent Load – Generation balancing is to be made by sequential load shedding (stage – II) at different substations as furnished below through protection telemetry (as discussed above) –

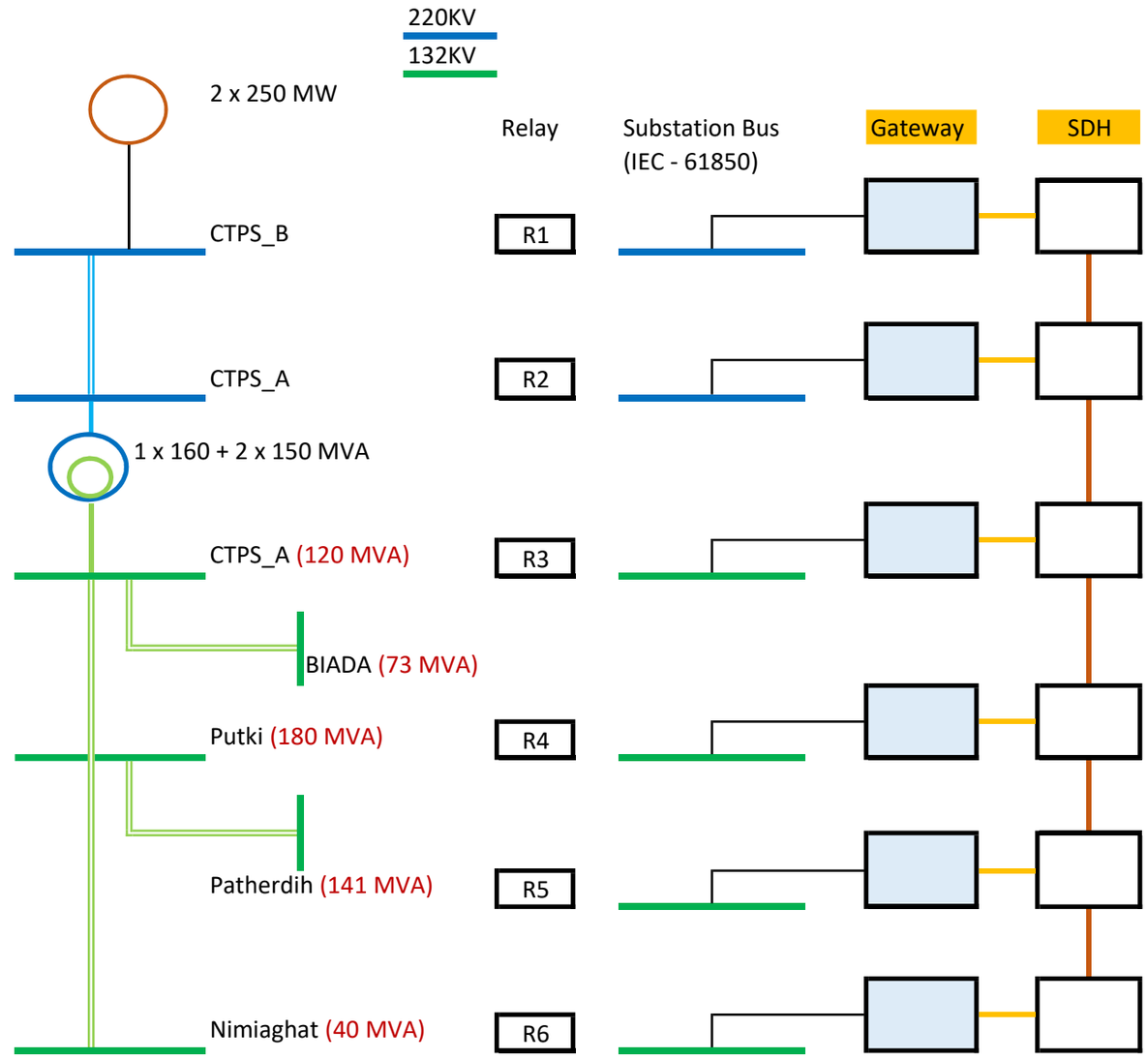
Phase - II :: Sequential Load shedding			
1	JBVNL, Ganeshpur	35.00	Putki
	JBVNL, Digwadih	17.00	Patherdih
		52.00	
2	JUVNL, Godhore	35.00	Putki
	JBVNL, Mukunda	15.00	Patherdih
		50.00	
3	JSEB, Dumri Banaso	40.00	Nimiaghat
4	JBVNL, Dugda	25.00	CTPS
5	JSEB, Jainamore	22.00	CTPS

Annexure - I


DAMODAR VALLEY CORPORATION - GRID CONNECTIVITY
Existing
Under Construction / pipeline
132KV
220KV
400KV
Biharshariff
Gaya PG
BTPS
KTPS
KTPS
G
500 MW
G
2 x 500 MW
L # 405
Maithon PG
L # 410 & L # 411, 412
2 x 500 MW
G
MTPS
L # 409
Jamshedpur PG
Barjora
L # 230, 231
KTPS
L # 251, 252
L # 201, 202
L # 101, 102
L # 43, 44
Biharshariff
Koderma
L # 28
Rajgir
L # 29
Barhi
L # 93, 94
L # 83
Konar
H'bagh
L # 80
BTPS
L # 79
210 MW
G
L # 203, 204
Dhanbad
L # 237, 238
Kalyaneswari
L # 229
Burnpur
L # 232
MTPS
Giridih
L # 247, 248
L # 217, 218
Maithon PG
L # 228 & L # 239, 240
G
4 x 210 MW
+ 2 x 250 MW
L # 235, 236
Giridih
L # 86, 87
N'ghat
L # 47, 48
Putki
L # 12, 13
L # 49, 50
Sindri
Patherdhi
Durgapur
L # 226, 227
L # 221, 222
Bidhannagar
(WBSETCL)
Parulia
PG
L # 219, 220
Parulia
L # 403, 404
L # 209, 210
L # 211, 212
Ramkanali
MHS
L # 14, 15
PHS
L # 68, 69
Kalyaneswari
Kalipahari
L # 45, 46
L # 17
L # 18, 19
L # 205, 206
BTPS
2 x 250 MW
G
L # 35, 36
L # 64, 65
L # 16
L # 34
Jamtara (JBVNL)
L # 20, 21
DTPS
L # 233, 234
CTPS
130 MW
G
L # 70
L # 60
Kumardhubi
L # 90
DSTPS
CTPS
DTPS
210 MW
G
L # 61
L # 100
L # 109, 110
Jamuria
L # 75, 76
Burdwan
Burdwan
N Karanpura
L # 58, 59
ASP
L # 51, 52
2 x 500 MW
G
BIADA
L # 6, 7
L # 22, 23
L # 81, 82
Purulia
Belmuri
Patratu
L # 39, 40
Jamshedpur
L # 24, 25
RTPS
2 x 600 MW
L # 401, 402
L # 77, 78
L # 84, 85
L # 55, 56
L # 5, 106
L # 1, 105
L # 2, 3
L # 71, 72
L # 73, 74
L # 26, 27
G
Ramgarh
Gola
Chandil
Mosabani
Kharagpur
Kolaghat
Howrah
PTPS
(JUVNL)
KTPS
(PDCL)
Ranchi PG
L # 407, 408
Ramgarh
Jamshedpur
L # 406
L # 213, 214
L # 215
Joda (GRIDCO)
Ranchi PG

Islanding Scheme at CTPS

Annexure - II



Phase - I :: Tripping for Islanding

CTPS – Dhanbad line (L # 203, 204)
CTPS – BTPS line (L # 205, 206)

CTPS – Kalyaneswari line (L # 201, 202)
CTPS – BSL line (L # 253 & 254)

CTPS – Gola (L # 6 & 7)
CTPS – Purulia (L # 58 & 59)
CTPS – Ramkanali/Jamuria (L # 60, 61)
CTPS - Rajabera (L # 62, 63)

Patherdih - MHS line (L # 14 & 15)
Patherdih - Sindri line (L # 49 & 50)
132/25KV Transformer (Traction Load)

Nimiaghat – Giridih line (L # 86 & 87)
132/25KV Transformer (Traction Load)

After Phase - I tripping
Load in MVA

CTPS_A	119.90
BIADA	73.05
Putki	180.45
Patherdih	141.40
Nimiaghat	40.00
Total Load	554.80
75% of load	416.10

Phase - II :: Sequential Load shedding

1	JBVNL, Ganeshpur	35.00	Putki
	JBVNL, Digwadih	17.00	Patherdih
		52.00	
2	JUVNL, Godhore	35.00	Putki
	JBVNL, Mukunda	15.00	Patherdih
		50.00	
3	JSEB,Dumri Banaso	40.00	Nimiaghat
4	JBVNL, Dugda	25.00	CTPS
5	JSEB, Jainamore	22.00	CTPS

ANNEXURE D1

ANTICIPATED POWER SUPPLY POSITION FOR THE MONTH OF SEPTEMBER-20

SL.NO		PARTICULARS	PEAK DEMAND IN MW	ENERGY IN MU
1		BIHAR		
	i)	NET MAX DEMAND	5550	3685
	ii)	NET POWER AVAILABILITY- Own	700	250
	iii)	Central Sector+Bi-Lateral	4950	2637
	iv)	SURPLUS(+)/DEFICIT(-)	100	-797
2		JHARKHAND		
	i)	NET MAXIMUM DEMAND	1425	840
	ii)	NET POWER AVAILABILITY- Own Source	450	219
	iii)	Central Sector+Bi-Lateral+IPP	1004	669
	iv)	SURPLUS(+)/DEFICIT(-)	-60	48
3		DVC		
	i)	NET MAXIMUM DEMAND	2970	1860
	ii)	NET POWER AVAILABILITY- Own Source	5287	3279
	iii)	Central Sector+MPL	529	357
	iv)	Bi- lateral export by DVC	1587	1143
	v)	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	1258	633
4		ODISHA		
	i)	NET MAXIMUM DEMAND	5100	3020
	ii)	NET POWER AVAILABILITY- Own Source	4032	2517
	iii)	Central Sector	2104	1344
	iv)	SURPLUS(+)/DEFICIT(-)	1036	842
5		WEST BENGAL		
5.1		WBSEDCL		
	i)	NET MAXIMUM DEMAND	6500	4015
	ii)	IPCL DEMAND	0	60
	iii)	TOTAL WBSEDCL's Energy Requirement (incl.B'Desh+Sikkim+IPCL)	6510	4226
	iv)	NET POWER AVAILABILITY- Own Source	4655	2436
	v)	Contribution from DPL	465	322
	vi)	Central Sector+Bi-lateral+IPP&CPP+TLDP	2846	1971
	vii)	EXPORT (TO B'DESH & SIKKIM)	10	151
	viii)	SURPLUS(+)/DEFICIT(-) AFTER EXPORT	1456	504
5.2		CESC		
	i)	NET MAXIMUM DEMAND	1950	1080
	ii)	NET POWER AVAILABILITY- Own Source	820	527
	iii)	FROM OTHER SOURCE (INCL. IPP/CPP-29-30 MU/M)	760	180
	iv)	IMPORT FROM HEL	540	373
	v)	TOTAL AVAILABILITY OF CESC	2050	1080
	vi)	SURPLUS(+)/DEFICIT(-)	0	0
6		WEST BENGAL (WBSEDCL+DPL+CESC) (excluding DVC's supply to WBSEDCL's command area)		
	i)	NET MAXIMUM DEMAND	9468	5155
	ii)	NET POWER AVAILABILITY- Own Source	5870	3285
	iii)	CS SHARE+BILATERAL+IPP/CPP+TLDP+HEL	4146	2524
	iv)	SURPLUS(+)/DEFICIT(-) BEFORE WBSEDCL'S EXP.	548	655
	v)	SURPLUS(+)/DEFICIT(-) AFTER WBSEDCL'S EXP.	338	504
7		SIKKIM		
	i)	NET MAXIMUM DEMAND	100	45
	ii)	NET POWER AVAILABILITY- Own Source	8	3
		- Central Sector	185	127
	iii)	SURPLUS(+)/DEFICIT(-)	93	85
8		EASTERN REGION		
	i)	NET MAXIMUM DEMAND	25037	14604
	ii)	BILATERAL EXPORT BY DVC	1587	1143
	iii)	EXPORT BY WBSEDCL	210	151
	iv)	NET TOTAL POWER AVAILABILITY OF ER (INCLUDING CS ALLOCATION +BILATERAL+IPP/CPP+HEL)	28536	17213
	v)	ENERGY SURPLUS(+)/DEFICIT(-) OF ER AFTER EXPORT (v = iv - i -ii - iii)	1703	1315

Revised overhauling schedule of thermal units for the FY 2020-21:

Units	**OH Schedule** (including cooling down period)
MTPS U#4	(10.11.20 -19.12.20) (COH- Turb-RLA, Blr, Gen) (40 days)
MTPS U#5	(01.03.21- 25.03.21) (BOH & Gen) (25 days)
MTPS U#8	(26.12.20 -29.01.21) (BOH, FGD & De-Nox Burner) (35 days)
CTPS U#8	(01.01.21 -09.02.21) (COH-Blr, Turb, Gen) (40 days)
DSTPS U#2	(10.11.20 -19.12.20) (COH-Blr, Turb, Gen, FGD & De-Nox Burner) (40 days)
BTPS 'A U#1	(15.02.21- 21.03.21) (BOH, FGD & De-Nox Burner) (35 days)

-S/d-
(Kazi Md Hanif)
SE (M), OS&U,
DVC, Kolkata

ERLDC, KOLKATA											
TRANSMISSION ELEMENTS OUTAGE(BAYS ONLY) APPROVED IN 172nd OCC MEETING OF ERPC											
SI	NAME OF THE ELEMENTS	FROM		TO		REMARKS	S.D availing agency	Reason	SUBJECT TO CONSENT FROM AGENCY	ERLDC COMMENTS	COMMETNS AT MEETING
		DATE	TIME	DATE	TIME						
1	400 KV Rengali-Keonjhar ckt Main Bay (Bay No-401) at Rengali	01-09-2020	08:00	01-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
2	132 KV MAIN BAY OF ICT-3 AT ARA	01-09-2020	10:00	01-09-2020	15:00	ODB	POWERGRID ER-I	FOR DCRM OF CB. ICT-3 WILL REMAIN IN SERVICE THROUGH TBC BAY			
3	400kV, 125MVAR BUS REACTOR-2 Main Bay (401)at Jamshedpur	01-09-2020	09:30	01-09-2020	17:30	ODB	POWERGRID ER-I	AMP			
4	400KV Main Bay Bongaigaon#1 at Binaguri	01-09-2020	10:00	15-10-2020	17:00	OCB	POWERGRID ER-II	Bay upgradation under ERSS-XX		Detail work schedule should be given	
5	400kV Main breaker of 315MVA ICT-I at Mendhasal	01-09-2020	07:00	30-09-2020	17:00	OCB	OPTCL	Replacement of 400kV BHEL Make Hydraulic SF6 Main Breaker of 315MVA ICT-I by 400kV Siemens Make Spring charge SF6 Breaker at Mendhasal.		Why so many days required for CB replacement ?	Day wise work plan schedule must be shared, number of working days needs to be further optimized
6	160MVA ICT II Main Bay(210) at Baripada	02-09-2020	08:00	02-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
7	400kV, ICT-2 & BUS REACTOR-2 Tie Bay (402)at Jamshedpur	02-09-2020	09:30	02-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
8	405 Bay (Tie Bay of ICT-2 & Future bay) at Daltonganj	02-09-2020	09:30	02-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP			
9	400 KV Keonjhar- Talcher # 2 Tie Bay (Bay No-402) at Rengali	03-09-2020	08:00	03-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
10	703 Main Bay of 765/400KV,1500MVA ICT-I at Sundargarh	03-09-2020	08:00	06-09-2020	17:00	OCB	ER-II/Odisha/Sundargarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
11	400/220kV, ICT-2 Main Bay (403)at Jamshedpur	03-09-2020	09:30	03-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
12	400KV Main bay of Bidhannagar-I at Durgapur	03-09-2020	09:00	03-09-2020	17:30	ODB	POWERGRID ER-II	CT Replacement work			
13	Main bay#407 of 400KV Baripada-Keonjhar Line at Keonjhar	04-09-2020	08:00	04-09-2020	17:00	ODB	Keonjhar	AMP WORKS			
14	Tie Bay(402) of Baripada- Keonjhar line & 315MVA ICT I at Baripada	04-09-2020	08:00	04-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
15	400kV Bus Reactor 2(125MVAR) & Meramundali ckt 2 Tie Bay 411 at Angul	04-09-2020	08:00	04-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP			
16	400kV, DURGAPUR LINE Main Bay (404)at Jamshedpur	04-09-2020	09:30	04-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
17	765 KV BUS REACTOR BAY (703) at Sasaram S/s	04-09-2020	09:00	04-09-2020	18:00	ODB	POWERGRID ER-I	Faulty Relay Replacement work	NLDC		
18	411 Bay (Tie Bay of SSRM Line-2 & Bus Reactor) at Daltonganj	04-09-2020	09:30	04-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP			
19	400KV Main Bay of PUNAT 1(JIGME INTERIM-1) at Alipurduar	04-09-2020	08:00	04-09-2020	18:00	ODB	POWERGRID ER-II	Bay AMP Work			
20	400 KV Rengali-Talcher # 2 Main Bay (Bay No-403) at Rengali	05-09-2020	08:00	05-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
21	400kV Angul_ Meramundali ckt 2 Main Bay 412 at Angul	05-09-2020	08:00	05-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP			
22	400kV, DURGAPUR & MEJIA LINE Tie Bay (405)at Jamshedpur	05-09-2020	09:30	05-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
23	400 KV SGTPP-Gokarna Ckt 1with Tie bay	07-09-2020	08:30	07-09-2020	15:30	ODB	WBSETCL	Maintenance work			
24	400 Kv Rengali-Talcher # 1 Main Bay (Bay No-404) at Rengali	07-09-2020	08:00	07-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			

25	706 Main Bay of 765/400KV,1500MVA ICT-II at Sundargarh	07-09-2020	08:00	10-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
26	ICT#1 Bay at BTPS-A, DVC	07-09-2020	09:00	07-09-2020	18:00	ODB	DVC	for protection checking			Power assistance of 30MW required through JSEB
27	Tie bay of North side Convt. Trafo and AC Filter North side (CWD10Q50)	07-09-2020	09:00	07-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
28	400 Kv Talcher # 1 Tie Bay (Bay No-406) at Rengali	08-09-2020	08:00	08-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
29	Transfer Bus Coupler Bay(205) at Baripada	08-09-2020	08:00	08-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
30	400kV Bus Reactor 1(125MVAR) Main Bay 416 at Angul	08-09-2020	08:00	08-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP			
31	400kV, MEJIA LINE Main Bay (406)at Jamshedpur	08-09-2020	09:30	08-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
32	Main bay of North side Converter Transformer (CWD10Q51)	08-09-2020	09:00	08-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
33	Tie Bay(40102) of 125MVAR BR at Keonjhar	09-09-2020	09:00	09-09-2020	13:00	ODB	Keonjhar	AMP work			
34	400kV ICT#3 (1500MVA) & Future Tie Bay 414 at Angul	09-09-2020	08:00	09-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP			
35	400kV, MAITHON LINE Main Bay (407)at Jamshedpur	09-09-2020	09:30	09-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
36	Main Bay of 400kV Kishanganj-1 (407-52) at New-Purnea S/s	09-09-2020	09:00	09-09-2020	12:00	ODB	POWERGRID ER-I	CT Oil Sampling			
37	Tie Bay of 400kV Kishanganj-1 & Muzaffarpur-2 (408-52) at New-Purnea S/s	09-09-2020	12:00	09-09-2020	15:00	ODB	POWERGRID ER-I	CT Oil Sampling			
38	Main Bay of 400kV Muzaffarpur-2(409-52) at New-Purnea S/s	09-09-2020	15:00	09-09-2020	18:00	ODB	POWERGRID ER-I	CT Oil Sampling			
39	Tie bay (405)of 400 kv NRNC-RNC CKT-1 & 125 MVAR B/R -2 at New-Ranchi S/s	09-09-2020	09:00	09-09-2020	17:00	ODB	POWERGRID ER-I	AMP			
40	315 MVA ICT#2 400KV Main Bay at Subhasgram	09-09-2020	09:00	09-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 406 Bay			
41	400 KV ICT # 1 Main Bay (Bay No-407) at Rengali	10-09-2020	08:00	10-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
42	400 kv Mendhasal -Pandiabili-1 main bay at Mendhasal sub-station.	10-09-2020	08:00	10-09-2020	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM test of CB and tan delta & cap test of CT.			
43	Main bay(409) of 400KV Baripada-Jamshedpur line at Baripada	10-09-2020	08:00	10-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
44	Main bay (401) of 400KV Baripada-Keonjhar line at Baripada	10-09-2020	08:00	10-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
45	ICT#2 Bay at BTPS-A, DVC	10-09-2020	09:00	10-09-2020	18:00	ODB	DVC	for protection checking	Power assistance of 30MW required through JSEB		
46	406 Bay Main bay and Balia 1 at Biharsharif SS	10-09-2020	10:00	11-09-2020	18:00	OCB	POWERGRID ER-I	CB Overhauling			
47	400kV, MAITHON & CHAIBASA-1 LINE Tie Bay (408)at Jamshedpur	10-09-2020	09:30	10-09-2020	17:30	OCB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
48	Main Bay of 400kV Kishanganj-2 (410-52) at New-Purnea S/s	10-09-2020	12:00	10-09-2020	15:00	ODB	POWERGRID ER-I	CT Oil Sampling			
49	Main Bay of 400kV Muzaffarpur-1(412-52) at New-Purnea S/s	10-09-2020	15:00	10-09-2020	18:00	ODB	POWERGRID ER-I	CT Oil Sampling			

50	Main bay (407) of 765/400 kv ICT-2 ,400 SIDE at New-Ranchi S/s	10-09-2020	09:00	10-09-2020	17:00	ODB	POWERGRID ER-I	AMP	NLDC		
51	407 Bay (Main Bay of SSRM Line-1) at Daltonganj	10-09-2020	09:30	10-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP			
52	Tie bay of East side Convt. Trafo and AC Filter East side (CWD50Q50)	10-09-2020	09:00	10-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
53	400KV Main Bay of PUNAT 2(JIGME INTERIM-2) at Alipurduar	10-09-2020	08:00	10-09-2020	18:00	ODB	POWERGRID ER-II	Bay AMP Work			
54	315 MVA ICT#3 400KV Main Bay Subahsgram	10-09-2020	09:00	10-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 409 Bay			
55	Main bay of 400kv Maithon-MPL Ckt#2(Bay no 406) at MPL	10-09-2020	09:00	25-09-2020	18:00	OCB	POWERGRID ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed		Detail work schedule should be given	
56	400KV Balangir-Jeypore line Main BAY (403 BAY) at Balangir	11-09-2020	08:00	11-09-2020	17:00	ODB	ER-II/Odisha/Balangir	AMP work			
57	721 Main Bay of 765KV Sundargarh-Dharamjaygarh ckt-1 at Sundargarh	11-09-2020	08:00	14-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
58	400 kv Mendhasal -Pandiabili-2 main bay at Mendhasal sub-station.	11-09-2020	08:00	11-09-2020	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM test of CB and tan delta & cap test of CT.			
59	Tie Bay of 400kV Kishanganj-2 & Muzaffarpur-1 (411-52) at New-Purnea S/s	11-09-2020	09:00	11-09-2020	12:00	ODB	POWERGRID ER-I	CT Oil Sampling			
60	Tie bay of Bsf-1 & Gokarna line (423-52) at New-Purnea S/s	11-09-2020	15:00	11-09-2020	18:00	ODB	POWERGRID ER-I	CT Oil Sampling			
61	Main bay of East side Converter Transformer (CWD50Q51)	11-09-2020	09:00	11-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
62	315 MVA ICT#4 400KV Main Bay at Subhasgram	11-09-2020	09:00	11-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 412 Bay			
63	400 KV ICT # 1 & 2 Tie Bay (Bay No-408) at Rengali	12-09-2020	08:00	12-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
64	400 KV tie bay of Mendhasal-Pandiabili -1 & Mendhasal Pandiabili -2 at Mendhasal sub-station.	12-09-2020	08:00	12-09-2020	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM test of CB and tan delta & cap test of CT.			
65	400kV, CHAIBASA-1 LINE Main Bay (409)at Jamshedpur	12-09-2020	09:30	12-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			
66	Main Bay of 400kV Malda-2 (413-52) at New-Purnea S/s	12-09-2020	09:00	12-09-2020	12:00	ODB	POWERGRID ER-I	CT Oil Sampling			
67	Tie Bay of 400kV Malda-2 & Bus Reactor-1 (414-52) at New-Purnea S/s	12-09-2020	12:00	12-09-2020	15:00	ODB	POWERGRID ER-I	CT Oil Sampling			
68	Main Bay of 400kV Bus Reactor-1 (415-52) at New-Purnea S/s	12-09-2020	15:00	12-09-2020	18:00	ODB	POWERGRID ER-I	CT Oil Sampling			
69	103 Bay (Main Bay of Chhatarpur Line-1) at Daltonganj S/s	12-09-2020	09:30	12-09-2020	17:30	ODB	POWERGRID ER-I	Repeat DCRM			
70	Line Reactor bay of Allahabad north Side (CWL22)	12-09-2020	09:00	12-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
71	500 MVA ICT#5 400KV Main Bay at Subhasgram	12-09-2020	09:00	12-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 415 Bay			
72	400kV Main Bay (404) of Durgapur-1 at Maithon	12-09-2020	09:30	27-09-2020	17:30	OCB	POWERGRID ER-II	Bay upgradation work under ERSS-XVII			
73	400 KV ICT # 2 Main Bay (Bay No-409) at Rengali	14-09-2020	08:00	14-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			

74	765KV Sundargarh-Angul ckt-3 along with its LR (Main Bay-710 ,Tie Bay-711) at Sundargarh	14-09-2020	08:00	14-09-2020	17:00	ODB	ER-II/Odisha/Sundergarh	Line Reactor & Line AMP	NLDC		
75	Main bay(407) of 400 kV Baripada-Duburi line at Baripada	14-09-2020	08:00	15-09-2020	17:30	OCB	ER-II/Odisha/BARIPADA S/S	Gasket replacement			
76	405 Bay TIE Bay of Purnia 2 and Balia 1 at Biharsharif SS	14-09-2020	10:00	16-09-2020	18:00	OCB	POWERGRID ER-I	CB Overhauling			
77	Main Bay of 400kV Malda-1 (416-52) at New-Purnea S/s	14-09-2020	09:00	14-09-2020	12:00	ODB	POWERGRID ER-I	CT Oil Sampling			
78	Tie Bay of 400kV Malda-1 & Bus Reactor-2 (417-52) at New-Purnea S/s	14-09-2020	12:00	14-09-2020	15:00	ODB	POWERGRID ER-I	CT Oil Sampling			
79	Main Bay of 400kV Farakka (419-52) at New-Purnea S/s	14-09-2020	15:00	14-09-2020	18:00	ODB	POWERGRID ER-I	CT Oil Sampling			
80	Main bay (412) of 400 kv NRNC-RNC CKT-3 at New-Ranchi S/s	14-09-2020	09:00	14-09-2020	17:00	ODB	POWERGRID ER-I	AMP			
81	406 Bay (Main Bay of ICT-2) at Daltonganj	14-09-2020	09:30	14-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP			
82	Main Bay of Allahabad north (CWD20Q52)	14-09-2020	09:00	14-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
83	400 KV Haldia Line#1 Main Bay at Subhasgram	14-09-2020	09:00	14-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 416 Bay			
84	710 Main Bay of 765KV Sundargarh-Angul ckt-3 at Sundargarh	15-09-2020	08:00	18-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
85	400kV ICT#3 (1500MVA) Main Bay 413 at at Angul	15-09-2020	08:00	15-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP			
86	220kV Side of ICT-2 Bay (206-52) at New-Purnea S/s	15-09-2020	09:00	15-09-2020	12:00	ODB	POWERGRID ER-I	CT Oil Sampling			
87	Main Bay of 400kV Gokarna (422-52) at New-Purnea S/s	15-09-2020	12:00	15-09-2020	15:00	ODB	POWERGRID ER-I	CT Oil Sampling			
88	Tie Bay of 400kV Farakka &Biharshariff-2 (420-52) at New-Purnea S/s	15-09-2020	15:00	15-09-2020	18:00	ODB	POWERGRID ER-I	CT Oil Sampling			
89	Main bay (413) of 765/400 kv ICT-1 ,400 SIDE at New-Ranchi S/s	15-09-2020	09:00	15-09-2020	17:00	ODB	POWERGRID ER-I	AMP	NLDC		
90	400 KV Subhasgram Rajarhat line Main Bay at Subhasgram	15-09-2020	09:00	15-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 404 Bay			
91	723 Tie Bay of 765KV Sundargarh-Dharamjayhgarh ckt-2 & 765KV NTPC Darlipalli ck-1 at Sundargarh	16-09-2020	08:00	19-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
92	Tie Bay (408) of 400KV Baripada-Duburi & Baripada-Jamshedpur line at Baripada	16-09-2020	08:00	17-09-2020	17:30	OCB	ER-II/Odisha/BARIPADA S/S	Gasket replacement			
93	Main Bay of 400kV Bus Reactor-1 (415-52) at New-Purnea S/s	16-09-2020	09:30	16-09-2020	18:00	ODB	POWERGRID ER-I	CB MECHANISM BOX OVERHAULING			
94	101 Bay (IV side of ATR-2) at Daltonganj S/s	16-09-2020	09:30	16-09-2020	17:30	ODB	POWERGRID ER-I	Repeat DCRM			
95	Tie Bay of 400 KV Subhasgram Rajarhat line and 315 MVA ICT#2 Bay at Subhasgram	16-09-2020	09:00	16-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 405 Bay			
96	400 KV Indravati - BR # 1 Tie Bay (Bay No-411) at Rengali	17-09-2020	08:00	17-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
97	765kV Angul- Sundargarh Ckt 4Line Reactor Bay 720R at Angul	17-09-2020	08:00	17-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC		
98	Tie Bay of 400kV Kishanganj-1 & Muzaffarpur-2 (408-52) at New-Purnea S/s	17-09-2020	09:30	17-09-2020	18:00	ODB	POWERGRID ER-I	CB MECHANISM BOX OVERHAULING			
99	Main bay (406) of 400 kv NRNC-RNC CKT-1 at New-Ranchi S/s	17-09-2020	09:00	17-09-2020	17:00	ODB	POWERGRID ER-I	AMP			

100	Pusauli-Dehri MAIN bay AT SASARAM	17-09-2020	09:00	17-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
101	400 KV Sagardighi line Main Bay at Subhasgram	17-09-2020	09:00	17-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 401 Bay			
102	125MVAR B/R Main Bay (406 BAY) at Balangir	18-09-2020	08:00	18-09-2020	17:00	ODB	ER-II/Odisha/Balangir	AMP work			
103	Main Bay (410) of 400 kV Baripada-Pandiabili line at Baripada	18-09-2020	08:00	19-09-2020	17:30	OCB	ER-II/Odisha/BARIPADA S/S	Gasket replacement			
104	765kV Angul- Sundargarh Ckt 3Line Reactor Bay 723R at Angul	18-09-2020	08:00	18-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC		
105	409 Bay (Main Bay of ICT-1) at Daltonganj	18-09-2020	09:30	18-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP			
106	Main Bay of Daltonganj-I (CWD60Q51)	18-09-2020	09:00	18-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
107	Tie Bay of 400 KV Sagardighi line and 315 MVA ICT#1 Bay at Subhasgram	18-09-2020	09:00	18-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 402 Bay			
108	400 KV Indravati Main Bay (Bay No-412) at Rengali	19-09-2020	08:00	19-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
109	765KV Sundargarh-Angul ckt-4 along with its LR (Main Bay-707 ,Tie Bay-708) at Sundargarh	19-09-2020	08:00	19-09-2020	17:00	ODB	ER-II/Odisha/Sundergarh	Line Reactor & Line AMP	NLDC		
110	765kV Angul_Sundargarh Ckt 4 Main Bay 720 at Angul	19-09-2020	08:00	24-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	SF6 Gas leakage rectification	NLDC		
111	724 Main Bay of 765KV Sundargarh-Dharamjaygarh ckt-2 at Sundargarh	20-09-2020	08:00	23-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
112	Tie Bay Of 400 kV Baripada-Pandiabili & Baripada-TISCO line at Baripada	20-09-2020	08:00	21-09-2020	17:30	OCB	ER-II/Odisha/BARIPADA S/S	Gasket replacement			
113	220 KV ICT # 1 Main Bay (Bay No-201) at Rengali	21-09-2020	08:00	21-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
114	Tie Bay of 400kV Malda-2 & Bus Reactor-1 (414-52) at New-Purnea	21-09-2020	09:30	21-09-2020	18:00	ODB	POWERGRID ER-I	CB MECHANISM BOX OVERHAULING			
115	765 KV LINE REACTOR BAY (707) at Sasaram S/s	21-09-2020	09:00	21-09-2020	18:00	ODB	POWERGRID ER-I	AMP work	NLDC		
116	132 kV Bay Bay 107 & 107-L at Lakhisarai S/s	21-09-2020	09:30	20-09-2020	17:30	ODB	POWERGRID ER-I	AMP Works			
117	400kV Main Bay of Sagardighi-1 at Baharampore	21-09-2020	09:00	21-09-2020	17:00	ODB	POWERGRID ER-II	CB Testing/Maintenance			
118	125MVAR B/R Tie Bay (40506 Bay) at Balangir	22-09-2020	08:00	22-09-2020	17:00	ODB	ER-II/Odisha/Balangir	AMP work			
119	ICT#2 400KV Main Bay (403) at OHPC S/Y	22-09-2020	08:00	22-09-2020	17:00	ODB	ER-II/Odisha/Indravati	AMP works of 400KV ICT#2 Main Bay (403) at OHPC S/Y. During this shutdown Power flow from ICT#2 will be Interrupted. No Tie bay is in service at OHPC Yard.	GRIDCO		
120	ICT#2 220KV Main Bay (205) at OHPC S/Y	22-09-2020	08:00	22-09-2020	17:00	ODB	ER-II/Odisha/Indravati	AMP works of 220KV ICT#2 Main Bay (205) at OHPC S/Y. During this shutdown Power flow from ICT#2 will be Interrupted. No Transfer Bay is in service at OHPC Yard.	GRIDCO		
121	Main bay (410) & tie bay (411) of 400KV future ICT at Pandiabili	22-09-2020	08:00	22-09-2020	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	AMP Work of 410 bay			

122	220 Kv Bus Section bay at Durgapur	22-09-2020	09:00	22-09-2020	17:30	ODB	POWERGRID ER-II	CB spring mechanism overhauling & AMP work			
123	400kV Tie Bay of Sagardighi-1 at Baharampore	22-09-2020	09:00	22-09-2020	17:00	ODB	POWERGRID ER-II	CB Testing/Maintenance			
124	220KV Bay#204 (future LINE BAY) at Keonjhar	23-09-2020	08:00	23-09-2020	17:00	ODB	Keonjhar	Rectification of CB: found faulty timing. (Shutdown will taken if not avail in AUG)			
125	220 KV ICT # 2 Main Bay (Bay No-202) at Rengali	23-09-2020	08:00	23-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
126	412 Bay (Main Bay of Bus Reactor) at Daltonganj	23-09-2020	09:30	23-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP			
127	400kV Main Bay of Sagardighi-2 at Baharampore	23-09-2020	09:00	23-09-2020	17:00	ODB	POWERGRID ER-II	CB Testing/Maintenance			
128	206 Bay of 220Kv Keonjhar-Ranki Line at Keonjhar	24-09-2020	08:00	24-09-2020	17:00	ODB	Keonjhar	Rectification of CB: found faulty timing. (Shutdown will taken if not avail in AUG)			
129	713 Main Bay of 765KV Sundargarh-Angul ckt-2 at Sundargarh	24-09-2020	08:00	27-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
130	Main Bay (103) of 132KVBaripada-Bhograi Line at Baripada	24-09-2020	08:00	24-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
131	TIE BAY OF ICT-2 & BIHAR SHARIF#1 (CWD70Q50)	24-09-2020	09:00	24-09-2020	18:00	ODB	POWERGRID ER-I	AMP			
132	400KV Future Main bay of Jamshedpur-2(422) at Durgapur	24-09-2020	09:00	24-09-2020	17:30	ODB	POWERGRID ER-II	CT replacement work			
133	400kV Tie Bay of Sagardighi-2 at Baharampore	24-09-2020	09:00	24-09-2020	17:00	ODB	POWERGRID ER-II	CB Testing/Maintenance			
134	220KV Bay#207 (Bus coupler) at Keonjhar	25-09-2020	08:00	28-09-2020	17:00	OCB	Keonjhar	Rectification of CB: found DCRM problem. (Shutdown will taken if not avail in AUG)	GRIDCO		
135	220 KV Transfer Bus coupler Bay (Bay No-203) at Rengali	25-09-2020	08:00	25-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
136	716 Main Bay of 765KV Sundargarh-Angul ckt-1 at Sundargarh	25-09-2020	08:00	28-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
137	Tie bay of 400kv Maithon-MPL Ckt#2/ST-1(Bay no 405) at MPL	25-09-2020	09:00	10-10-2020	19:00	OCB	POWERGRID ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.	MPL	Detail work schedule should be given	
138	220 KV Bus-coupler Bay (Bay No-204)at Rengali	26-09-2020	08:00	26-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
139	765kV Angul-Sundargarh Ckt 4 Tie Bay 719 at Angul	26-09-2020	08:00	30-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	SF6 Gas leakage rectification	NLDC		
140	400 Kv TBC bay at Bidhannagar	27-09-2020	09:00	27-09-2020	15:00	ODB	WBSETCL	Maintenance work			
141	720 Tie Bay of 765KV Sundargarh-Dharamjayhgarh ckt-1 & 765KV NTPC Darlipalli ck-2 at Sundargarh	27-09-2020	08:00	30-09-2020	17:00	OCB	ER-II/Odisha/Sundergarh	SIEMENS Centre guide valve modification work in Mechanism drive and AMP	NLDC		
142	200 KV OPTCL # 1 Main Bay (Bay No-208) at Rengali	28-09-2020	08:00	28-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
143	220KV Bay#201 (TBC Bay) at Keonjhar	29-09-2020	08:00	29-09-2020	17:00	ODB	Keonjhar	Re-checking and rectification work of CRM (Shutdown will taken if not avail in AUG)			
144	Transfer Bus coupler Bay(107) at Baripada	29-09-2020	08:00	29-09-2020	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works			
145	400KV Tie Bay of PUNAT 1(JIGME INTERIM-1) & 400KV PUNAT 2(JIGME INTERIM-2) at Alipurduar	29-09-2020	08:00	29-09-2020	18:00	ODB	POWERGRID ER-II	Bay AMP Work			
146	200 KV OPTCL # 2 Main Bay (Bay No-207) at Rengali	30-09-2020	08:00	30-09-2020	17:00	ODB	ER-II/Odisha/Rengali	For Isolator alignment work and interlock checking			
147	400/220kV, ICT-1 Main Bay (410)at Jamshedpur	30-09-2020	09:30	30-09-2020	17:30	ODB	POWERGRID ER-I	Bay AMP work at Jamshedpur.			

ERLDC, KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED(EXCEPT BAY) IN 172nd OCC MEETING OF ERPC

Sl	NAME OF THE ELEMENTS	FROM		TO		TYPE (ODB/OCC)	S.D availing agency	Reason	Comment From requester	SUBJECT TO CONSENT FROM AGENCY	PRE MEETING COMMENTS OF ERLDC	COMMETNS AT MEETING
		DATE	TIME	DATE	TIME							
1	765 kV New Ranchi-Dharamjaygarh CKT-I	31-08-2020	08:00	05-09-2020	17:00	ODB	POWERGRID, ER-1	For Tower Strengthning work TOTAL - 166 TOWERS, COMPLETED - NIL				
2	315MVA, ICT-2 at Balangir	01-09-2020	08:00	09-09-2020	17:00	OCB	ER-II/Odisha/Balangir	Internal inspection and Bushings lead connection checking due to rise in fault gases.		Gridco	Only 250MW will be allowed through other ICT.	Day wise work plan schedule must be shared, number of working days needs to be further optimized
3	3 X 166.7 MVA COUPLING TRANSFORMER at Jeypore	01-09-2020	09:00	01-09-2020	13:00	ODB	ER-II/Odisha /Jeypore	Unit change over of Coupling Transformer				
4	A/R OF 400KV Sundargarh-Raigarh Ckt #1&3	01-09-2020	08:00	14-09-2020	17:00	ODB	ER-II/Odisha/Sundargarh	For PID Testing of Porcelain Insulator. Only Auto reclose		NLDC		
5	315 MVA ICT#2 at Rourkela	01-09-2020	08:00	15-09-2020	17:00	OCB	ER-II/ODISHA/ROURKELA	Erection works related to Parallelling of ICTs		Gridco	Discussed many times. 250MW will be allowed through other ICT.	Day wise work plan schedule must be shared, number of working days needs to be further optimized
6	A/R of 400 kV Baripada-Duburi Line	01-09-2020	07:00	31-09-2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Additional Requirement)"				
7	A/R of 400 kV Dubur-Pandiabili Line	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Additional Requirement)"				
8	A/R of 400 kV Pandiabili-Mendhasal Ckt 2	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Additional Requirement)"				
9	A/R of 765 kV Angul-Srikakulam Ckt 1	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"		NLDC		
10	A/R of 400 kV Angul-GMR Ckt 1	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"				
11	A/R of 400 kV Angul-JITPL Ckt 1	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"				
12	A/R of 400k kV Angul-GMR Ckt 2	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"				
13	A/R of 400 kV Angul-JITPL Ckt 2	01-09-2020	07:00	31/09/2020	18:00	ODB	ER-II/Odisha	Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"				
14	220KV Patna(PG)-Fathua S/C T/L	01-09-2020	07:00	05-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Fathua will avail power from 220 Kv D/C Biharsharif.			ER-I may plan their maintenance activity of along side BSPTCL
15	315 MVA ICT2 at BIHARSHARIF SS	01-09-2020	10:00	04-09-2020	18:00	ODB	POWERGRID ER-I	Bushing replacement		BSEB	All other ICTs at Biharsariff(PG) shall remain in service.	May be allowed with consent from BSEB
16	220 kV side of ICT-2 (206-52) at New-Purnea S/s	01-09-2020	10:00	01-09-2020	18:00	ODB	POWERGRID ER-I	CB, CT AMP work		BSEB		
17	400 KV Maithon -Gaya Ckt 2	01-09-2020	09:00	04-09-2020	18:00	OCB	POWERGRID ER-I	Reconductoring of Middle R phase twin HTLS conductor (837 mtr span) between Tower no 40 and 41 Multi Ckt Tower in hilly terrain and Jungle Area damaged due to slipping of steel joint of HTLS conductor in heavy wind cyclonic condition			Photographs may be submitted. Any other ckt shutdown is required?	Hand Sketch of Multicircuit section may be provided

18	400 KV Gaya-Koderma Ckt-1	01-09-2020	09:00	04-09-2020	18:00	ODB	POWERGRID ER-I	Reconductoring of Middle R phase twin HTLS conductor (837 mtr span) between Tower no 40 and 41 Multi Ckt Tower in hilly terrain and Jungle Area heavy damaged due to slipping of steel joint OF HTLS conductor in heavy wind cyclonic condition		DVC	Photograph may be given. Multiple element outage from Gaya should be avoided	Hand Sketch of Multicircuit section may be provided
19	A/R OF 400 KV MAITHON GAYA CKT 1	01-09-2020	09:00	04-09-2020	18:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER				
20	A/R OF 400 KV GAYA KODERMA CKT-II	01-09-2020	09:00	04-09-2020	18:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		DVC		
21	A/R OF 400 KV RANCHI MAITHON RB -II	01-09-2020	09:00	30-09-2020	17:30	ODB	POWERGRID ER-I	OPGW INSTALLATION WORK				
22	A/R OF 400 KV BIHARSHARIF KODERMA II	01-09-2020	09:00	30-09-2020	17:30	ODB	POWERGRID ER-I	OPGW INSTALLATION WORK		DVC		
23	A/R OF BARH MOTIHARI II	01-09-2020	09:00	30-09-2020	17:30	ODB	POWERGRID ER-I	OPGW INSTALLATION WORK				
24	A/R OF MOTIHARI GORAKHPUR II	01-09-2020	09:00	30-09-2020	17:30	ODB	POWERGRID ER-I	OPGW INSTALLATION WORK		NLDC		
25	A/R OF 400 KV BIHARSHARIF-BANKA-II	01-09-2020	09:00	30-09-2020	17:30	ODB	POWERGRID ER-I	OPGW INSTALLATION WORK				
26	A/R OF 400 KV PATNA-KISANGANJ-II	01-09-2020	09:00	30-09-2020	17:30	ODB	POWERGRID ER-I	OPGW INSTALLATION WORK				
27	220 KV Alipurduar - Salakati 1 &2	01-09-2020	06:00	02-09-2020	18:00	ODB	POWERGRID ER-II	Replacement of earth wire between section 425-426		NLDC	Subject to NERPC approval and testing of NEA.	May be availed after Agra-APD/BNC High power testing
28	315MVA ICT#1 at Subhasgram	01-09-2020	09:00	01-09-2020	17:00	ODB	POWERGRID ER-II	Retrofitting of REF Relay as existing Relay is static in nature and for improving system relaibility, Numerical Relay installation will increase the system performance.		WB		
29	A/R in non-auto mode in 400KV TeestaIII-Kishanganj-I	01-09-2020	07:00	30-09-2020	18:00	ODB	POWERGRID ER-II	For OPGW installation Work			After high hydro	After High Hydro Season
30	A/R in non-auto mode in 400KV Malda-Farakka-II	01-09-2020	07:00	15-09-2020	18:00	ODB	POWERGRID ER-II	For OPGW installation Work				
31	A/R in non-auto mode in 132KV Rangpo-Chuzachen-I & II	01-09-2020	07:00	30-09-2020	18:00	ODB	POWERGRID ER-II	For OPGW installation Work			After high hydro	After High Hydro Season
32	400kv Maitthon Kahalgaon-1 Line	01-09-2020	09:30	04-09-2020	17:30	ODB	POWERGRID ER-II	Replacement of strung Bus from ACSR MOOSE to HTLS in Bay upgradation work under ERSS-XVII.				
33	400KV Mejia - Jamshedpur	01-09-2020	08:00	05-09-2020	18:00	ODB	POWERGRID ER-II	Insulator Replacement work		DVC		
34	400KV Maithon - Jamshedpur	01-09-2020	08:00	05-09-2020	18:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		
35	315 MVA ICT-1 at Kharagpur	02-09-2020	07:00	02-09-2020	16:00	ODB	WBSETCL	Maintenance Activity				
36	ICT-I (3x 105 MVA) at Jeypore	02-09-2020	08:00	02-09-2020	17:00	ODB	ER-II/Odisha /Jeypore	For changing ICT-I combination form Unit-I,II, IV to Unit-I , III & IV for charging Unit-III & Retrofitting works of Overcurrent, REF, Earth Fault Relay		GRIDCO		In the event of unit chageover after 6 months RIO certificate may be provided
37	400KV Sundargarh-Raigarh ckt-4	02-09-2020	10:00	02-09-2020	17:00	ODB	ER-II/Odisha/Sundargarh	Relay Testing & AMP work		NLDC		
38	132 KV Lakhisarai(PG)-Jamui ckt 1	02-09-2020	07:00	02-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Jamui will avail power from Lakhisari (PG)ckt2.			ER-I may plan their maintenance activity of along side BSPTCL
39	400kV Mendhasal- Meramundali ckt-I	02-09-2020	09:00	02-09-2020	16:00	ODB	OPTCL	Fitting of new earth switch mechanism box(retro fitting work) at Mendhasal end & trimming of tree branches under the line	400kV Mendhasal-Meramundali ckt-II will remain in service			
40	220kV Bus -1 at New Purnea S/s	02-09-2020	10:00	02-09-2020	18:00	ODB	POWERGRID ER-I	AMP work		BSEB		
41	400KV NABINAGAR-PATNA-1 LINE	02-09-2020	09:00	02-09-2020	18:00	ODB	POWERGRID ER-I	FOR CLEANING BIRD EXCRETA			Photograph may be given	
42	A/ROF 400 KV NABINAGAR PATNA -II	02-09-2020	09:00	02-09-2020	18:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER				
43	400 KV PATNA BALIA III	02-09-2020	08:00	03-09-2020	18:00	ODB	POWERGRID NR-3	Erection of Fire wall between Patna-3 & 4 Line Reactor at Balia Substation.		NLDC	At present firewall is not there??? Outage attribution?	
44	400 KV PATNA BALIA IV	02-09-2020	08:00	03-09-2020	18:00	ODB	POWERGRID NR-3	Erection of Fire wall between Patna-3 & 4 Line Reactor at Balia Substation.		NLDC	At present firewall is not there???Outage attribution?	

45	132KV BUS sectionalizer -1 at Rangpo	02-09-2020	09:00	02-09-2020	17:00	ODB	POWERGRID ER-II	AMP Works				
46	315MVA ICT#2 at Subhasgram	02-09-2020	09:00	02-09-2020	17:00	ODB	POWERGRID ER-II	Retrofitting of REF Relay as existing Relay is static in nature and for improving system relaibility, Numerical Relay installation will increase the system performance.		WB		
47	315 MVA ICT-1 at Jeerat	03-09-2020	07:00	03-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
48	400 kV Rourkela Chaibasa 2 Line	03-09-2020	09:00	03-09-2020	09:15	ODB	ER-II/ODISHA/ROURKELA	For taking associated 50 MVAr Line Reactor "Out of Service"				
49	400kV, 50MVAr Line Reactor of Chaibasa -2 (409LR) at Rourkela	03-09-2020	09:00	03-09-2020	18:00	ODB	ER-II/ODISHA/ROURKELA	Fire Fighting Renovation work (Gasket replacement in Pipes, Nozzle replacement/cleaning, Spray testing etc.)			Reactor SD will be done alongwith line.	
50	400 kV Rourkela Chaibasa 2 Line	03-09-2020	17:45	03-09-2020	18:00	ODB	ER-II/ODISHA/ROURKELA	For taking associated 50 MVAr Line Reactor "In Service"				
51	400kV BUS-I at Jeypore	03-09-2020	08:00	03-09-2020	17:00	ODB	ER-II/Odisha /Jeypore	AMP of 400kV BUS I		NLDC	TTC/ATC revision shall be required.	
52	765KV,240MVAR BR-I at Sundargarh	03-09-2020	08:00	03-09-2020	13:00	ODB	ER-II/Odisha/Sundargarh	Spare changeover		NLDC		
53	132 KV Lakhisarai(PG)-Jamui ckt 2	03-09-2020	07:00	03-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Jamui will avail power from Lakhisari (PG)ckt1.			ER-I may plan their maintenance activity of along side BSPTCL
54	400kV Mendhasal- Meramundali ckt-II	03-09-2020	07:00	03-09-2020	17:00	ODB	OPTCL	Alignment of line earth switch mechanism box at Mendhasal end & trimming of tree branches under the line. Replacement of R & B-phase Line CVT at Meramundali end	400kV Mendhasal-Meramundali ckt-I will remain in service			
55	220kV Bus -2 at New Purnea S/s	03-09-2020	10:00	03-09-2020	18:00	ODB	POWERGRID ER-I	AMP work		BSEB		
56	132 kv Rangpo Chuzachen Line -1	03-09-2020	09:00	03-09-2020	17:00	ODB	POWERGRID ER-II	AMP Works		Chuzachen	May be avoided during hygh hydro	
57	400KV Binaguri - Bongaigaon I & II Line	03-09-2020	06:00	06-09-2020	18:00	ODB	POWERGRID ER-II	Stringing at crossing between Loc. No. 11/0 - 12/0 of Jigmeling line and loc. No. 273-274 of Binaguri - Bongaigaon Line		NLDC	Subject to NERPC approval and testing of HVDC NEA..	
58	400/220KV 315 MVA ICT-3 or ICT-5 at Malda	03-09-2020	08:00	02-11-2020	17:00	OCB	POWERGRID ER-II	ERSS-XVII-B Constructional work		WB	Alternate 315MVA ICT at Malda (PG) shall remain in service. Bus aplitting arrengment will be done at Dalkhola(PG) to give un-interupted power to Malda(WB) & Gazole.	Deferred till Durga Puja is over
59	400KV BUS-II at Malda	03-09-2020	08:00	04-09-2020	17:00	OCB	POWERGRID ER-II	ERSS-XVII-B Constructional work (400KV TBC)		WB	Alternate 400kV Bus at Malda (PG) shall remain in service. Bus splitting arrengment will be done at 220kV Dalkhola(PG) for un-interupted power supply to Malda(WB) & Gazole.	Before availing shutdown TBC at Malda may be returned
60	315MVA ICT#3 at Subhasgram	03-09-2020	09:00	03-09-2020	17:00	ODB	POWERGRID ER-II	OSR Canopy Installation		WB		
61	400KV Durgapur-Jamshedpur line	03-09-2020	10:00	04-09-2020	17:00	ODB	POWERGRID ER-II	Replacement of insulator at location -233 and rectification of other shutdown nature defects				
62	400kV Kharagpur-Chaibasa Ckt-1	04-09-2020	07:00	04-09-2020	16:00	ODB	WBSETCL	Maintenance Activity			Serlite is requested to finish any pending work	
63	400kV BUS-II at Jeypore	04-09-2020	08:00	04-09-2020	17:00	ODB	ER-II/Odisha /Jeypore	AMP of 400kV BUS II		NLDC	TTC/ATC revision shall be required.	
64	220 KV Dehri-Pushauli(PG) S/C T/L	04-09-2020	07:00	04-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Dehri will avail power from Gaya(PG)			ER-I may plan their maintenance activity of along side BSPTCL
65	132 KV Lakhisarai(PG)-Lakhisari ckt 1	04-09-2020	07:00	04-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Lakhisarai will avail power from Lakhisarai(PG) ckt2			ER-I may plan their maintenance activity of along side BSPTCL
66	Barh Kahalgaon Line # 1	04-09-2020	09:00	05-09-2020	17:00	OCB	BARH	For operation testing from SCADA & Auto Reclose relay testing & other testing and Annual maintenance of Bay equipments.			This line was out this month from 12 to 16. Barh should have finished its testing work.	
67	400KV KODERMA-GAYA-2 LINE	04-09-2020	09:00	04-09-2020	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF DISC INSULATOR DAMAGED MY MISCREANT		DVC	Photograph may be given. Multiple element outage from Gaya should be avoided	Hand Sketch of Multicircuit section may be provided
68	A/R OF 400 KV KODERMA GAYA-I	04-09-2020	09:00	04-09-2020	18:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		DVC		
69	66 KV Gangtok-Tadong Line	04-09-2020	09:00	04-09-2020	14:00	ODB	POWERGRID ER-II	For Annual AMP Works (CT Tan delta, CB DCRM and Timing)		Sikkim		

70	315MVA ICT#4 at Subhasgram	04-09-2020	09:00	04-09-2020	17:00	ODB	POWERGRID ER-II	OSR Canopy Installation		WB		
71	400 KV Bus 1 AT MOTIHARI	04-09-2020	08:00	05-09-2020	18:00	OCB	POWERGRID ER-I	Interconnection of Extension Bus (By POWERGRID)to existing Bus (DMTCL)		BSEB		
72	Arambag- NewPPSP 400 KV Ckt-1	05-09-2020	06:00	05-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
73	63MVAr Bus Reactor at Jeypore	05-09-2020	08:00	23-09-2020	17:00	OCB	ER-II/Odisha /Jeypore	Overhauling of 63MVAr Bus Reactor for arresting oil leakage				
74	315MVA ICT II at Keonjhar	05-09-2020	08:00	05-09-2020	17:00	ODB	Keonjhar	AMP WORKS		GRIDCO		
75	132 KV Lakhisarai(PG)-Lakhisari ckt 2	05-09-2020	07:00	05-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Lakhisarai will avail power from Lakhisarai (PG) ckt1			ER-I may plan their maintenance activity of along side BSPTCL
76	400 KV Gaya -Nabinagar Ckt-1 Transmission Line	05-09-2020	09:00	08-09-2020	18:00	ODB	POWERGRID ER-I	For Charging of LILO Chandauti Substation.				Detailed Work plan to be submitted
77	400 KV Gaya -Nabinagar Ckt-2 Transmission Line	05-09-2020	09:00	08-09-2020	18:00	ODB	POWERGRID ER-I	For Charging of LILO Chandauti Substation.				Detailed Work plan to be submitted
78	500MVA ICT-2 AT SASARAM	05-09-2020	09:00	05-09-2020	18:00	ODB	POWERGRID ER-I	CALIBRATION OF OTI & WTI SENSOR UNDER CONSTRUCTION PACKAGE		BSEB	500MVA ICT-1 AT SASARAM shall remain in service. Nadhokar load may be on Khaugal.	Deferred till Durga Puja is over
79	500 MVA ICT#5 at Subhasgram	05-09-2020	09:00	05-09-2020	17:00	ODB	POWERGRID ER-II	Buchholz Canopy Installation and and AMP of ICT#5		WB		
80	132 KV Kahalgaon(NTPC)-Kahalgaon(BSPTCL) S/C T/L	06-09-2020	07:00	06-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Kahalgaon (BSPTCL) will avail power from Goradih GIS.Consent from SLDC Ranchi will be required.	JSEB	Discussed so many times. Reason of non-availing may be given.	During source change over to Goradih Consent of JSEB will be required as there will be power interruption over Kahelgaon(BSEB)-Lalmatia line,ER-I may plan their maintenance activity of along side BSPTCL
81	315 MVA ICT3 at BIHARSHARIF SS	06-09-2020	10:00	09-09-2020	18:00	ODB	POWERGRID ER-I	OLTC overhauling		BSEB	All other ICTs at Biharsariff(PG) shall remain in service.	Deferred till Durga Puja is over
82	400KV Maithon - Jamshedpur	06-09-2020	08:00	10-09-2020	18:00	ODB	POWERGRID ER-II	Insulator Replacement work		DVC		
83	400KV Maithon - Mejia 3	06-09-2020	08:00	08-09-2020	18:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		
84	400 KV BUS 2 AT MOTIHARI	06-09-2020	08:00	07-09-2020	18:00	OCB	POWERGRID ER-I	Interconnection of Extension Bus (By POWERGRID)to existing Bus (DMTCL)		BSEB		
85	Arambag- NewPPSP 400 KV Ckt-2	07-09-2020	06:00	07-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
86	132 KV NBU - Siliguri(PG) Ckt	07-09-2020	07:00	07-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
87	315 MVA ICT-3 at Jeerat	07-09-2020	07:00	07-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
88	80MVAR BR-I at Keonjhar	07-09-2020	08:00	07-09-2020	17:00	ODB	Keonjhar	CSD tuning (Shutdown will taken if not avail in AUG)				
89	220 KV DMTCL(Darbhanga)-Laukahi D/C T/L	07-09-2020	07:00	15-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Laukahi will avail power from Madhepura.			ER-I may plan their maintenance activity of along side BSPTCL
90	220 KV DMTCL(Darbhanga)-Ujayarpur S/C T/L	07-09-2020	07:00	09-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Ujayarpur will avail power from MTPS/Begusarai without load restriction.			ER-I may plan their maintenance activity of along side BSPTCL
91	400kV Jamshedpur-Baripada line	07-09-2020	09:30	07-09-2020	17:30	ODB	POWERGRID ER-I	Replacement of insulator damaged by miscreants				
92	A/R OF TISCO BARIPADA	07-09-2020	09:30	07-09-2020	17:30	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		DVC		
93	220KV BUS-BAR-I at Ranchi S/s	07-09-2020	09:30	07-09-2020	17:00	ODB	POWERGRID ER-I	AMP OF BUS BAR-1, DURING S/D ALL LOAD WILL BE THROUGH 220 KV BUS BAR-II ONLY		JSEB		JSEB may provide load shifting arrangement in case other bus trips in (n-1)
94	500MVA ICT2_409T at Patna S/s	07-09-2020	09:30	07-09-2020	18:00	ODB	POWERGRID ER-I	Online DGA installation, commissioning of Backup Impedance Relay		BSEB	ICT-1 & 3 shall remain in service. Fatuha load may be shifted over Biharsariff	May be allowed with consent from BSEB
95	765 kV New Ranchi-Dharamjaygarh CKT-I	07-09-2020	08:00	12-09-2020	17:00	ODB	POWERGRID, ER-1	For Tower Strengthning work TOTAL - 166 TOWERS, COMPLETED - NIL				
96	765KV GAYA-VARANASI-II	07-09-2020	09:00	07-09-2020	18:00	ODB	POWERGRID ER-1	Insulator damaged by miscreants		NLDC	Photographs may be provided	
97	50MVA ICT-I at Gangtok	07-09-2020	09:00	07-09-2020	14:00	ODB	POWERGRID ER-II	Relay Retrofitting		Sikkim		
98	400 KV Farakka-Berhampore-1	07-09-2020	09:00	07-09-2020	17:00	ODB	POWERGRID ER-II	Relay checking and Maintenance				
99	80 MVAR LR-2 with 400kV GOKARNO Line at Rajarhat	07-09-2020	09:00	07-09-2020	17:00	ODB	POWERGRID ER-II	AMP work of GIS Bay and related equipment prior to completion of one year		WB	May be availed after commissioning of 400kV Sagardighi-Gokarno-DC	
100	100 MVAR Bus Reactor at 400/220/132 KV WBSETCL Jeerat SS	07-09-2020	09:00	07-09-2020	17:00	ODB	POWERGRID ER-II	AMP of 100 MVAR Bus Reactor		WB		

101	A/R in non auto mode in 220KV Dalkhola-Kishanganj D/C TL	07-09-2020	07:00	17-09-2020	18:00	ODB	POWERGRID ER-II	For diamonding arrangement for earthwire in 400KV Teesta3-Kishanganj TL in the section T-312/2 to T-312/3 with 220KV Dalkhola-Kishanganj D/C TL & 220KV Siliguri-Kishanganj D/C TL				
102	A/R in non auto mode in 220KV Siliguri-Kishanganj D/C TL	07-09-2020	07:00	17-09-2020	18:00	ODB	POWERGRID ER-II	For diamonding arrangement for earthwire in 400KV Teesta3-Kishanganj TL in the section T-312/2 to T-312/3 with 220KV Dalkhola-Kishanganj D/C TL & 220KV Siliguri-Kishanganj D/C TL				
103	400kV Jamshedpur-Tata(Tisco) line	07-09-2020	09:30	07-09-2020	14:00	ODB	POWERGRID ER-I	Replacement of Future bay (420) Bus-2 side porcelain insulator string with Polymer insulator string at Jamshedpur ss switchyard due to high pollution. Both outages needs simultaneously due to induction and less clearance.		DVC		
104	765kv/400KV , 1500MVA ICT-1 at Sundargarh	08-09-2020	08:00	08-09-2020	12:30	ODB	ER-II/Odisha/Sundergarh	To make R Ph out of service to attend in oil leakage and spare ICT changeover in place of R Ph		NLDC		
105	400KV Sundargarh-Raigarh Ckt #1	08-09-2020	08:00	08-09-2020	17:00	ODB	ER-II/Odisha/Sundergarh	TL Maint work and Jumper replacenet		NLDC		
106	400kV Koderma-Bokaro Ckt#2	08-09-2020	09:00	08-09-2020	17:00	ODB	DVC	for preventive maintenance				
107	400 kV Kh- Barh # 2	08-09-2020	09:00	09-09-2020	17:00	OCB	KHSTPP	Bay maintenance & testing				
108	Bus Reactor	08-09-2020	09:00	13-09-2020	17:00	OCB	BARH	Annual maintenance of Bus Reactor				
109	315 MVA ICT-I at Meramundali	08-09-2020	08:00	08-09-2020	17:00	ODB	OPTCL	Maintenance work 400kV Side Line isolator and replacement of 220kV side Y-ph drop of line isolator	315 MVA ICT-II will remain in service			
110	220 KV Ara-Khagaul ckt_2	08-09-2020	08:00	08-09-2020	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF FLASHED INSULATOR		BSEB		
111	A/R OF 220 KV ARA KHAGAUL CKT-I	08-09-2020	08:00	08-09-2020	17:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		BSEB		
112	400kv SASARAM DALTONGANJ CKT-II	08-09-2020	09:30	08-09-2020	17:30	ODB	POWERGRID ER-I	REPLACEMENT OF FLASHED INSULATOR				
113	A/R OF 400 KV SASARAM DALTONGANJ CKT-I	08-09-2020	09:30	08-09-2020	17:30	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER				
114	500MVA ICT1_412T at Patna S/s	08-09-2020	09:30	08-09-2020	18:00	ODB	POWERGRID ER-I	Commissioning of Backup Impedance Relay			ICT-2 & 3 shall remain in service. Fatuha load may be shifted over Biharsariff	May be allowed with consent from BSEB
115	765 KV Gaya -Varanasi-I	08-09-2020	09:00	08-09-2020	18:00	ODB	POWERGRID ER-1	Tower Strengthening works. Out of 146 Tower locations , 145 completed. Balance 1 location.		NLDC	Outage attributed to Powergrid or not?	
116	400 KV PATNA BALIA III	08-09-2020	08:00	09-09-2020	18:00	ODB	POWERGRID NR-3	Erection of Fire wall between Patna-3 & 4 Line Reactor at Balia Substation.		NLDC	Outage attributed to Powergrid or not?	
117	400 KV PATNA BALIA IV	08-09-2020	08:00	09-09-2020	18:00	ODB	POWERGRID NR-3	Erection of Fire wall between Patna-3 & 4 Line Reactor at Balia Substation.		NLDC	Outage attributed to Powergrid or not?	
118	400 KV PATNA KISHENGANJ CKT-II	08-09-2020	08:00	08-09-2020	18:00	ODB	POWERGRID, ER-1	REMOVAL OF AVIATION GLOBULES B/W LOC 895-896 UNDER ULDC OPGW PACKAGE.		Flow of other line may crosss 500 MW and it may need to be open too due to present limitation of line loading	Outage attributed to Powergrid or not?	May be allowed after high hydro season, Hand Sketch of multicircuit section may be provided
119	400 KV PATNA NABINAGAR D/C	08-09-2020	08:00	08-09-2020	18:00	ODB	POWERGRID, ER-1	TO FACILITATE THE SHUTDOWN OF PATNA KISHENGANJ CKT-II CONSIDERING POWER LINE CROSSING OF PATNA NABINAGAR D/C LINE W.R.T. PATNA KISHENGANJ D/C LINE AT THE WORKING LOCATION.				
120	400 kV Bongaigaon-Alipurduar Line-1	08-09-2020	08:00	08-09-2020	16:00	ODB	POWERGRID NER	Relay Testing and Bay AMP at Bongaigaon substation		NLDC		

121	400 kV FARAKKA-DURGAPUR-II	08-09-2020	09:00	08-09-2020	17:00	ODB	POWERGRID ER-II	Rectification of shut down nature defects in various locations in Transmission line.				
122	315 MVA ICT-3 at Durgapur	08-09-2020	09:00	10-09-2020	17:00	OCB	POWERGRID ER-II	Oil Flow Pump replacement works with oil drain & oil filtration.		DVC		
123	80 MVAR LR-1 with 400kV FARAKKA Line at Rajarhat	08-09-2020	09:00	08-09-2020	17:00	ODB	POWERGRID ER-II	AMP work of GIS Bay and related equipment prior to completion of one year		WB	May be availed after commissioning of 400kV Sagardighi-Gokarno-DC	
124	400KV BUS-I at Malda	08-09-2020	08:00	09-09-2020	17:00	ODB	POWERGRID ER-II	ERSS-XVII-B Constructional work (400KV TBC)		WB	Alternate 400kV Bus at Malda (PG) shall remain in service. Bus splitting arrengment will be done at 220kV Dalkhola(PG) for un-interupted power supply to Malda(WB) & Gazole.	Before availing shutdown TBC at Malda may be returned
125	50 MVAR Sagardighi Line Reactor at Subhasgram	08-09-2020	09:00	08-09-2020	17:00	ODB	POWERGRID ER-II	Retrofitting of REF Relay and OSR Canopy Installation		WB	Please avail the shutdown alongwith line.	
126	132 KV Bus 1 AT MOTIHARI	08-09-2020	08:00	09-09-2020	18:00	OCB	POWERGRID ER-I	Interconnection of Extension Bus (By POWERGRID)to existing Bus (DMTCL)		BSEB		
127	Arambag-BKTPP 400 KV Ckt	09-09-2020	06:00	09-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
128	400KV Sundargarh-Raigarh Ckt #2	09-09-2020	08:00	09-09-2020	17:00	ODB	ER-II/Odisha/Sundargarh	TL Maint work		NLDC		
129	220 kV Roukela-Tarkera 2	09-09-2020	08:00	09-09-2020	11:00	ODB	ER-II/ODISHA/ROURKELA	Line Bay AMP		GRIDCO		
130	400 KV RANCHI-SIPAT-2 LINE	09-09-2020	09:30	09-09-2020	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF FLASHED INSULATOR		NLDC	Location details to be shared.WRPC approval required	
131	A/R of 400 KV RANCHI SIPAT CKT-I	09-09-2020	09:30	09-09-2020	17:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		NLDC		
132	220 KV Bus sectionalizer#1 at Binaguri	09-09-2020	10:00	09-09-2020	17:00	ODB	POWERGRID ER-II	AMP works		WBSETCL		
133	400KV Alipurduar - New Siliguri I & II Line	09-09-2020	06:00	12-09-2020	18:00	ODB	POWERGRID ER-II	Stringing at crossing between Loc. No. 13/0 - 14/0 of Jigmeling line and loc. No. 292-293 of Sterlite Line				
134	400KV, 500MVA ICT-I at Rajarhat	09-09-2020	09:00	09-09-2020	17:00	ODB	POWERGRID ER-II	AMP work of GIS Bay.		WB		
135	400KV Mejia - Jamshedpur	09-09-2020	08:00	10-09-2020	18:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		
136	315 MVA ICT-2 at Jeerat	10-09-2020	07:00	10-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
137	765KV Sundargarh-Dharamjayhgarh ckt-2	10-09-2020	10:00	10-09-2020	12:00	ODB	ER-II/Odisha/Sundergarh	checking of WT LA in R Phase		NLDC		
138	765KV Sundargarh-Angul Ckt #2	10-09-2020	08:00	10-09-2020	17:00	ODB	ER-II/Odisha/Sundargarh	TL Maint work		NLDC		
139	220 kV Rourkela-Tarkera 1	10-09-2020	08:00	10-09-2020	17:00	ODB	ER-II/ODISHA/ROURKELA	Line Bay AMP		GRIDCO		
140	400KV Meramundali-Bolangir Line 80MVAR Line Reactor at Meramundali end	10-09-2020	08:00	13-09-2020	17:00	OCB	ER-II/Odisha/Angul SS	Bushing replacement work and oil filtration work after replacement of bushing.		NLDC	Not a switchable reactor. Line will be out both the time when reactor will be out and in.	
141	400kV Meramundali-Kaniha ckt-II	10-09-2020	09:00	10-09-2020	17:00	ODB	OPTCL	Replacement of Y- ph & B-ph Line isolator drop and feeder tightening work at Meramundali end	400kV Meramundali-Kaniha ckt-I will		The SD of said line is approved on 13.08.2020. Why again SD required? SPS 1000 may be toggled to 450	
142	50MVA ICT-II at Gangtok	10-09-2020	09:00	10-09-2020	14:00	ODB	POWERGRID ER-II	Relay Retrofitting		Sikkim		
143	220KV D/C Siliguri-Kishanganj Ckt-I&II	10-09-2020	08:00	30-09-2020	15:00	OCB	POWERGRID ER-II	For diversion work for NH-31 widening at Span-168-169 & 187-188.			May be allowed after hygh hydro.	Consent from WB required, May be applied in 2nd half of Sept
144	400 kV Bongaigaon-Alipurduar Line-2	10-09-2020	08:00	10-09-2020	16:00	ODB	POWERGRID NER	Relay Testing and Bay AMP at Bongaigaon substation		NLDC	Subject to high power order testing of HVDC NEA and NERPC approval	
145	400 KV Sagardighi-Berhampore line-I	10-09-2020	09:00	10-09-2020	17:00	ODB	POWERGRID ER-II	Transmission line maintenance activity		WB		
146	400KV, 500MVA ICT-II at Rajarhat	10-09-2020	09:00	10-09-2020	17:00	ODB	POWERGRID ER-II	AMP work of GIS Bay.		WB		

147	400kV Bus-4 at Maithon	10-09-2020	09:30	11-09-2020	17:30	ODB	POWERGRID ER-II	Reconnection of Bus Jumper of Bus Isolator of Kahalgaon-1 Main Bay in Bay upgradation work under ERSS-XVII		DVC		
148	500MVA ICT-2 at Maithon	10-09-2020	08:00	10-09-2020	18:00	ODB	POWERGRID ER-II	AMP works		DVC		In case of any further tripping of ICT load restrcition of 350MW will be imposed on DVC & JSEB
149	500MVA ICT-3 at Maithon	10-09-2020	09:30	11-09-2020	17:30	ODB	POWERGRID ER-II	Onload Testing of Main and Tie Bay CSD.		DVC		Not To be requisitioned with 500MVA ICT-2 at Maithon concurrently, In case of any further tripping of ICT load restrcition of 350MW will be imposed on DVC & JSEB
150	400kV Bus-2 at MPL	10-Sep-20	10:00	10-Sep-20	18:00	ODB	POWERGRID ER-II	Dismantling of Bus isolator of 406 bay		MPL	May be availed when one unit of MPl is out of service.	
151	132 KV Bus 2 AT MOTIHARI	10-09-2020	08:00	11-09-2020	18:00	OCB	POWERGRID ER-I	Interconnection of Extension Bus (By POWERGRID)to existing Bus (DMTCL)		BSEB		
152	220 KV Bidhannagar-Waria(DVC)Ckt 1	11-09-2020	07:00	11-09-2020	14:00	ODB	WBSETCL	Maintenance Activity		DVC		
153	765kV Sundargarh-Dharamjaygarh Ckt #3	09-11-20	08:00	09-11-20	17:00	ODB	ER-II/Odisha/Sundargarh	TL Maint work		NLDC		
154	400KV Meramundali-Bolangir line	11-09-2020	08:00	10-09-2020	17:00	ODB	ER-II/Odisha/Angul SS	To faciltate movement of crane for bushing replacement work of 80MVAR line reactor.		GRIDCO	Line outage time can be minimised if it will be LILOed again at Angul. ER-SR TTC/ATC revision required	
155	220 KV Gaya(PG)-Sonenagar ckt 1	11-09-2020	07:00	11-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Sonenagar will avail restricted power from Gaya(PG) ckt2.			ER-I may plan their maintenance activity of along side BSPTCL
156	132 KV Banka(PG)-Banka ckt 1	11-09-2020	07:00	11-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Banka will avail power from Banka(PG) ckt2			ER-I may plan their maintenance activity of along side BSPTCL
157	400kV Tisco -Baripada line	11-09-2020	09:30	11-09-2020	17:30	ODB	POWERGRID ER-I	Replacement of insulator damaged by miscreants		DVC		
158	A/R OF JAMSHEDPUR BARIPADA	11-09-2020	09:30	11-09-2020	17:30	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER				
159	220 KV RANCHI-HATIA-2	11-09-2020	09:30	11-09-2020	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF FLASHED INSULATOR		JSEB		
160	A/R OF 220 KV RANCHI CHANDIL	11-09-2020	09:30	11-09-2020	17:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		JSEB		
161	220KV Dalkhola-Kishanganj-I	11-09-2020	10:00	11-09-2020	15:00	ODB	POWERGRID ER-II	Jumper Rectification work at Loc No. 01(LILO Section)			ER-2 may apraise about the seriousness of the jumper	
162	220 KV Bus sectionalizer#2 at Binaguri	11-09-2020	10:00	11-09-2020	17:00	ODB	POWERGRID ER-II	AMP works		WBSETCL		
163	400KV Maithon - Mejia 3	11-Sep-20	08:00	15-Sep-20	18:00	ODB	POWERGRID ER-II	Insulator Replacement work		DVC		
164	400KV Maithon - Jamshedpur	11-Sep-20	08:00	15-Sep-20	18:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		
165	Arambag-New Chanditola 400 KV Ckt	12-09-2020	06:00	12-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
166	220 KV Bidhannagar-Waria(DVC) Ckt 2	12-09-2020	07:00	12-09-2020	14:00	ODB	WBSETCL	Maintenance Activity		DVC		
167	765kV Sundargarh-Dharamjaygarh Ckt #4	09-12-20	08:00	09-12-20	17:00	ODB	ER-II/Odisha/Sundargarh	TL Maint work		NLDC		
168	220 KV Gaya(PG)-Sonenagar ckt 2	12-09-2020	07:00	12-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Sonenagar will avail restricted power from Gaya(PG) ckt1			ER-I may plan their maintenance activity of along side BSPTCL
169	132 KV Banka(PG)-Banka ckt 2	12-09-2020	07:00	12-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Banka will avail power from Banka(PG) ckt1			ER-I may plan their maintenance activity of along side BSPTCL
170	400 KV Sagardighi-Berhampore line-II	12-09-2020	09:00	12-09-2020	17:00	ODB	POWERGRID ER-II	Transmission line maintenance activity		WB		
171	400kV Maithon Durgapur-1 line	12-09-2020	09:30	14-09-2020	17:30	ODB	POWERGRID ER-II	Dismantling of bay equipment of Durgapur-1 Main Bay for upgradation under ERSS-XVII			Outage shall be attributed to PGCIL or not?	
172	220kv Rangpo -New Melli	13-09-2020	09:00	13-09-2020	17:00	ODB	POWERGRID ER-II	Line Maintenance Works and AMP Works			May be availed during Jorethang and Tashiding unit out of bar.	May be availed during flushing operation of Jorethang and Tashiding when the units remain out of bar.
173	Arambag-KTPP 400 KV Ckt	14-09-2020	07:00	14-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				

174	315 MVA ICT-3 at Jeerat	14-09-2020	07:00	14-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
175	765KV Sundargarh-Angul Ckt #3	14-09-2020	08:00	17-09-2020	17:00	OCB	ER-II/Odisha/Sundargarh	Rectification of clearance issue & TP Tower Maintenance work		NLDC	Will be facilitated on Daily basis. May avail L/R S/D also.	
176	220 KV Gaya(PG)-Dehri ckt 1	14-09-2020	07:00	14-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Dehri will avail power from Gaya(PG) ckt2 &S/C Sasaram(PG)			ER-I may plan their maintenance activity of along side BSPTCL
177	400/220kv 315 MVA ICT- 1 at Jamshedpur	14-09-2020	09:30	19-09-2020	17:30	ODB	POWERGRID ER-I	Replacement of 220Kv side porcelain insulator string with Polymer insulator string at Jamshedpur ss switchyard due to high pollution		JSEB	400/220kv 315 MVA ICT- 2 & 3 at Jamshedpur shall remain in service.	All 400/220kv 315 MVA ICT- 1 at Jamshedpur realted activities to be clubbed (14th-20th)
178	765 kV New Ranchi-Dharamjaygarh CKT-I	14-09-2020	08:00	19-09-2020	17:00	ODB	POWERGRID, ER-1	For Tower Strengthning work TOTAL - 166 TOWERS, COMPLETED - NIL				
179	220KV MUZAFARPUR-DHALKEBAR (Nepal) -D/C	14-09-2020	08:00	19-09-2020	19:00	OCB	POWERGRID ER-I	DE-STRINGING & RE-STRINING OF ONE SPAN OF 400KV LINE NEAR BY MUZAFFARPUR SUBSTATION. PLCC & DPC ERECTION, TESTING & COMMISSIO. FOTE PANEL SHIFTING & LINE		NLDC	Discussed so many times	
180	132 kv Bus coupler-1 at Rangpo	14-09-2020	09:00	14-09-2020	17:00	ODB	POWERGRID ER-II	AMP Works			Any line will be out?	
181	66 KV Gangtok-Bulbulay Line	14-09-2020	09:00	14-09-2020	14:00	ODB	POWERGRID ER-II	Relay Retrofitting		Sikkim		
182	315 MVA ICT-2 at Durgapur	14-09-2020	09:00	16-09-2020	17:00	OCB	POWERGRID ER-II	Oil Flow Pump replacement works with oil drain & oil and one bay CT replace work. filtration.		DVC		
183	400KV Indravati-Rengali S/C Line	15-09-2020	08:00	15-09-2020	17:00	ODB	ER-II/Odisha/Indravati	For opening of Isolator(40389R) & Jumper of 50MVAR LR to replace R-PH Bushing of 50MVAR LR, since LR is non switchable one.		NLDC	ER-SR TTC/ATC revision required	
184	50MVAR Line Reactor of Indravati-Rengali Line at Indravati	15-09-2020	08:00	19-09-2020	17:00	OCB	ER-II/Odisha/Indravati	For Replacement of R-ph Bushing of 50MVAR LR, Leakage arresting, Filteration of oil, Settlement of oil & Testing.		NLDC	Not a switchable reactor. Line will be out both the time when reactor will be out and in.	
185	220 KV Gaya(PG)-Dehri ckt 2	15-09-2020	07:00	15-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Dehri will avail power from Gaya(PG) ckt1 &S/C Sasaram(PG)			ER-I may plan their maintenance activity of along side BSPTCL
186	400 kV Kh- Banka # 1	15-09-2020	09:00	15-09-2020	17:00	OCB	KHSTPP	Bay maintenance & testing				
187	315 MVA ICT-II at Meramundali	15-09-2020	10:00	15-09-2020	17:00	ODB	OPTCL	Maintenance work 400kV Side Line isolator and alignment of 220kV side line isolator	315 MVA ICT-I will remain in service			
188	220 KV Gaya-Dehri Ckt 2	15-09-2020	09:00	15-09-2020	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF FLASHED INSULATOR		BSEB	Bihar requisition is also for the same day	May be allowed with consent from BSEB
189	A/R OF 220 KV GAYA DEHRI CKT-I	15-09-2020	09:00	15-09-2020	17:00	ODB	POWERGRID ER-I	TO FACILITATE SHUTDOWN OF PARALLEL CKT ON SAME TOWER		BSEB		
190	400 KV North Bus-2 AT SASARAM	15-09-2020	09:00	15-09-2020	18:00	ODB	POWERGRID ER-I	AMP		NLDC	May be availed when Total HVDC is out	
191	132 kv Bus sectionalizer-2 at Rangpo	15-09-2020	09:00	15-09-2020	17:00	ODB	POWERGRID ER-II	AMP Works			Any line will be out?	
192	400 kV FARAKKA-RAJARHAT	15-09-2020	07:00	15-09-2020	15:00	ODB	POWERGRID ER-II	Rectification of shut down nature defects in various locations in Transmission line.		WB	Consent of WB required	
193	400 KV Sagardighi-Jeerat line	15-09-2020	09:00	15-09-2020	17:00	ODB	POWERGRID ER-II	Transmission line maintenance activity		WB		After commisioning of 400kV Sagardighi-Gokarno-DC line.
194	400 KV D/C Arambag - Kolaghat, Arambag - Durgapur TL	15-09-2020	08:00	16-09-2020	17:00	ODB	POWERGRID ER-II	Stringing b/w AP 31/0 to 32/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 400 KV D/C Arambag - Kolaghat, Arambag - Durgapur TL (WBSETCL)		WB		
195	400kV Bus-3 at Maithon	15-09-2020	09:30	15-09-2020	17:30	ODB	POWERGRID ER-II	isolation of Jumper & Dismantling of Bus Isolator of Durgapur-1 Main Bay.				

196	A/R OF 400KV Sundargarh-Raigarh Ckt #2&4	16-09-2020	08:00	30-09-2020	17:00	ODB	ER-II/Odisha/Sundargarh	For PID Testing of Porcelain Insulator. Only Auto reclose		NLDC		
197	315 MVA ICT#1 at Rourkela	16-09-2020	08:00	30-09-2020	17:00	OCB	ER-II/ODISHA/ROURKELA	Erection works related to Parallelling of ICTs		Gridco	Discussed many times. 250MW will be allowed through other ICT.	
198	500 MVA ICT IV at Biharhsharif SS	16-09-2020	10:00	17-09-2020	18:00	ODB	POWERGRID ER-I	CSD Commissioning work under project head ERSS-XX		BSEB		Deferred till Durga Puja is over
199	400 KV Muzaffarpur- Darbhanga line-2	16-09-2020	08:00	18-09-2020	19:00	ODB	POWERGRID ER-I	STRINING OF ONE SPAN OF 400 KV MUZAFFARPUR-DHALKEBAR LINE			May be deffred till restoration of 400kV Patna-Kishanganj-DC on normal tower.	May be deffred till restoration of 400kV Patna-Kishanganj-DC on normal tower.
200	132 kv Bus coupler-2 at Rangpo	16-09-2020	09:00	16-09-2020	17:00	ODB	POWERGRID ER-II	AMP Works			Any line will be out?	
201	66 KV Gangtok-Lagyap (LLHP) Line	16-09-2020	09:00	16-09-2020	14:00	ODB	POWERGRID ER-II	Relay Retrofitting		Sikkim		
202	400KV BUS SECTIONALISER-2 at Alipurduar	16-09-2020	08:00	16-09-2020	18:00	ODB	POWERGRID ER-II	Bay AMP Work				
203	220KV Dalkhola-Gazol-I	16-09-2020	09:00	16-09-2020	17:00	ODB	POWERGRID ER-II	AMP WORK		WBSETCL		
204	400KV Mejia - Jamshedpur	16-09-2020	08:00	19-09-2020	18:00	ODB	POWERGRID ER-II	Insulator Replacement work		DVC		
205	400KV Maithon - Mejia - 3	16-09-2020	08:00	19-09-2020	18:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator repalcement work		DVC		
206	315MVA ICT-1 AT TSTPP	16-09-2020	08:00	19-09-2020	18:00	OCB	TSTPP	400KV CT replacement -3 nos in ICT Transformer bay and AMP job of transformer		GRIDCO		
207	132kV Gangtok Ckt-I - Rangpo Line	16-09-2020	08:00	19-09-2020	17:00	OCB	MBPCL	Transmission line Stringing from Loc -25 to 26		SIKKIM		Hydro season may be avoided
208	132kV Melli- Rangpo Line	16-09-2020	08:00	19-09-2020	17:00	OCB	MBPCL	Transmission line Stringing from Loc -25 to 26		SIKKIM		Hydro season may be avoided
209	765kV Angul- Sundargarh Ckt 4 Line Reactor at Angul	17-09-2020	08:00	17-09-2020	17:00	ODB	ER-II/Odisha/AngulSS	AMP		NLDC		
210	Barh Kahalgaon Line # 2	17-09-2020	09:00	18-09-2020	17:00	OCB	BARH	For operation testing from SCADA & Auto Reclose relay testing & other testing and Annual maintenance of Bay equipments.			This line was out this month from 12 to 16. Barh should have finished its testing work.	
211	400KV Muzzafarpur 2 Line at Biharsharif	17-09-2020	10:00	17-09-2020	18:00	ODB	POWERGRID ER-I	Replacement of flashed insulator				
212	A/R OF 400 KV BIHARSHARIF MUZAFFARPUR CKT-I	17-09-2020	10:00	17-09-2020	18:00	ODB	POWERGRID ER-I	To faciliate shutdown of parallel circuit				
213	132 KV KUDRA-DEHRI	17-09-2020	09:00	17-09-2020	18:00	ODB	POWERGRID ER-I	Relay Retrofitting at Dehri End		BSEB		
214	400 KV Bus 1 AT DARBHANGA	17-09-2020	08:00	18-09-2020	18:00	OCB	POWERGRID ER-I	Interconnection of Extension Bus (By POWERGRID)to existing Bus (DMTCL & ATL)		BSEB	May be deffred till restoration of 400kV Patna-Kishanganj-DC on normal tower.	After High Hydro Season
215	132 kv Rangpo Gangtok line-2	17-09-2020	09:00	17-09-2020	17:00	ODB	POWERGRID ER-II	AMP Works		Sikkim		
216	220 KV Alipurduar - Birpara Ckt I	17-09-2020	06:00	18-09-2020	18:00	ODB	POWERGRID ER-II	Attending shut down nature defects				
217	220KV Dalkhola-Gazol-II	17-09-2020	09:00	17-09-2020	17:00	ODB	POWERGRID ER-II	AMP WORK		WBSETCL		
218	400 KV Sagardighi-Subhasgram line	17-09-2020	07:00	17-09-2020	15:00	ODB	POWERGRID ER-II	Transmission line maintenance activity		WB		
219	50 MVAR Bus Reacor at Arambagh	18-09-2020	06:00	18-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
220	765kV Angul- Sundargarh Ckt 3 Line Reactor at Angul	18-09-2020	08:00	18-09-2020	17:00	ODB	ER-II/Odisha/AngulSS	AMP		NLDC		
221	400kV Muzzafarpur 1 Line at Biharsharif	18-09-2020	10:00	18-09-2020	18:00	ODB	POWERGRID ER-I	Replacement of flashed insulator				
222	A/R OF 400 KV BIHARSHARIF MUZAFFARPUR CKT-II	18-09-2020	10:00	18-09-2020	18:00	ODB	POWERGRID ER-I	To faciliate shutdown of parallel circuit				
223	132 KV MOHANIA-KARMNASA	18-09-2020	09:00	18-09-2020	18:00	ODB	POWERGRID ER-I	Relay Retroffiting at Karmanasa End		BSEB		
224	400 kV (50+125) MVAR B/R-1& IV at Biharsharif	18-09-2020	10:00	18-09-2020	18:00	ODB	POWERGRID ER-I	Electromachanical relay retrofitment				
225	125 MVAR Bus Reactor at Arambagh	19-09-2020	06:00	19-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
226	50MVAR Bus Reactor at Bidhanagar	19-09-2020	07:00	19-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
227	400KV Indravati-Rengali S/C Line	19-09-2020	08:00	19-09-2020	17:00	ODB	ER-II/Odisha/Indravati	For connnecting Jumpers & closing of Isolator(40389R) of 50MVAR LR after completion of Bushing replacement works and taking into sevice the 50MVAR LR, since LR is non switchable one.		NLDC	ER-SR TTC/ATC revision required	
228	765KV Sundargarh-Angul Ckt #4	19-09-2020	08:00	22-09-2020	17:00	OCB	ER-II/Odisha/Sundargarh	Rectification of clearance issue & TP Tower Maintenance work		NLDC		

229	132 KV Sultanganj-Deoghar S/C T/L	19-09-2020	07:00	19-09-2020	15:00	ODB	BSPTCL	For line maintenance work	Consent from SLDC Ranchi will be required.			ER-I may plan their maintenance activity of along side BSPTCL
230	400 KV BUS 2 AT DARBHANGA	19-09-2020	08:00	20-09-2020	18:00	OCB	POWERGRID ER-I	Interconnection of Extension Bus (By POWERGRID)to existing Bus (DMTCL & ATL)		BSEB	May be deffred till restoration of 400kV Patna-Kishanganj-DC on normal tower.	After High Hydro Season
231	400 KV East Bus-2 AT SASARAM	19-09-2020	09:00	19-09-2020	18:00	ODB	POWERGRID ER-I	AMP		NLDC	May be availed when Total HVDC is out	
232	400 kV FARAKKA-SAGARDIGHI-I	19-09-2020	09:00	19-09-2020	17:00	ODB	POWERGRID ER-II	Rectification of shut down nature defects in various locations in Transmission line.		WB		
233	400 KV Jeerat Sagardighi Line	19-09-2020	09:00	19-09-2020	17:00	ODB	POWERGRID ER-II	A/R relay Retrofitting and Testing in 400 KV Jeerat Sagardighi Line at Jeerat end.		WB		
234	132 kv Rangpo Melli	20-09-2020	09:00	20-09-2020	17:00	ODB	POWERGRID ER-II	AMP work		Sikkim	132kV Siliguri-Melli will remain in service.	
235	400KV Maithon - Mejia 3	20-Sep-20	08:00	23-Sep-20	18:00	ODB	POWERGRID ER-II	Insulator Replacement work		DVC		
236	400KV Mejia - Jamshedpur	20-Sep-20	08:00	23-Sep-20	18:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		
237	400 KV Main Bus-1 at Aramabagh	21-09-2020	06:00	21-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
238	400kV Bidhannagar-New Chanditala Ckt	21-09-2020	07:00	21-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
239	315 MVA ICT-2 at Jeerat	21-09-2020	07:00	21-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
240	400 kV D/C New Ranchi-New PPSP Ckt-01	21-09-2020	09:00	21-09-2020	18:00	ODB	PKTCL	Line AMP works		WB	ER-1 & WB both are requested to finish any pending work	
241	400 KV BUS 1 at Biharsharif Substation	21-09-2020	10:00	25-09-2020	18:00	ODB	POWERGRID ER-I	For Bus Bar Commissioning work of TBEA Project		BSEB		After High hydro Season, Reson of Outage must be detailed
242	400/220kv 315 MVA ICT- 1 at Jamshedpur	21-09-2020	09:30	21-09-2020	17:30	ODB	POWERGRID ER-I	Replacement of 220Kv side porcelain insulator string with Polymer insulator string at Jamshedpur ss switchyard due to high pollution.		JSEB	400/220kv 315 MVA ICT- 2 & 3 at Jamshedpur shall remain in service.	All 400/220kv 315 MVA ICT- 1 at Jamshedpur realted activities to be clubbed (14th-20th)
243	765 kV New Ranchi-Dharamjaygarh CKT-I	21-09-2020	08:00	26-09-2020	17:00	ODB	POWERGRID, ER-1	For Tower Strengthning work TOTAL - 166 TOWERS, COMPLETED - NIL				
244	400 KV North Bus-1 AT SASARAM	21-09-2020	09:00	21-09-2020	18:00	ODB	POWERGRID ER-I	AMP		NLDC	May be availed when Total HVDC is out	
245	132kv Rangpo Chuzachen line-2	21-09-2020	09:00	21-09-2020	17:00	ODB	POWERGRID ER-II	AMP work		Chuzachen	May be avoided during hygh hydro	
246	220 KV Alipurduar - Birpara Ckt II	21-09-2020	06:00	22-09-2020	18:00	ODB	POWERGRID ER-II	Attending shut down nature defects				
247	400 KV Rajarhat Jeerat Line	21-09-2020	09:00	21-09-2020	17:00	ODB	POWERGRID ER-II	Main-1 Distance Relay Replacement at Jeerat end.		WB		
248	400kV Maithon Durgapur-1 line	21-09-2020	09:30	25-09-2020	17:30	ODB	POWERGRID ER-II	Replacement of strung Bus from ACSR MOOSE to HTLS and Jumper connection work in Bay upgradation work under ERSS XVII			Outage shall be attributed PGCIL or not?	
249	400 KV TSTPS- Rourkela # 2(400 KV Bay – 7,8) AT TSTPP	22-09-2020	08:00	25-09-2020	18:00	OCB	TSTPP	For line CVT -3nos and CT - 3nos replacement job				
250	400kV Bidhannagar-PPSP Ckt-2	22-09-2020	07:00	22-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
251	400 kV D/C New Ranchi-New PPSP Ckt-02	22-09-2020	09:00	22-09-2020	18:00	ODB	PKTCL	Line AMP works		WB	ER-1 & WB both are requested to finish any pending work	
252	400/220KV ICT#2 at Indravati	22-09-2020	08:00	22-09-2020	17:00	ODB	ER-II/Odisha/Indravati	AMP works of ICT#2. Checking of the Aircell of conservator Tank. During this shutdown Power flow from ICT#2 will be Interrupted.		GRIDCO	After returning of ICT-1	
253	315MVA ICT I at Keonjhar	22-09-2020	08:00	22-09-2020	17:00	ODB	Keonjhar	AMP WORKS		GRIDCO		
254	400 KV Rourkela-Sundargarh-2 LINE	22-09-2020	08:00	22-09-2020	17:00	ODB	ER-II/ODISHA/ROURKELA	LINE MAINTENANCE WORKS				

255	400/220kv 315 MVA ICT- 2 at Jamshedpur	22-09-2020	09:30	26-09-2020	17:30	ODB	POWERGRID ER-I	Replacement of 220Kv side porcelain insulator string with Polymer insulator string at Jamshedpur ss switchyard due to high pollution (7 days outage required to complete work) and Replacement of REF relay, 220Kv side Electromechnical O/c & E/F relay by numerical relay at Ramchandrapur JUSNL.		JSEB	400/220kv 315 MVA ICT- 1 & 3 at Jamshedpur shall remain in service.	All 400/220kv 315 MVA ICT- 2 at Jamshedpur realted activities to be clubbed (22nd-27th)
256	400 KV East Bus-1 AT SASARAM	22-09-2020	09:00	22-09-2020	18:00	ODB	POWERGRID ER-I	AMP		NLDC	May be availed when Total HVDC is out	
257	132 KV Siliguri-Melli line	22-09-2020	10:00	22-09-2020	17:00	ODB	POWERGRID ER-II	To attend line rectification work location no:- 79 due to recent land sliding trend.		Sikkim	132kV Rangit-Rangpo-Melli will remain in service.	
258	400 KV S/C Sagardighi - Jeerat TL (PGCIL)	22-09-2020	08:00	23-09-2020	17:00	ODB	POWERGRID ER-II	Stringing b/w AP 149/0 to AP150/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 400 KV S/C Sagardighi - Jeerat TL (PGCIL)		WB		After commisioning of 400kV Sagardighi-Gokarno-DC line.
259	400 KV Main Bus-2 at Aramabagh	23-09-2020	06:00	23-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
260	400kV Bidhannagar-PPSP Ckt-1	23-09-2020	07:00	23-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
261	400 KV Rourkela-Sundargarh-4 LINE	23-09-2020	08:00	23-09-2020	17:00	ODB	ER-II/ODISHA/ROURKELA	LINE MAINTENANCE WORKS				
262	400kV Meramundali-Kaniha ckt-I	23-09-2020	11:00	23-09-2020	17:00	ODB	OPTCL	Alignment of B-ph Line isolator at Meramundali end	400kV Meramundali-Kaniha ckt-II will remain in service		SPS 1000 may be toggled to 450	
263	220 kV Bus 1 AT SASARAM	23-09-2020	09:00	23-09-2020	18:00	ODB	POWERGRID ER-I	AMP		BSEB		
264	220 KV Siliguri- New Siliguri Ckt-I	23-09-2020	10:00	23-09-2020	17:00	ODB	POWERGRID ER-II	AMP work			After high hydro	
265	400 kV FARAKKA-DURGAPUR-I	23-09-2020	09:00	23-09-2020	17:00	ODB	POWERGRID ER-II	Rectification of shut down nature defects in various locations in Transmission line.				
266	400KV Balangir-Jeypore S/c line	24-09-2020	08:00	30-09-2020	17:00	OCB	ER-II/Odisha/Balangir	Dismantling of 2 nos. existing towers, installation of 3nos. New towers under existing line and stringing of 4 nos. span for line diversion work due to construction of new Balangir-Khurda Line under East Cost Railway at Balangir		NLDC	Discussed in so many shutdown meeting. ER-SR TTC will be reduced by 300MW.	Max 7 days of work consented by GRIDCO from 24th onwards
267	315 MVA ICT-1 at Aramabagh	24-09-2020	06:00	24-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
268	400kV Bidhannagar-PGCIL Ckt-2	24-09-2020	07:00	24-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
269	315 MVA ICT-4 at Jeerat	24-09-2020	07:00	24-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
270	315 MVA ICT-2 at Jeypore	24-09-2020	08:00	29-09-2020	17:00	ODB	ER-II/Odisha /Jeypore	For LA, Transformer Bushing erection of New ICT-4 under SPML Package near ICT-2 area due to low clearance between new Gantry & existing 220kV Jumper of ICT-2 (Outage to be booked under Construction Head)		GRIDCO	ER-SR TTC needs to be revised	SRPC Approval may be required
271	400 KV Rourkela-Sundargarh-1 LINE	24-09-2020	08:00	24-09-2020	17:00	ODB	ER-II/ODISHA/ROURKELA	LINE MAINTENANCE WORKS				
272	220KV Dalkhola-Kishanganj-II	24-09-2020	09:00	24-09-2020	17:00	ODB	POWERGRID ER-II	AMP WORK				
273	400KV Maithon - Right Bank # I	24-Sep-20	09:00	24-Sep-20	17:00	ODB	POWERGRID ER-II	Insulator Replacement damaged by miscreants				
274	400KV Maithon - Right Bank # II	24-Sep-20	09:00	24-Sep-20	17:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work				
275	315 MVA ICT-2 at Aramabagh	25-09-2020	06:00	25-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
276	400kV Bidhannagar-PGCIL Ckt-1	25-09-2020	07:00	25-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
277	400 kV D/C Kharagpur-Chaibasa Ckt-01	25-09-2020	09:00	25-09-2020	18:00	ODB	PKTCL	Line AMP works			Sterlite is requested to avail opertunity on 04.09.2020 along with WB.	
278	400 KV Rourkela-Sundargarh-3 LINE	25-09-2020	08:00	25-09-2020	17:00	ODB	ER-II/ODISHA/ROURKELA	LINE MAINTENANCE WORKS				
279	220 KV Siliguri- Kishanganj Ckt-I	25-09-2020	10:00	25-09-2020	17:00	ODB	POWERGRID ER-II	M-1 Relay Retrofitting Work			After high hydro	
280	400KV Maithon - Mejia 2	25-Sep-20	09:00	25-Sep-20	17:00	ODB	POWERGRID ER-II	Insulator Replacement damaged by miscreants		DVC		
281	400KV Maithon - Mejia 1	25-Sep-20	09:00	25-Sep-20	17:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		

282	400kV Bus-2 at MPL	25-Sep-20	11:00	25-Sep-20	19:00	ODB	POWERGRID ER-II	connection of jumper of Bus isolator of 406 bay		MPL	May be availed when one unit of MPl is out of service.	
283	315 MVA ICT-3 at Aramabagh	26-09-2020	06:00	26-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
284	315 MVA ICT-1 at Bidhannagar	26-09-2020	07:00	26-09-2020	15:00	ODB	WBSETCL	Maintenance Activity		DVC	220kV Waria-Bidhannagar-DC shall be opened during shutdown period.	
285	400 KV BUS 2 at Biharsharif Substation	26-09-2020	10:00	30-09-2020	18:00	ODB	POWERGRID ER-I	For Bus Bar Commissioning work of TBEA Project		BSEB		After High hydro Season, Reson of Outage must be detailed
286	500MW HVDC (B/B) AT SASARAM	26-09-2020	09:00	29-09-2020	17:00	OCB	POWERGRID, ER-1	Shifting of 315 MVA Spare ICT under east side bus towards the designated storage location. The HVDC cannot be taken into bypass mode due to non availability of east side filter bus during the shifting work.		NLDC	Discussed so many times. is Pusauli-Allahabad will be idle charged?? NRPC cosnent required	Pusauli- Allahabad will be out of service, NRPC cosnent is required
287	400KV Maithon - Mejia 3	26-Sep-20	09:00	26-Sep-20	17:00	ODB	POWERGRID ER-II	Insulator Replacement damaged by miscreants		DVC		
288	400KV Mejia - Jamshedpur	26-Sep-20	09:00	26-Sep-20	17:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work		DVC		
289	400kV Bus-3 at Maithon	27-09-2020	09:30	27-09-2020	17:30	ODB	POWERGRID ER-II	Reconnection of Jumper of Bus Isolator of Durgapur-1 Main Bay.		DVC		
290	400KV Maithon - Right Bank # II	27-Sep-20	09:00	27-Sep-20	17:00	ODB	POWERGRID ER-II	Insulator Replacement damaged by miscreants				
291	400KV Maithon - Right Bank # I	27-Sep-20	09:00	27-Sep-20	17:00	ODB	POWERGRID ER-II	To be kept in Non Auto mode during insulator replacement work				
292	315 MVA ICT-1 at Jeerat	28-09-2020	07:00	28-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
293	400/220kv 315 MVA ICT- 2 at Jamshedpur	28-09-2020	09:30	28-09-2020	17:30	ODB	POWERGRID ER-I	Replacement of 220Kv side porcelain insulator string with Polymer insulator string at Jamshedpur ss switchyard due to high pollution.		JSEB	400/220kv 315 MVA ICT- 1 & 3 at Jamshedpur shall remain in service.	All 400/220kv 315 MVA ICT- 2 at Jamshedpur realted activities to be clubbed (22nd-27th)
294	765 kV New Ranchi-Dharamjaygarh CKT-I	28-09-2020	08:00	30-09-2020	17:00	ODB	POWERGRID, ER-1	For Tower Strengthning work TOTAL - 166 TOWERS, COMPLETED - NIL				
295	315 MVA ICT-4 at Aramabagh	29-09-2020	06:00	29-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
296	315 MVA ICT-2 at Bidhannagar	29-09-2020	07:00	29-09-2020	15:00	ODB	WBSETCL	Maintenance Activity		DVC	220kV Waria-Bidhannagar-DC shall be opened during shutdown period.	
297	765KV Angul-Srikakulam Line-2, along with 240MVAR LR at Angul	29-09-2020	08:00	29-09-2020	17:00	ODB	ER-II/Odisha/Angul	Line Maintenance Work		NLDC	Import of SR will be reduced by 900MW. Subject to SRPC consent	
298	400kV BUS-2 at Jamshedpur	29-09-2020	09:30	29-09-2020	14:00	ODB	POWERGRID ER-I	To facilitate shutdown of 400 kV Jamshedpur Tisco line due to high induction and less clearance		JSEB	In case of tripping of Bus-1, all the ICTs and Andhunik-DC will be tripped	
299	400KV Main Bus-2 at Bidhannagar	30-09-2020	07:00	30-09-2020	15:00	ODB	WBSETCL	Maintenance Activity		DVC	220kV Waria-Bidhannagar-DC shall be opened during shutdown period.	
300	400 KV Jeerat-BKTPP Ckt	30-09-2020	07:00	30-09-2020	15:00	ODB	WBSETCL	Maintenance Activity				
301	765KV Angul-Srikakulam Line-1 along with 240MVAR LR at Angul	30-09-2020	08:00	30-09-2020	17:00	ODB	ER-II/Odisha/Angul	Line Maintenance Work		NLDC	Import of SR will be reduced by 900MW.Subject to SRPC consent.	