Minutes

of

159th OCC Meeting

Date: 26.07.2019

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 159th OCC Meeting held on 19th July, 2019 at ERPC, Kolkata

List of participants is at **Annexure-A**.

Item no. 1: Confirmation of minutes of 158th OCC meeting of ERPC held on 27.06.2019

The minutes of 158th OCC meeting were uploaded in ERPC website and circulated vide letter dated 10.07.2019 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 158th OCC meeting.

PART A : ER GRID PERFORMANCE

Item no. A1: ER Grid performance during June, 2019

ERLDC may present the performance of Eastern Regional Grid covering the followings:

1. **Frequency profile**
2. **Over drawal /under injection by ER Entities**
3. **Performance of Hydro Power Stations during peak hours**
4. **Performance of ISGS during RRAS**
5. **Reactive Power performance of Generators**
6. **Restricted Governor /Free Governor Mode Operation of generators in ER**

Member may discuss.

Deliberation in the meeting

*ERLDC presented the performance of the Eastern Regional Grid during June 2019. Presentation is enclosed at **Annexure- A1**.*

ERLDC highlighted that Eastern Region had met highest demand of 23.36 GW so far in June 2019.

OCC observed that the % of time of frequency remaining within the IEGC band is 70.34 % and % of time of grid frequency greater than 50.05 Hz is 19 %.

ERLDC explained that due to inform power injected by new generating entities surplus generation was available in the region, this might be resulted into the high frequency.

ERLDC presented a detailed analysis of the drawal pattern of the Eastern Regional constituents. It emerged from the presentation that Odisha and West Bengal had overdrawn from the Grid for significant times.

OCC advised Odisha and West Bengal to maintain drawal within the schedule.

GMR has been continuously under generating w.r.t. their schedule.

ED, ERLDC informed that such generation pattern against schedule could be construed as gaming and is a gross violation of grid discipline. GMR should revise the DC, if they could not generate as per the schedule.

OCC advised GMR declare the DC faithfully.

ERLDC informed that main bay of 400kV Indravati(OHPC)-Indravati(PG) at OHPC substation is not available since long.

OCC advised OHPC to submit a detail plan of restoration of the main bay to ERLDC and ERPC.

Powergrid requested for one day shutdown of bus-I at Farakka for bus jumpering and bus bar protection stability test.

NTPC agreed to look into it.

OCC advised Odisha to give a presentation in next OCC Meeting on effect of FANI cyclone on transmission and distribution system in Odisha along with the restoration status.

Odisha agreed to give the presentation in next OCC Meeting.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Persistent Low Voltage at 400/220 kV Nodes in West Bengal System -- ERLDC

Low voltage chronic issues have been observed in few pockets of West Bengal System. These pockets include

1. 400 kV Rajarhat, 400 kV Shubhasgram, 400 kV Jeerat and their downstream area,
2. 132 kV Malda and downstream areas

The chronic low voltage problem is still persisting and momentarily reliefs are observed only on the days of load crash in south Bengal due to inclement weather. Many letters are also written to WBSETCL highlighting the severity of the condition. However till date any improvement in low voltage problem is not observed.

The matter was also discussed in last OCC meeting where OCC advised SLDC, WB to prepare a plan for implementation of Under-Voltage Load Shedding (UVLS) in WBSETCL system to avoid voltage stability problem.

WBSLDC may please share the plan for implementation of UVLS and other actions which they have taken to limit the voltage fall during peak load condition.

Powergrid vide mail dated 24th June 2019 suggested that for improving system voltage during peak summer, “Static Var Compensator” (SVC), may be installed at Subhashgram S/s. Necessary sizing will be detailed further, upon approval of forum.

It is proposed to provide in-principal approval for installation of SVC at Subhashgram S/s, for maintain system voltage during summer, and upon approval detailed report, with implementation plan will be submitted further.

In 158th OCC, ERLDC elaborated that due to significant increase in demand at Subashgram, Jeerat and Malda areas, the voltage has been coming down below 370 kV during peak hours.

OCC observed that low voltage had been persisting in West Bengal system due to significant demand at Malda, Subashgram and Jeerat area and insufficient reactive power support by WBPDCL generating units (i.e. from Sagardhigi, Bakreswar and Kolaghat TPS units). OCC opined that this might be leading to voltage instability problem, if necessary preventive actions are not taken in advance.

OCC advised WBPDCL provide MVAR generation during low voltage condition as per the capability curve.

OCC advised SLDC, WB to implement Under-Voltage Load Shedding (UVLS) in WBSETCL system to avoid voltage stability problem.

OCC decided to discuss the issue of low voltage in West Bengal system and the proposal of installing SVC at Subashgram in a separate meeting with the concerned members from WBSETCL, WBPDCL, SLDC-WB, WBSEDCL, CESC, Powergrid ER-II, ERLDC and ERPC.

Accordingly, the meeting was conducted at ERPC, Kolkata on 8th July 2019. Minutes of the meeting are enclosed at **Annexure-B1**.

Members may discuss.

Deliberation in the meeting

WBSETCL vide letter dated 15th July 2019 requested for the following amendment in 2nd and 4th para of the minutes,

"The above factors together with inadequate reactive compensation at load end within West Bengal system, loading of Subhasgram(PG)-EM 220kV lines far beyond SIL, Subhasgram(WBSETCL)-Lakshmikantapur 220kV D/C lines beyond SIL and time spill over to bring total connectivity at Rajarhat (PG) S/s are causing the voltage at Rajarhat and Subhashgram to decrease below 360 kV during 14:00 hrs to 16:00 hrs."

"WBSETCL informed that the 220kV lines were loaded beyond the SIL limit and contributing to the low voltage in West Bengal system."

CESC requested to include the following sentence in 3rd para of the minutes,

"As a result they had incurred financial loss on account of DSM in the month of May 2019 and June 2019."

OCC confirmed the minutes the meeting on "Low voltage issue in West Bengal System" which was conducted at ERPC, Kolkata on 8th July 2019 with above amendments and addition.

WBPDCL informed that they are generating reactive power during low voltage by maintaining the generator terminal voltage at 1 p.u. and also submitting the data on daily basis.

ERLDC informed that WBPDCL generators are providing the VAR during low voltage but still there is a scope for improvement. ERLDC added that reactive power performance of Farakka unit 2 and 4 is not satisfactory and not generating sufficient VAR during low voltage.

OCC advised NTPC Farakka to take appropriate action to generate VAR during low voltage.

OCC advised SLDC, West Bengal to monitor the voltage and take appropriate action to control the voltage.

OCC also advised ERLDC and SLDC, WB to analyze the improvement in voltage profile due to reactive power support from WBPDCL.

ERLDC informed that SCADA data receiving at ERLDC is not proper and requested SLDC, West Bengal to ensure proper data availability to ERLDC.

WBSETCL had submitted the substation wise list of capacitor banks installed in West Bengal system and the capacitor banks to be installed by December 2019. The list is enclosed at Annexure-B1.1.

Item No. B.2: Intimation regarding closure of Regional OS Control Centre, Patna --NTPC

NTPC vide letter dated 8th July 2019 informed that NTPC ER-I Regional OS Control Centre, Patna, will discontinue its operation w.e.f. 16.07.2019. ERLDC is requested to coordinate/communicate directly with all NTPC Stations.

Besides this, VoIP based communication system is under development at NTPC Operation Monitoring Center at NTPC Bhawan, Scope Complex, New Delhi.

Members may discuss.

Deliberation in the meeting

ER beneficiaries opined that Regional Control Centre acts as a single window for coordinating with all the power stations of NTPC in the Eastern Region in maintaining the overall generation of NTPC stations in ER and also for scheduling of URS power and as such, plays a pivotal role for grid management.

ERLDC informed that they had faced the difficulty in contacting the generators located at remote location and they had taken help from Regional Control Centre during emergencies on several occasions. Regional Control Centre is also helpful in collection of consolidated data of NTPC generators in ER.

It was observed that a member from Regional Control Centre is required for Disaster Management Group at Regional level.

OCC referred the issue to TCC Meeting for further guidance.

Item No. B.3: WIDE DEVIATION OF REAL TIME GENERATION/SCHEDULE GENARATION(SG) OF TALA AND CHUKHA HEP WITH RESPECT TO DECLARED CAPACITY--WBSEDCL

Due to wide deviation between Declared capacity & real time generation of Tala HEP & Chukha HEP the day ahead & intraday planning of the beneficiaries are getting dislocated on regular basis specially during the monsoon season.

In practice distribution utilities like WBSEDCL tunes the day ahead LGBR by trading through Exchange platform, based on the day ahead availability received from different power stations under long/Medium term PPA within 12.00hrs of every day. But in real time it is observed that the Schedule Generation (SG) of Tala HEP & CHEP differs widely w.r.t that of day ahead DC. So, for such unrealistic day ahead DC prediction from Bhutan side the beneficiaries are failing to plan their power purchase portfolio on economic principle.

Moreover, it is also observed that Bhutan S.O. is not serious in revising the DC of Tala HEP & CHEP in accordance with the real time ongoing generation trend. So, due to uncertainty of SG for such approach, beneficiaries are facing severe problem to take proper decision for load generation balancing under prevailing stringent DSM regime.

Members may discuss.

Deliberation in the meeting

DGPC informed that the hydro flow is changing rapidly, accordingly they are revising the DC.

DGPC added that they are submitting the revised DC to NLDC, Bhutan.

OCC advised NLDC, Bhutan to adhere to the schedule, any deviation schedule due to change in hydro inflow should be taken care by revising the schedule. The day ahead schedule should be accurate so that the Beneficiaries can plan their availability as per the demand. Otherwise, the beneficiaries incurred with huge penalty under DSM due to deviation in the schedule of Bhutan power.

NLDC, Bhutan informed that accessing the ERLDC site requires high speed internet which is not available at NLDC, Bhutan therefore, they could not punch the revised schedule. However NLDC, Bhutan agreed to pass the information to ERLDC in time.

Item No. B.4: Disaster Management Group at Regional level and Plant level--CEA

CEA vide letter dated 9th July 2019 informed that as per section 37 of the Disaster Management Act 2005, each Ministry is required prepare a Disaster Management plan related to their sector. Accordingly, MoP in association with CEA has prepared a plan for power sector and it is available at CEA website (http://164.100.60.14/reports/others/planning/pslf/cmp_powersector.pdf).

In the plan, a four –tier institutional structure has been envisaged i.e. at central level, regional level, state level, and local unit level to effectively deal with disaster situations in power sector. The group at regional level has to be constituted under the chair of Member Secretary. Similarly a group at plant level is to be formed. Details are given at **Annexure-B4**.

CEA requested to confirm the constitution of the group at regional level for disaster management.

Members may discuss.

Deliberation in the meeting

OCC advised all the generating stations and SLDCs to form a Disaster Management Group and send the details to ERPC.

Regarding formation of Disaster Management Group at regional level, OCC referred the subject matter to TCC.

Item No. B.5: Levy of transmission charges for overload capacity scheduled to long-term beneficiaries--TUL

1. The agenda is with reference to CERC Order dated 12.02.2019 in Petition No. 205/MP/2018 under which LTA customers are not required to avail additional LTA for scheduling of overload up to 10%. CERC under its Order dated 12.02.2019 has *inter-alia* held as below:

> *"23. ……**hydro generating stations irrespective of ownership (private or government) are not required to obtain LTA corresponding to overload capacity (upto 10%) and the injection of the same should be allowed by concerned RLDC.** In our view, even in case of a hydro generating station in the private sector, the RLDCs cannot compel them to obtain LTA/ MTOA/ STOA for overload capacity up to 10% of existing LTA during high inflow period. Accordingly, RLDCs are directed to allow injection of power corresponding to overload capacity upto 10% of LTA without obtaining additional LTA/ MTOA/ STOA for the overload capacity. Needless to*

mention, the RLDCs shall allow the Declared Capacity declared by the generator for the purpose of PAF calculation of the generating station. In order to ensure that the CTU and RLDCs receive their respective charges, we also think it appropriate to clarify that ***in case of scheduling of overload capacity up to 10% beyond granted LTA, the hydro generating station or the beneficiary, as the case may be, shall be required to pay additional LTA charges and additional RLDC fees & charges for the overload capacity.*** *These additional charges shall be in proportion to the existing LTA charges and RLDC fees & charges respectively. CTU and respective RLDCs shall raise bills accordingly.*

2. Few of our long-term customers have raised concern over the computation of LTA charges for such overload capacity. As per Regulation 11(4) of CERC (Sharing of Inter-State Transmission Charges and Losses) Regulation 2010, LTA charges are computed as under:

   "POC transmission rate for demand zone in Rs/ MW/ month x Approved Withdrawal"(MW)
   (i.e. Approved Withdrawal being LTA quantum in MW)

3. Few customers are interested in availing the 10% overload capacity for few days in a month instead of continuously for the whole month. They are concerned that by availing overload for few days (say 3-4 days in a month), they will be liable to pay additional LTA charges for the whole month which will result into very high charges per unit of electricity actually scheduled. They are of the view that the same should be charged proportionately for the number of days for which overload capacity is availed.
4. Therefore, clarification is required regarding levy of transmission charges for scheduling the overload capacity to long-term beneficiaries under LTA. The billing for the same should be calculated on the basis of Rs/ MW/ time-block as is being done in case of Central Generating Stations and be levied on concerned LTA customers. A similar formula has been given under Regulation 11(7) of CERC (Sharing of Inter-State Transmission Charges and Losses) Regulation 2010 which is to be used for somewhat different conditions. The similar methodology for determining transmission charges for overload scheduling can be adopted as given below:

   POC Transmission rates for the generation zone in Rs / MW/ time block x Average MW injected during time blocks.

Members may discuss.

Deliberation in the meeting

TUL informed that few of their long-term customers have raised concern over the computation of LTA charges for such overload capacity.

OCC opined that the issue might be placed in NR forum by their beneficiaries.

However, ERPC Secretariat agreed to look into the issue.

Item No. B.6: Non-synchronisation of 400 kV Dikchu-Rangpo Line due to large angular separation & voltage oscillation--TPTL

400 kV Dikchu – Rangpo line could not be synchronised both at Dikchu end as well as Rangpo end on 30.06.2019 due to large angular separation between Rangpo 400 kV bus bar and Dikchu 400 kV bus bar. The line could be synchronised only after opening of 400 kV Teesta III – Dikchu line, thereby isolating Dikchu HEP from the rest of the system.

Further, after the outage of 400 kV Dikchu – Rangpo Line at 09-55 hrs on 30.06.2019, voltage of Teesta III HEP bus bar dipped to 367 kV and voltage oscillations occurred at Teetsa III end. Though SATCOM was under operation at Kishanganj, voltage oscillations at Teesta III end as well as large angular separation between Dikchu & Rangpo persisted. To control voltage dip at

Teesa III end, generation at Teesta III HEP was immediately reduced from 1320 MW to 920 MW in consultation with ERLDC.

Members may discuss.

Deliberation in the meeting

It was informed that the issue was discussed in detail in 81st OCC Meeting.

Teesta –III was advised to conduct a detail study on allowable angular separation for synchronization of 400 kV Dikchu – Rangpo line.

Item No. B.7: Submission of data in MERIT Order portal --CEA

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

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

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

Members may comply.

Deliberation in the meeting

OCC advised all the SLDCs to fill the correct data in MERIT portal on regular basis.

Item No. B.8: Outage of important transmission lines

In 158th OCC, Powergrid informed that 400 kV Kishenganj-Patna D/C lines would be restored by end of August 2019.

It was informed that 400 kV Purnea-Biharshariff D/c would be restored by end of July 2019.

Members may update.

Deliberation in the meeting

Powergrid informed that 400 kV Kishenganj-Patna D/C lines would be restored by end of December 2019.

Item No. B.9: Rectification of bent Tower leg & bracing at Loc. No. 170 (DD+0) of 400kV D/C Nabinagar-Sasaram Line--Powergrid

Powergrid informed that during line patrolling, the main leg-A and connected bracing between Leg-A & Leg-D was found deformed and bend inside, following the summer cyclone in the month of May 2019.

It is proposed to replace the bend bracing by de-stringing of conductor and after that replacement of leg with support of derrick / hydra with proper guying arrangements. The above lines shall be under shut-down to carry out such rectification work for a period of about ten days. To avoid collapse of said tower, POWERGRID has provided stitching with additional tower

member to safeguard the tower and kept under regular vigil. Due to severe bending of leg members, collapse of the said tower cannot be overruled and hence required to be replaced the bend members at the earliest.

The replacement of deformed / bulged leg & bracing has been planned from 1st to 10th July' 2019 for which shutdown requisition has already been proposed. Since this tower has been deformed due to severe cyclone, the rectification period of the subject tower may be considered as force majeure condition for the purpose of calculation of availability.

In 158th OCC, it was informed that no evacuation path would be available for Nabinagar generation plant during the shutdown period of 400kV D/C Nabinagar-Sasaram Line.

In view of above, OCC advised Powergrid to restore the line using ERS and complete the tower repairing work.

Members may discuss.

Deliberation in the meeting

Powergrid informed that restoration of the line using ERS would take more than 10 days as it requires destringing of 3.6 km line. The replacement of deformed / bulged leg & bracing would take 10 days.

OCC decided to discuss the issue in separate meeting with concerned utilities i.e. Eastern Railway, Bihar, BRBCL, Powergrid, ERLDC and ERPC.

Item No. B.10: Operationalization of 400 kV Durgapur Bus Splitting Scheme

In 151st OCC Meeting, it was decided to discuss the issue in a separate meeting. In line with the OCC decision three meetings were held at ERPC, Kolkata on 26.12.2018, 17.01.2019 and 08.04.2019.

The minutes of the 3rd Special Meeting on "Operationalization of 400 kV Durgapur Bus Splitting Scheme" held at ERPC, Kolkata on 8th April 2019 at 11:00hrs.

Protection settings to be reviewed:

Durgapur Substation

Section	Name of Line	Length and Conductor Type	Group 1 setting from the Remote end (Bus Split Mode)			Group 2 setting from the remote end (Bus Close Mode)		
			Longest Line data	Shortest Line data		Longest Line data	Shortest Line data	
Durgapur A (Bus 1 & 2)	400 kV Durgapur-Farakka 1	146 km, Twin Moose	DGP-JSR: 177KM (Twin Moose S/C)	DGP-BDHN: 11KM (Twin Moose D/C)	Not Required	DGP-JSR: 177KM (Twin Moose S/C)	DGP-BDHN: 11KM (Twin Moose D/C)	Not Required
	400 kV Durgapur-Bidhan Nagar 1	11 km, Twin Moose	R1=0.0288 X1=0.3280	R1=0.0288 X1=0.3070	Not Required	R1=0.0288 X1=0.3280	R1=0.0288 X1=0.3070	Not Required
	400 kV Durgapur-Bidhan Nagar 2	11 km, Twin Moose	B1=3.5500 R0=0.2850	B1=3.7700 R0=0.2690	Not Required	B1=3.5500 R0=0.2850	B1=3.7700 R0=0.2690	Not Required
	400 kV Durgapur-Jamshedpur	177 km, Twin Moose	X0=1.0200 B0=2.6100	X0=1.0700 B0=2.2900	Not Required	X0=1.0200 B0=2.6100	X0=1.0700 B0=2.2900	Not Required
	400 kV Durgapur-Sagardighi 1	127 km, Twin moose	R0m= 0 X0m= 0	R0m=0.2080 X0m=0.6750	Not Required	R0m= 0 X0m= 0	R0m=0.2080 X0m=0.6750	Not Required
	400 kV Durgapur-Sagardighi 1	127 km, Twin moose			Not Required			Not Required
	400/220 kV ICT 1							
Durgapur B (Bus 3 & 4)	400 kV Durgapur Maithon 1	70.1 km. Twin Lapwing	DGP-JSR: 150.4KM (Twin Moose S/C)	DGP-JSR: 70.1KM (Twin Moose D/C)	Yes Required due to change in short/long line	DGP-JSR: 177KM (Twin Moose S/C)	DGP-BDHN: 11KM (Twin Moose D/C)	Yes Required due to change in short/long line
	400 kV Durgapur Maithon 2	70.1 km. Twin Lapwing	R1=0.0288 X1=0.3280	R1=0.0197 X1=0.3060	Yes Required due to change in short/long line	R1=0.0288 X1=0.3070	R1=0.0288 X1=0.3070	Yes Required due to change in short/long line
	400 kV Durgapur-Farakka 2	150.4 km, Twin Moose	B1=3.5500 R0=0.2850	B1=3.8000 R0=0.2050	Yes Required due to change in short/long line	B1=3.7700 R0=0.2690	B1=3.7700 R0=0.2690	Yes Required due to change in short/long line
	400/220 kV ICT 2		X0=1.0200 B0=2.6100	X0=0.9010 B0=2.3700		X0=1.0700 B0=2.2900	X0=1.0700 B0=2.2900	
			R0m= 0 X0m= 0	R0m=0.1700 X0m=0.5020		R0m=0.2080 X0m=0.6750	R0m=0.2080 X0m=0.6750	

In 156th OCC, ERLDC informed that protection coordination with the adjacent substations should be completed before putting the bus splitting scheme in service.

It was informed that the protection coordination issues were discussed in 78th PCC Meeting held on 22nd April 2019. As per the decision, Powergrid had to coordinate with adjacent substations.

OCC advised NTPC, WBPDCL and WBSETCL to review the settings and submit the confirmation to ERPC and ERLDC by end of April 2019.

Regarding utilization of 3rd ICT at Durgapur, it was informed that the Committee met on 10th April 2019.

In 157th OCC, OCC decided to put the Bus Splitting Scheme at 400 kV Durgapur S/s in operation in 1st week of June 2019.

Committee submitted the study results on utilization of 3rd ICT at Durgapur which is enclosed at **Annexure-B10.**

Powergrid informed that separate group settings had been implemented as per the revised configuration.

OCC decided to put the Bus Splitting Scheme at 400 kV Durgapur S/s in operation in 1st week of July 2019.

DVC vide letter dated 10th July 2019 informed that after commissioning of 3rd ICT, any unit tripping of MTPS may lead to imposing restriction on loading of the tie lines.

DVC requested to adjudge the viability of keeping the 3rd ICT in service before commissioning of the bus-split at Durgapur(PG).

Members may update.

Deliberation in the meeting

ERLDC informed that the bus splitting scheme was charged for 15 minutes at 15:00 hrs on 18th July 2019 on trail basis. ERLDC had placed the real time observations in the meeting. The presentation is enclosed at Annexure-B10.1.

It was observed that the loading on 220kV Durgapur(PG)-Parulia(DVC) D/C line and 220kV Waria-Bidhanagar is increasing with bus splitting scheme. The loading on both the lines is further increasing with 3rd ICT at Durgapur (PG) in service.

OCC advised SLDC, WB to shift the loads to minimize the loading on 220kV Waria-Bidhanagar D/C line.

SLDC, WB informed that there is no scope for shifting the loads.

OCC opined that in view of increasing fault level at 400kV Durgapur, it is necessary to put the Bus spitting scheme in service.

OCC decided to put the Bus Spitting scheme in service for one day on trail basis without 3rd ICT at Durgapur (PG). Based on the real time observations, the further course of action would be decided.

Item No. B.11: Status of projects funded under PSDF schemes

NLDC vide mail dated 15th July 2019 informed that the completion schedule of the projects approved for PSDF funding is linked with the release of first installment of grant from PSDF. For the purpose of computation of the scheduled date of commissioning, the same is being worked out on the basis the completion schedule mentioned in the DPR and the date release of first installment of grant.

During the review of the progress of the projects, it was observed that scheduled commissioning date had already expired in most of the projects. The delay was viewed seriously during the meetings of the PSDF Project Monitoring Group, review meetings taken by Ministry of Power and the PSDF Monitoring Committee meetings.

Some of the entities had sought time extension and the same was also granted. It is seen that such projects have not been completed even in the extended time schedule. The project entities are requested to review the present progress of the project and furnish the reasons for not completing the project within the scheduled commissioning date/extended time schedule. The entities may furnish following details

a) Details of works completed so far,
b) Status of balance works,
c) Likely date for completion of the balance works.
d) Revised completion schedule,

A meeting of PSDF Project Monitoring Group (PMG) is scheduled on **23rd July, 2019** wherein the requests for time extension shall be considered. It is therefore requested to furnish the details along with the request for time extension latest by latest by 19th July, 2019 so that the same can be examined and put for consideration of the PMG. All those entities who have submitted their requests earlier may also update the status and resubmit the request.

In the PSDF review meeting, it was advised to RPCs to monitor the status of all the projects funded by PSDF. Therefore, constituents are requested to update the status of projects which are being funded by PSDF in the desired format.

A. Projects approved:

SN	Name of Constituent	Name of Project	Date of approval from PSDF	Target Date of Completion	PSDF grant approved (in Rs.)	Amount drawn till date (inRs.)	Latest status
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14	April 2018 Extended till March 2019	108.6 Cr	37 Cr.	Project has been completed. Final value of the project is 51.22 Cr.
2		Renovation & modernisation of transmission system for relieving congestion in Intra-State Transmission System.	22-05-17	March 2020	70.13	63.12 Cr	Order has been placed . Work is in progress.
3		Installation of switchable reactor at 400kV & shunt capacitors at 33kV	22-05-17	November 2019	43.37	11.69 Cr	Order had been placed and work is in progress.
4		Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid			71.74 Cr		
5		Project for establishment of reliable communication and data acquisition at different substation at WBSETCL.			31.19 Cr		
6	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station	*10.04.17*	*March 2018*	1.39 Cr	1.25 Cr	*The islanding scheme had been implemented and in operation wef**15.11.2018***
7		Upgradation of Protection and SAS		April 2020	23.48	2.348 Cr	Bid opened and order has been placed. Work started.
8	OPTCL	Renovation & Up-gradation of protection and control systems of Sub-stations in the State of Odisha in order to rectify protection related deficiencies.	11.05.15	31.03.19	162.5 Cr.	37.79 Cr	90% work has been completed. Total expenditure may not exceed 68 Cr.
9		Implementation of OPGW based reliable communication at 132kV	15.11.17		25.61 Cr.	2.56 Cr	Agreement signed on 03.01.2018. Tender has been

		and above substations					floated.
10		Installation of 125 MVAR Bus Reactor along with construction of associated bay each at 400kV Grid S/S of Mendhasal, Meramundali& New Duburi for VAR control &stabilisation of system voltage	27.07.18		27.23 Cr	2.72 Cr	Tender has been floated.
11	OHPC	Renovation and up-gradation of protection and control system of 4 nos.OHPC substations.		*U.Kolab, Balimela, U.Indravati, Burla, Chiplima March 2019*	*22.35 Cr.*	2.235 Cr	Placed the work order.
12	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharshariff, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone& 132/33 kV GSS Kataiya	11/5/15	31.07.2018	64.02 crore	56.04 crore	90% of work has been completed. The work would be completed by Dec 2019.
13		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016	31st March 2019	18.88 crore	Nil	Work awarded for all GSS. Work had been completed for 27 substations
14		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.	02.01.17	31st March 2018	49.22 Cr.		75% work completed for seven no. GSS as part of R & M work. Revised DPR is to be submitted for rest 5 no. GSS.
15	JUSNL	Renovation and up-gradation of protection system	*September 2017*	*15 Months*	*138.13 crores*	*39.02 Cr*	LOA placed to Siemens on 28th Sep 2018.
16	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation	02.01.17	01.06.2019	25.96 Cr	2.596 Crore on 01.06.2017	Work awarded for 28.07 Cr. Work would be completed by May 2019.
17		Renovation and upgradation of control & protection system including replacement of substation equipment at Parulia, Durgapur, Kalyaneshwari, Jamshedpur, Giridih, Barjora, Burnpur, Dhanbad and Burdwan Substation of DVC	27.11.17	24 Months from the date of release of fund.	140.5 Cr.	1st installment of 14.05 Cr. received on 21.12.2017	Work awarded for 77.97 Cr.
18	POWERGRID	Installation of STATCOM in ER		June 2018	*160.28 Cr*	*16.028 Cr*	Work is in progress, expected to complete by June 2018. STATCOM at Rourkela has been commissioned.
19	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16	Project is alive from 30th October 2017	20 Cr.	4.94 Cr. + 9.88 Cr.	1) Protection Database Project has been declared 'Go live' w.e.f. 31.10.17. 2) Pending training on PDMS at Sikkim and 3rd training on PSCT has been also completed at ERPC Kolkata.
20a	ERPC	Training for Power System Engineers	*27.07.18*		0.61 Cr.	Nil	Approved
20b		Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents	*27.07.18*		5.46 Cr.	Nil	

B. Projects under process of approval:

SN	Name of Constituent	Name of Project	Date of Submission	Estimated cost (in Rs.)	Latest status
1	Sikkim	Renovation &Upgradation of Protection	09-08-17	68.95 Cr	The proposal requires third party

		System of Energy and Power Department, Sikkim.			protection audit. Issue was discussed in the Monitoring Group meeting in Siliguri on 8.6.2018. Sikkim was asked to coordinate with ERPC.
2		Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim	09-08-17	25.36 Cr	Scheme was approved by Appraisal Committee. It was sent to CERC for concurrence.
3	JUSNL	Reliable Communication & Data Acquisition System upto 132kV Substations.	23-08-17	102.31 Cr	Scheme was approved by Appraisal Committee. It was sent to CERC for concurrence.
4	OPTCL	Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha	22-12-17	3.26 Cr	Scheme was approved by Appraisal Committee. It was sent to CERC for concurrence.
5		Protection upgradation and installation of SAS for seven numbers of 220/132/33kV Grid substations (Balasore, Bidanasi, Budhipadar, Katapalli, Narendrapur, New-Bolangir&Paradeep).	12-03-18	41.1 Cr.	Scheme examined by TSEG on 20.03.2018. Inputs sought from the entity are awaited.
6	WBSETCL	Implementation of Integated system for Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) system in West Bengal	22-12-17	25.96 Cr	Proposal recommended for approval of Appraisal committee
7	BSPTCL	Implementation of Schedulling, Accounting, Metering and settlement of Transcation in Electricity (SAMAST)in SLDC Bihar.	27-02-18	93.76 Cr.	Scheme examined by TSEG on 20.03.2018 & 31.05.2018. Further inputs furnished by BSPTCL on 1.8.2018. Shall be examined in the next meeting of TESG.

Respective constituents may update the status.

Deliberation in the meeting

OCC advised all the constituents to send the requisite details to NLDC by 19th July 2019.

Members updated the latest status as mentioned in above table.

Item No. B.12: Finalization Outage Request and processing timeline--ERLDC

The procedure for timeline regarding submission of outage request till approval of the outage formulated by ERLDC has been circulated and discussed in 156th OCC meeting held at NTPC, Kahalgaon. The same had also been presented in 157th OCC meeting held at ERPC, Kolkata for beneficiary's comments/suggestion. Till date ERLDC did not receive any objection/suggestion from the utilities. Under this circumstance, the procedure mentioned through a flow chart in **Annexure-B12** may be approved and minute unless any modification/suggestion recommended.

In 158th OCC, all the constituents were advised to submit their comments on outage procedure within a week.

OCC decided to finalize the procedure in next OCC Meeting.

Members may decide.

Deliberation in the meeting

OCC decided to finalize the procedure in next OCC Meeting.

Item No. B.13: Additional agenda by ERLDC

1. **Submission of Declared Capacity of Tala, Chukha and Kurichu hydro stations by Bhutan, through WBES software**

Hydro Generating stations of Bhutan viz. Tala HEP(6*170 MW), Chukha HEP(4x84 MW) and KurichuHEP (4x15 MW) are being scheduled by ERLDC. Scheduling philosophy adopted for these generators are like ISGS generating station and scheduling process forsubmission of different parameters such as DC, revised DC, Requisition of beneficiaries are done as per IEGC chapter – 6 scheduling procedure. All these hydro generating station have different beneficiaries in Eastern and Northern region.

User log-in credential and password of ERLDC, WBES (Web Base Scheduling software) have been shared with NLDC, Bhutan for submission of Tala, Chukha and Kurichudeclared capacity (DC) for day ahead and also to submit revised DC of its generators during real time as per change in generation pattern.Training on handling ERLDC WBES (Web Base Scheduling software)for submission of DC, change in DC of individual generator hadalso been demonstrated to representatives of NLDC Bhutan.

As per the recent practice, NLDC, Bhutan is sending 15 minute DC(injection schedule at Indian boundary) in MW for Tala, Chukha and Kurichu through mail for the day ahead(D day) by 10:00 Hrs of D-1 day and ERLDC filled this MW DC in each generator Declaration page for implementation in WBES.

Flowing are some observation/discrepancies found during real time operation:

1. Bhutan, NLDC is not submitting block wise DC of the individual generators (Tala, Chukha&Kurichu) in ERLDC WBES.
2. NLDC, Bhutan is not revising its Individual generators DC during real time as per individual generators change in generation pattern. To avoid deviation of real time generation with respect to declare generation of respective Bhutan generators, ERLDC control room executive suo-mottuchanges Bhutan generators DC as per its actual generation during real time.

In view of above, NLDC, Bhutan is requested to revise DC of individual generators regularly keeping in view the change in actual generation and submit the same in ERLDC WBES during real time.

NLDC, Bhutan may comment.

Deliberation in the meeting

DGPC informed that the hydro flow is changing rapidly, accordingly they are revising the DC.

DGPC added that they are submitting the revised DC to NLDC, Bhutan.

OCC advised NLDC, Bhutan to adhere to the schedule, any deviation schedule due to hydro inflow should be taken care by revising the schedule. The day ahead schedule should be accurate so that the Beneficiaries can plan their availability as per the demand. Otherwise, the beneficiaries incurred with huge penalty under DSM due to deviation in the schedule of Bhutan power.

NLDC, Bhutan informed that accessing the ERLDC site requires high speed internet which is not available at NLDC, Bhutan therefore, they could not punch the revised schedule. However NLDC, Bhutan agreed to pass the information to ERLDC in time.

2. Updated Operating Procedure of Eastern Region-2019

The Operating Procedure of Eastern Regional power system, developed and maintained by ERLDC in accordance with section 5.1(f) of the IEGC, has been updated taking into consideration the evelopments that have taken place in the regional power system during the last one year including the amendments incorporated in the IEGC so far by Hon'ble CERC. Draft Operating procedure was circulated to the concerned for their review and suggestion via email dated 10th July 2019.

Based on comments received and other development operating procedure is finalized and same is available at ERLDC website www.erldc.in

Member kindly note

Deliberation in the meeting

ERLDC informed that the revised operating procedure is available at ERLDC website.

OCC advised all the concerned utilities to go through the procedure and send their comments by 25th July 2019.

3. Operation of All generating units in automatic Voltage regulator mode:

During disturbance at Dikchu on 30.06.19 it was observed that Teesta III units are operating their AVR in "Reactive power control mode" which led to serious voltage issue at Teesta III end**.**

But as per IEEE standards reactive power regulation mode of operation for grid connected generators are not allowed. Extract from the" IEEE Std 421.5™-2016" is quoted below:

"On the other hand, large generators connected to bulk power systems are usually required to operate on automatic voltage control and the use of these power factor or reactive power controllers is forbidden, either by reliability standards (e.g., North American Electric Reliability Corporation [B45]) or grid interconnection agreements (e.g. Independent Electricity System Operator [B30])."

In view of above, all the generating units may confirm that their units are operating "Automatic voltage regulation" mode rather than "reactive power control" mode or "power factor control mode" through mail.

Deliberation in the meeting

OCC advised all the generating units to operate in "Automatic voltage regulation" mode rather than "reactive power control" mode or "power factor control mode".

OCC advised all the generating stations to send the confirmation to ERLDC through mail.

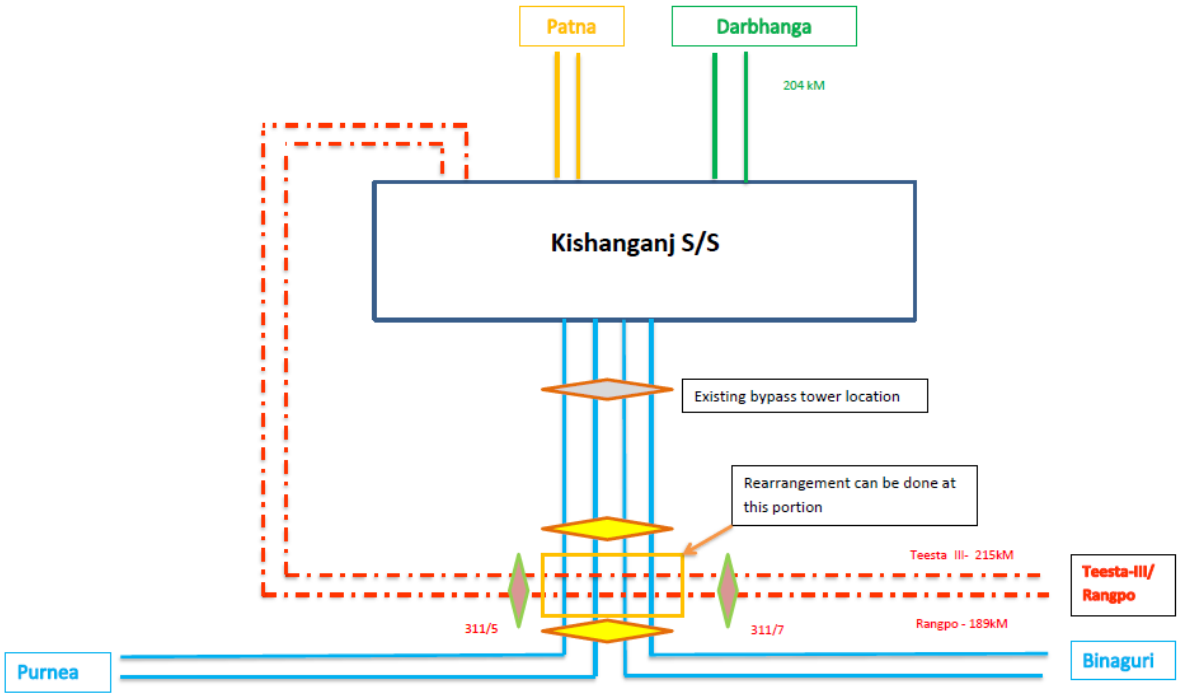
4. Bypassing arrangement of 400 kV Kishanganj S/S due to recent flood in North Bihar area:

Due to heavy rain in North Bengal and North Bihar for last 2 weeks, flood like situation has arisen in different districts like Kishanganj, East Champaran, Madhubani, Sitamari, Supaul, Araria of Bihar and North Dinajpur of W. Bengal. On 13/07/19 it was gathered that water had accumulated in 400/220kV Kishanganj GIS substation & its adjacent areas had risen to alarming levels.

Earlier during 2017, Kishanganj(PG) S/Stn had to be completely shut down for a couple of days, on account of water-logging. To avoid such type of situation in future, after discussion in different OCC meetings, temporary arrangement was made to keep the major outgoing/incoming lines in service by making bypass arrangement outside of the Kisanganj S/s. Accordingly arrangement for reconfiguring 400kV Binaguri-Kishanganj D/C & 400 KV Purnea-Kishanganj D/C at Kishanganj S/S as 400 kV Binaguri –Purnea – III & IV was planned & commissioned by cross jumpering above two lines at the LILO portion during March-2018.Subsequently, 400kV Teesta_III-Kishanganj& 400 KV Rangpo-Kishanganj were commissioned on 04/01/2019 & 11/02/2019 respectively and with their commissioning, restriction on generation by the hydro station in Sikkim was withdrawn. At present, 2300MW of Sikkim hydro generation is being evacuated through Kishanganj and Binaguri S/S. Bypassing arrangement of these lines were not envisaged during that period due to non-commissioning of these lines during that period.

In the event of recurrence of a similar emergency flood like situation, for facilitating evacuation of bulk hydro generation of Sikkim it is necessary to explore some methodology to interconnect 400kV Teesta – III – Kishanganj&Rangpo –Kishanganj lines, with other lines of adjacent S/Stns . A new re-configuration scheme needs to be explored instead of the existing Kisanganj S/S bypass scheme In the event of recurrence of a similar emergency.

For finalizing the above scheme an emergency meeting was held at ERLDC with concerned Transmission licenses on 16-07-2019. Transmission licensees viz. TPTL, ATL, ER-II (PGCIL) are present in the meeting and ER-I (PGCIL), NLDC participated the meeting through VC.



Members may please discuss.

Deliberation in the meeting

Powergrid informed that since 400kV Teesta III-Rangpo lines crossing the LILO portion of 400kV Purna- Kishangaj-Binaguri line perpendicularly with vertical line configuration, it is not possible to make the bypass arrangement.

OCC opined that site visit with the concerned transmission licensees is required to find out a plan for bypass arrangement.

OCC decided to form a Committee with members from Powerlinks, Powergrid, TPTL and ENICL. The Committee would visit the site and prepare a feasible plan for the bypassing arrangement.

5. Opening and maintain of adequate Letter of Credit (LC) under PPA by Distribution Licensees

Deliberation in the meeting

*ERLDC informed that Ministry of Power, GoI had issued an order on 28th June 2019 on above mentioned subject. The order is enclosed at **Annexure-B13.5.1**. Thereafter, Corrigendum was issued on 17th July 2019 which is enclosed at **Annexure-B13.5.2**.*

ERLDC added that the scheduling would be done as per the above orders w.e.f 1st August 2019.

This is for kind information.

PART C: ITEMS FOR UPDATE

Item no. C.1: Status of UFRs healthiness installed in Eastern Region

UFR Healthiness Certification for the month of June, 2019 has been received from OPTCL, CESC, WBSETCL, DVC, BSPTCL and JUSNL.

Members may note.

Deliberation in the meeting

Members noted.

Item no. C.2: 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.

The healthiness certificate for Islanding Scheme for June, 2019 has been received from CTPS, DVC, NTPC, West Bengal, JUSNL, WBPDCL and CESC.

Members may note.

Deliberation in the meeting

Members noted.

Item no. C.3: Healthiness of SPS existing in Eastern Region

The Status of healthiness certificate for June, 2019 is given below:

Sl. No.	Name of the SPS	Healthiness certificate received from	Healthiness certificate not received from
1.	*Talcher HVDC*	*NTPC,GMR, Powergrid,*	*JITPL,*
2.	SPS in CESC system	*CESC*	*Nil*
3.	SPS at Chuzachen	*Chuzachen*	*Nil*

Members may update.

Deliberation in the meeting

Members noted.

Item no. C.4: Implementation of Automatic Demand Management Scheme (ADMS)-ERLDC

The latest status along with proposed logic as follows:

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 25.11.16	F <49.9 AND deviation > 12 % or 150 MW
2	DVC	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 17.06.2016	
3	Bihar	F <49.7 AND deviation > 12 % or 150 MW	They would place the order to Chemtrol for implementation.	F <49.9 AND deviation > 12 % or 150 MW
4	Jharkhand	1. System Frequency < 49.9 Hz AND deviation > 12 % or 25 MW 2. System Frequency < 49.9 Hz AND deviation > 12 % or 50 MW 3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW	9 Months Tendering for RTU installation is in progress. Offer received from Chemtrol for implementation.	Condition 1: Block I feeders will be selected for load shedding Condition 2: Block I & II feeders will be selected for load shedding Condition 3: Block I, II & III feeders will be selected for load shedding
5	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months Sent for PSDF approval.	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operated when discom are in schedule but GRIDCO is overdrawing due to less generation at state embedded generators
6.	Sikkim			Sikkim informed that they have submitted a proposal to PSDF Committee for installation of OPGW cables which is under approval stage. Sikkim added that ADMS scheme would be implemented after installation of OPGW.

In 142nd OCC, it was opined that uniform logic should be implemented for all the states. OCC decided to review the logic of ADMS after implementation of the scheme by all the states.

In 40th TCC, ERLDC informed that in SCADA O&M Meeting held on 6th March 2019, Chemtrol has agreed to implement ADMS in Bihar and Jharkhand system without any additional charges. However necessary consent for making payment of Rs 4 lakhs (excluding GST) for remaining period of maintenance contract shall be given before implementing the same.

In the TCC Meeting, both Bihar and Jharkhand gave consent for making necessary payment.

In 156th OCC, it was informed that in SCADA O&M Meeting held on 24th April 2019, Chemtrol had informed that ADMS had already been implemented in Bihar and testing was to be done. Chemtrol had added that, for implementation ADMS for Jharkhand, they needed the list feeders as per the blocks.

OCC advised Bihar and Jharkhand to do the needful to implement the ADMS.

Members may update.

Deliberation in the meeting

JUSNL informed that testing of ADMS had been completed and the ADMS would be kept in service in 1st week of August 2019.

BSPTCL informed that installation of ADMS had been completed and the testing would be done by 26th July 2019.

Item no. C.5: Shut down plan of 400 KV Rangpo-Binaguri for Reconductoring work-- Powergrid

Under ERSS-XX, reconductoring work of 400 KV Rangpo-Binaguri-D/C from existing twin moose to Twin HTLS has been approved with scheduled completion target of May-2020. Previously, there are only Rangpo-Binaguri-D/C connectivity was present for transferring power from Sikkim to rest of the grid, accordingly, the S/D for reconductoring work was kept on hold till commissioning of 400 KV Rangpo-Kishanganj & 400 KV Teesta-3-Kishanganj circuit.

After commissioning of above links by M/S. TVPTL, both 400 KV Rangpo-Binaguri S/D was allowed but with a condition that, in case of any breakdown of available links, any one circuit required to be brought back within 24 Hours of intimation.

As all aware that Rangpo-Binaguri, line corridor is completely passing through hilly terrain (Almost 70% of the line) & mostly populated by angle towers. Height of the towers in the peaks also make the task double difficult as approach and carrying of T&P's are itself a gigantic task. Although the work commenced on 19.03.2019 after getting approval of S/D till 25.04.2019, but as the returning conditions are there, work cannot be speed up as in every span, respective gangs used to complete one after another circuit and moving for next span.

However, due to certain issues of generation back down, the double circuit S/D was asked to return and finally both the circuit again charged on 26.05.2019. Merely two month period of S/D was allowed in which due to condition of return of S/D the work could not take pace as envisaged.

After that numerous communications made from ER-II end for further S/D but citing system security & constraints the S/D deferred continuously. In this regard a letter from ED/ER-II dated 17.05.19 also given to POSOCO (Enclosed).It may be noted that, the work is very tedious and time taking activity as most of the work will be carried out at Hills. Again, entire work will take 10-12 months and allowing a small window in lean period will not serve the purpose.

As such again, the S/D for reconductoring is placed as below, for completion of scheduled scope:

SL NO	Name of Element	From	To	Nature	Remarks
01.	400 KV Rangpo-Binaguri-Circuit-I	01.09.2019	30.07.2020	OCB	Other Rangpo-Binaguri Circuit will be charged.
02.	400 KV Rangpo-Binaguri-Circuit-II.	01.11.2019	30.05.2020	OCB	Both the Rangpo-Binaguri D/C will be under shut down.

In continuation, it may be noted, that during S/D of circuits of Rangpo-Binaguri, SPS will be implemented at Rangpo end for maintaining safe operating limits, in case of any eventuality. S/D for both circuits asked in lean period only.

In 158th OCC, it was decided to form a Committee with members from ERPC, ERLDC, Powergrid, Teesta-V and Teesta-III to study the appropriate time for allowing the shutdown including the duration thereof for completing the re-conductoring work. The Committee would also monitor the progress of the work.

Members may submit the nomination.

Deliberation in the meeting

It was informed that the issue was discussed in shutdown meeting held on 18th July 2019 wherein it was opined that one circuit of 400 KV Rangpo-Binaguri D/C line could be allowed from September/October 2019 depending on the hydro generation availability in Sikkim.

OCC viewed that separate Committee is not required for further study and decided to discuss the issue in next OCC meeting.

Item no. C.6: Replacement of defective Tie-line energy meter of one circuit of 132kV Patratu(DVC)-Patratu TPS --DVC

DVC vide letter dated 6th June 2019 informed that the old energy meter one circuit of 132kV Patratu(DVC)-Patratu TPS (L#85) is not working since long. One new energy meter has been collected by DVC from Powergrid for replacement. DVC requested Powergrid to install the meter at the earliest.

In 158th OCC, Powergrid agreed to send their representative to Patratu for installation of SEM.

Adhunik informed that the GT meter and APNRL-Jamshedpur line SEMs showing erroneous readings while importing the power during shutdown of both units of APNRL.

Powergrid agreed to take necessary action.

DVC and Powergrid may update.

Deliberation in the meeting

OCC advised DVC and Powergrid to settle the issue bilaterally.

Adhunik was advised to send the details to Powergrid, ERLDC and ERPC.

Powergrid agreed to take necessary action.

Item no. C.7: Issues related to installation/integration of PMU under URTDSM project in ER---ERLDC

In 158th OCC, Powergrid updated the status as follows:

- *Talcher : Analog channels had been integrated and digital channels are yet to be done*
- *Kahalgaon : The work is planned to be done during shutdown on 2nd July 2019*

OCC advised NTPC to cooperate with Powergrid to complete the work.

Members may update.

Deliberation in the meeting

OCC advised NTPC to cooperate with Powergrid to complete the work.

Item no. C.8: REPLACEMENT OF OLD RTUS IN EASTERN REGION FOR REPORTING OF RTU/SAS TO BACKUP CONTROL CENTRES

In 39th ERPC Meeting, it was decided that,

i) ERPC approved the proposal of Power Grid for replacement of the old RTUs in the Eastern Region for reporting of RTU / SAS to backup control centres at an estimated cost of Rs. 88.57 Crore with an implementation time of 36 months.
ii) Power Grid shall place a proposal before PSDF Committee for financing the above project from PSDF.

In 40th TCC, Powergrid informed that the DPR for PSDF would be submitted by April, 2019.

In 158th OCC, Powergrid informed that the DPR for PSDF would be submitted by 31st July, 2019.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the DPR for PSDF would be submitted by 31st July, 2019.

ERLDC informed that the

- *The issue was discussed in Special SCADA PRM Meeting held at ERPC, Kolkata on **14th February 2017** wherein it was emphasized to replace/upgrade RTU/SAS in ER so that dual reporting over 104 protocol could be possible for data redundancy to ERLDC.*
- *In 35th TCC/ERPC meeting held on 24th / 25th February 2017, it was decided to form a committee so that necessary assessment & further action for early replacement of old central sector RTUs (before October 2020).*
- *Committee report finalized and approved in 36th TCC/ERPC meeting held on 13th / 14th September 2017.*
- *Approval of final proposal along with its cost implication was extended to POWERGRID in 39th TCC/ERPC meeting held on 16th / 17th November 2018 wherein it was advised to place a proposal for PSDF.*
- *In 23rd SCADA O&M meeting held on 06th March 2019, POWERGRID informed that they would place the proposal before PSDF committee for approval after getting necessary approval from POWERGRID board.*
- *In 40th TCC/ERPC meeting held on 15th / 16th March 2019, ERLDC informed that the purpose of forming committee and getting the report approved in 36th ERPC is lost. Intention was to replace these RTU before expiry of its useful life of 15 years (October 2020) as per CERC norms.*
- *As per Communication regulation, RTU/SAS data reporting through stand-by channel to ERLDC BCC is mandatory. The same could not be extended due to limitation of the existing RTU.*
- *Even with repeated persuasions with Powergrid in different forums, POWERGRID has not yet place the proposal for funding through PSDF.*

OCC referred the issue to 41st TCC Meeting.

Item no. C.9: Unavailability of Video Conference facility at Sikkim SLDC--Sikkim

Sikkim vide mail dated 15th May 2019 informed that their Video Conference unit was having problem of HDMI port since last two years and it was not attended by M/s Chemtrols until January 2019. After that they took entire VC unit for repair.

Sikkim added that they raised the issue in last SCADA meeting wherein M/s Chemtrol assured to get it repaired by 30.04.2019 but the same is not yet returned.

In 158th OCC, It was informed that the issue was discussed in SCADA meeting wherein Chemtrol was agreed to repair the VC and requested Sikkim to clear the pending dues.

OCC advised Sikkim to clear the dues and send a copy to ERPC and ERLDC. OCC decided to take up the issue with Chemtrol in monthly SCADA meeting.

Members may update.

Deliberation in the meeting

Sikkim informed that they had cleared the dues.

OCC advised Sikkim to send a copy to ERPC to take up the issue with Chemtrol in monthly SCADA meeting.

Item no. C.10: Low Frequency Oscillation at DSTPS Power Plant on 24th April from 17:37-17:54 Hrs--ERLDC

The DSTPS Power plant is having two units each of 500 MW capacity. On 24th April 2019, on multiple occasions low frequency oscillation was observed at DSTPS Power plant from 17:37-17:54 Hrs. The time plot of the net generation of DSTPS power plant based on data recorded by PMUs installed on its evacuation lines is given below for this event. It is known that severe oscillation had been observed in the past also at DSTPS power plant due to hunting of governor in the year 2013 and tripping of Boiler Feed Pump Trip in the year 2018. All these three events of oscillation have led to grid-scale oscillation. ERLDC has gathered the details of last PSS tuning activity at DSTPS power Plant that was completed in the year 2016. In recent past, one major network change has occurred around DSTPS Power plant which involves splitting of 400 kV Maithon Bus. Thus, along with above cases of LFO, the network changes also necessitate review of the PSS tuning of the generating units at DSTPS.

DSTPS (DVC) may kindly submit the following details:

1. Reason for such oscillation observed in DSTPS power plant.
2. Performance of the Last PSS tuning Exercise (No Details submitted so far to ERLDC)
3. Firm Timeline for PSS tuning activity as per discussion in 31st Jan 2019 meeting and above agenda item and in compliance to IEGC 5.2.K and CEA (Technical standards for connectivity to the Grid) Regulation, 2007 6.g

In 157th OCC, DVC informed that they would submit the detailed report to ERPC and ERLDC at the earliest.

DVC added that they were planning to conduct the PSS tuning during overhauling of the units.

DVC may update.

Deliberation in the meeting

ERLDC informed that the report had been received from DVC.

Item no. C.11: Review of the PSS Tuning of Generators in Eastern Region

On 31st January 2019, PSS Tuning Meeting was held at ERPC. All generating utilities were advised to complete the PSS tuning of their plant at earliest for improvement of damping in the grid during transients. In addition, the tuning reports have also to be submitted to ERLDC/ERPC for their validation.

In line with this ERLDC has communicated to following utilities in view of the recent oscillation observed during various events:

Generating Power Plant	Remarks	Status of Action Plan to be informed to OCC
All Units of DVC Generating Plant	Oscillation Observed at DSTPS on 24th April 2019 and other Oscillation events in the past.	*During overhauling of the units.*
Sikkim Hydro Complex (Teesta3, Teesta 5, Chujachen, Dikchu, Tashiding, Jorethang)	In view of Oscillation during the 16th April 2019 events and changes in Network configuration in Sikkim hydro Complex with augmentation of lines	During lean generation period
MPL Plant	Due to Change in Network configuration dur to bus splitting at Maithon.	MPL Unit-2: done in June-2019 in the AOH. MPL Unit-1: Planned in the AOH on Nov-2019.
APNRL Plant	Oscillation with Low Damping during transient and switching observed at the plant	*During overhauling of the units in Aug/Sep 19.*
Farakka NTPC Power Plant	With Augmentation of new lines and changes in network configuration with upcoming bus split at Kahalgaon.	*During overhauling of the units.*
NPGC/BRBCL/KBUNL NTPC Power Plant	The new units have been commissioned however there is no details on the PSS tuning activity in line with Indian Electricity Grid Code and CEA Grid Connectivity Standards	

Detailed status of other Plants regarding their tuning/data submission and Validation of PSS Tuning Data given as Annexure C11.

Members may update.

Deliberation in the meeting

ERLDC informed that the report had been received from MPL.

Item no. C.12: 220 kV inter-connecting lines of OPTCL with 400/220 kV Bolangir (PG), Keonjhar & Pandiabil S/s

PGCIL has already commissioned the 2x315MVA 400/220kV Bolangir S/s by LILOing of 400kV Meramandali-Jeypore S/C line and 400/220 kV Keonjhar S/s with an objective of supplying power from ER grid to its adjoining areas in Odisha.

In last OCC, OPTCL updated the completion schedule of inter-connecting system as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA 400/220kV Bolangir S/s**	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	*Only 7 towers left (Severe ROW problem).**By Mar, 2020.***
2.	**400/220kV Pandiabil Grid S/s:**	
a.	Pratapsasan(OPTCL)-Pandiabil(PG) 220 kV D/C line	***By Mar, 2020.***
3.	**400/220 kV Keonjhar S/S**	
a	Keonjhar (PG)-Turumunga(OPTCL) 220kV D/C line	By June 2020

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status as mentioned in above table.

Item no. C.13: 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj & Dhanbad

In last OCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj(POWERGRID)–Latehar220kVD/c	By Dec, 2019.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	The line expected to be completed by May, 2018 but – Garhwa 220kV is expected to be completed by Sep 2019.
c	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Tendering is in progress. Expected to be completed by October 2019
2	**Chaibasa400/220kVS/s**	
A	Chaibasa(POWERGRID)–Noamundi220kVD/c	Not yet started
3	**Dhanbad400/220kVS/s**	
A	LILO of Govindpur–Jainamore/TTPS 220kVD/c at Dhanbad	ROW issues.Target date April 2020.

JUSNL may update.

Deliberation in the meeting

JUSNL updated the status as mentioned in above table.

Item no. C.14: 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Subashgram & 2x500 MVA Rajarhat sub-stations

In last OCC, *WBSETCL updated the latest status as follows:*

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x500MVA, 400/220kV Rajarhat---**	
a.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	ROW problem, August 2020
b.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	The line is charged from Rajathat and Jeerat. The line would be charged from Barasat end after completion of rest of the work by September 2020.
2	**Subashgram400/220kVS/s**	
a	Subashgram–Baraipur220kVD/cline	January 2020, 80% of work has been completed. The line up to the cable is charged from Subashgram end on antitheft.

WBSETCL may update.

Deliberation in the meeting

WBSETCL updated the status as mentioned in above table.

Item no. C.15: Bypassing arrangement of LILO of 400kV Lines at Angul

LILO of Meramundali-Bolangir/Jeypore 400 kV S/C line and LILO of one Ckt of TalcherMeramundali 400 kV D/C line has been done at Angul 765/400kV Sub-station. The bypass arrangement for these circuits were under implementation at Angul by Powergrid.

In 158th OCC, Powergrid informed that bypass arrangement would be completed by August 2019.

OPTCL informed that 2nd circuit of 400kV Meramundali-Mendhasal line would be commissioned by July 2019.

Powergrid and OPTCL may update.

Deliberation in the meeting

Powergrid informed that bypass arrangement would be completed by August 2019.

OPTCL informed that 2nd circuit of 400kV Meramundali-Mendhasal line would be commissioned by 1st week of August 2019.

Item no. C.16: Update on status of telemetry

CERC vide order dated 28.02.2016 on Petition No. 007/SN/2014 directed NLDC and respective RLDCs to update the status of telemetry every month at their respective websites and take up the issue of persistent non-availability of data from Generating Stations/substations at RPC meetings for appropriate action.

Major issues are given below:

i. Regarding frequent intermittent of real time SCADA data from Talcher STPS Stage 1 & 2, NTPC agreed to provide additional ports by March 2019.
ii. Alternate path for Malda–Farakka OPGW link

In 153rd OCC, Powergrid was advised to implement alternate OPGW link through 400 kV Kishenganj- Darbhanga-Muzaffarpur lines.

In 158th OCC, Powergrid informed that alternate OPGW link through 400 kV Kishenganj-Darbhanga-Muzaffarpur lines would be implemented by July 2019.

Members may update.

Deliberation in the meeting

ERLDC informed that PMU data available at ERLDC is intermittent due to communication issues and PMU data reporting from PDCs at SLDCs is also intermittent.

ERLDC opined that alternate OPGW link is required for reliable communication.

OCC advised Powergrid to take the necessary action to resolve the issue.

ERLDC presented the latest status of telemetry. Presentation is enclosed at Annexure-C16.

OCC advised all the constituents to take the necessary action to ensure data availability to ERLDC.

Item no. C.17: Transfer capability determination by the states

In order to ensure, safe and secure operation of the grid, the states should carry out the power system study for operational planning and power transfer capability through their respective transmission links with the rest of the grid.

It was decided in the NPC meeting that to begin with, power system study for assessment of operational limits / power transfer capability for each state will be done by the concerned RLDC in association with concerned SLDC. Monthly TTC /ATC will be uploaded by the SLDCs at their respective websites and also communicated to concerned RLDC & NLDC subsequently.

Latest status of State ATC/TTC declared by states for the month of October-2019

Sl No	State/Utility	TTC import(MW)		RM(MW)		ATC (Import) MW		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	5130	--	100	--	5030	--	Aug-19
2	JUSNL	1185	--	32	--	1153	--	Oct-19
3	DVC	1171.6	3142	61.46	48.26	1110.14	3093.7	Sep-19
4	OPTCL	2321	--	90	--	2321	--	Oct-19
5	WBSETCL	3840	--	400	--	3440	--	Sep-19
6	Sikkim	285	--	2	--	283	--	Oct-19

Members may update.

Deliberation in the meeting

OCC advised all the states to compute ATC/TTC figures three months in advance and send to ERLDC.

Item no. C.18: Replacement of GPRS communication with Optical Fiber for AMR

In ER, 80% meters are connected through Automated Meter Reading (AMR). At present the communication system used for data transfer from each location is GPRS. It has been observed that many locations are not communicating with AMR system due to poor/no GPRS signal. Many substations have their own optical fiber which is also used for the LAN network of respective stations. TCS has successfully connected 02 locations (Subhasgram-PG and Binaguri-PG) in ER-II with PGCIL intranet and these two locations are smoothly reporting to AMR system after connecting with PGCIL LAN. The proposed network will not only provide better communication but also reduce the cost of GSM.

In 157th OCC, Powergrid informed that optical fiber for AMR had been implemented at 35 locations and rest of the locations would be completed by July 2019.

POWERGRID may please update the progress.

Deliberation in the meeting

Powergrid informed that optical fiber for AMR had been implemented at 38 locations and rest of the locations would be completed by July 2019.

Item no. C.19: 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	
2	Maithon	1st week of June 2019		1st Week of February 2020	
3	Rengali	2nd week of June 2019	Done on 27th June 2019	Last week of November 2020	
4	U. Indarvati	3rd week of June 2019	July 2019	2nd week of February 2020	
5	Subarnarekha	1st week of October 2019	July 2019	1st week of January 2020	
6	Balimela	3rd week of October 2019	Done on 17th July 2019	1st week of March 2020	
7	Teesta-V	2nd week of May 2019	During winter	Last week of February 2020	
8	Chuzachen	Last Week of Dec 2019		Last week of February 2020	
9	Burla	Last Week of June 2019	July 2019	Last week of February 2020	
10	TLDP-III	1st Week of June 2019		2nd Week of January 2020	
11	TLDP-IV	Last Week of June 2019		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	

Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

Item no. C.20: Submission of Thermal Loading of Transmission line and associated terminal equipment by ISTS licensee

Thermal Loading of Transmission line and associated terminal equipment is one of the most vital data which is utilized for Operation Purpose, calculation of ATC/TTC and various other studies. This information has to be submitted by the utilities however even after so much follow-up, significant delay has been observed in submission. All Utilities are advised as quoted below are advised to submit the details by next OCC Meeting to ERLDC. In case of non-submission, the information on non-sharing of details will be shared with **National Power Committee.**

Name of Utility	Whether End Equipment Rating Submitted or Not?

PGCIL ERTS-1 and ERTS-2	ERTS-1 submitted
DMTCL	
Sterlite (ENICL, OGPTL, PKTCL)	
TVPTL	
Alipurduar Transmission Limited	
Powerlink	
CBPTCL	
OPTCL	Submitted
WBSETCL	Submitted
BSPTCL	
DVC	Submitted
JUVNL	

Members may update.

Deliberation in the meeting

OCC advised all the other ISTS licensees and STUs to submit the relevant data to ERLDC and ERPC.

Item no. C.21: Summary of Status Update on Previous agenda items in OCC

OCC	Agenda	Decision	Status Update
152	**Item No. B3: Installation of PMUs for observation of the dynamic performance of STATCOMs**	Powergrid informed that M/s GE had agreed to supply and install of 4 no's PMUs for 4 STATCOMs in the Eastern Region within the quantity variation clause under the existing URTDSM Project.	Powergrid informed that the work would be completed by 15th August 2019.
154	**Item No. B.18: Details of Capacitor bank installed in Distribution/Sub transmission network**	OCC advised all the states to submit the updated capacitor bank list in their control area to ERLDC and ERPC.	Bihar/Orissa, West Bengal has submitted the Details. Jharkhand, Sikkim and DVC does not have any capacitor bank installed.
155	**C.22: Collection of modeling data from Renewable as well as conventional energy generators: ERLDC**	OCC advised all the constituents to submit the details of renewable power plants of 5 MW and above.	OCC advised ERLDC to share the format. All the SLDCs were advised to submit the details to ERPC and ERLDC.
156	**Low frequency Oscillation at MTDC BNC-ALP-Agra**	OSS Advised ERTS-2 to submit the analysis report to ERLDC/ERPC	Powergrid informed that the issue was referred to ABB, Sweden. The report is yet to be received from ABB.
156	**Item no. C.20: Updated Black Start and Restoration procedure of State--ERLDC**	DVC and Orissa have submitted the updated restoration procedure.	Jharkhand submitted the updated procedure. West Bengal, Sikkim and Bihar agreed to share the details within a week.
156	**Item No. B.12: Status of Auto-Reclosure on Lines from Tala and Chukha Hydro Power Plant (Bhutan)**	DGPC informed that an expert Committee was constituted to enable the autorecloser for transmission lines connected to Tala and Chuka hydro stations. The Committee had recommended for implementation of the autorecloser at Tala and Chuka. DGPC added that they are planning	It was informed that autorecloser was implemented for Chuka-Birpara lines. It was successfully operated on 26th June 2019. DGPC informed that they will implement the autorecloser at Tala end.

		to implement the autorecloser scheme for the transmission lines connected at Chuka by May 2019. Based on the experience gained, they would implement the autorecloser scheme for the transmission lines connected at Tala.	Regarding 400kV Binaguri-Malbase, it was informed that some configuration issues have to be addressed before putting the autorecloser in operation. OCC advised DGPC to implement 1-ph autorecloser instead of 3-ph.

Item no. C.22: Delay in furnishing information to ERLDC/ERPC regarding of Commissioning of new Transmission Elements/ Generating Units within State and integration of SCADA data with ERLDC--ERLDC

The above matter was deliberated in several past OCC meetings and format for data submission was also circulated. All states and transmission licensees agreed to submit the list of transmissions elements (ISTS & within state) synchronized **for the first time** during last month and new elements to be commissioned during next month, within 7th day of the current month to ERLDC through mail.

For the Month of April-2019, except Odisha no state and transmission licensee has submitted its list of transmission element /generators synchronised **in the previous Month** and List of Transmission element and generators expected to be synchronised during next Month.

The absence of updated information regarding new elements energized in the previous month and elements expected to be commissioned during the next month poses difficulty in integration of SCADA data of intra state lines in ERLDC SCADA system, which in turn severely impairs monitoring and supervising the regional grid – both in real time as well as off-line, at RLDC level. It is also observed that in ERLDC SCADA network and SLDC SCADA network some of the 220 and 132 kV transmission lines and substations are yet to be updated.

ERLDC is in the process of checking and updating the intra-state transmission network models of all states up to 132 KV using SCADA network availability at ERLDC and the transmission map available in the SLDC/STU website. Five groups (one for each state and one group for DVC & Sikkim) have already been formed at ERLDC to validate all state networks up to 132 kV level. In this regard all SLDCs are requested to nominate two executives(one from system operation and one from SCADA side) who shall help and coordinate with ERLDC executives during state network validation process for successful updating of SCADA and off-line models.

In the 157th OCC meeting members were requested to nominate two executives. However, till date nomination has been received from SLDC Jharkhand only.

In the interest of smooth and expeditious execution of this important work of validation / updation of state SCADA models, constituents are once again requested to please cooperate by nominating their concerned representatives.

In 158th OCC, ERLDC informed that nominations were received only from Jharkhand.

OCC advised all the other SLDCs to nominate two executives to coordinate with ERLDC for state network validation.

Members may please note and nominate two executives.

Deliberation in the meeting

Bihar has nominated two executives.

OCC advised all the other SLDCs to nominate two executives to coordinate with ERLDC for state network validation.

Item no. C.23: Issue of Control Room Coordination during Outage and Restoration at Substations having multiple control room and lines with different ownership.--ERLDC

With the introduction of TBCB, multiple utilities are part of the Indian power System. As on date six (7) transmission licensees own various transmission assets of Eastern Region. The entities are **Powergrid, Sterlite (ENICL,PKTCL, OGPTL), Cross Border Power transmission Corp Ltd(CBPTCL), Darbhanga Motihari Transmission Cop Ltd(DMTCL), Powerlinks, Alipurduar Transmission Ltd(ATL) and Teesta Valley power Transmission Ltd (TVPTL).** Other than Powergrid& Sterile, no other licensee has any dedicated operational control room for coordination with ERLDC during tripping/shutdown or any other switching operations. Only mobile number of few nodal executives of other transmission licensees is available to ERLDC, which are sometimes unreachable during odd hours. Due to non-availability of dedicated control center, it is very difficult to coordinate with associated transmission licenses during tripping of lines in odd hours, which causes delay in restoration of transmission asset and collection of tripping related information. ERLDC Real time operators are facing few difficulties which are presented on case to case basis:
Case 1: Transmission line owner and substations owner are different: In this case, in case of line tripping, ERLDC has to coordinate with three different utilities for trial attempt or restoration of the line. Also, in case of planned outage the ERLDC has to coordinate with three separate utilities resulting in unavoidable delays

Case 2: In same Substation two different control room: In one of the substations, it is observed that new transmission line integration is coming up with separate control room. This makes it quite difficult to coordinate the charging attempt as Bus/line both owners even though in same substation has to be coordinated. Again, this results in unavoidable delays and confusion among operators in calling two separate operators at same substation.
In view of the above, to avoid any confusion and unwanted delays during real time operation, a strategy and responsibility has to be fixed to ease out the RLDC Real time operator job.following is suggested:

For better co-ordination between transmission licensee and control center, all transmission licenses are requested to formulate their own control center and share the details with all.

For minimizing time and efforts required in coordinating with different agencies and facilitating decision making by ERLDC, it is proposed that representatives of the private transmission licensees in ER may be deployed at RTAMC-1 / RTAMC-2 with their own infrastructure or one executive of the private transmission licensee to be deployed at the substation from which transmission licensees line emanate.

In 158th OCC, ERLDC was advised to give a list of substations along with details of transmission licensees where they are facing the problem.

After detailed deliberation, it was decided to communicate issue to highest authorities of transmission licensees.

Members may update.

Deliberation in the meeting

OCC decided to discuss the issue with all the advised all the private transmission licensees in a separate meeting.

Item no. C.24: Non-submission of daily energy data in PSP portal during night hours for preparation of PSP report--ERLDC

ERLDC is preparing daily Power Supply Position (PSP) around 04:00hrs on daily basis based on energy data provided by the generators, states& transmission licenses.The correctness of the data in this report is very essentials as the energy data furnished in this report are being shared with various important organizations. As per current procedure, generators, transmission licenses & states are submitting the energy data to ERLDC web based reporting portal during night hours using their user credentials. However,it has been observed that some of the stakeholders are not submitting the data to ERLDC portal during night hours and in some cases data furnished by the stakeholders are erroneous.

Following are the ERLDC observation regarding data submission by the stake holders:

1. ISGS NTPC generators like Talcher, Barh and BRBCL submitted data regularly. However generators like Kahlagaon, Farakka and KBUNL are submitting data during very late night hours after repeated persuasion from ERLDC control room.
2. Inter-regional data submitted by the RTAMC ER - 1 & 2 sometimes differ significantly from the data recorded by SEMs installed in Inter Regional Link.
3. West Bengal SLDC always submits partial data.
4. SLDCs need to submit state generators Ex-Bus generation data at desired field of web based reporting software. However some SLDC submit gross generation data of state generator at their desired data field.

The above discrepancies are making the Daily Power Position Report vulnerable to errors / inaccuracies besides causing difficulty in timely preparation of the report. Submission of correct and complete data by the stake holders is very much essential for publication of correct Daily Power Position Report.

Stakeholders are requested to submit correct and all required data field available in web based reporting software during night hours.

Members may update.

Deliberation in the meeting

OCC all the constituents to submit the correct data as per the format available in web based reporting software.

PART D:: OPERATIONAL PLANNING

Item no. D.1: Anticipated power supply position during August 19

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of August 19 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 at **Annexure-D.1**.

Members may confirm.

Deliberation in the meeting

Modified anticipated power supply position for the month of August 2019 after incorporating constituents' observations is given at **Annexure-D.1***.*

Item no. D.2: Shutdown proposal of transmission lines and generating units for the month of August 19

In 151st OCC, it was observed that constituents had not submitting the shutdown requisition within stipulated time as a result ERLDC had been facing difficulty in properly analyzing the shutdown.

OCC decided the following procedure for submission of transmission elements outage requisition:

1. ***Shutdown of Intra Regional Lines*** *- Transmission licensee/SLDCs/Transmission Asset owners shall apply shutdown of their respective Intra Regional Lines for the next month to ERLDC strictly by **8th** of every Month. Based on this, ERLDC shall prepare the list which would be placed in OCC Agenda. Any shutdown requisition received after 8th of the month would not be normally considered for discussion in the OCC meeting unless it is considered to be an emergency requirement.*
2. ***Shutdown of Inter Regional Lines*** *- Transmission licensee/ SLDCs/Transmission Asset owners shall send their shutdown requisition of Inter Regional Lines for the next month directly to NLDC strictly by **5th** of every month with a copy to respective RLDCs.*

Generator shutdown for August 2019:

System	Station	Unit	Capacity (MW)	From	To	No. of Days	Reason
JHARKHAND	Tenughat TPS	1	210	15.07.19	10.08.19	10	Overhauling
		2	210	12.08.19	08.09.19	20	Overhauling
DVC	DSTPS	1	500	16.08.19	20.09.19	16	COH (Blr,Turb,Gen.)
ODISHA	Talcher TPS	3	60	20.07.19	03.08.19	3	AOH
		4	60	13.08.19	27.08.19	15	AOH
WBPDCL	Bandel TPS	1	60	16.06.19	14.08.19	14	Capital Overhauling
	Kolaghat TPS	2	210	01.08.19	31.03.20	31	R&M
	SgTPS	1	300	12.07.19	15.08.19	15	Capital Overhauling
	BkTPS	2	210	21.08.19	27.08.19	7	Boiler License renewal
DPL	DPPS	7	300	17.08.19	31.08.19	15	Boiler License renewal
NTPC	KUBNL,MTPS-II	4	195	01.07.19	04.08.19	4	LP rotor inspection,Boiler OH

BRBCL	Nabinagar TPS	1	250	26.07.19	19.08.19	19	LP turbine inspection,Rotor threading,Generator inspection.

ERLDC may place the list transmission line shutdown discussed on 17th July 2019 through VC.

Members may confirm.

Deliberation in the meeting

Generator shutdown for August 2019:

System	Station	Unit	Capacity (MW)	From	To	No. of Days	Reason
JHARKHAND	Tenughat TPS	1	210	15.07.19	10.08.19	10	Overhauling
		2	210	12.08.19	08.09.19	20	Already in Shutdown
DVC	DSTPS	1	500	16.08.19	20.09.19	16	COH (Blr,Turb,Gen.)
ODISHA	Talcher TPS	2	60	25.07.19	13.08.19	20	AOH
		3	60	15.08.19	03.09.19	20	AOH
WBPDCL	Bandel TPS	5	60	15.07.19	31.08.19	45	Turbine vibration
	Kolaghat TPS	6	210	27.07.19	25.08.19	31	ESP R&M
	SgTPS	1	300	12.07.19	15.08.19	15	Capital Overhauling
	BkTPS	4	210	13.07.19	16.08.19	35	BTG + ESP
NTPC	KUBNL,MTPS-II	3	195	01.07.19	04.08.19	4	LP rotor inspection,Boiler OH
BRBCL	Nabinagar TPS	1	250	26.07.19	19.08.19	19	LP turbine inspection,Rotor threading,Generator inspection.

*The approved list of shutdown of transmission elements is enclosed at **Annexure-D2**.*

Regarding shutdown of 400kV Farakka-Gokarno line, SLDC, WB informed that they will do the feasibility study and confirm.

Item no. D.3: Prolonged outage of Power System elements in Eastern Region

(i) Thermal Generating units:

S.No	Station	Location	Owner	Unit No	Capacity	Reason(s)	Outage
					(MW)		Date
1	FARAKKA	WEST BENGAL	NTPC	6	500	ANNUAL MAINTAINANCE	7-Jun-19
2	MPL	JHARKHAND	MPL	2	525	ANNUAL OVERHAULING	20-Jun-19
3	MTPS II	BIHAR	NTPC	1	195	ANNUAL OVERHAULING	1-Jul-19
4	KAHALGAON	BIHAR	NTPC	4	210	ANNUAL OVERHAULING	11-Jul-19
5	KOLAGHAT	WEST BENGAL	WBPDCL	1	210	POLLUTION CONTROL PROBLEM	10-May-18

6	KOLAGHAT	WEST BENGAL	WBPDCL	3	210	POLLUTION CONTROL PROBLEM	23-Feb-17
7	BAKRESWAR	WEST BENGAL	WBPDCL	4	210	TBG OVERHAULING	13-Jul-19
8	MEJIA B	WEST BENGAL	DVC	7	500	ANNUAL OVERHAULING	3-Jul-19
9	CTPS	JHARKHAND	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-17
10	BRBCL	BIHAR	BRBCL	2	250	CONDENSER VACUUM LOW	9-Jul-19
11	MTPS II	BIHAR	NTPC	2	195	BUNKERING PROBLEM	13-Jul-19
12	JITPL	ODISHA	JITPL	1	600	PA Fan Duct leakage	7-Jul-19
13	MPL	JHARKHAND	MPL	1	525	Turbine Master Fuel Trip (MFT)	14-Jul-19
14	STERLITE	ODHISA	GRIDCO	2	600	DUE TO PROBLEM IN OLTC SYSTEM OF Unit Transformer	10-Apr-19
15	DPL	WEST BENGAL	WBPDCL	7	300	COAL SHORTAGE	27-Jun-19
16	SAGARDIGHI	WEST BENGAL	WBPDCL	3	500	COAL SHORTAGE	4-Jul-19
17	SAGARDIGHI	WEST BENGAL	WBPDCL	2	300	COAL SHORTAGE	23-Jun-19
18	MTPS-I	BIHAR	BSPHCL	2	110	WATER IN CONTROL ROOM	12-Jul-19
19	KOLAGHAT	WEST BENGAL	WBPDCL	5	210	COAL SHORTAGE	7-Jul-19
20	OPGC	ODHISA	GRIDCO	3	660	ESP ASH EVACUATION PROBLEM	4-Jul-19
21	BOKARO B	JHARKHAND	DVC	3	210	Ash handling problem	30-Jun-19
	Sub Total (SS)				**8410**		

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

(ii) Hydro Generating units:

Sl. No.	Station	Unit No.	Capacity (MW)	Reason (s) of outage	Outage date	Expected Revival Date
1	Balimela	Unit- 1	60	Renovation & Modernization work (Planned)	05-08-2016	30-09-2019
		Unit- 2	60	Renovation & modernization work (Planned).	20-11-2017	30-09-2019
2	Burla	Unit-1	49.5	Turbine & Generator coupling cover water leakage (Forced)	14-03-2018	31-12-2019

		Unit-5	37.5	Renovation. Modernization & up rating work (Planned)	25-10-2016	09-12-2019
		Unit-6	37.5	Renovation, Modernization & up rating work (Planned)	16-10-2016	07-11-2019
		Unit-4	32	Intake Gate Problem (Forced)	25-10-2018	31-07-2019
		Unit-7	49.5	Replacement of GT (Planned)	06-06-2019	30-06-2019
3	Chiplima	Unit-3	24	Renovation & Modernization work (Planned)	15-10-2015	15-06-2019
4	Rengali	Unit-2	50	Capital Maintenance (Planned)	12-12-2018	30-07-2019
5	Indrabati	Unit-4	150	Annual Maintenance	28-06-2019	
6	Upper Kolab	Unit-4	80	Capital Maintenance (Planned)	01-02-2019	31-07-2019
		Unit-3	80	Generator stator Inter tum/ Earth fault	28-03-2019	15-07-2019

(iii) Transmission elements

SL NO	Transmission Element / ICT	Agency	Outage From DATE	Reasons for Outage
1	220 KV BALIMELA - U' SILERU	OPTCL / APSEB	10-03-2018	LINE ANTITHEFT CHARGED FROM UPPER SILERU ON 17-04-18
2	400 KV IBEUL JHARSAGUDA D/C	IBEUL	29-04-2018	TOWER COLLAPSE AT LOC 44,45
3	400KV NEW PURNEA-BIHARSARIFF(PG)-D/C	ENICL	10-08-2018	TOWER COLLAPSE AT LOC 47/0
4	400 KV PATNA KISHANGANJ- I	POWERGRID	01-09-2018	TOWER COLLAPSE AT LOC 129. PILING DAMAGED
5	400 KV PATNA KISHANGANJ- II	POWERGRID	06-07-2019	EMERGENCY HAND TRIPPED DUE TO FRUSTUM OF LOCATION NO: 129A/0 (A LEG) HAS BEEN EXPOSED ON SOIL EROSION.
6	400KV FARAKKA - KAHALGAON- I	POWERGRID	06-03-2019	FOR TAKING UP BAY UP GRADATION WORK OF BAY-22 AT FSTPP END
7	220KV NEW MELLI-TASHIDING-SC	POWERGRID	14-07-2019	TRIPPED ON Y-B FAULT
8	220 KV PANDIABILI - SAMANGARA D/C	OPTCL	03-05-2019	49 NOS OF TOWER COLLAPSED.AS REPORTED BY SLDC OPTCL, TOTAL 60 NOS OF TOWER IN BETWEEN 220KV PANDIABILI – SAMANGARA LINE IN WHICH 48 NOS TOWERS FULLY DAMAGED AND 12 NOS TOWERS PARTIALLY DAMAGED. WORK UNDER PROGRESS.

9	400 KV DARBHANGA - KISHANGANJ D/C	DMTCL/ATL	22-06-2019	PROBLEM IN GIS BAY AND ASSOCIATED BUS AT DARBHANGA (DMTCL)
10	765KV JHARSUGUDA-RAIPUR-1	POWERGRID	22-06-2019	OVER VOLTAGE AT RAIPUR
11	132 kV SONENAGAR-RIHAND	BSPHCL	21-06-2019	LOC 39 DA+3 TOWER COLLAPSED DURING STORM,ONE LEG AT LOC 40 ALSO DAMAGED,PRESENTLY OUT DUE TO SECURITY REASON/LINE UNDER BREAKDOWN
12	66KV GANGTOK-Sherathang-I	SIKKIM	30-06-2019	Conductor snapping at a location reported by Sikkim SLDC.

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

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

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

Members may update.

Deliberation in the meeting

Members noted.

PART E::ITEMS FOR INFORMATION

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

Item No. E.1: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

The activity of the preparation of Crisis Management Plan for countering the cyber attacks and its implementation including the Mock Drills, audits etc. is being monitored by CEA regularly in line with crisis management plant of Ministry of Power. Power Utilities (including generation, transmission & distribution utilities) of eastern region are to furnish regularly the updated status to on the same to Chief Engineer, Distribution Planning & Development Division, CEA.

In 142nd OCC, ERLDC informed that, in line with Enquiry Committee Recommendation, cyber security audit is being conducted on regular basis for SCADA system installed at ERLDC and SLDC as well but cyber security audit for telecom infrastructure installed in Eastern Region is not being carried out.

OCC advised all the constituents to conduct the cyber security audit on telecom infrastructure installed in Eastern Region. It is further advised that compliance / mitigation of the points observed during the audit should also be completed for improvement of the telecom infrastructure in ER.

In 37th TCC meeting, it was decided that a workshop would be conducted by CEA at ERPC for further benefit of ER Constituents.

In 144th OCC, ERLDC informed that they have already conducted a workshop with the help of NPTI, Durgapur on 21st March 2018.

A workshop on cyber security was conducted by CEA at ERPC, Kolkataon 09-05-2018.

As suggested by CEA, a format would be circulated among ER constituents for furnishing the information of the their respective systems for discussion in OCC Meeting. The format is enclosed at **Annexure-E1**.

OCC advised all the constituents to submit the information to ERPC as per Annexure-E1.

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

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

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

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

The substation wise status of compliance are available at ERPC website (Observations include

PLCC rectification/activation which needs a comprehensive plan).

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

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

The details of new units/transmission elements commissioned in the month of June-2019 based on the inputs received from beneficiaries

SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	400/220 KV ICT 3 at Durgapur	PGCIL	07-06-2019	10:53	
2	400 KV AlipurduarJigmellingckt 1	PGCIL	13-06-2019	18:51	400kV Alipurduar-Punatsangchu-I-Punatsangchu_II-Jigmeling
3	400 KV AlipurduarJigmellingckt 2	PGCIL	13-06-2019	20:37	400kV Alipurduar-Punatsangchu-I-Punatsangchu_II-Jigmeling
4	80 MVAR LR of Kishanganj-Darbhanga Line-2 at Kishangnaj SS	PGCIL	14-06-2019	20:46	
5	132kv Malda-Balurghat-Gajole (Tee)	WBSETCL	11-06-2019	20:55	(R.L. 23.439 KM) 132kv GIS BUS#2 of Gazole charged at 20:55hr from Maida
6	132kv Raiganj-Gajole	WBSETCL	11-06-2019	20:31	(R.L. 57.2 KM) 132kv GIS bus#1 charged at 20:31hr from Raiganj
7	132kv Malda-Gajole	WBSETCL	12-06-2019	18:08	LILO of Mada-Samsi at Gazole (Malda-Gajole = 23.439 KM; Samsi-Gajole 27.17 KM)
8	132kv Samsi-Gajole	WBSETCL	12-06-2019	18:39	
9	132 KV D/C Goradih (New Sabour)-Sabour T/L	BSPTCL	11-06-2019	18:00	
10	LILO of 220 KV Therubali-lndravatickt -IV at Kashipur	OPTCL	30-06-2019	19:09	

Item No. E.4: UFR operation during the month of June'19

System frequency touched a maximum of 50.31 Hz at09:49Hrs of 16/06/19and a minimum of 49.63 Hz at 22:10Hrs of 11/06/19. Hence, no report of operation of UFR has been received from any of the constituents.

Item No. E.5: Grid incidences during the month of June, 2019

Sr No	GD/ GI	Date	Time	S/S involved	Summary	Load loss (MW)	Gen loss (MW)
1	GI-II	03-06-2019	01:15	Meramundali	At 01:15 hrs 400 KV Meramundali-Lapanga II tripped on B-N Fault (F/D 2 KM from Meramundali, F/C: 30.01 kA). At the same time, both the ICTs at Meramundali tripped on O/C without affecting 220 kV network. As reported, B phase bushing of 50 MVAr line reactor of 400 KV Meramundali-Lapanga II at Meramundali end failed after the event.	0	0
2	GD-I	05-06-2019	19:01	Talcher	At 18:53 hrs , 500 KV Talcher Kolar Pole 1 was hand tripped at 18:53 hrs due to heavy isolator sparking at Talcher end resulting sending SPS signal to GMR and JITPL. GMR & JITPL generation reduced by 85 MW and 55 MW respectively. Initial HVDC flow was around 1800 MW. At 19:01 hrs, jumper protection of 400 kV Talcher (NTPC) - Talcher (HVDC) Q/C operated at NTPC end due to breaking of R phase isolator pole along with BPI. Due to tripping of all incoming feeders, HVDC Talcher Kolar pole 2 at Talcher end got blocked resulting back down of Unit 5 by 160 MW. At 19:03 Talcher stg 2 unit 4 tripped on teed protection.	0	300
3	GD-I	12-06-2019	00:37	Budhipadar	220 KV Budhipadar-IBTPS III,IV and 220 KV Budhipadar-Concast I were out of service. At 00:37 Hrs, Y phase LA of 220 KV Budhipadar-Tarkera I @ Budhipadar failed. resulting tripping of all lines emanating from Budhipadar end	252	350
4	GD-I	19-06-2019	13:02	Dumka	220 KV Maithon Dumka D/C tripped at 13:02 hrs on single phase to earth fault. At the same time 132 kV Dumka Lalmatia D/C tripped leading to the load loss of 120 MW at Paku, Dumka, Deogarh.	120	0
5	GI-II	22-06-2019	19:17	Darbhanga	400 kV Darbhanga - Kishangunj D/C along with bus I at Darbhanga tripped due to Y-N fault	0	0
6	GI-II	27-06-2019	11:19	Chaibasa	Tie CB of 400 KV Kharagpur Chaibasa-II was working as main CB of bus II at Chaibasa. while taking shutdown of 400 KV Kharagpur Chaibasa-II, Tie CB LBB of 400 KV Kharagpur Chaibasa-II operated at Chaibasa resulting bus bar II dead at Chaibasa	0	0

7	GD-I	30-06-2019	09:56	Dikchu & Jorethang	At 09:56 hrs, 400 KV Dikchu Rangpo tripped on Y-B –N fault from both ends. It is suspected that 400/132 KV ICT at Dikchu tripped possibly due to overreach in overcurrent protection. s a result, both running units at Dikchu tripped on loss of evacuation. At same time 220 kV JLHEP - New Melli D/C tripped from JLHEP ends resulting tripping of both the running units and total power failure at JLHEP end A400 kV level of Dikchu HEP was in charged condition as 400 kV Teesta III - Dikchu S/C was in service. Charging attempt of 400 kV Dikchu - Rangpo S/C was taken from both Dikchu and Rangpo ends. But it could not be done because angle difference between Dikchu and Rangpo S/S was more than 15 deg which was the limit of synchronizer relay at both S/S. To facilitate charging operation of 400 kV Dikchu - Rangpo S/C, 400 kV Teesta III - Dikchu S/C was hand tripped and total power failure occurred at Dikchu S/S. Then 400 kV Dikchu - Rangpo S/C was charged to synchronize Dikchu S/S. Finally 400 kV Teesta III - Dikchu was synchronized after reducing the generation and voltage at Teesta III.	0	200

****

Annexure-A

Participants in 159th OCC Meeting

Venue: ERPC Conference Hall, Kolkata   Time: 10:30 hrs   Date: 19.07.2019 (Friday)

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Participants in 159th OCC Meeting

Venue: ERPC Conference Hall, Kolkata Time: 10:30 hrs Date: 19.07.2019 (Friday)

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Participants in 159th OCC Meeting

Venue: ERPC Conference Hall, Kolkata Time: 10:30 hrs Date: 19.07.2019 (Friday)

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Participants in 159th OCC Meeting

Venue: ERPC Conference Hall, Kolkata Time: 10:30 hrs Date: 19.07.2019 (Friday)

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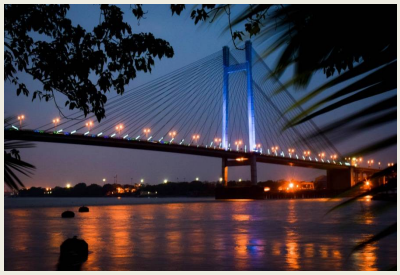
Power System Operation Corporation Ltd.

159th OCC Meeting




At ERPC, Kolkata

19th July, 2019

ER Grid Performances

ERLDC POSOCO

Highlights for the month of June-19

Frequency Profile

Average Freq:- 50.00 Hz

Avg FVI: - 0.052

Lowest FVI:- 0.023

Max- 50.31Hz on 16th June'19

Min- 49.63 Hz on 11th June'19

70.34% of the time freq was with in IEGC Band

Peak Demand*

ER: 23362 MW on 25th June 2019 at 0:02 hrs

% Growth in Average Demand Met w.r.t. last year: 4.98%

BSPHCL : 5525 MW ; ON 25/06/19
JUVNL: 1304 MW; ON 08/06/19
DVC: 3412 MW; ON 21/06/19
GRIDCO: 5207 MW; ON 12/06/19
WB: 9313 MW; ON 16/06/19
SIKKIM: 97 MW; ON 12/06/19

*All data source are from SCADA

Energy met

Max. 532 MU on 25th June *2019*

%Growth w.r.t. last year on Max energy : 9.02%

Avg. 498 MU in June *2019*

%Growth w.r.t. last year on Avg. energy : 9.2%

New Element

Generating Units- NPGC U-1 completed its successful trial run operation on 12.07.19

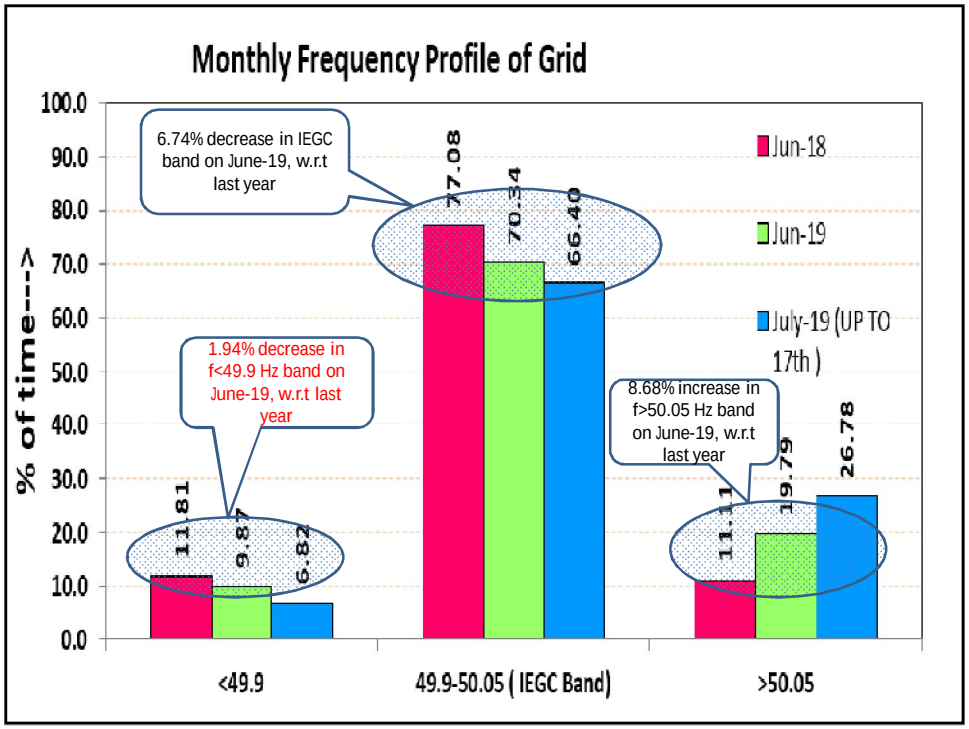
Open Access

STOA transactions approved -371 nos.

Energy Approved- 1384.05 MUs

New Element addition during the month:

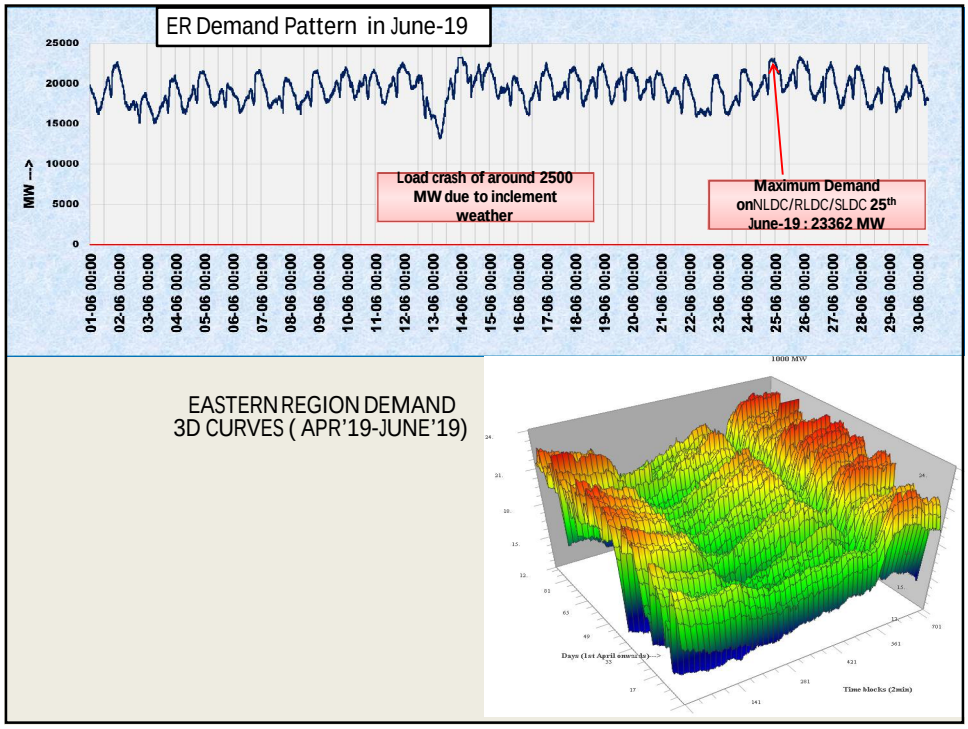
Sl No	Element Name	Owner	Charging Date	Charging Time	Remarks
1	400/220 KV ICT 3 at Durgapur	PGCIL	07-06-2019	10:53	
2	400 KV Alipurduar Jigmelling ckt 1	PGCIL	13-06-2019	18:51	400kV Alipurduar-Punatsangchu-I-Punatsangchu_II- Jigmelling lines are charged as 400 KV Alipurduar Jigmelling
3	400 KV Alipurduar Jigmelling ckt 2	PGCIL	13-06-2019	20:37	
4	80 MVAR LR of Kishanganj-Darbhanga Line-2 at Kishangnaj SS	PGCIL	14-06-2019	20:46	



So Far Highest Demand					
Constitute	Demand (in MW)	Date	Time	Dmd met (MW) on 25th June'19 (max dmd met day)	
				MW	Time
Bihar	5524	25-Jun-19	21:03	5524	21:03
DVC	3322	24-Jun-19	20:01	3017	20:44
Jharkhand	1348	21-May-19	20:45	1260	19:38
Odisha	5558	23-Aug-18	20:21	4316	22:40
W. Bengal	9362	28-May-19	14:27	9082	0:01
Sikkim	117	28-Oct-16	19:22	92	18:48
ER	23362	25-June-19	22:45	23362	0:02

So Far Highest Energy Consumption			
Constitute	Energy consumption (in MUs)	Date	Energy met on 25th June'19 (max dmd met day)
Bihar	111.3	25-Jun-19	111.3
DVC	75.8	12-Jul-18	66.6
Jharkhand	27.8	19-May-19	24.3
Odisha	123.5	02-Oct-18	89.8
West Bengal	199.9	28-May-19	197.6
Sikkim	2.1	07-Dec-17	1.4
ER	506.0	25-Jun-19	506

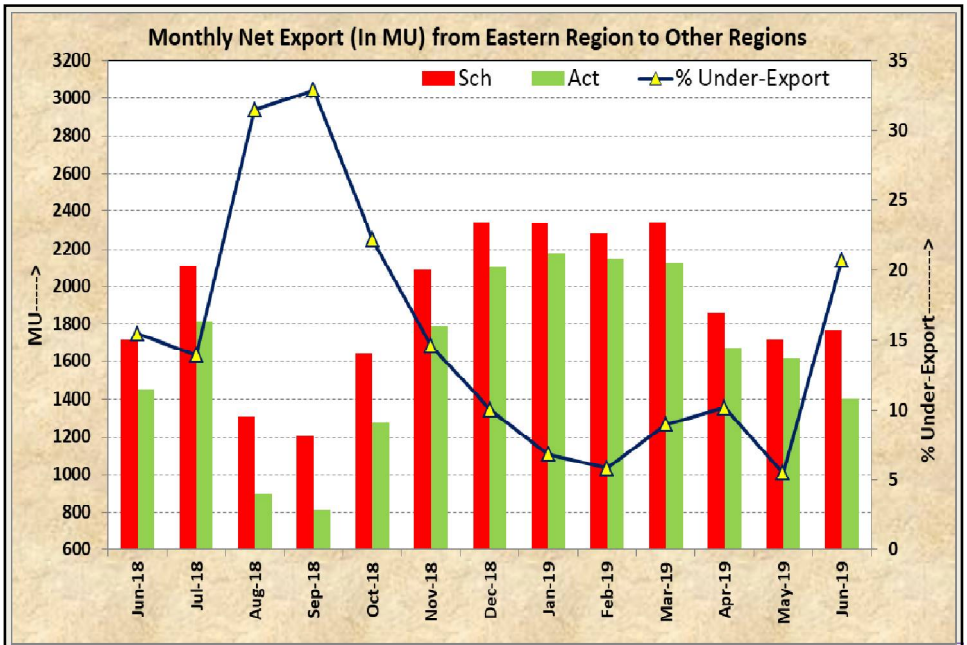
3D VIEW OF ER DEMAND PATTERN (APR-19 to JUNE-19)



EASTERN REGION DEMAND
3D CURVES (APR'19-JUNE'19)

Over Drawl / Under Injection by ER Entities

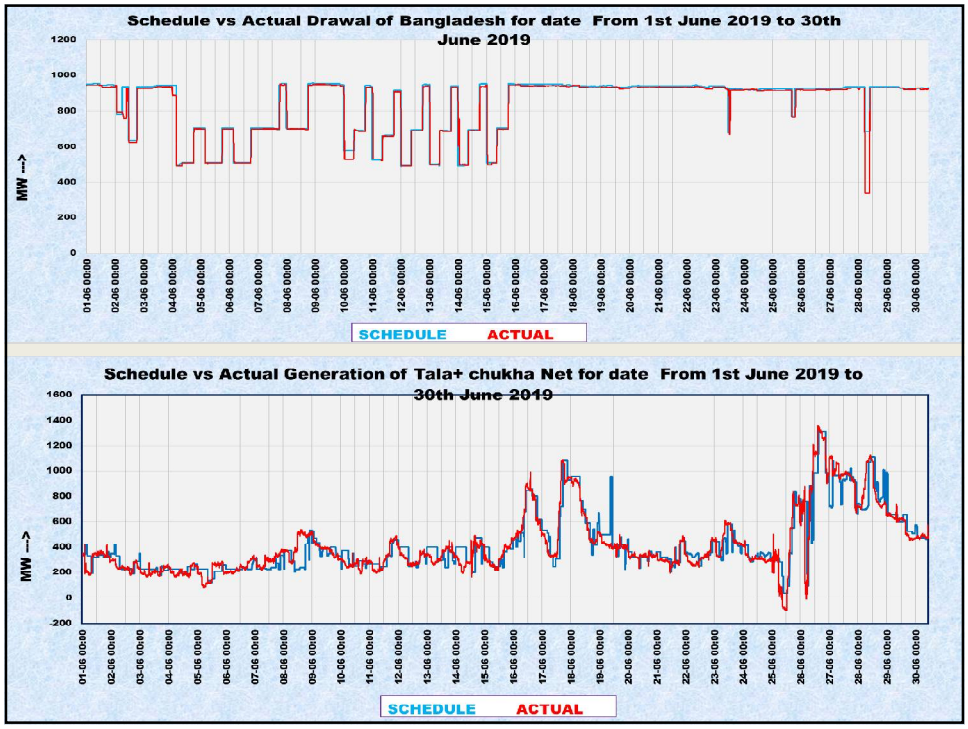
Non-compliance of direction issued by SLDC

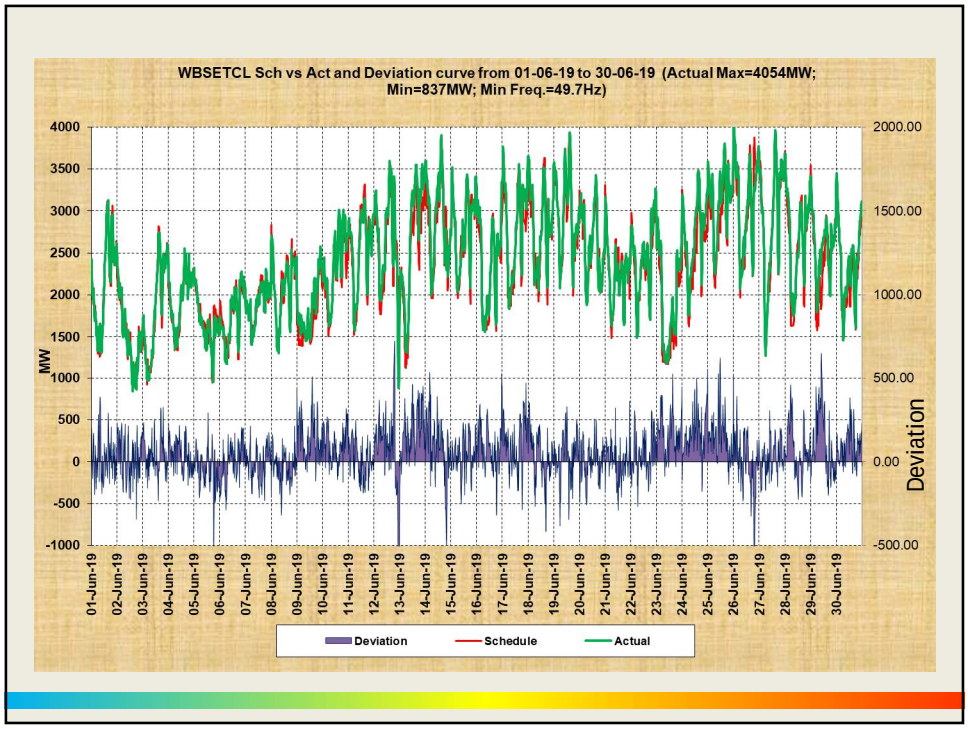


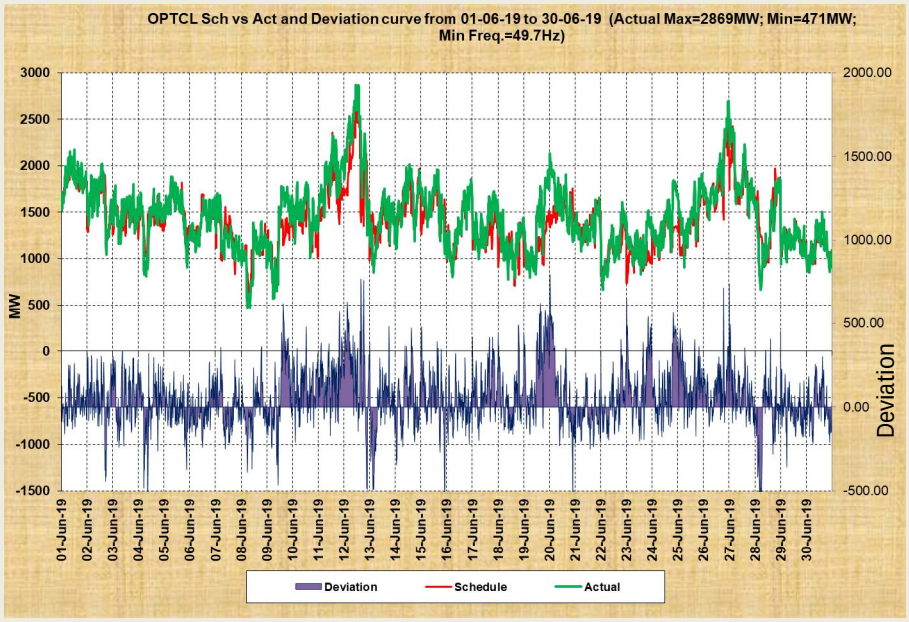
Actual Export schedule for June-19 was 1769 Mu, whereas actual export was 1402 Mu

Total Under export was 367 Mu for the month.

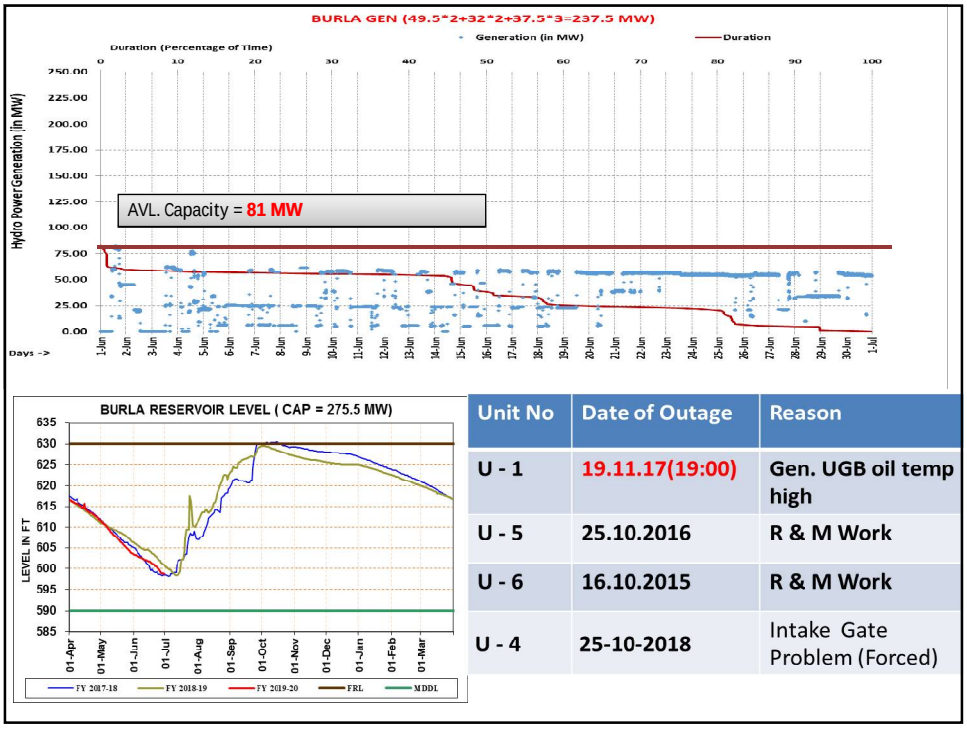
June 2019 Schedule vs. Actual Status					
	Schedule(mu)	Actual(mu)	OD(mu)	Daily Avg OD(mu)	% Deviation
Bihar	2957	2964	7	0.2	0.2
Jharkhand	559	563	3	0.1	0.6
DVC	-1314	-1294	20	0.6	1.5
Odisha	1006	1051	45	1.5	**4.5**
West Bengal	1693	1736	43	1.4	2.6
Sikkim	37	39	2	0.1	5.6
FSTPP I & II	826	796	-30	-1.0	**-3.7**
FSTPP III	56	54	-1	0.0	**-2.4**
KHSTPP I	486	488	3	0.1	0.6
KHSTPP II	861	853	-8	-0.3	-0.9
TSTPP I	518	516	-2	-0.1	-0.3
BARH II	790	786	-4	-0.1	-0.5
GMR	282	270	-12	-0.4	**-4.4**
MPL	434	436	2	0.1	0.4
APRNL	258	252	-6	-0.2	-2.2
JITPL	478	476	-2	-0.1	-0.4


Schedule vs Actual Drawal of Bangladesh for date From 1st June 2019 to 30th June 2019
MW --->
SCHEDULE
ACTUAL
Schedule vs Actual Generation of Tala+ chukha Net for date From 1st June 2019 to 30th June 2019
MW --->
SCHEDULE
ACTUAL

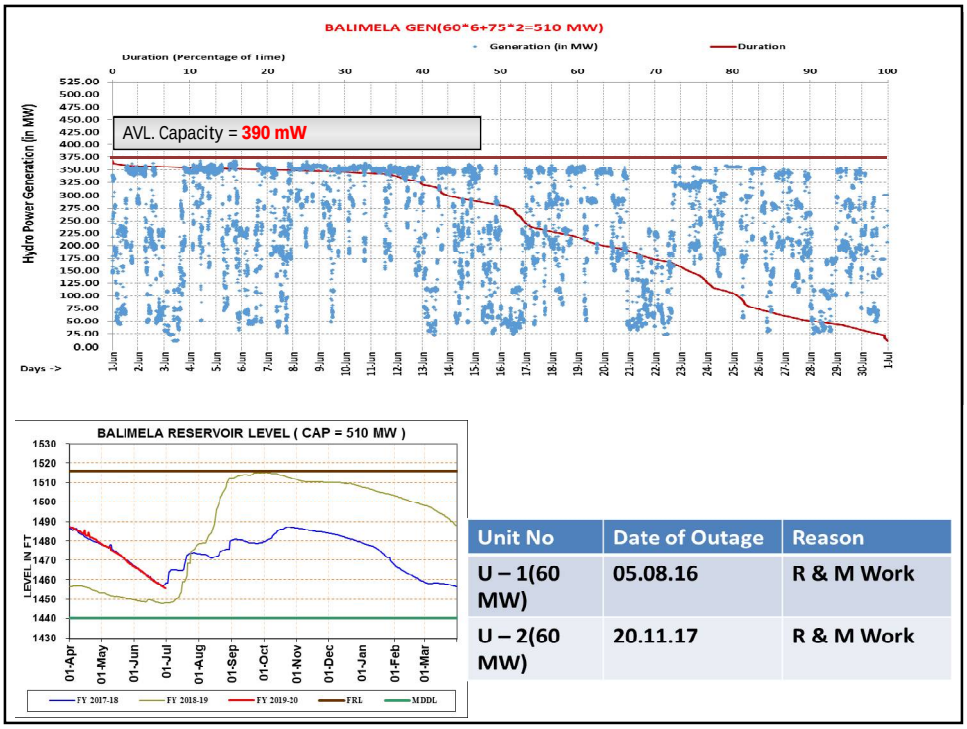

WBSETCL Sch vs Act and Deviation curve from 01-06-19 to 30-06-19 (Actual Max=4054MW; Min=837MW; Min Freq.=49.7Hz)
MW
Deviation
Deviation
Schedule
Actual



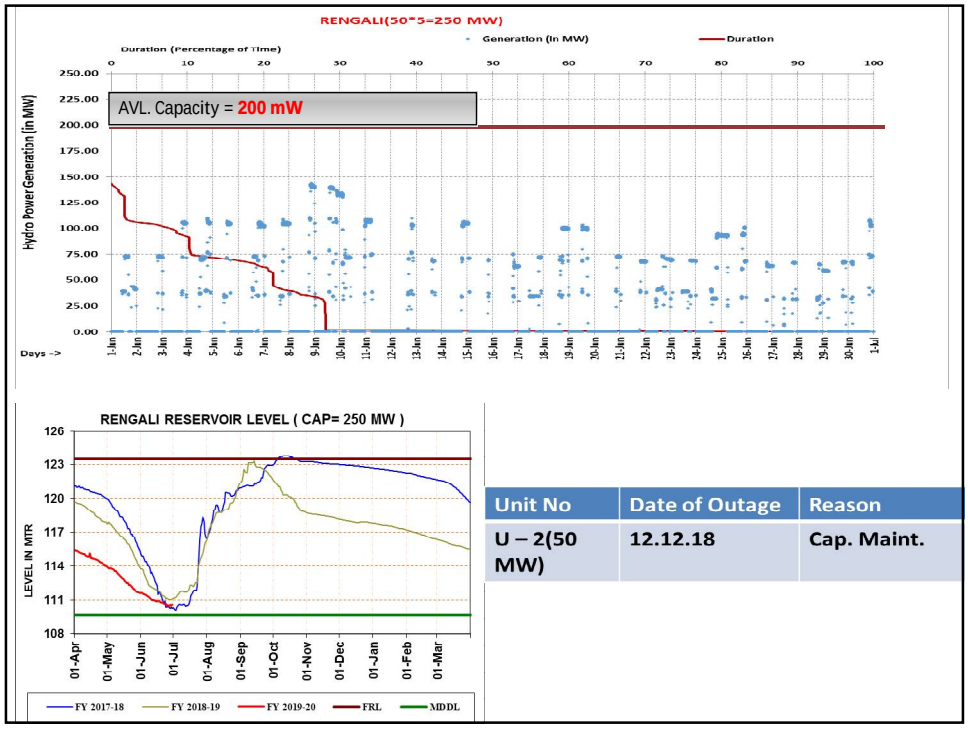
State Hydro Generators Performance



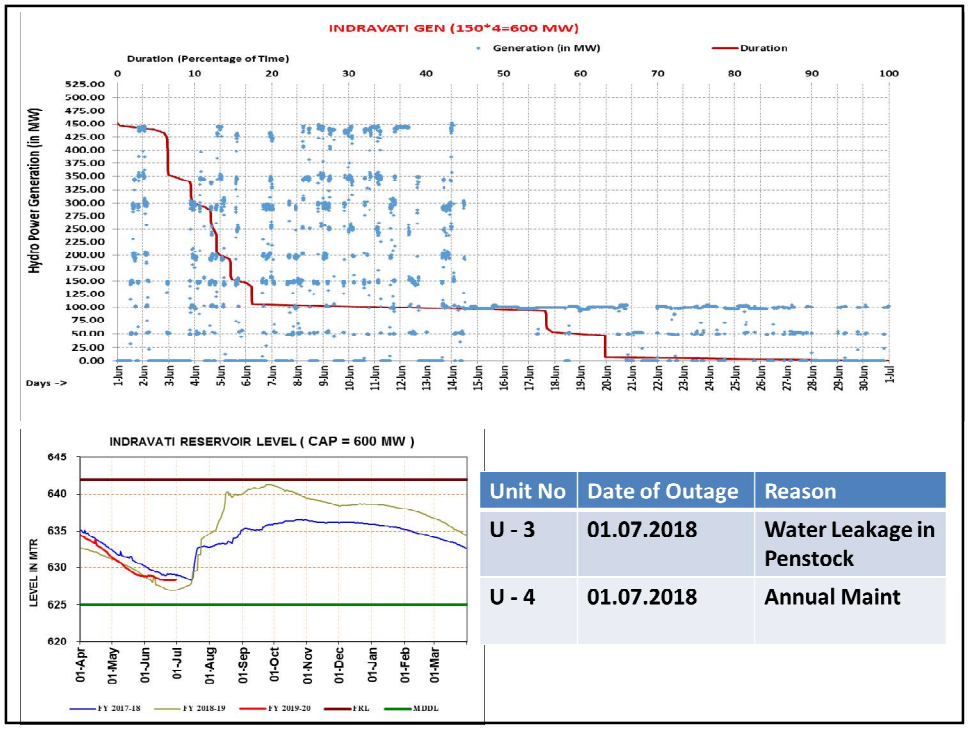
Unit No	Date of Outage	Reason
U - 1	19.11.17(19:00)	Gen. UGB oil temp high
U - 5	25.10.2016	R & M Work
U - 6	16.10.2015	R & M Work
U - 4	25-10-2018	Intake Gate Problem (Forced)



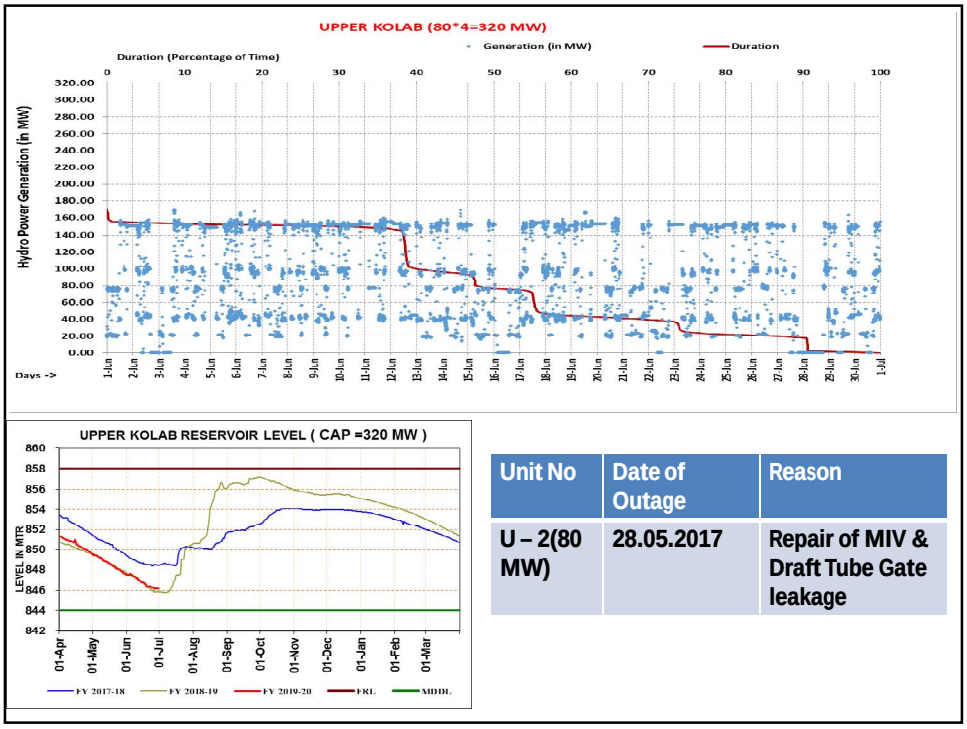
Unit No	Date of Outage	Reason
U – 1(60 MW)	05.08.16	R & M Work
U – 2(60 MW)	20.11.17	R & M Work



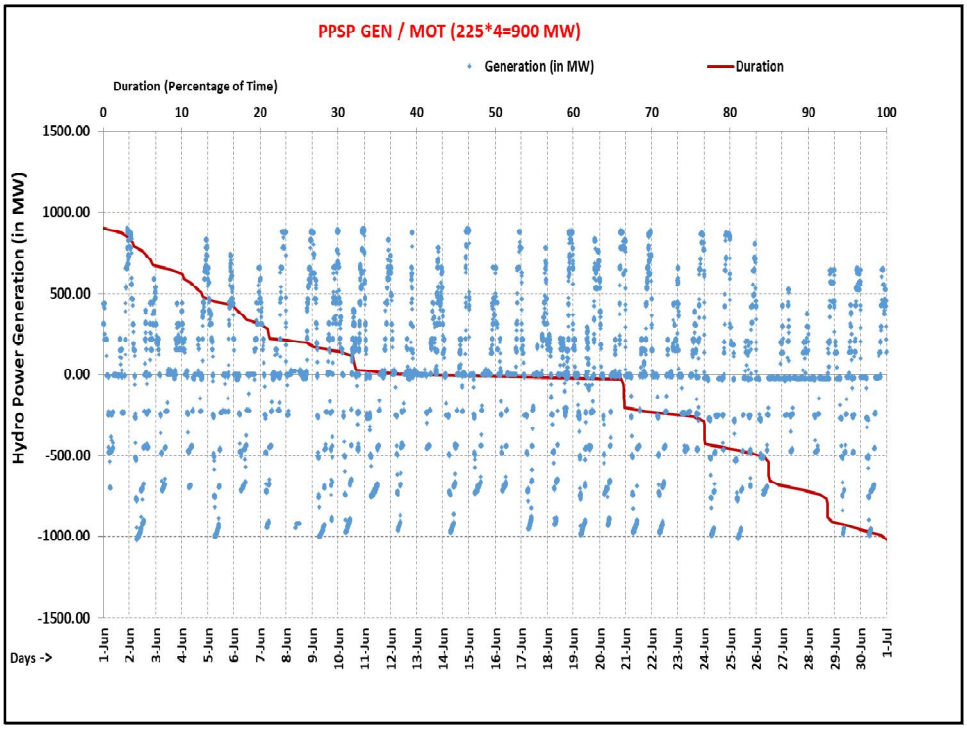
Unit No	Date of Outage	Reason
U – 2(50 MW)	12.12.18	Cap. Maint.



Unit No	Date of Outage	Reason
U - 3	01.07.2018	Water Leakage in Penstock
U - 4	01.07.2018	Annual Maint



Unit No	Date of Outage	Reason
U – 2(80 MW)	28.05.2017	Repair of MIV & Draft Tube Gate leakage



Restoration Status of Major Transmission elements collapsed during Cyclone 'FANI'

- One no. of tower in between loc-708 and 709 of 400kV New Duburi-Pandiabili and 400kV Baripada-Pandiabili has collapsed on 220kV Chandaka-Mendhasal-I & II. 400kV Baripada-Pandiabili restored on ERS.
  - **400kV New Duburi-Pandiabili and 400kV Baripada-Pandiabili : Restored on 09/06/2019**
- 1 no. Tower collapse reported for each 220kV Chandaka-Mendhasal-I & II & 220kV Mendhasal-Chandaka ckt-III & IV.
  - **220kV Chandaka-Mendhasal-I & II: Restored on 08/06/19.**
- 49 tower collapse reported for 220 kV Samangara- Pandiabil D/C .
- 2 tower collapse for 220kV Narendrapur – Atri D/C. **Restored on 30/05/19**
- 132KV Bidanasi –Cowdhar: 2 nos Tower collapse. **Restored on 29/05/19.**
- 132 KV Nimapara-Samangara-Puri (6 Nos. tower collapsed). Restored on 15.05.19. 132 kV Samangara restored through T connection of 132 kV Nimapara – Puri.
- 132 KV Khurda-Samuka-Puri (14 Nos. tower fully and 3 Nos. tower partially collapsed) .
  - **Only 132kV Puri -Samuka restored on 19/05/19.**

Long element outages leading to transmission constrain

- 400KV tie bay(405) of (MAITHON RB-I AND DURGAPUR-I) at MAITHON out since 11-01-19 for upgradation of CT/ ISOLATORS /CONNECTORS from 2000 A TO 3150 A.
- 400KV FSTPP-KhSTPP-I out since 06-03-19 for taking up bay upgradation work at NTPC Farakka. Scope of work is under Powergrid ERTS-II.
- Tie bay of 400KV FSTPP-KhSTPP-I & 400KV FSTPP-BAHARAMPORE-I out of service since past 9 months due to defect in tie breaker. Scope of work is under NTPC, Farakka.
- 400KV main bay of Indravati(GR)-Indravati (PG) out of service since last 2 years for breaker problem at Indravati(PG). Line was charged through main bay of 125 MVASR B/R breaker on Bus – II. Breaker to be replaced by OPTCL. Till date timeline of restoration is uncertain?
- 400 kV Patna – Kisanganj – I was out since 01/09/2018 & 400 kV 400 kV Patna – Kisanganj – II was out since 06/07/2019 and 400 kV Purnea – Biharsariff D/C were out since 10/08/2018 on Tower Collapse.
- 400 kV Darbhanga – Kisanganj D/c were out since 22/06/19 Problem in CB at Darbhanga S/S.

Eastern Regional Power Committee, Kolkata

Minutes of Special Meeting on "Low voltage issue in West Bengal System" held at ERPC, Kolkata on 8th July 2019 at 11:00hrs

List of participants is enclosed at **Annexure-A.**

At the start of the meeting, it was informed that the issue of low voltage at 400kV Rajarhat, 400kV Subhashgram, 400kV Jeerat and 132kV Malda in West Bengal system was already highlighted in 158th OCC Meeting held on 27.06.2019. As the subject requires detailed discussion, it was decided that the issue of low voltage in West Bengal system would be discussed in a separate meeting with the concerned members from WBSETCL, WBPDCL, SLDC-WB, WBSEDCL, CESC, Powergrid ER-II, ERLDC and ERPC. In line with the 158th OCC decision, this special meeting has been called.

ERLDC informed that around 450 MW and 100 MVAR increase in demand was observed at 400kV Subhashgram, Jeerat and Rajarhat compared to last year. But sufficient network connectivity and reactive power resources were not envisaged to cater the enhanced demand. There is margin available within the capability of generating units of WBPDCL (i.e. Sagardhigi, Bakreswar and Kolaghat TPS units) and NTPC Farakka to generate more reactive power during low voltage condition. However the same is not being fully utilized. The above factors together with inadequate reactive compensation at load end within West Bengal system are causing the voltage at Rajarhat and Subhashgram to decrease below 360 kV during 14:00 hrs to 16:00 hrs. ERLDC added that HEL generating units are generating MVAR as per their capability curve.

HEL informed that sometimes they even reduce the active power generation to enhance the reactive power generation. HEL suggested that incentive to generating units for providing adequate reactive power support to the grid should be introduced to encourage the generators to participate actively in improving the voltage profile.

WBSETCL informed that the 400kV and 220kV lines were loaded beyond the SIL limit and contributing to the low voltage in West Bengal system. This needs to be addressed while planning the transmission system.

Powergrid informed that commissioning of 400kV Farakka-Rajarhat-Gokarna lines is getting delayed due to severe ROW issues and they are putting all the efforts to commission the lines within four months.

All the members agreed that increase in demand with insufficient network connectivity and reactive power support is the main reason for low voltage in West Bengal system.

After detailed discussion, it was decided to implement the following short term measures to improve the voltage profile:

- WBPDCL was advised to take necessary action to provide reactive power support by their units as per their capability curve. WBPDCL generating units (i.e. Sagardhigi, Bakreswar and

Kolaghat TPS units) were advised to maintain the generator terminal voltage at 1 p.u. so that sufficient reactive power generation can be provided during low voltage.

- SLDC, WB was advised to closely monitor the voltage of South Bengal substations and instruct the concerned generators to enhance reactive power generation up to their respective limits.
- WBPDCL was advised to submit unit wise active and reactive power generated w.r.t generator terminal voltage for the units at Sagardhigi, Bakreswar and Kolaghat TPS at intervals of 15 minutes along with date and time to SLDC, WB and ERLDC.
- It was decided to communicate the issue to Farakka, NTPC for providing MVAR during low voltage condition as per the capability curve.
- It was also decided to monitor the performance of the generators on daily basis and ERLDC was advised to present performance of the generators in 159th OCC Meeting scheduled to be held at ERPC, Kolkata on 19th July 2019.
- As already proposed in 158th OCC, SLDC, WB was advised to expedite implementation of Under-Voltage Load Shedding (UVLS) in WBSETCL system to avoid voltage instability problem and major failure in and around the metro city of Kolkata. ED, ERLDC requested SLDC WB to explore the scope of rotational shedding of non-priority loads supplied from Jeerat, Subhasgram and Rajarhat at least during 14:00 to 16:00 Hrs.

The following medium term/long term measures and action taken plans were discussed in the meeting:

- WBSETCL informed that they are installing 610 MVAR additional capacitor banks in distribution network to improve the voltage. The capacitor banks would be commissioned by December 2019
- WBSETCL added that a number of new sub-stations are coming up in South and North 24 Parganas. They are considering 10 MVAR capacitor bank against each 50 MVA transformer, if voltage is seen below desired level during planning.
- WBSETCL further informed that they have entrusted contract to PRDC for detail study of the perspective plan to identify any gaps in reactive power management.
- CESC informed that they are installing 50 MVAR capacitor at 132kV level at New Kasipur S/s. The capacitor would be commissioned by December 2019. CESC added that the reactive power demand at Subhashgram (PG) S/s is expected to reduce after commissioning of the capacitor.
- It was opined that after commissioning of 400kV Farakka-Rajarhat-Gokarna lines and 765 kV New Ranchi-Midnapur-Jeerat corridor, the voltage would be improved.
- It was informed that LILO of 400kV Subhashgram-HEL D/C line at 400kV New Laxmikantpur S/s of WBSETCL has been approved in 2nd ERSCT Meeting held on 5th July 2019. Minutes of the meeting are awaited.
- It was opined that after commissioning of the above LILO, the loading at Subhashgram(PG) S/s would decrease which in turn would improve the voltage.

- The proposal of installing Static Var Compensator (SVC) at low voltage prone area was discussed in 2nd ERSCT Meeting held on 5th July 2019. A preliminary study has been carried out by CTU considering the SVC at different 400kV buses. Minutes of the meeting are awaited.
- WBSETCL was advised to send all the future plans of reactive power compensation, transmission network, distribution network and load details in around Subhashgram, Rajarhat, Jeerat and Malda areas to CTU and CEA.

In view of significant seasonal variation in West Bengal system demand, there is a need for reviewing of voltage profile, GT and ICT taps and reactive power resources twice in a year (i.e. before Summer and Winter). Accordingly it was decided to conduct such review meetings in March and October in every year till the issues of low/high voltage in West Bengal system resolved.

Meeting ended with vote of thanks to the chair.

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Annexure-B1.1

West Bengal State Electricity Transmission Co. Ltd.
List of 33 KV Capacitor Bank

Sl. No.	Name of the Substation	District	33 KV Capacitor Bank (MVAR)		
			As on 31.03.19	WIP Expected by Dec' 19	Total
1	Ashokenagar 132 kV	24 Pgs (N)	10	20	30
2	Bangaon 132 kV	24 Pgs (N)	10		10
3	Barasat 220 kV	24 Pgs (N)	30	10	40
4	Basirhat 132 kV	24 Pgs (N)	10		10
5	New Town - III 220 KV	24 Pgs (N)		20	20
6	Salt Lake 132 KV	24 Pgs (N)	37.5		37.5
7	Titagarh 132 KV	24 Pgs (N)	35.8		35.8
		24 Pgs (N) Total	**133.3**	**50**	**183.3**
8	Behala 132 kV	24 Pgs (S)	24.4		24.4
9	Falta 132 KV	24 Pgs (S)	28.8		28.8
10	Kakdwip 132 KV	24 Pgs (S)		20	20
11	KLC 220 KV	24 Pgs (S)	10	20	30
12	Laxmikantapur 220 KV	24 Pgs (S)	5	20	25
13	Serakol 132 KV	24 Pgs (S)		20	20
14	Sonarpur 132 KV	24 Pgs (S)	10	10	20
		24 Pgs (S) Total	**78.2**	**90**	**168.2**
15	Bankura 132 KV	Bankura	20		20
16	Bishnupur 132 KV	Bankura		20	20
17	New Bishnupur 220 KV	Bankura		10	10
		Bankura Total	**20**	**30**	**50**
18	Bolpur 132 KV	Birbhum	20		20
19	Rampurhat 132 KV	Birbhum	10	10	20
20	Sainthia 132 KV	Birbhum	20		20
		Birbhum Total	**50**	**10**	**60**
21	Asansol 220 KV	Burdwan		20	20
22	Kalna 132 KV	Burdwan		10	10
23	Katwa 132 KV	Burdwan	21.6		21.6
24	Mahachanda 132 KV	Burdwan		10	10
25	Mankar 132 KV	Burdwan		10	10
26	Raina 132 KV	Burdwan	10	20	30
27	Satgachia 220 KV	Burdwan	20	20	40
28	Ukhra 132 KV	Burdwan	13.3		13.3
		Burdwan Total	**64.9**	**90**	**154.9**
29	Coochbehar 132 KV	Coochbehar	5	20	25
		Coochbehar Total	**5**	**20**	**25**
30	NBU 132 KV	Darjeeling	10		10
		Darjeeling Total	**10**	**0**	**10**
31	Dalkhola 220 KV	Dinajpur (N)	5		5
32	Raiganj 132 KV	Dinajpur (N)	10		10
		Dinajpur (N) Total	**15**	**0**	**15**
33	Balurghat 132 KV	Dinajpur (S)	10		10
34	Gangarampur 132 KV	Dinajpur (S)	14.4		14.4
		Dinajpur (S) Total	**24.4**	**0**	**24.4**
35	Adisaptagram 132 kV	Hooghly	20	10	30
36	Arambag 400 KV	Hooghly	10	20	30
37	Bighati 132 KV	Hooghly		10	10
38	Chanditala 132 kV	Hooghly	10		10

West Bengal State Electricity Transmission Co. Ltd.
List of 33 KV Capacitor Bank

Sl. No.	Name of the Substation	District	33 KV Capacitor Bank (MVAR)		
			As on 31.03.19	WIP Expected by Dec' 19	Total
39	Jangipara 132 KV	Hooghly	5		5
40	Khanyan 132 KV	Hooghly	5		5
41	Rishra 220 KV	Hooghly	32.4		32.4
42	Tarakeswar 132 KV	Hooghly	5		5
		Hooghly Total	**87.4**	**40**	**127.4**
43	Domjur 220 KV	Howrah	10	20	30
44	Liluah 132 KV	Howrah	21.6		21.6
45	Uluberia 132 KV	Howrah	10	20	30
		Howrah Total	**41.6**	**40**	**81.6**
46	Moynaguri 132 KV	Jalpaiguri	10		10
47	Siliguri 132 KV	Jalpaiguri	10		10
		Jalpaiguri Total	**20**	**0**	**20**
48	Jhargram 132 KV	Jhargram		10	10
		Jhargram Total	**0**	**10**	**10**
49	Malda 132 KV	Malda	10		10
50	Samsi 132 KV	Malda	14.4	20	34.4
		Malda Total	**24.4**	**20**	**44.4**
51	Contai 132 KV	Midnapur (E)		20	20
52	Egra 220 KV	Midnapur (E)	10	20	30
53	Haldia 132 KV	Midnapur (E)	5		5
54	Kolaghat 132 KV	Midnapur (E)	14.4		14.4
55	New Haldia 220 KV	Midnapur (E)	5		5
56	Tamluk 132 KV	Midnapur (E)	10		10
		Midnapur (E) Total	**44.4**	**40**	**84.4**
57	Birsingha 132 KV	Midnapur (W)		20	20
58	C. K. Road 132 KV	Midnapur (W)	10	10	20
59	Hizli 132 KV	Midnapur (W)		20	20
60	Keshiary 132 KV	Midnapur (W)	20		20
61	Kharagpur WBIDC 132 KV	Midnapur (W)		10	10
62	Midnapur 220 KV	Midnapur (W)	15	10	25
63	Pingla 132 KV	Midnapur (W)	10	20	30
		Midnapur (W) Total	**55**	**90**	**145**
64	Amtala 132 KV	Murshidabad	10		10
65	Berhampur 132 KV	Murshidabad	20	20	40
66	Gokarna 220 KV	Murshidabad		30	30
		Murshidabad Total	**30**	**50**	**80**
67	Debagram 132 KV	Nadia	15		15
68	Dharampur 220 KV	Nadia	10	20	30
69	Kalyani 132 KV	Nadia	10.8	10	20.8
70	Krishnanagar 220 KV	Nadia	28.8		28.8
71	Ranaghat 132KV	Nadia	10		10
		Nadia Total	**74.6**	**30**	**104.6**
72	Purulia 132 KV	Purulia	10		10
73	Raghunathgunj 132 KV	Purulia	10		10
		Purulia Total	**20**	**0**	**20**
		Grand Total	**798.2**	**610**	**1408.2**

Annexure B4

Regional Level Disaster Management Group (RDMG)

Composition of Regional Level Disaster Management Group

a) Member Secretary (RPC) - Chairman
b) Secretary in-charge of Rehabilitation and Relief of the effected State of the Region
c) Representatives of each State Civil Defence
d) Regional HODs CPSUs (NTPC, NHPC, PGCIL etc.)
e) CMDs State TRANSCOs/Power Departments.
f) Chief Engineer, Central Water Commission (CWC), for floods related early warnings.
g) Deputy Director General, Indian Metrological Department (IMD), for Earthquake, and Cyclone related early warnings.
h) Group Head, Ocean Information and Forecast Services Group (ISG), for Tsunami related early warnings.
i) Head of RLDC

Responsibilities:

a) To provide inter-state emergency & start up power supply
b) To coordinate early restoration of regional grid.
c) To participate in damage assessment.
d) To facilitate resource movement to affected state (s) from other regional states

Plant level Emergency Management Group (EMG)

Composition of Plant Level Disaster Management Group

a) In-charge of the installation
b) Plant safety manager
c) Chief Plant Operation Administration
d) Representative of District Administration

Responsibilities:

a) To direct action in the affected area taking into consideration the priorities for safety of plant personnel, minimize damage to plant, property and the environment
b) To direct fire and security personnel for immediate action.
c) To ensure that all non-essential workers/staff in the affected area are evacuated to safer places
d) Set up communication points
e) Report all development and requirements/ assistance needed
f) Preserve all evidences so as to facilitate any inquiry into the cause and circumstances which caused or escalated the emergency
g) To coordinate with District Administration for necessary finance, medical facilities law & order etc.

DVC Generation	4979
DVC Load	2959
WB Generation	6211
WB Load	8669

Present Condition

	Case-I				Case-II							Case-III					
	Present Condition				After Bus Split at Parulia(PG)							Case-II+ 3rd 315 MVA ICT at Parulia (PG)					
	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	N-1 400 kV/220 kV ICT-1 @ Parulia PG	N-1 220 kV Maithon-Kalyaneswari-I	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	Outage of both PRL-PG lines	Outage of one PRL-PG line & ICT	N-1 400 kV/220 kV ICT-1 @ Parulia PG	N-1 400 kV/220 kV ICT-2 @ Parulia PG	N-1 220 kV Maithon-Kalyaneswari-I	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	Outage of both PRL-PG lines	N-1 400 kV/220 kV ICT-1 @ Parulia PG	N-1 400 kV/220 kV ICT-2 @ Parulia PG	N-1 220 kV Maithon-Kalyaneswari-I
400 kV/220 kV ICT-1 @ Parulia PG	168	166	219	170	106	104	133	171	0	172	101	72	70	172	0	99	73
400 kV/220 kV ICT-2 @ Parulia PG	168	166	0	170	309	308	-133	0	325	0	313	227	225	-86	232	0	229
400 kV/220 kV ICT-3@ Parulia PG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	227	225	-86	232	309	229
220 kV Parulia(PG)-Parulia(DVC)-I	168	0	109	170	196	0	0	0	163	86	199	249	0	0	232	196	252
220 kV Parulia(PG)-Parulia(DVC)-2	168	331	109	170	196	388	0	171	163	86	199	249	491	0	232	196	252
220 kV Bidhannagar-Waria D/C	84	87	166	93	20	18	248	128	41	127	19	-66	-62	251	-43	-19	-60
220 kV Maithon-Kalyaneswari-I	162	162	175	0	172	173	222	207	179	206	0	157	158	221	160	172	0
220 kV Maithon-Kalyaneswari-II	162	162	175	297	172	173	222	207	179	206	316	157	158	221	160	172	287

Future Condition - I (considering 2 nos ICT at Parulia PG after Bus Split)

	Case-I								Case-II							
	2 x 315 MVA transformer at 400/220 kV DSTPS and LILO of Parulia(D)-Waria at DSTPS								Case1 + 220 kV Burdwan with 2 x 160 MVA ICT & Parulia-Burdwan D/C							
	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	N-1 400 kV/220 kV ICT-2 @ Parulia PG	N-1 400 kV/220 kV ICT-2 @ DSTPS	N-1 220 kV DSTPS-Waria-I	N-1 220 kV Maithon-Kalyaneswari-I	N-1 220 kV Bidhannagar-Waria-I	outage of both 220 kV Bidhannagar-Waria	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	N-1 400 kV/220 kV ICT-2 @ Parulia PG	N-1 400 kV/220 kV ICT-2 @ DSTPS	N-1 220 kV DSTPS-Waria-I	N-1 220 kV Maithon-Kalyaneswari-I	N-1 220 kV Bidhannagar-Waria-I	
400 kV/220 kV ICT-1 @ Parulia PG	10	9	84	35	-2.2	12	4	-46	30	28	100	80	20	31	23	
400 kV/220 kV ICT-2 @ Parulia PG	210	209	0	244	203	213	207	181	227	227	0	261	222	230	224	
400 kV/220 kV ICT-3 @ Parulia PG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
400 kV/220 kV ICT-1 @ DSTPS	267	267	296	0	254	268	263	230	272	272	303	0	261	273	268	
400 kV/220 kV ICT-2 @ DSTPS	267	267	296	349	254	268	263	230	272	272	303	355	261	273	268	
220 kV Parulia(PG)-Parulia(DVC)-I	113	0	42	141	104	115	109	74	131	0	50	159	123	132	126	
220 kV Parulia(PG)-Parulia(DVC)-2	113	224	42	141	104	115	109	74	131	260	50	159	123	132	126	
220 kV Bidhannagar-Waria -I	-115	-114	-86	-75	-96	-112	0	0	-116	-115	-85	-77	-100	-114	0	
220 kV Bidhannagar-Waria -II	-115	-114	-86	-75	-96	-112	203	0	-116	-115	-85	-77	-100	-114	-206	
220 kV DSTPS-Waria-I	264	263	233	208	0	264	254	187	225	225	196	169	0	226	217	
220 kV DSTPS-Waria-II	264	263	233	208	453	264	254	187	225	225	196	169	387	226	217	
220 kV Maithon-Kalyaneswari-I	132	132	150	145	134	0	130	117	130	142	146	144	132	0	128	
220 kV Maithon-Kalyaneswari-II	132	132	150	145	134	240	130	117	130	142	146	144	132	237	128	
220 kV Paulia-Burdwan D/C	NA	NA	NA	NA	NA	NA	NA	NA	158	158	149	145	161	158	158	

Future Condition - II (considering 3 nos ICT at Parulia PG after Bus Split)

	Case-I								Case-II							
	2 x 315 MVA transformer at 400/220 kV DSTPS and LILO of Parulia(D)-Waria at DSTPS								Case1 + 220 kV Burnpur with 2 x 160 MVA ICT Parulia-Burnpur D/C							
	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	N-1 400 kV/220 kV ICT-2 @ Parulia PG	N-1 400 kV/220 kV ICT-2 @ DSTPS	N-1 220 kV DSTPS-Waria-I	N-1 220 kV Maithon-Kalyaneswari-I	N-1 220 kV Bidhannagar-Waria-I	outage of both 220 kV Bidhannagar-Waria	Base Case	N-1 220 kV Parulia(PG)-Parulia(DVC)-I	N-1 400 kV/220 kV ICT-2 @ Parulia PG	N-1 400 kV/220 kV ICT-2 @ DSTPS	N-1 220 kV DSTPS-Waria-I	N-1 220 kV Maithon-Kalyaneswari-I	N-1 220 kV Bidhannagar-Waria-I	
400 kV/220 kV ICT-1 @ Parulia PG	-13	-15	10	6	-26	-12	-20	-71	5	2.7	30	24	6	2.6	-2.4	
400 kV/220 kV ICT-2 @ Parulia PG	158	157	0	182	152	159	155	133	171	170	0	195	173	172	168	
400 kV/220 kV ICT-3 @ Parulia PG	158	157	210	182	152	159	155	133	171	170	227	195	173	172	168	
400 kV/220 kV ICT-1 @ DSTPS	252	253	267	0	240	253	248	214	256	257	272	0	245	258	252	
400 kV/220 kV ICT-2 @ DSTPS	252	253	267	327	240	253	248	214	256	257	272	332	245	258	252	
220 kV Parulia(PG)-Parulia(DVC)-I	153	0	113	185	141	155	147	102	175	0	131	207	165	177	168	
220 kV Parulia(PG)-Parulia(DVC)-2	153	302	113	185	141	155	147	102	175	345	131	207	165	177	168	
220 kV Bidhannagar-Waria -I	-129	-128	-115	-94	-109	-127	0	0	-131	-131	-116	-97	-114	-130	0	
220 kV Bidhannagar-Waria -II	-129	-128	-115	-94	-109	-127	-224	0	-131	-131	-116	-97	-114	-130	-234	
220 kV DSTPS-Waria-I	279	277	264	229	0	279	268	192	241	240	225	190	0	241	231	
220 kV DSTPS-Waria-II	279	277	264	229	478	279	268	192	241	240	225	190	412	241	231	
220 kV Maithon-Kalyaneswari-I	126	126	132	136	128	0	124	111	123	123	130	134	125	0	121	
220 kV Maithon-Kalyaneswari-II	126	126	132	136	128	228	124	111	123	123	130	134	125	223	121	
220 kV Paulia-Burdwan D/C	NA	NA	NA	NA	NA	NA	NA	NA	162	162	158	160	166	162	162	

-sd-
Saurav Kumar Sahay
ERLDC, POSOCO

-sd-
Santosh Kumar Panda
EE, SLDC, DVC

- sd-
Sandip Ghosh
SDE, DVC

-sd-
J G Rao
EE, ERPC

Trial Operation of Durgapur Split Bus Operation 18-07-19

18-07-19 : Trial Split Bus Operation at 400 kV Durgapur

- As per Last OCC Discussion, ERLDC has taken first a trial of 400 kV Split Bus operation at Durgapur to observe the Network Flow Changes.
- WB SLDC, DVC SLDC, PGCIL ERTS-1 & 2 and NTPC Farakka were pre-informed.
- SLDC WB and DVC were advised to keep a close vigil on their 220 kV Network.

☞**16:25 Hrs :** Bus Split operation started by opening of 400 kV Bus 1 & 3 And Bus 2 & 4 Sectionaliser CBs

- **High Loading on 220 kV Durgapur-Parulia (D/C) and Waria-Bidhan Nagar D/C observed.**

☞**16:44 Hrs :** 400/220 kV Durgapur ICT 3 Opened to reduce the loading.

☞**17:01 Hrs :** Split Bus operation normalised by closing of 400 kV Bus 1 & 3 And Bus 2 & 4 Sectionaliser CBs

☞**17:05 Hrs :** 400/220 kV Durgapur ICT 3 taken in service

(All figures are MW)

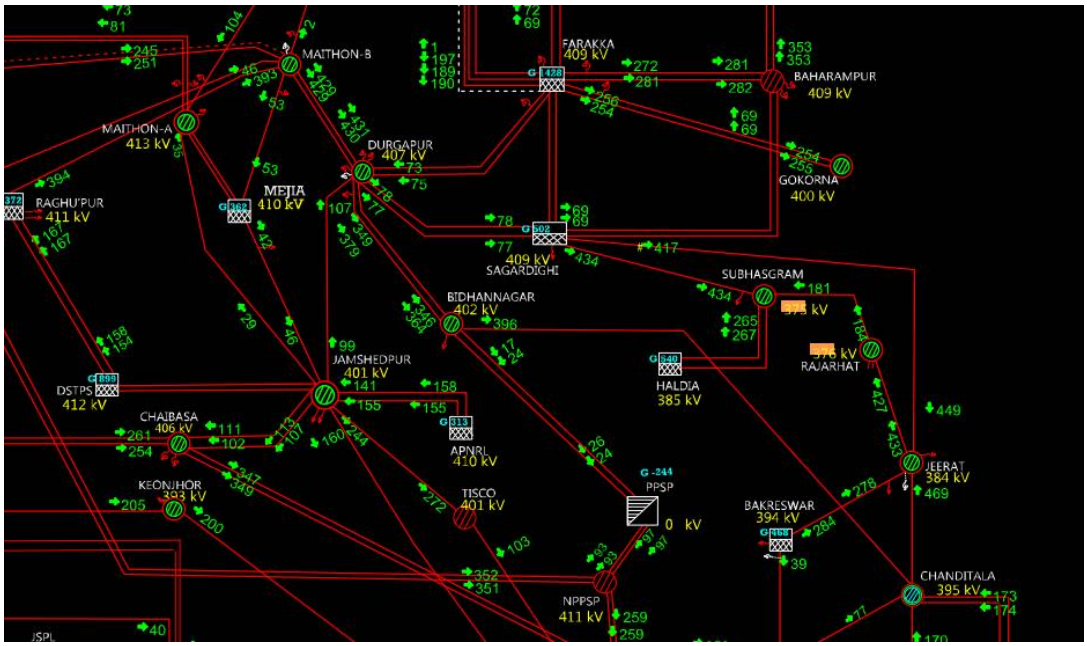
	Elements	Before Split Bus (16:19)	After Split Bus (16:31)	Split Bus with ICT 3 Open (16:48)
400 kV Bus 1 and 2 (DGP-A)	400 kV Durgapur-Bidhannagar D/C	390+354	204+223	199+181
	400 kV Durgapur-Jamshedpur	-107	-199	-192
	400 kV Durgapur-Farakka 1	-79	-177	-174
	400 kV Durgapur-Sagardighi D/C	78+72	- (16+21)	-(10+17)
	400/220 kV ICT 1	80	22	-10
A->B (sectionalizers)		-788	0	0
400 kV Bus 3 & 4 (DGP-B)	400 kV Durgapur Maithon D/C	-(431+429)	-(232+234)	-(180+192)
	400 kV Durgapur-Farakka 2	-76	-95	127
	400/220 kV ICT 2	71	176	230
	400/220 kV ICT 3	77	186	Out
Element with High loading	220 kV Durgapur-Durgapur (DVC) D/C	142+119	156+**197**	140+114
	220 kV DTPS-Bidhan Nagar D/C	94+95	**192+196**	164+168

Remarks

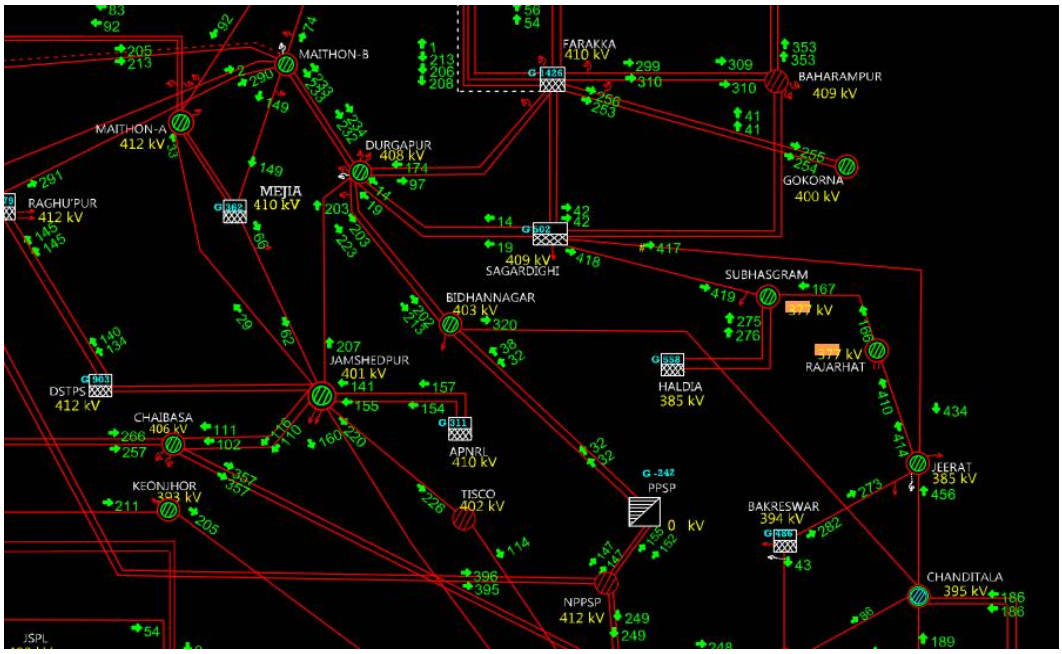
Issues

- **Low Generation in West Bengal (BkTPS ≃ 460 MW; DPL ≃ 150 MW):** High loading on 220 kV Waria(DTPS)-Bidhan Nagar D/C (N-1 Reliability)
- **Low Generation in DVC:** High loading on 220 kV Durgapur(PG)-Parulia (DVC)D/C (N-1 Reliability)
- **If Generation is low in Both DVC and West Bengal :** All the above 220 kV ckts will be heavily loaded and may result in disturbance.

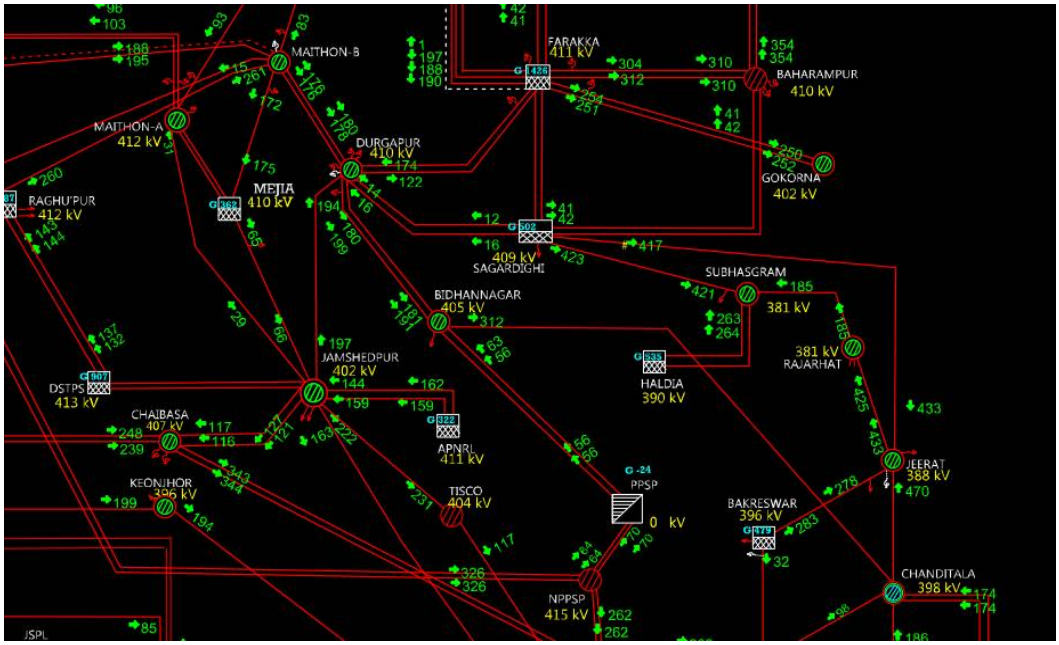
Long Term Solution Need to be envisaged: DVC has planned some network. West Bengal also to strengthen the network at Bidhan Nagar or shift load. (7 ERSCT Meeting Discussion)



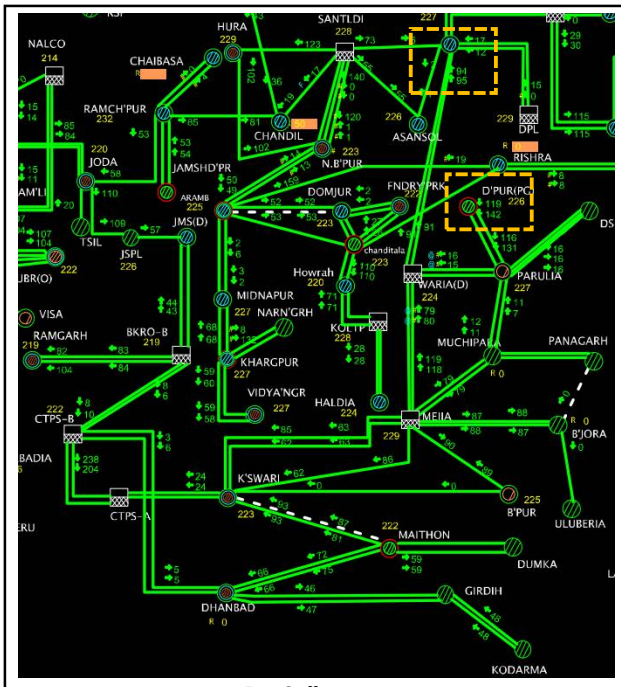
Pre Split



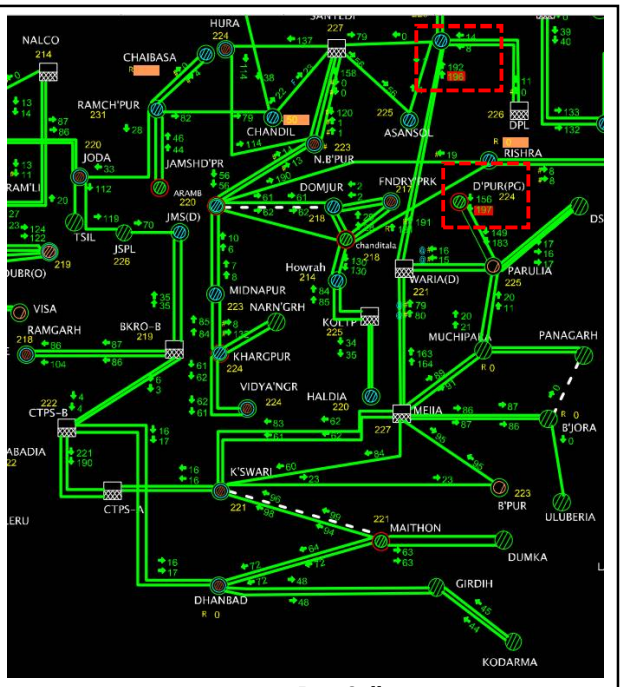
Post Split (prior to ICT 3 Open)



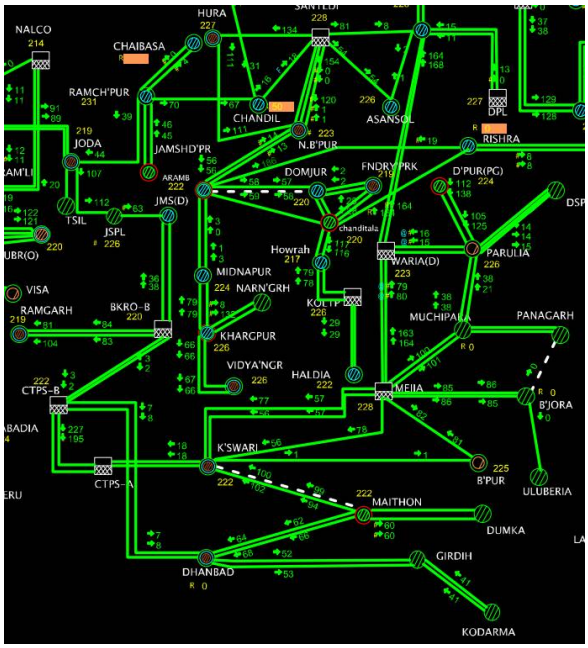
Post Split (After ICT 3 Open)



Pre Split



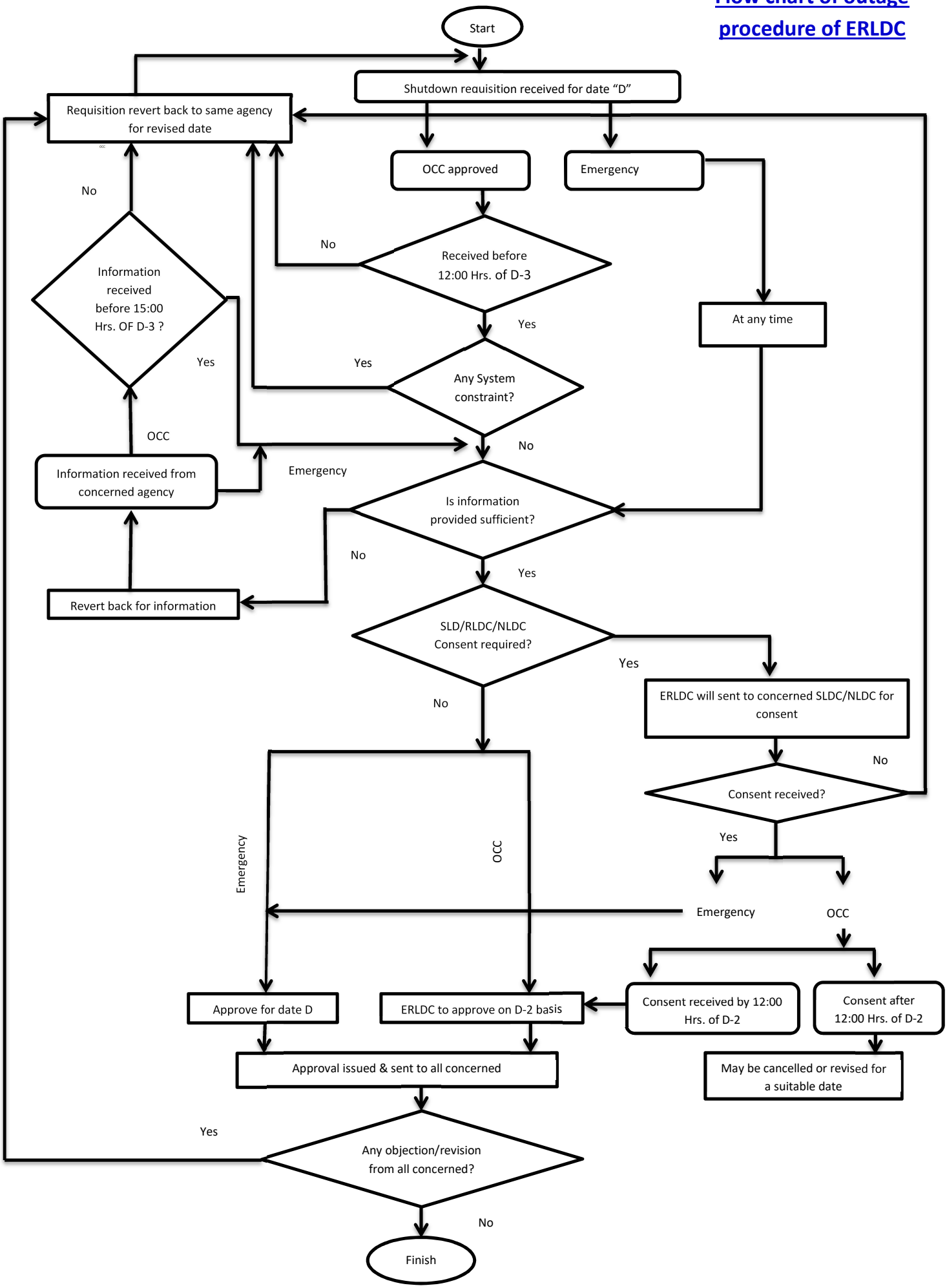
Post Split


NALCO
214
HURA
227
CHAIBASA
RAMCH'PUR
231
CHANDIL
ASANSOL
DPL
RISHRA
JODA
JAMSHD'PR
N.B'PUR
ARAMB
222
DOMJUR
FNDRY PRK
D'PUR(PG)
JMS(D)
TSIL
JSPL
226
chanditala
Howrah
217
WARIA(D)
PARULIA
226
MIDNAPUR
224
NARN'GRH
VISA
RAMGARH
BKRO_B
220
KHARGPUR
226
MUCHIPARA
PANAGARH
VIDYA'NGR
226
HALDIA
222
CTPS-B
MEJIA
B'JORA
K'SWARI
CTPS-A
B'PUR
225
ULUBERIA
MAITHON
DUMKA
GIRDIH
DHANBAD
KODARMA

Post Split

Annexure-B12

Flow chart of outage procedure of ERLDC



ERLDC Shutdown approval process flow and time line-reg.

With the ever increase in transmission elements, the Grid is getting more secure and reliable. Still, outage of one element may affect severely to adjacent control area depending on system condition that area. Hence, planning and co-ordination between different control areas is absolute necessary. It has been seen that, due to lack of mutual consent/communication between two control area/license, outage of transmission elements are getting delayed or denied due to which monetary loss occurred as well as condition of that particular element worsen. ERLDC wants to draw the attention on the following points which are seen in Eastern constituents/license.

1. There is a shortage of designated outage coordinators in ER constituents /license. Sometimes proper communication is not possible with them.
2. E-mails are not reaching to them in time which is sent from ERLDC (particularly in GRIDCO case). Most of the time mails are seen when ERLDC inform them verbally.
3. It also leads to delayed consent thereby delaying the shutdown.
4. There is no substitute for the absence of outage co-ordination. Sometimes SLDC control room person are coordinating shutdown which is not a good practice. Progress tracking of any outage will be lost once shift change occurred.
5. Planned outages are being sent on holidays also which is very difficult to process.
6. We have seen that, in absence of competent authority (SLDC Hawarh and SLDC Patna for example), OCC approved shutdowns are also get cancelled.

To tackle all the above following suggestions may be considered:

1. Every Transmission license, generators and SLDCs must have dedicated outage co-coordinators and the contact information of all such co-coordinators shall be shared with all.
2. In absence of the designated outage co-coordinator, suitable substitute should be provided and the same shall be intimated to all.
3. All the indenting agencies are requested to communicate with their counterpart outage co-coordinator for smooth and speedy consent if it require.
4. Getting consent timely is very important. All the agencies, whose consent is required for a particular outage, are requested to adhere the time line given by ERLDC fails to which the outage will be cancelled or delayed accordingly.
5. All the agencies are requested to submit holiday list in their control area or any other contingencies well in advance to all.
6. All the agencies must provide their official as well as personal E-mail of their outage coordinators to ERLDC and ensure that checking of the both email are being done simultaneously.

No. 23/22/2019-R&R
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, 28th June, 2019

ORDER

Subject: Opening and maintaining of adequate Letter of Credit (LC) as Payment Security Mechanism under Power Purchase Agreements by Distribution Licensees -Reg

1.0 Under the Electricity Act 2003, Regional Load Despatch Centres (RLDC) and State Load Despatch Centres (SLDC) are cast with the statutory responsibility to ensure that that the supply of electricity is made in accordance with the contracts.

2.0 Section 28 (3) (a) of the Electricity Act 2003 provides that the Regional Load Despatch Centre shall be responsible for optimum scheduling and despatch of electricity within the region, in accordance with the contracts entered into with the licensees or the generating companies operating in the region.

3.0 Similarly as per provisions of Section 32 (2)(a) the State Load Despatch Centre shall be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State.

4.0 The Power Purchase Agreements have the provision regarding maintenance of adequate Payment Security Mechanism mainly in the form of Letters of Credit by the Distribution Licensees/ Procurers of Power. A robust Payment Security System requires adequacy and validity of Letter of Credit to cover the payments due on account of drawal of power.

5.0 It has been seen that despite the above provisions, the Letters of Credit are not being given and there is huge outstanding on account of unpaid power bills. This makes it difficult for the Generators to pay for the fuel, which has to be pre-paid, to continue the generation. The Generators are also required to pay to the Railways in advance for the rakes. If this situation persists, the Generators will not be able to pay for fuel/transportation leading to shortfall in generation of electricity. There will thus be wide spread load shedding on account of lack of generation. It is essential therefore that all the provisions mentioned above are implemented strictly. NLDC & RLDC are therefore directed as follows:

i. In accordance with Section 28 (3) (a), the NLDC & RLDC shall despatch power only after it is intimated by the Generating Company and /Distribution Companies that a Letter of Credit for the desired quantum of power has been opened and copies made available to the concerned Generating Company.
ii. The intimation to NLDC and RLDC shall specify the period of supply.

iii. RLDC shall dispatch electricity only up to the quantity equivalent of value of Letter of Credit.
iv. The dispatch shall stop once the quantum of electricity under LC is supplied.
v. The concerned generating company shall be entitled to encash the LC after expiry of grace period, i.e. 45 to 60 days as provided in the PPA.
vi. In the event power is not dispatched for any reason given above, the Distribution licensee shall continue to pay the Fixed Charge to the Generating Company.

6.0 It shall also be ensured by the Load Despatch Centre that the regulated entity, during the period of regulation, has no access to procure power from the Power Exchanges and they shall not be granted Short Term Open Access (STOA).

7.0 In case scheduling and despatch of power produced by any generator is not done due to non-opening of Letter of Credit by the Distribution licensee, then the Distribution licensee would be liable to pay compensation to the generator as per the terms of Power Purchase Agreement or Power Sale Agreement, as the case may be, the distribution licensee has entered in with the generator.

8.0 NLDC/ RLDC/SLDC shall carry out such duty cast under Electricity Act, 2003 from 01.08.2019.

9.0 This issues with the approval of Minister of State (I/C) for Power and NRE.

(Debranjan Chattopadhyay)
Under Secretary to the Government of India
Ph: 011-2373 0265

To,

1. CMD, POSOCO / Heads of NLDC & RLDCs
2. Principal Secretary/Secretary (Power/Energy), State Governments/UTs – For necessary communication to Discoms/ SLDCs
3. All Generating Companies
4. All Distribution Companies

Copy to:

1. Chairperson, CEA, Sewa Bhawan, RK Purarn, New.,Delhi
2. Secretary, CERC/FOR, Chandralok Building, Janpath, New Delhi

Copy also for information to:

1. All Joint Secretaries, Ministry of Power
2. PS to MOS (I/C) for Power and NRE
3. PPS to Secy.(P), PPS to AS(SNS),PPS to CE(RR)

No. 23/22/2019-R&R
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, 17th July, 2019

CORRIGENDUM

Subject: Opening and maintaining of adequate Letter of Credit (LC) as Payment Security Mechanism under Power Purchase Agreements by Distribution Licensees - Reg

Reference this Ministry's Order of even no. dated 28.06.2019 (Copy enclosed).

2. The Ministry of New and Renewable Energy have brought to the notice of this Ministry that many of the Renewable energy generating stations are intra state generators.

3. Some States have requested that in case of delay etc. in the opening of LC, there should also be a provision for advance payment for supply for one day or more.

4. Therefore, it has been decided to partially modify the Order dated 28.06.2019 by adding the following:

I. Wherever the words 'NLDC & RLDC' occurred, the term, 'and State Load Despatch Centre (SLDC)' will be added after that.

II. After Para 5.0 (vi) of the aforesaid Order, the following paras will be added:

vii. The LC may be opened as per the PPA. However, the Distribution Company may open LC for a shorter duration say for supply corresponding to one week or fortnight. The same may be intimated to the respective LDCs and the generating company. In such cases also the LDCs shall schedule the power.

viii. In case of difficulty in opening of LC, Distribution Company may pay in advance through electronic mode the amount equal to the amount corresponding to atleast one day purchases of electricity and inform the same to the respective LDC. In such case also LDC shall schedule the power to the Distribution Company.

5. All other terms and conditions of the Ministry's Order of even No. dated 28.06.2019 will remain unchanged.

Encl: As above

(Debranjan Chattopadhyay)
Under Secretary to the Government of India
Ph: 011-2373 0265

To,

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2. Principal Secretary/Secretary (Power/Energy), State Governments/UTs – For necessary communication to Discoms
3. All Generating Companies
4. All Distribution Companies
5. Secretaries of All State Electricity Regulatory Commissions (SERCs)/JERCs.

Copy to:

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2. Secretary, CERC/FOR, Chandralok Building, Janpath, New Delhi

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2. PS to MOS (I/C) for Power and NRE
3. PPS to Secretary (P), PPS to AS(SNS), PS to CE(RR), PS to Dir (R&R)

No. 23/22/2019-R&R
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, 28th June, 2019

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2. PS to MOS (I/C) for Power and NRE
3. PPS to Secy.(P), PPS to AS(SNS),PPS to CE(RR)

A. The list of generators where PSS is not tuned however kept in service and no details have been provided for PSS tuning:

Power Plant	Unit No	PSS tuned (Yes/No)	PSS in Service (Yes/No)	Timeline and Plan for PSS tuning Activity
Kolaghat-WBPDCL	1	No	Yes	
Kolaghat-WBPDCL	2	No	Yes	
Kolaghat-WBPDCL	3	No	Yes	
Kolaghat-WBPDCL	4	No	Yes	
Kolaghat-WBPDCL	5	No	Yes	
DPL	8	No	Yes	
PPSP	1	No	Yes	
PPSP	2	No	Yes	
PPSP	3	No	Yes	
PPSP	4	No	Yes	
Bokaro A1	500 MW	No	Yes	

B. Generating Power Plants whose Excitation details or PSS tuning status or both have not been received at ERLDC/ ERPC:

Generating Utility	Unit		Generating Utility	Unit
WBSEDCL			**OHPC**	
TLDP III	4 x 33		Upper Indravati	1,2,3,4
TLDP IV	4 X 44		Balimela	6 X 60
DVC			Balimela	2 X 75
Bokaro -DVC	500 MW		Upper Kolab	4 X 80
Bokaro	3 X 210 MW		Rengali	4 X 50
Waria	4		**Orissa SLDC**	
Chandrapura B	2 X 250 MW		Sterlite	4 X 600
ISGS			**Jharkhand**	
Talcher Stage 1	1,2 (PSS tuning Received)		Subarnrekha	2 X 65
Nabinagar NPGC	1		**Bihar**	
BRBCL	1,2,3		KBUNL	1,2
KBUNL	3,4		**Bhutan**	
Rangit	3 x 20		Tala	6 X 170
			Chukha	4 X 84

C. Generating Power Plants where PSS is tuned and kept in service however, PSS Tuning report/plots/data have not been submitted to ERLDC/ERPC is as following:

Power Plant	Unit No		Power Plant	Unit No
Sagardighi-WBPDCL	3		Farakka NTPC	5
Sagardighi-WBPDCL	4		Farakka NTPC	6
Budge Budge-CESC	3		Talcher Stage 2	4
HEL-CESC	1		Talcher Stage 2	5
HEL-CESC	2		Talcher Stage 2	6
Mejia-DVC	4		Teesta-III	1
Mejia-DVC	5		Teesta-III	2
Mejia-DVC	6		Teesta-III	4
Mejia-DVC	7		Teesta-III	5
Mejia-DVC	8		Teesta-III	6
Durgapur-DVC	1		Tashiding	1
Durgapur-DVC	2		Maithon Power Limited	1
Koderma-DVC	1		Maithon Power Limited	2

Koderma-DVC	2		ADHUNIK	1
Farakka NTPC	1		ADHUNIK	2
Farakka NTPC	2		IB TPS	1
Farakka NTPC	3		IB TPS	2
Farakka NTPC	4			

D. Generators where PSS tuning has been done more than 3 years back:

Power Plant	Unit No	Last PSS Tuning Date	Whether Done in Last 3 Years	Timeline for Next PSS Tuning
Sagardighi-WBPDCL	4	Commissioning	No	
Budge Budge-CESC	1	2015	No	
Budge Budge-CESC	2	2015	No	
Budge Budge-CESC	3	2010	No	
HEL-CESC	1	2015	No	
HEL-CESC	2	2015	No	
Mejia-DVC	4			
Mejia-DVC	7	2010	No	
Mejia-DVC	8	2011	No	
Koderma-DVC	1			
Koderma-DVC	2			
Kahalgaon NTPC	4	2015	No	
Kahalgaon NTPC	5	2009	No	
Kahalgaon NTPC	6	2009	No	
Kahalgaon NTPC	7	2010	No	
Farakka NTPC	1	2008	No	
Farakka NTPC	2	2008	No	
Farakka NTPC	3	2008	No	
Farakka NTPC	4	2008	No	
Farakka NTPC	5	2008	No	
Farakka NTPC	6	2015	No	
Talcher Stage 1	1	2015	No	
Talcher Stage 1	2	2014	No	
Talcher Stage 2	3	No Details		
Talcher Stage 2	4	No Details		
Talcher Stage 2	5	No Details		
Talcher Stage 2	6	No Details		
Teesta V	1	2008	No	
Teesta V	2	2008	No	
Teesta V	3	2008	No	
Jorethang	1	2015	No	
Jorethang	2	2015	No	
Chuzachen HEP	1	2013	No	
Chuzachen HEP	2	2013	No	
ADHUNIK	1	2013	No	
ADHUNIK	2	2013	No	
GMR	1	2013	No	
GMR	2	2013	No	
GMR	3	2013	No	
IB TPS	1	2011	No	
IB TPS	2	2012	No	

E. Generators where PSS tuning has been done and have submitted the report and the observation

Name of the Unit	Intra Plant Mode (Hz)	Step Size of U_{ref}	Oscillation periodwith out PSS	Oscillation period with PSS	Whether PSS is effective as per step response test	Year of Tuning	Whether Recommended for Tuning
Kahalgaon Unit 1		3 %	3 cycle	1 cycle	Yes	2017	Yes after Bus Split
Kahalgaon Unit 2	1.5 Hz	3 %	3 cycle	1 cycle	Yes	2016	Yes after Bus Split
Kahalgaon Unit 3		6 %	-	-	Provided picture not clear to analyze response	2016	To be decided after explanation by NTPC, Also after bus split, returning is required
Kahalgaon Unit 4	1.876	3 %	5 cycle	3 Cycle	Yes	2015	Yes after Bus Split
Kahalgaon Unit 5		4 %			No Appreciable Response	2009	To be decided after explanation by NTPC, Yes after Bus Split
Kahalgaon Unit 6		4 %			No Appreciable Response	2019	
Kahalgaon Unit 7		2 %			Provided picture not clear to analyze response	2010	
Teesta V Unit 1		2 %	5 cycle	2 cycle	Yes	2008	Yes in view of changes in network
Teesta V Unit 2		2 %	5 cycle	1 cycle	Yes	2008	
Teesta V Unit 3		2 %	5 cycle	1 cycle	Yes	2008	
Talcher Unit 3		3 %	-	-	PSS is showing response but noappreciable change in active power is seen.		NTPC may explain the details after which requirement of retuning to be decided.
Talcher Unit 6		3 %	3 cycle	2 cycle	Yes	2008	No
Budge Budge 1		2 %	5 cycle	1 cycle	Yes (Tuned for various contingency)	2015	No
Budge Budge 2		2 %	5 cycle	1 cycle	Yes (Tuned for various contingency)	2015	No
JITPL Unit 1		5 %	-	-	No Appreciable Response	2016	JITPL to explain the response based on which it will be decided.
JITPL Unit 2		5 %	-	-	No Appreciable Response	2016	
Chujachen Unit 1		2 %	6 cycle	1 cycle	Yes	2013	Yes in view of changes in network
Chujachen Unit 1		2 %	6 cycle	1 cycle	Yes	2013	
Tashiding Unit 2	1.5 Hz	4 %	5 Cycle	1 Cycle	Yes	2017	Yes in view of changes in network
Bandel Unit 5	1.5 Hz	5 %	6 Cycle	3 cycle	Yes	2019	Adequate
Teesta 3 Unit 5		2 % and 3 %	3 Cycle	2 Cycle	Yes	2017	Retuning to be done due to network change

Talcher Unit 1		1 %	2 cycle	2 cycle	No Appreciable Response	2015	Yes (Either NTPC explain why there is no appreciable change in damping or better resolution data to be submitted if damping has been observed)
Talcher Unit 2		3 %	4 cycle	2 Cycle	Yes	2014	Adequate
Bakreshwar Unit 1		3 %	3 cycle	2 cycle	Yes	2019	Adequate
Bakreshwar Unit 2		3 %	4 cycle	4 cycle	No Appreciable Response	2019	Yes, Returning required as PSS signal is in phase with disturbance which is not good for unit.
Bakreshwar Unit 3		3 %	3 Cycle	4 cycle	Negative Response	2019	Yes, PSS response is negative which is highly undesirable
Bakreshwar Unit 4		3 %	No Change in Power	No Change in Power	No Response	2019	Yes, tuning to be done at reduced power level as at full load transient response is not observed which also need to be checked.
Bakreshwar Unit 5		3 %	No Change in Power	No Change in Power	No Response	2019	Yes, tuning to be done at reduced power level as at full load transient response is not observed which also need to be checked.
Santaldih Unit 5		3 %	3 cycle	2 cycle	Yes (more observable in Excel Data)	2019	Adequate
Santaldih Unit 6		3 %	3 cycle	2 cycle	Yes (more observable in Excel Data)	2019	Adequate
GMR Unit 1		3 %	3 cycle	1 cycle	Yes	2013	Yes, as done long time back
GMR Unit 2		3 %	4 cycle	1 cycle	Yes	2013	Yes, as done long time back
GMR Unit 3		3 %	3 cycle	1 cycle	Yes	2013	Yes, as done long time back

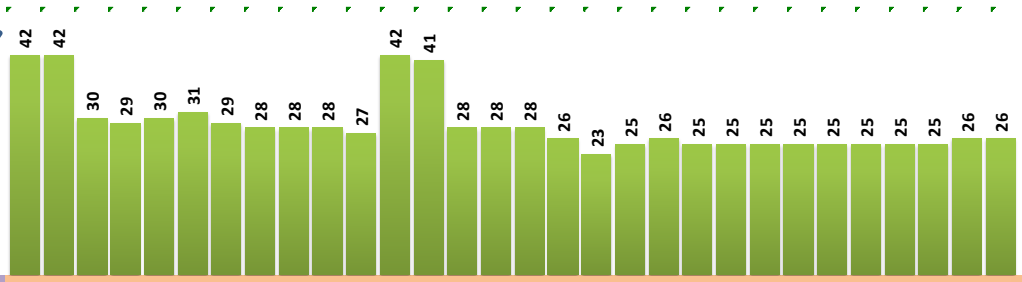
Annexure-C16

SCADA and URTDSM data telemetry status update 159th OCC

From 15th June to 14th July 2019

PMUs data availability:- Central Sector

No of PMU, which are intermittent/ not reporting



Sl No	PMU Name	AOR	15/06/2019	16/06/2019	17/06/2019	18/06/2019	19/06/2019	20/06/2019	21/06/2019	22/06/2019	23/06/2019	24/06/2019	25/06/2019	26/06/2019	27/06/2019	28/06/2019	29/06/2019	30/06/2019	01/07/2019	02/07/2019	03/07/2019	04/07/2019	05/07/2019	06/07/2019	07/07/2019	08/07/2019	09/07/2019	10/07/2019	11/07/2019	12/07/2019	13/07/2019	14/07/2019
1	CHANDWA (PG)-PMU03	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	CHANDWA (PG)-PMU04	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	FARAKK-STPS (PG)-PMU07	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	MAITHON (PG)-PMU05	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	MAITHON (PG)-PMU06	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	MAITHON (PG)-PMU07	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	PURNEA-NEW (PG)-PMU04	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	SASARAM (PG)-PMU01	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	SASARAM (PG)-PMU02	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	SASARAM (PG)-PMU03	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	SASARAM (PG)-PMU04	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	SASARAM (PG)-PMU05	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	SASARAM (PG)-PMU06	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	SASARAM (PG)-PMU07	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	SASARAM (PG)-PMU08	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	SASARAM (PG)-PMU09	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	TALCHER-STPS (PG)-PMU01	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	TALCHER-STPS (PG)-PMU02	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	TALCHER-STPS (PG)-PMU03	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	TALCHER-STPS (PG)-PMU04	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	TALCHER-STPS (PG)-PMU05	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	GAYA (PG)-PMU06	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31.47	99.93
23	BINAGURI (PG)-PMU05	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40.86	100	99.86	99.99	99.93	99.92	99.99	100	100	100	99.85	99.99	99.99	99.92
24	BINAGURI (PG)-PMU06	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40.86	100	99.86	99.99	99.93	99.92	99.99	100	100	100	99.86	99.99	99.99	99.92
25	BINAGURI (PG)-PMU07	PG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40.86	100	99.86	99.99	99.93	99.92	99.99	100	100	99.99	99.85	99.99	99.99	99.92
26	BAHARAMPUR (PG)-PMU03	PG	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	100	99.72	100	100	100	100	100	100	100	100	100	100	100	100
27	BAHARAMPUR (PG)-PMU01	PG	0	0	0	0	0	0	0	0	0	0	35.39	0	0	0	0	0	100	99.72	100	100	100	100	100	100	100	100	100	100	100	100
28	ALIPURDUAR_HVDC (PG)-PMU01	PG	99.91	99.54	99.77	99.91	99.99	99.99	99.92	99.97	99.98	99.99	99.83	98.1	99.99	99.99	99.78	99.99	99.99	99.99	47.05	0	0	0	0	0	0	0	0	0	0	0
29	PANDIABILI (PG)-PMU02	PG	0	0	0	0	0	45.48	0	0	0	46.45	99.37	93.52	51.95	100	99.65	100	100	100	99.79	99.72	99.72	99.86	100	100	100	100	99.72	100	100	99.93
30	KEONJHOR (PG)-PMU01	PG	0	0	34.51	99.63	99.96	81.9	99.93	100	100	100	99.37	99.37	99.86	100	99.65	100	99.93	100	99.79	89.35	54.74	54.7	47.58	70.41	63.47	41.72	25.56	22.94	13.44	31.44
31	RANCHI-NEW (PG)-PMU03	PG	99.5	99.45	99.3	99.49	99.58	99.59	99.51	99.56	99.55	99.58	99.36	97.91	99.56	0	0	0	0	0	0	0	99.6	99.49	99.57	99.55	99.55	99.56	99.43	99.58	99.56	99.43
32	RANCHI-NEW (PG)-PMU02	PG	72.08	0	0	0	0	0	21.15	99.58	99.55	99.57	99.98	99.37	98.85	99.43	99.78	99.71	99.65	99.57	99.63	99.97	99.93	99.93	100	100	100	100	99.86	100	100	0
33	KEONJHOR (PG)-PMU02	PG	99.55	99.18	99.19	99.57	99.96	81.92	99.93	100	100	100	99.23	99.37	99.86	100	99.65	100	99.93	99.99	99.79	89.37	54.78	54.68	47.63	70.38	63.12	41.71	23	22.96	13.45	41.67
34	INDRAVATI (PG)-PMU02	PG	99.92	99.79	99.65	99.79	95.11	100	99.93	99.99	99.92	99.85	99.36	93.44	51.95	100	99.65	100	100	100	93.59	99.72	98.96	99.86	100	99.3	100	100	99.72	100	50.42	0
35	ANGUL (PG)-PMU06	PG	81.31	24.9	99.46	99.61	99.88	99.84	99.75	99.81	99.61	99.84	99.14	92.13	51.76	99.54	99.54	99.69	99.77	99.75	99.45	99.58	99.62	99.66	99.58	99.57	99.64	99.79	99.52	99.83	99.79	99.92
36	ANGUL (PG)-PMU01	PG	80.86	24.97	99.41	99.76	99.99	99.87	99.52	99.42	99.79	99.99	99.36	93.39	51.83	99.7	99.42	99.49	99.97	99.95	99.3	99.58	98.78	99.34	99.68	99.86	99.57	99.91	99.33	99.94	99.64	99.92
37	ANGUL (PG)-PMU07	PG	81.22	25.02	99.42	99.56	99.77	99.76	99.69	99.77	99.77	99.76	99.08	93.3	51.83	99.76	99.41	99.76	99.76	99.77	99.57	99.47	99.48	99.62	99.77	99.76	99.76	99.77	99.49	99.77	99.77	99.69
38	BOLANGIR (PG)-PMU01	PG	81.21	25.06	99.42	99.57	99.79	99.78	99.71	99.77	99.77	99.77	99.15	93.29	51.83	99.77	99.44	99.8	99.77	99.76	99.56	99.48	99.42	99.64	99.77	99.78	99.76	99.78	99.51	99.77	99.78	99.72
39	ANGUL (PG)-PMU05	PG	80.96	25.16	99.43	99.6	99.78	99.8	99.76	99.56	99.69	99.73	99.24	93.2	51.86	99.82	99.51	99.85	99.75	99.74	99.44	99.54	99.46	99.65	99.78	99.81	99.73	99.84	99.37	99.89	99.85	99.92
40	ANGUL (PG)-PMU08	PG	81.21	25	99.42	99.58	99.78	99.77	99.71	99.78	99.78	99.78	99.15	93.3	51.84	99.78	99.43	99.77	99.78	99.78	99.57	99.49	99.49	99.64	99.76	99.76	99.76	99.76	99.5	99.78	99.81	99.92
41	ANGUL (PG)-PMU04	PG	81.31	25.04	99.56	99.69	99.85	99.75	99.67	99.82	99.84	99.77	98.85	93.16	51.88	99.93	99.49	99.64	99.88	99.61	99.49	99.66	99.64	99.69	99.85	99.62	99.83	99.83	99.58	99.83	99.8	99.92
42	ANGUL (PG)-PMU03	PG	81.34	25.11	99.53	99.65	99.68	99.78	99.71	99.82	99.72	99.88	99	93.14	51.9	99.95	99.53	99.93	99.87	99.7	99.71	99.65	99.6	99.69	99.81	99.84	99.83	99.84	99.54	99.75	99.65	99.93
43	BOLANGIR (PG)-PMU02	PG	81.29	25.48	99.52	99.66	99.88	99.86	99.8	99.89	99.9	99.89	99.17	93.38	51.88	99.87	99.54	99.87	99.86	99.88	99.67	99.57	99.57	99.73	99.88	99.88	99.84	99.85	99.58	99.85	99.85	99.79
44	ANGUL (PG)-PMU09	PG	81.4	24.88	99.64	99.79	99.99	99.98	99.92	99.99	99.99	99.98	99.36	92.71	51.94	99.99	99.64	99.99	99.99	99.99	99.78	99.71	99.71	99.85	99.98	99.99	99.99	99.99	99.72	99.99	99.84	99.91
45	ANGUL (PG)-PMU10	PG	81.4	24.95	99.64	99.78	99.99	99.99	99.93	99.99	99.99	99.99	99.37	93.51	51.94	99.99	99.64	99.98	99.99	99.99	99.78	99.71	99.72	99.86	99.99	99.99	99.99	99.99	99.71	99.99	99.64	99.91
46	ANGUL (PG)-PMU02	PG	81.41	25.2	99.65	99.79	100	100	99.93	100	100	100	99.37	93.52	51.95	100	99.65	100	100	100	99.79	99.72	99.72	99.86	100	100	100	100	99.72	100	99.86	99.93

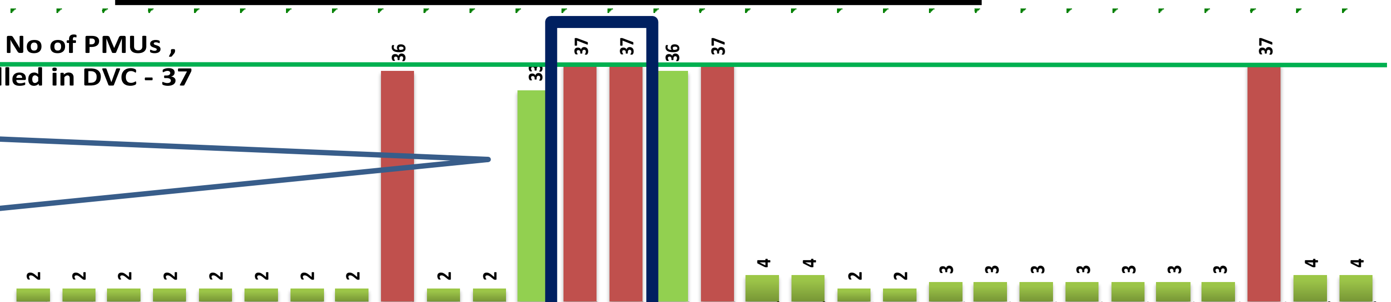
- **Unavailable:-**
  - Chandwa (2 Nos)
  - Farakka (1 Nos)
  - Mathon(3 Nos)
  - Talcher STPS(5 Nos)
  - Pandiabili(1 Nos)
  - Sasaram (9 Nos)
  - Ranchi New (1 Nos)
  - Alipurduar (1 No)
  - 19 nos of more PMUs are yet to integrated .

0% Percentage availability 100%

PMUs data availability:-DVC

Intercontrol centre PDC to PDC communication failure

Total No of PMUs , installed in DVC - 37

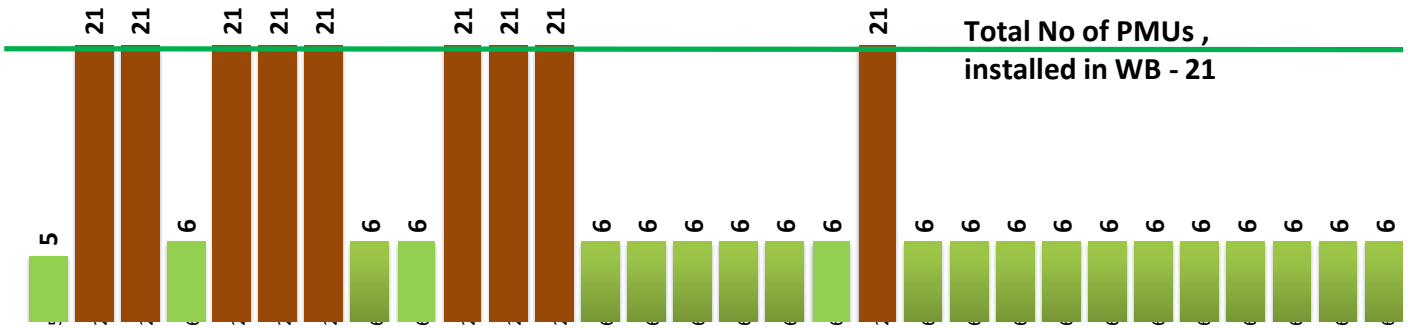


Sl No	PMU Name	AOR	15/06/2019	16/06/2019	17/06/2019	18/06/2019	19/06/2019	20/06/2019	21/06/2019	22/06/2019	23/06/2019	24/06/2019	25/06/2019	26/06/2019	27/06/201	28/06/201	29/06/2019	30/06/2019	01/07/2019	02/07/2019	03/07/2019	04/07/2019	05/07/2019	06/07/2019	07/07/2019	08/07/2019	09/07/2019	10/07/2019	11/07/2019	12/07/2019	13/07/2019	14/07/2019
1	MEJIA-B (DV)-PMU01	DV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	KODRMA-TPS (DV)-PMU03	DV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	KALYANESWARI (DV)-PMU02	DV	99.84	99.8	99.84	99.84	99.84	99.8	99.83	99.71	82.23	99.84	99.81	93.95	40.7	92.95	97.42	87.91	99.85	99.84	99.81	99.81	75.94	49.91	49.92	49.89	49.92	49.92	49.91	47.9	49.92	49.75
4	MEJIA-B (DV)-PMU02	DV	99.86	99.83	99.86	99.86	99.87	99.87	99.86	99.85	99.68	99.87	99.85	93.98	52.03	93.66	98.2	84.96	99.88	99.86	99.84	99.86	99.77	99.86	99.86	99.83	99.84	99.83	99.86	85.74	0	0
5	DURGAPUR-TPS (DV)-PMU02	DV	99.76	99.73	99.76	99.76	99.76	99.77	99.75	99.63	82.14	99.77	99.73	93.9	40.63	92.87	97.3	87.83	60.13	99.75	99.75	99.74	99.59	99.77	99.75	99.7	99.76	99.75	99.75	95.71	99.79	99.41
6	DURGAPUR-TPS (DV)-PMU01	DV	99.78	99.75	99.76	99.77	99.76	99.79	99.77	99.64	82.11	99.76	99.73	93.87	40.63	92.86	97.3	87.82	60.13	99.78	99.75	99.73	99.58	99.76	99.75	99.68	99.75	99.76	99.76	95.73	99.79	99.42
7	PARULIA (DV)-PMU02	DV	99.73	99.7	99.74	99.76	99.76	99.73	99.73	99.6	82.08	99.77	99.72	93.86	40.62	92.83	97.27	87.8	99.77	99.74	99.7	99.71	99.56	99.72	99.72	99.66	99.74	99.73	99.72	95.69	99.76	99.38
8	PARULIA (DV)-PMU04	DV	99.74	99.71	99.74	99.74	99.74	99.73	99.73	99.62	82.09	99.74	99.71	93.87	40.62	92.84	97.28	87.8	99.78	99.74	99.71	99.73	99.57	99.74	99.74	99.68	99.76	99.76	99.74	95.7	99.77	99.4
9	PARULIA (DV)-PMU03	DV	99.74	99.73	99.75	99.74	99.77	99.7	99.75	99.61	82.09	99.74	99.71	93.89	40.64	92.85	97.28	87.82	99.8	99.75	99.73	99.72	99.6	99.74	99.74	99.68	99.77	99.74	99.75	95.69	99.76	99.41
10	PARULIA (DV)-PMU01	DV	99.76	99.71	99.74	99.75	99.75	99.72	99.75	99.62	82.09	99.74	99.72	93.88	40.62	92.86	97.29	87.83	99.79	99.75	99.73	99.72	99.58	99.74	99.75	99.69	99.75	99.76	99.75	95.72	99.78	99.42
11	BOKARO-B (DV)-PMU02	DV	99.68	99.72	99.77	99.76	99.77	99.78	99.76	99.61	82.04	99.77	99.73	93.89	40.64	92.87	97.33	87.82	99.81	99.78	99.71	99.75	99.6	99.76	99.79	99.7	99.78	99.77	99.77	95.72	99.79	99.42
12	WARIA (DV)-PMU02	DV	99.77	99.73	99.76	99.77	99.77	99.77	99.76	99.63	82.11	99.77	99.73	93.89	40.64	92.86	97.31	87.83	99.79	99.76	99.73	99.75	99.6	99.75	99.74	99.69	99.77	99.77	99.77	95.72	99.79	99.43
13	BOKARO-A (DV)-PMU01	DV	99.76	99.75	99.78	99.77	99.78	99.78	99.76	99.64	82.12	99.77	99.76	93.91	40.63	92.83	97.31	87.83	99.8	99.77	99.75	99.76	99.6	99.76	99.76	99.7	99.77	99.77	99.76	95.72	99.7	99.42
14	WARIA (DV)-PMU01	DV	99.77	99.74	99.76	99.76	99.77	99.77	99.77	99.63	82.14	99.77	99.73	93.88	40.63	92.87	97.32	87.83	99.81	99.78	99.75	99.75	99.6	99.76	99.74	99.7	99.77	99.77	99.76	95.72	99.8	99.43
15	BOKARO-B (DV)-PMU01	DV	99.77	99.73	99.76	99.76	99.76	99.77	99.76	99.6	82.12	99.76	99.73	93.89	40.64	92.86	97.3	87.83	99.8	99.77	99.76	99.74	99.59	99.76	99.76	99.72	99.77	99.77	99.78	95.73	99.8	99.52
16	CHANDRAPURA-B-TPS (DV)-PMU01	DV	99.75	99.74	99.78	99.79	99.77	99.76	99.76	99.65	82.12	99.76	99.73	93.89	40.64	92.86	97.32	87.84	99.8	99.77	99.75	99.75	99.6	99.76	99.76	99.7	99.77	99.76	99.77	95.75	99.8	99.44
17	CHANDRAPURA-B-TPS (DV)-PMU02	DV	99.74	99.74	99.77	99.78	99.77	99.77	99.77	99.64	82.12	99.77	99.74	93.89	[illegible]	92.88	97.33	[illegible]	[illegible]	99.78	99.75	99.75	99.61	99.77	99.77	99.71	[illegible]	99.78	99.77	95.73	99.79	99.44
18	CHANDRAPURA-B-TPS (DV)-PMU03	DV	99.77	99.74	99.77	99.78	99.77	99.77	99.76	99.64	82.13	99.77	99.74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19	WARIA (DV)-PMU03	DV	99.77	99.74	99.77	99.78	99.77	99.77	99.77	99.65	82.12	99.77	99.74	93.89	40.64	92.87	97.32	87.84	99.8	99.77	99.75	99.75	99.61	99.77	99.77	99.71	99.78	99.77	99.76	95.73	99.79	99.43
20	MAITHON-RB (DV)-PMU01	DV	99.78	99.75	99.78	99.78	99.79	99.78	99.77	99.65	82.13	99.79	99.75	93.9	40.67	92.85	[illegible]	87.84	[illegible]	[illegible]	99.75	99.69	99.61	99.7	[illegible]	[illegible]	[illegible]	99.78	99.78	95.72	99.81	99.43
21	PARULIA (DV)-PMU05	DV	99.78	99.75	99.78	99.79	99.78	99.78	99.77	99.65	82.14	99.78	99.74	93.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.77	95.75	99.8	99.43
22	MAITHON-RB (DV)-PMU02	DV	99.79	99.76	99.79	99.8	99.79	99.79	99.8	99.66	82.13	99.8	99.76	93.92	40.66	92.9	97.34	87.87	99.81	99.78	99.77	99.71	99.62	99.7	99.77	99.71	99.79	99.78	99.77	95.75	99.81	99.44
23	KALYANESWARI (DV)-PMU03	DV	99.84	99.81	99.84	99.84	99.84	99.83	99.83	99.71	82.23	99.84	99.8	93.95	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.81	99.78	99.68	99.83	99.84	99.77	99.84	99.83	99.82	95.81	99.85	99.5
24	KALYANESWARI (DV)-PMU01	DV	99.84	99.81	99.84	99.83	99.84	99.8	99.83	99.71	82.24	99.83	99.81	93.95	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.81	99.81	99.67	99.83	99.83	99.77	99.84	99.83	99.83	95.81	99.84	99.5
25	KALYANESWARI (DV)-PMU04	DV	99.83	99.8	99.84	99.84	99.84	99.83	99.83	99.71	82.25	99.84	99.81	93.96	40.71	92.95	97.42	87.91	99.85	99.84	99.81	99.78	99.67	99.83	99.83	99.77	99.84	99.83	99.83	95.81	99.85	99.49
26	MEJIA-A (DV)-PMU03	DV	99.86	99.83	99.86	99.86	99.86	99.85	99.85	99.72	82.26	99.84	99.81	93.96	[illegible]	[illegible]	[illegible]	87.91	99.86	99.85	99.82	[illegible]	99.68	99.83	[illegible]	[illegible]	[illegible]	[illegible]	99.85	95.83	99.86	99.52
27	MEJIA-A (DV)-PMU02	DV	99.86	99.81	99.84	99.84	99.86	99.86	99.84	99.72	82.27	99.85	99.82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.87	99.52
28	MEJIA-A (DV)-PMU01	DV	99.86	99.82	99.86	99.86	99.85	99.85	99.86	99.73	82.27	99.86	99.83	93.98	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	95.84	99.86	99.51
29	MEJIA-A (DV)-PMU05	DV	99.85	99.82	99.86	99.86	99.86	99.85	99.85	99.73	82.28	99.85	99.83	93.98	40.7	92.98	97.45	87.93	99.87	99.86	99.84	99.84	99.69	99.84	99.85	99.79	99.85	99.85	99.85	95.84	99.87	99.52
30	MEJIA-A (DV)-PMU04	DV	99.86	99.82	99.86	99.86	99.86	99.86	99.86	99.74	82.27	99.86	99.82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.86	99.83	99.84	99.7	99.85	99.86	99.79	99.86	99.86	99.86	95.84	99.86	99.52
31	RAGHUNATHPUR-TPS (DV)-PMU03	DV	100	99.97	100	100	100	100	99.99	99.87	82.41	99.97	99.94	94.11	40.79	93.12	[illegible]	88.06	99.99	100	99.94	99.97	99.84	99.99	99.99	99.93	99.99	99.99	99.99	95.98	99.99	99.66
32	RAGHUNATHPUR-TPS (DV)-PMU01	DV	100	99.97	100	100	100	100	99.99	99.87	82.41	100	99.97	94.11	40.79	[illegible]	[illegible]	88.06	[illegible]	[illegible]	[illegible]	99.97	99.84	99.99	99.99	99.93	99.99	99.99	99.99	95.98	99.99	99.63
33	RAGHUNATHPUR-TPS (DV)-PMU02	DV	100	99.97	100	100	100	100	99.99	99.87	82.41	100	99.97	94.11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.97	99.84	99.99	99.99	99.93	99.99	99.99	99.99	95.98	99.99	99.66
34	CHANDRAPURA-TPS (DV)-PMU02	DV	100	99.97	100	100	100	100	99.99	99.87	82.42	99.97	99.97	100	87.6	93.12	97.6	88.06	99.99	92.21	99.97	99.97	99.84	99.99	99.99	99.93	99.99	99.99	99.99	95.98	99.99	99.66
35	CHANDRAPURA-TPS (DV)-PMU01	DV	100	99.97	100	100	100	100	99.99	99.87	82.42	100	99.97	100	87.59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.99	95.98	99.99	99.66
36	KODRMA-TPS (DV)-PMU02	DV	99.97	99.97	100	100	100	100	99.99	99.87	82.41	100	99.97	100	87.59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.99	95.98	99.99	99.66
37	KODRMA-TPS (DV)-PMU01	DV	99.97	99.97	100	100	100	100	99.99	99.87	82.41	100	99.97	100	87.6	93.12	97.6	88.06	99.99	100	99.97	99.97	99.84	99.99	99.99	99.9	99.99	99.99	99.99	95.98	99.99	99.66

- 5 no of instances where inter control centre PDC communication disrupted
- PMUs stopped reporting from -
  - Mejia – B
  - Koderma TPS
  - Kalyaneswari (intermittent data)

0% Percentage availability 100%

PMUs data availability:-West Bengal

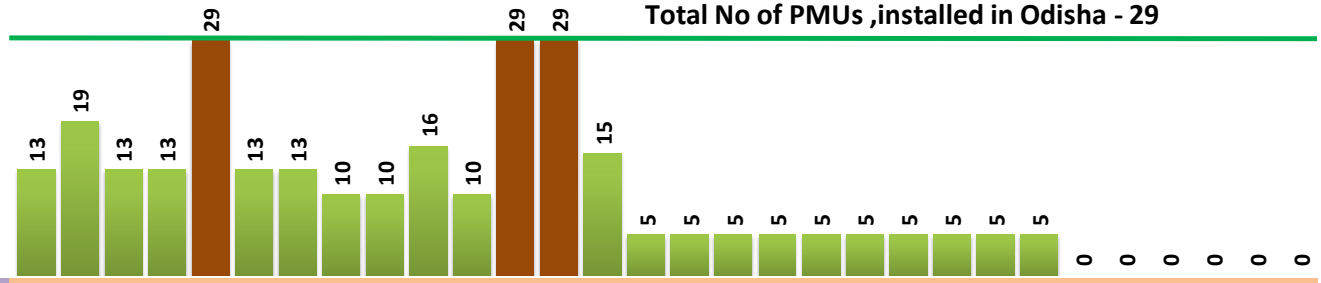


Sl No	PMU Name	AOR	15/06/2019	16/06/2019	17/06/2019	18/06/2019	19/06/2019	20/06/2019	21/06/2019	22/06/2019	23/06/2019	24/06/2019	25/06/2019	26/06/2019	27/06/2019	28/06/2019	29/06/2019	30/06/2019	01/07/2019	02/07/2019	03/07/2019	04/07/2019	05/07/2019	06/07/2019	07/07/2019	08/07/2019	09/07/2019	10/07/2019	11/07/2019	12/07/2019	13/07/2019	14/07/2019
1	DURGAPUR (WB)-PMU01	WB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	DURGAPUR (WB)-PMU02	WB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	DURGAPUR (WB)-PMU03	WB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	ARAMBAG(WB)-PMU02	WB	99.91	27.02	40.25	65.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	ARAMBAG(WB)-PMU01	WB	99.93	27.02	40.25	65.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	ARAMBAG(WB)-PMU03	WB	99.98	27.02	40.25	65.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	PPSP (WB)-PMU01	WB	89.83	27.02	40.05	99.68	76.15	0	49.58	99.99	99.99	89.41	54.29	75.96	99.91	99.99	99.57	99.99	100	99.99	67.34	99.57	99.51	99.78	99.99	99.99	99.99	99.99	99.16	99.99	99.99	99.99
8	PPSP (WB)-PMU02	WB	89.83	27.02	40.05	99.68	76.15	0	49.58	99.99	99.99	89.41	54.29	75.95	99.91	99.99	99.57	99.99	100	99.99	67.34	99.57	99.51	99.78	99.99	99.99	99.99	99.99	99.16	99.99	99.99	99.99
9	KASBA (WB)-PMU02	WB	99.98	27.02	40.11	99.78	84.88	0	49.58	99.99	99.99	89.41	54.52	75.96	99.99	99.99	99.64	99.99	100	99.99	67.34	99.57	99.51	99.78	99.99	99.99	99.99	99.37	99.23	99.99	99.37	99.99
10	KASBA (WB)-PMU01	WB	99.98	27.02	40.11	99.78	84.88	0	49.58	99.99	99.99	89.41	54.52	75.96	99.99	99.99	99.64	99.99	100	99.99	67.34	99.57	99.51	99.78	99.99	99.99	99.99	99.37	99.23	99.99	99.37	99.99
11	BAKRESWAR (WB)-PMU01	WB	99.96	27.02	40.25	99.78	84.88	0	49.45	99.99	99.99	89.38	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.99	99.99	99.99	99.99	99.3	99.99	99.42	99.99
12	BAKRESWAR (WB)-PMU02	WB	99.96	27.02	40.25	99.78	84.88	0	49.45	99.99	99.99	89.38	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.99	99.99	99.99	99.99	99.3	99.99	99.42	99.99
13	BAKRESWAR (WB)-PMU04	WB	99.98	27.02	40.25	99.78	84.88	0	49.45	99.99	99.99	89.41	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.99	99.99	99.99	99.99	99.3	99.99	99.42	99.99
14	BAKRESWAR (WB)-PMU03	WB	99.98	27.02	40.25	99.78	84.88	0	49.45	99.99	99.99	89.41	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.99	99.99	99.99	99.99	99.3	99.99	99.42	99.99
15	KASBA (WB)-PMU03	WB	99.98	27.02	40.11	99.78	84.88	0	49.58	99.99	99.99	89.41	54.52	75.96	99.99	99.99	99.64	99.99	100	99.99	67.34	99.57	99.51	99.78	99.99	99.99	99.96	99.99	99.23	99.99	99.99	99.99
16	KOLAGHAT TPS (WB)-PMU04	WB	99.98	27.02	40.25	99.78	84.88	0	49.57	99.99	99.99	89.41	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.96	99.99	99.99	99.99	99.3	99.99	99.42	99.99
17	KOLAGHAT TPS (WB)-PMU03	WB	99.98	27.02	40.25	99.78	84.88	0	49.57	99.99	99.99	89.41	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.96	99.99	99.99	99.99	99.3	99.99	99.42	99.99
18	KOLAGHAT TPS (WB)-PMU02	WB	99.99	27.02	40.25	99.78	84.88	0	49.57	99.99	99.99	89.41	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.99	99.99	99.99	99.99	99.3	99.99	99.42	99.99
19	KOLAGHAT TPS (WB)-PMU01	WB	99.99	27.02	40.25	99.78	84.88	0	49.57	99.99	99.99	89.41	54.52	76.07	99.98	99.99	99.71	99.99	100	99.99	67.34	99.71	99.58	99.85	99.99	99.99	99.99	99.99	99.3	99.99	99.42	99.99
20	JEERAT (WB)-PMU01	WB	99.96	27.02	40.25	99.78	84.88	0	49.58	99.99	99.99	89.41	54.45	76.07	99.99	99.99	99.64	99.99	100	99.98	67.34	99.71	99.51	99.78	99.99	99.99	99.99	99.99	99.23	99.99	99.96	99.99
21	JEERAT (WB)-PMU02	WB	99.98	27.02	40.25	99.78	84.88	0	49.58	99.99	99.99	89.41	54.52	76.07	99.96	99.99	99.64	99.98	100	99.99	67.34	99.69	99.51	99.78	99.99	99.99	99.99	99.99	99.23	99.99	99.99	99.99

0% Percentage availability 100%

- 9 no of instances where inter control centre PDC communication disrupted
- PMUs stopped reporting from - Bidhannagar (3 Nos) & Arambag (3 Nos)

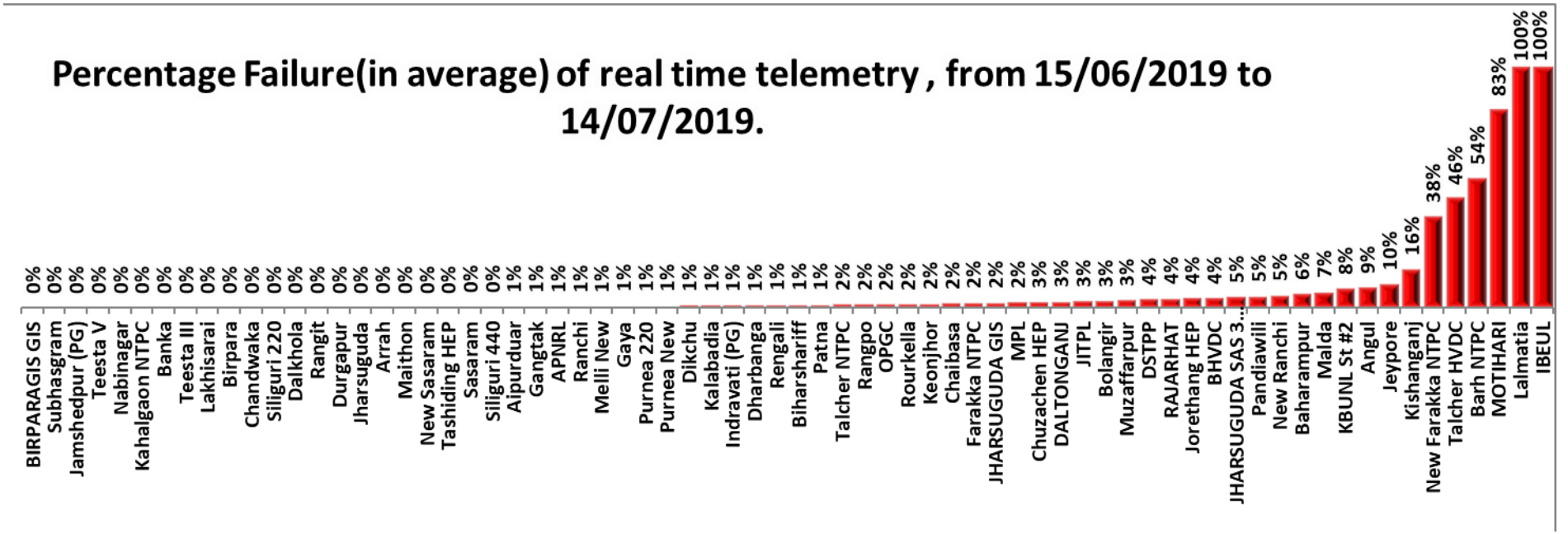
PMUs data availability:- Odisha



PMU Name	AOR	15/06/2019	16/06/2019	17/06/2019	18/06/2019	19/06/2019	20/06/2019	21/06/2019	22/06/2019	23/06/2019	24/06/2019	25/06/2019	26/06/2019	27/06/2019	28/06/2019	29/06/2019	30/06/2019	01/07/2019	02/07/2019	03/07/2019	04/07/2019	05/07/2019	06/07/2019	07/07/2019	08/07/2019	09/07/2019	10/07/2019	11/07/2019	12/07/2019	13/07/2019	14/07/2019
BUDHIPADAR (GR)-PMU04	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.04	99.73	99.54	99.39	99.99	99.99	99.99	99.98	99.98	99.99	99.96	99.98	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU05	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.96	99.99	99.99	99.98	99.98	99.99	99.99	99.96	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU08	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.96	99.99	99.99	99.98	99.98	99.99	99.99	99.96	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU01	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.99	99.99	99.99	99.98	99.98	99.99	99.96	99.98	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU03	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.99	99.99	99.99	99.98	99.98	99.99	99.96	99.98	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU02	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.99	99.99	99.99	99.98	99.98	99.99	99.96	99.98	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU10	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.99	99.99	99.99	99.98	99.98	99.96	99.99	99.98	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU09	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.99	99.99	99.99	99.98	99.98	99.96	99.99	99.98	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU06	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.27	99.99	99.89	99.48	99.96	99.99	99.99	99.98	99.98	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
BUDHIPADAR (GR)-PMU07	GR	0	0	0	0	0	0	0	0	0	0	0	0	0	56.25	99.99	99.94	99.56	99.96	99.99	99.99	99.98	99.98	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
BALIMELA (GR)-PMU01	GR	99.87	99.9	99.82	99.89	95.19	98.01	99.91	99.9	99.86	99.85	98.78	74.09	0	0	0	0	0	0	0	0	0	0	52.49	99.9	99.92	99.88	99.88	99.92	99.89
BALIMELA (GR)-PMU02	GR	99.88	99.91	99.81	99.9	95.18	98.01	99.92	99.88	99.86	99.86	98.78	74.1	0	0	0	0	0	0	0	0	0	0	52.49	99.89	99.91	99.9	99.9	99.92	99.88
BALIMELA (GR)-PMU03	GR	99.91	99.93	99.85	99.91	95.21	99.92	99.93	99.92	99.9	99.9	98.82	74.13	0	0	0	0	0	0	0	0	0	0	51.1	99.92	99.93	99.91	99.92	99.94	99.91
UPPER-KOLAB (GR)-PMU01	GR	99.88	99.9	99.81	99.89	95.19	99.9	99.91	99.9	99.87	99.86	98.78	74.1	0	0	0	0	0	0	0	0	0	0	52.43	99.89	99.92	99.89	99.88	99.92	99.87
UPPER-KOLAB (GR)-PMU02	GR	99.93	99.94	99.85	99.93	95.21	99.92	99.94	99.92	99.9	99.9	98.83	74.13	0	0	0	0	0	0	0	0	0	0	52.42	99.93	99.95	99.92	99.92	99.93	99.92
TALCHER-TPS(GR)-PMU02	GR	0	0	0	0	0	0	55.15	99.99	99.99	99.98	99.85	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.95	99.99	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
TALCHER-TPS(GR)-PMU03	GR	0	0	0	0	0	0	55.15	99.99	99.99	99.98	99.85	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
TALCHER-TPS(GR)-PMU01	GR	0	0	0	0	0	0	55.15	99.99	99.99	99.98	99.94	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.95	99.99	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
MERAMUNDALI (GR)-PMU01	GR	99.96	91.82	98.34	99.84	95.26	99.96	99.98	99.99	99.99	86.03	99.89	94.14	52.07	99.99	99.99	99.95	99.99	99.57	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.95	99.99
MERAMUNDALI (GR)-PMU03	GR	99.96	91.83	98.34	99.84	95.26	99.96	99.98	99.99	99.99	86.04	99.89	94.14	52.07	99.99	99.99	99.95	99.99	99.55	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.96	99.99
MERAMUNDALI (GR)-PMU02	GR	99.96	91.82	98.34	99.84	95.26	99.96	99.98	99.99	99.99	86.05	99.88	94.14	52.08	99.99	99.99	99.95	99.99	99.58	99.99	99.99	99.97	99.98	99.99	99.99	99.97	99.99	99.99	99.99	99.96	99.99
MERAMUNDALI (GR)-PMU04	GR	99.99	91.82	98.34	99.84	95.26	99.99	99.98	99.99	99.99	86.06	99.88	94.14	52.08	99.99	99.99	99.95	99.99	99.5	99.99	99.98	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
MERAMUNDALI (GR)-PMU06	GR	99.99	91.83	98.34	99.84	95.26	99.99	99.98	99.99	99.99	86.06	99.88	94.14	52.08	99.99	99.99	99.95	99.99	99.54	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
MERAMUNDALI (GR)-PMU05	GR	99.99	91.82	98.34	99.84	95.26	99.99	99.98	99.99	99.99	86.06	99.89	94.14	52.07	99.99	99.99	99.95	99.99	99.57	99.99	99.98	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
RENGALI (GR)-PMU01	GR	99.99	99.99	99.95	99.99	95.26	99.99	99.99	99.99	99.99	99.98	99.99	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	98.18	99.98	99.99	99.99	98.04	99.99	99.99	99.99	99.99	99.99
INDRAVATI (GR)-PMU01	GR	99.92	99.93	99.89	99.92	95.21	99.92	99.94	99.92	99.89	99.9	98.82	94.05	52.04	99.92	99.93	99.94	99.95	99.94	99.91	99.92	99.93	99.91	99.94	99.9	99.93	99.94	99.92	99.92	99.94	99.91
MENDHASAL (GR)-PMU01	GR	99.99	99.99	99.95	99.99	95.27	99.97	99.99	99.99	99.99	99.98	99.99	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
RENGALI (GR)-PMU02	GR	99.99	99.99	99.95	99.99	95.26	99.99	99.99	99.99	99.99	99.98	99.99	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99
MENDHASAL (GR)-PMU02	GR	99.99	99.99	99.95	99.99	95.27	99.99	99.99	99.99	99.99	99.98	99.99	94.14	52.09	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.98	99.98	99.99	99.99	99.98	99.99	99.99	99.99	99.99	99.99

- 3 no of instances where inter control centre PDC communication disrupted
- Since 8th July PMU data availability improved in Odisha.

SCADA data availability:-Central Sector



	14-Jul-19	13-Jul-19	12-Jul-19	11-Jul-19	10-Jul-19	9-Jul-19	8-Jul-19	7-Jul-19	6-Jul-19	5-Jul-19	4-Jul-19	3-Jul-19	2-Jul-19	1-Jul-19	30-Jun-19	29-Jun-19	28-Jun-19	27-Jun-19	26-Jun-19	25-Jun-19	24-Jun-19	23-Jun-19	22-Jun-19	21-Jun-19	20-Jun-19	19-Jun-19	18-Jun-19
Jeypore	0%	0%	0%	0%	0%	1%	1%	1%	0%	1%	4%	0%	1%	1%	1%	0%	0%	1%	1%	1%	1%	1%	0%	0%	8%	2%	8%
Kishanganj	100%	77%	10%	9%	41%	14%	11%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	73%	19%	19%	1%	0%	1%	0%	0%	1%	0%
New Farakka NTPC	100%	100%	100%	4%	41%	100%	100%	100%	4%	0%	0%	0%	0%	0%	0%	0%	56%	8%	41%	100%	15%	0%	0%	0%	0%	0%	0%
Talcher HVDC	100%	100%	100%	100%	100%	100%	58%	0%	70%	28%	0%	0%	0%	0%	0%	0%	0%	48%	20%	65%	93%	100%	90%	48%	73%	68%	19%
Barh NTPC	0%	0%	46%	100%	40%	54%	60%	10%	44%	0%	0%	0%	0%	0%	0%	0%	0%	71%	100%	100%	100%	100%	100%	100%	100%	100%	100%
MOTIHARI	0%	0%	0%	0%	0%	77%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lalmatia	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
IBEUL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Daily percentage non availability of data telemetry

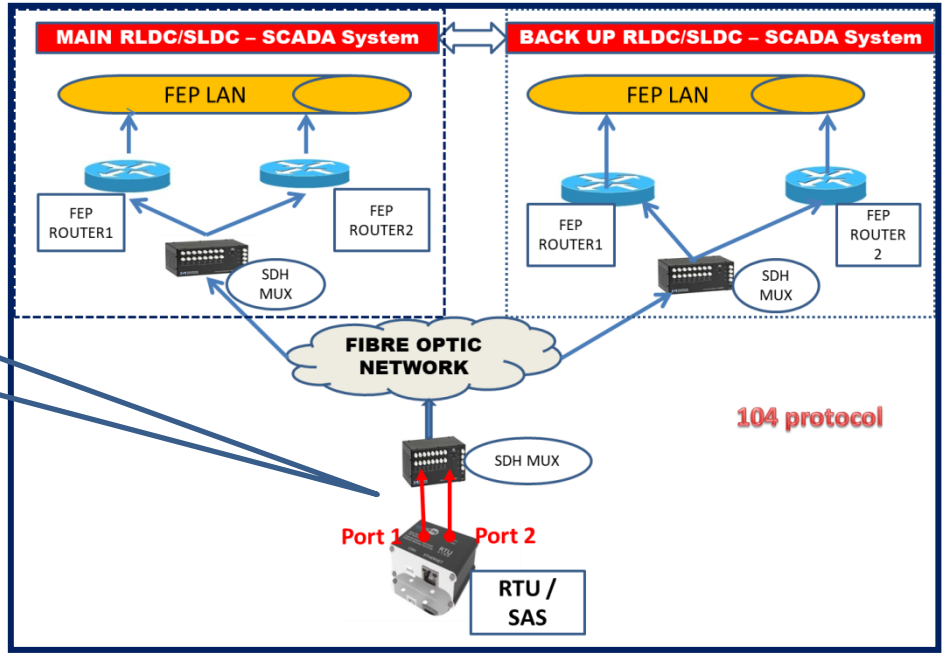
Talcher STPS related matter

Resolution:

1. **Port 1 & Port 2 should be dedicated for reporting to ERLDC Main CC and ERLDC Back up CC**

Pending since: 151st OCC

NTPC to update the work progress



Failure of Real time telemetry from North Bengal and Sikkim to ERLDC

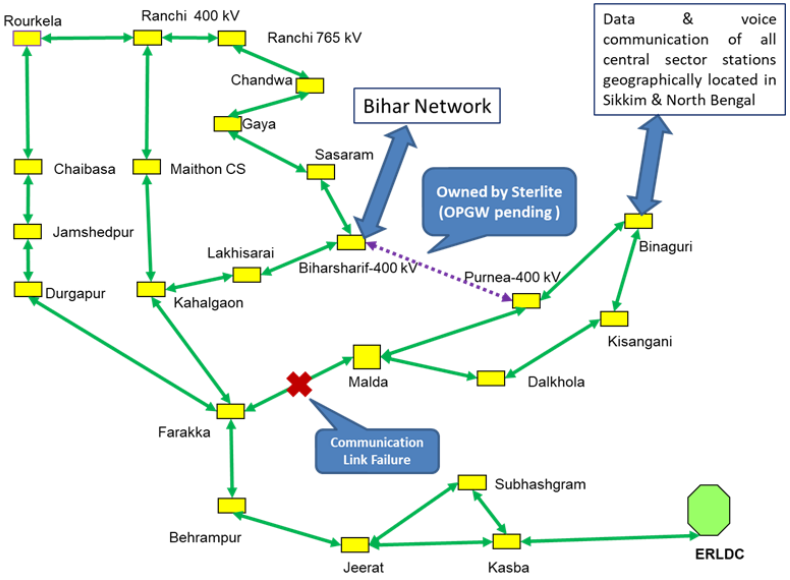
141st OCC: Event was reported by ERLDC.

142nd OCC: M/s East North Interconnection company Limited (ENICL) informed that OPGW is already available in the line but laying of approach cable inside the POWERGRID sub stations & termination at both end to communication Mux.

Matter was discussed in 143rd, 144th , 145th ,146th , 147th ,149th & 150th OCC

In 158th OCC meeting POWERGRID informed that alternate OPGW link through 400 kV Kishenganj-Darbhanga-Muzaffarpur lines would be implemented by July 2019.

Event



06th December 2017 17:26Hrs : *Loss of data and voice communication with ERLDC and 17 nos of stations located in North Bengal and Sikkim area for 16 Hrs 23 minutes.*

POWERGRID may update the status.

Non availability of SCADA data above 220 kV Level

WBSETCL

- Following 220 kV station data not available:
  - TLDP 4 220kV : Communication link failure.
  - Dharampur 220kV : Communication link issue.
  - Egra 220 : Communication link issue.
  - Bantala 220kV : Communication link issue.
  - Alipurduar 220kV: Communication link yet to be established.
  - Rishra 220kV

Non availability of SCADA data above 220 kV Level &132kV Station having tie lines

- **BIHAR**
  - Barauni TPS 220kV
- **Odisha**
  - Narsingpur 220kV.
  - Nalco 220kV : Most of CB and Isolator data are not available
  - Jindal Steel and Power Limited (JSPL) 400kV: Most of CB and Isolator data are not available
- **JHARKHAND**
  - Hatia New 220 : RTU not reporting to SLDC.
  - Jamtara 132kV
  - Garwa 132kV
  - Deoghar 132kV
  - Kendposi 132 kV

Annexure-D.1

Anticipated Power Supply Position for the month of
Aug-19

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	5130	3050
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	519	355
		- Central Sector	4101	2532
	iii)	SURPLUS(+)/DEFICIT(-)	-510	-163
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1320	810
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	310	104
		- Central Sector	950	584
	iii)	SURPLUS(+)/DEFICIT(-)	-60	-122
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2885	1890
	ii)	NET POWER AVAILABILITY- Own Source	5358	2819
		- Central Sector	483	314
		Long term Bi-lateral (Export)	1416	1053
	iii)	SURPLUS(+)/DEFICIT(-)	1540	190
4		**ODISHA**		
	i)	NET MAX DEMAND	4300	3225
	ii)	NET POWER AVAILABILITY- Own Source	4167	2093
		- Central Sector	1681	946
	iii)	SURPLUS(+)/DEFICIT(-)	1548	-187
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	6995	4102
	ii)	CESC's DRAWAL	83	62
	iii)	TOTAL WBSEDCL's DEMAND	7078	4164
	iv)	NET POWER AVAILABILITY- Own Source	4201	1907
		- Import from DPL	363	0
		- Central Sector	2639	1803
	v)	SURPLUS(+)/DEFICIT(-)	125	-454
	vi)	EXPORT (TO B'DESH & SIKKIM)	-295	-663
5.2		**DPL**		
	i)	NET MAX DEMAND	0	212
	ii)	NET POWER AVAILABILITY	363	159
	iii)	SURPLUS(+)/DEFICIT(-)	363	-53
5.3		**CESC**		
	i)	NET MAX DEMAND	1970	1060
	ii)	NET POWER AVAILABILITY - OWN SOURCE	760	508
		FROM HEL	540	386
		Import Requirement	625	166
	iii)	TOTAL AVAILABILITY	1925	1060
	iv)	SURPLUS(+)/DEFICIT(-)	-45	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8965	5374
	ii)	NET POWER AVAILABILITY- Own Source	5324	2575
		- Central Sector+Others	3804	2189
	iii)	SURPLUS(+)/DEFICIT(-)	163	-611
7		**SIKKIM**		
	i)	NET MAX DEMAND	95	44
	ii)	NET POWER AVAILABILITY- Own Source	8	3
		- Central Sector+Others	176	114
	iii)	SURPLUS(+)/DEFICIT(-)	89	73
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	22034	14394
		Long term Bi-lateral by DVC	1416	1053
		EXPORT BY WBSEDCL	-295	-663
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	26880	14626
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	3725	-158

Annexure-D2

ERLDC, KOLKATA										
TRANSMISSION ELEMENTS OUTAGE APPROVED IN 159th OCC MEETING OF ERPC										
		FROM		TO						
SI	NAME OF THE ELEMENTS	DATE	TIME	DATE	TIME	REMARKS	S.D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY	COMMENTS
1	Tie bay of ST#1/Maithon#2 (Bay No. 407) at MPL	01-08-2019	08:00	30-08-2019	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
2	50 MVA ICT-4 at Malda	01-08-2019	08:00	15-09-2019	17:00	OCB	POWERGRID,ER-II	ERSS-XX Constructional work	WB	
3	220 kV Bus-I at Malda	01-08-2019	08:00	01-08-2019	17:00	ODB	POWERGRID,ER-II	ERSS-XX Constructional work(Removing of Bus isolator Jumper)	WB	
4	400 KV BUS-I of NTPC Farakka	01-08-2019	09:00	01-08-2019	18:00	ODB	POWERGRID,ER-II	For connecting BUS isolator of bay no-22 to BUS-I (After augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).		As bay-34 (Tie bay of 400 KV Farakka- Bhp- I and 400 KV Farakka- Kahalgaon-III) is under shutdown due to Bay-upgradation work, so 400 KV Farakka- Berhampore-I will also come under shutdown with BUS-I at NTPC Farakka.
5	Futute bay of 500MVA ICT-3 (421) at Maithon	01-08-2019	09:00	25-08-2019	18:00	OCB	POWERGRID,ER-II	Retrofitting of 400kV BHEL CB under ERSS-XX project work by M/s TBEA		
6	400KV Maithon-Right Bank # 2	01-08-2019	08:00	11-08-2019	18:00	OCB	POWERGRID,ER-II	Re conductoring work and Isolating Tie bay for (408) construction work under ERSS-XVII	AFTER RETURN OF TIE BAY OF DURGAPUR-1 AT MAITHON	
7	Main bay of 400kv Maithon-MPL Ckt#1,(Bay no 403) at MPL	01-08-2019	08:00	07-08-2019	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
8	220kV Rajarhat-Jeerat ckt-2	01-08-2019	10:00	01-08-2019	17:00	ODB	POWERGRID,ER-II	For BCU replacement (the BCU coming in error mode)	WB	
9	403 ICT#1 Main Bay at Subhasgram SS	01-08-2019	09:00	01-08-2019	17:00	ODB	POWERGRID,ER-II	AMP work		There will be no Power Interruption.Only 403 Bay is under Shutdown. Power flow will continue through Tie Bay.
10	50MVAR CHAIBASA#1 LINE REACTOR BAY (BAY NO.- 416R)	01-08-2019	09:00	10-08-2019	18:00	OCB	ER-II/ODISHA/ROURKELA	RETROFITTING OF OLD HYDRAULIC OPERATED BHEL MAKE CB BY NEW SPRING-SPRING OPERATED CGPISL MAKE CB		
11	400 kV Jeypore-Indravati S/C Line	01-08-2019	08:00	01-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	For PID defect insulator replacement work and for attending S/D nature defects	NLDC	
12	Main bay-703 of 765/400KV ICT-1 at Sundergarh	01-08-2019	09:00	01-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	for replacement of CB closing damper	NLDC	
13	400 KV Rengali-Talcher # 2 Line	01-08-2019	08:00	01-08-2019	17:00	ODB	ER-II/Odisha/Rengali	For testing of Auto Reclose Relay		
14	400 KV Rourkela-Talcher Line # 2 in Non-Auto Mode	01-08-2019	08:00	15-08-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
15	40252- Tie Bay of Keonjhar line & 315MVA ICT I	01-08-2019	09:00	01-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
16	220 Durgapur-WARIA(DVC)#1	01-08-2019	09:00	01-08-2019	15:00	ODB	WBSETCL	Route clearance	DVC	
17	400KV Sundergarh-Raigarh Ckt #1	01-08-2019	08:00	14-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	For PID Testing of Porcelain Insulator. Only Auto reclose to be in non auto mode.No Power interruption	NLDC	
18	400KV Sundergarh-Raigarh Ckt #3	01-08-2019	08:00	14-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	For PID Testing of Porcelain Insulator. Only Auto reclose to be non auto mode.No power interruption	NLDC	
19	765 /400 KV ICT-IV AT GAYA SS	01-08-2019	09:00	02-08-2019	18:00	ODB	POWERGRID ER-I	FOR COMMISSSIONING OF CSD WORK	NLDC	

20	400KV BAY OF 80 MVAR L/R OF PATNA-II AT KISHANGANJ	01-08-2019	09:00	01-08-2019	18:00	ODB	POWERGRID ER-I	AMP		
21	400KV TIE BAY OF BIHARSHARIFF-I & 200 MVA ICT-1 AT LAKHISARAI	01-08-2019	09:30	01-08-2019	17:30	ODB	POWERGRID ER-I	MOVEMENT OF NEW 315 MVA ICT-III TO FOUNDATION LOCATION.		
22	400KV TIE BAY OF BIHARSHARIFF-II & 200 MVA ICT-2 AT LAKHISARAI	01-08-2019	09:30	01-08-2019	17:30	ODB	POWERGRID ER-I	MOVEMENT OF NEW 315 MVA ICT-III TO FOUNDATION LOCATION.		
23	400KV TIE BAY OF KAHALGAON-II & 80 MVAR BR-I AT LAKHISARAI	01-08-2019	09:30	01-08-2019	17:30	ODB	POWERGRID ER-I	MOVEMENT OF NEW 315 MVA ICT-III TO FOUNDATION LOCATION.		
24	400KV TIE BAY OF KAHALGAON-I & FUTURE AT LAKHISARAI	01-08-2019	09:30	01-08-2019	17:30	ODB	POWERGRID ER-I	MOVEMENT OF NEW 315 MVA ICT-III TO FOUNDATION LOCATION.		
25	400 KV MAIN BUS-2 AT RANCHI	01-08-2019	09:30	01-08-2019	17:00	ODB	POWERGRID ER-I	Fixing of Stool in Yph Bus-II CVT . RNC-NRNC-I & CKT-II WILL BE OUT OF SERVICE DUE TO NON AVAILABILITY OF TIE BAY	JSEB	
26	400KV RANCHI-NEW RANCH-1	01-08-2019	09:30	01-08-2019	17:00	ODB	POWERGRID ER-I	TO FACILITATE THE S/D OF 400KV BUS-II AT RANCHI SERVICE DUE TO NON AVAILABILITY OF TIE BAY		
27	400KV RANCHI-NEW RANCH-2	01-08-2019	09:30	01-08-2019	17:00	ODB	POWERGRID ER-I	TO FACILITATE THE S/D OF 400KV BUS-II AT RANCHI SERVICE DUE TO NON AVAILABILITY OF TIE BAY		
28	765 KV S/C SASARAM-FATEHPUR	01-08-2019	09:00	20-08-2019	18:00	ODB	POWERGRID ER-I	TOWER STRENGTHENING WORK OF 70 NOS SUSPENSION TOWERS	NLDC	DETAIL OF BALANCE WORK WITH LOCATION TO BE SUBMITTED
29	400 KV NABINAGAR-SASARAM- I& II (BOTH CKTS)	01-08-2019	09:00	20-08-2019	18:00	OCB	POWERGRID ER-I	REPLACEMENT OF TOWER NO.170 HAVING CRITICAL BENT LEG,	ERS ??	
30	400 KV PATNA BARH - 1	01-08-2019	09:30	15-08-2019	17:30	OCB	POWERGRID ER-I	UNDER SS03 PACKAGE FOR COMMISSIONING OF 80 MVAR BUS REACTOR AS SWITCHABLE LINE REACTOR		
31	**Shutdown of ICT#2**	01-08-2019	09:30	01-08-2019	18:00	**ODB**	**BARH**	**For SCADA Up gradation**		
32	400 kV Jeypore-Indravati S/C Line	01-08-2019	08:00	01-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	For PID defect insulator replacement work and for	NLDC	
33	132KV NTPC (Kahalgaon)-Lalmatia S/C T/L	01-08-2019	09:00	01-07-2019	16:00	**ODB**	BSPTCL	Line Maintainance work		Lalmataia will avail power from alternate sources
34	132KV Kahalgaon-Lalmatia S/C T/L	01-08-2019	09:00	01-07-2019	16:00	**ODB**	BSPTCL	Line Maintainance work		Lalmataia will avail power from alternate sources
35	220kv DMTCL(D)-Laukahi Trans. Line 01	01-08-2019	10:00	05-08-2019	17:00	**ODB**	BSPTCL	Maintenence work on daily basis		No Load Restriction
36	50 MVA ICT -I 132/66 KV at Gangtok	02-08-2019	09:00	02-08-2019	18:00	ODB	POWERGRID,ER-II	For AnnualAMp Works	SIKKIM	
37	220 kV Bus-II at Malda	02-08-2019	08:00	02-08-2019	17:00	ODB	POWERGRID,ER-II	ERSS-XX Constructional work(Removing of Bus isolator Jumper)	WB	
38	404 bay (Bidhan Nagar-II Main bay) at Durgapur	02-08-2019	09:00	02-08-2019	17:00	OCB	POWERGRID,ER-II	AMP works		
39	Tie Bay of 400kV MTN-Kahalgaon-1/RB-2 (408) at Maithon	02-08-2019	09:00	02-08-2019	18:00	OCC	POWERGRID,ER-II	Construction work under ERSS-XVII		
40	400KV Maithon - Durgapur 2	02-08-2019	08:00	02-08-2019	18:00	ODB	POWERGRID,ER-II	Jumper rectification work	AFTER RETURN OF TIE BAY OF DURGAPUR-1 AT MAITHON	
41	208 Bay (220 KV Side of 315 MVA ICT#1) at Subhasgram SS	02-08-2019	09:00	02-08-2019	17:00	ODB	POWERGRID,ER-II	AMP Work		There will be no Power Interruption Only 208 Bay is under Shutdown. Power flow will continue through 212 Transfer Bay.
42	400KV ROURKELA-CHAIBASA#1	02-08-2019	09:00	02-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR DISMANTLING OF INTERRUPTER & POLE COLUMN OF OLD BHEL MAKE CB OF 41652R.		
43	765KV BUS 2 at Angul	02-08-2019	09:00	02-08-2019	14:00	ODB	ER-II/Odisha/Angul SS	For erection of 720 -89A Isolator which was broken/damaged due to catastropic failure of 720 B -phase Current transformer at Angul SS On 24.04.2019.	NLDC	

44	Main bay-706 of 765/400KV ICT-2 at Sundergarh	02-08-2019	09:00	02-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	for replacement of CB closing damper	NLDC	
45	220 Durgapur-WARIA(DVC)#2	02-08-2019	09:00	02-08-2019	15:00	ODB	WBSETCL	Route clearance	DVC	
46	400/220kv 500MVA ICT-II AT KISHANGANJ	02-08-2019	09:00	02-08-2019	13:00	ODB	POWERGRID ER-I	AMP	BIHAR	AFTER HIGH HYDRO
47	400 KV BUS-1 AT MUZAFFARPUR	02-08-2019	09:00	03-08-2019	17:30	ODB	POWERGRID ER-I	STRINGING OF JACK BUS FOR EXTENSION WORK (NEPAL BAY)	NLDC	AFTER REVIVAL OF BOTH DARBHANGA-KISHANGANJ CKTs
48	400KV FARAKKA GOKARNA CKT-I	02-08-2019	08:00	04-08-2019	17:00	OCB	POWERGRID ER-I	TERMINATION OF 400KV D/C RAJARHAT- PURNEA LINE FROM PURNEA END	WB	REVISED PROPOSAL TO BE SUBMITTED WHICH WB MAY CONSIDER
49	400KV FARAKKA GOKARNA CKT-II	02-08-2019	08:00	04-08-2019	17:00	OCB	POWERGRID ER-I	TERMINATION OF 400KV D/C RAJARHAT- PURNEA LINE FROM PURNEA END	WB	REVISED PROPOSAL TO BE SUBMITTED WHICH WB MAY CONSIDER
50	220 KV MAIN BUS-1 AT RANCHI	02-08-2019	09:30	02-08-2019	17:00	ODB	POWERGRID ER-I	AMP	JSEB	
51	400 KV KODERMA-BOKARO TL - 1	02-08-2019	08:00	03-08-2019	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMMAGED BY MISCREANTS	DVC	
52	220KV MAIN BAY OF SIPARA 1 AT PATNA	02-08-2019	09:30	04-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE		
53	**Shutdown of ICT#1**	02-08-2019	09:30	02-08-2019	18:00	**ODB**	**BARH**	**For SCADA Up gradation**		
54	400KV Rangpo-Teesta-V Ckt-2	03-08-2019	08:00	03-08-2019	14:00	OCB	POWERGRID,ER-II	For Installation of Insulation Tape in Loc LILO 7 to 8		
55	50 MVA ICT-II 132/66KV at Gangtok	03-08-2019	09:00	03-08-2019	18:00	ODB	POWERGRID,ER-II	For AnnualAMp Works	SIKKIM	
56	220KV Bus-I at Maithon	03-08-2019	09:00	10-08-2019	18:00	ODB	POWERGRID,ER-II	Erection of 220kV Gantary Tower under ERSS-XX project work by M/s TBEA	DVC	
57	400KV Maithon - Durgapur 1	03-08-2019	08:00	03-08-2019	18:00	ODB	POWERGRID,ER-II	Jumper rectification work	MPL	
58	315 MVA ICT#1 at Subhasgram S/s	03-08-2019	09:00	03-08-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of Numerical REF Relay	WB	315 MVA ICT#1 will be under Shutdown.
59	765/400 kV 500 MVAx3 ICT 3	03-08-2019	09:00	03-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
60	400kV Jeypore-Gazuwaka-I Line	03-08-2019	08:00	04-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
61	Main Bay-710 of 765KV Angul Ckt-3 at Sundergarh	03-08-2019	09:00	03-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	for replacement of CB closing damper	NLDC	
62	400 KV 406 Main Bay of 315 MVA ICT-II	03-08-2019	09:00	03-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
63	400 KV 125 MVAR BR-I AT GAYA	03-08-2019	09:00	05-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
64	400 KV BUS-I AT GAYA S/S	03-08-2019	09:00	08-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
65	**Shutdown of BUS Reactor**	03-08-2019	09:30	03-08-2019	18:00	**ODB**	**BARH**	**For SCADA Up gradation**		
66	400kV Jeypore-Gazuwaka-I Line	03-08-2019	08:00	04-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
67	220 KV Pushauli(PG)-Dehri S/C T/L	03-08-2019	09:00	03-07-2019	13:00	**ODB**	BSPTCL	Line & bay maintenance work		Dehri will avail power from alternate sources
68	220 Kv Muzaffarpur (PG)-Hajipur ckt-1	03-08-2019	10:00	03-08-2019	16:00	**ODB**	BSPTCL	Tree cutting		No Load Restriction
69	765KV Sundergarh-Angul Ckt #1 with	04-08-2019	09:00	04-08-2019	18:00	ODB	ER-	-TL Maintenance works	NLDC	
70	400 kV 407 main Bay of Baripada-Duburi line	04-08-2019	09:00	05-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
71	400 KV KODERMA-BOKARO TL - 2	04-08-2019	08:00	05-08-2019	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMMAGED BY	DVC	

72	400KV BUS 2 AT PATNA	04-08-2019	09:30	06-08-2019	17:30	ODB	POWERGRID ER-I	STRINGING OF SKY BUS UNDER SS03 PACKAGE OF PATNA	BIHAR	
73	**400KV Kh-Banka #1**	04-08-2019	09:00	05-08-2019	17:30	**OCB**	**KAHALGAON**	**Distance protection Relay Retrofitting**		
74	132KV Ara(PG) -Ara S/C T/L	04-08-2019	09:00	04-08-2019	15:00	**ODB**	BSPTCL	For 2nd ckt stringing work of Ara(PG)-Jagdishpur T/L		1.Ara & Dumraon will avail power from alternate sources. 2. There will be load restriction of around 30-34 MW.
75	132KV Ara(PG) -Dumraon S/C T/L	04-08-2019	09:00	04-08-2019	15:00	**ODB**	BSPTCL	For 2nd ckt stringing work of Ara(PG)-Jagdishpur T/L		1.Ara & Dumraon will avail power from alternate sources. 2. There will be load restriction of around 30-34 MW.
76	220 KV Gaya-Dehri ckt1	04-08-2019	09:00	04-07-2019	13:00	**ODB**	BSPTCL	Line & bay maintenance work		Dehri will avail power from alternate sources
77	220 KV Gaya-Dehri ckt2	04-08-2019	13:30	04-07-2019	17:30	**ODB**	BSPTCL	Line & bay maintenance work		Dehri will avail power from alternate
78	220 Kv Muzaffarpur (PG)-Hajipur ckt-2	04-08-2019	10:00	04-08-2019	16:00	**ODB**	BSPTCL	Tree cutting		No Load Restriction
79	400 KV Farakka- Kahalgaon-III line	05-08-2019	09:00	06-08-2019	18:00	ODB	POWERGRID,ER-II	For Jumper coonnection, relay setting change & Bay stability between Bay- 34 & 35 after upgradation of bay-34 under ERSS-XV projects.	AFTER RETURN OF 400KV FSTPP-KHSTPP-I	400 KV Farakka- Kahalgaon-I is under shutdown for bay-upgradation work at NTPC Farakka.
80	400 Bus-I & Bus-III Sectionalize CB (BS-I) at Durgapur	05-08-2019	09:00	05-08-2019	17:00	ODB	POWERGRID,ER-II	AMP works & NTAMC intigration works	DVC	
81	400KV Maithon - Mejia 3	05-08-2019	08:00	05-08-2019	18:00	ODB	POWERGRID,ER-II	Replacement of Insulator	DVC	
82	315 MVA ICT#2 at Subhasgram S/s	05-08-2019	09:00	05-08-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of Numerical REF Relay	WB	315 MVA ICT#2 will be under Shutdown.
83	400KV ROURKELA-CHAIBASA#1	05-08-2019	09:00	05-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR ERECTION OF INTERRUPTER & POLE COLUMN OF NEW CGPISL MAKE CB OF 41652R.		
84	765/400 kV 500 MVAx3 ICT 2	05-08-2019	09:00	05-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
85	400kV Jeypore-Gazuwaka-II Line	05-08-2019	08:00	06-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
86	220KV CB of 204 Bay (Future line bay)	05-08-2019	09:00	05-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Rectification of CB found faulty timing & DCRM graphs. S/D shall be taken if not availed in July'19.		
87	765KV Sundergarh-Angul Ckt #2 With 240MVAr LR at Sundargarh	05-08-2019	09:00	05-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	-TL Maintenance works -AMP work of Angul LR-2 at Sundergarh and BPI erection	NLDC	
88	400kv Kharagpur-Baripada S/C	05-08-2019	06:00	05-08-2019	16:00	ODB	WBSETCL	Route clearance		
89	400KV KTPP-Arambag#	05-08-2019	06:00	05-08-2019	13:00	ODB	WBSETCL	Route clearance		
90	400KV MAIN BAY OF 80 MVAR BUS REACTOR -1 AT CHAIBASA	05-08-2019	09:30	05-08-2019	17:30	ODB	POWERGRID ER-I	AMP WORK		
91	400KV MAIN BUS- I AT CHANDWA	05-08-2019	09:00	07-08-2019	18:00	OCB	POWERGRID ER-I	INTERCONNECTION OF NEW MAIN BUS I WITH EXISTING		
92	400 KV DALTONGANJ - SASARAM-1	05-08-2019	09:30	05-08-2019	17:30	ODB	POWERGRID ER-I	CSD COMMISSIONING		
93	400KV TIE BAY OF SIPAT-1 & FUTURE AT	05-08-2019	09:30	05-08-2019	17:00	ODB	POWERGRID ER-I	AMP		
94	400 KV KAHALGAON - MAITHAN -1	05-08-2019	09:00	11-08-2019	17:00	ODB	POWERGRID ER-I	REPLACEMENT OF DEFECTED INSULATORS , DETECTED		
95	400 KV PUSAULI -BIHARSHARIF LINE-1	05-08-2019	09:00	10-08-2019	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS AT ROAD/RAIL/RIVER/POWER LINE CROSSINGS.		
96	400 KV PUSAULI -ALLAHABD LINE	05-08-2019	09:00	10-08-2019	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS AT ROAD/RAIL/RIVER/POWER LINE CROSSINGS.	NLDC	
97	400/220KV 500MVA ICT-I AT SASARAM	05-08-2019	09:00	08-08-2019	18:00	OCB	POWERGRID ER-I	SHIFTING OF TRANSFORMER FOR TRANSFORMER RETROFITTING WORK	BIHAR	
98	220KV SASARAM-SAHUPURI-S/C	05-08-2019	09:00	08-08-2019	18:00	OCB	POWERGRID ER-I	TO FACILITATE THE S/D OF ICT-I FOR SHIFTING OF TRANSFORMER FOR TRANSFORMER RETROFITTING WORK	NLDC	NRPC CONSENT REQUIRED

99	400 KV PATNA BARH 1	05-08-2019	09:30	09-08-2019	17:30	OCB	POWERGRID ER-I	COMMISSIONING OF 80 MVAR SWITCHABLE LINE REACTOR IN PATNA BARH LINE 1 AT PATNA SS UNDER Nabinagar - II PACKAGE		
100	220kV Jamshedpur-Jindal Tie	05-08-2019	08:00	05-08-2019	18:00	ODB	DVC	for attending alignment problem of line side isolator at JSR S	GRIDCO	
101	400kV Jeypore-Gazuwaka-II Line	05-08-2019	08:00	06-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
102	220kv Pusauli (PG)-Pusauli (BSPTCL)	05-08-2019	09:00	05-08-2019	11:00	**ODB**	BSPTCL	Jumper connection of LILO line at Pushauli GSS		1.GSS Pushauli will be powerless 2. Ara (PG) will avail power from Khagaul GSS.
103	220kv Pusauli (PG)-Ara (PG)	05-08-2019	09:00	05-08-2019	11:00	**ODB**	BSPTCL	Jumper connection of LILO line at Pushauli GSS		1.GSS Pushauli will be powerless 2. Ara (PG) will avail power from Khagaul GSS.
104	220KV BUS-1 at Rangpo	06-08-2019	08:00	08-08-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) & Line AMC		
105	220KV NEW MELLI-Rangpo line	06-08-2019	08:00	12-08-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both		
106	132 KV BUS COUPLER at Birpara	06-08-2019	08:00	06-08-2019	17:30	ODB	POWERGRID,ER-II	AMP WORK	WB	
107	400 Bus-II & Bus-IV Sectionalize CB (BS-II) at Durgapur	06-08-2019	09:00	06-08-2019	17:00	ODB	POWERGRID,ER-II	AMP works & NTAMC intigration works	DVC	
108	400KV Maithon - Jamshedpur	06-08-2019	08:00	06-08-2019	18:00	ODB	POWERGRID,ER-II	Replacement of Insulator		
109	400 KV Main Bus -I at Subhasgram SS	06-08-2019	09:00	06-08-2019	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -I at Subhasgram SS	WB	400 KV Main Bus-I will be under Shutdown on daily basis.
110	220KV CB of bus coupler bay (207 bay)	06-08-2019	09:00	06-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Rectification of CB found faulty timing & DCRM graphs.S/D shall be taken if not availed in July'19.		
111	765KV Sundargarh-Angul Ckt #4 with LR at Sundergarh	06-08-2019	09:00	06-08-2019	12:00	ODB	ER-II/Odisha/Sundergarh	To take B ph Reactor in to service and keep out of serive SPARE Reactor	NLDC	
112	220 KV Transfer Bus Coupler Bay (Bay No-203)	06-08-2019	08:00	06-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
113	400 kV 411 Tie Bay of Baripada-Pandiabili & Baripada-TISCO line	06-08-2019	09:00	07-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
114	400kv Kharagpur-KTPP#1	06-08-2019	06:00	06-08-2019	16:00	ODB	WBSETCL	Route clearance		
115	220 KV ARA KHAGAUL CKT 1	06-08-2019	10:00	06-08-2019	17:00	ODB	POWERGRID ER-I	MAIN 1 DISTANCE RELAY REPLACEMENT DEPENDING UPON GE ENGINEER VISIT	BIHAR	
116	400KV BUS-4 AT BIHARSHARIF	06-08-2019	09:00	06-08-2019	18:00	ODB	POWERGRID ER-I	BUS STABILITY TEST FOR COMMISSIONING OF NEW 500MVA ICT-4	BIHAR	
117	400 KV 125 MVAR BR-II AT GAYA	06-08-2019	09:00	08-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
118	400KV MAIN BAY OF 80 MVAR BUS REACTOR-I AT LAKHISARAI	06-08-2019	09:30	07-08-2019	17:30	ODB	POWERGRID ER-I	FOR CONSTRUCTION OF FIRE WALL OF NEW ICT-III		
119	220KV MUZAFFARPUR - DHALKEBAR (NEPAL) -1	06-08-2019	09:00	07-08-2019	17:30	ODB	POWERGRID ER-I	NTAMC INTEGRATION OF NEPAL -1 BAY	NLDC	
120	400KV MAIN BAY OF SILIGURI CKT-1 AT NEW PURNEA.	06-08-2019	09:30	06-08-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF POLE COLOUMN OF Y-PH TO ATTENTD THE SF6 LEAKAGE.		
121	400KV MAIN BAY OF NEW PPSP-2 AT NEW RANCHI	06-08-2019	09:00	06-08-2019	17:00	ODB	POWERGRID ER-I	AMP		
122	220KV BUS COUPLER AT SASARAM	06-08-2019	09:00	06-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK	BIHAR	

123	220KV MAIN BAY OF SIPARA 2 AT PATNA	06-08-2019	09:30	08-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE		
124	400kV RTPS-Ranchi PG Ckt#3	06-08-2019	08:30	06-08-2019	17:00	ODB	DVC	for replacement work of damaged tension disc insulator of one string (5 no broken) at Loc no 129 B		
125	400 KV Farakka- Berhampur-I	07-08-2019	09:00	08-08-2019	18:00	ODB	POWERGRID,ER-II	For protection scheme checking of Bay-34 with respect of bay-33 after upgradation of bay-34 under ERSS-XV projects & to carry out punch point works in TL		400 KV Farakka- Kahalgaon-I is under shutdown for bay-upgradation work at NTPC
126	400 KV BUS-II at Durgapur	07-08-2019	09:00	07-08-2019	17:00	ODB	POWERGRID,ER-II	One Bus CVT replace & AMP	DVC	
127	400KV Mejia - Jamshedpur	07-08-2019	08:00	07-08-2019	18:00	ODB	POWERGRID,ER-II	Replacement of Insulator		
128	400kV Bus-I at Rajarhat	07-08-2019	10:00	08-08-2019	18:00	ODB	POWERGRID,ER-II	For Installation & replacement of Earth Switch Insulating flange	WB	
129	400 KV Main Bus -II at Subhasgram SS	07-08-2019	09:00	07-08-2019	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -II at Subhasgram SS	WB	400 KV Main Bus-II will be under Shutdown on daily basis.
130	400kV ROURKELA-SUNDERGARH#1	07-08-2019	08:00	07-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	COUNTER WEIGHTS (CW) FIXING , INSULATION TAPE APPLICATION		
131	765/400 kV 500 MVAx3 ICT 4	07-08-2019	09:00	07-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
132	ICT-I (3x 105 MVA) at Jeypore	07-08-2019	10:00	07-08-2019	12:00	ODB	ER-II/Odisha /Jeypore	For changing ICT-I combination form Unit-I,III, IV to Unit-I ,	GRIDCO	
133	220KV CB of 208 bay (OPTCL Ckt-I)	07-08-2019	09:00	07-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Rectification of CB found faulty timing & DCRM graphs. S/D shall be taken if not availed in July'19.		
134	400KV GIS Main Bay-436 of ICT-3 & Main Bay 435 of ICT-4 at Sundergarh	07-08-2019	09:00	07-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	For 765kV ICT constrction works		
135	765/400KV 1500MVA ICT-2 at Sundergarh	07-08-2019	09:00	07-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	B/U Impedance Realy installtion,commissiong works and Taking spare ICT in service in place of B-Ph ICT for attending	NLDC	
136	400KV KTPP-Arambag#	07-08-2019	06:00	07-08-2019	13:00	ODB	WBSETCL	Route clearance		
137	220 KV ARA KHAGAUL CKT 2	07-08-2019	10:00	07-08-2019	17:00	ODB	POWERGRID ER-I	MAIN 1 DISTANCE RELAY REPLACEMENT DEPENDING UPON GE ENGINEER VISIT	BIHAR	
138	400KV MAIN BAY OF SILIGURI CKT-2 AT NEW PURNEA.	07-08-2019	09:30	07-08-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF POLE COLOUMN OF R-PH TO ATTENTD THE SF6 LEAKAGE.		
139	220 KV MAIN BUS-2 AT RANCHI	07-08-2019	09:30	07-08-2019	17:00	ODB	POWERGRID ER-I	AMP	JSEB	
140	400KV NORTH BUS-2 AT SASARAM	07-08-2019	09:00	07-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK	NLDC	
141	400KV MAIN BAY OF BALIA LINE-IV AT PATNA	07-08-2019	09:30	09-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II PACKAGE		
142	400kV Bus-1 at Berhampore	08-08-2019	09:00	08-08-2019	17:00	ODB	POWERGRID,ER-II	AMP	NLDC	
143	400KV Maithon-Kahalgaon 1 & 2	08-08-2019	08:00	09-08-2019	18:.00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work & removal of jumper of Tie Bay (408) for construction work under ERSS-XVII	Multiple outage from Maithon may be checked.	
144	Tie bay of GT#1/Maithon#1 (Bay No. 404) at MPL	08-08-2019	08:00	15-08-2019	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
145	220 KV Main Bus-I at Subhasgram SS	08-08-2019	09:00	08-08-2019	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-I at Subhasgram SS	WB	220 KV Main Bus-I will be under Shutdown on daily basis.
146	400kV ROURKELA-SUNDERGARH#3	08-08-2019	08:00	08-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	CAMERA PATROLLING WILL REQUIRE TO BE COMPLETED IN JULY & FOR ATTENDING THE S/D NATURE DEFECTS		

147	315 MVA ICT#1 at Rourkela	08-08-2019	09:00	08-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF EXISTING OLD ICT PROTECTION RELAYS WITH NEW NUMERICAL RELAYS & DISMANTLING OF TERTIARY IPS TUBE FOR PROVIDING INSULATION SLEEVE	GRIDCO	
148	Jeypore- Rengali Tie Bay (402)	08-08-2019	08:00	08-08-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works of Jeypore- Rengali Tie Bay (402)		
149	315MVA ICT # II at Jeypore	08-08-2019	09:00	08-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of ICT # II, 208 Bay CT and testing of Back up Impedance relay	GRIDCO	
150	220KV CB of 206 bay (OPTCL Ckt-II)	08-08-2019	09:00	08-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Rectification of CB found faulty timing & DCRM graphs. S/D shall be taken if not availed in July'19.		
151	765/400KV 1500MVA ICT-1at Sundergarh	08-08-2019	09:00	08-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	B/U Impedance Realy installtion,commissiong works	NLDC	
152	765KV Bus-I at Sundargarh	08-08-2019	09:00	17-08-2019	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of SF6 to Air bushing of 765KV GIS bus sectionalizer, jumpering , HV & impulse testing for	NLDC	
153	220 KV Bus Coupler Bay (Bay No-204)	08-08-2019	08:00	08-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
154	400 kV 408 Tie Bay of Baripada-Duburi & Baripada-Jamshedpur line	08-08-2019	09:00	09-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
155	220 KV ARA SASARAM	08-08-2019	10:00	08-08-2019	17:00	ODB	POWERGRID ER-I	MAIN 1 DISTANCE RELAY REPLACEMENT DEPENDING UPON GE ENGINEER VISIT	BIHAR	
156	400KV MAIN BUS- II AT CHANDWA	08-08-2019	09:00	10-08-2019	18:00	OCB	POWERGRID ER-I	INTERCONNECTION OF NEW MAIN BUS II WITH EXISTING MAIN BUS II.		
157	400 KV DALTONGANJ - SASARAM-2	08-08-2019	09:30	08-08-2019	17:30	ODB	POWERGRID ER-I	STABILITY TEST FOR LINE REACTOR COMMISSINING		
158	400KV JAMSHEDPUR -CHAIBASA -2	08-08-2019	09:30	08-08-2019	17:30	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT AT LOC 38		
159	400KV MAIN BAY OF NEW SILIGURI LINE-2 AT KISHANGANJ	08-08-2019	09:00	08-08-2019	18:00	ODB	POWERGRID ER-I	AMP		
160	220KV MUZAFFARPUR - DHALKEBAR (NEPAL) - 2	08-08-2019	09:30	09-08-2019	17:30	ODB	POWERGRID ER-I	NTAMC INTEGRATION OF NEPAL -2 BAY	NLDC	
161	400KV TIE BAY OF CHANDWA-1 & FUTURE	08-08-2019	09:00	08-08-2019	17:00	ODB	POWERGRID ER-I	AMP		
162	220KV MAIN BAY OF 400/220KV 315MVA	08-08-2019	09:00	08-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
163	400KV ICT 2 AT PATNA & Patna Nabinagar	08-08-2019	10:00	08-08-2019	14:00	ODB	POWERGRID ER-I	Checking of Tie LBB		
164	**400KV Kh-Banka #2**	08-08-2019	09:00	09-08-2019	17:30	**OCB**	**KAHALGAON**	**Distance protection Relay Retrofitting**		
165	Farakka-Sagrdighi-I	08-08-2019	09:00	09-08-2019	17:00	**ODB**	FARAKKA	CT+CB+Relay Test	WB	
166	160 MVA ICT-I at Birpara	09-08-2019	08:00	09-08-2019	17:30	ODB	POWERGRID,ER-II	AMP WORK	WB	
167	409 Bay at NTPC Farakka (Main Bay of Bus reactor-2)	09-08-2019	10:00	09-08-2019	12:00	ODB	POWERGRID,ER-II	Oil Sampling of Bay CT.		
168	400kV Bus-2 at Berhampore	09-08-2019	09:00	09-08-2019	17:00	ODB	POWERGRID,ER-II	AMP	NLDC	
169	400 KV BUS-I at Durgapur	09-08-2019	09:00	09-08-2019	17:00	ODB	POWERGRID,ER-II	Bus Bar relay checking & AMP	DVC	
170	400KV Farakka Line Reactor at Rajarhat	09-08-2019	08:00	09-08-2019	18:00	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 405 LR Bay) and jumper rework		
171	220 KV Main Bus-II at Subhasgram SS	09-08-2019	09:00	09-08-2019	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-II at Subhasgram SS	WB	220 KV Main Bus-II will be under Shutdown on daily basis.

172	765/400 kV 500 MVAx3 ICT 1	09-08-2019	09:00	09-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
173	220 kV Bus -II at Jeypore & 220 kV Bus Coupler CB(202 52)	09-08-2019	08:00	11-08-2019	18:00	OCB	ER-II/Odisha /Jeypore	For 30 Years old Isolator Retrofitting Works of Bus-II side Isolators of Jeynagar I, Jeynagar-2 & ICT-I & Bus Coupler Bay	GRIDCO	
174	220KV side CB of ICT-II Bay (bay-205)	09-08-2019	09:00	09-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Rectification of CB found faulty timing & DCRM graphs. S/D shall be taken if not availed in July'19.		
175	765kV Sundergarh-darlipalli Ckt 1	09-08-2019	09:00	09-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	Quad to twin modification of jumper works and BPI erection works	NLDC	
176	400KV Sundergarh-Raigarh Ckt #2	09-08-2019	08:00	09-08-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	
177	400KV KTPP-Arambag#	09-08-2019	06:00	09-08-2019	13:00	ODB	WBSETCL	Route clearance		
178	220 KV ARA NADOKHAR	09-08-2019	10:00	09-08-2019	17:00	ODB	POWERGRID ER-I	MAIN 1 DISTANCE RELAY REPLACEMENT DEPENDING UPON GE ENGINEER VISIT	BIHAR	
179	400 KV TIE BAY OF SILIGURI-I & II AT KISHANGANJ	09-08-2019	09:00	09-08-2019	18:00	ODB	POWERGRID ER-I	AMP		
180	765 KV NEW RANCHI DHARAMJAYGARH CKT-II	09-08-2019	08:00	09-08-2019	18:00	ODB	POWERGRID ER-I	For replacement of 26 No Insulatots at Loc No 446 damaged by miscreants.	NLDC	
181	400KV MAIN BAY OF NEW RANCH-2 AT RANCHI	09-08-2019	09:00	09-08-2019	17:00	ODB	POWERGRID ER-I	BAY AMP, CB DCRM REPEAT TEST AS PER OS INSTRUCTION. LINE WILL BE OUT DUE TO UNAVAILABILITY OF ITS TIE BAY		
182	400KV FUTURE BAY (421 BAY) AT SASARAM	09-08-2019	09:00	09-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
183	400/220KV 315MVA ICT-II AT SASARAM	09-08-2019	08:00	14-09-2019	18:00	OCB	POWERGRID ER-I	FOR TRANSFORMER RETROFITTING WORK	BIHAR	BSPTCL & POWERGRID WILL HOLD JOINT MEETING REGARDING S/D
184	400KV MAIN BAY OF BALLIA -3 AT PATNA	09-08-2019	10:00	09-08-2019	11:00	ODB	POWERGRID ER-I	CB DEW POINT MEASUREMENT		
185	400KV TIE BAY OF BARH 3 AND BALLIA 3 AT PATNA	09-08-2019	13:00	09-08-2019	14:00	ODB	POWERGRID ER-I	CB DEW POINT MEASUREMENT		
186	400KV MAIN BAY BARH-3 AT PATNA	09-08-2019	16:00	09-08-2019	17:00	ODB	POWERGRID ER-I	CB DEW POINT MEASUREMENT		
187	220KV MAIN BAY OF FATUHA AT PATNA	09-08-2019	09:30	12-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE		
188	**Maintenance work for ICT#3**	09-08-2019	09:30	18-08-2019	18:00	**OCB**	**BARH**	**Annual Maintenance & Testing of ICT#3**		
189	**Maintenance work for ICT#3 Bay**	09-08-2019	09:30	18-08-2019	18:00	**OCB**	**BARH**	**Annual Maintenance & Testing of ICT#3 Bay**		
190	401 SST-1 Bay at BTPS-A	09-08-2019	10:00	19-08-2019	17:00	**OCB**	DVC	for attending gas leakage issues in GD-6Y section		
191	132 kv Rajgir-Barhi S/C T/L	09-08-2019	11:00	09-08-2019	15:00	**ODB**	BSPTCL	Line Maintainance work	DVC	Line charged on NO Load
192	132 kv Nalanda-Barhi S/C T/L	09-08-2019	11:00	09-08-2019	15:00	**ODB**	BSPTCL	Line Maintainance work	DVC	Line charged on NO Load
193	220 Kv DMTCL-Ujjyarpur T/L	09-08-2019	09:00	09-08-2019	17:00	**ODB**	BSPTCL	Tree cutting		No Load Restriction
194	220kV New Melli-JLHEP Line 2	10-08-2019	10:00	10-08-2019	13:00	ODB	POWERGRID,ER-II	SF6 Gas Filling in G0 Compartment (Y-Phase)		
195	315 MVA ICT-III at Durgapur	10-08-2019	09:00	10-08-2019	17:00	ODB	POWERGRID,ER-II	CSD tunning	DVC	
196	400KV Maithon-Durgapur 1&2	10-08-2019	08:00	11-08-2019	18:00	OCB	POWERGRID,ER-II	1.TL Crossing during Re-conductoring work of Maithon - Right Bank Line. 2. Reconnection of Jumper of 405 Tie Bay (RB#1-DGP#1) under ERSS-XVII	Multiple outage from Maithon may be checked.	

197	400KV Gokarna Line Reactor at Rajarhat	10-08-2019	14:00	10-08-2019	18:00	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 412 LR Bay)		
198	50 MVAR Line Reactor at Subhasgram S/s	10-08-2019	09:00	10-08-2019	17:00	ODB	POWERGRID,ER-II	VT Selection work and REF Relay Retrofitting work		50 MVAR Line Reactor will be under Shutdown.
199	400kV ROURKELA-SUNDERGARH#2	10-08-2019	08:00	10-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	APPLICATION OF INSULATION TAPES AND FOR ATTENDING THE S/D NATURE DEFECTS		
200	315 MVA ICT#1 at Rourkela	10-08-2019	09:00	10-08-2019	13:00	ODB	ER-II/ODISHA/ROURKELA	ERECTION OF TERTIARY IPS TUBE AFTER PROVIDING INSULATION SLEEVES	GRIDCO	
201	Rengali main Bay (403) at Indravati	10-08-2019	08:00	10-08-2019	17:00	ODB	ER-II/Odisha /Indravati	To Replace the 400KV CT due to Oil Leakages.The power flow will be Interrupted in Indravati-Uihep Line Due to temporary shutdown of Uihep Main bay(412) at Indravati.		
202	765kV Sundergarh-darlipalli Ckt 2	10-08-2019	09:00	10-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	Quad to twin modification of jumper works and BPI erection works	NLDC	
203	400KV Sundergarh-Raigarh Ckt # 4	10-08-2019	08:00	10-08-2019	18:00	ODB	ER-II/ODISHA/SUNDERGAR	TL Maintenance works	NLDC	
204	220 KV OPTCL # 2 Main Bay (Bay No-207)	10-08-2019	08:00	10-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
205	400 kV 410 main Bay of Baripada-Pandiabili line	10-08-2019	09:00	11-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
206	400KV CHAIBASA- KHARAGPUR- 1 LINE	10-08-2019	09:30	10-08-2019	17:30	ODB	POWERGRID ER-I	BROKEN ISULATOR REPLACEMENT OF KGP1 Y PHASE WAVETRAP		
207	400 /220 KV ICT-II AT GAYA	10-08-2019	09:00	12-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
208	400 KV BUS-I AT GAYA S/S	10-08-2019	09:00	12-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
209	400KV MAIN BAY OF NEW SILIGURI LINE-1 AT KISHANGANJ	10-08-2019	09:00	10-08-2019	18:00	ODB	POWERGRID ER-I	AMP		
210	400 KV PUSAULI -BIHARSHARIF LINE-2	10-08-2019	09:00	15-08-2019	19:00	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS AT ROAD/RAIL/RIVER/POWER LINE CROSSINGS.		
211	400 KV PUSAULI-VARANASI LINE	10-08-2019	09:00	15-08-2019	19:00	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS AT ROAD/RAIL/RIVER/POWER LINE CROSSINGS.	NLDC	
212	400KV MAIN BAY BALLIA 4 AT PATNA	10-08-2019	10:00	10-08-2019	11:00	ODB	POWERGRID ER-I	CB DEW POINT MEASUREMENT		
213	400KV TIE BAY OF BARH 4 AND BALLIA 4 AT PATNA	10-08-2019	13:00	10-08-2019	14:00	ODB	POWERGRID ER-I	CB DEW POINT MEASUREMENT		
214	400KV MAIN BAY BARH 4 AT PATNA	10-08-2019	16:00	10-08-2019	17:00	ODB	POWERGRID ER-I	CB DEW POINT MEASUREMENT		
215	132 KV Ara(PG)-Jagdishpur S/C T/L	10-08-2019	09:00	10-08-2019	16:00	**ODB**	BSPTCL	For 2nd ckt stringing work of Ara(PG)-Jagdishpur T/L		1.Jagdishpur will avail power fron Ara 2. There will be load restriction of around 30-40 MW.
216	132 Kv Purnea(PG)-Kishanganj T/L	10-08-2019	08:00	31-08-2019	17:00	**OCB**	BSPTCL	For pile foundation , erection & stringing work on continous basis.		No Load Restriction
217	220KV Bus-II at Maithon	11-08-2019	09:00	12-08-2019	18:00	ODB	POWERGRID,ER-II	220kV Equipment erection work under ERSS-XX project work by M/s TBEA	DVC	
218	400 KV Farakka- Berhampur-II with Reactor	12-08-2019	09:00	13-08-2019	18:00	ODB	POWERGRID,ER-II	For balance protection scheme checking of bay-23 (Tie bay of 400 KV Fkk- Bhp-II and 400 KV Fkk- Khg-I) with respect with bay-24 & to carry out punch point works in TL.		400 KV Farakka- Kahalgaon-I is under shutdown for bay-upgradation work at NTPC Farakka.
219	400KV Maithon-Right Bank # 1	12-08-2019	08:00	26-08-2019	18:00	OCB	POWERGRID,ER-II	Re conductoring work	MPL	
220	400KV Bus Reactor -1 at Rajarhat	12-08-2019	08:00	12-08-2019	13:00	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 410 Main Bay and 409 Tie Bay)	WB	
221	315 MVA ICT#2 at Rourkela	12-08-2019	09:00	12-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF EXISTING OLD ICT PROTECTION RELAYS WITH NEW NUMERICAL RELAYS	GRIDCO	

222	400kV Angul-Bolangir Line	12-08-2019	09:00	12-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	NLDC	
223	220 kV Bus -I at Jeypore & 220 kV Bus Coupler CB(202 52)	12-08-2019	08:00	14-08-2019	18:00	OCB	ER-II/Odisha /Jeypore	For 30 Years old Isolator Retrofitting Works of Bus-I side Isolators of Jeynagar I, Jeynagar-2 & ICT-I & Bus Coupler Bay	GRIDCO	
224	765kV B/R -I at Sundargarh	12-08-2019	09:00	12-08-2019	14:00	ODB	ER-II/Odisha/Sundergarh	BPI ercetion works at T-point	NLDC	
225	Main bays 721& 724 Darmajayagar-I &II at Sundargarh	12-08-2019	09:00	17-08-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
226	Main bays 721& 724 Darmajayagar-I &II at Sundargarh	12-08-2019	09:00	17-08-2019	17:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
227	400KV Balangir-Angul Line with L/R at Balangir	12-08-2019	08:00	14-08-2019	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator		
228	400 kV 4034 Tie Bay of Baripada Line & Bus Reactor at Duburi SS	12-08-2019	09:00	12-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
229	400KV TISCO -BARIPADA	12-08-2019	09:30	12-08-2019	17:30	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT AT LOC 208	DVC	
230	400/220 KV 315 MVA ICT-2 AT MUZAFFARPUR	12-08-2019	09:30	14-08-2019	17:30	OCB	POWERGRID ER-I	OLTC OVERHAULING	BIHAR	
231	400 KV KAHALGAON - MAITHAN -2	12-08-2019	09:00	18-08-2019	17:00	ODB	POWERGRID ER-I	REPLACEMENT OF DEFECTED INSULATORS , DETECTED DURING PID TEST.		
232	400KV TIE BAY OF DALTONGANJ-1 & 500MVA ICT-1 AT SASARAM	12-08-2019	09:00	12-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
233	400/220KV 500MVA ICT -2 AT PATNA	12-08-2019	10:00	12-08-2019	14:00	ODB	POWERGRID ER-I	COMMISSIONING OF CSD OF TIE BAY OF ICT	BIHAR	DATE SHOULD NOT COINCIDE WITH ICT-I PATNA S/D
234	400kV Angul-Bolangir Line	12-08-2019	09:00	12-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	NLDC	
235	400KV Balangir-Angul Line with L/R at Balangir	12-08-2019	08:00	14-08-2019	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator	NLDC	
236	220kV Bus Coupler at Alipurduar	13-08-2019	07:00	13-08-2019	18:00	ODB	POWERGRID,ER-II	AMP work		
237	500 MVA ICT #1 at Maithon	13-08-2019	08:00	13-08-2019	18:00	ODB	POWERGRID,ER-II	1.On load testing of CSD & Replacement of MOG under ERSS-IX project work.	DVC	AFTER SHRABANI MELA(JHARKHAND)
238	400KV Bus Reactor -2 at Rajarhat	13-08-2019	14:00	13-08-2019	18:00	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 414 Main Bay and 413 Tie Bay)	WB	
239	220KV CESC CKT#2 (Bay No.203) at Powergrid,Subhasgram	13-08-2019	09:00	13-08-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	There will be no Power Interruption Only 203 Bay is under Shutdown. Power will Continue through 212 TBC.
240	400kV Angul-Meramunduli-1 Line	13-08-2019	09:00	13-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	GRIDCO	
241	315MVA ICT-II at Keonjhar	13-08-2019	09:00	13-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Retro fitting of Back up Impedance relay. S/D shall be taken if not availed in July'19.		
242	765kV B/R -II at Sundargarh	13-08-2019	09:00	12-08-2019	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
243	765 KV DC Sundargarh - Dharamjaygarh Ckt #3	13-08-2019	08:00	13-08-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	
244	220 KV OPTCL # 1 Main Bay (Bay No-208)	13-08-2019	08:00	13-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
245	400 kV 404 Main Bay of 80 MVAR Bus Reactor at Duburi SS	13-08-2019	09:00	13-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
246	400KV KTPP-Kharagpur#1	13-08-2019	06:00	13-08-2019	13:00	ODB	WBSETCL	Route clearance		

247	132 KV ARA DUMRAON	13-08-2019	10:00	13-08-2019	17:00	ODB	POWERGRID ER-I	DISTANCE RELAY REPLACEMENT DEPENDING UPON GE ENGINEER VISIT	BIHAR	
248	400 KV BUS-II AT GAYA S/S	13-08-2019	09:00	14-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
249	400 KV GAYA-NABINAGAR -1 LINE	13-08-2019	09:00	14-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
250	400KV MAIN BAY OF MUZAFFARPUR-2 AT NEW PURNEA.	13-08-2019	09:30	14-08-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB.		
251	400 KV NEW RANCHI-CHANDWA CKT- II	13-08-2019	08:00	13-08-2019	18:00	ODB		CHANGING OF FLASH OVER INSULATOR		
252	220KV BAY OF 400/220KV 500MVA ICT-1 AT SASARAM	13-08-2019	09:00	13-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
253	220KV BUS COUPLER BAY AT PATNA	13-08-2019	09:30	15-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE	BIHAR	
254	220KV MAIN BAY OF 400/220KV ICT -1 AT PATNA	13-08-2019	09:30	15-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE		
255	Farakka-Behrampore-I	13-08-2019	09:00	14-08-2019	17:00	**ODB**	FARAKKA	33,34 protection scheme check		
256	220 kv BSF-TTPS S/C T/L	13-08-2019	09:00	13-08-2019	16:00	**ODB**	BSPTCL	Line Maintainance work		consent from SLDC Ranchi & TTPS will be required
257	220KV NEWTOWN LINE (Bay No.205) at Powergrid,Subhasgram	14-08-2019	09:00	14-08-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	220KV NEWTOWN LINE will be under Shutdown on daily basis.
258	400kV Angul-Talcher Line	14-08-2019	09:00	14-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work		
259	315MVA ICT-I at Keonjhar	14-08-2019	09:00	14-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Retro fitting of Back up Impedance relay. S/D shall be taken if not availed in July'19.		
260	765kV Raipur-I at Sundargarh	14-08-2019	09:00	14-08-2019	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
261	765 KV DC Sundargarh - Dharamjaygarh Ckt #4	14-08-2019	08:00	14-08-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	
262	80 MVAR Bus Reactor at Duburi SS	14-08-2019	09:00	14-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA	AMP works		
263	132 KV ARA ARA (BSPTCL)	14-08-2019	10:00	14-08-2019	17:00	ODB	POWERGRID ER-I	DISTANCE RELAY REPLACEMENT DEPENDING UPON GE	BIHAR	
264	400 KV NEW RANCHI-CHANDWA CKT- I	14-08-2019	08:00	14-08-2019	18:00	ODB	POWERGRID ER-I	CHANGING OF FLASH OVER INSULATOR		
265	220KV BAY OF DEHRI AT SASARAM	14-08-2019	09:00	14-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
266	400KV BUS -I AT PATNA	14-08-2019	09:30	16-08-2019	17:30	ODB	POWERGRID ER-I	DISMANTLING AND ERECTION OF BUS ISOLATOR OF DIA OF PATNA NABINAGAR D/C	BIHAR	
267	400KV RBTPS-Ranchi 1&2	15-08-2019	08:00	16-08-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	MPL	
268	400 KV GAYA-NABINAGAR -2 LINE	15-08-2019	09:00	16-08-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
269	Biharsharif-Barhi (via Rajgir) 132kV line	15-08-2019	09:00	15-07-2019	17:00	**ODB**	BSPTCL	Reconductoring of Rajgir-Barhi section		1. Rajgir will avail power from BSF(SG) 2.S/D element is charged on no load from Barhi end
270	220KV KLC Bantala Line (Bay No.206) at Powergrid,Subhasgram	16-08-2019	09:00	16-08-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	220KV KLC Bantala Line will be under Shutdown on daily basis.
271	400 KV ROURKELA-TALCHER#1	16-08-2019	08:00	19-08-2019	18:00	ODB	ER-	INSULATOR REPLACEMENT WITH POLYMER INSULATOR		
272	400kV Angul-Meramunduli-2 Line	16-08-2019	09:00	16-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work	GRIDCO	
273	220KV Jeypore-JEYNAGAR-II Line	16-08-2019	08:00	16-08-2019	20:00	ODB	ER-II/Odisha /Jeypore	For 30 Years Old Line Isolator & TBC Isolator Retrofitting works of Jeynagar-II Bay	GRIDCO	
274	765kV Raipur-II at Sundargarh	16-08-2019	09:00	16-08-2019	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	

275	400KV Sundergarh-Raigarh Ckt #1	16-08-2019	08:00	16-08-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	
276	220 KV ICT # 1 Main Bay (Bay No-201)	16-08-2019	08:00	16-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
277	400 KV Rengali-Talcher Line # 1 in Non-Auto Mode	16-08-2019	08:00	23-08-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
278	400KV Balangir-Jeypore Line with L/R at both Balangir & Jeypore	16-08-2019	08:00	17-08-2019	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator		
279	400KV KTPP-Kharagpur#1	16-08-2019	06:00	16-08-2019	13:00	ODB	WBSETCL	Route clearance		
280	400KV Sundergarh-Raigarh Ckt #2	16-08-2019	08:00	31-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	For PID Testing of Porcelain Insulator. Only Auto reclose to be non auto mode.No Power interruption	NLDC	
281	400KV Sundergarh-Raigarh Ckt #4	16-08-2019	08:00	31-08-2019	18:00	ODB	ER-II/Odisha/Sundergarh	For PID Testing of Porcelain Insulator. Only Auto reclose to be non auto mode.No power interruption	NLDC	
282	400KV MAIN BAY OF 125MAVR BR-2 AT CHAIBASA	16-08-2019	09:30	16-08-2019	17:30	ODB	POWERGRID ER-I	AMP WORK		
283	400KV MAIN BAY OF 400/220KV 315MVA ICT-2 AT DALTANGANJ.	16-08-2019	09:30	16-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
284	765KV GAYA-BALIA LINE	16-08-2019	09:00	17-08-2019	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC	
285	400KV TIE BAY OF MUZ-2 & Kishanganj-1 AT NEW PURNEA.	16-08-2019	09:30	19-08-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB.		
286	400KV MAIN BAY OF CHANDWA-1 AT NEW RANCHI	16-08-2019	09:00	16-08-2019	17:00	ODB	POWERGRID ER-I	AMP		
287	400 KV KODERMA -BIHARSHARIF TL - 1	16-08-2019	08:00	17-08-2019	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMMAGED BY MISCREANTS	DVC	
288	400KV MAIN BAY OF ALLAHABAD AT SASARAM	16-08-2019	09:00	16-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
289	400KV MAIN BAY OF 400/220KV ICT -1 AT PATNA	16-08-2019	09:30	28-08-2019	17:30	OCB	POWERGRID ER-I	EQUIPMENT UPRATING UNDER SS03 PACKAGE FOR PATNA NABINAGAR BAY		
290	400KV MAIN BAY OF 400/220KV ICT -1 AT PATNA	16-08-2019	09:30	19-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II 3 PACKAGE		
291	400KV TIE BAY BALLIA 2 & BARH 2 AT PATNA	16-08-2019	09:30	18-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II PACKAGE		
292	400KV Balangir-Jeypore Line with L/R at both Balangir & Jeypore	16-08-2019	08:00	17-08-2019	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator	NLDC	
293	132KV Rangpo-Gangtok line	17-08-2019	09:00	17-08-2019	18:00	ODB	POWERGRID,ER-II	Line A/R implementation & conductor repairing in b/w loc 104 & 105	SIKKIM	
294	220KV PG(Maithon)-Dhanbad 1 &2	17-08-2019	08:00	18-08-2019	18:.00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	DVC	TO BE TAKEN AS DAILY BASIS UPTO 17:00HRS
295	Main bay of 400kv Maithon-MPL Ckt#2,(Bay no 406) at MPL	17-08-2019	08:00	23-08-2019	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
296	414 Tie Bay of 500 MVA ICT#5 and 400 KV Subhasgram Haldia Line-2 at Subhasgram SS	17-08-2019	09:00	19-08-2019	17:00	OCB	POWERGRID,ER-II	Pole Inspection of 414 Breaker		There will be no Power Interruption Only 414 Bay is under Shutdown
297	125MVAR BR & BR Main Bay (410)	17-08-2019	08:00	17-08-2019	17:00	ODB	ER-II/Odisha /Indravati	To Replace Terminal Box of PRD and AMP works of 125MVAR BR and BR Main Bay (410).The power flow will be Interrupt in Indravati-Uihep Line Due to temporary shutdow of Uihep Main bay(412) at Indravati.		
298	400kV Bus2 sectionalizer GIS Bay 425 at Sundargarh	17-08-2019	09:00	17-08-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP works	NLDC	
299	400KV Sundergarh-Raigarh Ckt # 3	17-08-2019	08:00	17-08-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	

300	400KV TIE BAY OF 315MVA ICT-2 AND FUTURE AT DALTANGANJ.	17-08-2019	09:30	17-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
301	765 KV BUS-I AT GAYA S/S	17-08-2019	09:00	17-08-2019	18:00	ODB	POWERGRID ER-I	FOR ATTENDIG CORONA DISCHARGE FROM BUS CONNECTOR.	NLDC	
302	400KV BUS 2 AT PATNA	17-08-2019	09:30	19-08-2019	17:30	ODB	POWERGRID ER-I	DISMANTLING AND ERECTION OF BUS ISOLATOR OF DIA OF PATNA NABINAGAR D/C	BIHAR	
303	132KV Rangpo-Chuzachen line	18-08-2019	09:00	18-08-2019	18:00	ODB	POWERGRID,ER-II	Line A/R implementation	CHUZACHEN	
304	220 KV Bus Sectionalize CB (205) at Durgapur	18-08-2019	09:00	18-08-2019	17:00	ODB	POWERGRID,ER-II	AMP works	DVC	
305	220KV Jeypore-JEYNAGAR-II Line	18-08-2019	10:00	18-08-2019	13:00	ODB	ER-II/Odisha /Jeypore	For Change over of Jeynagar Line from TBC CB to Jeynagar-II Bay(205 CB) after Isolator Retrofitting works of 30 Years old 205 89C (Jeynagar-II Line Isolator)	GRIDCO	
306	400KV Keonjhar-Rengali Line	18-08-2019	07:00	18-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Replacement of Porcelain insulator by Polymer insulators in NH crossing and attending SD nature defects. S/D shall be taken if not availed in July'19.		
307	765KV Bus-II at Sundargarh	18-08-2019	09:00	27-08-2019	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of SF6 to Air bushing of 765KV GIS bus sectionalizer, jumpering , HV & impulse testing for commissioning of 765KV GIS under construction head.	NLDC	
308	220 kV Bus-1 at Baripada	18-08-2019	09:00	18-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Isolator Alignment works	GRIDCO	
309	765 KV BUS-II AT GAYA S/S	18-08-2019	09:00	18-08-2019	18:00	ODB	POWERGRID ER-I	FOR ALIGNMENT OF BUS ISOLATOR.	NLDC	
310	400 KV KODERMA -BIHARSHARIF TL - 2	18-08-2019	08:00	19-08-2019	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMMAGED BY MISCREANTS	DVC	
311	400/220KV 500 MVA ICT 3 AT PATNA	18-08-2019	09:30	18-08-2019	13:30	ODB	POWERGRID ER-I	SWEEP TEST OF 220KV SIDE CT	BIHAR	
312	**400KV Kh-Barh#1**	18-08-2019	09:00	18-08-2019	17:30	**ODB**	**KAHALGAON**	**PM works and Relay testing**		
313	400/220kV 315 MVAICT -3 at Rangpo	19-08-2019	08:00	25-08-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work,		
314	220KV Birpara-Chukha Ckt-I	19-08-2019	08:00	19-08-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	
315	400kV Farakka-Sagardighi-1	19-08-2019	09:00	19-08-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	
316	220KV Maithon-Dumka 1 & 2	19-08-2019	08:00	20-08-2019	18:.00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	JSEB	
317	125 MVAR BUS REACTOR-I	19-08-2019	09:00	19-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	COMMISSIONING OF CSD IN ITS TIE BAY CB (42352 CB)		
318	63MVAr Bus Reactor at Jeypore	19-08-2019	09:00	19-08-2019	12:00	ODB	ER-II/Odisha /Jeypore	Installation & Commissioning of CSD (during SD period switch OFF & switch ON code is required for 03 times each for fine tuning of CSD)		
319	400KV Keonjhar-Baripada Line	19-08-2019	07:00	19-08-2019	18:00	ODB	ER-II/Odisha /Keonjhar	Replacement of Porcelain insulator by Polymer insulators in NH crossing and attending SD nature defects. S/D shall be taken if not availed in July'19.		
320	400kV Bus1 sectionalizer GIS Bay 426 at Sundargarh	19-08-2019	09:00	19-08-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
321	400KV MAIN BAY OF LAKHISARAI CKT 1 AT BIHARSHARIF	19-08-2019	09:00	19-08-2019	17:00	ODB	POWERGRID ER-I	AMP WORK		
322	400KV MAIN BAY OF SASARAM-I AT DALTANGANJ.	19-08-2019	09:30	19-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		

323	400KV TIE BAY OF CHANDWA-2 & FUTURE AT NEW RANCHI	19-08-2019	09:00	19-08-2019	17:00	ODB	POWERGRID ER-I	AMP		
324	400 KV RANCHI-SIPAT-1	19-08-2019	09:30	19-08-2019	17:00	ODB	POWERGRID ER-I	Replacement of defective CAPTHOR in FSC	NLDC	
325	400KV TIE BAY OF ALLAHABAD AND FUTURE AT SASARAM	19-08-2019	09:00	19-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
326	220 KV PATNA -SIPARA -3	19-08-2019	09:30	19-08-2019	17:30	ODB	POWERGRID ER-I	AMP	BIHAR	MAY BE TAKEN FROM 07:30 TO 14:30
327	**400KV FKK-Behrampore Line-2(main bay)**	19-08-2019	09:00	19-08-2019	17:00	**ODB**	**FARAKKA**	**CB and Relay test**		
328	220kv DMTCL(D)-Laukahi Trans. Line 02	19-08-2019	10:00	22-08-2019	17:00	**ODB**	BSPTCL	Maintenence work on daily basis		No Load Restriction
329	132KV Rangit-Kurseong Line	20-08-2019	08:00	21-08-2019	17:00	ODB	POWERGRID,ER-II	Sag adjustment due to hill sinking	WB	
330	220KV Birpara-Chukha Ckt-II	20-08-2019	08:00	20-08-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	
331	400kV Main Bay of Farakka-1 (Bay-409) at Baharampore	20-08-2019	09:00	20-08-2019	17:00	ODB	POWERGRID,ER-II	AMP		
332	402 Tie Bay of 315 MVA ICT#1 and 400 KV	20-08-2019	09:00	20-08-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 402 Bay		There will be no Power
333	132 KV CK RD-Birsingha CKT I & II	20-08-2019	07:00	21-08-2019	18:00	ODB	POWERGRID,Garbeta,ER II	POWER LINE CROSSING BETWEEN LOCATION NO. AP 13/0 TO AP 14/0 OF 765KV MEDINIPUR TO NEW JEERAT D/C TRANS. LINE NEAR VILLAGE KEYAGERIA CHANDRAKONA-II BLOCK, PASCHIM MEDINIPUR	WB	
334	400 KV ROURKELA-TALCHER#2	20-08-2019	08:00	23-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	INSULATOR REPLACEMENT WITH POLYMER INSULATOR WHICH ARE FOUND DEFECTIVE IN PID TEST AND ATTENDING DEFECTS NOTICED DURING CAMERA PATROLLING BY M/S SELIM.		
335	400kV Jeypore-Gazuwaka-I Line	20-08-2019	08:00	23-08-2019	16:00	ODB	ER-II/Odisha /Jeypore	For doing PID test(Auto Reclose Swiitch to be put into Non Auto mode at Jeypore & Gazuwaka end)	NLDC	
336	400kV GIS Main Bay 436 of ICT 3 at Sundargarh	20-08-2019	09:00	20-08-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
337	315MVA ICT-II at Balangir	20-08-2019	07:00	20-08-2019	18:00	ODB	ER-II/Odisha/Balangir	For Rectification of DC source mixing and replacement of damaged control cable.	GRIDCO	
338	400 kv Pandiabili- Mendhasal Line-1	20-08-2019	10:00	20-08-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	For jumper replacement of Y and B phase isolator to wave trap (many studs has been burnt)	GRIDCO	
339	132 kV Baripada-Bhograi Line 103 Bay	20-08-2019	09:00	20-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA	AMP works	GRIDCO	
340	400KV KTPP-New Chanditala#	20-08-2019	06:00	20-08-2019	13:00	ODB	WBSETCL	Route clearance		
341	132 KV ARA JAGDISHPUR	20-08-2019	10:00	20-08-2019	17:00	ODB	POWERGRID ER-I	DISTANCE RELAY REPLACEMENT DEPENDING UPON GE ENGINEER VISIT	BIHAR	
342	400KV TIE BAY OF 315MVA ICT-1 AND SASARAM-I AT DALTANGANJ.	20-08-2019	09:30	20-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
343	400KV MAIN BAY OF 125MVAR B/R-1 AT NEW PURNEA.	20-08-2019	09:30	22-08-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB.		
344	400 KV RANCHI-SIPAT-2	20-08-2019	09:30	20-08-2019	17:00	ODB	POWERGRID ER-I	Replacement of defective CAPTHOR in FSC	NLDC	
345	400KV MAIN BAY OF BALIA LINE-1 AT PATNA	20-08-2019	09:30	22-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II PACKAGE		
346	400kV Koderma-BTPS-A Ckt#1(bay-409)	20-08-2019	10:00	31-08-2019	17:00	**OCB**	DVC	for attending gas leakage issues on GD-6Y section		
347	400kV Jeypore-Gazuwaka-I Line	20-08-2019	08:00	23-08-2019	16:00	ODB	ER-II/Odisha /Jeypore	For doing PID test(Auto Reclose Swiitch to be put into Non Auto mode at Jeypore & Gazuwaka end)	NLDC	
348	Farakka-Sagardighi-II	20-08-2019	09:00	20-08-2019	17:00	**ODB**	FARAKKA	CT+CB+Relay Test	WB	
349	400KV BINAGURI-Bongaigaon-1 Main bay 412 at Binaguri	21-08-2019	10:00	10-09-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX		
350	400KV BINAGURI-Bongaigaon-1 Main bay 415 at Binaguri	21-08-2019	10:00	10-09-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX		
351	220 KV Birpara-New Siliguri Ckt-I	21-08-2019	08:00	21-08-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
352	400kV 125 MVAR Reactor at Berhampore	21-08-2019	09:00	21-08-2019	17:00	ODB	POWERGRID,ER-II	Balance Construction Activity		
353	405 Tie Bay of 315 MVA ICT#2 and 400 KV	21-08-2019	09:00	21-08-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 405 Bay		There will be no Power
354	220 KV BUS I at Rourkela	21-08-2019	09:00	21-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR DISMANTLING OF JUMPERS OF SPARE FEEDERS	GRIDCO	

355	400kV GIS tie bay no. 437 of ICT3 & OPGC 2 at Sundargarh	21-08-2019	09:00	21-08-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
356	220 KV ICT # 2 Main Bay (Bay No-202)	21-08-2019	08:00	24-08-2019	17:00	OCB	ER-II/Odisha/Rengali	CB Pole Overhauling & MOM Box Retrofitting		
357	315MVA ICT-I at Balangir	21-08-2019	09:00	21-08-2019	18:00	ODB	ER-II/Odisha/Balangir	For Rectification of DC source mixing and replacement of damaged control cable.	GRIDCO	
358	Replacement of DGA Violated CTs with new GE make CTs.	21-08-2019	06:00	21-08-2019	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of AC Filter 1 Bay (10C06A-T1) on continuous basis for replacement of DGA violated CTs with new GE make CTs. There shall be no interruption of Powerflow & all the Filter Banks shall remain in Sevice during above conditions.		
359	132 KV MAIN BUS AT ARA	21-08-2019	09:00	21-08-2019	13:00	ODB	POWERGRID ER-I	132 KV MAIN BUS R PHASE CVT REPLACEMENT DUE TO SECONDARY VOLTAGE VIOLATION. ALL 132KV LINE WILL BE OUT OF SERVICE.	BIHAR	
360	400KV MAIN BAY OF 400/220KV 315MVA ICT-1 AT DALTANGANJ.	21-08-2019	09:30	21-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
361	400KV L/R OF VARANASI -S/C AT SASARAM	21-08-2019	09:00	21-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
362	Replacement of DGA Violated CTs with new GE make CTs.	21-08-2019	06:00	21-08-2019	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of AC Filter 1 Bay (10C06A-T1) on continuous basis for replacement of DGA violated CTs with new GE make CTs. There shall be no interruption of Powerflow & all the Filter Banks shall remain in Sevice during above conditions.		
363	220 KV Birpara-New Siliguri Ckt-II	22-08-2019	08:00	22-08-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
364	400kV 80MVAR Reactor at Berhampore	22-08-2019	09:00	22-08-2019	17:00	ODB	POWERGRID,ER-II	AMP		
365	132KV S/C Maithan Hydel - Jamtara	22-08-2019	08:00	23-08-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	DVC	
366	401 Main Bay of Subhasgram Sagardighi Line at Subhasgram SS	22-08-2019	09:00	22-08-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 401 Bay		There will be no Power Interruption Only 401 Bay is
367	Bus bar-1 at Indravati	22-08-2019	08:00	22-08-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works of Bus-1		
368	400kV GIS Main Bay 438 of OPGC-2 at Sundargarh	22-08-2019	09:00	22-08-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
369	Main bays 719& 722 of Darlipalii -I & II at Sundargarh	22-08-2019	09:00	27-08-2019	17:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
370	201 bay 220KV Baripada-Balasore Line -1	22-08-2019	09:00	12-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
371	400KV KTPP-New Chanditala#	22-08-2019	06:00	22-08-2019	13:00	ODB	WBSETCL	Route clearance		
372	400KV MAIN BAY OF SASARAM-II AT DALTANGANJ.	22-08-2019	09:30	22-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
373	400KV MAIN BAY OF CHANDWA-2 (BAY NO -430) AT NEW RANCHI	22-08-2019	09:00	22-08-2019	17:00	ODB	POWERGRID ER-I	AMP		
374	400KV MAIN BAY OF VARANASI (NORTH) AT SASARAM	22-08-2019	09:00	22-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
375	400KV BUS -I AT PATNA	22-08-2019	09:30	23-08-2019	17:30	ODB	POWERGRID ER-I	JUMPER CONNECTION OF BUS ISOLATOR AND BUS STABILITY	BIHAR	
376	Line reactor#2	22-08-2019	09:00	23-08-2019	17:00	**ODB**	FARAKKA	Reactor Testing		
377	404 Main Bay of Subhasgram Rajarhat Line	23-08-2019	09:00	23-08-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 404 Bay		There will be no Power
378	220 KV BUS II at Rourkela	23-08-2019	09:00	23-08-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR DISMANTLING OF JUMPERS OF SPARE FEEDERS	GRIDCO	
379	765kV Bus Reactor 2 Main Bay 712 at Angul SS	23-08-2019	09:00	23-08-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
380	Bus bar-2 at Indravati	23-08-2019	08:00	23-08-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works of Bus-2		
381	400KV side Main bay(435) & Tie Bay (434) of	23-08-2019	09:00	28-08-2019	17:00	OCB	ER-	For Earth Switch Cleaning excersice and ICT4 commg.		
382	400kV OPGC-1 Line (433 Main bays)	23-08-2019	09:00	25-08-2019	17:00	OCB	ER-	For 1 complete bay E/Sw cleaning & CRM testing, One		
383	10152- 132KV Jaleswar Line Main bay	23-08-2019	09:00	23-08-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	

384	400KV BUS- 1 AT CHAIBASA	23-08-2019	09:30	23-08-2019	17:30	ODB	POWERGRID ER-I	AMP WORK	JSEB	
385	400KV TIE BAY OF B/R-I AND SASARAM-II AT DALTANGANJ	23-08-2019	09:30	23-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
386	400KV L/R OF MUZ-2 AT NEW PURNEA.	23-08-2019	09:30	26-08-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB.		
387	400 KV NEW RANCHI-RANCHI CKT-3.	23-08-2019	08:00	23-08-2019	18:00	ODB	POWERGRID ER-I	REPAIR OF DAMAGED CONDUCTOR AT POWERLINE X-ING AT LOC 53-54		DETAIL WORKING PLAN TO BE FURNISHED ALONG WITH DIAGRAM
388	400 KV NEW RANCHI-RANCHI CKT-4.	23-08-2019	08:00	23-08-2019	18:00	ODB	POWERGRID ER-I	REPAIR OF DAMAGED CONDUCTOR AT POWERLINE X-ING AT LOC 53-54		DETAIL WORKING PLAN TO BE FURNISHED ALONG WITH DIAGRAM
389	400 RANCHI-MAITHAN CKT-I	23-08-2019	08:00	23-08-2019	18:00	ODB	POWERGRID ER-I	REPAIR OF DAMAGED CONDUCTOR AT POWERLINE X-ING AT LOC 53-54		DETAIL WORKING PLAN TO BE FURNISHED ALONG WITH DIAGRAM
390	400 KV RANCHI-RAGHUNATHPUR CKT-I	23-08-2019	08:00	23-08-2019	18:00	ODB	POWERGRID ER-I	REPAIR OF DAMAGED CONDUCTOR AT POWERLINE X-ING AT LOC 53-54		DETAIL WORKING PLAN TO BE FURNISHED ALONG WITH DIAGRAM
391	400 KV NEW RANCHI-RANCHI CKT-1.	23-08-2019	08:00	23-08-2019	18:00	ODB	POWERGRID ER-I	REPAIR OF DAMAGED CONDUCTOR AT POWERLINE X-ING AT LOC 53-54		DETAIL WORKING PLAN TO BE FURNISHED ALONG WITH DIAGRAM
392	400 KV NEW RANCHI-RANCHI CKT-2.	23-08-2019	08:00	23-08-2019	18:00	ODB	POWERGRID ER-I	REPAIR OF DAMAGED CONDUCTOR AT POWERLINE X-ING AT LOC 53-54		DETAIL WORKING PLAN TO BE FURNISHED ALONG WITH DIAGRAM
393	400KV TIE BAY OF VARANASI AND FUTURE (NORTH) AT SASARAM	23-08-2019	09:00	23-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
394	400KV MAIN BAY OF 400/220KV ICT -2 AT PATNA	23-08-2019	09:30	25-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE		
395	400KV Maithon - Mejia# 1 Line	24-08-2019	08:00	25-08-2019	18:00	ODB	POWERGRID,ER-II	1. Rectification of Line Defects Observed by CC . 2. 1st line CT oil sampling as per Powergrid norms.	DVC	
396	400 KV Subhasgram Rajarhat Line	24-08-2019	09:00	24-08-2019	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting & Testing	WB	400 KV Subhasgram Rajarhat Line will be under Shutdown on
397	400kV Jeypore-Gazuwaka-II Line	24-08-2019	08:00	27-08-2019	16:00	ODB	ER-II/Odisha /Jeypore	For doing PID test(Auto Reclose Swiitch to be put into Non Auto mode at Jeypore & Gazuwaka end)	NLDC	
398	400 KV Rengali-Talcher Line # 2 in Non-Auto Mode	24-08-2019	08:00	31-08-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
399	400KV BUS- 2 AT CHAIBASA	24-08-2019	09:30	24-08-2019	17:30	ODB	POWERGRID ER-I	AMP WORK	JSEB	
400	400KV MAIN BAY OF 80MVAR B/R AT DALTANGANJ.	24-08-2019	09:30	24-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
401	400KV BUS 2 AT PATNA	24-08-2019	09:30	25-08-2019	17:30	ODB	POWERGRID ER-I	JUMPER CONNECTION OF BUS ISOLATOR AND BUS STABILITY	BIHAR	
402	400kV Jeypore-Gazuwaka-II Line	24-08-2019	08:00	27-08-2019	16:00	ODB	ER-II/Odisha /Jeypore	For doing PID test(Auto Reclose Swiitch to be put into Non	NLDC	
403	132 KV MALDA-WBSETCL-I	25-08-2019	08:00	25-08-2019	17:00	ODB	POWERGRID,ER-II	O/C Relay retrofitting	WB	
404	400 KV Jeerat Sagardighi Line	25-08-2019	09:00	26-08-2019	17:00	ODB	POWERGRID,ER-II	A/R relay Testing in 400 KV Jeerat Sagardighi Line and Live line defects attending and defective isulator replacement in line..	WB	400 KV Jeerat Sagardighi Line will be under Shutdown on daily basis.
405	220kv DMTCL(D) -Motipur ckt 01	25-08-2019	09:00	25-08-2019	14:00	**ODB**	BSPTCL	For relay& protection test in PLCC panel.		No Load Restriction
406	220kv DMTCL(D) -Motipur ckt 02	25-08-2019	14:30	25-08-2019	18:30	**ODB**	BSPTCL	For relay& protection test in PLCC panel.		No Load Restriction
407	132 KV MALDA-WBSETCL-II	26-08-2019	08:00	26-08-2019	17:00	ODB	POWERGRID,ER-II	O/C Relay retrofitting	WB	
408	400kV Berhampore-Sagardighi-Line 1	26-08-2019	09:00	26-08-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	
409	400KV Maithon - Mejia#2 Line	26-08-2019	08:00	27-08-2019	18:00	ODB	POWERGRID,ER-II	Rectification of line Defects Observed by CC	DVC	
410	500MVA ICT-1 at Rajarhat	26-08-2019	08:00	26-08-2019	13:00	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 403 Main Bay and 402 Tie Bay)	WB	
411	220KV SIDE BAY OF 220/132KV 160MVA ATR-	26-08-2019	09:30	26-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
412	315 MVA ICT-1 AT RANCHI	26-08-2019	09:30	29-08-2019	17:00	OCB	POWERGRID ER-I	Replacement of 01 No 220 KV (Y-Ph) & 2 Nos 33 KV (R & Y Ph) Bushings	JSEB	
413	400KV TIE BAY OF NABINAGAR-1 & FUTURE	26-08-2019	09:00	26-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
414	400KV MAIN BAY OF BARH-II AT PATNA	26-08-2019	09:30	28-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II PACKAGE		
415	400KV TIE BAY OF OF BALLIA 1 & BARH -2 AT PATNA	26-08-2019	09:30	27-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II PACKAGE		
416	**400KV FKK-Kahalgaon Line-3**	26-08-2019	09:00	27-08-2019	17:00	**ODB**	**FARAKKA**	**CB and Relay test**		
417	125MVAR BR- I at Alipurduar	27-08-2019	07:00	29-08-2019	18:00	OCB	POWERGRID,ER-II	Oil leakage (from PRD & Main tank joint) and Air Cell rectification		
418	220KV Dalkhola-Malda-I	27-08-2019	09:00	27-08-2019	17:00	ODB	POWERGRID,ER-II	For LA R-Ph base Insulator Replacement	WB	
419	400kV Berhampore-Sagardighi-Line 2	27-08-2019	09:00	27-08-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	
420	400KV Maithon-Right Bank # 2	27-08-2019	08:00	10-09-2019	18:00	OCB	POWERGRID,ER-II	Re conductoring work	MPL	

421	400 KV Talcher # 2 Main Bay (Bay No-403)	27-08-2019	08:00	27-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
422	Replacement of DGA Violated CTs with new GE make CTs.	27-08-2019	06:00	27-08-2019	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of AC Filter 1 Bay (10C06C-T1) on continuous basis for replacement of DGA violated CTs with new GE make CTs. There shall be no interruption of Powerflow & all the Filter Banks shall remain in Sevice during above conditions.		
423	400KV KTPP-Kharagpur#2	27-08-2019	06:00	27-08-2019	13:00	ODB	WBSETCL	Route clearance		
424	220KV SIDE BAY OF 220/132KV 160MVA ATR-II AT DALTANGANJ.	27-08-2019	09:30	27-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
425	400KV MAIN BAY OF 80 MVAR BUS REACTOR-I AT LAKHISARAI	27-08-2019	09:30	27-08-2019	17:30	ODB	POWERGRID ER-I	FOR CONSTRUCTION OF FIRE WALL OF NEW ICT-III		
426	400KV TIE BAY OF MLD-2 & 125MVAR B/R-1 AT NEW PURNEA.	27-08-2019	09:30	29-08-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB.		
427	400KV MAIN BAY OF NABINAGAR-2 AT SASARAM	27-08-2019	09:00	27-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
428	Replacement of DGA Violated CTs with new GE make CTs.	27-08-2019	06:00	27-08-2019	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of AC Filter 1 Bay (10C06C-T1) on continuous basis for replacement of DGA violated CTs with new GE make CTs. There shall be no interruption of Powerflow & all the Filter Banks shall remain in Sevice during above conditions.		
429	220KV Dalkhola-Malda-II	28-08-2019	09:00	28-08-2019	17:00	ODB	POWERGRID,ER-II	For replacemet between Line side Conductor & BPI(String damaged)	WB	
430	400 KV Subhasgram Sagardighi Line.	28-08-2019	09:00	29-08-2019	17:00	ODB	POWERGRID,ER-II	VT Selection work, A/R relay retrofitting & testing and Live line defects attending and defective isulator replacement in line.	WB	SUBJECT TO WBSEB CONSENT
431	Jeypore-Gazuwaka-II FSC Bay	28-08-2019	08:00	28-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of Jeypore-Gazuwaka-II FSC	NLDC	
432	765kV GIS BUS-I along with AIS section of	28-08-2019	09:00	29-08-2019	17:00	OCB	ER-	for 765KV GIS and 765KV ICT-3&4 commissioning work	NLDC	
433	220KV SIDE BAY OF 400/220KV 315MVA ICT-I AT DALTANGANJ.	28-08-2019	09:30	28-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
434	400 KV NEW CHANDWA- GAYA CKT- I	28-08-2019	08:00	28-08-2019	18:00	ODB	POWERGRID ER-I	CHANGING OF FLASH OVER INSULATOR		
435	400KV TIE BAY OF NABINAGAR-2 & DALTONGANJ-2 AT SASARAM	28-08-2019	09:00	28-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
436	Jeypore-Gazuwaka-II FSC Bay	28-08-2019	08:00	28-08-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of Jeypore-Gazuwaka-II FSC	NLDC	
437	63MVAr Bus Reactor & 125 MVAr Bus Reactor	29-08-2019	09:00	29-08-2019	13:00	ODB	ER-II/Odisha /Jeypore	For carrying out Thermovision of MSR 1 & 2 (Switch OFF code for 125MVAr BR & 63MVAr BR may required for taking MSR into service and rfor changing of voltage setting)		
438	400 KV Talcher # 1 Main Bay (Bay No-404)	29-08-2019	08:00	29-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
439	400kv Kharagpur-Baripada S/C	29-08-2019	06:00	29-08-2019	17:00	ODB	WBSETCL	Route clearance		
440	220KV SIDE BAY OF 400/220KV 315MVA ICT-II AT DALTANGANJ.	29-08-2019	09:30	29-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
441	400 KV NEW CHANDWA- GAYA CKT- II	29-08-2019	08:00	29-08-2019	18:00	ODB	POWERGRID ER-I	CHANGING OF FLASH OVER INSULATOR		
442	400KV MAIN BAY OF BALIA LINE-2 AT PATNA	29-08-2019	09:30	31-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER SS03 PACKAGE		
443	400KV MAIN BAY OF BARH-1 AT PATNA	29-08-2019	09:30	30-08-2019	17:30	OCB	POWERGRID ER-I	CB OVERHAULING & BCU UPDRATION WORKS UNDER Nabinagar - II PACKAGE		
444	Bus reactor#1	29-08-2019	09:00	30-08-2019	17:00	**ODB**	FARAKKA	CB+Reactor testing		

445	765kV GIS BUS-II along with AIS section of Darlipalli -I & II Main Bays	30-08-2019	09:00	31-08-2019	17:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
446	400kv Kharagpur-KTPP#1	30-08-2019	06:00	30-08-2019	17:00	ODB	WBSETCL	Route clearance		
447	220KV BUS COUPLER BAY AT DALTANGANJ.	30-08-2019	09:30	30-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
448	765KV GAYA-VARANASI-2 LINE	30-08-2019	09:00	31-08-2019	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC	
449	400KV MAIN BAY OF KISHANGANJ-1 AT NEW PURNEA.	30-08-2019	09:30	30-08-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF R-PHASE PIR TO ATTENTD THE SF6 LEAKAGE.		
450	400KV MAIN BAY OF DALTONGANJ-2 AT SASARAM	30-08-2019	09:00	30-08-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
451	400 KV Rajarhat Jeerat Line	31-08-2019	09:00	31-08-2019	17:00	ODB	POWERGRID,ER-II	A/R relay retrofitting & testing	WB	400 KV Rajarhat Jeerat Line will be under Shutdown on daily basis.
452	400 KV Talcher # 1 Tie Bay (Bay No-407)	31-08-2019	08:00	31-08-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
453	132KV SIDE BAY OF 220/132KV 160MVA ATR-II AT DALTANGANJ.	31-08-2019	09:30	31-08-2019	17:30	ODB	POWERGRID ER-I	BAY AMP		
454	400KV BUS SECTION-I at Durgapur alongwith Bus-I & III	23-07-2019	10:00	24-07-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
455	400KV BUS SECTION-II at Durgapur alongwith Bus-II & Bus-IV	25-07-2019	10:00	26-07-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
456	400KV BUS SECTION-I at Durgapur alongwith Bus-I & III	29-07-2019	10:00	29-07-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
457	400KV BUS SECTION-II at Durgapur alongwith Bus-II & Bus-IV	30-07-2019	10:00	30-07-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
458	400KV BUS SECTION-I at Maithan alongwith Bus-I & III	06-08-2019	10:00	07-08-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
459	400KV BUS SECTION-II at Maithan alongwith Bus-II & IV	08-08-2019	10:00	09-08-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
460	400KV BUS SECTION-I at Maithan alongwith Bus-I & III	12-08-2019	10:00	12-08-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		
461	400KV BUS SECTION-II at Maithan alongwith Bus-II & IV	13-08-2019	10:00	13-08-2019	17:00	ODB	POWERGRID,ER-II	NTAMC INTEGRATION AND SIGNAL VALIDATION WORK OF BUS SECTION		

TRANSMISSION ELEMENTS OUTAGE DEFFERED IN 159th OCC MEETING OF ERPC

SL. No	NAME OF THE ELEMENTS	DATE	TIME	DATE	TIME	REMARKS	S.D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY
1	±800kV HVDC Biswanathchariali - Alipurduar Line 1&2 (Aliprduar - Biswanath Chariali Section)	17-07-2019	06:00	21-07-2019	18:00	OCB	POWERGRID,N	De-stringing of existing line & Crossing of existing line between T.Loc. No.3472-3473 by diverted line section (AP16--- AP17) and connecting new diverted section at Tower No -3451 & 3474 to existing line due to Diversion	AFTER HIGH HYDRO
2	220 KV Bus #1 with Siliguri #1, ICT#1, Birpara#1 & Bus Section-I at Binaguri	01-08-2019	09:00	01-08-2019	17:00	ODB	POWERGRID,E	Commissioning of Bus #1 Bus bar protection for ICT#3 ERSS-XVII	AFTER HIGH HYDRO
3	400KV BINAGURI-RANGPO-1 Main bay 410 at Binaguri	01-08-2019	10:00	20-08-2019	18:00	OCB	POWERGRID,E	TBEA Bay upgradation work under ERSS-XX	AFTER HIGH HYDRO
4	400KV BINAGURI-RANGPO-2 Main bay 413 at Binaguri	01-08-2019	10:00	20-08-2019	18:00	OCB	POWERGRID,E	TBEA Bay upgradation work under ERSS-XX	AFTER HIGH HYDRO
5	400KV Bus#1 at Binaguri	01-08-2019	10:00	01-08-2019	12:00	ODB	POWERGRID,E	Removal of Jumper between Bus-I to 410 & 413 bays for isolating the bays from Bus-1 and to commence bay upgradation works under ERSS-XX	AFTER HIGH HYDRO
6	400KV BINAGURI-RANGPO-1 line	01-08-2019	12:00	01-08-2019	15:00	ODB	POWERGRID,E	Removal of Jack bus dropper on main and tie Bay (410 & 411 respectively) inter connector (Rigid Bus pipe) to isolate 410 bay and connecting the same on 411bay Isolator under ERSS-XX	AFTER HIGH HYDRO
7	400KV BINAGURI-RANGPO-2 line	01-08-2019	15:00	01-08-2019	18:00	ODB	POWERGRID,E	Removal of Jack bus dropper on main and tie Bay (413 & 414 respectively) inter connector (Rigid Bus pipe) to isolate 413 bay and connecting the same on 414bay Isolator under ERSS-XX	AFTER HIGH HYDRO
8	40kkV D/C Binaguri - Bongaigaon (Twin) Line (POWERGRID)	01-08-2019	06:00	04-08-2019	18:00	ODB	POWERGRID,E	Stringing work of overhead crossing (in beteeen loc no 273-274) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	AFTER HIGH HYDRO
9	400KV TBC at Malda	01-08-2019	08:00	31-08-2019	17:00	OCB	POWERGRID,E	ERSS-XVII-B Constructional work	AFTER HIGH HYDRO
10	400/220 KV 315 MVA ICT-3 at Malda Substation(associated Bays 403 and 205)	01-08-2019	08:00	30-09-2019	17:00	OCB	POWERGRID,E	ERSS-XVII-B Constructional work	AFTER HIGH HYDRO
11	220KV NPRN- PRN CKT-I	01-08-2019	09:30	10-08-2019	18:00	OCB	POWERGRID E	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	AFTER HIGH HYDRO
12	220 KV Bus #2 with Siliguri #2, ICT#2, Birpara#2 & Bus Section-II at Binaguri	02-08-2019	09:00	02-08-2019	17:00	ODB	POWERGRID,E	Commissioning of Bus #2 Bus bar protection for ICT#3 ERSS-XVII	AFTER HIGH HYDRO
13	400KV Bus#1 at Binaguri	04-08-2019	09:00	05-08-2019	17:00	ODB	POWERGRID,E	Connection between SF6 to Air (GIS) Bushing and 400KV Bus#1 and to check bus stability ERSS-XVII	AFTER HIGH HYDRO

14	220KV Siliguri Kishanganj Ckt-1	05-08-2019	09:00	06-08-2019	17:00	ODB	POWERGRID,E	For retrofitting of Numerical Distance(M-I) relay, refurbishment of Numerical A/R relay.	AFTER HIGH HYDRO
15	400kV NEW PURNEA- MALDA-1	05-08-2019	09:30	05-08-2019	18:00	ODB	POWERGRID E	FOR REPLACEMENT OF Y-PHASE CVT DUE TO SECONDARY VOLTAGE DRIFT.	AFTER HIGH HYDRO
16	400KV Bus#2 at Binaguri	06-08-2019	09:00	07-08-2019	17:00	ODB	POWERGRID,E	Connection between SF6 to Air (GIS) Bushing and 400KV Bus#2 and to check bus stability ERSS-XVII	AFTER HIGH HYDRO
17	400kV D/C Alipurduar - Binaguri (QUAD) Line (STERLITE)	07-08-2019	06:00	10-08-2019	18:00	ODB	POWERGRID,E	Stringing work of overhead crossing (in beteeen loc no 292-293) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	AFTER HIGH HYDRO
18	400KV BINAGURI-Purnia-I	08-08-2019	10:00	08-08-2019	17:00	ODB	POWERGRID,E	Line defect rectification work	AFTER HIGH HYDRO
19	220KV Siliguri Kishanganj Ckt-2	08-08-2019	09:00	09-08-2019	17:00	ODB	POWERGRID,E	For retrofitting of Numerical Distance(M-I) relay, refurbishment of Numerical A/R relay.	AFTER HIGH HYDRO
20	400KV NEW PURNEA.- SILIGURI CKT-1	08-08-2019	09:30	08-08-2019	18:00	ODB	POWERGRID E	FOR REPLACEMENT OLD DISTANCE RELAY(EPAC) WITH NEW MICOMP44 RELAY.	AFTER HIGH HYDRO
21	400KV BINAGURI-Purnia-II	09-08-2019	10:00	09-08-2019	17:00	ODB	POWERGRID,E	Line defect rectification work	AFTER HIGH HYDRO
22	400KV NEW PURNEA.- SILIGURI CKT-2	09-08-2019	09:30	09-08-2019	18:00	ODB	POWERGRID E	FOR REPLACEMENT OLD DISTANCE RELAY(EPAC) WITH NEW MICOMP44 RELAY.	AFTER HIGH HYDRO
23	220kV NEW PURNEA-PURNEA-1	10-08-2019	09:30	10-08-2019	18:00	ODB	POWERGRID E	FOR REPLACEMENT OF R-PHASE CVT DUE TO SECONDARY VOLTAGE DRIFT.	AFTER HIGH HYDRO
24	220KV Siliguri Binaguri Ckt-1	12-08-2019	09:00	12-08-2019	17:00	ODB	POWERGRID,E	Retrofiting of numerical A/R relay	AFTER HIGH HYDRO
25	220KV Siliguri Binaguri Ckt-2	13-08-2019	09:00	13-08-2019	17:00	ODB	POWERGRID,E	Retrofiting of numerical A/R relay	AFTER HIGH HYDRO
26	400MLD-PRN-II at Malda	16-08-2019	08:00	17-08-2019	17:00	ODB	POWERGRID,E	A/R Retrofitting, 2 no Dead Tank CT replacement.	AFTER HIGH HYDRO
27	400KV BUS-II at Malda	16-08-2019	08:00	17-08-2019	17:00	OCB	POWERGRID,E	Bus Isolator rectification work of 406-89M2 isolator and ICT-5 89M2 isolator.	AFTER HIGH HYDRO
28	400/220 KV ICT-5 at Malda	16-08-2019	08:00	17-08-2019	17:00	ODB	POWERGRID,E	Recctification of 89M2 isolator(Y PH).	AFTER HIGH HYDRO

29	220KV NPRN- PRN CKT-II	16-08-2019	09:30	26-08-2019	18:00	OCB	POWERGRID E	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	AFTER HIGH HYDRO
30	400KV Malda-New Purnea-I	18-08-2019	09:00	19-08-2019	17:00	ODB	POWERGRID,E	A/R RELAY RETROFITTING,S/D required for rectification of OPGW Peak Bend	AFTER HIGH HYDRO
31	400KV BUS-I at Malda	18-08-2019	08:00	18-08-2019	17:00	ODB	POWERGRID,E	Isolator rectification work of 405-89M1 .	AFTER HIGH HYDRO
32	±800kV HVDC Biswanathchariali - Alipurduar Line 1&2 (Aliprduar - Biswanath Chariali Section)	19-08-2019	06:00	21-08-2019	18:00	ODB	POWERGRID,E	Stringing work of overhead crossing (in beteeen loc no 8-9 of Alipurduar BNC Section) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	AFTER HIGH HYDRO
33	400KV Bus#1 at Binaguri	20-08-2019	10:00	20-08-2019	12:00	ODB	POWERGRID,E	Jumper connection between Bus-I to 410 & 413 bays after completion of bay upgradation works on 410 & 413 main bays under ERSS-XX	AFTER HIGH HYDRO
34	400KV BINAGURI-RANGPO-1 line	20-08-2019	12:00	20-08-2019	15:00	ODB	POWERGRID,E	Removal of jumper on 411bay isolator and connecting the same on main and tie bay (410 & 411 respectively) inter connector (Rigid Bus pipe) after completion of bay upgradation works on 410 main bay under ERSS-XX	AFTER HIGH HYDRO
35	400KV BINAGURI-RANGPO-2 line	20-08-2019	15:00	20-08-2019	18:00	ODB	POWERGRID,E	Removal of jumper on 414bay isolator and connecting the same on main and tie bay (413 & 414 respectively) inter connector (Rigid Bus pipe) after completion of bay upgradation works on 413 main bay under ERSS-XX	AFTER HIGH HYDRO
36	400KV Bus#2 at Binaguri	21-08-2019	10:00	21-08-2019	12:00	ODB	POWERGRID,E	Removal of Jumper between Bus-I to 412 & 415 bays for isolating the bays from Bus-2 and to commence bay upgradation works under ERSS-XX	AFTER HIGH HYDRO
37	400KV BINAGURI-Bongaigaon-1 line	21-08-2019	12:00	21-08-2019	15:00	ODB	POWERGRID,E	Removal of Jack bus dropper on main and tie Bay (412 & 411 respectively) inter connector (Rigid Bus pipe) to isolate 412 bay and connecting the same on 411bay Isolator under ERSS-XX	AFTER HIGH HYDRO
38	400KV BINAGUR-Bongaigaon-2 line	21-08-2019	15:00	21-08-2019	18:00	ODB	POWERGRID,E	Removal of Jack bus dropper on main and tie Bay (415 & 414 respectively) inter connector (Rigid Bus pipe) to isolate 415 bay and connecting the same on 414bay Isolator under ERSS-XX	AFTER HIGH HYDRO
39	400KV BINAGURI-Bongaigoan-I	21-08-2019	10:00	21-08-2019	15:00	ODB	POWERGRID,E	Commissioning of TWFL (Travelling wave fault locator)	AFTER HIGH HYDRO
40	400KV BINAGURI-Bongaigoan-II	22-08-2019	10:00	22-08-2019	15:00	ODB	POWERGRID,E	Commissioning of TWFL (Travelling wave fault locator)	AFTER HIGH HYDRO
41	400 KV Malda-Farakka -1	22-08-2019	08:00	22-08-2019	17:00	ODB	POWERGRID,E	Auto Reclose Relay retrofitting .	AFTER HIGH HYDRO
42	400 KV Malda-Farakka -2	23-08-2019	08:00	23-08-2019	17:00	ODB	POWERGRID,E	Auto Reclose Relay retrofitting .	AFTER HIGH HYDRO
43	400KV Bus#2 at Binaguri	30-08-2019	10:00	30-08-2019	12:00	ODB	POWERGRID,E	Jumper connection between Bus-I to 412 & 415 bays after completion of bay upgradation works on 412 & 415 main bays under ERSS-XX	AFTER HIGH HYDRO

44	400KV BINAGURI-Bongaigaon-1 line	30-08-2019	12:00	30-08-2019	15:00	ODB	POWERGRID,E	Removal of jumper on 411bay isolator and connecting the same on main and tie bay (412 & 411 respectively) inter connector (Rigid Bus pipe) after completion of bay upgradation works on 412 main bay under ERSS-XX	AFTER HIGH HYDRO
45	400KV BINAGUR-Bongaigaon-2 line	30-08-2019	15:00	30-08-2019	18:00	ODB	POWERGRID,E	Removal of jumper on 414bay isolator and connecting the same on main and tie bay (415 & 414 respectively) inter connector (Rigid Bus pipe) after completion of bay upgradation works on 415 main bay under ERSS-XX	AFTER HIGH HYDRO

Quarterly Preparedness Monitoring -AGENDA

(Status as on :)

S.No.	State	Sector (G/T/D)	Utilities	Status of CISO Nomination	Critical Infra Identified	Crisis management Plan Prepared	Status of CS mock drill	Status of Training/ Workshops organized/ participated by utility	Action taken on CERT-In/NCIIPC Advisories
1	Tamilnadu	T	TANGEDCO	Yes/No	Yes/No	Yes/No	Done on ____		