



Minutes of **158th OCC Meeting**

Date: 10.07.2019
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 158th OCC Meeting held on 27th June, 2019 at Bakreswar TPS

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

Item no. 1: Confirmation of minutes of 157th OCC meeting of ERPC held on 20.05.2019

The minutes of 157th OCC meeting were uploaded in ERPC website and circulated vide letter dated 06.06.2019 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 157th OCC meeting.

PART A : ER GRID PERFORMANCE

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

The average consumption of Eastern Region for May- 2019 was 473 Mu. Eastern Region energy consumption reached a monthly maximum of 517 Mu on 20th May - 2019. Total Export schedule of Eastern region for May – 2019 was 1715 Mu, whereas actual export was 1620 Mu.

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**

During the Month of May 2019, two events have occurred for which Frequency Response Characteristic has been analyzed pan India. The details of the event and the overall response of each region have been summarized in the below Table 1.

Table 1: Region Wise Frequency Response Characteristic (FRC) for the event

Event	Frequency Change	ER FRC
On 16th May 2019, at 19:10 hrs Smelter load loss occurred at Sterlite Vedanta Plant along with its Captive Units in Orissa (Eastern Region)	49.98 Hz to 50.08 Hz	53%
On dated 19-May-2019 at 10:35 hrs around 3000 MW generation loss occurred at Vindhyachal Power Plant in Western Region	50.01 Hz to 49.80 Hz	12.4 %

Detailed report is enclosed at **Annexure-A1.6**

Member may discuss.

Deliberation in the meeting

*The performance of the Eastern Regional Grid during April 2019 is enclosed at **Annexure- A1**.*

Members noted.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Power assistance to Deoghar and Dumka during Shrawani Mela-2019 w.e.f 17.07.19 to 18.08.19—JUSNL

Sharwani Mela 2019 at Deoghar & Basukinath is going to start w.e.f 17.07.19 to 18.08.19. Pilgrims from all parts of the country would visit at these locations during this period.

As such sufficient power assistance will be required throughout the above period to provide uninterrupted, unrestricted quality power to Deoghar and Dumka area and accordingly it is requested to kindly provide power as follows:

1. 30-35 MW assistance through 132KV Deoghar-Sultanganj tie with BSPTCL.
2. 55-60 MW assistance through 132KV Jamtara-Maithon tie with DVC.
3. 30-35 MW assistance through 132KV Kahalgaon (BSPTCL)-Lalmatia tie with BSPTCL.

In addition to tie all incoming 220KV source to Dumka GSS and Lalmatia GSS should also be remain available during the above period.

Members may discuss.

Deliberation in the meeting

DVC informed that they could provide 50 MW power through 132KV Jamtara-Maithon tie during peak hours.

Bihar agreed to provide the required power assistance through 132KV Deoghar-Sultanganj and 132KV Kahalgaon (BSPTCL)-Lalmatia tie lines.

OCC advised JUSNL to plan their own network to meet the power requirement at Deoghar and Dumka area instead of depending on other constituents.

Item No. B.2: 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.

Members may discuss.

Deliberation in the meeting

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 WBPDCCL 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 WBPDCCL 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, WBPDCCL, SLDC-WB, WBSEDCL, CESC, Powergrid ER-II, ERLDC and ERPC. The meeting would be conducted at ERPC, Kolkata on 8th July 2019.

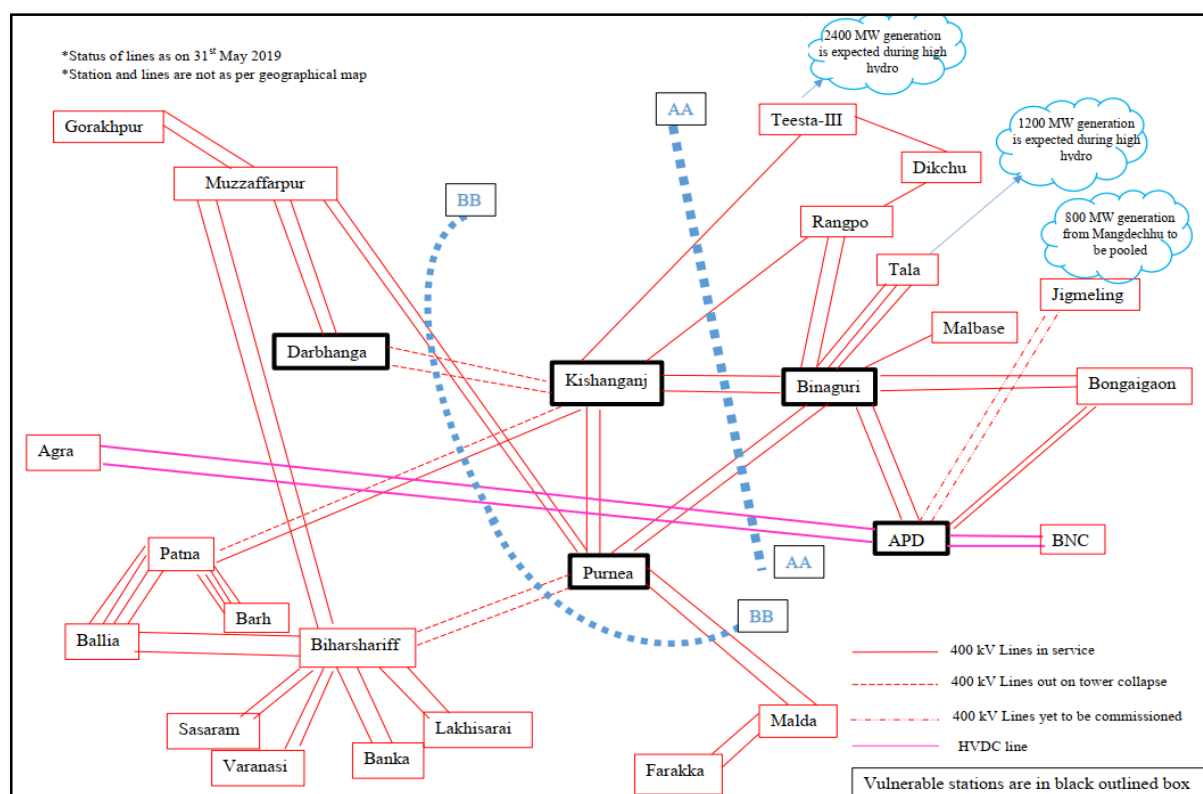
Item No. B.3: Ensuring reliability of the transmission network involving Eastern Region and North Eastern region through Binaguri/Siliguri area and beyond for high hydro generation during upcoming monsoon season----NLDC

The All India electricity demand has already crossed 182.5 GW this summer and is expected to further rise in the coming months. Reliable operation of the generation and transmission system becomes very much necessary to ensure reliable operation of the electricity grid besides ensuring security of supply to the customers.

The June to September months sees a sharp rise in hydro generation in the North Eastern Region, Sikkim and Bhutan and the exports from this part of the grid to rest of the country had crossed 4000 MW last year. This is expected to further rise to 5500 MW this season due to removal of transmission constraints related to Sikkim hydro evacuation as well as the anticipated commissioning of the 720 MW Mangdechhu project in Bhutan.

An area of concern is the reliable operation of the transmission system emanating from Bongaigaon in the North East to the Farakka/Kahalgaon/Biharshariff/Muzaffarpur area. This system is very important for the security of the entire North Bengal/North Bihar/Sikkim/Bhutan/North East and Bangladesh system. A schematic diagram of power network indicating the vulnerabilities in the network is given below. This is based on adding the impact of

1500 MW extra generation in Sikkim, Bhutan and North Eastern region this season as compared to last year.



Vulnerability on axis 'AA'

S. No.	Name of Line	Owner	Current Status	Remarks
1	HVDC BNC-APD-Agra	POWERGRID	In Service	54 no. of trippings associated with four HVDC Poles during June-Sep 2018
2	400 kV Binaguri-Purnea-D/c	POWERGRID	In Service	No tripping
3	400 kV Binaguri-Kishanganj-D/c	POWERLINK	In Service	No tripping, During Aug 2017, complete 400/220 kV Kishanganj station had to be manually switched off due to flooding for 2 days.
4	400 kV Teesta 3-Kishanganj	Teesta Valley Power Transmission Ltd.	Commissioned on 4th Jan '19 In Service	1 tripping in April 2019
5	400 kV Rangpo-Kishanganj	Teesta Valley Power Transmission Ltd.	Commissioned on 11th Feb '19 In Service	3 tripping on 12th, 16th and 25th April 2019

Vulnerability on axis 'BB'

S.No.	Name of Line	Owner	Current Status	Remarks
1	HVDC BNC-APD-Agra	POWERGRID	In Service	54 no. of trippings associated with four HVDC Poles during June-Sep 2018(last monsoon season)
2	400 kV Kishanganj-Patna-I	POWERGRID	Under outage on account of tower collapse since 2nd Sep 2018	Tower collapses in 2016 & 2018
3	400 kV Kishanganj-Patna-II	POWERGRID	In service (On ERS Tower)	Tower collapses in 2016 & 2018.
4	400 kV Kishanganj-Darbhang-D/c	Alipurduar Transmission Limited(ATL)	Under outage on account of tower collapse	Commissioned on 12th Mar 2019. Out on Tower collapse since 29th May 2019. Restored in June 2019.
5	400kV Purnea – Biharsarif D/C	East-North Interconnection Company Ltd.	Under outage on account of tower collapse since 10 th Aug'18	Tower collapses in 2016 & 2018
6	400 kV Purnea-Muzzafarpur-D/c	POWERLINK	In service	No Tripping
7	400 kV Purnea-Malda-D/c	POWERGRID	In service	Twin moose circuit with length 167 km, concern for n-1 reliability during loadings of more than 500 MW on each circuit.

In view of the above, following emergent actions may be taken to ensure the following:

1. Restoration of 400 kV Kishanganj-Patna ckt 1 and ckt 2 by POWERGRID on normal towers, latest by 15th June 2019.
2. Restoration of 400 kV Purnea-Biharshariff D/c by ENICL on normal towers, latest by 15th June 2019.
3. Deferring planned maintenance activities on all lines and substations involved in axis AA and axis BB unless of an emergency nature. The planned outage of 400 kV Rangpo-Binaguri (one by one) for reconductoring may be deferred to Oct 2019.
4. Ensuring adequate steps to prevent flooding of the related substation(s) in case of heavy rainfall.
5. Ensuring proper availability of spares and availability of the required manpower to take care of any forced outages on the above section.
6. Availability of all filter banks and other controls at HVDC BNC, Alipurduar and Agra terminals and ensuring that the automatic shifting of power flow takes place in case of tripping of any pole as per the compensation logic indicated by RLDCs/NLDC. The MTDC is expected to be

loaded in the range of 2500 MW-3500 MW. Any outage of the entire MTDC can cause a cascading failure.

Members may discuss

Deliberation in the meeting

ERLDC elaborated the importance of transmission line availability during high hydro generation in this monsoon season.

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.

OCC advised all the concerned constituents to take appropriate action as mentioned in the agenda to ensure availability of transmission system for safe evacuation of power during this monsoon.

Item No. B.4: 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.

Members may discuss.

Deliberation in the meeting

After detailed deliberation, OCC 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.

Item No. B.5: 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.

Members may discuss.

Deliberation in the meeting

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.

Item No. B.6: Cost recovery from different constituents involving AMR implementation in different phases.--Powergrid

For implementation of AMR in different constituents area in principle approval accorded in 18th & 19th ERPC meetings & afterwards POWERGRID in through different LOA has implemented AMR in three phases till now and also some new S/S or elements are under integration in 4th phases. Till now total 165 No of locations and 1019 no's of SEM are integrated in AMR. Apart from integration of or implementation of AMR, the integrated system also comes under comprehensive AMC till date. Final payments of initial package is almost completed and subsequent packages are on the verge of completion.

For data transmitting to ERLDC server generally SIM are used and for that also POWERGRID has to enter with the contract with Telecom service providers namely Airtel, BSNL & Vodafone. However, lately (Since last one year) most of the POWERGRID/NTPC S/S are transmitting data through available OPGW network instead of SIM.

Total cost for implementation and AMC comes to **Rs. 3, 87,31,776/-** including implementation cost for TCS and cost for telecom service provider, but excluding consultancy charges. As per minutes of 19th ERPC the recovery mode of AMR will be like mechanism followed for SEM procurement. As such, considering the same methodology, including consultancy charges (@ 15%), total cost comes to **Rs. 4, 45, 41,543/-**. (**Rs. Four crore forty five lacs forty one thousand five hundred forty three only**).

All necessary payments are getting verified by the statute auditor and certified for acceptance. Now it is proposed to recover the cost incurred for the implementation of AMR from available constituents as per earlier minutes. However, for recovery purpose, complete installation base against constituents wise are given below for reference:

SL NO	Name of the constituents	Number of SEM Installed (NO'S)
01.	BIHAR	81
02.	CESC	04
03.	DMTCL	30
04.	DVC	45
05.	OPGC	10
06.	JHARKHAND	30
07.	NHPC	21
08.	NTPC	120
09.	SIKIM	20
10.	WEST BENGAL	29
11.	ADHUNIK	04.
12.	CHUZACHEN	07.
13.	IND-BHARATH	06.
14.	JINDAL	04.
15.	MPL	12.
16.	STERLITE	14.
17.	PGCIL	544.

It is proposed, to recover the incurred cost, mentioned above, by the ratio of allocation of LTA among the DIC's of Eastern Region.

Members may discuss.

Deliberation in the meeting

*OCC acknowledged the efforts made by Powergrid in successfully implementing the AMR in the Eastern Region. OCC, in principle, recommended for acceptance of the cost of **Rs. 4, 45, 41,543/-**. (**Rs. Four crore forty five lacs forty one thousand five hundred forty three only**) submitted by Powergrid. It was decided that the cost shall be shared among the Utilities of the Eastern Region and the IPPs in the ratio of Total LTA(including Central Sector Share) for the Utilities and the ex-bus Capacity of IPPs. This has been referred to the Commercial Committee Meeting for acceptance.*

Item No. B.7: Realignment of existing 132 KV configuration of Rangpo Bus for facilitating termination of 132 KV Rangpo-Chuzachen-D/C.--Powergrid

Sikkim EPD is constructing dedicated 132 KV Rangpo-Chuzachen-D/C along with new bays at Rangpo GIS S/S. However, as 132 KV GIS is having two tier gantry it is difficult to terminate the newly constructed 132 KV Rangpo-Chuzachen-D/C, due to low clearance issue. Powergrid is planning to change the bay configuration. Details are given in **Annexure-B7**.

Necessary Metering arrangement also will be implemented in consultation with Metering department/ERLDC. Presently, 132 KV Bus-I extension is under implementation and shortly 132 KV Bus-II, will also be completed and afterwards, HV testing will be conducted for both extension portion.

Powergrid may explain. Members may discuss.

Deliberation in the meeting

OCC in principle approved the Powergrid proposal and advised Powergrid to place the proposal in 2nd ERSCT Meeting for approval of revised bay configuration at Rangpo.

Item No. B.8: Ahead of schedule commissioning of 160 MVA ICT-IV of Malda S/S in place of 50 MVA ICT-IV.---Powergrid

Under ERSS-XX package, existing 50 MVA ICT-IV of Malda SS is going to be replaced by 160 MVA ICT. Already other two ICT's are replaced (From 50 MVA to 160 MVA) & against approved project the other 50 MVA ICT will also be replaced under ERSS-XX.

As per Investment Approval, the commissioning schedule of the said ICT is February-2020, however, the ICT has already reached at Malda S/S and considering the present load flow scenario, it is evident that, if S/D provided, entire commissioning activity of the supplied ICT can be finished before festive season.

As such considering the present load in the 50 MVA ICT-IV and flexibility in system it is proposed, that ahead of schedule commissioning of the subject ICT at Malda S/S may be agreed.

Members may discuss.

Deliberation in the meeting

Powergrid informed that replacement work ICT –IV could be completed by August 2019 subjected to shutdown. Powergrid requested to consider the ahead of schedule commissioning.

Considering the present demand at Malda, OCC approved ahead of schedule commissioning of ICT-IV and referred to TCC Meeting for further approval.

Item No. B.9: Revised Overhauling Schedule proposal of NTPC ER-I stations--NTPC

NTPC vide letter dated 11th June 2019 informed that capital overhauling of unit 5 of Farakka STPS is required urgently to address the safety and reliability issues (NTPC letter is enclosed at **Annexure-B9**).

NTPC requested to allow the shutdown of unit 5 of Farakka STPS from 24.07.2019 to 22.08.2019 for 30 days.

In 157th OCC, NTPC requested for shutdown of unit 1 of TSTPS from 1st August 2019 for 45 days.

Members may decide.

Deliberation in the meeting

*NTPC gave a presentation on critical safety issues of unit 5 of Farakka. Presentation is enclosed at **Annexure-B9.1**. NTPC explained that the cable trestle of unit 5 had been collapsed which needed to be addressed immediately. NTPC requested to consider the shutdown of unit 5 of Farakka STPS from 24.07.2019 to 22.08.2019 for 30 days.*

WBSEDCL and Bihar informed that they would not agree with the shutdown proposal of NTPC Farakka Unit-5 as they would face severe power shortage if the overhauling of the NTPC unit is allowed. They noted that the demand in their respective system shall be very high during the period from July to October. They suggested NTPC to take the shutdown of Farakka unit-V during November'19 to February, 2020.

Member Secretary, ERPC noted that presentation of NTPC demonstrated the criticality of the situation w.r.t. unit-V of Farakka. Any further worsening of the situation might force the outage for a longer period of time. The beneficiaries of Farakka Unit-V should consider this aspect also. He also requested NTPC to plan overhauling of most the units during winter months in conformity with the regional demand curve.

Even after detailed deliberation, no consensus could be arrived at. Thereafter, NTPC was advised to take up the issue with higher management of West Bengal and Bihar.

OCC decided to consider the shutdown of unit 1 of TSTPS from 3rd November 2019 for 45 days.

Item No. B.10: Motihari Load Trimming Scheme and its Operation on 16th June 2019--ERLDC

DMTCL has informed that they have implemented the load trimming scheme as finalised in the 155th OCC meeting. The scheme finalised for load trimming on ICTs was:

1. **Logic:** Detection of ICT overload (ICT overload limit should be considered Not at full load but above this value as per the IEC Curve)
2. **SPS Command:** Tripping to be provided within 5 seconds or more to 132 kV breakers of 132 kV Motihari-Betiya D/C and 400 kV Motihari-Motihari D/C. Time delay is to ensure the LTS do not operate during transient like faults.

DMTCL has implemented the following logic in first week of June 2019:

1. **Logic:** ICT Thermal Overload Alarm (105 % of rated [of rated HV current](#))
2. **SPS Command:** Tripping of 132 kV breakers of 132 kV Motihari-Betiya D/C and 400 kV Motihari-Motihari D/C.

Event: On 16th June 2019, at 21:05 Hrs, 400/132 kV 200 MVA ICT 1 and 2 were loaded above 180 MW per ICT. In addition, Voltage of the substation was low due to outage of 400 kV Motihari-Barh D/C. The current in the ICT 2 has exceeded its thermal overload alarm limit (105 % of rated current). However, the SPS operation was observed when the ICT has issued the thermal overload trip command. However, during this also only one circuit each of 132 kV Motihari-Betiya D/C and 400 kV Motihari-Motihari D/C got tripped. Later in next 5 seconds, the other ICT i.e. ICT 1 also got tripped on thermal overload trip and with this also SPS operated after thermal overload trip command causing other remaining circuit of 132 kV Motihari-Betiya D/C and 400 kV Motihari-Motihari D/C.

Operational Issues observed:

1. Major Operational issue observed high loading of Motihari ICT (2 X 200 MVA) beyond N-1 Loading criteria by Bihar SLDC (BSPTCL). Such high loading of ICTs is not desirable in view of secure grid operation. **SLDC Bihar and BSPTCL may kindly shift these loads to alternate sources to ensure reliability.**
2. Low Voltage at Motihari due to planned outage of 400 kV Barh-Motihari D/C. voltage at 400 as well as 132 kV were low during this due to radial feeding of connected loads from Gorakhpur end.
3. Logic Implementation of Load Trimming Scheme at DMTCL is not correct. The LTS should be able to give trip command to the 132 kV Breakers of line prior to overload trip command. In addition, with LTS operation all the four circuits have to trip to reduce the loading of ICTs. DMTCL may kindly share the Detailed Scheme and Changes done based on this event to ensure proper Load trimming scheme operation.

Members may discuss

Deliberation in the meeting

ERLDC informed that in recent disturbance, 2nd ICT at DMTCL was tripped on SPS without overloading.

OCC advised DMTCL and Bihar to review the SPS settings and test the scheme before putting in service.

DMTCL informed that they had reviewed the settings and the scheme would be tested subjected to availability of shutdown.

Item No. B.11: 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 is enclosed at **Annexure-B11**.

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, WBPCL 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.

Protection settings to be reviewed:

Durgapur Substation

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

Members may update.

Deliberation in the meeting

*Committee submitted the study results on utilization of 3rd ICT at Durgapur which is enclosed at **Annexure-B11.1***

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.

Item No. B.12: Bus Splitting at Kahalgaon NTPC--ERLDC

NTPC Kahalgaon Bus Split Arrangement is ready for operationalization. The only aspect which is still not ready is the Protection coordination with remote end substations due to change in long/short lines. NTPC Kahalgaon has shared the list of change in short and long lines for both the buses so that protections setting changes required at remote end can be taken up with the respective utilities (PGCIL ERTS -1 , PGCIL ERTS-2, NTPC Farakka). Based on the details received from NTPC, Utilities have to confirm ERLDC with their readiness of protection group setting. With the confirmation of readiness of relay group setting for remote end (**PGCIL**), ERLDC will go ahead with the operationalization of Bus Splitting of Durgapur Substation.

Protection settings to be reviewed given at table B12.

NTPC and PGCIL may kindly confirm the readiness for final protection coordination and protection group setting at respective substations.

Members may discuss

Deliberation in the meeting

NTPC informed that bus splitting scheme is ready to bring into service.

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

OCC decided to monitor the power flows after putting the Durgapur bus splitting in service and further decision on putting the Kahalgaon bus splitting scheme in operation would be reviewed in next OCC Meeting.

Table B12

Kahalgaon 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 (per km)	Shortest Line data (per km)	Remarks		Longest Line data (per km)	Shortest Line data (per km)	Remarks
Kahalgaon A (Bus 1 & 2)	400 kV Kahalgaon-Lakhisarai 1	145 km, Twin Moose	KHSTPS A- MTN B (172 KM) Twin moose D/C R1=0.0288 X1=0.3070 B1=3.7700 R0=0.2690 X0=1.0700 B0=2.2900 R0m=0.2080 X0m=0.6750	KHSTPS-FRK # 3/4 (95 km) twin moose D/C R1=0.0288 X1=0.3070 B1=3.7700 R0=0.2690 X0=1.0700 B0=2.2900 R0m=0.2080 X0m=0.6750	Yes Required due to change in long & short line		KHSTPS-BARH # 1/2 (217 km) Quad moose D/C R1=0.0147 X1=0.2530 B1=4.5800 R0=0.2480 X0=1.0000 B0=2.6400 R0m=0.2030 X0m=0.6620	KHSTPS-BANKA#1/2 (54km) twin moose D/C R1=0.0288 X1=0.3070 B1=3.7700 R0=0.2690 X0=1.0700 B0=2.2900 R0m=0.2080	Yes Required due to change in long & short line
	400 kV Kahalgaon-Lakhisarai 2	145 km, Twin Moose			Yes Required due to change in long & short line				Yes Required due to change in long & short line
	400 kV Kahalgaon A- Maithon B	172 km, Twin Moose			Yes Required due to change in long & short line				Yes Required due to change in long & short line
	400 kV Kahalgaon-Farakka 3	95 km, Twin Moose			Yes Required due to change in long & short line				Yes Required due to change in long & short line
	400 kV Kahalgaon-Farakka 4	95 km, Twin Moose			Yes Required due to change in long & short line				Yes Required due to change in long & short line
	400/132 kV ICT 1 (200 MVA)								
	400/132 kV ICT 2 (200 MVA)								
Kahalgaon B (Bus 3 & 4)	400 kV Kahalgaon-Banka 1	53.735 km, Twin Moose	KHSTPS-BARH # 1/2 (217 km) Quad moose D/C R1=0.0147 X1=0.2530 B1=4.5800 R0=0.2480 X0=1.0000 B0=2.6400 R0m=0.2030 X0m=0.6620	KHSTPS-BANKA#1/2 (54km) twin moose D/C R1=0.0288 X1=0.3070 B1=3.7700 R0=0.2690 X0=1.0700 B0=2.2900 R0m=0.2080 X0m=0.6750	No change required		KHSTPS-BARH # 1/2 (217 km) Quad moose D/C R1=0.0147 X1=0.2530 B1=4.5800 R0=0.2480 X0=1.0000 B0=2.6400 R0m=0.2030 X0m=0.6620	KHSTPS-BANKA#1/2 (54km) twin moose D/C R1=0.0288 X1=0.3070 B1=3.7700 R0=0.2690 X0=1.0700 B0=2.2900 R0m=0.2080 X0m=0.6750	No change required
	400 kV Kahalgaon-Banka 2	53.735 km, Twin Moose			No change required				No change required
	400 kV Kahalgaon-Barh 1	217.2 km, Quad Moose			No change required				No change required
	400 kV Kahalgaon-Barh 2	217.2 km, Quad Moose			No change required				No change required
	400 kV Kahalgaon B - Maithon A	172 km, Twin Moose			No change required				No change required
	400 kV Kahalgaon-Farakka 1	95 km, Twin Moose			No change required				No change required
	400 kV Kahalgaon-Farakka 2	95 km, Twin Moose			No change required				No change required

Item No. B.13: 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.

DVC and Powergrid may update.

Deliberation in the meeting

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.

Item No. B.14: Reliability of 220 kV Ranchi-Hatia D/C--ERLDC

Major part of Jharkhand's capital city Ranchi's load and nearby area is supplied from, 220 kV Hatia substation. Further, Bihar imports significant power through 220kV Hatia-PTPS-Tenughat& 220kV Hatia – Ranchi(PG) D/C routes. PTPS power station has been decommissioned and in the event of less generation or outage of unit at Tenughat, 220 KV Ranchi(PG)-Hatia D/C gets overloaded and N-1 security criteria is not satisfied during that period. Any outage /tripping of this circuit or low generation at Tenughat will directly impact on the reliability of the the power supply to the Capital City.

400/220/132kV Daltonganj S/Stn of POWERGRID together with 400kV Sasaram-Daltonganj D/C line were commissioned on 31st Jan 2018. Further, 132 kV Latehar-Daltonganj D/C line of

JUSNL has been LILOed at 132kV Daltonganj(PG). As the LILO has been constructed using Panther conductor, only Daltonganj load is supplied radially from DaltonganjPG S/Stn. The existing 132 kV Hatia-Lohardaga-Latehar-Daltonganj D/C line of JUSNL is rated for 220 kV Operation however is being operated at 132 kV level thus reducing the overall drawal from Daltonganj. This further reduces the effective utilization of 400 kV alternate source of power to meet the Ranchi load.

In view of the above following remedial actions are suggested

1. Maintaining good generation at Tenughat and expediting commissioning of 3X800MW thermal power plant at Patratu by PUVNL.
2. Reducing drawal by Bihar through 220 kV Tenughat-Biharsariff.
3. Planning for utilization of HTLS conductor 220 kV Ranchi – Hatia D/C may also be envisaged.
4. Upgradation of the existing 132 kV Hatia-Lohardaga-Latehar-Daltonganj D/C line of JUSNL to 220 kV level to meet the Lohardaga, Latehar, Gumla and Daltonganj keeping the voltage profile within IEGC band. This will reduce the loading on 220 kV Ranchi-Hatia D/C.

Members may discuss

Deliberation in the meeting

JUSNL informed that 3rd 220kV Ranchi-Hatia line would be commissioned in July 2019.

OCC referred the issue to 7th SSCM Meeting scheduled to be held on 1st July 2019.

Item No. B.15: Issues related to installation/integration of PMU under URTDSM project in ER---ERLDC

It was informed that installation/integration of PMU under URTDSM project could not be completed at following stations:

SI no	Name of S/s / Locations	Site Visit of GE Engineer	Status/Action Plan
1	TTPS	M/s. GE Engineer available at site from 04.06.2019 to 08.06.2019	M/s. GE engineer and POWERGRID engineer visited TTPS for completion of the pending interfacing work in PMU (Analog & Digital). Shutdown was accorded by ERLDC on 7th June-2019 in afternoon time. TTPS didn't allow for the work in afternoon time. Subsequently, shutdown was again requested by POWERGRID on 08th June-2019 from 09:30 hrs to 17:00 hrs and shutdown accorded from 13:00 hrs onwards. Shutdown taken for 02 nos. feeders (Rengali & TSTPS) and TTPS allowed for only CT interfacing. TTPS intimated that PT interfacing & Digital interfacing will be done by them in any opportunity shutdown. For other 2 nos. feeders (Meramandali-1 & 2), TTPS didn't allowed in evening time and intimated that they will do the interfacing during any opportunity shutdown. ERLDC may instruct TTPS for completing the pending interfacing.

2	Budhipadar	M/s. GE engineer presently available at site	Shutdown approved in 157th OCC for Budhipadar-Korba-1,2 & 3 and also approved in WR OCC. POWERGRID requested on for accord of shutdown on 11.06.2019 & 12.06.2019, but shutdown is not accorded till now. OPTCL testing team is not available for interfacing work. ERLDC may advise OPTCL for deployment of testing team.
3	Talcher	GE Site engineer will be deployed after confirmation from NTPC.	ERLDC may kindly advise Talcher NTPC for confirmation of permission for work & avail of shutdown & providing testing team.
4	Kahalgaon	GE Site engineer will be deployed after confirmation from NTPC.	M/s. GE earlier completed the interfacing works for majority of the feeders. But NTPC requested for armour cable. Later on NTPC laid armour cable. The armour cables still not glanded & terminated at respective panels. After confirmation from NTPC, M/s. GE will deploy team at site for interfacing under shutdown.

Members may discuss.

Deliberation in the meeting

Powergrid updated the status as follows:

- TTPS : Interfacing had been completed
- Budhipadar : Interfacing had been completed
- 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.

Item No. B.16: Recurring incidences of fault in 132KV kahalgaon(NTPC)- Lalmatia line-- ERLDC

As per records in the recent past there had been many instances of line faults in 132KV Kahalgaon(NTPC)- Lalmatia line during the period between April'2019 & May'2019 as detailed below:

S.No	Date	Time	Phase	Fault Location	Fault current	Zone
1	29.04.2019	10:23 hrs	B	26.4KM	3.26KA	Zone#1, Distance Protection
2	30.04.2019	11:35hrs	B	26.6KM	3.26KA	
3	01.05.2019	12:26hrs	B	26.5KM	3.14KA	
4	07.05.2019	10:39hrs	B	26.4KM	3.13KA	
5	08.05.2019	12:24 hrs	B	26.4KM	3.11KA	
6	11.05.2019	10:59 hrs	B	26.4KM	3.12KA	
7	12.05.2019	11:46 hrs	B	26.5KM	3.12KA	
8	14.05.2019	13:12hrs	B	26.4KM	3.14KA	
9	20.05.2019	10:25 hrs	B	26.4KM	3.13KA	
10	20.05.2019	11:11 hrs	B	26.4KM	3.13KA	
11	21.05.2019	12:28 hrs	B	26.5KM	3.15KA	

12	21.05.2019	14:50 hrs	B	26.4KM	3.13KA
13	26.05.2019	11:40 hrs	B	26.4KM	3.14KA
14	27.05.2019	10:01 hrs	B	26.6KM	3.20KA
15	27.05.2019	11:23 hrs	B	26.4KM	3.17KA

On every such occasion the line trips on distance protection on B-Phase indicating a distance of about 26KM from NTPC- Kahalgaon Sub-station. Heavy fault current about 3KA flows every time the fault occurs in this line associated with system disturbances. Due to recurring faults , systems are getting badly affected which cause operational hindrances in Kahalgaon power station apart from equipment failure threats to ICTs, Circuit Breakers & its other associated systems by handling the repeated fault current.

In the interest of safety & security of the grid and safe operation of Kahalgaon power station, it is requested to JUSNL to resolve the issue at the earliest.

JUSNL may respond.

Deliberation in the meeting

It was informed that the issue was discussed in detail in 80th PCC Meeting wherein JUSNL was advised to take appropriate action to avoid frequent tripping of the line.

OCC advised JUSNL to collect the tripping details from other end to confirm the fault location and appropriate action to avoid unwanted tripping of the line.

Item No. B.17: Frequent Tripping of 220kV TTPS-Biharshariff and TTPS-PTPS transmission lines--TVNL

TVNL vide letter dated 6th June 2019 informed that 220kV TTPS-Biharshariff and TTPS-PTPS transmission lines got tripped multiple times during last two months resulting heavy generation and revenue loss to TVNL. The details of tripping are given below:

S.N.	Date /Time of Tripping	Date / Time of Synchronization	Feeder/ Transmission Line	Unit Load before Tripping	Unit Load after Tripping
01.	02/04/2019 11.29 Hrs.	02/04/2019 11.44 Hrs.	TTPS-Biharshariff	U#1 – 164 MW U#2 – 209 MW	U#1 – 165 MW U#2 – 135 MW
02.	04/04/2019 12.47 Hrs.	11/04/2019 17.27 Hrs.	TTPS-Biharshariff	U#1 – 175 MW U#2 – 209 MW	U#1 – 162 MW U#2 – 126 MW Again, load reduced and finally boxed up at 24.00 Hrs.
03.	17/04/2019 10.16 Hrs.	17/04/2019 18.04 Hrs.	TTPS-Biharshariff	U#1 – 170 MW U#2 – 193 MW	Total Power Failure Both Units tripped
04.	29/04/2019 12.37 Hrs.	29/04/2019 13.22 Hrs.	TTPS-PTPS	U#1 – 174 MW U#2 – 193 MW	U#1 – 160 MW U#2 – 82 MW
05.	23/05/2019 16.27 Hrs.	23/05/2019 17.47 Hrs.	TTPS-Biharshariff	U#1 – 167 MW U#2 – 168 MW	Both Units tripped
06.	25/05/2019 12.02 Hrs.	25/05/2019 21.20 Hrs.	TTPS-PTPS	U#1 – 0 MW (S/D) U#2 – 180 MW	U#1 – 0 MW (S/D) U#2 – 176 MW
07.	28/05/2019 12.06 Hrs.	29/05/2019 21.56 Hrs.	TTPS-Biharshariff	U#1 – 161 MW U#2 – 172 MW	U#1 – 156 MW U#2 – 88 MW Finally, Unit#2 was boxed up at 01.00 Hrs.

BSPTCL, JUSNL and TVNL may explain.

Deliberation in the meeting

It was informed that the issue was discussed in detail in 80th PCC Meeting. In the PCC Meeting, JUSNL and BSPTCL informed that proper line patrolling, tree cutting had been done in June 2019, and no tripping had been reported thereafter.

OCC advised BSPTCL and JUSNL to carry out line patrolling periodically and take the necessary action to avoid unwanted tripping of the line.

Item No. B.18: 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 157th OCC, Powergrid informed that the DPR for PSDF would be submitted by 31st May, 2019.

Powergrid may update.

Deliberation in the meeting

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

Item No. B.19: 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.

Members may discuss.

Deliberation in the meeting

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.

Item No. B.20: 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

OCC advised DVC to submit the report at the earliest.

Item No. B.21: 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 24 th April 2019 and other Oscillation events in the past.	<i>During overhauling of the units.</i>
Sikkim Hydro Complex (Teesta3, Teesta 5, Chujachen, Dikchu, Tashiding, Jorethang)	In view of Oscillation during the 16 th 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 due to bus splitting at Maithon.	MPL Unit-2: 14th 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	<i>During overhauling of the units in Aug/Sep 19.</i>
Farakka NTPC Power Plant	With Augmentation of new lines and changes in network configuration with upcoming	<i>During overhauling of the units.</i>

	bus split at Kahalgaon.	
NPJC/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 B21.

Members may update.

Deliberation in the meeting

MPL informed that PSS tuning of unit 1 had been done during the overhauling.

OCC advised MPL to send the report to ERLDC.

OCC advised other generating utilities to carry out the PSS tuning as per the given schedule.

Item No. B.22: Power Assistance at Manique GSS from DVC and at Kendposi GSS from OPTCL –JUSNL

JUSNL vide letter dated 8th February 2019 informed that they are planning shutdown of 132 KV D/C RCP-ADP line for erection of 05 nos. Multi Circuit Tower in place of existing transmission tower. Erection of Multi Circuit Tower is inevitable for new 132 KY RCP-Jadugoda transmission line due to limitation of vacant corridor.

In 154th OCC, JUSNL explained that they needed around 35 MW power from Manique (DVC) and 40 MW power from Joda (OPTCL) S/s during the shutdown of 132kV Ramchandrapur-Adityapur D/C line for 31 days.

DVC informed that, due to network constraints in DVC system, DVC would not be in a position to give power from Manique (DVC).

OPTCL informed that the ATRs at Joda are quite old and they are planning to augment the ATRs. Power could be extended to JUSNL only after completion of augmentation of ATR.

Underlining the need to facilitate the shut-down to JUSNL and at the same time, to ensure system integrity, OCC advised Member Secretary, ERPC to convene a special meeting at ERPC Secretariat to discuss the issue with JUSNL, DVC, OPTCL, ERPC and ERLDC to arrive at an acceptable solution.

Accordingly, a separate meeting was held on 1st March 2019.

In 155th OCC, OPTCL informed that in view of Lok Sabha Elections, they had not taken the shutdown of 220/132kV ATR at Joda for augmentation work. OPTCL added that they would take the shutdown after the Elections.

In 156th OCC, JUSNL informed that they are ready to take the shutdown of 132 KV Ramchandrapur-Adityapur D/C line but they needed around 35 MW power from Manique (DVC).

It was informed by ERPC Secretariat that DVC vide mail had informed that power Assistance at Manique GSS through 132kV Chandil-Manique Tie would be provided after putting the ICT#2 at BTPS-A on load which may take few more days.

In 157th OCC, DVC vide mail dated 9th May 2109 conveyed approval for power assistance through 132kV Chandil-Manique tie from 15-05-19 onwards for 31days under following conditions:

1. The maximum drawl must be restricted to 35MW in Off-peak period and 25MW in Peak period.
2. 220kV Jamshedpur-Jindal tie must remain in service during the period.

JUSNL agreed and requested OPTCL to provide 25 MW power support from Joda(OPTCL) to meet their traction load.

OPTCL agreed to give their consent within 2 days.

Members may update.

Deliberation in the meeting

JUSNL informed that they would carry out the work in September 2019.

It was decided to discuss the issue in August 2019.

Item No. B.23: Status of projects funded under PSDF schemes

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	WBPDC	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 wef15.11.2018
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.		<i>U.Kolab, Balimela, U.Indravati, Burla, Chiplima March 2019</i>	22.35 Cr.	2.235 Cr	Placed the work order.
12	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharsharif, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone & 132/33 kV GSS Kataiya	11/5/15	31.07.2018	64.02 crore	56.04 crore	85% of work has been completed. Contract awarded for Rs.71.37 Cr till date. The work would be completed by Oct 2019.
13		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016	31 st 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	31 st 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	<i>September 2017</i>	<i>15 Months</i>	<i>138.13 crores</i>	<i>39.02 Cr</i>	LOA placed to Siemens on 28 th 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.	1 st 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 30 th 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 3 rd 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 Integrated 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 Scheduling, Accounting, Metering and settlement of Transaction 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

Members updated the latest status as mentioned in above table.

Item No. B.24: 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.

Members may discuss.

Deliberation in the meeting

OCC advised ERLDC 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.

Item No. B.25: Collection of daily Renewable Energy (RE) Generation data--CEA

Renewable Energy Project Monitoring Division CEA has been entrusted with the work of collection and compilation of Renewable Energy (RE) generation data. The monthly generation report for RE generation is published by CEA. It is also decided that compilation and publication of daily RE generation data will also be done by CEA. It is understood that all State Load Dispatch Centers (SLDCs) are furnishing daily RE generation data to concerned RLDCs, which is being used for publication of daily Power Supply reports.

RLDCs may be requested to send the compiled Excel file of daily RE generation data collected from SLDCs to CEA by 12 AM everyday so that the tentative daily, RE generation report may be published by CEA. The information may be forwarded at e-mail address: cerpmcea@gmail.com.

This data is only for operational reporting purpose and have no commercial implication.

SLDCs and ERLDC may comply.

Deliberation in the meeting

OCC advised ERLDC to submit the data to CEA mail cerpmcea@gmail.com. OCC advised all the SLDCs to submit the data to ERLDC in time.

Item No. B.26: 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 essential 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 discuss.

Deliberation in the meeting

All the constituents in the meeting agreed to submit the correct data in time through web based reporting software.

Item No. B.27: Reliability Indices Submission by PGCIL ERTS-1/ERTS-2 to ERLDC in Line with CERC Regulation--ERLDC

As per the CERC (Standards of Performance of inter-State transmission licensees) Regulations, 2012 all ISTS Licensee must submit the reliability Indices to the POSOCO. These include Correct operation/Incorrect Operation/Unwanted Operation of protection system for ISTS lines. This data must be submitted along with the ISTS Monthly Availability Data as the same has to be reported by POSOCO on monthly basis to Commission as per the regulation.

All ISTS Licensee in Eastern region are providing these details along with their Transmission availability details on monthly basis except PGCIL ERTS-1 and ERTS-2. ERLDC has requested PGCIL ERTS-1/ERTS-2 to submit these details for ISTS lines of PGCIL on number of occasions however the same has not yet been furnished thus non-compliance of the regulatory provision as given above.

In 157th OCC, ERLDC informed that all ISTS Licensee in Eastern region are providing the details along with their Transmission availability details on monthly basis except PGCIL ERTS-1 and ERTS-2.

Powergrid agreed to submit the details from next month.

Powergrid may update.

Deliberation in the meeting

Powergrid agreed to submit the details from June 2019.

Item No. B.28: Deferment of shutdown of 315 MVA ICT at Malda S/S since Dec-18--Powergrid

Under ERXX-XVII package, at Malda S/S, 02 No's 400/220/33 KV, 315 MVA ICT is supposed to be augmented by 500 MVA ICT. One ICT has already reached Malda S/S in the month of December-18. Apart from augmentation of ICT, total 06 No's bay also to be upgraded at Malda S/S, as follows:

1. 220 KV Transfer Bus Coupler Bay.
2. 400 KV Transfer Bus Coupler Bay.
3. 400 KV Side bay of ICT-3 & ICT-5.
4. 220 KV Side bay of ICT-3 & ICT-5.

Since the arrival of ICT at Malda S/S, POWERGRID is continuously pursuing for the S/D of any one ICT along with 220 KV TBC Bay, however, citing the difficulty of loading and Board exams/Elections, the S/D is continuously deferred. Now the erection agency has also pressurized for taking the S/D such that commissioning of the ICT can be completed and greater flexibility can be provided in the ongoing system.

Apart from replacement of the ICT, the removed ICT will go to Binaguri S/S for commissioning as 3rd ICT (Under ERSS-XX), which also delayed as the original is not getting freed for want of S/D. Considering above scenario, it is proposed to provide S/D of 315 MVA ICT-III of Malda S/S from 10-07-2019 to 15-08-2019, for commissioning of new 500 MVA ICT.

Members may discuss.

Deliberation in the meeting

West Bengal informed that due to high demand at Malda it is not possible to give the shutdown before Puja and the shutdown could be given in October 2019.

Item No. B.29: Maintenance of bays of M/s BSPTCL located at POWERGRID Sub-stations--Powergrid

The matter regarding signing of O&M agreement between BSPTCL and POWERGRID for O&M of bays of M/s BSPTCL at Banka, Gaya, Patna & Muzaffarpur has been taken up with M/s BSPTCL no. of times and also been discussed in various forums of ERPC. After several follow up, M/s BSPTCL vide their letter no. 192 dtd. 14.06.2019, has informed that the bays owned by BSPTCL in the premises of POWERGRID S/S shall be maintained by them self.

BSPTCL and Powergrid may discuss.

Deliberation in the meeting

Members noted.

Item No. B.30: 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-B30** may be approved and minute unless any modification/suggestion recommended.

Members may discuss.

Deliberation in the meeting

OCC advised all the constituents to submit their comments on outage procedure within a week.

OCC decided to finalize the procedure in next OCC Meeting.

Item No. B.31: Maintenance and support (AMC) renewal of PSSE software.

Siemens vide letter dated 20th March 2019 informed that the AMC for PSSE software has ended on 30th November 2018.

Siemens requested ERPC Secretariat to renew the maintenance and support period for all the existing supplied licenses of states for next five years.

In 156th OCC, All the SLDCs in the meeting agreed for renewal of the AMC of PSSE software for next five years and requested to take up the AMC contract jointly for all the states with the Siemens as it was done during the procurement of software.

OCC advised ERLDC to take up the issue with NLDC and CTU.

In 157th OCC, ERLDC informed that AMC for PSSE software had been done by POSOCO for all the RLDCs.

*Thereafter, Siemens submitted the Budgetary offer for five years AMC for Eastern Region state utilities which is enclosed at **Annexure-B31**.*

Members may update.

Deliberation in the meeting

OCC decided to take up the issue with NPC for taking up the AMC contract at National Level.

Item No. B.32: Additional agenda

1. Preliminary study of non-ISTS lines carrying substantial ISTS power--GRIDCO

GRIDCO informed that Web-Net software is not available with OPTCL and GRIDCO. As a result, they are unable to carry out the preliminary study for the STU lines carrying more than 50% of ISTS power. GRIDCO informed that OPTCL/GRIDCO representatives are planning visit ERLDC to conduct the preliminary study. OPTCL added that they requested ERLDC to allow OPTCL/GRIDCO representatives to carry out the study at ERLDC.

Deliberation in the meeting

ERLDC agreed to allow OPTCL/GRIDCO representatives to carry out the study at ERLDC and agreed to do the needful.

ERLDC informed that they would not participate in the study.

PART C: ITEMS FOR UPDATE

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

UFR Healthiness Certification for the month of May, 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, WBPDC
3. Tata Power Islanding Scheme, Haldia
4. Chandrapura TPS Islanding Scheme, DVC
5. Farakka Islanding Scheme, NTPC
6. Bandel Islanding Scheme, WBPDC

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 May, 2019 has been received from CTPS, DVC, NTPC, West Bengal, JUSNL, WBPDC 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 May, 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

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

Item no. C.5: 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-Kesinga 220 kV D/C line at Bolangir S/S	Only 7 towers left (Severe ROW problem). By July, 2019.
2.	400/220kV Pandiabil Grid S/s:	
a.	Pratapsasan(OPTCL)-Pandiabil(PG) 220 kV D/C line	By July, 2019.
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.6: 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)–Latehar 220kVD/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 July 2019.
c	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Tendering is in progress. Expected to be completed by October 2019
2	Chaibasa 400/220kV S/s	
A	Chaibasa(POWERGRID)–Noamundi 220kVD/c	Not yet started
3	Dhanbad 400/220kV S/s	
A	LILO of Govindpur–Jainamora/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.7: 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 Rajarhat and Jeerat. The line would be charged from Barasat end after completion of rest of the work by September 2020.
2	Subashgram 400/220kV S/s	
a	Subashgram–Baraipur 220kVD/c line	December 2019, 80% of work has been completed.

WBSETCL may update.

Deliberation in the meeting

Powergrid informed that Baraipur bays were ready from December 2015 and New Town bays were ready from April 2019. Powergrid requested WBSETCL to expedite the construction of lines for utilization of bays.

Item no. C.8: 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 156th OCC, Powergrid informed that bypass arrangement would be completed by June 2019.

OPTCL may please inform the commissioning schedule of the 2nd circuit of 400kV Meramundali-Mendhasal line.

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 July 2019.

Item no. C.9: 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 40th TCC, it was informed that in SCADA O&M Meeting held on 6th March 2019, both DMTCL and KPTL agreed to extend the necessary support to implement the scheme. DMTCL has insisted on payment for extending the facility.

In the TCC Meeting, Powergrid clarified that as per the terms of TBCB project, DMTCL and KPTL are not entitled for any charges for using the OPGW for SCADA.

TCC advised Powergrid to implement the scheme within three months as indicated by Powergrid in SCADA O&M Meeting.

Members may update.

Deliberation in the meeting

ERLDC presented the latest status of telemetry.

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

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

Item no. C.10: 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 September-2019

SINo	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	1289	--	32	--	1257	--	Sep-19
3	DVC	1171.6	3142	61.46	48.26	1110.14	3093.7	Sep-19
4	OPTCL	2391	--	90	--	2301	--	Sep-19
5	WBSETCL	4180	--	400	--	3780	--	July-19
6	Sikkim	--	--	--	--	--	--	

Members may update.

Deliberation in the meeting

Sikkim informed that they had sent the ATC and TTC figures to ERLDC on 20th June 2019.

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

Item no. C.11: 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 35 locations and rest of the locations would be completed by July 2019.

Item no. C.12: 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	July 2019	Last Week of January 2020	
2	Maithon	1stweek of June 2019		1st Week of February 2020	
3	Rengali	2ndweek of June 2019	Done on 27 th June 2019	Last week of November 2020	
4	U. Indarvati	3rdweek of June 2019	July 2019	2nd week of February 2020	
5	Subarnarekha	1stweek of October 2019	July 2019	1st week of January 2020	
6	Balimela	3rdweek of October 2019	July 2019	1st week of March 2020	
7	Teesta-V	2ndweek 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.13: 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.14: 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.	In 157 th OCC Meeting Powergrid informed that the work would be completed by July 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.	157 th OCC advised all the SLDCs 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	DGPC informed that an expert Committee was constituted to enable the autorecloser for transmission lines connected to	It was informed that autorecloser was implemented for Chuka-Birpara lines. It was

	Plant (Bhutan)	<p>Tala and Chuka hydro stations. The Committee had recommended for implementation of the autorecloser at Tala and Chuka.</p> <p>DGPC added that they are planning to implement the autorecloser scheme for the transmission lines connected at Chuka by May 2019. Based on the experience gained, they would implement the autorecloser scheme for the transmission lines connected at Tala.</p>	<p>successfully operated on 26th June 2019.</p> <p>DGPC informed that they will implement the autorecloser at Tala end. Regarding 400kV Binaguri-Malbase, it was informed that some configuration issues have to be addressed before putting the autorecloser in operation.</p>
--	-----------------------	---	--

Item no. C.15: 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.

Members may please note and nominate two executives.

Deliberation in the meeting

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.

PART D:: OPERATIONAL PLANNING

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of July 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 July 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 July 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 July 2019:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
JHARKHAND	Tenughat TPS	1	210	15.07.19	10.08.19	17	Overhauling
DVC	Mezia TPS	3	210	25.06.19	30.07.19	30	COH (Blr-RLA,Turb-RLA,Gen.)
ODISHA	IB TPS	1	210	11.07.19	31.07.19	21	AOH
	Talcher TPS	2	60	25.06.19	09.07.19	9	AOH
		3	60	20.07.19	03.08.19	12	AOH
WBDCL	SgTPS	1	300	12.07.19	15.08.19	20	Capital Overhauling
	SgTPS	2	300	01.07.19	7.07.19	7	Boiler License renewal
	Bandel TPS	1	60	16.06.19	14.08.19	31	Capital Overhauling
	BkTPS	4	210	01.07.19	07.07.19	7	Boiler License renewal
NTPC	FSTPS	5	500	07.06.19	06.07.19	6	Boiler+Gen+ESP

							R&M
	KhSTPS	4	210	01.07.19	30.07.19	30	Boiler+Gen+ESP R&M
BRBCL	Nabinagar TPS	1	250	26.07.19	19.08.19	6	LP turbine inspection,Rotor threading,Generator inspection.
	KUBNL,MTPS-II	4	195	01.07.19	04.08.19	31	LP rotor inspection,Boiler OH
IPP	MPL	2	525	15.06.19	14.07.19	14	AOH
	GMR	1	350	01.06.19	05.07.19	5	Turbine Overhauling

ERLDC may place the list transmission line shutdown discussed on 24th June 2019 through VC.

Members may confirm.

Deliberation in the meeting

Generator shutdown for August 2019:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
JHARKHAND	Tenughat TPS	1	210	15.07.19	10.08.19	17	Overhauling
DVC	Mezia TPS	3	210	25.06.19	30.07.19	30	COH (Blr- RLA,Turb- RLA,Gen.)
ODISHA	IB TPS	1	210	11.07.19	31.07.19	21	AOH
	Talcher TPS	2	60	25.06.19	09.07.19	9	AOH
		3	60	20.07.19	03.08.19	12	AOH
WBPDC	SgTPS	1	300	7.08.19	31.08.19	20	Capital Overhauling
	Bandel TPS	5	60	7.7.19	6.08.19	31	Capital Overhauling
	BkTPS	4	210	15.07.19	19.08.19	35	Capital Overhauling
NTPC	FSTPS	5	500	07.06.19	06.07.19	6	Boiler+Gen+ESP R&M
	KhSTPS	4	210	11.07.19	10.08.19	30	Boiler+Gen+ESP R&M
BRBCL	Nabinagar TPS	1	250	26.07.19	19.08.19	6	LP turbine inspection,Rotor threading,Generator inspection.
	KUBNL,MTPS-II	3	195	01.07.19	04.08.19	31	LP rotor inspection,Boiler OH
IPP	MPL	2	525	15.06.19	14.07.19	14	AOH
	GMR	1	350	01.06.19	05.07.19	5	Turbine Overhauling

NTPC informed that they had taken emergency shutdown of KhSTPS Unit #6 from 23rd June 2019 to 2nd July 2019.

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

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		Expected Revival Date
					(MW)		Date	Time	
1	GMR	ODISHA	GMR	1	350	CAPITAL OVER HAULING	26-May-19	04:51	28-Jun-19
2	FARAKKA	WEST BENGAL	NTPC	6	500	ANNUAL MAINTAINANCE	7-Jun-19	00:15	23-Aug-19
3	KOLAGHAT	WEST BENGAL	WBPDC	1	210	POLLUTION CONTROL PROBLEM	10-May-18	23:05	NO DEFINITE PROGRAM
4	KOLAGHAT	WEST BENGAL	WBPDC	3	210	POLLUTION CONTROL PROBLEM	23-Feb-17	11:51	NO DEFINITE PROGRAM
5	CTPS	JHARKHAND	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-17	00:00	NO DEFINITE PROGRAM
6	JITPL	ODHISA	JITPL	2	600	BOTTOM ASH SCRAPER CLEANING JOB	8-Jun-19	01:15	18-Jun-19
7	STERLITE	ODHISA	GRIDCO	2	600	DUE TO PROBLEM IN OLTC SYSTEM OF Unit Transformer	10-Apr-19	00:29	15-Jun-19
8	WARIA	WEST BENGAL	DVC	4	210	BTL	11-Apr-19	02:45	14-Jun-19
9	SAGARDIGHI	WEST BENGAL	WBPDC	4	500	DRY ASH SYSTEM PROBLEM	27-Apr-19	13:13	14-Jun-19
10	MEJIA	WEST BENGAL	DVC	2	210	UAT# 2B differential relay operated	12-Jun-19	20:16	14-Jun-19
	Sub Total (SS)				3520				

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
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
-	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	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

It is seen that about 560 MW hydro capacities in Odisha is under forced outage / planned outage and therefore not available for providing the much needed peaking support during evening peak. SLDC / OHPC may please indicate restoration plan of the units.

Members may update.

Deliberation in the meeting

Members noted.

(iii) Transmission elements

SL NO	Transmission Element / ICT	Agency	Outage From		Reasons for Outage
			DATE	TIME (HRS)	
1	220 KV BALIMELA - U' SILERU	OPTCL / APSEB	10-03-2018	22:45	LINE ANTITHEFT CHARGED FROM UPPER SILERU ON 17-04-18
2	400 KV IBEUL JHARSAGUDA D/C	IBEUL	29-04-2018	17:30	TOWER COLLAPSE AT LOC 44,45
3	400KV NEW PURNEA-BIHARSARIFF(PG)-D/C	ENICL	10-08-2018	10:28	TOWER COLLAPSE AT LOC 47/0
4	400 KV PATNA KISHANGANJ- I	POWERGRID	01-09-2018	00:32	TOWER COLLAPSE AT LOC 129. PILING DAMAGED
5	400KV FARAKKA - KAHALGAON- I	POWERGRID	06-03-2019	08:28	FOR TAKING UP BAY UP GRADATION WORK OF BAY-22 AT FSTPP END
6	220KV BEGUSARAI-NEW PURNEA-I	BSTPCL	29-05-2019	22:12	NEW PURNEA: Y-B, 58 km, IY- 3.67 kA, IB- 3.52 kA
7	220KV BEGUSARAI-NEW PURNEA-II	BSTPCL	27-05-2019	12:54	B-N, 1.17 kA, 149.7 km from New Purnea
8	765 KV JHARSUGUDA - RAIPUR II	POWERGRID	08-06-2019	14:36	Tripped ON Y-N,12.3 KA,20 KM, PRESENTLY OUT ON HIGH VOLTAGE
9	400KV BINAGURI-TALA-IV	POWERGRID	05-06-2019	09:24	OUT DUE TO HIGH VOLTAGE
16	220KV Budhipadar- IB TPS-III & IV	OPTCL	02-06-2019	14:35	TOWER COLLAPSE AT LOC 13 & 14
17	220 KV PANDIABILI - SAMANGARA D/C	OPTCL	03-05-2019	11:10	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. Line survey work under progress.
--	--	--	--	--	--

(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, Kolkata on 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 Powergrid are 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 May-2019 based on the inputs received from beneficiaries

Monthly commissioning List of Transmission element and generators: May 2019					
SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	132KV Biharsharif-Sheikhpura ckt-2	BSPTCL	06-05-2019	17:37	Charged on no load
2	50MVA Transformer-T2@GSS Bihta new	BSPTCL	08-05-2019	16:00	Charged on no load
3	160MVA ICT-2 @ NARHAT(BGCL) GIS	BSPTCL	09-05-2019	17:24	Charged on no load
4	132KV Biharsharif-Nawada ckt-2	BSPTCL	10-05-2019	18:14	Charged upto loc. no. 142.
5	400 kV North Karanpur II Bay (430) @ Gaya	PGCIL	24-05-2019	17:54	
6	401 kV North Karanpur I Bay (427) @ Gaya	PGCIL	24-05-2019		
7	132kv Purulia-Jhalda	WBSETCL	29-05-2019	17:15	132kv Purulia-Bagmundi#1 & Jhalda-Bagmundi#2 shorted ph. To ph. outside Bagmundi 5/S to form Purulia-Jhalda line (R.L. 118.565km)

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

System frequency touched a maximum of 50.33 Hz at 18:02Hrs of 01/05/19 and a minimum of 49.65 Hz at 14:16 Hrs of 09/05/19 and 21:17 Hrs on 21/05/19. Hence, no report of operation of UFR has been received from any of the constituents.

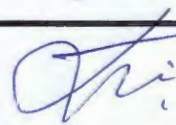
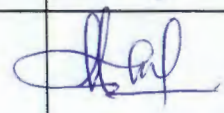
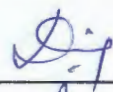

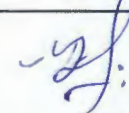

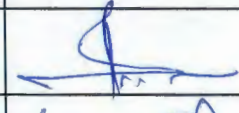
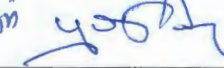
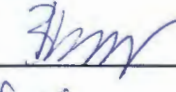
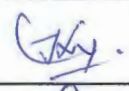

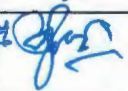
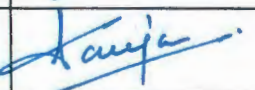

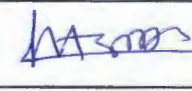
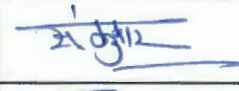
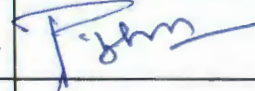
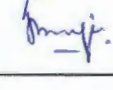
Item No. E.5: Grid incidences during the month of May, 2019

Sr No	GD/ GI	Date	Time	S/S involved	Summary	Load loss (MW)	Gen loss (MW)
1	GI-II	02-05-2019	01:08	Angul	At 01:08 Hrs, 765 KV Angul-Jharsuguda III tripped due to R_ph CT failure of its tie bay at Angul end. 765 KV Bus I at Angul also tripped along with the line.	0	0

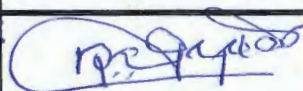
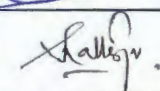
2	GD-I	08-05-2019	13:05	Mendasal, Pandiabili	220 kV Mendasal - Bhanjanagar S/C was under breakdown. While taking charging attempt 400/220 kV ICT - II at Mendasal, B phase LA of its HV side burst and subsequently all 400 kV and 220 kV lines at Mendasal tripped. Pandiabili which was being supplied through Mendasal end only also became dead	0	0
3	GI-II	16-05-2019	19:10	Vedanta	One flying metal sheet was in induction zone of two smelter SEZ transmission line due to heavy localized windy storm which created line fault. Hence SEZ lines (2nos) got tripped on earth fault protection and third line tripped on over current protection. Unit -1 came to home load operation and HP/LP bypassed of other units (unit-3&4) immediately by CILMS (Internal SPS) action	1332	540
4	GI-I	18-05-2019	22:34	Bakreswar	At 22:34 hrs 220 kV main bus I at Bakreswar (BkTPP) tripped on bus differential protection leading to the tripping of 220 KV Bakreswar-Satgachia I, 220 KV Bakreswar Sadaipur I, 220 KV Bakreswar Durgapur II & 315 MVA ICT II at Bakreswar. U#3 and U#5 of Bakreswar switched to house-load mode, resulting into generation loss of around 350 MW (House load catered: 15 MW apex.) Load at Satgachia was interrupted due to an inter-tripping scheme which trips Satgachia's load during peak hours if any one of the 220 KV Bakreswar-Satgachia D/c trips.	18	350
5	GI-II	22-05-2019	19:57	OPGC	At 19:57 hrs 400 kV Jharsuguda - OPGC - II tripped at 19:57 hrs from OPGC end only. At 19:59 hrs 400 kV Jharsuguda OPGC - I tripped at 19:59 hrs on R-N fault resulting tripping of GT#4 & interruption of auxiliary supply to plant followed by tripping of all station compressors. At 20:15 hrs U#3 at OPGC was hand tripped.	0	650
6	GI-I	29-05-2019	21:44	Darbhangha	400 kV Darbhanga - Kishangunj D/C along with 400 kV bus II at Darbhanga tripped at 21:44 hrs due to collapse of Tower No 385(Loc. 96/0) suspension type collapsed due to high speed cyclone at Supaul Area (Bihar)-Near Koshi River.	0	0


REGISTRATION OF PARTICIPANTS AT 158th OCC MEETING

Sl. No.	Name	Design/Organization	Mobile No.	email I'd	Signature
1	J. Bondyopadhyay	Member Secretary, ERPC	9432326351	mserpc-power@gov.in	
2	Shyam Kajriwal	Supdt. Engineer, ERPC	9831919509	shyam.tee11@gmail.com	
3	J.G. Rao	Executive Engineer, ERPC	9547891353	erpcprotecion@gmail.com	
4	S.M. Jha	Consultant, ERPC	9874738913	erpcjha@yahoo.co.in	
5	D.K.Jain	Exec. Director, ERLDC	9910344127	dk.jain@posoco.in	
6	S. Banerjee	GM, ERLDC	9433041823	surajit.banerjee@posoco.in	
7	B.Achari	Ch. Mgr., ERLDC	7003472016	bilash.achari@posoco.in	
8	T.R. Mahapatra	Ch. Mgr., ERLDC	9433041873	trmohepatra@posoco.in	
9	B.Mondal	Dy. Mgr., ERLDC	9903329271	BISWASIT.MONDAL@POSOCO.IN	
10	Nisith Kr. Gupta	Add. Exe. Engineer, SLDC	7033095872	nk Gupta.bsptcl@gmail.com	
11	Gagan Kumar	E.E.E, SLDC	7763817782	gagankmishra@gmail.com	
12	P.K. Misra	Chief Load Despatcher, SLDC	9438907402	clld-slde@sldeconissa.org.in	
13	M.K. Das	GM, SLDC	7605 9438907402	manojkumardas@optcl.gomail.com	
14	Sunil Kumar Sharma	GM (OS), ER-I HQ, NTPC (Patna)	9471008359 / 6204440298	sksharma06@ntpc.co.in	
15	Arun Pramanik	AGM (Operation) NTPC, TSTPS	9435026386	arunpramanick@ntpc.co.in	
16	Kaushik Ghosh	DGM – EEMG, NTPC Farakka	9434039924 / 7908571220	kaushikghosh@ntpc.co.in (Farakka)	
17	Sanjoy Kumar Mishra	DGM(OS), NTPC ER-II HQ,	9438233207	SKmishra05@ntpc-co.in	
18	Pradeep Kumar Mahapatra	AGM, OPGCL	9338715401 / 9437059840	Pradeep.mahapatra@opgc.co.in	

Sl. No.	Name	Design/Organization	Mobile No.	email I'd	Signature
19	Sonam Wangchuk	Head OD Unit, Tala HPP, DGCL Bhutan Govt	9903907739	b.wangchuk2423@drutgreen.bt	
20	Tenzin Wangda	Head OD Unit, Kurichhu HPP DGCL Bhutan Govt	"	t.wangda1772@drutgreen.bt	
21	Deki Wangmo	JE, Head Office, Thimphu DGCL Bhutan Govt	"	d.wangmo@drutgreen.bt	
22	Karma Choden	SO, Head Office Thimphu DGCL Bhutan Govt	"	k.choden@drutgreen.bt	
23	Som Maya	SO, Chhukha HPP DGCL Bhutan Govt	"	SomMaya1010@gmail.com s.ravi2510@drutgreen.bt	
24	Chhimi Dema	SO, Basochhu HPP DGCL Bhutan Govt	"	c.dema.sustadrukpen.bt	
25	Diptikanta Panda	Asst. Manager, GMR Kamalanga Energy Ltd	07752020432/ 08114918762	diptikanta.panda@gmrgroup.in	
26	Yogesh Singla	DGM-RRMG, MTPS-KBUNL- Kanti	9650991627	yogeshsingla@ntpl.com	
27	Devendra Kumar	DGM, Teesta Urja Ltd.	7719379087	devendra.b@teestaurja.com	
28	S.K. Chowdhury	Adhunik Power	8294633412	Sanjivachowdhury@adhunikgroup.co.in	
29	Arunabha Sengupta	DGM, CESC	9831802682	arunabha.sengupta@nsp-sg.in	
30	R.K. Pandey R.K. Pandey	JUSNL	9934138298	repaswan7@gmail.com	
31	Tushar Ranjan	JUSNL	9326374226	ranjitushar@gmail.com	
32	S.K. Pramanik	Chief General Manager, PGCL	7603037367	Sapramanik@powergridindia.com	
33	S.K. Hazra	Sr.General Manager, PGCL	9433041809	skhazra@powergridindia.com 9433041809	
34	S. K. Sahu	DGM, Powergrid orissa	9078883643	ssk.sahu@powergridindia.com	
35	Partha Ghosh	Chief Manager, PGCL	9434748263	partha.ghosh@powergridindia.com	
36	Souvik Banerjee	ACE, WBSEDCL	9434910093	svkbanerjee@yahoo.com	

Sl. No.	Name	Design/Organization	Mobile No.	email I'd	Signature
37	Pritam Banerjee	ACE, WBSEDCL	9432140765	pritam72@gmail.com	
38	S R Sardul	Head Operation, Maithaon Power Ltd	9204857100	socaldr@tatapower.com	
39	Ansuman Ray	Sr. Manager(E), NHPC Ltd	8170057738	ansuman1975@gmail.com	
40	Namgyal Tashi	Exec. Engineer, SLDC, Sikkim	7797672743/7001057059	namgyaltashik@gmail.com	
41	Sonam Ongchuk Lepcha	Assistant Engineer, SLDC, Sikkim	7548917326	Sonam wongchuk@gmail.com	
42	Ashish Lamichane	Assistant Engineer, SLDC, Sikkim			
43	Rakesh Kumar Singh	Sr. Executive, DMTCL	7673034014	rakeshkumar.singh@dmtp.com	
44	Santosh Kumar Panda	SLDC, DVC	8335963982	santosh.panda@dvc.gov.in	
45	Preetosh Ghosh	SLDC, DVC	9674299618	preetosh.ghosh@dvc.gov.in	
46	Alam	NHPC, WBP			
47	S.S. Nayak	CGM (PP), GRIDCO	9438591100	sgm.pp@gridco.co.in	
48	S.K. Maharana	AGM (PP), GRIDCO	9438591100	senjitmaharana@gmail.com	
49	S Kumar	Manager (AM), Powergrid, Patna	9431820338	Subrat.Kumar1234@gmail.com	
50	Swapan patra	Sr. Manager, DPL	9434537603	smo.dpl@gmail.com	
51	Sandipan Mukhopadhyay	Manager, DPL	9831716792	Sandi-dpl@rediffmail.com	
52	Ananda Mohan Singh	Manager, DPL	9641933661	anand.9ec@gmail.com	
53	Gautam Biswas	ED (OS), WBPDC	9073900850	G.Biswas@wbpdc.co.in	
54	Amarnath Pal	GM, BKTTP	8336904021	apal@wbpdc.co.in	
55	Kaushik Datta	GM, WBPDC	8336903895	k.datta@wbpdc.co.in	

Sl. No.	Name	Design/Organization	Mobile No.	email I'd	Signature
56	Prakash Gupta	DGM (OS), WBPDC	8336903960	prakashgupta@wbpdcl.co.in	
57	Soumen Chatterjee	DGM (OS), WBPDC	8336903772	S.Chatterjee@wbpdcl.co.in	

Sr. Rahul Kr Jaiswal Manager (Ops) 9453055076 8299755598 rahul.aiskhury@gmail.com 



Power System Operation Corporation Ltd.

158th OCC Meeting




At Bakreswar, WBPDCCL
27th June, 2019

ER Grid Performances

ERLDC POSOCO

Highlights for the month of May-19

Frequency Profile

Average Freq:- 50.00 Hz
Avg FVI:- 0.044
Lowest FVI:- 0.026

Max- 50.33Hz on 01st May' 19
Min- 49.65 Hz on 09th and 21st May'19

72.62% of the time freq was with in IEGC Band

Peak Demand-

ER: 23476 MW on 20th May 2019 at 22:45 hrs

% Growth in Average Demand Met w.r.t. last year: 7.4%

BSPHCL : 5353 MW ; ON 26/05/19
JUVNL: **1348 MW**; ON 21/05/19
DVC: 3193 MW; ON 20/05/19
GRIDCO: 4763 MW; ON 31/05/19
WB: **9362 MW**; ON 28/05/19
SIKKIM: 97 MW; ON 08/05/19

*All data source are from SCADA

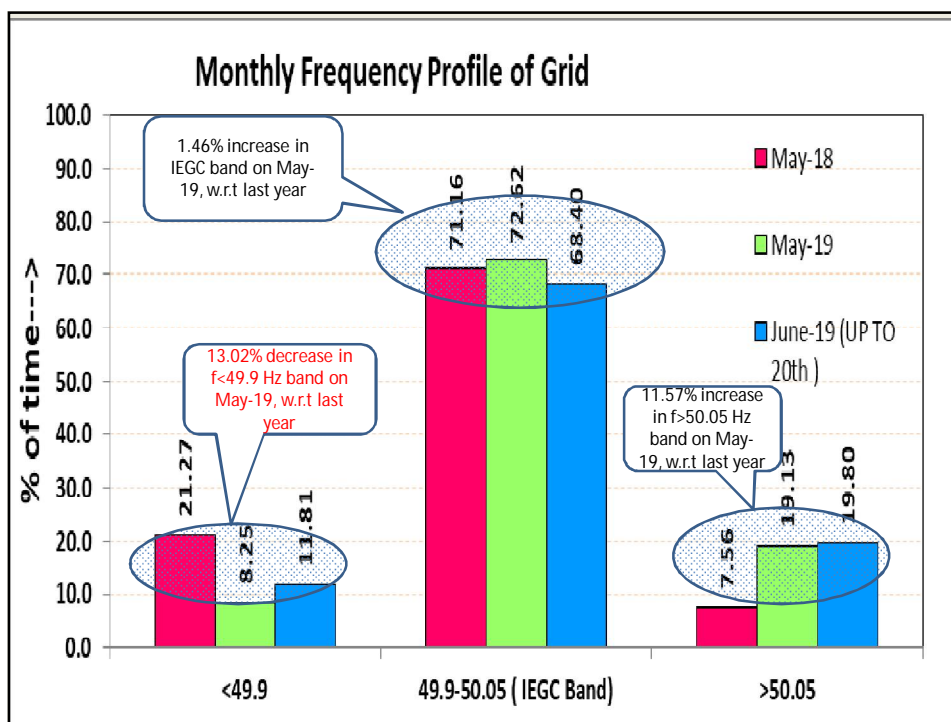
New Element

Generating Units-NIL

Open Access

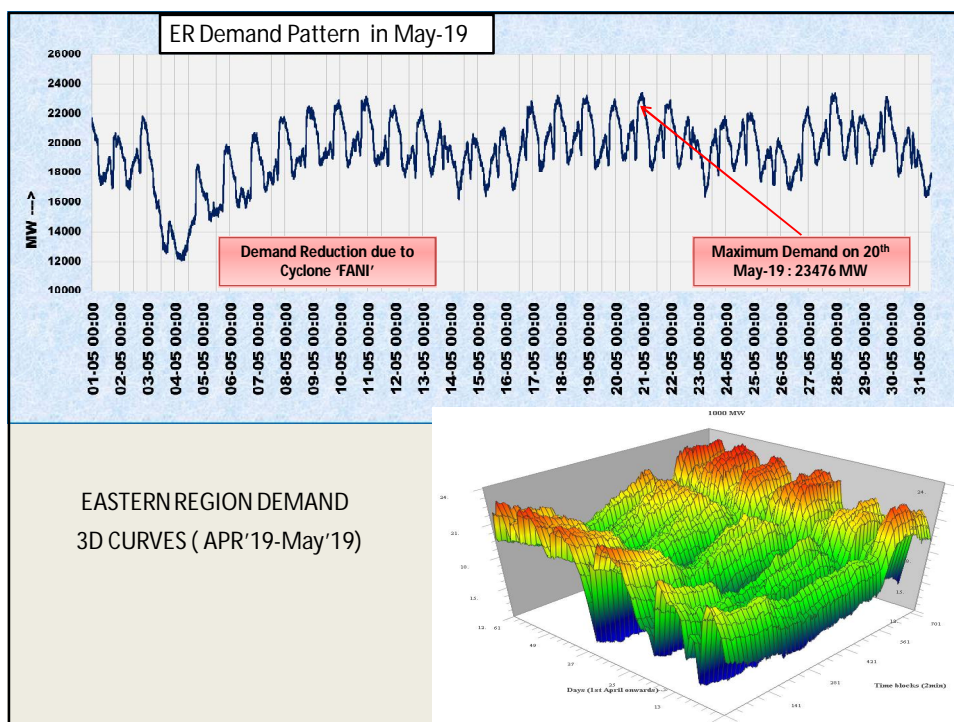
STOA transactions approved -267 nos.

Energy Approved- 1485.46 MUs



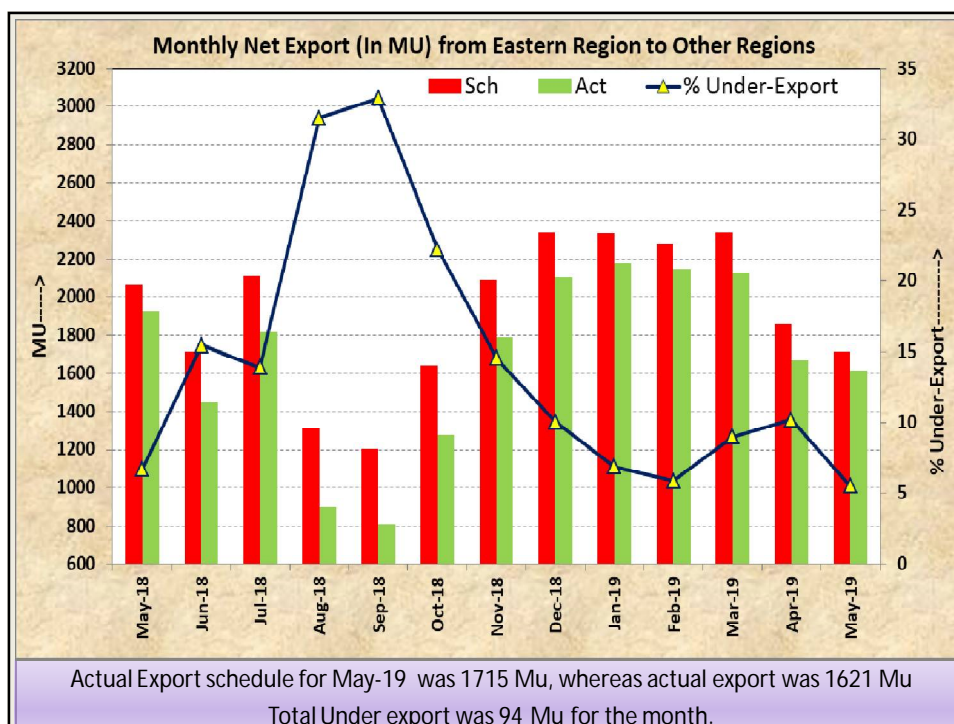
So Far Highest Demand					
Constitute	Demand (in MW)	Date	Time	Dmd met (MW) on 20 th May'19 (max dmd met day)	
				MW	Time
Bihar	5376	19-Jun-19	20:18	5250	20:55
DVC	3256	29-Mar-19	8:02	3193	19:56
Jharkhand	1348	21-May-18	20:45	1278	20:40
Odisha	5558	23-Aug-18	20:21	4654	22:42
W. Bengal	9362	28-May-19	14:27	8854	23:10
Sikkim	117	28-Oct-16	19:22	86	17:38
ER	23476	20-May-19	22:45	23476	22:45
So Far Highest Energy Consumption					
Constitute	Energy consumption (in MUs)	Date		Energy met on 20 th May'19 (max dmd met day)	
Bihar	109.3	19-Jun-19		105.4	
DVC	75.8	12-Jul-18		69.6	
Jharkhand	27.8	19-May-18		27.1	
Odisha	123.5	02-Oct-18		92.2	
West Bengal	199.9	28-May-19		192.2	
Sikkim	2.1	07-Dec-17		1.4	
ER	504	20-May-19		504	

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

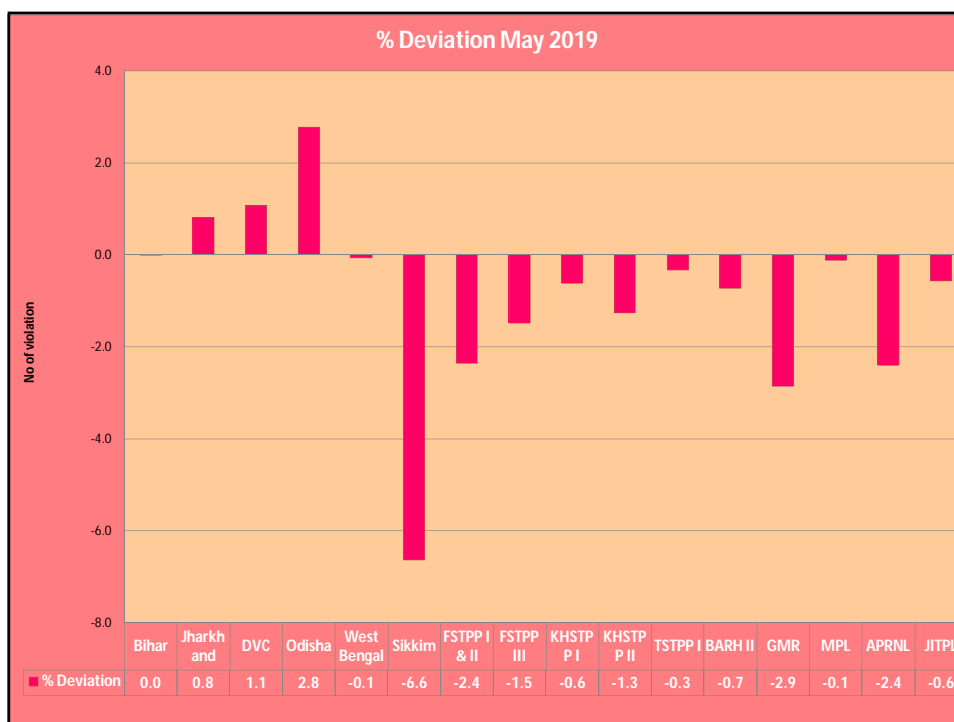


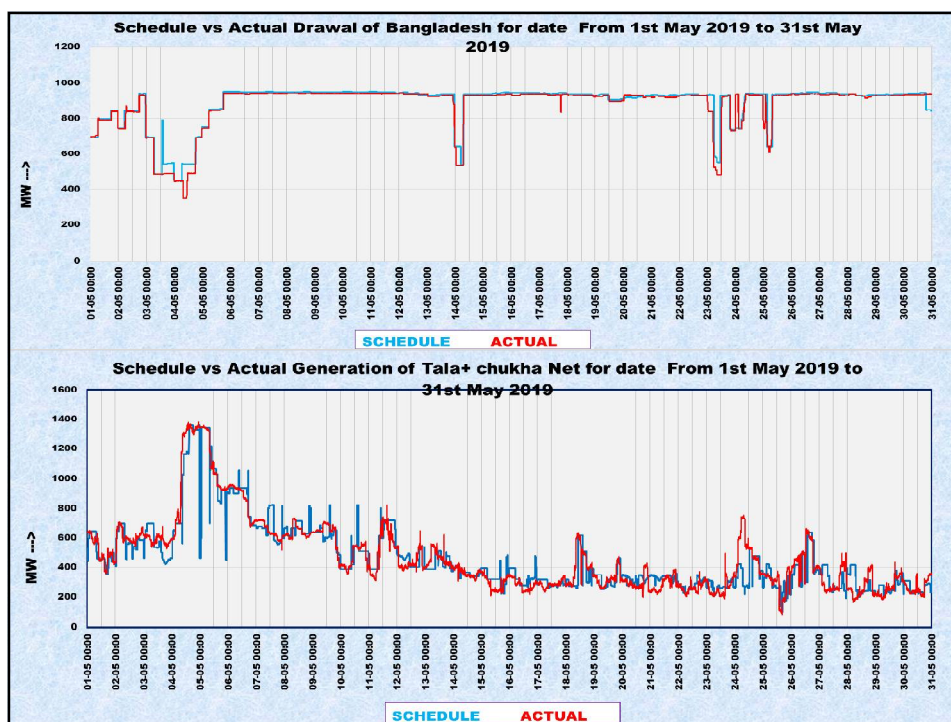
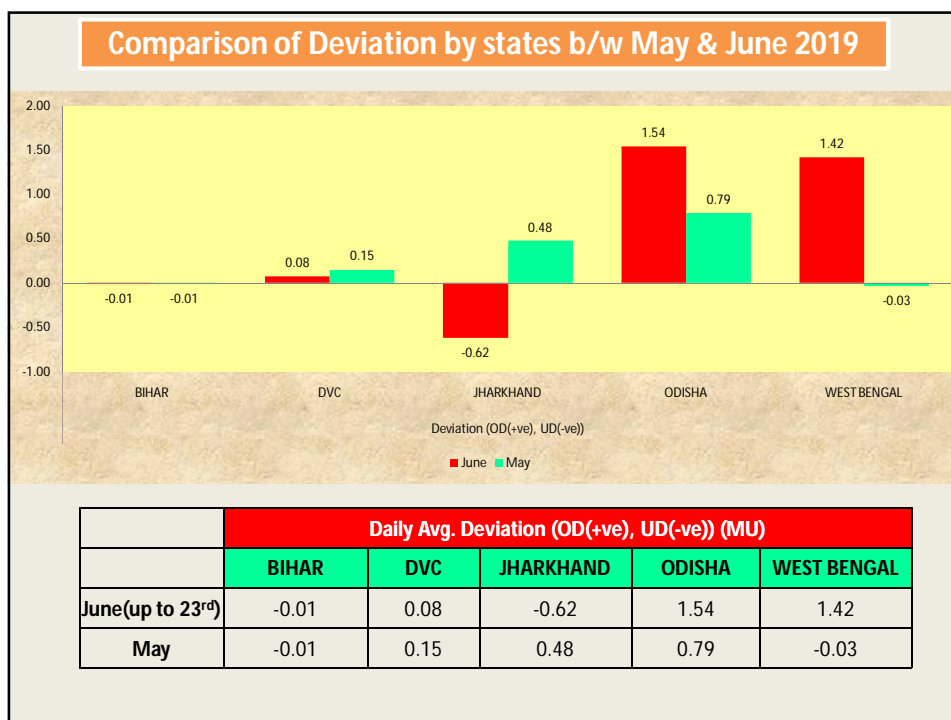
Over Drawl / Under Injection by ER Entities

Non-compliance of direction issued by SLDC

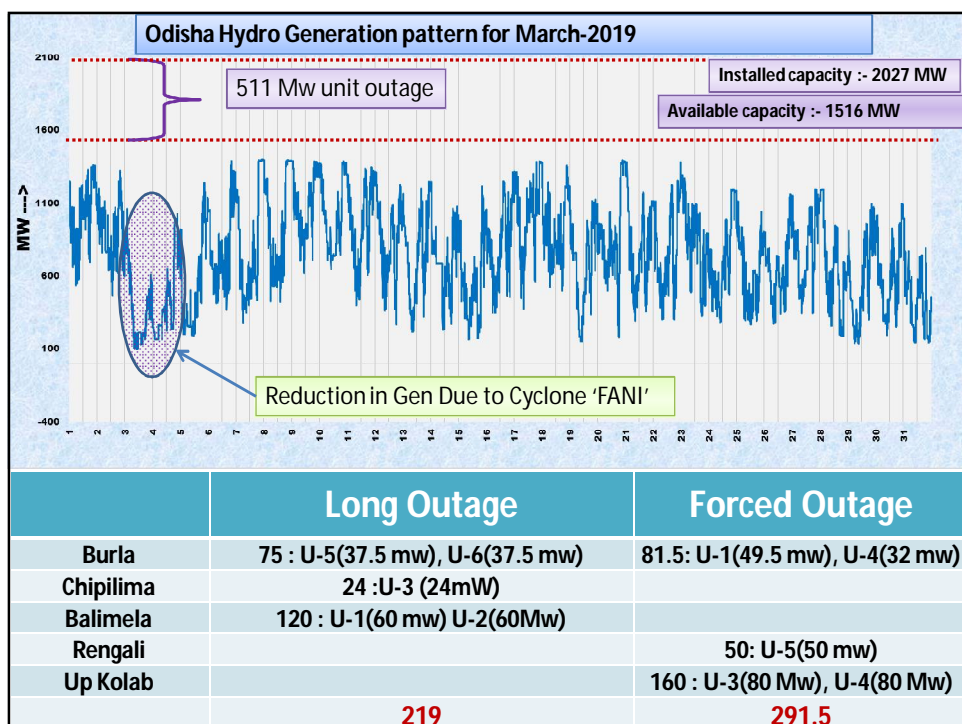


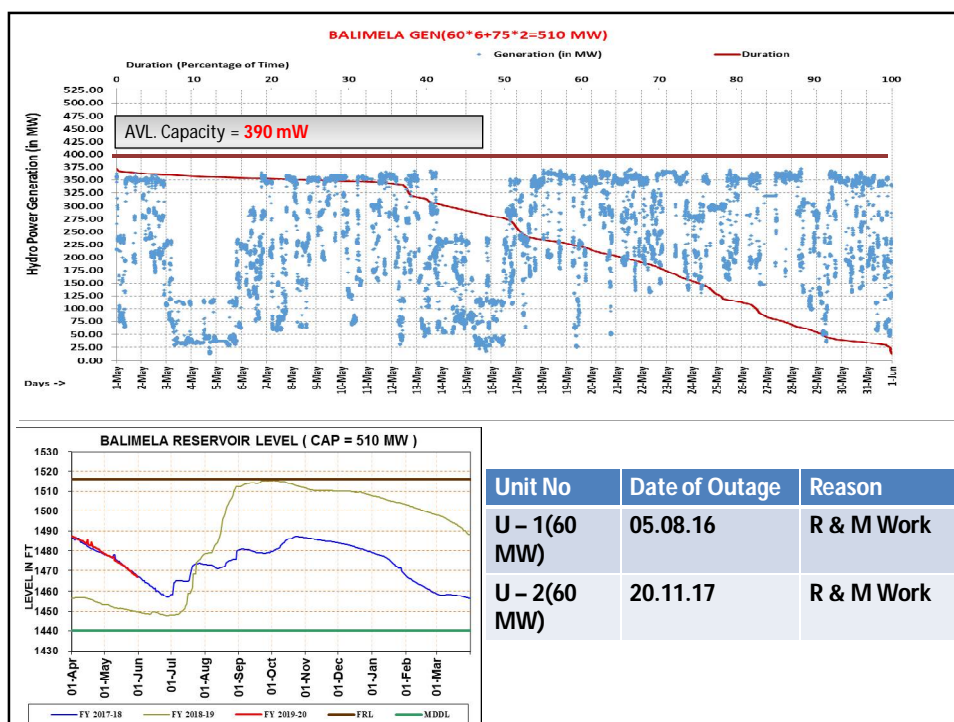
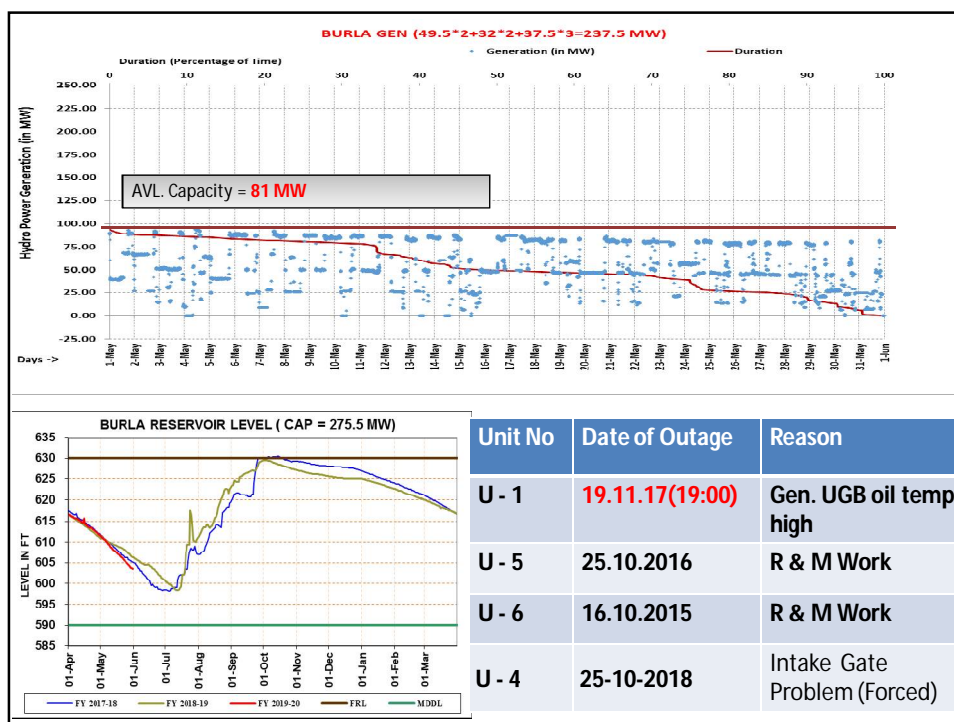
May 2019 Schedule vs Actual Status					
	Schedule(MU)	Actual(MU)	OD(MU)	Daily Avg. OD(MU)	% Deviation
Bihar	2964	2964	0	0.0	0.0
Jharkhand	561	565	5	0.1	0.8
DVC	-1386	-1372	15	0.5	1.1
Odisha	881	905	24	0.8	2.8
West Bengal	1794	1793	-1	0.0	-0.1
Sikkim	43	40	-3	-0.1	-6.6
FSTPP I & II	949	927	-22	-0.7	-2.4
FSTPP III	294	290	-4	-0.1	-1.5
KHSTPP I	490	487	-3	-0.1	-0.6
KHSTPP II	681	672	-9	-0.3	-1.3
TSTPP I	567	565	-2	-0.1	-0.3
BARH II	852	846	-6	-0.2	-0.7
GMR	379	368	-11	-0.4	-2.9
MPL	626	626	-1	0.0	-0.1
APRNL	212	207	-5	-0.2	-2.4
JITPL	354	352	-2	-0.1	-0.6

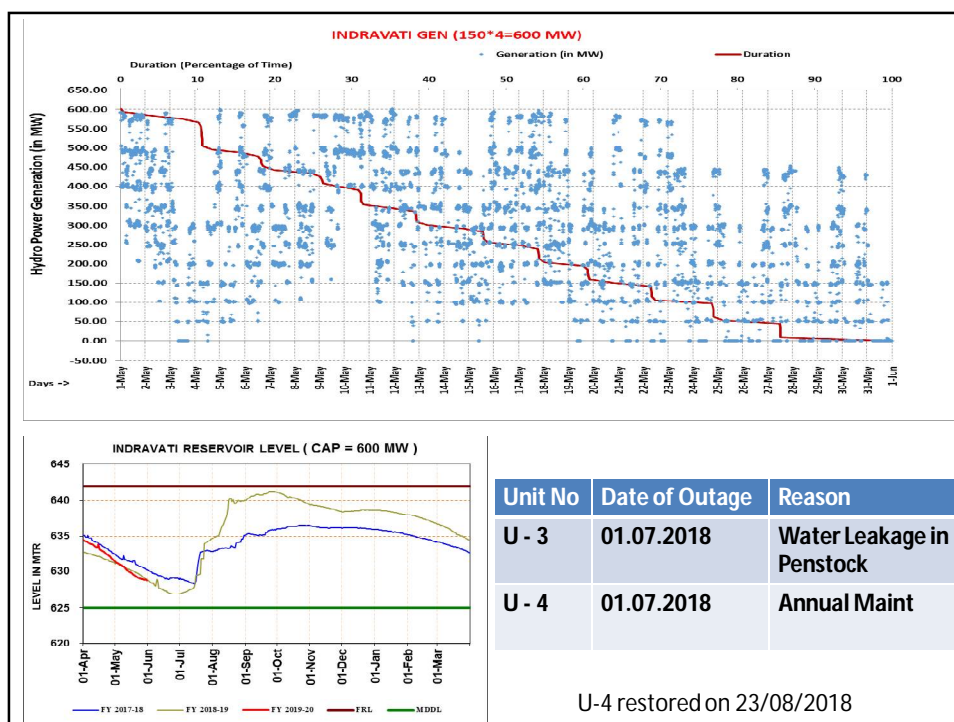
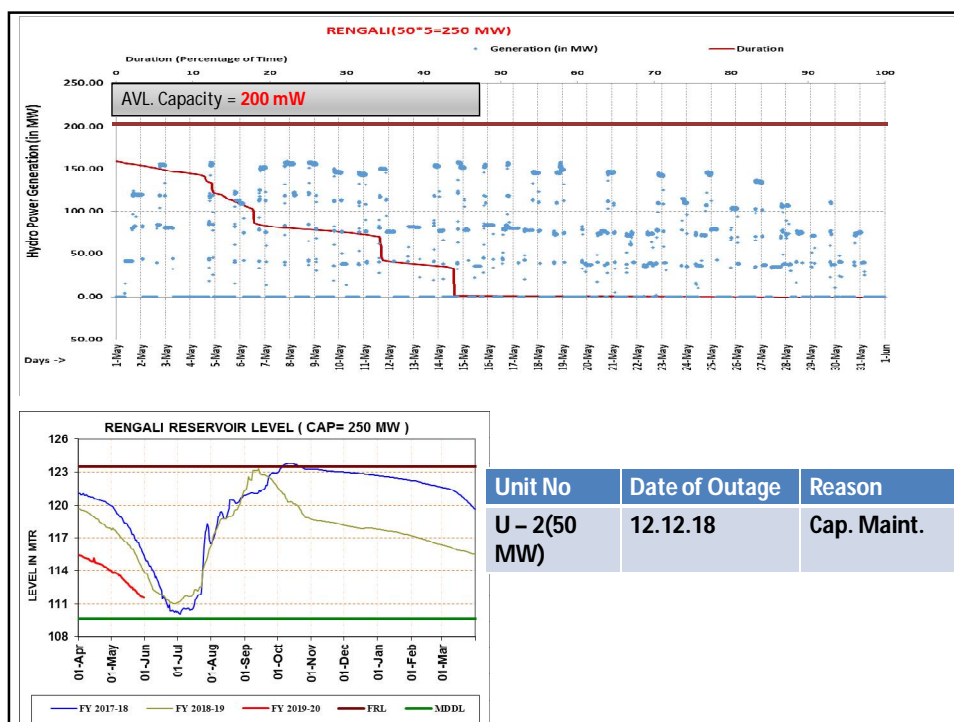


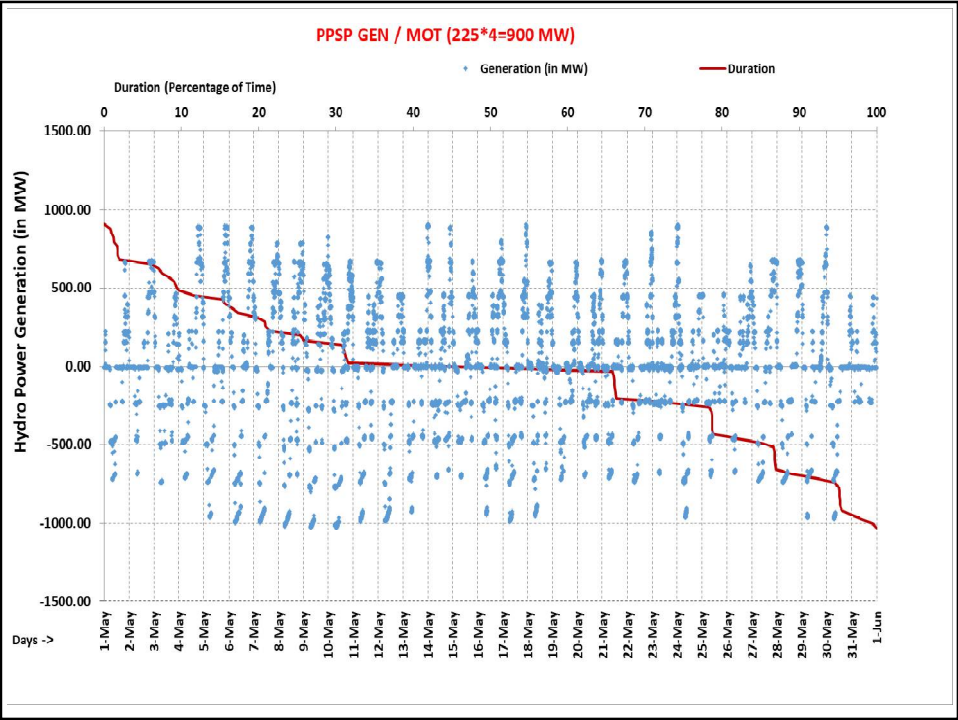
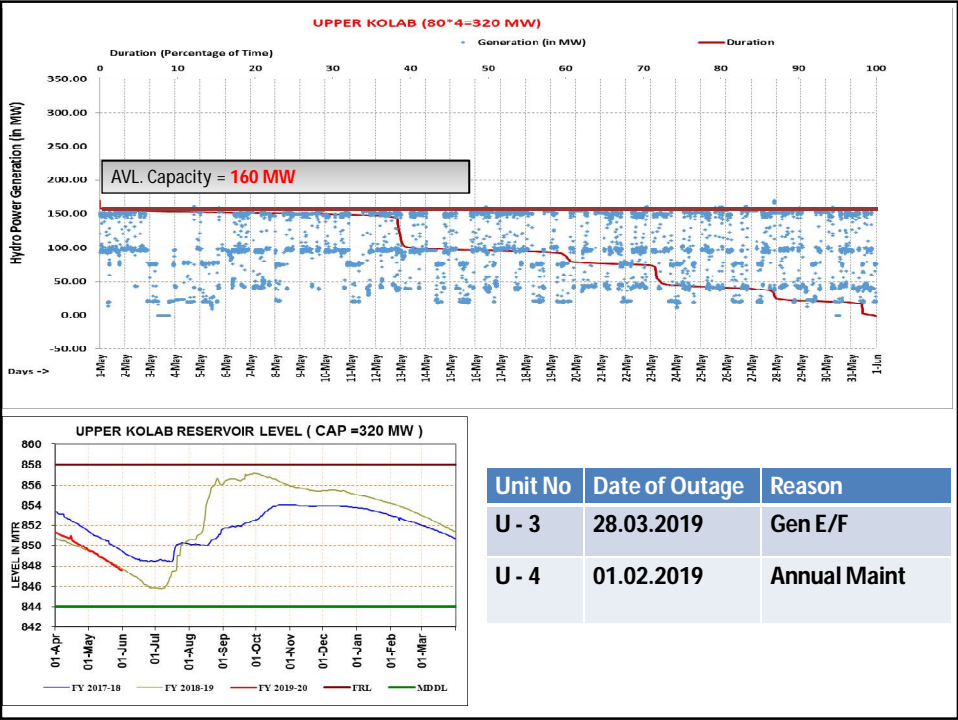


State Hydro Generators Performance









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?
- **220KV Budhipadar- IB TPS-III & IV** out since 02/06/19 due to TOWER COLLAPSE AT LOC 13 & 14.
- **400 kV Patna – Kisanganj – I** was out since 01 Spt-2018 and 400 kV Purnea – Biharsariff D/C were out since 10 Aug – 2018 on Tower Collapse.

Low Voltage issue at Jerat, Subhasgram and Rajarahat of West Bengal

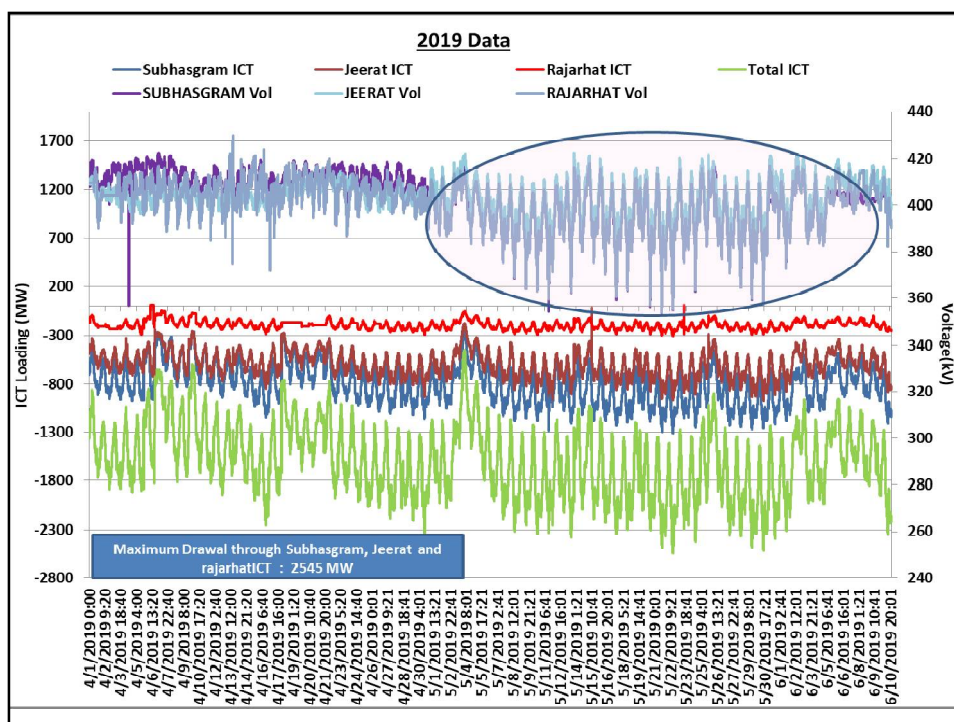
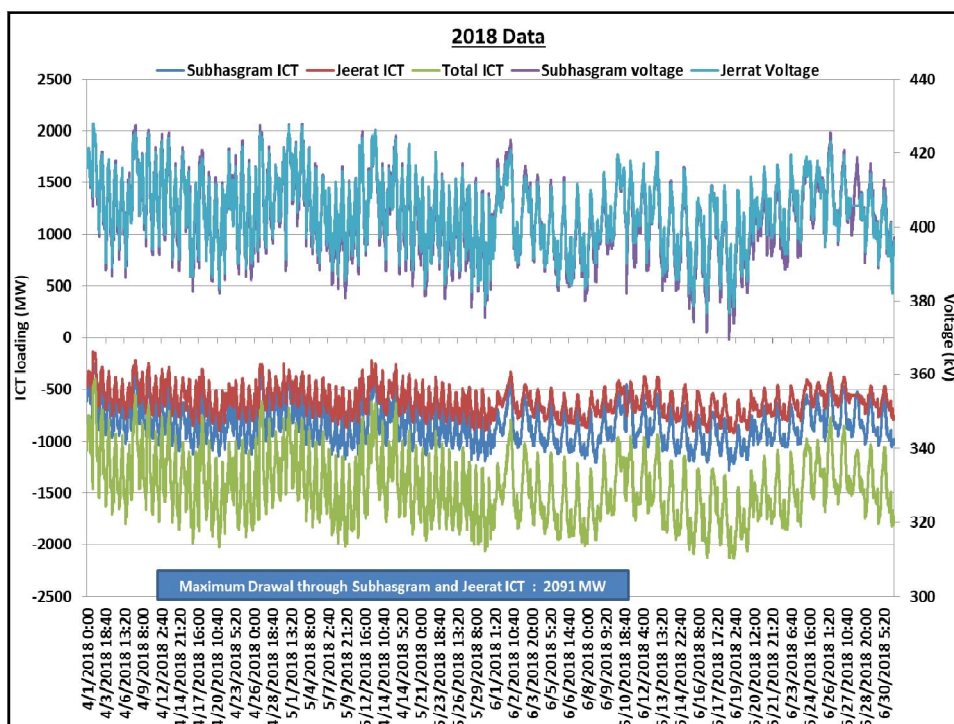
Deterioration of Jerat, Subhasgram and Rajarahat Voltage (YOY 2018 & 2019)
Comparison made for the Maximum demand day of 2018 & 2019

MAXIMUM LOAD DAY				
YEAR		2019	2018	Diff
DATE TIME		22/05/19 15:39	30/05/18 15:13	
MW loading	Total	2546	2091	↑ 455
	Jeerat	951	889	↑ 62
	Subhasgram	1312	1202	↑ 110
	Rajarahat	283	0	↑ 283
MVAR loading	Total	776	538	↑ 238
	Jeerat	351	265	↑ 87
	Subhasgram	349	273	↑ 76
	Rajarahat	76	0	↑ 76
Voltage	Jeerat (400kV)	369	380	↓ -12
	S'gram (400kV)	359	377	↓ -18
	R'hat (400kV)	359	--	--

+ve = Drawl, -ve = Injection

West Bengal MW and MVAR load increased by 455 MW & 238 MVAR YOY without any MVAR compensation leading to low voltage at Jerat, subhasgram & Rajarahat Area

Generating Stations	MW (Gen.)	MVAR (Gen.)	MVAR Gen. limit as per Capability	Margin Available
Haldia	567	346	290	-56
Sagardighi	932	200	730	531
Bakreswar	1002	467	647.85	181
Kolaghat	468	281	622	341

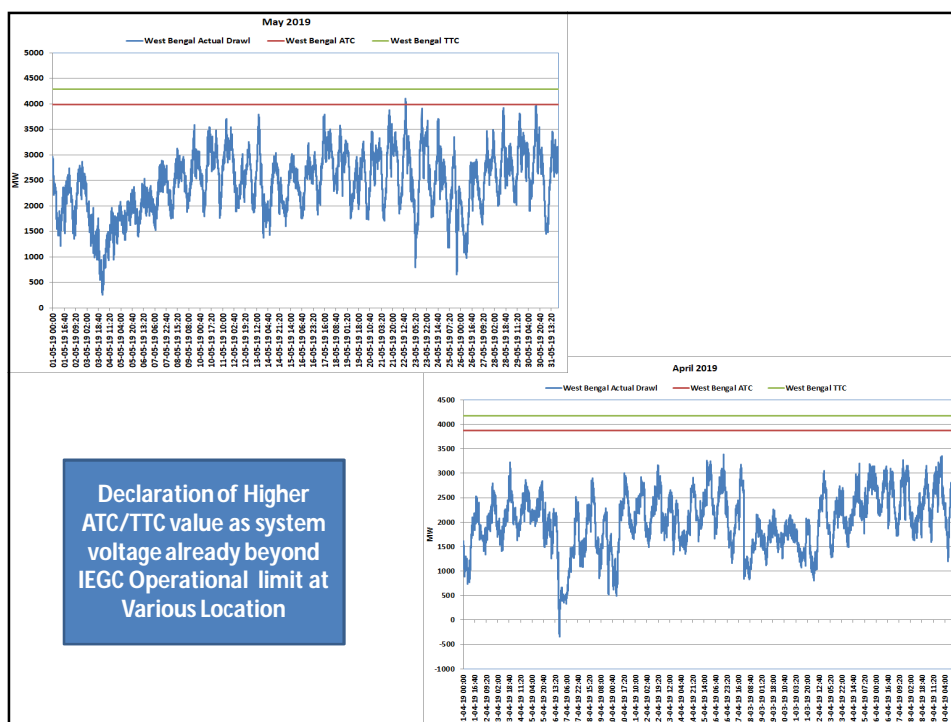


Deterioration of Jerat, Subhasgram and Rajarhat Voltage (YOY 2018 & 2019) Comparison made for the Minimum Voltage day of 2018 & 2019

Minimum Voltage DAY				
YEAR		2019	2018	Diff
DATE TIME		21/05/19 15:16	30/05/18 14:45	
MW loading	Total	2448	1999	↑ 449
	Jeerat	957	783	↑ 174
	Subhasgram	1197	271	↑ 926
	Rajarhat	294	0	↑ 294
MVAR loading	Total	790	522	↑ 268
	Jeerat	361	251	↑ 110
	Subhasgram	346	271	↑ 75
	Rajarhat	83	0	↑ 83
Voltage 400 KV	Jeerat	363	379	↓ -15
	Subhasgram	354	375	↓ -21
	Rajarhat	354	--	--

+ve = Drawl, -ve = Injection

Generating Stations	MW (Gen.)	MVAR (Gen.)	MVAR Gen. limit as per Capability	Margin Available
Haldia	574	347	290	-57
Sagardighi	932	200	730	531
Bakreswar	995	442	647.85	205
Kolaghat	399	343	622	279



For the event of frequency rise on 16th May 2019, response was not satisfactory for MPL, Teesta V, Teesta III, Dikchu, APNRL, JITPL and as per PMU data recorded at ERLDC. In case of MPL and Teesta V response was withdrawn within 10 seconds and in case of APNRL, JITPL & GMR, oscillation in power output has been observed. This may introduce forced oscillation in the system. As per generation data received from HEL & BBGS, no response observed in case of frequency rise incident.

In case of event on 19th May 2019, response observed at MPL was satisfactory as per PMU data as well as DCS data received from MPL. But response was withdrawn within 10 seconds in case of Teesta V, APNRL, JITPL & GMR. Oscillatory response has been observed in case of output at Teesta V.

Based on the performance observed, one report has been prepared and attached in annexure.

Table 2: Response Based on ERLDC SCADA Data for the events in the month of May 2019 (generation end data yet to be received)

Generating Station	Remarks	Action plans to be taken by generating stations/SLDCs as per decision taken in special meeting on 31-01-19 at ERPC
FSTPP I & II	Non-Satisfactory for event II	DCS to be replaced in next overhauling for unit I, II & III; Fine tuning of logic for RGMO to be completed by March 2019. NTPC to share the status of RGMO tuning, DCS replacement and reason for non-satisfactory response.
FSTPP III	Non-Satisfactory	
KhSTPP I	Non-Satisfactory	
KhSTPP II	Non-Satisfactory	
Talcher I & II	Non-Satisfactory as per ERLDC SCADA data.	Fine-tuning of RGMO was going on and expected to be completed by Next Overhauling. NTPC to share the status of RGMO tuning and response observed at the time of the event.
Barh	Non satisfactory	NTPC to take up the matter of data collection in .csv format and the issue of fine tuning of the RGMO with their OEM. NTPC to share the status of RGMO tuning and the status of data collection in .csv format.
BRBCL	Non-Satisfactory	BRBCL to take up the issue of fine tuning of the RGMO with their OEM. BRBCL to share the status of RGMO tuning and reason for non-satisfactory response.
GRIDCO	Non-Satisfactory	GRIDCO SLDC to calculate FRC observed at the boundary of the control area and reason for non-satisfactory response. Format for calculation of FRC has been circulated.

Jharkhand	Non-Satisfactory	Jharkhand SLDC to calculate FRC observed at the boundary of the control area and reason for non-satisfactory response. Format for calculation of FRC has been circulated.
WB	Non-Satisfactory	WB SLDC to calculate FRC observed at the boundary of the control area and reason for non-satisfactory response. Format for calculation of FRC has been circulated.

Table 3: Response from High-Resolution Data recorded at generating stations/SLDCs /ERLDC for the events in the month of May 2019*

Generating Station/ SLDC	Responses observed	Action plans to be taken by generating stations/SLDCs as per decision taken in special meeting on 31-01-19 at ERPC
MPL ***	Non-satisfactory for the first event; response withdrawn within 10 seconds. Satisfactory response observed in case of second event.	MPL to share the reason for non-satisfactory response during frequency rise incident.
Teesta V***	Non-satisfactory for the both events and in case of second event initial response withdrawn within 10 seconds; MW generation was oscillatory in nature for first 5 seconds.	NHPC to share reason for non-satisfactory response in case of both events. In case of second event, delayed response has been observed after the withdrawal of initial response.
APNRL, GMR & JITPL ***	Oscillatory response for first event i.e. frequency rise. In case of second event, below satisfactory response has been observed and response was withdrawn within 10-15 seconds.	APNRL, GMR & JITPL to share the reason for non-satisfactory & short timed response.
Teesta III & Dikchu	Satisfactory response has been observed for total generation of Teesta III & Dikchu for the second event. In case of first event, response was non-satisfactory.	Teesta III & Dikchu to share the reason for non-satisfactory response for the event of frequency rise.
BBGS	Generation reduction was not satisfactory for the event of frequency rise. Response did not sustain for more than 10 seconds. For second event, response yet to be received.	BBGS to share the reason for non-satisfactory and short time response.

HEL **	Non-Satisfactory for the first event. In case of second event, increased generation reduced within one minute. As per HEL, it was due to rapid change in pressure and temperature as machine was running at full load.	HEL informed suitable action taken to achieve satisfactory response for frequency rise event. HEL may take action to deal with the issue of rapid change in temperature and pressure observed in second event.
Budge Budge	Total station response was below satisfactory level. Generation output was more than I/C.	CESC to share the reason for oscillatory unit output.
FRC shared by DVC	Non-Satisfactory	Same issue was highlighted in the meeting held on RGMO issue at ERPC conference room on 31st January 2019. DVC was to share action plan by 04th February 2019, which is yet to be received

*** Based on data received on or before 10-06-2019**

****Based on data received from generating end**

*****Based on data captured in PMU installed at lines connecting the generating stations.**

In view of the above Generating Power Plants of Eastern Region and SLDC may kindly explain the following points:

1. Inadequate RGMO/FGMO response for such critical Contingency and Large Frequency Drop in the grid in line with IEGC 5.2.f to 5.2.i.
2. Non-submission of data for RGMO Response in line with IEGC 5.2.r , IEGC 5.9.4.b, CEA Technical standards for connectivity to the Grid Regulation 6.4.d, CEA Grid Standard 15.3. Generation data/FRC is only received from Adhunik, MPL, Budge Budge and DVC SLDC. Other regional generating stations/SLDCs may furnish the reason for not sharing high resolution generation data/FRC at their control area. Even resolution of shared data may be increased in order to improve analysis of governor operation. In case of data shared by APNRL, no oscillatory response has not been observed, which is clearly visible in PMU data.
3. Non-Receipt of Computed FRC from SLDC for their Control Areas as per the Approved FRC procedure by CERC (In line with CERC order 84/MP/2015 dated 31-07-17)

Unit Name	Overhauling date
CTPS #7	09-02-19
KhSTPP #1	12-03-19
Barh #4	17-02-19
Mejia #2	08-05-19

KhSTPP #7	21-04-19
GMR #1	26-05-19
FSTPP #6	07-06-19

4. Status of action plans taken as per decision taken in special meeting on 31-01-19. After the meeting, overhauling has been taken for following units:

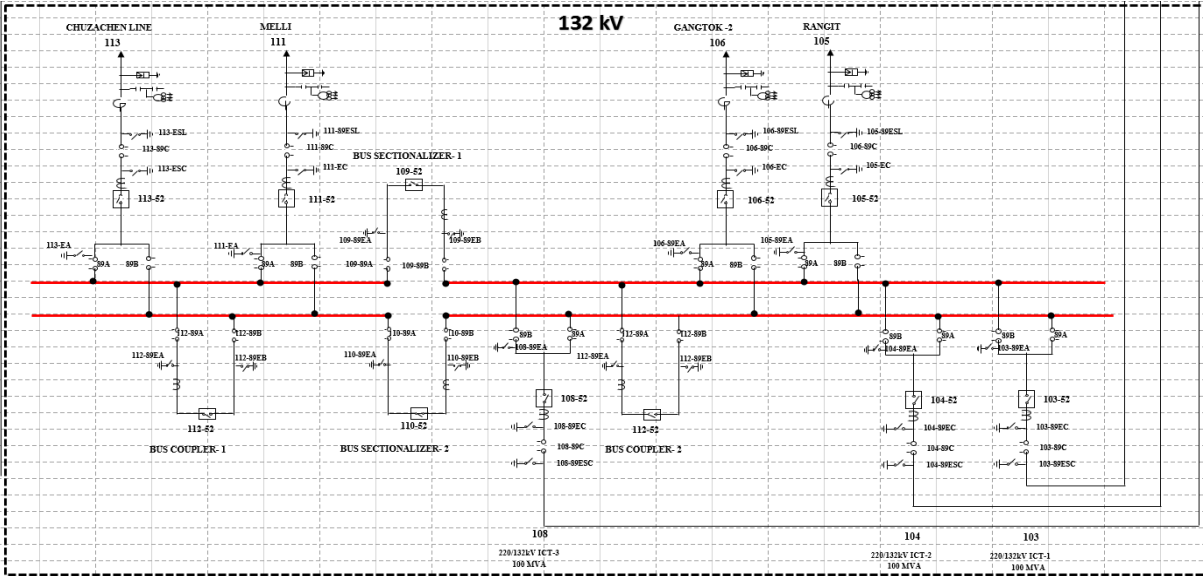
In Addition, many units are kept out for Low Demand/RSD for longer duration and for these also the governor response can be tuned. In view of this, ERPC may kindly enforce the tuning of the Governor in line with IEGC FGMO/RGMO regulations.

In Addition, ERLDC has also utilized the PMU data for calculating the Power Plant response based on summing the outgoing line power flow. Several new aspects have been observed for generators (**APNRL, GMR and JITPL**) in regard to Governor Response which are summarized below:

1. Incorrect Tuning is resulting in oscillatory response of the generators Active power. (Giving response and its immediate withdrawal within 10 seconds)
2. The magnitude of oscillation is around 5-10 % of the generation.
3. Oscillatory response can result in hunting in other nearby units

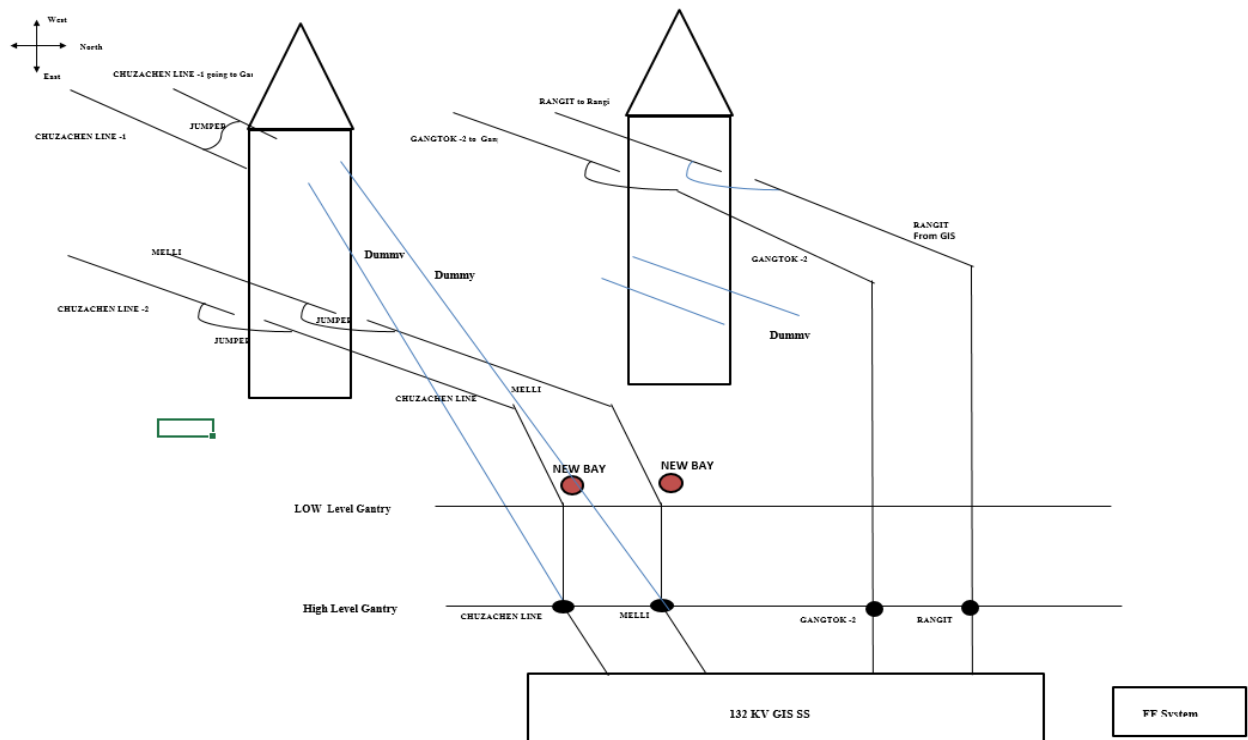
Even after so many discussions over Governor Response in the OCC and ERPC board meeting, there has not been any significant improvement of performance of Eastern Region Generating Station which resulted non-satisfactory primary frequency response at regional boundary of ER grid.

Existing Arrangement:-



132 KV Bay No	Present Bays
101	Future bay
102	Future bay
103	100MVA ICT -1
104	100MVA ICT -2
105	RANGIT
106	GANGTOK -2
107	Bus coupler -2
108	100MVA ICT -3
109	Bus Sectionalizer
110	Bus Sectionalizer
111	MELLI
112	Buscoupler -1
113	CHUZACHEN -2

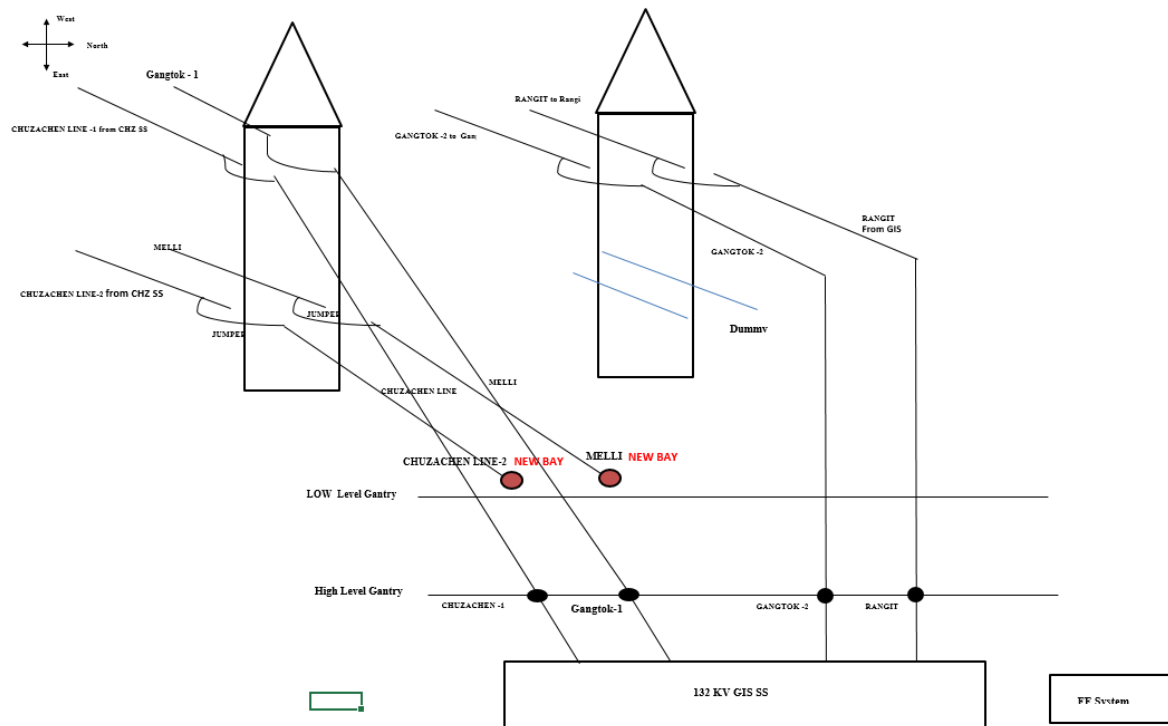
Existing 132 kV TOWER and Bay location



Proposed bay configuration after change:-

132kv Bays	Present Bays	After New Bay commissioning
101	future bay	MELLI 132 KV
102	future bay	CHUZACHEN -2
103	100MVA ICT -1	100MVA ICT -1
104	100MVA ICT -2	100MVA ICT -2
105	RANGIT	RANGIT
106	GANGTOK -2	GANGTOK -2
107	Buscoupler -2	Bus coupler -2
108	100MVA ICT -3	100MVA ICT -3
109	Bus Sectionalizer	Bus Sectionalizer
110	Bus Sectionalizer	Bus Sectionalizer
111	MELLI	GANGTOK -1 (previously GTK - Chuzachen)
112	Buscoupler -1	Buscoupler -1
113	CHUZACHEN -2	CHUZACHEN-1 - (previously GTK - Chuzachen)

132 kV TOWER and NEW Bay location





एक महारत्न कम्पनी

FSTPS

Ref. No. FSTPS: 42: CGM (O&M) /05

Date: 11.06.2019

To
The Member Secretary
Eastern region Power Committee
14, Golf Club Road, Tallygunj
Kolkata-700033

Dear Sir,

With reference to the final LGBR of Eastern Region for the year 2019-20, vide No. ERPC/MS/LGBR/2019-20/985-1026 dated 30th April 2019 issued by the Hon'ble Member Secretary, ERPC; we would like to submit the following:

As per the LGBR, Overhauling of FSTPS U#5 was scheduled from 07.06.2019 to 06.07.2019 for 30 days. But considering liabilities of U#6 it was requested by FSTPS to ERPC for swapping U#6 with U#5 and with due approval in 156th OCC meeting, FSTPS U#6 has been taken out for COH from 07.06.2019 for 45 days.


Further, it is to be mentioned here that FSTPS U#5 is running with the following critical safety & reliability issues which are to be attended urgently.

- Supporting structures of cable tray carrying the power & control cables of vital equipments like ID fan, FD fan, PA fan, ESP etc are in collapsed condition posing serious safety threat.
- Turbine HP Control Valve no-4 is not modulating, causing asynchronous control valves operation, which is a serious issue.


It is, therefore, requested that from safety & reliability point of view, shut down of FSTPS U#5 may please be allowed from 24.07.2019 to 22.08.2019 for 30 days.

Thanking you in anticipation of your kind consideration and consent in this regard.

Regards,


D.S.G.S.S Babji
CGM (O&M)
FSTPS

Copy:

- 1) RED (ER-I) - for kind information please
- 2) E.D (O.S) -EOC NOIDA – for kind information please -
- 3)  (F) – for kind information please

U#5 CABLE TRESTLE CARRYING CABLES TO IDF, FDF, PAF, ESP ETC.



SAFETY THREATS DUE TO COLLAPSE OF CABLE TRESTLE

- POWER, CONTROL AND INSTRUMENT CABLES OF CRITICAL DRIVES ARE IN DEEP DISTRESS
- SPURIOUS & UNINTENDED OPERATION OF EQUIPMENT MAY PUT THE UNIT IN DANGER AT ANY TIME
- FURTHER SAGGING OF TRESTLE MAY OCCUR
- IMMEDIATE REPAIR OF CABLES IS REQUIRED FOR SAFETY OF MEN & EQUIPMENTS
- MASSIVE REPAIR WORK NEEDS SHUT DOWN OF ATLEAST 30 DAYS
- DURING UPCOMING MONSOON IT MAY CREATE SEVERE SAFETY THREAT

Eastern Regional Power Committee, Kolkata

**Minutes of 3rd Special Meeting on “Operationalization of 400 kV Durgapur Bus Splitting Scheme”
held at ERPC, Kolkata on 8th April 2019 at 11:00hrs**

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

In the second meeting on “Operationalization of 400 kV Durgapur Bus Splitting Scheme” held on 17th January 2019 at ERPC, it was decided to conduct a detailed study to find out any network constraint in DVC and West Bengal network after operationalization of 400 kV Bus Splitting scheme at Durgapur and utilization of 3rd 315 MVA, 400/220 kV ICT at Durgapur S/s. DVC and West Bengal were advised to submit the relevant details to ERLDC for carrying out the study.

1. Operationalization of 400 kV Bus Splitting scheme at Durgapur

ERLDC informed that they had received the details from DVC and West Bengal, however, the expected schedule of commissioning of new transmission elements was not available from the concerned utilities.

On query, DVC informed that they had submitted the details of transmission elements which are going to be commissioned in a year.

Members observed that there is no network constraint in DVC and West Bengal system after operationalization of 400 kV Bus Split at Durgapur except the N-1 reliability issues of 220kV Durgapur (PG)-Parulia (DVC) D/C line.

DVC informed that no cascade tripping of the transmission lines would occur during the tripping of any one line of 220kV Durgapur (PG)-Parulia (DVC) D/C line, as part of the power flow in the line would be diverted to other parallel paths i.e. 220kV Maithon-Kalyaneswar D/C line and 220kV Waria-Bidhannagar D/C line. DVC added that the loading of the healthy line in case of tripping any one line of 220kV Durgapur (PG)-Parulia (DVC) D/C line would be within the safe limit and no Special Protection Scheme would be required for that.

DVC further informed that 220kV Waria (DTPS)-Parulia (DVC) D/C line would be LILO’ed at DSTPS and it would be completed within a year. Thereafter, the loading of 220kV Durgapur (PG)-Parulia (DVC) D/C line would be reduced.

Members opined that the line distance protection settings at local and remote ends of 400kV Durgapur S/s are to be modified as per the new configuration after commencement of split bus operation. All the concerned constituents were advised to check the reach settings for both the cases (with and without bus splitting at Durgapur) and to review the Zone 2/zone 3 settings. The PLCC and carrier protection should be kept in healthy condition to ensure fault clearance in Zone 1 time and prevent uncoordinated line trippings. It was decided to communicate the decision to NTPC, WBPDC, Powergrid ER-I for reviewing the reach settings of following lines:

- 400kV Sagardhigi-Durgapur line
- 400kV Bidhannagar-Durgapur line
- 400kV Farakka-Durgapur line
- 400kV Jamshedpur-Durgapur Lines.

After detailed discussion, Members agreed for operationalization of 400 kV Split Bus arrangement at 400kV Durgapur S/s and decided to place the issue in 156th OCC Meeting for further decision.

2. Utilization of 3rd 315 MVA, 400/220 kV ICT at Durgapur S/s

Powergrid informed that 3rd 315 MVA, 400/220 kV ICT at Durgapur S/s would be commissioned by end of April 2019.

DVC once again requested to conduct a detailed study on utilization of 3rd 315 MVA, 400/220 kV ICT at Durgapur S/s considering the present and future network conditions.

Members decided to form a committee with the following members for the above study:

1. S. Banerjee, SE(E), WBSETCL
2. Sandip Ghosh, SDE(E), SPE, DVC
3. Santhosh Kumar Panda, EE, SLDC, DVC
4. J G Rao, EE, ERPC
5. Members from ERLDC

It was decided that the committee members would meet on 10th April 2019 at 11:30 hrs at ERPC for detailed discussion.

Based on the report submitted by the Committee, utilization of 3rd 315 MVA, 400/220 kV ICT at Durgapur S/s would be referred to the appropriate forum for further decision.

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

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			

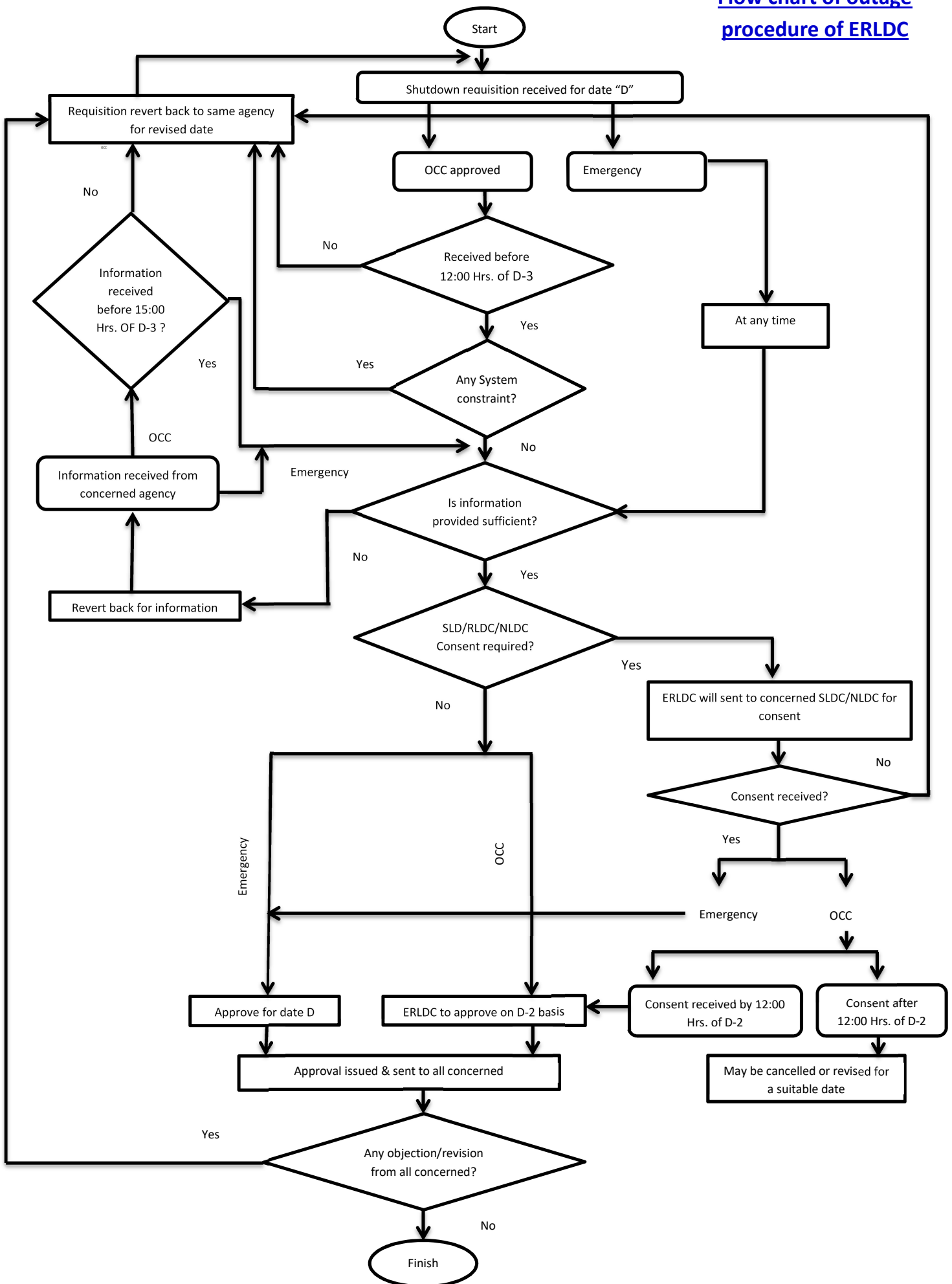
D. Generators where PSS tuning has been done more than 3 years back:

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 period without 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 no appreciable 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



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.

SIEMENS

Techno commercial offer to ERPC for PSS®E Software Maintenance & Support of ER Entities

Version A

Project reference	
Date	2019-06-10
Editor	Vikas Chaturvedi
Release (technical)	
Release (commercial)	
Office address	Siemens Ltd EM DG SW&C Energy Managenent Division, Digital Grid SW&C Gurgaon-Haryana
Phone	+91124 624 6680
Fax	+91 124 624 6020
E-Mail	vikas.chaturvedi@siemens.com

Restricted © Siemens AG, 2019 All rights reserved.

Revision History

Rev.	Status / Changes	Date	Author
Version A	Initial release	2019-06-10	Vikas Chaturvedi

Table of Contents

Revision History	2
Table of Contents.....	3
Copyright and Confidentiality	4
Executive Summary	5
1 Maintenance and Support (M&S) for SR Entities	7
2 PSS®E Software updates and planned updates for year 2019	9
3 Additional Support & Trainings needs	10
4 Terms and conditions	11
4.1 Basic License Fees.....	Error! Bookmark not defined.
4.2 Export Reservation Clause	11
4.4 Addition of Optional Sections.....	11
4.5 Program Version	12
4.6 Computer System Configuration	12
4.7 Program Maintenance	12
4.8 Validity of offer	12
4.9 Delivery	12
Within 4 – 6 weeks from the receipt of Purchase Order	12

Copyright and Confidentiality

Copyright 2019 Siemens Ltd, All rights reserved.

This Technical Proposal is a custom offering and has been developed and submitted by and on behalf of Siemens Software & Consulting (Siemens SI DG SW&C) which is a part of digital grid business unit for Smart Infrastructure division to the organization shown on the title page strictly for purchasing evaluation purposes.

The material contained in this Proposal represents proprietary, confidential information pertaining to Siemens SW&C and its methods. By accepting this document, the parties hereby agree that the information in this document shall not be duplicated, used, or disclosed for any purpose other than evaluation. However, if a contract is awarded to Siemens Ltd for this Proposal as a result of, or in conjunction with, the submission of this information, all parties will have the right to duplicate, use or disclose the material contained herein to the extent provided for in the resulting contract.

Executive Summary

Siemens Smart Infrastructure Digital Grid's Software & Consulting (SW&C) is pleased to present this Proposal to Eastern Regional Power Committee (ERPC) for maintenance & support (M&S) of 20 No's PSS®E Licenses which were supplied in the year 2012-13 to different ER Entities.

In section 1 and 2 of this proposal you will find the technical offerings of maintenance & support solution Also along with the benefits of maintenance & support of PSS®E licenses on a multiyear horizon.

In Section 3 is detailing the planned updated for PSS®E for year 2019 followed by section 4 is the terms and conditions for maintenance & support

Siemens SW&C looks forward to working with ERPC by providing you with a solution that meets your needs. Please do not hesitate to contact us if you require any additional information.

Price Proposal

Siemens SW&C is pleased to offer a package price for renewal of Maintenance and support contract for PSS®E licenses supplied to different state entities in Eastern region under PGCIL bulk license contract issued to us in the year 2012-13. The Maintenance & Support package price is based on following license distribution among the different stake holders/entities.

Table-1

S.No	Entity Name	Number of PSS®E licenses
1	Damodar Valley Corporation	4
2	Jharkhand State Electricity Board (SLDC)	4
3	Odisha Power Transmission Company Ltd	4
4	West Bengal State Electricity Company Ltd	4
5	Bihar State Power Transmission Company Ltd	4
		20

Price Table

Sr No.	PSS®E Maintenance & Support Unit Price (INR)	PSS®E Maintenance & Support Price for 20 no's Licences (INR)	Total 5 Years Maintenance & Support Price (INR)
1	226,130/-	4,522,600/-	22,613,000/-

Please note:

Above prices are valid only for a package of this project of 20 No's of PSS®E licenses distributed to entities as per **Table-1**

- Above prices are exclusive of GST which shall be charged extra on above price. The present rate of GST is 18%.
- The M&S duration of any additional licenses procured by any SR entity (as per Table-1) under this agreement will not extend the M&S period.

Confidential

1 Maintenance and Support (M&S) for ER Entities.

The M&S program has its goal to seamless usage of PSS®E at ER Entities for productive use by all its engineers in more than one hundred different locations spread across the country. Siemens is firmly committed to this and the comprehensive program offered to ERPC goes well beyond the standard M&S components of software support and product upgrades. It is a comprehensive program intended to address the specific requirements of ERPC so that the continuous usage of updated PSS®E is ensured at ER Entities.

Please note Maintenance & support is a full featured programme that provides significant additional value to the end users and majorly include the following inherent benefits which shall be covered as part of these services.

- **Free Software subscription:** This keeps PSS®E users current with the most up-to-date PSS®E features and functions. With this service PSS®E users automatically get the latest release of PSS®E with all its new features, models, and bug fixes. In addition, to the latest version releases, users who have reported a bug that needs to be fixed can download software patches. All new releases during the maintenance & support (M&S) period, **two new versions are released every year free of cost with enhanced features based on customer feedback.**
- **Technical Support:** Specific features include **free unlimited 24-hour access to Siemens SW&C Support website for 24-hour web-based reporting and case tracking**, 24/7 technical support by expert product engineers with guaranteed response within 24 hours.
- **Direct link to product managers & roadmaps** through access to PSS® Ideas Portal (www.siemens.com/pss-ideas) community for submitting, voting, and commenting on PSS® product ideas.
- **Beta test participant:** Licensee may be invited to participate in Beta testing of future releases.
- **Free updates and patches to the current and previous versions of the program.**
- Access to the "users-only" area of our World Wide Website where you get details of all the updates of the software and details recently added new models (e.g. renewable) which can be directly downloaded
- **Conducting the Indian Users Group Meetings (UGM)** and address the key topics, issues, performance review and best practice. The following is included.
 - Performance Review:** This will include a meeting with a senior PSS®E support engineer on site in India. It will be an open forum discussion on the PSS®E product roadmap, and any PSS®E operational topics. Engineers will be able to engage with the PSS®E support expert to get many of their questions and issues resolved instantaneously.
 - Best practice Check:** This is an appraisal of all aspects of STU's implementation of PSS®E by experienced Siemens technical staff. This program is intended to help utilities establish best-in-class operational procedures and optimal use of PSS®E
- **Free License support even in case of broken dongles**

Maintenance & Support of PSS®E Licenses

- A reasonable amount of support in the installation and operation of the program for the current revision and last previous revision of the program. Support requests are accepted via telephone or email or personnel visit

Additional M&S Support: Siemens SW&C would also conduct a survey on an all-India basis where every stakeholder would be approached for any support and training needs for PSS®E software. However, Siemens SW&C is committed to support the stakeholders as following:

- Siemens SW&C to conduct **one basic PSS®E training per quarter in all 4 regions** across the country to cater to the needs of various regions on planning & operational planning studies.
- Siemens SW&C to support entities who are currently not using PSS®E by providing the required support to migrate to PSS®E.
- Siemens SW&C would also be in touch with ERPC on a quarterly basis for addressing any issues in PSS®E and provide possible resolutions to the issues

2 PSS®E Software updates and planned updates for year 2019

Your enrollment in the PSS®E Maintenance and Support program entitles you to the valuable benefits outlined in the attached Maintenance Plan.

In 2018 PSS®E versions 33.11, 33.12, 34.4 and 34.5, with over 50 new program enhancements, plus additional program corrections, were released. Selected major new feature and enhancements by version are:

Exclusively in PSS®E 34.4:

- Ability for remote bus regulation of buses on nodes within a substation that has been sectionalized
- Sectionalized buses shown on slider diagrams

PSS®E 34.4 and PSS®E 33.12:

- Dynamic model additions including IEEE 421.5 models and Distributed Energy Resources Model DER_A
- Several updates to the GIC module including to NERC TPL-007-2 standard alpha and beta factors, GIC(t) profile of Benchmark Event and Supplemental Events

Exclusively in PSS®E 34.5 and 34.5.1:

- Slider Diagram improvements to address customer specific usability requests and increase performance
- Several node-breaker improvements based on industry working groups and customers including ability to monitor flows on substation switching devices
- 11 Ideas from the Idea's Portal

PSS®E 33.12 and PSS®E 34.5:

- Dynamic model debug option to quickly determine which model is causing the program to crash during dynamic initialization and runs.
- Dynamic model additions including IEEE 421.5, WECC approved and vendor specific models
- Increased limits for the number of CONs, ICONs, STATES and VARs

Beyond the recent improvements to PSS®E, the PSS®E roadmap for 2019 includes many enhancements, including:

- Our next major release PSS®E v35 which will include
 - Extensible raw format to allow ability to add custom fields to a data record
 - 64-bit support to improve performance and memory management
 - Multiple independent switched shunts on the same bus
 - Generator reactive capability curve data (GCAP) stored with machine data
- Transmission transfer capability calculation module (New module)
- Harmonics module (New module)
- Usability enhancements (to GUIs, workflows, messaging, etc.) identified as priorities through the PSS®E Idea's Portal
- Features identified from the PSS®E Idea's Portal for fast tracking to get features to user quicker

3 Additional Support & Trainings needs

Siemens SW&C would also conduct a survey on all India basis where every stakeholder would be approached for any support and training needs for PSS®E software. However, Siemens SW&C is committed to support the stakeholders as following:

1. Siemens SW&C to conduct a regional PSS®E trainings in all 5 regions across the country on quarterly basis to cater the needs of various regions on planning & operational planning studies.
2. Siemens SW&C to support entities who are currently not using PSS®E by providing the required support and trainings to support them to migrate to PSS®E.
3. Siemens SW&C would also be in touch with ERPC on quarterly basis for addressing any issues in PSS®E and provide possible resolutions to the issues

4 Terms and conditions

4.1 Export Reservation Clause

Purchaser acknowledges that Siemens Power Transmission & Distribution, Inc is required to comply with applicable export laws and regulations relating to the sale, exportation, transfer assignment, disposal and usage of the Software / Services under the Contract, including any export license requirements. Purchaser agrees that such Software / Services shall not at any time directly or indirectly be used, exported, sold, transferred, assigned or otherwise disposed of in a manner which will result in non-compliance with such applicable export laws and regulations. It shall be a condition of the continuing performance by Siemens Power Transmission & Distribution, Inc. of the obligations hereunder that compliance with such export laws and regulations be maintained at all times.

PURCHASER AGREES TO IDEMNIFY AND UPHOLD SIEMENS POWER TRANSMISSION AND DISTRIBUTION, INC HARMLESS FROM ANY AND ALL COSTS, LIABILITIES, PENALTIES, SANCTIONS AND FINES RELATED TO NON-COMPLIANCE WITH APPLICABLE EXPORT LAWS AND REGULATIONS.

This order confirmation is made subject to all necessary Export Licenses and other permissions being obtained by the recipient, from the relevant authorities, for the destination and intended use of the goods and/or services.

The fulfillment of the agreement on our part is subject to the provision that this shall not be prevented by impediments on the grounds of national and international legal requirements, in particular export control provisions.

4.2 Materials and Services Delivered

The deliverables for executable programs include the following:

For your PSS®E base and optional sections for which you are licensed, payment entitles you to the following during the calendar year for which you have paid:

- All new releases
- Updates and patches to the current and previous version of the program
- Access to the "users-only" area of our World Wide Website
- No fee access to the regional Users Group Meetings.
- A reasonable amount of support in the installation and operation of the program for the current revision and last previous revision of the program. Support requests are accepted via telephone or email or through person visits. Requests for excessive support, engineering, or application assistance are not included in the annual maintenance fee but may be purchased from Siemens SW&C at an hourly rate.

4.3 Addition of Optional Sections

Following the initial license, optional executable sections may be added at any time. There is no cost penalty for adding optional sections after the initial license, except that the Lessee is required to have purchased annual maintenance for the current period.

Confidential



4.4 Program Version

This quotation applies only to the current standard version of PSS®E Version as it exists at Siemens SW&C at the time that the program is installed on the Lessee's computer system.

4.5 Computer System Configuration

This quotation applies only to use of the PSS®E program on a computer meeting Siemens SW&C's current hardware and software environment requirements. Current recommended system requirements can be located on our website (http://www.SW&C-us.com/SW&C/software/psse/user_support.cfm#configs).

4.6 Program Maintenance

The annual maintenance fee is billed in the fourth quarter of each year for the following calendar year. For the remainder of the first year after expiration of warranty, a pro-rated maintenance fee will be billed. The maintenance fee is not mandatory. However, it is Siemens SW&C's policy not to support installations not paying the fee. An unsupported customer wishing to reinstate support will be charged retroactively for up to 1/2 year's fee, plus the fee for the ensuing year.

New optional modules or additional installations will be made available to clients under active maintenance support at the current list price for the option.

The annual maintenance fee schedule is subject to change.

4.7 Validity of offer

This offer is Valid till 10.8.2019. After that it is subject to our written confirmation.

4.8 Delivery

Within 4 – 6 weeks from the receipt of Purchase Order



Annexure-D.1

**Anticipated Power Supply Position for the month of
Jul-19**

SL.NO	PARTICULARS	PEAK DEMAND MW	ENERGY MU
1	BIHAR		
	i) NET MAX DEMAND	5700	2950
	ii) NET POWER AVAILABILITY- Own Source (including bilateral)	517	354
	- Central Sector	3892	2433
	iii) SURPLUS(+)/DEFICIT(-)	-1291	-163
2	JHARKHAND		
	i) NET MAX DEMAND	1340	825
	ii) NET POWER AVAILABILITY- Own Source (including bilateral)	365	116
	- Central Sector	932	573
	iii) SURPLUS(+)/DEFICIT(-)	-43	-135
3	DVC		
	i) NET MAX DEMAND (OWN)	2930	1970
	ii) NET POWER AVAILABILITY- Own Source	5401	2780
	- Central Sector	510	326
	Long term Bi-lateral (Export)	1644	1223
	iii) SURPLUS(+)/DEFICIT(-)	1337	-86
4	ODISHA		
	i) NET MAX DEMAND	4400	2685
	ii) NET POWER AVAILABILITY- Own Source	3628	1831
	- Central Sector	1604	906
	iii) SURPLUS(+)/DEFICIT(-)	833	53
5	WEST BENGAL		
5.1	WBSEDCL		
	i) NET MAX DEMAND (OWN)	7290	3992
	ii) CESC's DRAWAL	83	62
	iii) TOTAL WBSEDCL's DEMAND	7373	4054
	iv) NET POWER AVAILABILITY- Own Source	4191	1878
	- Import from DPL	160	0
	- Central Sector	2570	1772
	v) SURPLUS(+)/DEFICIT(-)	-452	-404
	vi) EXPORT (TO B'DESH & SIKKIM)	-662	-564
5.2	DPL		
	i) NET MAX DEMAND	305	210
	ii) NET POWER AVAILABILITY	465	207
	iii) SURPLUS(+)/DEFICIT(-)	160	-3
5.3	CESC		
	i) NET MAX DEMAND	1950	1070
	ii) NET POWER AVAILABILITY - OWN SOURCE	760	510
	FROM HEL	540	388
	Import Requirement	650	172
	iii) TOTAL AVAILABILITY	1950	1070
	iv) SURPLUS(+)/DEFICIT(-)	0	0
6	WEST BENGAL (WBSEDCL+DPL+CESC) (excluding DVC's supply to WBSEDCL's command area)		
	i) NET MAX DEMAND	9545	5272
	ii) NET POWER AVAILABILITY- Own Source	5416	2595
	- Central Sector+Others	3760	2160
	iii) SURPLUS(+)/DEFICIT(-)	-369	-518
7	SIKKIM		
	i) NET MAX DEMAND	90	46
	ii) NET POWER AVAILABILITY- Own Source	8	3
	- Central Sector+Others	171	111
	iii) SURPLUS(+)/DEFICIT(-)	89	68
8	EASTERN REGION		
	At 1.03 AS DIVERSITY FACTOR		
	i) NET MAX DEMAND	23306	13748
	Long term Bi-lateral by DVC	1644	1223
	EXPORT BY WBSEDCL	-662	-564
	ii) NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)	26205	14190
	iii) PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)	1916	-217

Annexure-D2

ERLDC, KOLKATA										
TRANSMISSION ELEMENTS OUTAGE APPROVED IN 158th OCC MEETING OF ERPC										
S. NO.	NAME OF THE ELEMENTS	FROM		TO		REMARKS	S.D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY	COMMENTS
		DATE	TIME	DATE	TIME					
1	40kV D/C Binaguri - Bongaigaon (Twin) Line (POWERGRID)	01-07-2019	06:00	04-07-2019	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteen loc no 273-274) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	NLDC	SUBJECT TO NERPC APPROVAL
2	220 KV Bus #1 at binaguri with Binaguri-Siliguri #1, ICT#1 & Binaguri-Birpara#1	01-07-2019	09:00	01-07-2019	17:00	ODB	POWERGRID,ER-II	Commissioning of Bus #1 Bus bar protection for ICT#3 ERSS-XVII	WB	
3	400KV BINAGURI-RANGPO-1 main bay 410 at binaguri	01-07-2019	10:00	20-07-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX		after peak hydro season
4	400KV BINAGURI-RANGPO-2 main bay 413 at binaguri	01-07-2019	10:00	20-07-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX		after peak hydro season
5	400KV BINAGURI-RANGPO-1 line	01-07-2019	10:00	01-07-2019	13:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX		
6	400KV BINAGURI-RANGPO-2 line	01-07-2019	14:00	01-07-2019	18:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX		
7	132 KV Siliguri Melli Line	01-07-2019	09:00	02-07-2019	18:00	ODB	POWERGRID,ER-II	Line Defect liquidation	SIKKIM	
8	400KV TBC at Malda	01-07-2019	08:00	31-07-2019	17:00	OCB	POWERGRID,ER-II	ERSS-XVII-B Constructional work	WB	WB DENIED PERMISSION
9	50 MVA ICT-4 at Malda	01-07-2019	08:00	15-08-2019	17:00	OCB	POWERGRID,ER-II	ERSS-XX Constructional work	WB	
10	403 ICT#1 Main Bay at Subhasgram SS	01-07-2019	09:00	01-07-2019	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.		
11	220KV Bus coupler bay (Bay no 210) at Maithan	01-07-2019	08:00	04-07-2019	18:00	OCB	POWERGRID,ER-II	Interrupter OH work of 210 Bay.	DVC	
12	400KV Maithon-Right Bank # 2	01-07-2019	08:00	12-07-2019	18:00	OCB	POWERGRID,ER-II	Re conducting work	After Restoration of Tie bay of MPL-1 & Durgapur-1 at Maithon(PG).	
13	Main bay of 400kv Maithon-MPL Ckt#2,(Bay no 406) at MPL	01-07-2019	08:00	12-07-2019	18:00	OCC	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work	After Restoration of Tie bay of MPL-1 & Durgapur-1 at Maithon(PG).	
14	400KV Rajarhat-Jeerat Line	01-07-2019	10	01-07-2019	18	ODB	POWERGRID,ER-II	For Gantry termination and dropper connection of Gokarna Line , shutdown require due to Clearance issue with Jeerat Line	WB	
15	220KV NEW PURNE-PURNEA-I	01-07-2019	09:30	10-07-2019	18:00	OCB	POWERGRID ER-I	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	May be availed in September	
16	400KV MAIN BAY OF 500MVA ICT-2 AT NEW PURNEA	01-07-2019	09:30	03-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB		
17	400kv MAIN BAY OF 400/220 KV 315MVA ICT-2 AT RANCHI	01-07-2019	09:30	01-07-2019	17:00	ODB	POWERGRID ER-I	AMP		
18	400KV Kahalgaon - Maithan Line CKT - I	01-07-2019	09:00	07-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of PID detected defect insulator with Polymer Insulator	Multiple line contingency at Maithon may be checked.	
19	765 KV Sasaram-Fatehpur	01-07-2019	09:00	20-07-2019	19:00	ODB	POWERGRID ER-I	Tower strengthening work	NLDC	SUBJECT TO NRPC APPROVAL
20	400 KV Nabinagar-Sasaram-I & II	01-07-2019	09:00	20-07-2019	19:00	OCB	POWERGRID ER-I	Replacement of tower no.170 having critical bent leg		
21	400KV Bus -I at Patna	01-07-2019	09:30	03-07-2019	17:30	ODB	POWERGRID ER-1	CB and sky bus connection under SS03 package of Patna Nabinagar Ckt 1	BIHAR	
22	400/220kv 500MVA ICT 1 at Patna	01-07-2019	09:30	20-07-2019	17:30	OCB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	AFTER CHATT PUJA
23	400 KV Patna Barh line 1	01-07-2019	09:30	15-07-2019	17:30	OCB	POWERGRID ER-1	for commissioning of 80 MVAR Bus reactor as switchable line reactor under Nabinagar - II Packagae.	Why Barh line shutdown is required?	
24	A/R 400 kv Biharsarif - Banka - 2	01-07-2019	08:00	30-07-2019	17:00	ODB	POWERGRID ER-I	for OPGW erection work		
25	Shutdown of ICT#2	01-07-2019	09:30	01-07-2019	18:00	ODB	BARH	For SCADA Up gradation		

26	400 Durgapur-PPSP#1	01-07-2019	06:00	01-07-2019	17:00	ODB	WB	ODB		
27	ARAMBAG: 400kv MB#1 & B/C, diversion of BkTPP bay via TBC	01-07-2019	06:00	02-07-2019	17:00	ODB	WB	ODB-replacement of MB#1 side isolator of BkTPP		
28	41252-main Bay of TISCO line	01-07-2019	09:00	01/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP Works		
29	400KV ROURKELA-CHAIBASA#2 Main Bay 409	01-07-2019	09:00	10-07-2019	18:00	OCB	ER-II/ODISHA/ROURKELA	RETROFITTING OF OLD HYDRAULIC OPERATED BHEL MAKE CB BY NEW SPRING-SPRING OPERATED CGPISL MAKE CB		
30	400KV ROURKELA-CHAIBASA#2 LINE	01-07-2019	09:00	01-07-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR DISMANTLING OF INTERRUPTER & POLE COLUMN OF OLD BHEL MAKE CB OF 40952.		
31	400 KV Rourkela-Talcher Line # 1 in Non-Auto Mode	01-07-2019	08:00	15-07-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
32	400 kV Jeypore-Indravati S/C Line	01-07-2019	08:00	01-07-2019	18:00	ODB	ER-II/Odisha /Jeypore	For PID defect insulator replacement work and for attending S/D nature defects	NLDC	
33	400kv Angul-Bolangir Line	01-07-2019	09:00	01-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	NLDC	
34	400KV Angul-Meramunduli-1 Line	01-07-2019	09:00	01-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	GRIDCO	
35	Main bay-703 of 765/400KV ICT-1 at Sundergarh	01-07-2019	09:00	01-07-2019	18:00	ODB	ER-II/Odisha/Sundergarh	for replacement of CB closing damper	NLDC	
36	220 KV Meramundali-Kaniha-II	01-07-2019	08:00	12-07-2019	16:00	OCB	GRIDCO	Erection of 3 nos. of towers and stringing work between loc no 20 to 28 of MRDL-Kaniha line for ongoing Angul-Sukinda railway work.	Detail sketch may be provided.	
37	220 KV Budhipadar-Korba-I & II	01-07-2019	08:00	06-07-2019	16:00	OCB	GRIDCO	Interposing of OC+6 type tower for adequate clearance to 132 KV Brajrajnagar-RTSS, Kechhobahal line	NLDC	SUBJECT TO WRPC APPROVAL
38	132kv Rajgir-Nalanda-Barhi T-Line from GSS Rajgir To T-Point	01-07-2019	09:00	01-07-2019	17:00	ODB	BSPTCL	Tightening of jumper of angle tower	Line is charged on No load from GSS Nalanda end to GSS Barhi and GSS Rajgir End.	
39	220kv Gaya PG- Khizersarai ckt-1	01-07-2019	11:00	01-07-2019	15:00	ODB	BSPTCL	for replacement of density monitor	Khizersarai will avail power from alternate sources	
40	132KV NTPC (Kahalgaoon)-Lalmatia S/C T/L	01-07-2019	09:00	01-07-2019	16:00	ODB	BSPTCL	Line Maintainance work	Lalmatia will avail power from alternate sources	
41	132KV Kahalgaoon-Lalmatia S/C T/L	01-07-2019	09:00	01-07-2019	16:00	ODB	BSPTCL	Line Maintainance work	Lalmatia will avail power from alternate sources	
42	220 KV Transfer BUS	01-07-2019	07:00	01-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 160 MW During S/D period	
43	765KV BUS 2	01-07-2019	07:00	01-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	For erection of 720 -89A Isolator which was broken/damaged due to catastrophic failure of 720 B - phase Current transformer at Angul SS On 24.04.2019.	NLDC	
44	220 KV Bus #2 at binaguri with Binaguri-Siliguri #1, ICT#1 & Binaguri-Birpara#1	02-07-2019	09:00	02-07-2019	17:00	ODB	POWERGRID,ER-II	Commissioning of Bus #2 Bus bar protection for ICT#3 ERSS-XVII	WB	OTHER BUS SHALL REMAIN IN SERVICE
45	400 KV BUS-I of NTPC Farakka	02-07-2019	09:00	02-07-2019	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).	On condition that 400kv FSTPP-KhSTPP-I will be charged after returning of shutdown	
46	208 Bay (220 KV Side of 315 MVA ICT#1) at Subhasgram SS	02-07-2019	09:00	02-07-2019	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	WB	

47	400 KV Sagardighi-Durgapur Line-II	02-07-2019	09:00	02 July 2019	17:00	ODB	POWERGRID,ER-II	A/R relay checking		
48	400 Kv Main Bus-I at Lakhisarai	02-07-2019	09:30	02-07-2019	17:30	ODB	POWERGRID ER-I	AMP works of Bus Isolators.		
49	400 KV BUS-1 AT MUZAFFARPUR	02-07-2019	09:00	03-07-2019	17:30	ODB	POWERGRID ER-I	STRINGING OF JACK BUS FOR EXTENSION WORK (NEPAL BAY)	BIHAR	
50	400KV Farakka- Gokarna Ckt-I	02-07-2019	08:00	03-07-2019	17:00	OCB	POWERGRID ER-I	Termination of 400KV D.C Rajarhat- Purnea Line from Purnea End	WB	MAY BE AVAILED ON HOLIDAY
51	400KV Farakka -Gokarna Ckt-II	02-07-2019	08:00	03-07-2019	17:00	OCB	POWERGRID ER-I	Termination of 400KV D.C Rajarhat- Purnea Line from Purnea End	WB	MAY BE AVAILED ON HOLIDAY
52	400 KV KODERMA-BOKARO TL - 1	02-07-2019	08:00	02-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of insulators damaged miscreants(Forest Area)	DVC	
53	400 KV MAIN BAY OF B/R-I at Sasaram	02-07-2019	09:00	02-07-2019	19:00	ODB	POWERGRID ER-I	AMP work		
54	220kv main bay sipara -1 at Patna	02-07-2019	09:30	04-07-2019	17:30	OCB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II Package.		
55	Shutdown of ICT#1	02-07-2019	09:30	02-07-2019	18:00	ODB	BARH	For SCADA Up gradation		
56	Tie GT- 2	02-07-2019	09:00	06-07-2019	17:00	OCB	MPL	HT breaker maintenance job		
57	400 Durgapur-PPSP#2	02-07-2019	06:00	02-07-2019	17:00	ODB	WB	ODB		
58	220 KV ICT # 1 Main Bay (Bay No-201)	02-07-2019	08:00	02-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
59	125 MVAR Bus Reactor	02-07-2019	09:00	05/07/19	18:00	ODB	Keonjhar	For signal checking of NTAMC of 125MVAR Bus Reactor (If said Shutdown can't be availed in June'19, then it will be taken in July'19)		
60	A/R of 400kv Sundargarh-Raigarh Ckt #2	02-07-2019	08:00	15-07-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose relay will be off. Line will be in service	NLDC	
61	Main bay-706 of 765/400KV ICT-2 at Sundergarh	02-07-2019	09:00	02-07-2019	18:00	ODB	ER-II/Odisha/Sundergarh	for replacement of CB closing damper	NLDC	
62	220KV Kaniha- Meramundali-1 (Bay 03)	02-07-2019	08:00	04-07-2019	18:00	ODB	TSTPP	Tree cutting Inside NTPC Kaniha Premises	GRIDCO	
63	220KV Rajgir-Binnarshani L-29 T/L And Rajgir-Barhi L-29 T/L from GSS Rajgir To LILO Point	02-07-2019	09:00	02-07-2019	17:00	ODB	BSPTCL	Tightening of jumper of angle tower	1. Rajgir-Barhi L-29 T/L is charged on No load from GSS	
64	220kv Patna(PG)-Sipara ckt3	02-07-2019	08:00	03-07-2019	17:00	ODB	BGCL/BSPTCL	1. stringing work of 220kv D/C Patna(PG)-Khagaul T/L 2. Twin Zebra stringing work of 220KV Patna(PG)-Sipara ckt3	1.GSS Sipara will avail power from 220KV Patna(PG)-Sipara ckt 1 & 2. 2. There will be no load restriction	
65	220 kv Darbhanga (DMTCL)-Laukahi ckt 1 & ckt2	02-07-2019	10:00	08-07-2019	16:00	ODB	BSPTCL	Line Maintenance work	avail power from pandaul 2.Laukahi will avail power	
66	220 KV Darbhanga(DMTCL)-Ujjayarpur S/C T/L	02-07-2019	09:00	03-07-2019	18:00	ODB	BSPTCL	Line Maintenance work	Ujjayarpur will avail power from alternate sources.	
67	220KV BSF(PG)-BSF ckt2	02-07-2019	09:00	02-07-2019	10:00	ODB	BSPTCL	For changing CT ratio	BSF will avail power from alternate sources	
68	220KV BSF(PG)-BSF ckt3	02-07-2019	10:00	02-07-2019	11:00	ODB	BSPTCL	For changing CT ratio	BSF will avail power from alternate sources	
69	220 KV Dumka-maithon PG CKT-II	02-07-2019	07:00	08-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 160 MW During S/D period	
70	Maithon Bay-II at GSS dumka	02-07-2019	07:00	02-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 160 MW During S/D period	
71	765/400 kv 500 MVx3 ICT 3	02-07-2019	07:00	02-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
72	400KV D/C Tala - Binnaguri (New Siliguri) T/L 1 (Circuit 3 & Circuit 4)	03-07-2019	08:00	04-07-2019	18:00	ODB	PGCIL	Stringing activity of 400KV D/C Quad Alipurduar - Siliguri Transmission Line	NLDC	
73	132 KV Siliguri Kurseong Line	03-07-2019	09:00	04-07-2019	18:00	ODB	POWERGRID,ER-II	Line Defect liquidation	WB	
74	315 MVA ICT#1 at Subhasgram S/s	03-07-2019	09:00	03-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of Numerical REF Relay	WB	

75	400kV Farakka-Sagardighi-2	03-07-2019	09:00	03-07-2019	16:00	ODB	POWERGRID,ER-II	Fixing of insulation tape/sleeve on bottom conductor of 400kV Farakka-Sagardighi-2 in between span 41-42 due to Power Line Crossing clearance issue with 400kV	WB	
76	400kV Farakka-Sagardighi-1	03-07-2019	09:00	03-07-2019	16:00	ODB	POWERGRID,ER-II	Fixing of insulation tape/sleeve on bottom conductor of 400kV Farakka-Sagardighi-2 in between span 41-42 due to Power Line Crossing clearance issue with 400kV	WB	
77	400kV Sagardighi-Subhasgram	03-07-2019	09:00	03-07-2019	16:00	ODB	POWERGRID,ER-II	Fixing of insulation tape/sleeve on bottom conductor of 400kV Farakka-Sagardighi-2 in between span 41-42 due to Power Line Crossing clearance issue with 400kV	WB	
78	400kV Rajarhat- Subhashgram Line	03-07-2019	10	03-07-2019	18	ODB	POWERGRID,ER-II	For Gantry termination and dropper connection of Farakka Line , shutdown require due to Clearance issue with with Subhashgram Line	WB	
79	400KV SASARAM-DALTANGANJ-I	03-07-2019	09:30	03-07-2019	17:30	ODB	POWERGRID ER-I	L/R CSD Commissioning at Daltanagnaj		
80	400 KV 125 MVAR BR-I at Gaya ss	03-07-2019	09:00	05-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
81	400 KV BUS-I at Gaya S.S	03-07-2019	09:00	08-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
82	400KV 80 MVAR Bus Reactor at Lakhisarai	03-07-2019	09:30	03-07-2019	17:30	ODB	POWERGRID ER-I	AMP of 80 MVAR Bus Reactor		
83	400KV RANCHI - SIPAT -1	03-07-2019	08:00	03-07-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF FLASHED INSULATOR.	NLDC	
84	400 KV KODERMA-BOKARO TL - 2	03-07-2019	08:00	03-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of insulators damged miscreants(Forest Area)	DVC	
85	400 KV Bus Reactor-1 at Sasaram	03-07-2019	09:00	03-07-2019	19:00	ODB	POWERGRID ER-I	AMP work		
86	400 kV Patna-Ballia Ckt 1	03-07-2019	09:00	03-07-2019	18:00	ODB	POWERGRID ER-1	FOR REPLACEMENT OF PORCELAIN INSULATOR BY	NLDC	
87	Shutdown of BUS Reactor	03-07-2019	09:30	03-07-2019	18:00	ODB	BARH	For SCADA Up gradation		
88	ARAMBAG: 400kv MB#2 & B/C, diversion of BkTPP	03-07-2019	06:00	04-07-2019	17:00	ODB	WB	ODB-replacement of MB#2 side isolator of BkTPP		
89	315MVA ICT-II at Balangir	03-07-2019	07:00	03/07/19	18:00	ODB	ER-II/Odisha/Balangir	Retrofit of Back up Impedance relay in ICT	GRIDCO	
90	220KV Side, 315MVA ICT-2 BAY (212 BAY)	03-07-2019	09:00	03/07/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 212 52 CB and 212 CT		
91	400 KV 406 Main Bay of 315 MVA ICT-II	03-07-2019	09:00	03/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
92	220 KV BUS COUPLER - BAY NO 202	03-07-2019	09:00	03-07-2019	13:00	ODB	ER-II/ODISHA/ROURKELA	ISOLATOR AND EARTHSWITCH ALIGNMENT		
93	400KV Jeypore-Gazuwaka-I Line	03-07-2019	08:00	04-07-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer	NLDC	
94	400KV Angul-Talcher Line	03-07-2019	09:00	03-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance		
95	400KV Angul-Meramunduli-2 Line	03-07-2019	09:00	03-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work	GRIDCO	
96	Main Bay-710 of 765KV Angul Ckt-3 at Sundergarh	03-07-2019	09:00	03-07-2019	18:00	ODB	ER-II/Odisha/Sundergarh	for replacement of CB closing damper	NLDC	
97	220 KV Meramundali-Kaniha-I	03-07-2019	08:00	07-07-2019	16:00	OCB	GRIDCO	Erection of 3 nos. of towers and stringing work between loc no 20 to 28 of MRDL-Kaniha line for ongoing Angul-Sukinda railway work.		
98	220 KV Pushauli(PG)-Dehri S/C T/L	03-07-2019	09:00	03-07-2019	13:00	ODB	BSPTCL	Line & bay maintenance work	Dehri will avail power from alternate sources	
99	220 kv Darbhanga (DMTCL)-Motipur ckt 1	03-07-2019	10:00	03-07-2019	14:00	ODB	BSPTCL	Protection testing work	1. 220kv MTPS-Motipur S/C T/L & one off the ckt 220kv DMTCL -Motipur line will	
100	221 kv Darbhanga (DMTCL)-Motipur ckt 2	03-07-2019	14:30	03-07-2019	17:30	ODB	BSPTCL	Protection testing work	1. 220kv MTPS-Motipur S/C T/L & one off the ckt 220kv DMTCL -Motipur line will	
101	150 MVA ICT-I	03-07-2019	07:00	03-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 160 MW During S/D period	
102	765/400 kV 500 MVAx3 ICT 2	03-07-2019	07:00	03-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	

103	400KV Bus#1 at Binaguri	04-07-2019	09:00	05-07-2019	17:00	ODB	POWERGRID,ER-II	400KV Bus#1 connection and bus stability ERSS-XVII		after peak hydro season
104	132KV Rangit-Rangpo	04-07-2019	09:00	05-07-2019	17:00	ODB	POWERGRID,ER-II	Damaged conductor rectification work and Sag correction at Loc 23-24-25	SIKKIM	
105	315 MVA ICT#2 at Subhasgram S/s	04-07-2019	09:00	04-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of Numerical REF Relay	WB	
106	400 KV BUS-II at Durgapur	04-07-2019	09:00	04 July 2019	17:00	ODB	POWERGRID,ER-II	One Bus CVT replace & AMP	DVC	
107	400 KV S/C Sagardighi-Jeerat TL	04-07-2019	08:00	04-07-2019	17:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 10/0 to 11/0.	WB	
108	400 KV S/C Sagardighi-Subhashgram TL	04-07-2019	08:00	04-07-2019	17:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 11/0 to 12/0	WB	
109	400KV Bus-I at Rajarhat	04-07-2019	10	05-07-2019	18	ODB	POWERGRID,ER-II	For installation & replacement of Earth Switch Insulating flange and For carrying out Bus Bar Stability Test of Farakka Line & Gokarna	WB	
110	400 KV D/C Andal - Jamshedpur (TL-286-287) of Original Line.	04-07-2019	6.00	05-07-2019	17.00	ODB	TBCB Midnapore Group	For Powerline crossing of 765 KV RMTL-AP 101/0 (DD+25+1.5 RC)-102/0(DD+25+1.5 RC). Span Length-208 mtr	DVC	SHUTDOWN IS ALREADY APPROVED & AVAILED IN THE MONTH JUNE
111	400 KV NEW RANCHI - CHANDWA -2	04-07-2019	09:00	04-07-2019	18:00	ODB	POWERGRID ER-I	For construction of Karnapura bay at Chandawa		
112	400KV Tie bay of Baripada & Andal 2 at Jamshepur	04-07-2019	09:30	04-07-2019	17:30	ODB	POWERGRID ER-I	Maintenance of CB Catch gear unit		
113	400 KV Main Bus-II at Lakhisarai	04-07-2019	09:30	04-07-2019	17:30	ODB	POWERGRID ER-I	AMP works of Bus Isolators.		
114	400KV MAIN BAY OF MUZ-2 AT NEW PURNEA	04-07-2019	09:30	06-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB		
115	400KV RANCHI- ROURKELA-I TL	04-07-2019	09:00	04-07-2019	17:00	ODB	POWERGRID ER-I	FLASHED INSULATOR REPLACEMENT		
116	220KV Main Bus-2 at Sasaram	04-07-2019	09:00	04-07-2019	19:00	ODB	POWERGRID ER-I	AMP work	BIHAR	
117	400KV Bus 2 at Patna	04-07-2019	09:30	06-07-2019	17:30	ODB	POWERGRID ER-1	Stringing of Sky bus under SS03 package of Patna Nabinagar Ckt 1	BIHAR	
118	400 kv Patna-Ballia CKT 2	04-07-2019	09:00	04-07-2019	18:00	ODB	POWERGRID ER-1	FOR REPLACEMENT OF PORCELAIN INSULATOR BY POLYMER	NLDC	
119	400kv Biharsharif-Ballia-2 Line	04-07-2019	09:00	04-07-2019	14:00	ODB	POWERGRID ER-I	For replacenment of B-pH line side Isolator Arm of its main bay.	NLDC	
120	400KV Kh-Banka #1	04-07-2019	09:00	05-07-2019	17:30	OCB	KAHALGAON	Distance protection Relay Retrofitting		
121	400KV ROURKELA-CHAIBASA#2 LINE	04-07-2019	09:00	04-07-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR ERECTION OF INTERRUPTER & POLE COLUMN OF NEW CGPISL MAKE CB OF 40952.		
122	220 KV Transfer Bus Coupler Bay (Bay No-203)	04-07-2019	08:00	04-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
123	221 KV Gaya-Dehri ckt1	04-07-2019	09:00	04-07-2019	13:00	ODB	BSPTCL	Line & bay maintenance work	alternate sources	
124	222 KV Gaya-Dehri ckt2	04-07-2019	13:30	04-07-2019	17:30	ODB	BSPTCL	Line & bay maintenance work	Dehri will avail power from alternate sources	
125	132 KV Bettiah-Narkatayiganj-Ramnagar T/L	04-07-2019	08:00	05-07-2019	13:00	ODB	BSPTCL	line maintence work	avail from nepal end	
126	150 MVA ICT-I	04-07-2019	07:00	04-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 160 MW During S/D period	
127	132KV Ara(PG) -Ara S/C T/L	04-07-2019	09:00	04-07-2019	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	
128	132KV Ara(PG) -Dumraon S/C T/L	04-07-2019	09:00	04-07-2019	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	

129	400KV MAIN BUS-I BERHAMPPORE	04-07-2019		04-07-2019			POWERGRID,ER-II	BUS BAR EXTENSION work for upcoming 400kv BERHAMPUR-HERAMARA-II PACKAGE	NLDC	
130	400kV Bus Section 2A at Alipurduar	05-07-2019	07:00	05-07-2019	18:00	ODB	POWERGRID,ER-II	AMP Work		
131	400 KV Main Bus -I at Subhasgram SS	05-07-2019	09:00	05-07-2019	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -I at Subhasgram SS		
132	400 KV BUS-I at Durgapur	05-07-2019	09:00	05 July 2019	17:00	ODB	POWERGRID,ER-II	Bus Bar relay checking & AMP	DVC	
133	500 MVA ICT #1 at Maithan	05-07-2019	08:00	05-07-2019	18:00	ODB	POWERGRID,ER-II	1.On load testing of CSD & Replacement of MOG under ERSS-IX project work.	DVC	
134	401 KV S/C Sagardighi-Jeerat TL	05-07-2019	08:00	05-07-2019	17:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 10/0 to 11/0.	WB	
135	401 KV S/C Sagardighi-Subhashgram TL	05-07-2019	08:00	05-07-2019	17:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 11/0 to 12/0	WB	
136	400KV SASARAM-DALTANGANJ-II	05-07-2019	09:30	05-07-2019	17:30	ODB	POWERGRID ER-I	L/R CSD Commissioning at Daltanagnaj		
137	400kV JSR -Baripada Line	05-07-2019	09:30	05-07-2019	17:30	ODB	POWERGRID ER-I	For replacemnet of flashed insulator Loc no 241		
138	400/220KV 500MVA ICT-1 AT KISHANGANJ	05-07-2019	09:00	05-07-2019	18:00	ODB	POWERGRID ER-I	AMP	BIHAR	
139	400KV TIE BAY OF NPPSP-2 & PATRATU-2 AT NEW RANCHI	05-07-2019	09:00	05-07-2019	17:00	ODB	POWERGRID ER-I	AMP		
140	400KV RANCHI- ROURKELA-II TL	05-07-2019	09:00	05-07-2019	17:00	ODB	POWERGRID ER-I	FLASHED INSULATOR REPLACEMENT		
141	400 KV Sasaram -Biharsharif Line-1	05-07-2019	09:00	10-07-2019	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road.Rail.River.Power Line		
142	400 KV Sasaram -Allahabd Line	05-07-2019	09:00	10-07-2019	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road.Rail.River.Power Line Crossings. AMP of Line.Reactor bay	NLDC	
143	400/220kV 500MVA ICT-I at Sasaram	05-07-2019	09:00	08-07-2019	18:00	OCB	POWERGRID ER-I	Shifting of transformer for Transformer Retrofitting Work	BIHAR	UP SLDC CONSENT REQUIRED
144	220kV Sasaram-Sahupuri-s/c	05-07-2019	09:00	08-07-2019	18:00	OCB	POWERGRID ER-I	To facilitatte the s/d of ICT-I for shifting of transformer for Transformer Retrofitting Work.	NLDC	
145	400 KV Patna Barh 1	05-07-2019	09:30	09-07-2019	17:30	OCB	POWERGRID ER-1	Commissioning of 80 MVAR Switchable line reactor in Patna Barh line 1 at Patna SS under under Nabinagar - II Packagae.	Multiple line contingency at Barh may be checked.	
146	400 kV Patna-Ballia CKT 3	05-07-2019	09:00	05-07-2019	18:00	ODB	POWERGRID ER-1	FOR REPLACEMENT OF PORCELAIN INSULATOR BY POLYMER	NLDC	
147	400kV Kahalgao - Banka - 2	05-07-2019	09:00	15-07-2019	18:00	ODB	POWERGRID ER-I	for OPGW erection work		
148	315 MVA ICT#1 at KTPS	05-07-2019	09:00	05-07-2019	17:30	ODB	400kV KTPS S/Y, DVC	Preventive maintenance job		
149	400 KV Balangir-Jeypore Line Main Bay(403 Bay)	05-07-2019	09:00	06/07/19	18:00	OCB	ER-II/Odisha/Balangir	For arresting SF6 Gas leakage in R-Ph CB of 403 Bay CB.		
150	400 kV 407 main Bay of Baripada-Duburi line	05-07-2019	09:00	06/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
151	400kV Jeypore-Gazuwaka-II Line	05-07-2019	08:00	06-07-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
152	Main Bay-709 of 765KV Raipur Ckt-2 at Sundergarh	05-07-2019	09:00	05-07-2019	14:00	ODB	ER-II/Odisha/Sundergarh	to take oil sample of 765KV CT after first time charging	NLDC	
153	220KV Kaniha- Meramundali-2 (Bay 04)	05-07-2019	08:00	07-07-2019	18:00	ODB	TSTPP	Tree cutting Inside NTPC Kaniha Premises	GRIDCO	

154	220kv Pusauli (PG)-Pusauli (BSPTCL)	05-07-2019	09:00	05-07-2019	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.	
155	220kv Pusauli (PG)-Ara (PG)	05-07-2019	09:00	05-07-2019	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.	
156	220 kV Muzaffarpur (PG) -Hajipur ckt - 1	05-07-2019	10:00	05-07-2019	12:00	ODB	BSPTCL	Tree pruning work	GSS Hazipur will avail power from 220kv D/C BTPS T/L & another 220kv Muzaffarpur(PG) T/L	
157	220 kV Muzaffarpur (PG) -Hajipur ckt - 2	05-07-2019	12:00	05-07-2019	16:00	ODB	BSPTCL	Tree pruning work		
158	150 MVA ICT-II	05-07-2019	07:00	05-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 160 MW During S/D period	
159	765/400 kV 500 MVAX3 ICT 4	05-07-2019	07:00	05-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
160	400KV MAIN BUS-II BERHAMPPORE	05-07-2019		05-07-2019			POWERGRID,ER-II	BUS BAR EXTENSION work for upcoming 400kv BERHAMPUR-HERAMARA-II PACKAGE	NLDC	
161	400KV Bus#2 at Binaguri	06-07-2019	09:00	07-07-2019	17:00	ODB	POWERGRID,ER-II	400KV Bus#2 connection and bus stability ERSS-XVII		after peak hydro season
162	220KV BUS-1 at Rangpo	06-07-2019	08:00	08-07-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) & Line AMC		after peak hydro season
163	220KV Rangpo NEW MELLI line	06-07-2019	08:00	12-07-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) & Line AMC		
164	400 KV Main Bus -II at Subhasgram SS	06-07-2019	09:00	06-07-2019	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -II at Subhasgram SS	WB	
165	400 KV 125 MVAR BR-II at Gaya ss	06-07-2019	09:00	08-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
166	400KV MAIN BAY OF PATNA-II AT KISHANGANJ	06-07-2019	09:00	06-07-2019	18:00	ODB	POWERGRID ER-I	AMP		
167	132 Kv TBC Bay at Lakhisarai	06-07-2019	09:30	06-07-2019	14:00	ODB	POWERGRID ER-I	AMP works of Bay Equipments.		
168	220KV Bus Coupler Bay at Sasaram	06-07-2019	09:00	06-07-2019	18:00	ODB	POWERGRID ER-I	AMP work	BIHAR	
169	220kv main bay sipara -2 at Patna	06-07-2019	09:30	08-07-2019	17:30	OCB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
170	400 kV Patna-Ballia CKT 4	06-07-2019	09:00	06-07-2019	18:00	ODB	POWERGRID ER-1	FOR REPLACEMENT OF PORCELAIN INSULATOR BY POLYMER	NLDC	
171	132KV Malda(PG)-Malda#1	06-07-2019	06:00	06-07-2019	12:00	ODB	WB	ODB		
172	ARAMBAG: 400kv MB#1 & B/C, div. of 315MVA ICT#1 bay via TBC	06-07-2019	06:00	08-07-2019	17:00	ODB	WB	ODB-replacement of MB#1 side isolator of ICT#1		
173	ICT-II at Indravati	06-07-2019	08:00	06-07-2019	17:00	ODB	ER-II/Odisha /Indravati	For retrofitting of Backup Impedance relay in ICT-II at OHPC S/Y.		
174	220 KV Bus Coupler Bay (Bay No-204)	06-07-2019	08:00	06-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
175	Main Bay-712 of 765KV Raipur Ckt-1 at Sundergarh	06-07-2019	09:00	06-07-2019	14:00	ODB	ER-II/Odisha/Sundergarh	to take oil sample of 765KV CT after first time charging	NLDC	

176	220 KV SAMAGRA CKT-1 (204 BAY)	06-07-2019	10:00	06-07-2019	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	GRIDCO	
177	150 MVA ICT-II	06-07-2019	07:00	06-07-2019	19:00	ODB	JSEB	Preventive maintenance job	Load restriction of 100 MW	
178	765/400 kV 500 MVx3 ICT 1	06-07-2019	07:00	06-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	For replacement of Bucholz relay Indian make in place of existing relays	NLDC	
179	400KV BINAGURI-Kishanganj#2	07-07-2019	10:00	07-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay		TO BE AVAILED BY JULY 10TH
180	220 KV Ara khagaul line -1	07-07-2019	09:30	07-07-2019	17:30	ODB	POWERGRID ER-1	AMP	BIHAR	
181	400kv Ballia -IV Main bay at Patna	07-07-2019	09:30	09-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updration works under Nabinagar - II Packagae.		
182	Maithon line # 1	07-07-2019	09:00	11-07-2019	17:00	OCB	MPL	HT breaker maintenance job		
183	132KV Malda(PG)-Malda#2	07-07-2019	06:00	07-07-2019	12:00	ODB	WB	ODB		
184	ICT-I (3x 105 MVA) at Jeypore	07-07-2019	08:00	07-07-2019	20:00	ODB	ER-II/Odisha /Jeypore	For changing ICT-I combination form Unit-I,III, IV to Unit-	GRIDCO	
185	400KV Rajarhat-Subhaseram	07-07-2019	11:00	07-07-2019	13:00	ODB	POWERGRID	For Interfacing work in PMU	wb	
186	400KV Rajarhat-leerat	07-07-2019	14:00	07-07-2019	16:00	ODB	POWERGRID	For Interfacing work in PMU	WB	
187	400kv Berhampore-Sagardighi-Line 1	07-07-2019	09:00	07-07-2019	17:00	ODB	POWERGRID,ER-II	stringing work for upcoming 400kv BERHAMPUR-BHERAMARA-II PACKAGE	WB	
188	400KV D/C Alipurduar - Binaguri (QUAD) Line (STERLITE)	08-07-2019	06:00	11-07-2019	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteen loc no 292-293) for under construction 400 KV D/C Jigmeling-Alipurduar TL .		
189	400KV BINAGURI-PURNEA-2	08-07-2019	10:00	08-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay		
190	220KV Siliguri Kishanganj Ckt-1	08-07-2019	09:00	09-07-2019	17:00	ODB	POWERGRID,ER-II	For retrofitting of Numerical Distance(M-I) relay, refurbishment of Numerical A/R relay.		
191	50 MVA ICT -I 132/66 KV at Gangtok	08-07-2019	09:00	08-07-2019	18:00	ODB	POWERGRID,ER-II	For AnnualAMP Works	SIKKIM	
192	400kv Farakka-Gokarna Line-1	08-07-2019	09:00	09-07-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	
193	220 KV Main Bus-I at Subhasgram SS	08-07-2019	09:00	08-07-2019	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-I at Subhasgram SS	WB	
194	400 KV jamshedpur-Durgapur line-I	08-07-2019	09:00	08-07-2019	17:00	ODB	POWERGRID,ER-II	PLCC & A/R relay checking		
195	400KV Maithon-Kahalgaon 1 & 2	08-07-2019	08:00	09-07-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	Multiple line contingency at Maithon may be checked.	
196	400KV Farakka Line Reactor at Rajarhat	08-07-2019	8	08-07-2019	13	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 405 LR Bay)		
197	400KV Farakka Line Reactor at Rajarhat	08-07-2019	14	08-07-2019	18	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 412 LR Bay)		
198	400KV MAIN BAY OF NEW PURNEA-II AT KISHANGANJ	08-07-2019	09:00	08-07-2019	18:00	ODB	POWERGRID ER-I	AMP		
199	132Kv Main Bus at Lakhisarai	08-07-2019	09:30	08-07-2019	17:30	ODB	POWERGRID ER-I	AMP works of Bus Isolators. (Entire power in 132 KV LKR	BIHAR	
200	MUZAFFARPUR - DHALKEBAR (NEPAL) -1	08-07-2019	09:00	09-07-2019	17:30	ODB	POWERGRID ER-I	NTAMC INTEGRATION OF NEPAL -1 BAY	NLDC	SUBJECT TO NEPAL CONSENT
201	400KV MAIN BAY OF KISHANGANJ-2 AT NEW PURNEA	08-07-2019	09:30	10-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB		
202	400KV MAIN BAY OF RANCHI-I AT NEW RANCHI	08-07-2019	09:00	08-07-2019	17:00	ODB	POWERGRID ER-I	AMP		

203	400 KV MAIN BUS-1 AT RANCHI	08-07-2019	09:30	10-07-2019	17:00	ODB	POWERGRID ER-I	Testing & Commissioning of Relay protection for Tie Bay and Bus-1 Protection of Ranchi-New Ranchi-I & II	JSEB	
204	400KV Kahalgaon - Maithan Line CKT - II	08-07-2019	09:00	14-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of PID detected defect insulator with Polymer Insulator	Multiple line contingency at Maithon may be checked.	
205	800KV HVDC AGRA-BNC Line 1 & 2	08-07-2019	06:00	12-07-2019	18:00	OCB	POWERGRID NR-3	De-stringing of existing line & tapping of new diverted section at Tower No.-3451 & 3474 due to Diversion Work of 800 KV HVDC BNC-Agra TL infringing the	NLDC	
206	400KV North Bus-2 at Sasaram	08-07-2019	09:00	08-07-2019	18:00	ODB	POWERGRID ER-I	AMP work	NLDC	
207	220 KV Ara Khagaul line -2	08-07-2019	09:30	08-07-2019	17:30	ODB	POWERGRID ER-1	AMP	BIHAR	
208	315 MVA ICT#2 at KTPS	08-07-2019	09:00	08-07-2019	17:30	ODB	400kv KTPS S/Y, DVC	Preventive maintenance job		
209	400KV Kh-Banka #2	08-07-2019	09:00	09-07-2019	17:30	OCB	KAHALGAON	Distance protection Relay Retrofitting		
210	400 kV 411 Tie Bay of Baripada-Pandiabili & Baripada-TISCO line	08-07-2019	09:00	09/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP & Gasket replacement		
211	315 MVA ICT#1 at Rourkela	08-07-2019	09:00	08-07-2019	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	
212	ICT-I (3x 105 MVA) at Jeypore	08-07-2019	08:00	08-07-2019	12:00	ODB	ER-II/Odisha /Jeypore	For Change over of ICT-I, from TBC CB to ICT-I Bay(201 CB) after Isolator Retrofitting works of 30 Years old 201 89C (ICT-I Isolator)	GRIDCO	
213	220KV CB of 204 Bay (Future line bay)	08-07-2019	09:00	08/07/19	18:00	ODB	Keonjhar	Rectification of CB found faulty timing & DCRM graphs.		
214	765KV Bus-I at Sundargarh	08-07-2019	09:00	17-07-2019	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	DEFERRED TILL NR DEMAND FALLS
215	220 KV SAMAGRA CKT-2 (205 BAY)	08-07-2019	10:00	08-07-2019	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	GRIDCO	
216	220KV Kaniha-TTPS Line (Bay 06)	08-07-2019	08:00	10-07-2019	18:00	ODB	TSTPP	Tree cutting Inside NTPC Kaniha Premises	GRIDCO	
217	400 kV 125 MVAR Bus Reactor-3	08-07-2019	09:00	08-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Replacement OF WTI meter.		
218	400KV BINAGURI-PURNEA-1	09-07-2019	10:00	09-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay		
219	400 KV Farakka- Kahalgaon-III line	09-07-2019	09:00	10-07-2019	18:00	ODB	POWERGRID,ER-II	For Jumper coonnection, relay setting change & Bay	After Restoration of 400kV	
220	400KV Main Bay of Bheramara-2 (Bay-401) at Baharampore	09-07-2019	09:00	09-07-2019	17:00	ODB	POWERGRID,ER-II	Bay AMP		
221	220 KV Main Bus-II at Subhasgram SS	09-07-2019	09:00	09-07-2019	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-II at Subhasgram SS	WB	
222	400KV Bus Reactor -1 at Rajarhat	09-07-2019	8	09-07-2019	13	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 410 Main Bay and 409 Tie Bay)		
223	400KV Bus Reactor -2 at Rajarhat	09-07-2019	14	09-07-2019	18	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 414 Main Bay and 413 Tie Bay)		
224	220 KV Ara Khagaul Ckt 1	09-07-2019	10:00	09-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of main 1 Distance Relay at Ara	BIHAR	
225	400 KV NEW RANCHI - CHANDWA -1	09-07-2019	09:00	09-07-2019	18:00	ODB	POWERGRID ER-I	For construction of Karnapura bay at Chandawa		

226	400kV Chaibasa -Rourkela 2	09-07-2019	09:30	09-07-2019	17:30	ODB	POWERGRID ER-I	For replacemnet of flashed insulator , Loc no 287		
227	400KV TIE BAY OF NEW PURNEA-I & II .AT	09-07-2019	09:00	09-07-2019	18:00	ODB	POWERGRID ER-I	AMP		
228	765 KV New Ranchi- Dharamjaygarh Ckt-2	09-07-2019	09:00	09-07-2019	18:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreants at	NLDC	
229	765 KV Bus Reactor Bay at Sasaram	09-07-2019	09:00	09-07-2019	18:00	ODB	POWERGRID ER-I	AMP work.B/R will be out.	NLDC	
230	400/220kV 315MVA ICT-II at Sasaram	09-07-2019	08:00	14-08-2019	18:00	OCB	POWERGRID ER-I	For Transformer Retrofitting Work	BIHAR	UP SLDC CONSENT REQUIRED
231	400kv Ballia -3 Main bay at Patna	09-07-2019	10:00	09-07-2019	11:00	ODB	POWERGRID ER-1	CB dew point measurement		
232	400kv Tie bay of Barh 3 and ballia 3 at Patna	09-07-2019	13:00	09-07-2019	14:00	ODB	POWERGRID ER-1	CB dew point measurement		
233	400kv Main bay Barh-3 at Patna	09-07-2019	16:00	09-07-2019	17:00	ODB	POWERGRID ER-1	CB dew point measurement		
234	220kv main bay of 220KV Fatuha at Patna	09-07-2019	09:30	12-07-2019	17:30	OCB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
235	400KV Barh Patna CKT 2	09-07-2019	09:00	09-07-2019	18:00	ODB	POWERGRID ER-1	FOR REPLACEMENT OF PORCELAIN INSULATOR BY POLYMER	Multiple line contingency at Barh may be checked.	
236	Maintenance work for ICT#3	09-07-2019	09:30	18-07-2019	18:00	OCB	BARH	Annual Maintenance & Testing of ICT#3		
237	Maintenance work for ICT#3 Bay	09-07-2019	09:30	18-07-2019	18:00	OCB	BARH	Annual Maintenance & Testing of ICT#3 Bay		
238	ARAMBAG: 400kv MB#2 & B/C, div. of 315MVA ICT#1 bay via TBC	09-07-2019	06:00	10-07-2019	17:00	ODB	WB	ODB-replacement of MB#2 side isolator of ICT#1		
239	220 KV OPTCL # 2 Main Bay (Bay No-207)	09-07-2019	08:00	09-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
240	315MVA ICT # II at Jeypore	09-07-2019	09:00	09-07-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of ICT # II, 208 Bay CT and testing of Back up Impedance relay	GRIDCO	
241	220KV CB of bus coupler bay (207 bay)	09-07-2019	09:00	09/07/19	18:00	ODB	Keonjhar	Rectification of CB found faulty timing & DCRM graphs.		
242	400kV Angul-Bolangir Line	09-07-2019	09:00	09-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator		
243	400kV Angul-Bolangir Line	09-07-2019	09:00	09-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator		
244	400KV Kahalgaon-Lakhisarai -1	09-07-2019	10:00	09-07-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
245	400KV Kahalgaon-Lakhisarai -2	09-07-2019	12:30	09-07-2019	14:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
246	400KV Kahalgaon-Banka-1	09-07-2019	15:30	09-07-2019	17:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
247	400kv Berhampore-Sagardighi-Line 2	09-07-2019	09:00	09-07-2019	17:00	ODB	POWERGRID,ER-II	stringing work for upcoming 400kv BERHAMPUR-BHERAMARA-II PACKAGE	WB	
248	220KV Siliguri Kishanganj Ckt-2	10-07-2019	09:00	11-07-2019	17:00	ODB	POWERGRID,ER-II	For retrofitting of Numerical Distance(M-I) relay, refurbishment of Numerical A/R relay.		

249	400kV Main Bay of Bheramara-1 (Bay-404) at Baharampore	10-07-2019	09:00	10-07-2019	17:00	ODB	POWERGRID,ER-II	Bay AMP		
250	400kV Farakka-Gokarna Line-2	10-07-2019	09:00	11-07-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	
251	50 MVAR Line Reactor at Subhasgram S/s	10-07-2019	09:00	10-07-2019	17:00	ODB	POWERGRID,ER-II	VT Selection work and REF Relay Retrofitting work		
252	400 KV Sagardighi-Durgapur Line-I	10-07-2019	09:00	10 July 2019	17:00	ODB	POWERGRID,ER-II	PLCC & A/R relay checking	WB	
253	400kV Andal-jamshedpur Ckt-I	10-07-2019	09:00	11-07-2019	17:00	ODB	POWERGRID,ER-II	providing of Pilot string, and rectification of other shutdown nature defects including insulator replacement damaged by miscreant	DVC	
254	400KV Maithon-Durgapur 1&2	10-07-2019	08:00	11-07-2019	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	After Restoration of Tie bay of MPL-1 & Durgapur-1 at Maithon(PG).	
255	400kv Malda-Purnea Ckt-1	10-07-2019	09:00	09-08-2019	17:00	ODB	POWERGRID,ER-II	Replacement of Porcelain Insulators with CLR Insulators.Ckt-wise S/D shall be taken on alternate days		MAY BE AVAILED ONLY AFTER RETURN OF 400KV FARAKKA-PURNEA &400KV GOKARNO-
256	400kv Malda-Purnea Ckt-2	10-07-2019	09:00	09-08-2019	17:00	ODB	POWERGRID,ER-II	Replacement of Porcelain Insulators with CLR Insulators.Ckt-wise S/D shall be taken on alternate days		MAY BE AVAILED ONLY AFTER RETURN OF 400KV FARAKKA-PURNEA &400KV GOKARNO-PURNEA
257	500MVA ICT-1 at Rajarhat	10-07-2019	08:00	10-07-2019	13:00	ODB	POWERGRID,ER-II	For online switching operation of PSD (Throuh 403 Main Bay and 402 Tie Bay)	WB	ONLY AFTER COMMISSIONING OF 500MVA ICT-II RAJARHAT
258	220 kV Ara Khagaul Ckt 2	10-07-2019	10:00	10-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of main 1 Distance Relay at Ara	BIHAR	
259	400 /220 kV ICT-II at Gaya ss	10-07-2019	09:00	12-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	POSTPONED TO LAST WEEK OF JULY
260	400 KV BUS-I at Gaya S.S	10-07-2019	09:00	12-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
261	400kv Main bay of Durgapur at Jamshepur	10-07-2019	09:30	10-07-2019	17:30	ODB	POWERGRID ER-I	CB Attractor unit replacement work.		
262	400KV MAIN BAY OF NEW PURNEA-I AT KISHANGANJ	10-07-2019	09:00	10-07-2019	18:00	ODB	POWERGRID ER-I	AMP		
263	MUZAFFARPUR - DHALKEBAR (NEPAL) - 2	10-07-2019	09:30	11-07-2019	17:30	ODB	POWERGRID ER-I	NTAMC INTEGRATION OF NEPAL -2 BAY	NLDC	SUBJECT TO NEPAL CONSENT
264	400KV MAIN BAY OF PATRATU-II AT NEW RANCHI	10-07-2019	09:00	10-07-2019	17:00	ODB	POWERGRID ER-I	AMP		
265	220/132KV 160MVA ICT-1 AT PURNEA	10-07-2019	09:00	10-07-2019	17:00	ODB	POWERGRID ER-I	132KV Side Yph CVT replacement work	BIHAR	
266	220KV Bay of 400/220kv ICT-2 at Sasaram	10-07-2019	09:00	10-07-2019	18:00	ODB	POWERGRID ER-I	AMP work	BIHAR	
267	400 KV Pusauli -Biharsharif Line-2	10-07-2019	09:00	15-07-2019	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road.Rail.River.Power Line Crossings. AMP of Line.Reactor bay		
268	400 KV Pusauli-Varanasi Line	10-07-2019	09:00	15-07-2019	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road.Rail.River.Power Line Crossings. AMP of Line.Reactor bay	NLDC	BALANCE WORK DETAIL TO BE SUBMITTED TO NRPC & S/D INDENT TO BE APPROVED AT NRPC

269	400kv Main bay Ballia 4 at Patna	10-07-2019	10:00	10-07-2019	11:00	ODB	POWERGRID ER-1	CB dew point measurement		
270	400kv Tie bay of Barh 4 and Ballia 4 at Patna	10-07-2019	13:00	10-07-2019	14:00	ODB	POWERGRID ER-1	CB dew point measurement		
271	400kv Main bay Barh 4 at Patna	10-07-2019	16:00	10-07-2019	17:00	ODB	POWERGRID ER-1	CB dew point measurement		
272	400KV Bus-4 at POWERGRID at Biharsharif	10-07-2019	09:00	10-07-2019	17:00	ODB	POWERGRID ER-I	IPS tube interconnection to Bus isolator from 425 main	BIHAR	
273	Rengali main Bay (403) at Indravati	10-07-2019	08:00	10-07-2019	17:00	ODB	ER-II/Odisha /Indravati	To Replace the 400KV CT due to Oil Leakages.The power flow will be Interrupted in Indravati-Uihp Line Due to temporary shutdown of Uihp Main bay(412) at		
274	40552- Tie Bay of Kharagpur line & 315MVA ICT II	10-07-2019	09:00	10/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
275	315 MVA ICT#1 at Rourkela	10-07-2019	09:00	10-07-2019	13:00	ODB	ER-II/ODISHA/ROURKELA	ERECTION OF TERTIARY IPS TUBE AFTER PROVIDING INSULATION SLEEVES	GRIDCO	
276	220 kV Bus -II at Jeypore & 220 kV Bus Coupler CB(202 52)	10-07-2019	08:00	12-07-2019	18:00	OCB	ER-II/Odisha /Jeypore	For 30 Years old Isolator Retrofitting Works of Bus-II side Isolators of Jeypore I, Jeypore-2 & ICT-I & Bus Coupler Bay	GRIDCO	
277	220KV CB of 208 bay (OPTCL Ckt-I)	10-07-2019	09:00	10/07/19	18:00	ODB	Keonjhar	Rectification of CB found faulty timing & DCRM graphs.	GRIDCO	
278	765KV Sundargarh-Angul Ckt #4 with LR at Sundergarh	10-07-2019	10:00	10-07-2019	12:00	ODB	ER-II/Odisha/Sundergarh	To take B ph Reactor in to service and keep out of service SPARE Reactor	NLDC	
279	400KV GIS Main Bay-436 of ICT-3 at Sundergarh	10-07-2019	09:00	10-07-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
280	80 MVAR BUS REACTOR	10-07-2019	09:30	10-07-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Cap and tan delta test of bushing.		
281	132KV Purnea(PG)-Kishanganj(Old) S/C T/L	10-07-2019	08:00	31-07-2019	17:00	OCB	BSPTCL	For erection & stringing work and stringing of pile foundation at location no 80,81 and 83 along with dismantling of existing tower and de-stringing of existing conductor in Parman river near Baisi	Kishanganj (old)will avail power from alternate sources.	
282	400kV Angul-Meramunduli-1 Line	10-07-2019	09:00	10-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator		
283	132 KV Ara(PG)-Jagdishpur S/C T/L	10-07-2019	09:00	10-07-2019	16:00	ODB	BSPTCL	For 2nd ckt stringing work of Ara(PG)-Jagdishpur T/L	Jagdishpur will avail power from Ara	
284	400KV Kahalgaon-Banka-2	10-07-2019	10:00	10-07-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
285	400KV Kahalgaon-Farakka-1	10-07-2019	12:30	10-07-2019	14:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
286	400KV Kahalgaon-Farakka-2	10-07-2019	15:30	10-07-2019	17:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
287	50 MVA ICT-II 132/66KV at Gangtok	11-07-2019	09:00	11-07-2019	18:00	ODB	POWERGRID,ER-II	For AnnualAMP Works	SIKKIM	
288	400 KV Farakka- Berhampur-I	11-07-2019	09:00	12-07-2019	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.	After Restoration of 400kV FSTPP-KhSTPP-I	
289	400KV Tie Bay of Bheramara-1 (Bay-405) at Baharampore	11-07-2019	09:00	11-07-2019	17:00	ODB	POWERGRID,ER-II	Bay AMP		
290	220KV Subhasgram-CESC CKT#2 Bay No.203) at	11-07-2019	09:00	11-07-2019	17:00	ODB	POWERGRID,ER-II	AMP work.There will be no Power Interruption Only 203	WB	
291	404 bay (B' Nagar-II Main bay) at Durgapur	11-07-2019	09:00	11-07-2019	17:00	ODB	POWERGRID,ER-II	AMP works		
292	132 KV D/C CK Road -Birsingha TL (TL-58-59)	11-07-2019	6.00	12-07-2019	17.00	ODB	TBCB Midnapore Group	For Powerline crossing of 765 KV MJTL-AP 13/0 (DD+6)-14/0(DD+6). Span Length- 267.96mtr	WB	

293	220 kV Ara Sasaram	11-07-2019	10:00	11-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of main 1 Distance Relay at Ara	BIHAR	
294	400/220kv 315 MVA ICT 2 at Jamshepur	11-07-2019	09:30	11-07-2019	17:30	ODB	POWERGRID ER-I	DCRM of OLTC to be carried out foe health assesment of ICT. (ICT has completed 30 yrs life)	JSEB	
295	400KV 63MVAR L.R OF RANGPO AT KISHANGANJ	11-07-2019	09:00	11-07-2019	18:00	ODB	POWERGRID ER-I	AMP		
296	400KV MAIN BAY OF MUZ-1 AT NEW PURNEA	11-07-2019	09:30	13-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB		
297	STATCOM Coupling Transformer AT NEW RANCHI	11-07-2019	09:00	12-07-2019	17:00	OCB	POWERGRID ER-I	AMP (Pre-warranty testing)		
298	400 KV MAIN BUS-2 AT RANCHI	11-07-2019	09:30	13-07-2019	17:00	ODB	POWERGRID ER-I	Testing & Commissioning of Relay protection for Tie Bay and Bus-2 Protection of Ranchi-New Ranchi-I & II /RNC-NRNC-I & Ckt-II WILL BE OUT OF SERVICE DUE TO	JSEB	
299	220KV bay of 400/220kv ICT-1 at Sasaram	11-07-2019	09:00	11-07-2019	18:00	ODB	POWERGRID ER-I	AMP work	BIHAR	
300	400KV Balangir-Angul Line with Line reactor	11-07-2019	08:00	13/07/19	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator and AMP of Line reactor		
301	400KV ROURKELA-CHAIBASA#1 Main Bay 416	11-07-2019	09:00	20-07-2019	18:00	OCB	ER-II/ODISHA/ROURKELA	RETROFITTING OF OLD HYDRAULIC OPERATED BHEL MAKE CB BY NEW SPRING-SPRING OPERATED CGPISL MAKE CB		
302	400KV ROURKELA-CHAIBASA#1 LINE	11-07-2019	09:00	11-07-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR DISMANTLING OF		
303	220 KV OPTCL # 1 Main Bay (Bay No-208)	11-07-2019	08:00	11-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
304	765KV Angul-Sundargarh Line 1 Line Reactor bay 709R	11-07-2019	09:00	11-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
305	220KV CB of 206 bay (OPTCL Ckt-II)	11-07-2019	09:00	11/07/19	18:00	ODB	Keonjhar	Rectification of CB found faulty timing & DCRM graphs.		
306	765 KV DC Sundargarh - Dharamjaygarh Ckt #1	11-07-2019	08:00	11-07-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	
307	220KV Kaniha-Rengali Line (Bay 07)	11-07-2019	08:00	11-07-2019	18:00	ODB	TSTPP	Tree cutting Inside NTPC Kaniha Premises	GRIDCO	
308	400kV Angul-Talcher Line	11-07-2019	09:00	11-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work		
309	400KV Kahalgaon-Farakka-3	11-07-2019	10:00	11-07-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
310	400KV Kahalgaon-Farakka-4	11-07-2019	12:30	11-07-2019	14:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
311	400KV Kahalgaon-Maithon-1	11-07-2019	15:30	11-07-2019	17:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
312	400kV Alipurduar - Binaguri Ckt - I	12-07-2019	07:00	12-07-2019	18:00	ODB	POWERGRID,ER-II	Bay AMP work		
313	132KV Rangit-Rangpo	12-07-2019	09:00	12-07-2019	17:00	ODB	POWERGRID,ER-II	Damaged conductor rectification work and Sag correction at Loc 16-17	SIKKIM	
314	220 KV Bus Coupler at Birpara along with 220 KV Bus-I. (All running feeders will be shifted to 220 KV Bus-II).	12-07-2019	08:00	12-07-2019	17:00	ODB	POWERGRID,ER-II	Conversion of Bus CVT from 1-Phase to 3- Phase	WB	
315	400KV Malda-New Purnea-I	12-07-2019	08:00	13-07-2019	17:00	ODB	POWERGRID,ER-II	A/R relay upgradation and retrofitting as well as rectification of OPGW Peak Bend		

316	220KV Subhasgram- NEWTOWN LINE	12-07-2019	09:00	12-07-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	
317	220KV Bus-I at Maithan	12-07-2019	09:00	12-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement of 500MVA ICT#2 220KV side bus isolator (21389A) arm, 500MVA ICT#2 220KV side will be charged through TBC	DVC	
318	220 kV Ara Nadokhar	12-07-2019	10:00	12-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of main 1 Distance Relay at Ara	BIHAR	
319	400KV CHAIBASA-KHARAGPUR-I	12-07-2019	09:30	12-07-2019	17:30	ODB	POWERGRID ER-I	Broken isolator replacement of Kharagpur 1 Y phase wavetrap	WB	
320	400KV MAIN BAY OF 400/220KV ICT-2 AT DALTANGANJ	12-07-2019	09:30	12-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
321	400KV Main Bay of Allahabad North at Sasaram	12-07-2019	09:00	12-07-2019	18:00	ODB	POWERGRID ER-I	AMP work	NLDC	
322	400/220KV ICT 2 at Patna	12-07-2019	10:00	12-07-2019	14:00	ODB	POWERGRID ER-1	Commissioning of CSD of Tie bay of ICT	BIHAR	
323	Maithon line # 2	12-07-2019	09:00	16-07-2019	17:00	OCB	MPL	HT breaker maintenance job	After Restoration of Tie bay of MPL-1 & Durgapur-1 at Maithon(PG).	
324	ARAMBAG: 400kv MB#1 & B/C, div. of 315MVA ICT#2 bay via TBC	12-07-2019	06:00	13-07-2019	17:00	ODB	WB	ODB-replacement of MB#1 side isolator of ICT#2		
325	400 kV 408 Tie Bay of Baripada-Duburi & Baripada-Jamshedpur line	12-07-2019	09:00	13/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
326	Retrofitting of BHEL make Sectionalizer Breaker (10C04-Q1) pertaining to 400kV Bus-1 & Bus-3 with GE make Breaker.	12-07-2019	06:00	22-07-2019	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of Sectionalizer Breaker (10C04-Q01) pertaining to 400kV Bus-1 & Bus-3 on continuous basis for retrofitting of BHEL make Circuit Breaker with new GE	NLDC	
327	315 MVA ICT#2 at Rourkela	12-07-2019	09:00	12-07-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF EXISTING OLD ICT PROTECTION RELAYS WITH NEW NUMERICAL RELAYS	GRIDCO	
328	765KV Angul-Sundargarh Line 2 Line Reactor bay 706R	12-07-2019	09:00	12-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
329	220KV side CB of ICT-II Bay (bay-205)	12-07-2019	09:00	12/07/19	18:00	ODB	Keonjhar	Rectification of CB found faulty timing & DCRM graphs.		
330	315MVA ICT-II at Keonjhar	12-07-2019	09:00	12/07/19	18:00	ODB	Keonjhar	Retro fitting of Back up Impedance relay		
331	765 KV DC Sundargarh - Dharamjaygarh Ckt #2	12-07-2019	08:00	12-07-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	
332	Main bays 721& 724 Darmajayagar-I &II at Sundargarh	12-07-2019	09:00	17-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	WHY BOTH BAYS REQUIRED ?
333	400kV Andai-jamshedpur Ckt-II	12-07-2019	09:00hrs	13-07-2019	17:00hrs	ODB	POWERGRID,ER-II	providing of Pilot string, and rectification of other shutdown nature defects including insulator replacement damaged by miscreant	DVC	
334	400KV Kahalgaon-Maithon-2	12-07-2019	10:00	12-07-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
335	400KV Kahalgaon-Barh-1	12-07-2019	12:30	12-07-2019	14:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU	After Restoration of 400kV Barh-Motihari-DC	
336	400KV Kahalgaon-Barh-2	12-07-2019	15:30	12-07-2019	17:30	ODB	NTPC/POWERGRID	For Interfacing work in PMU	After Restoration of 400kV Barh-Motihari-DC	
337	132 KV D/C Arambagh-Birsingha TL - CKT-I&II	13-07-2019	08:00	13-07-2019	16:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 25/0 to 26/0.	WB	

338	400KV BINAGURI-TALA -4	13-07-2019	10:00	13-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	NLDC	
339	400KV BINAGURI-TALA-1	13-07-2019	10:00	13-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	NLDC	
340	220KV Siliguri Binaguri Ckt-1	13-07-2019	09:00	13-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of numerical A/R relay & AMP work		
341	409 Bay at NTPC Farakka (Main Bay of Bus reactor-2)	13-07-2019	10:00	13-07-2019	11:00	ODB	POWERGRID,ER-II	Oil Sampling of Bay CT.		
342	220KV Subhasgram KLC Bantala Line at Powergrid,Subhasgram	13-07-2019	09:00	13-07-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	
343	420 Bay (Mithon-II & Future Tie bay) at Durgapur	13-07-2019	09:00	13-07-2019	17:00	ODB	POWERGRID,ER-II	Gasket replace in main pole		
344	400KV Maithon-Right Bank # 1	13-07-2019	08:00	27-07-2019	18:00	OCB	POWERGRID,ER-II	Re conducting work		
345	Main bay of 400kv Maithon-MPL Ckt#1,(Bay no 403) at MPL	13-07-2019	08:00	20-07-2019	18:00	OCC	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
346	220 KV S/C STPS - Chandil TL-(TL-229-230)-WBSETCL	13-07-2019	7.00	14-07-2019	17.00	ODB	TBCB Midnapore Group	For Powerline crossing of 765 KV RMTL-AP 83/0 (DD+9)-84/0(DD+9). Span Length-160 mtr	WB	
347	400KV TIE BAY OF 315MVA ICT-II AND FUTURE AT DALTANGANJ	13-07-2019	09:30	13-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
348	400 KV BUS-II at Gaya S.S	13-07-2019	09:00	14-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
349	400 KV GAYA-NABINAGAR -1 line	13-07-2019	09:00	14-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
350	132kv Pusauli-Kudra	13-07-2019	09:00	13-07-2019	18:00	ODB	POWERGRID ER-I	Relay retrofitting Job	BIHAR	
351	220kv Bus coupler bay at Patna	13-07-2019	09:30	15-07-2019	17:30	OCB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
352	220kv Main bay of 400/220kv 500MVA ICT 1 at Patna	13-07-2019	09:30	15-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updration works under SS03 package	BIHAR	
353	400KV ROURKELA-CHAIBASA#1 LINE	13-07-2019	09:00	13-07-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR ERECTION OF INTERRUPTER & POLE COLUMN OF NEW CGPISL MAKE CB OF 41652.		
354	220 kV Bus -I at Jeypore & 220 kV Bus Coupler CB(202 52)	13-07-2019	08:00	14-07-2019	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		
355	315MVA ICT-I at Keonjhar	13-07-2019	09:00	13/07/19	18:00	ODB	Keonjhar	Retro fitting of Back up Impedance relay		
356	765KV Sundergarh-Angul Ckt #1 with 240MVAr LR at Sundargarh	13-07-2019	08:00	13-07-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	-TL Maintenance works -AMP work of Angul LR-1 at Sundergarh	NLDC	
357	Mendhasal-Pandiabili CKT-1 at Mendhasal Main bay NB: Line will be in service through tie Bay.	13-07-2019	09:30	13-07-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Amp of Bay (Timing, CRM, DCRM)	GRIDCO	
358	400kV Angul-Meramunduli-2 Line	13-07-2019	09:00	13-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work		
359	133 KV D/C Arambagh-Birsingha TL - CKT-I&II	14-07-2019	08:00	14-07-2019	16:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 25/0 to 26/0.	WB	
360	132 KV D/C Satgachia-Bandel (Khanan) TL - CKT-I&II	14-07-2019	08:00	14-05-2019	16:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 106/0 to 107/0	WB	
361	133 KV D/C Satgachia-Bandel (Khanan) TL - CKT-I&II	14-07-2019	08:00	14.05.2019	16:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 106/0 to 107/0	WB	
362	400KV BINAGURI-BONGAIGAON-1	14-07-2019	10:00	14-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and	NLDC	MULTIPLE S/D REQUIREMENTS

363	400KV Bus -I at Patna	14-07-2019	09:30	16-07-2019	17:30	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BIHAR	
364	Mendhasal-Pandiabili CKT-2 at Mendhasal Main bay	14-07-2019	09:30	14-07-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Amp of Bay (Timing, CRM, DCRM)	GRIDCO	
365	±800KV HVDC Biswanathchariali - Alipurduar Line 1&2 (Aliprdur - Biswanath Chariali Section)	15-07-2019	06:00	17-07-2019	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteen loc no 8-9 of Alipurduar BNC Section) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	NLDC	
366	400KV BINAGURI-Malbase	15-07-2019	10:00	15-07-2019	15:00	ODB	POWERGRID,ER-II	Line defect rectification work	NLDC	
367	400KV TIE OF BONGAIGAON-1 AND RANGPO-1 at Binaguri	15-07-2019	10:00	15-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose relay		
368	220KV Siliguri Binaguri Ckt-2	15-07-2019	09:00	15-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of numerical A/R relay		
369	220KV Dalkhola-Dalkhola-II	15-07-2019	09:00	15-07-2019	11:00	ODB	POWERGRID,ER-II	For Newly replaced Y-Ph CT DGA Test (Replacement Date-30.03.2019)	WB	
370	400 KV Farakka- Berhampur-II with Reactor	15-07-2019	09:00	16-07-2019	18:00	ODB	POWERGRID,ER-II	For balance protection scheme checking of bay-23 (Tie		
371	402 Tie Bay of 315 MVA ICT#1 and 400 KV Subhasgram Sagardighi Line at Subhasgram	15-07-2019	09:00	15-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 402 Bay.There will be no Power Interruption Only 402 Bay is under Shutdown	After Restoration of 400kV FSTPP-KhSTPP-I	
372	400 Bus-I & Bus-III Sectionalize CB (BS-I) at Durgapur	15-07-2019	09:00	15-07-2019	17:00	ODB	POWERGRID,ER-II	AMP works		
373	400KV Maithon-Durgapur CKT-I	15-07-2019	09:00	17-07-2019	17:00	ODB	POWERGRID,ER-II	providing of Pilot string, member fixing at top section and rectification of other shutdown nature defects		
374	220KV Bus-II at Maithan	15-07-2019	09:00	15-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement of Bus isolator of 220KV Kalyaneswari#1 line (21489B), 220KV KLN#1 will be charged through TBC.	DVC	
375	400KV RBTPS-Ranchi 1&2	15-07-2019	08:00	16-07-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	DVC	
376	400KV MAIN BAY OF SASARAM-I AT DALTANGANJ	15-07-2019	09:30	15-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
377	400 KV GAYA-NABINAGAR -2 line	15-07-2019	09:00	16-07-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
378	400/220 KV 315 MVA ICT-2 AT MUZAFFARPUR	15-07-2019	09:30	17-07-2019	17:30	OCB	POWERGRID ER-I	OLTc OVERHAULING	BIHAR	POSTPONED TO LAST WEEK OF
379	220KV NEW PURNEA-PURNEA-II	15-07-2019	09:30	25-07-2019	18:00	OCB	POWERGRID ER-I	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	May be availed in September	
380	400KV L/R OF MUZ-1 AT NEW PURNEA	15-07-2019	09:30	17-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB	SWITCHBALE ??	
381	132kVSasaram -Mohaniya	15-07-2019	09:00	15-07-2019	18:00	ODB	POWERGRID ER-I	Relay retrofitting Job	BIHAR	
382	220KV BUS-I at BSPTCL Biharsharif	15-07-2019	09:00	15-07-2019	17:00	ODB	POWERGRID ER-I	220kV Bus-1 Extension & Jumper commection	BIHAR	
383	ARAMBAG: 400kv MB#2 & B/C, div. of 315MVA ICT#2 bay via TBC	15-07-2019	06:00	16-07-2019	17:00	ODB	WB	ODB-replacement of MB#2 side isolator of ICT#2		
384	315 MVA, ICT-2 Main BAY (404 BAY)	15-07-2019	09:00	15/07/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 404 52 CB and 404 CT		
385	400 kV 410 main Bay of Baripada-Pandiabili line	15-07-2019	09:00	16/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP & Gasket replacement		
386	125 MVAR BUS REACTOR-I	15-07-2019	09:00	15-07-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	COMMISSIONING OF CSD IN ITS TIE BAY CB (42352 CB)		
387	400 KV ROURKELA-TALCHER#1	15-07-2019	09:00	18-07-2019	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.		
388	220 KV ICT # 2 Main Bay (Bay No-202)	15-07-2019	08:00	17-07-2019	17:00	OCB	ER-II/Odisha/Rengali	CB Pole Overhauling & MOM Box Retrofitting		
389	220KV Jeypore-JEYNAGAR-II Line	15-07-2019	08:00	15-07-2019	20:00	ODB	ER-II/Odisha /Jeypore	For 30 Years Old Line Isolator & TBC Isolator Retrofitting works of Jeynagar-II Bay	GRIDCO	
390	765KV Sundergarh-Angul Ckt #2 With 240MVAR LR at Sundergarh	15-07-2019	08:00	15-07-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	-TL Maintenance works -AMP work of Angul LR-2 at Sundergarh	NLDC	
391	765/400KV 1500MVA ICT-2 at Sundergarh	15-07-2019	09:00	15-07-2019	17:00	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 oil leakage of B-Ph ICT	NLDC	
392	Main Bay-709 of 765KV Raipur Ckt-2 at Sundergarh	15-07-2019	09:00	15-07-2019	14:00	ODB	ER-II/Odisha/Sundergarh	to take oil sample of 765KV CT after first time charging	NLDC	
393	Mendhasal-Pandiabili CKT-1 & 2 Tie Bay at Mendhasal NB:Both line will be in service through Main Bay	15-07-2019	09:30	15-07-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Amp of Tie Bay (Timing, CRM, DCRM)	GRIDCO	
394	Biharsharif-Barhi (via Rajgir) 132kV line	15-07-2019	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	

395	400KV BINAGURI-TALA 2	16-07-2019	10:00	16-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	NLDC	
396	220KV BINAGURI-BIRPARA-1	16-07-2019	10:00	16-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
397	220KV Birpara-Chukha Ckt-I	16-07-2019	08:00	16-07-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	
398	400KV MALDA-New Purnea-II	16-07-2019	08:00	17-07-2019	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting, 2 no Dead Tank CT replacement.		
399	400KV BUS-II at Malda	16-07-2019	08:00	17-07-2019	17:00	OCB	POWERGRID,ER-II	Bus Isolator rectification work of 406-89M2 isolator and ICT-5 89M2 isolator.	WB	WB ALLOWED PROVIDED ITS AVAILED ON DAILY BASIS(ODB)
400	400/220 KV ICT-5 at Malda	16-07-2019	08:00	17-07-2019	17:00	ODB	POWERGRID,ER-II	Recctification of 89M2 isolator(Y PH).	WB	
401	400kv 80MVAR Reactor at Berhampore	16-07-2019	09:00	16-07-2019	17:00	ODB	POWERGRID,ER-II	AMP		
402	405 Tie Bay of 315 MVA ICT#2 and 400 KV Subhasgram Jeerat Line at Subhasgram	16-07-2019	09:00	16-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 405 Bay.There will be no Power Interruption Only 405 Bay is under Shutdown	WB	
403	400 Bus-II & Bus-IV Sectionalize CB (BS-II) at Durgapur	16-07-2019	09:00	16-07-2019	17:00	ODB	POWERGRID,ER-II	AMP works		
404	132 kv Ara Dumraon	16-07-2019	10:00	16-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of Distance Relay at Ara	BIHAR	
405	400 KV CHANDWA - GAYA -2	16-07-2019	09:00	16-07-2019	18:00	ODB	POWERGRID ER-I	For construction of Karnapura bay at Chandawa		
406	400/220kv 315 MVA ICT 1 at Jamshepur	16-07-2019	09:30	16-07-2019	17:30	ODB	POWERGRID ER-I	DCRM of OLTC to be carried out foe health assesment of	JSEB	
407	400 kv New Ranchi-Ranchi - 1	16-07-2019	09:00	16-07-2019	18:00	ODB	POWERGRID ER-I	For bay constrction work of chitrapur bay at Ranchi		
408	220 KV MAIN BUS-1 AT RANCHI	16-07-2019	09:30	16-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of 01 No 220 KV (R-Ph) CVT due to	JSEB	
409	400 KV KODERMA -BIHARSHARIF TL - 1	16-07-2019	08:00	17-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of insulators damaged miscreants(Forest Area)	DVC	
410	220 KV Sasaram -Ara Line	16-07-2019	09:00	20-07-2019	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road.Rail.River.Power Line Crossings	BIHAR	
411	220 KV Nadokhar-Ara Line	16-07-2019	09:00	20-07-2019	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road.Rail.River.Power Line Crossings	BIHAR	
412	400kv Main bay Of ICT 1 at Patna	16-07-2019	09:30	28-07-2019	17:30	OCB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II		
413	400kv Main bay Of ICT 1 at Patna	16-07-2019	09:30	19-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Packagae.		
414	400kv Tie bay Ballia 2 & Barh 2 at Patna	16-07-2019	09:30	18-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Packagae.		
415	220KV BUS-2 at BSPTCL Biharsharif	16-07-2019	09:00	16-07-2019	17:00	ODB	POWERGRID ER-I	220kV Bus-2 Extension & Jumper comnection	BIHAR	
416	400KV Balangir-Jeypore Line with Line reactor	16-07-2019	08:00	17/07/19	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator and AMP of Line Reactor	NLDC	
417	400 KV Rourkela-Talcher Line # 2 in Non-Auto Mode	16-07-2019	08:00	31-07-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
418	220KV Jeypore-JEYNAGAR-II Line	16-07-2019	10:00	16-07-2019	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	GRIDCO	
419	400KV Sundargarh-Raigarh Ckt #4	16-07-2019	08:00	31-07-2019	18:00	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose relay will be off. Line will be in service	NLDC	
420	765/400KV 1500MVA ICT-1at Sundergarh	16-07-2019	09:00	16-07-2019	17:00	ODB	ER-II/Odisha/Sundergarh	B/U Impedance Realy installtion,commisisiong works	NLDC	
421	Main Bay-712 of 765KV Raipur Ckt-1 at Sundergarh	16-07-2019	09:00	16-07-2019	14:00	ODB	ER-II/Odisha/Sundergarh	to take oil sample of 765KV CT after first time charging	NLDC	
422	765kV Angul-Sundargarh Line 1 Line Reactor bay 709R	16-07-2019	09:00	16-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
423	400KV BINAGURI-BONGAIGAON-2	17-07-2019	10:00	17-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting oftravelling wave fault locator	NLDC	MULTIPLE S/D REQUIREMENTS FOR SAME ELEMENT TO BE CLUBBED TOGETHER DERING DOUBLE CIRCUIT S/D
424	220KV BINAGURI-BIRPARA-2	17-07-2019	10:00	17-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
425	132KV Rangpo-Gangtok line	17-07-2019	09:00	17-07-2019	18:00	ODB	POWERGRID,ER-II	Line A/R implementation	SWITCHBALE ??	
426	220KV Birpara-Chukha Ckt-II	17-07-2019	08:00	17-07-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	
427	400kv Berhampore-Sagardighi-Line 1	17-07-2019	09:00	18-07-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	

428	401 Main Bay of Subhasgram Sagardighi Line at	17-07-2019	09:00	17-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 401 Bay. There will be no		
429	220KV PG(Maithon)-Dhanbad 1 & 2	17-07-2019	08:00	18-07-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	DVC	
430	132 kV Ara Ara (BSPTCL)	17-07-2019	10:00	17-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of Distance Relay at Ara	BIHAR	
431	400KV TIE BAY OF 315MVA ICT-II & SASARAM-I AT DALTANGANJ	17-07-2019	09:30	17-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
432	765 KV BUS-I at Gaya S.S	17-07-2019	09:00	17-07-2019	18:00	ODB	POWERGRID ER-I	For Attending Corona Discharge from Bus connector.	NLDC	
433	400 kV New Ranchi- Ranchi -2	17-07-2019	09:00	17-07-2019	18:00	ODB	POWERGRID ER-I	For bay construction work of chitrapur bay at Ranchi		
434	400KV MAIN BAY OF 400 KV SIPAT-1 AT RANCHI	17-07-2019	09:30	17-07-2019	17:00	ODB	POWERGRID ER-I	AMP		
435	400kv L/R of Allahabad at Sasaram	17-07-2019	09:00	17-07-2019	18:00	ODB	POWERGRID ER-I	L/R Bay AMP work		
436	400KV Bus 2 at Patna	17-07-2019	09:30	19-07-2019	17:30	ODB	POWERGRID ER-1	For Upgradation of Bay equipments under Nabinagar - II Package.	BIHAR	
437	220kV Transfer BUS at BSPTCL Bihar Sharif	17-07-2019	09:00	17-07-2019	17:00	ODB	POWERGRID ER-I	220kV Transfer BUS Extension & Jumper connection	BIHAR	
438	400 kV 4034 Tie Bay of Baripada Line & Bus Reactor at Duburi SS	17-07-2019	09:00	17/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
439	STATCOM AT ROURKELA	17-07-2019	09:00	17-07-2019	13:00	ODB	ER-II/ODISHA/ROURKELA	FOR ROUTINE CHANGEOVER OF COUPLING TRANSFORMER		
440	63MVAR Bus Reactor	17-07-2019	09:00	17-07-2019	12:00	ODB	ER-II/Odisha /Jeypore	Installation & Commissioning of CSD (during SD period switch OFF & switch ON code is required for 03 times		
441	400KV Keonjhar-Rengali Line	17-07-2019	07:00	17/07/19	18:00	ODB	Keonjhar	Replacement of Porcelain insulator by Polymer insulators in NH crossing and attending SD nature defects.		
442	765KV Bus-II at Sundargarh	17-07-2019	09:00	26-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of SF6 to Air bushing of 765KV GIS bus	NLDC	
443	765kV Angul-Sundargarh Line 2 Line Reactor bay 706R	17-07-2019	09:00	17-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
444	400KV BINAGURI-Kishanganj#1	18-07-2019	10:00	18-07-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay		
445	220KV BINAGURI-SILIGURI-1	18-07-2019	10:00	18-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
446	132KV Rangpo-Chuzachen line	18-07-2019	09:00	18-07-2019	18:00	ODB	POWERGRID,ER-II	Line A/R implementation	CHUZACHEN	
447	220 KV Birpara-New Siliguri Ckt-I	18-07-2019	08:00	18-07-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
448	220KV MAIN BUS-I at Dalkhola	18-07-2019	09:00	18-07-2019	18:00	ODB	POWERGRID,ER-II	For Jumper rectification work	WB	
449	400KV BUS-I at Malda	18-07-2019	08:00	18-07-2019	17:00	ODB	POWERGRID,ER-II	Isolator rectification work of 405-89M1 .	WB	
450	404 Main Bay of Subhasgram Rajarhat Line at Subhasgram SS	18-07-2019	09:00	18-07-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 404 Bay. There will be no Power Interruption Only 404 Bay is under Shutdown		
451	400kV Maithon-Durgapur CKT-II	18-07-2019	09:00	20-07-2019	17:00	ODB	POWERGRID,ER-II			
452	132 KV D/C Bishnupur - Khatra	18-07-2019	6:00	19-07-2019	17:00	ODB	TBCB Midnapore Group	For Powerline crossing of 765 KV RMTL-AP 134/4	WB	
453	132 kV Ara Jagdishpur	18-07-2019	10:00	18-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of Distance Relay at Ara	BIHAR	
454	400KV MAIN BAY OF 400.220KV ICT-1 AT DALTANGANJ	18-07-2019	09:30	18-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
455	765 KV BUS-II at Gaya S.S	18-07-2019	09:00	18-07-2019	18:00	ODB	POWERGRID ER-I	For Alignment of Bus Isolator.	NLDC	
456	400KV MAIN BAY OF MALDA-1 AT NEW PURNEA	18-07-2019	09:30	20-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB		
457	STATCOM MV BUS AT NEW RANCHI	18-07-2019	09:00	18-07-2019	17:00	ODB	POWERGRID ER-I	AMP (Pre-warranty testing)		
458	400KV TIE BAY OF SIPAT-1 & FUTURE AT RANCHI	18-07-2019	09:30	18-07-2019	17:00	ODB	POWERGRID ER-I	AMP		
459	400 KV KODERMA -BIHARSHARIF TL - 2	18-07-2019	08:00	19-07-2019	17:00	ODB	POWERGRID ER-I	Replacement of insulators damaged miscreants(Forest Area)	DVC	
460	400kv L/R of Varanasi at Sasaram	18-07-2019	09:00	18-07-2019	18:00	ODB	POWERGRID ER-I	L/R Bay AMP work		
461	400/220kv 500 MVA ICT 3 at Patna	18-07-2019	09:30	18-07-2019	13:30	ODB	POWERGRID ER-1	Sweep Test of 220kv Side CT	BIHAR	
462	400KV Kh-Barh#1	18-07-2019	09:00	18-07-2019	17:30	ODB	KAHALGAON	PM works and Relay testing	Multiple line contingency at	
463	125MVAR BR & BR Main Bay (410)	18-07-2019	08:00	18-07-2019	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 shutdown of Uihep Main bay(412) at Indravati.		
464	220KV Side, BUS COUPLER BAY (204 BAY)	18-07-2019	09:00	18/07/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 204 52 CB and 204 CT	GRIDCO	

465	400KV Jeypore-Gazuwaka-I Line	18-07-2019	08:00	21-07-2019	16:00	ODB	ER-II/Odisha /Jeypore	For doing PID test(Auto Reclose Switch to be put into Non Auto mode at Jeypore & Gazuwaka end)	NLDC	
466	765kV Bus Reactor 2 Main Bay 712 at Angul SS	18-07-2019	09:00	18-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
467	400KV Keonjhar-Baripada Line	18-07-2019	07:00	18/07/19	18:00	ODB	Keonjhar	Replacement of Porcelain insulator by Polymer insulators in NH crossing and attending SD nature defects.		
468	400KV side GIS Main bay(438) & Tie Bay (437) of 765/400KV ICTT-3(future) at Sundergarh	18-07-2019	09:00	22-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	For Earth Switch Cleaning excersice	NLDC	
469	STATCOM at Ranchi	18-07-2019	11:00	18-07-2019	14:00	ODB	POWERGRID	For Interfacing work in PMU		
470	400/220kV 315 MVA ICT -3 at Rangpo	19-07-2019	08:00	25-07-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work,		
471	220 KV Birpara-New Siliguri Ckt-II	19-07-2019	08:00	19-07-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
472	400kv Berhampore-Sagardighi-Line 2	19-07-2019	09:00	20-07-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	WB	
473	414 Tie Bay of 500 MVA ICT#5 and 400 KV Subhasgram Haldia Line-2 at Subhasgram	19-07-2019	09:00	22-07-2019	17:00	OCB	POWERGRID,ER-II	Pole Inspection of 414 Breaker.There will be no Power Interruption Only 414 Bay is under Shutdown	WB	
474	220 KV Bus Sectionalize CB (205) at Durgapur	19-07-2019	09:00	19-07-2019	17:00	ODB	POWERGRID,ER-II	AMP works		
475	220KV Maithon-Dumka 1 & 2	19-07-2019	08:00	20-07-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	JSEB	
476	400KV MAIN BAY OF SASARAM-II AT DALTANGANJ	19-07-2019	09:30	19-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
477	400KV TIE BAY OF STATCOM & FUTURE AT NEW RANCHI	19-07-2019	09:00	19-07-2019	17:00	ODB	POWERGRID ER-I	AMP		
478	220 KV MAIN BUS-2 AT RANCHI	19-07-2019	09:30	19-07-2019	17:00	ODB	POWERGRID ER-I	AMP	JSEB	
479	220 Kv Patna Sipara- 3	19-07-2019	09:30	19-07-2019	17:30	ODB	POWERGRID ER-1	AMP	BIHAR	
480	400KV FKK-Berhampore Line-2(main bay)	19-07-2019	09:00	19-07-2019	17:00	ODB	FARAKKA	CB and Relay test		
481	400 Arambag-KTPP line	19-07-2019	06:00	21-07-2019	17:00	ODB	WB	ODB-replacement of lineside isolator at Arambag		
482	400 kv 404 Main Bay of 80 MVAR Bus Reactor at Duburi SS	19-07-2019	09:00	19/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
483	400 KV ROURKELA-TALCHER#2	19-07-2019	09:00	22-07-2019	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.		
484	400 KV BUS # 1	19-07-2019	08:00	19-07-2019	17:00	ODB	ER-II/Odisha/Rengali	Replacement of Connector		
485	765kV Bus Reactor 2 Main Bay 712 at Angul SS	19-07-2019	09:00	19-07-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP	NLDC	
486	400KV Talcher-Rourkela Ckt-2	19-07-2019	08:00	20-07-2019	17:00	ODB	ER-II/Odisha	For replacement of OPGW in two span for high loss		
487	STATCOM at Ranchi	20-07-2019	12:00	20-07-2019	14:00	ODB	POWERGRID	For Interfacing work in PMU in STATCOM at Ranchi (Bero) S/s.		
488	400KV BINAGURI-RANGPO-1 line	20-07-2019	10:00	20-07-2019	13:00	ODB	POWERGRID,ER-II	Jumper connection work under ERSS-XX		AFTER PEAK HYDRO SEASON
489	400KV BINAGURI-RANGPO-2 line	20-07-2019	14:00	20-07-2019	18:00	ODB	POWERGRID,ER-II	Jumper connection work under ERSS-XX		AFTER PEAK HYDRO SEASON
490	220KV BINAGURI-SILIGURI-2	20-07-2019	10:00	20-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
491	132 KV D/C CK Road - Medinipur & Bishnupur - Medinipur TL(Between Tower No. - 180-181)	20-07-2019	6.00	21-07-2019	17.00	ODB	TBCB Midnapore Group	For Powerline crossing of 765 KV RMTL-AP 162/0 (DD+9)-163/0(DD+9). Span Length-265 mtr	WB	
492	400KV TIE BAY OF B.R & SASARAM-II AT DALTANGANJ	20-07-2019	09:30	20-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
493	400KV Main Bay of Varanasi North (CWL30Q52 Bay) at Sasaram	20-07-2019	09:00	20-07-2019	18:00	ODB	POWERGRID ER-I	AMP work		
494	400kv Main Bay Ballia 1 at Patna	20-07-2019	09:30	22-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Packagae.		
495	132 KV D/C Belmuri-Bardhaman TL - CKT-I&II	21-07-2019	08:00	21-07-2019	16:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 81/0 to 82/0	WB	
496	400KV BINAGURI-Bongaigaon-1 main bay 412 at Binaguri	21-07-2019	10:00	10-07-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX		
497	400KV BINAGURI-Bongaigaon-1 main bay 415 at binaguri	21-07-2019	10:00	10-07-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX		
498	400KV BINAGURI-Bongaigaon-1 line	21-07-2019	10:00	21-07-2019	13:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX	NLDC	MULTIPLE S/D REQUIREMENTS FOR SAME ELEMENT TO BE CLUBBED TOGETHER DERING DOUBLE CIRCUIT S/D
499	400KV BINAGUR-Bongaigaon-2 line	21-07-2019	14:00	21-07-2019	18:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX	NLDC	MULTIPLE S/D REQUIREMENTS FOR SAME ELEMETN TO BE CLUBBED TOGETHER
500	Tie bay of GT#1/Maithon#1 (Bay No. 404) at MPL	21-07-2019	08:00	27-07-2019	18:00	OCC	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
501	133 KV D/C Belmuri-Bardhaman TL - CKT-I&II	22-07-2019	08:00	22-07-2019	16:00	ODB	POWERGRID TBCB Kalyani	For stringing work from location 81/0 to 82/0	WB	

502	315MVA ICT-1 at Binaguri	22-07-2019	10:00	22-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	WB	
503	220 KV Birpara- Alipurduar Ckt-I	22-07-2019	08:00	22-07-2019	17:30	ODB	POWERGRID,ER-II	AMP works		
504	400 KV Malda Farakka -1	22-07-2019	08:00	22-07-2019	17:00	ODB	POWERGRID,ER-II	Auto Reclose Relay retrofitting .		
505	400kV Berhampore-Bheramara-Line-1	22-07-2019	09:00	23-07-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	NLDC	SUBJECT TO BANGLADESH CONSENT
506	132KV S/C Maithan Hydrel - Jamtara	22-07-2019	08:00	23-07-2019	18:00	OCB	POWERGRID,ER-II	TL Crossing during Re-conductoring work of Maithon - Right Bank Line	DVC	
507	400KV MAIN BAY OF 80MVAR B.R AT DALTANGANJ	22-07-2019	09:30	22-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
508	765KV Gaya-Balia	22-07-2019	09:00	23-07-2019	18:00	ODB	POWERGRID ER-I	For tower strengthening work	NLDC	
509	220KV MAIN BAY OF 400/220KV ICT -2 AT NEW PURNEA	22-07-2019	09:30	24-07-2019	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB		
510	400/220KV 315 MVA ICT-1 AT RANCHI	22-07-2019	09:30	25-07-2019	17:00	OCB	POWERGRID ER-I	Replacement of 01 No 220 KV (Y-Ph) & 2 Nos 33 KV (R & Y Ph) Bushings due to violation in parameters due to continuous fault feeding from down stream system.	JSEB	
511	400KV Bus -I at Patna	22-07-2019	09:30	23-07-2019	17:30	ODB	POWERGRID ER-1	Jumper connection of Bus Isolator and Bus stability	BIHAR	
512	SST#1B (402 Bay) at BTPS-A	22-07-2019	10:00	07-08-2019	17:00	OCB	400kv BTPS-A S/Y,DVC	shutdown for SF6 gas leakage rectification of SST#1B (402 bay) for continuos basis		
513	80 MVAR Bus Reactor at Duburi SS	22-07-2019	09:00	22/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
514	400KV Jeypore-Gazuwaka-II Line	22-07-2019	08:00	25-07-2019	16:00	ODB	ER-II/Odisha /Jeypore	For doing PID test(Auto Reclose Switch to be put into Non Auto mode at Jeypore & Gazuwaka end)	NLDC	
515	765KV Darlipali -I Line at Sundargarh	22-07-2019	09:00	22-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	Jumper Quad to Twin conversion of LA/CVT	NLDC	
516	Main bays 719& 722 of Darlipali -I & II at Sundargarh	22-07-2019	09:00	27-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
517	STATCOM at Jeypore	22-07-2019	11:00	22-07-2019	14:00	ODB	POWERGRID	For Interfacing work in PMU		
518	125MVAR BR- I at Alipurduar	23-07-2019	07:00	25-07-2019	18:00	OCB	POWERGRID,ER-II	Oil leakage (from PRD & Main tank joint) and Air Cell rectification		
519	400KV BINAGURI-BONGAIGAON-1	23-07-2019	10:00	23-07-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting oftravelling wave fault locator	NLDC	MULTIPLE S/D REQUIREMENTS FOR SAME ELEMENT TO BE CLUBBED TOGETHER DERING DOUBLE CIRCUIT S/D
520	220 KV Birpara- Alipurduar Ckt-I	23-07-2019	08:00	23-07-2019	17:30	ODB	POWERGRID,ER-II	AMP works		
521	400 KV Malda Farakka -2	23-07-2019	08:00	23-07-2019	17:00	ODB	POWERGRID,ER-II	Auto Reclose Relay retrofitting .		
522	400 KV Subhasgram Rajarhat Line	23-07-2019	09:00	23-07-2019	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting & Testing	WB	
523	400 KV CHANDWA - GAYA -1	23-07-2019	09:00	23-07-2019	18:00	ODB	POWERGRID ER-I	For construction of Karnapura bay at Chandawa		
524	220KV BAY OF 220/132KV 160MVA ATR-1 AT DALTANGANJ	23-07-2019	09:30	23-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
525	765 kV Ranchi -Dharamjaygarh - CKT-1	23-07-2019	09:00	23-07-2019	18:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreants.	NLDC	
526	400kv Main bay of 400/220kv ICT 2 at Patna	23-07-2019	09:30	25-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under		
527	400KV Mejia-Maithon Ckt#1	23-07-2019	09:00	24-07-2019	17:00	ODB	400kv MTPS S/Y, DVC	Preventive maintenance job		
528	220KV bay no.205 (Main bay of 220KV Sadeipali line)	23-07-2019	09:00	23/07/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 205 52 CB and 205 CT , Line will be charged through TBC (210)		
529	765KV Darlipali -II Line at Sundargarh	23-07-2019	09:00	23-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	Jumper Quad to Twin conversion of LA/CVT	NLDC	
530	400KV side Main bay(435) & Tie Bay (434) of	23-07-2019	09:00	28-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	For Earth Switch Cleaning excersice	NLDC	
531	Main Bay (433) of OPGC-1 Line	23-07-2019	09:00	25-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	For 1 complete bay E/Sw cleaning & CRM testing, One complete dia shutdown is required. 400kv OPGC1 will be under shutdown.		
532	400KV Keonjhar-Baripada	23-07-2019	08:00	24-07-2019	17:00	ODB	ER-II/Odisha	For replacement of OPGW in two span for high loss		
533	125 MVAR Bus Reactor #2 at Binaguri	24-07-2019	09:00	24-07-2019	15:00	ODB	POWERGRID,ER-II	AMP Works		
534	400 KV Jeerat Sagardighi Line	24-07-2019	09:00	24-07-2019	17:00	ODB	POWERGRID,ER-II	A/R relay Testing in 400 KV Jeerat Sagardighi Line and Live line defects attending and defective isolator	WB	
535	400KV Maithon - Mejia# 1 Line	24-07-2019	08:00	25-07-2019	18:00	ODB	POWERGRID,ER-II	1. Rectification of Line Defects Observed by CC . 2. 1st line CT oil sampling as per Powergrid norms.		
536	220KV BAY OF 220/132KV 160MVA ATR-2 AT	24-07-2019	09:30	24-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
537	MSR -1 Bay (H21) AT NEW RANCHI	24-07-2019	09:00	24-07-2019	17:00	ODB	POWERGRID ER-I	AMP (Pre-warranty testing)		
538	400KV Main Bay of Nabinagar-1 (Bay 419) at	24-07-2019	09:00	24-07-2019	18:00	ODB	POWERGRID ER-I	AMP work		
539	400KV Bus 2 at Patna	24-07-2019	09:30	25-07-2019	17:30	ODB	POWERGRID ER-1	Jumper connection of Bus isolator and Bus stability	BIHAR	

540	400KV Bus-4 at POWERGRID at Biharsharif	24-07-2019	09:00	24-07-2019	17:00	ODB	POWERGRID ER-I	BUS stability test for commissioning of ICT-4		
541	ARAMBAG: 400kv MB#2 & B/C, div. of KTHP bay via TBC	24-07-2019	06:00	25-07-2019	17:00	ODB	WB	ODB-replacement of MB#2 side isolator of ICT#2		
542	Bus bar-1 at Indravati	24-07-2019	08:00	24-07-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works of Bus-1	GRIDCO	
543	220 kV Bus-1 at Baripada	24-07-2019	09:00	24/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Isolator Alignment works	GRIDCO	
544	400 KV Rengali- Keonjhar Line	24-07-2019	08:00	24-07-2019	17:00	ODB	ER-II/Odisha/Rengali	Testing of AR relay of Main & Tie Bay and MOM Box Retrofitting	GRIDCO	
545	220KV Siliguri-Dalkhola-I & II	25-07-2019	08:00	26-07-2019	17:00	OCB	POWERGRID,ER-II	For removal of jumper at 220KV SLG-KNE-DLK LILO line after completion of stringing & tower erection work of LILO M/C portion on new pile foundation.		
546	132 KV Malda-WBSETCL-I	25-07-2019	08:00	25-07-2019	17:00	ODB	POWERGRID,ER-II	O/C Relay retrofitting	WB	
547	400KV Berhampore-Bheramara-Line-2	25-07-2019	09:00	26-07-2019	17:00	ODB	POWERGRID,ER-II	Line Maint Activity	NLDC	
548	400 KV Subhasgram Sagardighi Line.	25-07-2019	09:00	25-07-2019	17:00	ODB	POWERGRID,ER-II	VT Selection work, A/R relay retrofitting & testing and	WB	
549	Tapping point of 400 KV D/C MID-KGP-CHANDITALA LILO LINE-(TL-56/0 & 55/0)-*****	25-07-2019	6.00	27-07-2019	17.00	OCB	TBCB Midnapore Group	For TAPPING of 400 KV CKTL-Loop In AP-1/0(DD+0) SPAN-200 MTR and LOOP OUT AP-29/0-(DD+0)- SPAN 200 MTR--	WB	
550	400 KV BUS COUPLER BAY AT CHANDWA	25-07-2019	09:00	25-07-2019	18:00	ODB	POWERGRID ER-I	AMP OF CIRCUIT BREAKER at GIS S.S		
551	220KV MAIN BAY OF 400/220KV ICT-1 AT DALTANGANJ	25-07-2019	09:30	25-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
552	220kv BUS-I at BSPTCL Biharsharif	25-07-2019	09:00	25-07-2019	17:00	ODB	POWERGRID ER-I	Bus stability test for commissioning of ICT-4	BIHAR	
553	Bus bar-2 at Indravati	25-07-2019	08:00	25-07-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works of Bus-2	GRIDCO	There shall not be any other outage associated with bus s/d
554	125 MVAR Bus Reactor-2 at Baripada	25-07-2019	09:00	25/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
555	400 KV S/C Bakeshwar-Jeerat TL -	26-07-2019	08:00	26-07-2019	16:00	ODB	POWERGRID TBCB Kalyani	For strigning work from location 108/0 to 109/0	WB	
556	132 KV Malda-WBSETCL-II	26-07-2019	08:00	26-07-2019	17:00	ODB	POWERGRID,ER-II	O/C Relay retrofitting	WB	
557	400 KV Rajarhat Jeerat Line	26-07-2019	09:00	26-07-2019	17:00	ODB	POWERGRID,ER-II	A/R relay retrofitting & testing	WB	
558	400KV Maithon - Mejia#2 Line	26-07-2019	08:00	27-07-2019	18:00	ODB	POWERGRID,ER-II	Rectification of line Defects Observed by CC	DVC	
559	220KV MAIN BAY OF 400/220KV ICT-2 AT DALTANGANJ	26-07-2019	09:30	26-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
560	400kv NEW PURNEA MALDA -2	26-07-2019	09:30	26-07-2019	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF R-Phase CVT due to secondry voltage violation.		
561	400KV Tie Bay of Nabinagar & Spare Bay (Bay 420) at Sasaram	26-07-2019	09:00	26-07-2019	18:00	ODB	POWERGRID ER-I	AMP work		
562	400kv Main Bay Barh-II at Patna	26-07-2019	09:30	28-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Package		
563	400kv Tie bay of Ballia 1 & Barh 2 at Patna	26-07-2019	09:30	27-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Package.		
564	220kv BUS-2 at BSPTCL Biharsharif	26-07-2019	09:00	26-07-2019	17:00	ODB	POWERGRID ER-I	Bus stability test for commissioning of ICT-4	BIHAR	
565	400KV FKK-Kahalgao Line-3	26-07-2019	09:00	27-07-2019	17:00	ODB	FARAKKA	CB and Relay test	After Restoration of 400kv FSTPP-KhSTPP-I	
566	400kv Arambag-BKTPP line	26-07-2019	06:00	27-07-2019	17:00	ODB	WB	ODB-replacement of lineside isolator at Arambag		
567	Jeypore-Gazuwaka-II FSC Bay	26-07-2019	08:00	26-07-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of Jeypore-Gazuwaka-II FSC	NLDC	
568	401 KV S/C Bakeshwar-Jeerat TL -	27-07-2019	08:00	27-07-2019	16:00	ODB	POWERGRID TBCB Kalyani	For strigning work from location 108/0 to 109/0	WB	
569	220KV BUS COUPLER BAY AT DALTANGANJ	27-07-2019	09:30	27-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
570	220KV MAIN BAY OF 400/220KV ICT-1 AT NEW PURNEA	27-07-2019	09:30	27-07-2019	18:00	ODB	POWERGRID ER-I	Isolator Alignment Work		
571	220KV Transfer BUS at BSPTCL Biharsharif	27-07-2019	09:00	27-07-2019	17:00	ODB	POWERGRID ER-I	Bus stability test for commissioning of ICT-4		
572	A/R 400 kv Biharsarif - Koderma - 2	27-07-2019	09:00	27-07-2019	17:00	ODB	POWERGRID ER-I	for OPGW erection work	DVC	
573	400 KV Talcher # 2 Main Bay (Bay No-403)	27-07-2019	08:00	27-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
574	63MVAR Bus Reactor & 125 MVAR Bus Reactor	27-07-2019	09:00	27-07-2019	13:00	ODB	ER-II/Odisha /Jeypore	For carrying out thermovision of MSK 1 & 2 (Switch OFF code for 125MVAR BR & 63MVAR BR may required for		

575	400KV Maithon-Right Bank # 2	28-07-2019	08:00	11-08-2019	18:00	OCB	POWERGRID,ER-II	Re conducting work	After Restoration of Tie bay of MPL-1 & Durgapur-1 at Maithon(PG).	
576	Tie bay of ST#1/Maithon#2 (Bay No. 407) at MPL	28-07-2019	08:00	11-08-2019	18:00	OCC	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work		
577	765KV GIS BUS-I along with AIS section of Darmajaygar-I & II Main Bays	28-07-2019	09:00	29-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
578	400KV Maithon - Jamshedpur Line	29-07-2019	08:00	29-07-2019	18:00	ODB	POWERGRID,ER-II	CC Ring Replacement at Loc No.-24		
579	400KV Mejia - Jamshedpur Line	29-07-2019	08:00	29-07-2019	18:00	ODB	POWERGRID,ER-II	Insulator Replacement	DVC	S/D OF 400KV MEJIA - JAMSHEDPUR LINE & 400 KV MAITHON-MEJIA #3 LINE MAY BE AVALIED ONE AT A TIME
580	400 KV Maithon-Mejia #3 line	29-07-2019	09:00	29-07-2019	18:00	ODB	POWERGRID,ER-II	1.Replacement of Main(412) and Tie bay (411) CT of Mejia#3 Line 2. 1st CT oil sampling of line bay	DVC	S/D OF 400KV MEJIA - JAMSHEDPUR LINE & 400 KV MAITHON-MEJIA #3 LINE MAY BE
581	132KV BAY OF 220/132KV 160MVA ATR-1 AT DALTANGANJ	29-07-2019	09:30	29-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
582	400KV MAIN BAY OF GOKARNA (419) & 400KV TIE BAY(420) OF 400kv GOKARNA & BSF-II AT NEW PURNEA	29-07-2019	09:30	29-07-2019	13:00	ODB	POWERGRID ER-I	Charging of Transmission Line		
583	400KV MAIN BAY OF FARAKKA(422) & 400KV TIE BAY(423) OF 400kv FARAKKA & BSF-I AT NEW PURNEA	29-07-2019	13:00	29-07-2019	17:30	ODB	POWERGRID ER-I	Charging of Transmission Line		
584	400 KV RANCHI-SIPAT-1 LINE AND 80 MVAR LINE REACTOR	29-07-2019	09:30	29-07-2019	17:00	ODB	POWERGRID ER-I	AMP & Replacement of defective CAPTHOR in FSC	NLDC	
585	400kv Main Bay of Balia Line-2 at Patna	29-07-2019	09:30	31-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Packagae.		
586	400kv Main bay Barh 1 at Patna	29-07-2019	09:30	30-07-2019	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under Nabinagar - II Packagae.		
587	132 kv Baripada-Bhograi Line 103 Bay	29-07-2019	09:00	29/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
588	400 KV Talcher # 1 Main Bay (Bay No-404)	29-07-2019	08:00	29-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
589	400KV Binaguri-Bongaigaon-2 line	30-07-2019	09:00	30-07-2019	15:00	ODB	POWERGRID,ER-II	Installation of Pilot Fitting at Loc No.-245	NLDC	
590	400KV 125 MVAR Reactor at Berhampore	30-07-2019	09:00	30-07-2019	17:00	ODB	POWERGRID,ER-II	Balance Construction Activity		
591	400KV Maithon - Jamshedpur Line	30-07-2019	08:00	30-07-2019	18:00	ODB	POWERGRID,ER-II	1. Insulator Replacement 2. Replacement of Main and Line bay CT.	DVC	
592	132KV BAY OF 220/132KV 160MVA ATR-2 AT DALTANGANJ	30-07-2019	09:30	30-07-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
593	220KV Bus Coupler Bay AT NEW PURNEA	30-07-2019	09:30	30-07-2019	18:00	ODB	POWERGRID ER-I	Isolator Alignment Work		
594	MSR-2 Bay (H22) AT NEW RANCHI	30-07-2019	09:00	30-07-2019	17:00	ODB	POWERGRID ER-I	AMP (Pre-warranty testing)		
595	400 KV RANCHI-SIPAT-2 LINE AND 80 MVAR LINE REACTOR	30-07-2019	09:30	30-07-2019	17:00	ODB	POWERGRID ER-I	AMP & Replacement of defective CAPTHOR in FSC	NLDC	
596	201 bay 220KV Baripada-Balasore Line -1	30-07-2019	09:00	30/07/19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
597	765kv GIS BUS-II along with AIS section of Darlipalli - I & II Main Bays	30-07-2019	09:00	31-07-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
598	400 KV Talcher # 1 Tie Bay (Bay No-407)	31-07-2019	08:00	31-07-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		

Outages proposed in other RPCs requiring ERPC approval										
SL. No	NAME OF THE ELEMENTS	DATE	TIME	DATE	TIME	REMARKS	S.D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY	COMMENTS
1	765KV-DHARAMJAYGARH-JHARSUGUDA-3	10-07-2019	08:00	10-07-2019	18:00	D	WRPC	For Replacement of Broken Insulator of loc. 138, 140 & 144, & AR of Ckt-4 to be kept in non auto mode		
2	765kv D'JAIGARH-JHARSUGUDA III	10-07-2019	08:00	10-07-2019	18:00	Daily	WRPC	For Replacement of Broken Insulator of loc. 138, 140 & 144		
3	765KV-DHARAMJAYGARH-JHARSUGUDA-4	11-07-2019	08:00	11-07-2019	18:00	D	WRPC	For Replacement of Broken Insulator of loc. 138, 141, 142 & 144 & AR of Ckt-3 to be kept in non auto mode		
4	765kv D'JAIGARH-JHARSUGUDA IV	11-07-2019	08:00	11-07-2019	18:00	Daily	WRPC	For Replacement of Broken Insulator of loc. 138, 141, 142 & 144		
5	765KV-DHARAMJAYGARH-RANCHI-1	15-07-2019	08:00	16-07-2019	18:00	D	WRPC	For Replacement of 50 nos. open/hanging quad line spacer & AR of Ckt-2 to be kept in non auto mode		
6	400kv RANCHI-SIPAT I	17-07-2019	08:00	17-07-2019	18:00	Daily	WRPC	For Replacement of Broken Insulator of loc. 537 & 587		
7	765KV-DHARAMJAYGARH-RANCHI-2	18-07-2019	08:00	06-06-2019	18:00	D	WRPC	For Replacement of Broken Insulator of loc. 736, 722 & 608 & AR of Ckt-1 to be kept in non auto mode		
8	765kv D'JAIGARH-RANCHI II	18-07-2019	08:00	18-07-2019	18:00	Daily	WRPC	For Replacement of Broken Insulator of loc. 736, 722 & 608		
9	Sipat - Ranchi -1 line	24-07-2019	08:00	26-07-2019	18:30	Continuous	WRPC	For PM		
10	Sipat - Ranchi -1 line	24-07-2019	08:00	26-07-2019	18:30	Continuous	WRPC	For PM		

11	765KV D'JAIGARH - RANCHI 1	29-07-2019	08:00	29-07-2019	18:00	Daily	WRPC	For Auto Reclose Testing works		
12	765KV-DHARAMJAYGARH-JHARSUGUDA-1	30-07-2019	08:00	30-07-2019	18:00	D	WRPC	For Auto Reclose Testing works and Line AMP works & AR of Ckt21 to be kept in non auto mode		
13	765KV D'JAIGARH - JHARSUGUDA 1	30-07-2019	08:00	30-07-2019	18:00	Daily	WRPC	For Auto Reclose Testing works		
14	765KV-DHARAMJAYGARH-JHARSUGUDA-2	31-07-2019	08:00	31-07-2019	18:00	D	WRPC	For Auto Reclose Testing works and Line AMP works & AR of Ckt-1 to be kept in non auto mode		
15	765KV D'JAIGARH - JHARSUGUDA 2	31-07-2019	08:00	31-07-2019	18:00	Daily	WRPC	For Auto Reclose Testing works		
16	Retrofitting of BHEL make Sectionalizer Breaker (10C04-Q1) pertaining to 400kV Bus-1 & Bus-3 with GE make Breaker.	11-07-2019	06:00	20-07-2019	18:00	Continuous	SRPC	Outage of Sectionalizer Breaker (10C04-Q01) pertaining to 400kV Bus-1 & Bus-3 on continuous basis for retrofitting of BHEL make Circuit Breaker with new GE make Breaker. Both the Bus shall be in service and there shall be no interruption of Power Flow through Talcher-Kolar HVDC link		

Quarterly Preparedness Monitoring -AGENDA

(Status as on :
)

S.No.	State	Sector (G/T/D)	Utilities	Status of CISO Nomination	Critical Infra Identified	Crisis managem ent 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 _____		