



Minutes of **157th OCC Meeting**

Date: 06.06.2019
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 157th OCC Meeting held on 20th May, 2019 at ERPC, Kolkata

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

Item no. 1: Confirmation of minutes of 156th OCC meeting of ERPC held on 25.04.2019

The minutes of 156th OCC meeting were uploaded in ERPC website and circulated vide letter dated 03.05.2019 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 156th OCC meeting.

PART A : ER GRID PERFORMANCE

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

The average consumption of Eastern Region for April- 2019 was 452 Mu. Eastern Region energy consumption reached a monthly maximum of 499 Mu on 29th April 2019. Total Export schedule of Eastern region for March – 2019 was 1860 Mu, whereas actual export was 1670 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**

Based on the P-Q and V-Q curve and real time data of many of the generating plants, it is observed that a few plants only start absorbing reactive power when voltage is going above 410 kV. The same is summarized in the table given below:

Unit Name	Voltage on HV Bus above which generating plant starts absorbing reactive power
Sagardighi Unit 1,2,3,4	> 410 kV
Kolaghat 4,5,6	> 420 kV
Barh 4,5	> 415 kV
Farakka Unit 1,2,3,4,5,6	> 415 kV
Kahalgaoon Unit 1,2,3,4,5,6,7	> 415 kV
Santaldih Unit 5,6	> 232 kV

This may be due to the setting of their GT Tap which is presently allowing absorption of VAR only after voltages rise significantly which need to be coordinated so that generating unit start absorbing VAR whenever HV bus voltages rise above 405kV.

In view of the above it is desired that, generating units should set their GT tap in such a manner that they should be absorbing VAR when the voltage is exceeding 405 kV. In case of any requirement of increasing this voltage limit (Generators located in low voltage pocket area), then that can be studied on case to case basis.

6. Restricted Governor /Free Governor Mode Operation of generators in ER

In the Month of April 2019, three FRC events occurred whose details are given below:

Event	Frequency Change	ER FRC
On 11 April 2019, at 13:00 hrs HVDC Talcher - Kolar pole-I got blocked due to emergency switch off signal from Kolar end. Load loss due to SPS operation in SR: 1123 MW.	50.07 Hz to 50.12 Hz	46.8 %
On 12 April 2019, At 15:25 hrs around 1500 MW generation loss occurred in Maharastra at Chandrapur and Dhariwal.	49.90 Hz to 49.77 Hz	2.2%
On 12 April 2019, At 23:55 hrs, around 1865 MW generation loss occurred in Sikkim Complex.	50.029 Hz to 49.928 Hz	22.3 %

The observation based on the analysis is similar to what has been observed for events of March 2019 and without any appreciable improvement even after holding detail discussions with power plant operators in a meeting at ERPC on 31st Jan 2019.

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
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)

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 (**DTSPS, RTPS, 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

In view of the above, these Units are advised to get their Governor Tuned immediately without any delay for the security of the grid and the respective neighboring units.

Governor Response Tuning as per IEGC: In the meeting on 31st Jan 2019 at ERPC, the generating station have confirmed that they will tune their Governor System for better RGMO response during AOH of the Units.

Name of Generating Units	Date of AOH	Whether Tuning of RGMO Completed or not
Kahalgaon Unit 1	12-03-19	
Barh Unit 4	17-02-19	
Mejia Unit-2	08-05-19	
Kahalgaon Unit-7	21-04-19	

Member may discuss.

Deliberation in the meeting

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

ERLDC informed that highest demand of 23 GW was met in Eastern Region on 29th April 2019

ERLDC presented the outage list of transmission lines due to FANI cyclone in Odisha.

OCC advised SLDC, Odisha to submit a report on outage of distribution network due to FANI cyclone in Odisha.

*ERLDC presented the RGMO performance of the generators for the three events. The report is enclosed at **Annexure-A2**.*

OCC advised all the generators to take the necessary action to improve the performance and submit the details to ERPC and ERLDC.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: 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 KV 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. The minutes of the meeting are enclosed at **Annexure-B1**.

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.

Members may discuss.

Deliberation in the meeting

DVC vide mail dated 9th May 2019 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.

Item No. B.2: Multiple Tripping of 400 kV Rangpo-Kishanganj Quad Moose circuit in Month of April 2019—ERLDC

400 kV Rangpo-Kishanganj Quad Moose circuit which is a major transmission line for the evacuation of Sikkim Hydro complex has tripped on numerous occasions in the month of April 2019. The details of tripping are given below:

Date and Time	Indication
26-04-19 14:31	Tripped only from Kishanganj End (Reason Not submitted by PGCIL)
25-04-19 12:46	R-Y to earth fault, IR=1.5 kA, IY=1.4 kA, 84.79 km from Rangpo End
24-04-19 13:30	R-Y to earth fault, IR=2.46 kA, IY=2.2 kA, 86 km from Rangpo End
16-04-19 23:32	Y Phase to Earth Fault (High Impedance Fault)
14-04-19 02:52	R-Y to earth fault, IR=3.57 kA, IY=3.19 kA, 81.6 km from Rangpo End

It can be observed that on 14th, 24th and 25th April fault appeared at a nearby location and the nature of the fault is also similar. On 26th April 2019, the line tripped from Kishanganj end, but no tripping occurred from Rangpo end. While on 16th April, the fault was high impedance in nature and cleared after 1.5 seconds on directional earth fault protection at Kishanganj end. These events suggest the various issues associated with these lines which are quoted below:

1. Need for reviewing protection setting for the line in view of tripping on 12th and 26th April 2019. **(PGCIL ERTS-1 and TVTPL May reply)**
2. Ensuring healthiness of lines as so many phase to phase transient faults are occurring at the same location. **(TVTPL May Reply)**
3. Sharing the patrolling reports of transmission lines following a fault outage, in a proper format. **(TVTPL May Reply)**

Both TVTPL and PGCIL ERTS 1 may kindly submit the details and explain to OCC.

Deliberation in the meeting

TPTL informed that availability of the four 400 kV transmission lines of M/s Teestavalley Power Transmission Ltd. namely (i) Teesta III – Kishanganj Line (ii) Teesta III – Dikchu Line (iii) Dikchu – Rangpo Line and (iv) Rangpo – Kishanganj Line for the month of January, February & March 2019 is more than 98.5%. TPTL added that the 400 kV transmission lines were operating under stable conditions.

TPTL explained that, in the month of April 2019, there was one tripping of 400kV Teesta – Kishanganj Line due to conductor snapping on 12.04.2019 which was restored on 14.04.2019 and there were few trippings of 400kV Rangpo – Kishanganj Line due to protection co-ordination issues at 400kV Rangpo & Kishanganj Substation end which is being resolved by TPTL in coordination with Powergrid.

Powergrid informed that they were planning to carry out detailed protection audit at Rangpo, Kishanganj, Binaguri and other substations in Sikkim during 2nd to 7th June 2019. The relay settings and protection coordination issues would be addressed during the audit.

Powergrid added that they would need line shutdown for few hours to verify and review the relay settings.

OCC agreed in principle agreed for the line shutdown and advised Powergrid to submit the shutdown plan to ERLDC.

Item No. B.3: Blackout of Hydro stations in Sikkim on 12th April 2019 --ERLDC

On 12th April 2019, Blackout of Sikkim Hydro Complex including Gangtok load of Sikkim occurred. The report has already been shared with utilities. The suggested measure to ensure such events do not result in cascade events are as follows:

1. Checking of Protection setting and Logic at Kishanganj Substation and Carrying out a joint third-party Protection Audit. **(PGCIL ERTS 1)**
2. Ensuring the availability of Offline Fault Locator at all substations and with all ISTS licensee to find the exact location of the fault to reduce the outage duration as observed in this case. **(TVPTL at Kishanganj and Teesta3 end)**
3. Proper maintenance of the newly constructed Quad Circuit by TVPTL: One conductor snapping event on 400 kV Teesta3-Kishanganj circuit (12-04-19) and two Fault events on 400 kV Rangpo-Kishanganj circuit (14-04-19 and 16-04-19) has already occurred on the lines of TVTPL. Patrolling at a regular interval in addition to clearance of RoW needs to be done at regular interval especially with the onset of high hydro in Sikkim hydro complex. **(TVPTL)**
4. Proper information dissemination and patrolling as three attempts were taken to charge the faulty line and all failed even after confirmation of healthiness of line from ISTS licensee. This is not desirable both from the point of view of grid security and equipment safety. **(TVPTL)**.
5. The generators in Sikkim Hydro complex would be evacuating power through only four circuits (400 kV Rangpo-Kishanganj & 400 kV Teesta3-Kishanganj Quad Moose and 400 kV Rangpo-BinaguriTwin moose circuit). The thermal overload limitation for each quad moose circuit is 1385 MVA (Due to Cable section rated at 2000 Amp) and each Twin Moose circuit is 874 MVA. In addition, the issue of high resistance fault on these circuits due to hilly terrain followed by likelihood of N-2 contingency, being on double circuit tower, poses as a challenge to the system reliability and security. The N-2 contingency on Quad Moose circuits with limitation of Angular stability in existing network configuration and voltage drop due to long haulage of a high amount of power also is a cause of concern. Thus, it is advisable that for the upcoming hydro season a suitable SPS scheme be implemented to ensure the system reliability with various contingencies.
6. Further, there is a need to coordinate the over frequency trip stage 1 and 2 settings for Sikkim hydro units so that in case of system islanding, the chances of survival of units can be enhanced (All Units would have different settings thereby avoiding simultaneous tripping under such events)

Members may discuss.

Deliberation in the meeting

Operational issues were discussed in item B2.

OCC decided to discuss the protection related issues in detail in 79th PCC Meeting scheduled to be held on next day.

Item No. B.4: Non-Operation of Rangpo SPS on 16th April 2019 --ERLDC

On 16th April 2019 at 23:32 Hrs, 400 kV Rangpo-Kishanganj circuit tripped on Directional Earth Fault protection. The directional earth fault has led to lower power flow on 400 kV Rangpo-Kishanganj circuit prior to tripping and thus it did not satisfy SPS triggering condition. This led to higher loading of 400 kV Teesta3-Kishanganj circuit exceeding its cable limit and tripping of Teesta3 one unit as per SPS condition. However, due to the long path for evacuation, the voltage of Teesta 3, Teesta 5 and Rangpo 400 kV has dropped to 370 kV and 4 Units of Teesta 3 tripped on Minimal Impedance Alarm after 5 Minutes of the line tripping.

Members may discuss.

Deliberation in the meeting

OCC decided to discuss the SPS related issues in detail in 79th PCC Meeting scheduled to be held on next day.

Item No. B.5: 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

To improve the voltages at 220/132 kV Malda, the Tap of 160 MVA 220/132 kV ICTs have been changed from 7 to 11. The chronic issue of low voltage around load centers poses a lot of challenge for the system operator and there is always a vulnerability to voltage collapse as observed in Punjab System in 2007. Last Year also, ERLDC raised this issue in the 146th OCC Meeting (Item: 7) and the MoM of the Meeting is given below:

“WBSETCL informed that they are planning to install 590 MVAR additional capacitor banks in distribution network to improve the voltage. Tendering has been completed. The work would be awarded after approval of high-level committee”.

However, the present condition shows that there is no improvement and the voltage has more deteriorated compared to last year. The 400kV voltages of Rajarhat and Subhasgram dipped below 370kV on multiple occasions. Such chronic low voltage issue is not desirable in the grid and defense mechanism should be put in place till the capacitor banks have been installed.

In view of this following measures are suggested for implementation:

1. Immediate implementation of Under-Voltage Load Shedding (UVLS) at 220 and 132 kV levels in WBSETCL system to ensure whenever the 400kV voltage falls below 380 kV for 5 seconds, a good amount of load is shed automatically to improve voltage profile (Similar UVLS scheme are implemented in Maharashtra, MP, Punjab, UP, Uttarakhand and Delhi) at their load centers (West Bengal SLDC and WBSETCL to provide details) .
2. Status of Year-old Proposal on 590 MVAR Capacitor banks at EHV level and updating actions taken by DISCOMs on implementation of Capacitor bank at 33/11 kV Feeders (West Bengal SLDC and WBSEDCL to update the status of implementation).

Members may discuss.

Deliberation in the meeting

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 WBPDC generating units and Budge-Budge units. OCC opined that this might be leading to voltage instability problem, if necessary preventive actions are not taken in time.

WBPDC requested to review the GT tap position for better reactive power support from Generators.

Powergrid informed that tap position of ICTs at Malda had been revised.

OCC decided to conduct a separate meeting with generating units in West Bengal and SLDC, WB to discuss the low voltage issue in West Bengal system and to review the GT tap position. OCC advised NTPC to submit the GT tap details to ERLDC and ERPC.

OCC advised SLDC, WB to prepare a plan for implementation of Under-Voltage Load Shedding (UVLS) in WBSETCL system to avoid voltage stability problem.

West Bengal informed that the capacitor banks would be commissioned by November 2019.

Item No. B.6: Revised Overhauling Schedule proposal of NTPC ER-I stations--NTPC

In 156th OCC, OCC agreed for Farakka Unit 5 shutdown from 07.06.19 to 06.07.19.

In the meeting, NTPC informed that overhauling of unit #6 (500 MW) of FSTPS is due since long and it will not be safe to run the unit up to November 2019. NTPC requested to consider the shutdown of unit #6 also from 15.07.19 to 28.08.19.

WBSEDCL informed that in view of high demand during July and August 2019, it was not possible to allow the shutdown during this period. However, NTPC can avail the shutdown during low demand period during November 2019 to February 2020. WBSEDCL added that in case of emergency, the unit #6 may be taken in place of unit #5 in the month of June and July 2019.

OCC decided to review the overhauling schedule of unit #6 (500 MW) of FSTPS in next OCC Meeting.

NTPC requested for shutdown of unit 1 of TSTPS from 1st August 2019 for 45 days.

OCC decided to discuss the shutdown of unit 1 of TSTPS in next OCC Meeting and advised NTPC to interact with beneficiaries in the mean time.

Member Secretary, ERPC informed that the maintenance schedule finalized in the LGBR should be strictly adhered to and no deviation shall normally be allowed unless it is considered as an emergency. He added that the onus lies with the requester to prove the emergency condition.

NTPC informed that unit 1 (800 MW) and unit 2 (800 MW) of Darlipalli STPS would be declared under commercial operation by July 2019 and December 2019 respectively.

*Thereafter, NTPC vide letter dated 14th May 2019 informed that capital overhauling of unit 6 is urgently required to enhance the unit reliability. They need 45 days shutdown from 7th June 2019 to 21st July 2019. Since Farakka unit 5 is also due for overhauling, NTPC requested to allow shutdown for 30 days after completion of unit 6 (from end of July 2019). Copy of the letter is enclosed at **Annexure-B6**.*

Members may decide.

Deliberation in the meeting

Bihar and West Bengal agreed for 45 days shutdown of unit 6 of FSTPS from 7th June 2019 to 21st July 2019 for capital overhauling.

Bihar and West Bengal did not agree for shutdown of unit 5 of FSTPS in July and August 2019.

NTPC requested for shutdown of unit 1 of TSTPS from 1st August 2019 for 45 days.

OCC decided to review the shutdown of unit 5 of FSTPS and unit 1 of TSTPS in next OCC Meeting.

Item No. B.7: Connectivity for newly constructed 220/132/33 KV (2x150+2x50) MVA Grid Substation Giridih of JUSNL through LILO of 220 KV Giridih (DVC) – Koderma (DVC) Transmission Line.--JUSNL

JUSNL vide letter dated 25th April 2019 requested to consider the connectivity of Giridih GSS through LILO of 220 KV Giridih (DVC) - Koderma (DVC) Transmission Line to meet the demand of Durnka, Giridih, Jamua and Saria GSS. (copy of the letter is enclosed at **Annexure-B7**).

Members may discuss.

Deliberation in the meeting

OCC referred the issue to State Standing Committee Meeting.

Item No. B.8: Flexibilisation of Thermal Power Plants-Units identified by WBPDCCL

In view of large scale integration of renewable energy sources into the Grid, flexible operation of thermal generators is essential to balance the grid.

CEA vide letter dated 8th April 2019 informed that CEA had received confirmation from WBPDCCL for conducting the pilot test for flexible operation in the units given below:

- Bakreswar unit 5 (210 MW)
- Sagardighi unit 3 (500 MW)

In a special meeting with BHEL at CEA, BHEL informed that they have adequate technical and managerial expertise to conduct the pilot tests.

Therefore, WBPDCCL is requested to coordinate with BHEL for conducting the pilot tests and finalise the dates.

CEA also advised ERPC and POSOCO to support WBPDCCL for providing appropriate schedule for flexible operation pilot tests.

In 156th OCC, WBPDCCL informed that they had already interacted with BHEL and BHEL engineers are expected to visit the site in May 2019.

Members may discuss.

Deliberation in the meeting

WBPDCCL informed that BHEL engineers were expected to visit the site in last week of May 2019.

Item No. B.9: 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-B9**.

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, WBPDCCL and WBSETCL to review the settings and submit the confirmation to ERPC and ERLDC by end of April 2019.

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

Regarding utilization of 3rd ICT at Durgapur, it was informed that the Committee met on 10th April 2019. The report will be placed in next OCC meeting.

Members may update.

Deliberation in the meeting

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

Item No. B.10: Erroneous Energy data of 220kV Balangir-Katapalli line at Bolangir ---- SLDC, Odisha

The agenda received from SLDC, Odisha is enclosed at **Annexure-B10**.

In 156th OCC, GRIDCO informed that they had incurred huge commercial loss in DSM charges because of the erroneous SEM reading at Bolangir and requested for modification of DSM accounts for the affected period.

OCC noted that the issue has been raised after a lapse of more than two years. OCC advised GRIDCO to establish the fact that the meter reading of SEM of Bolangir is erroneous and the other end readings are o.k. OCC advised to submit the relevant documents to ERPC Secretariat for scrutiny. After receiving the documents from GRIDCO, ERPC Secretariat would study the case and place the details in next OCC and Commercial Meeting.

Members may discuss.

Deliberation in the meeting

GRIDCO informed that they had submitted the relevant details to ERPC vide mail dated 13th May 2019.

Item No. B.11: 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.

Powergrid may update.

Deliberation in the meeting

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

Item No. B.12: Guidelines for rationalized use of high performance conductors—CEA

CEA vide letter dated 9th April 2109 informed that use of high performance conductors is on rise to address issues of growing congestion in the existing network and to utilize ROW more effectively.

CEA has released a document titled “**Guidelines for rationalized use of high performance conductors**” to create awareness on use of the conductors. Softcopy of the document is available at: http://cea.nic.in/reports/others/ps/psetd/guidelines_conductors.pdf

Members may note.

Deliberation in the meeting

Members noted.

Item No. B.13: 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

Deliberation in the meeting

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.

Item No. B.14: 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,	In view of Oscillation during the 16 th April 2019 events and changes in Network	During lean generation period

Tashiding, Jorethang)	configuration in Sikkim hydro Complex with augmentation of lines	
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.</i>
Farakka NTPC Power Plant	With Augmentation of new lines and changes in network configuration with upcoming bus split at Kahalgaon.	<i>During overhauling of the units.</i>
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 B14.

Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

Item No. B.15: Delay in Generation Backing down observed at JITPL for Talcher Kolar SPS operation --ERLDC

On 11th April 2019 at 1301 Hrs, Talcher Kolar Pole 1 got blocked due to ESOF while it was carrying 2000 MW power. Due to this pole tripping SPS operated and signal for generation backing down was extended to GMR and JITPL. It was observed that GMR backing down is immediate while JITPL backing down is occurring after a delay of more than 1 minutes. This either suggests that there is an intentional delay, or it is done manually. This issue had been raised in the past SPS operation of Talcher Kolar also and it was decided that JITPL will remove any such delay. However based on the recent event, it is observed that no action has been taken in this regard.

JITPL may update.

Deliberation in the meeting

JITPL representative was not available in the meeting.

Item No. B.16: Ratification of Demand and Generation for calculation of POC of Q-2 2019-20--ERLDC

The projected Demand and Generation of ER constituents to be considered in the base case for POC transmission charge and loss calculations for Q2 (July 19-Sep 19) was circulated to all the concerned via email dated 8th May August 2019 for comments and verification.

Members may confirm.

Deliberation in the meeting

OCC advised ERLDC to circulate the demand and generation details to ER constituents vide mail. OCC advised all the constituents to verify the figures and send their comments to ERLDC at the earliest.

Item No. B.17: 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

OCC took serious note of the issue and advised Chemtrol to take necessary action to restore the VC.

Chemtrol agreed to resolve the issue at the earliest.

OCC decided to review the progress in SCADA O&M Meeting.

Item No. B.18: 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	WBPDCCL	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
5		Upgradation of Protection and SAS		April 2020	23.48	2.348 Cr	Bid opened and order has been placed. Work started.
6	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.
7		Implementation of OPGW based reliable communication at 132kV and above substations	15.11.17		25.61 Cr.	2.56 Cr	Agreement signed on 03.01.2018. Tender has been floated.
8		Installation of 125 MVAR Bus Reactor along with construction	27.07.18		27.23 Cr	2.72 Cr	Tender has been floated.

		of associated bay each at 400kV Grid S/S of Mendhasal, Meramundali& New Duburi for VAR control & stabilisation of system voltage					
9	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.
10	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharshariff, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone& 132/33 kV GSS Kataiya	11/5/15	31.07.2018	64.02 crore	56.04 crore	85% of work has been completed. Contract awarded for Rs.71.37 Cr till date. The work would be completed by Feb 2019.
11		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. 90% supply and 60% of erection had been completed.
12		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.
13	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.
14	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.
15		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.
16	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.
17	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.
18a	ERPC	Training for Power System Engineers	27.07.18		0.61 Cr.	Nil	Approved
18b		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 System of Energy and Power Department, Sikkim.	09-08-17	68.95 Cr	The proposal requires third party 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		Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid	12-03-18	78.75 Cr.	Proposal recommended by Appraisal committee as communicated on 16.11.2018.
8		Project for establishment of reliable communication and data acquisition at different substation at WBSETCL.	10-05-18	80.39 Cr.	Proposal recommended by Appraisal committee as communicated on 16.11.2018.
9	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 TSEG.

Respective constituents may update the status.

Deliberation in the meeting

Members updated the latest status as mentioned in above table.

Item No. B.19: 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. The extract of the regulation is given for necessary information.

IV. Data to be furnished by the inter-State Transmission Licensees to POSOCO

- (1) The Dependability Index defined as $D = \frac{N_c}{(N_c + N_f)}$
where N_c is the number of correct operations during the given time interval and N_f is the number of failures to operate at internal power system faults.
- (2) The Security Index defined as $S = \frac{N_c}{(N_c + N_u)}$
where N_u is the number of unwanted operations.
- (3) The Reliability Index defined $R = \frac{N_c}{(N_c + N_i)}$
where N_i is the number of incorrect operations and is the sum of N_f and N_u .
- (4) From above $\frac{1}{S} + \frac{1}{D} = \frac{1}{R} + 1$
- (5) The number of trippings of each transmission element. Five or more trippings of a transmission element in a month to be put on the website by the inter-State Transmission Licensees and reported to the Commission by POSOCO

Note:

1. The data for these indices are presently prescribed for collection by the System Operator.
2. These indices shall be computed by the POSOCO and furnished to the Commission on monthly basis.

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.

Powergrid may update.

Deliberation in the meeting

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.

Item No. B.20: Shutdown of 132kV Motanga Substation for construction of additional 132kV Bus --PTC

PTC informed that during the shutdown of 132kV Motanga Substation, the eastern grid will be disconnected from Rangia and Kurichhu Hydropower Plant (KHP) power can be evacuated via 132kV Gelephu - Salakati feeder only. To improve the reliability during the shutdown a temporary arrangement has been proposed which is enclosed at **Annexure-B20**.

Members may discuss.

Deliberation in the meeting

OCC agreed for the shutdown subject to availability of SEMs at Deothang and Silicon Factory.

Item No. B.21: Delay in issuance of various Accounts

ER constituent members have raised the issue of delay in issuance of weekly DSM, RRAS, FRAS & SCED accounts & frequent revision of weekly accounts.

This is to inform that issuing of the weekly accounts/revised accounts is delayed mainly due to delay in receiving the input data.

Members may discuss.

Deliberation in the meeting

ERLDC assured to send the meter data in time.

ERLDC requested all the constituents to submit the request for any correction within one day so that consolidated meter data could be sent to ERPC in time.

Item No. B.22: Additional agenda

1. Shutdown of 400 kV Patna Kishenganj Ckt-II -- Powergrid

400 kV Kishenganj Patna ckt II which has been temporarily charged after collapse of tower location 129/0 due to change of course of river Ganga is found to be critical due to vulnerability of location no 129NO. The said location becomes vulnerable due to further encroachment of river Ganga towards the said location. The tower location no. 129NO is an open cast foundation and has been envisaged that the said location may got collapsed due to onset of monsoon. The said location at present is only 10meter away from the bank of river. With the onset of monsoon, there will huge risk to tower location 129NO and any event of collapse will cause further consequential damages as under

- (i) The location 129NO is a tension type tower with the next tension tower in forward direction i.e. 130/0 located after 05 numbers suspension towers. The collapse of location 129NO will affect the entire span from 129NO to 130/0 (5 suspension towers) .
- (ii) Further, in reverse direction, the line has been - charged utilising 129NO to 128G/O (bypassing the collapsed tower loc no 129/0) which is 690meter span. In the event of collapse of the location 129NO may lead to the consequential damage of location number 128G/O thereby entire conductor span of 690 m will come down and affect the inland navigation also.

In view of above, Powergrid proposed that the line may be switched off and de stringing of conductor from 128 G/O to 130/0 may be carried out till completion of proposed 04 nos pile foundation to safeguard the line.

Deliberation in the meeting

Powergrid gave a detailed presentation showing the condition of tower and site location. Powergrid requested for shutdown of the line from 1st week of June 2019 to September 2019.

OCC in principle agreed to the shutdown.

2. Replacement of Porcelain Insulators with Polymer Insulators in different transmission lines--Powergrid

The replacement of porcelain insulators with polymer Insulators has been discussed in various meetings of ERPC to avoid tripping of transmission lines. The replacement is being carried out based on availability of Polymer Insulators in phased manner in various transmission lines. After replacement, the tripping of transmission line has been drastically reduced.

In view of the above , the replacement of balanced porcelain insulators in the following transmission lines may be allowed and the outage period may be considered as a force majeure for the purpose of calculation of availability of transmission elements .

- 400KV Patna- Balia Ckt -I & II
- 400KV Biharsharif- Balia Ckt-1 & II
- 400KV Kahalgaon - Barh Ckt -I & II
- 400KV Patna-Balia Ckt - III & IV

Deliberation in the meeting

OCC in principle agreed for the insulator replacement and advised Powergrid to take up the work during winter season.

It was informed that deemed availability as per the earlier practice would be given for the above shut down period.

PART C: ITEMS FOR UPDATE

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

UFR Healthiness Certification for the month of April, 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 April, 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 April, 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.	Rangpo	Chuzachen,	Dikchu, Dansenergy, Powergrid, Teesta-III
3.	SPS in CESC system	CESC	Nil
4.	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:

SI 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

Bihar informed that ADMS had been commissioned and testing is in progress.

Jharkhand informed that they had given the requisite details to Chemtrol for implementation of 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 220kV D/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 June 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 220kV D/c	Not yet started
3	Dhanbad 400/220kV S/s	
A	LILo of Govindpur–Jainamora/TTPS 220kV D/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	Subashgram400/220kVS/s	
a	Subashgram–Baraipur220kVD/cline	December 2019, 80% of work has been completed.

WBSETCL may update.

Deliberation in the meeting

Powergrid informed that Baraipur bays were ready since long and advised WBSETCL to expedite the construction of Subashgram–Baraipur 220kV D/c line 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 June 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.

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 August-2019

SINo	State/Utility	TTC import(MW)		RM(MW)		ATC (Import) MW		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	5092	--	100	--	4992	--	June-19
2	JUSNL	1107	--	60	--	1047	--	July-19
3	DVC	1152.6	3176.4	61.2	48.1	1091.4	3128.3	Aug-19
4	OPTCL	2238	--	88	--	2150	--	Jun-19
5	WBSETCL	4287	--	300	--	3987	--	May-19
6	Sikkim	--	--	--	--	--	--	

In 156th OCC, Sikkim informed that they needed one more training at ERLDC on computation of ATC and TTC.

ERLDC agreed to facilitate and advised Sikkim to give tentative dates for arranging the training.

Members may update.

Deliberation in the meeting

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

ERLDC informed that they are arranging a two days workshop on computation of ATC and TTC on 27th & 28th May 2019.

OCC advised all the SLDCs and other constituents to attend the workshop.

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 156th OCC, Powergrid informed that optical fiber for AMR had been implemented at 35 locations and rest of the locations would be completed by May 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		Last Week of January 2020	
2	Maithon	1stweek of June 2019		1st Week of February 2020	
3	Rengali	2ndweek of June 2019		Last week of November 2020	
4	U. Indarvati	3rdweek of June 2019		2nd week of February 2020	
5	Subarnarekha	1stweek of October 2019		1st week of January 2020	
6	Balimela	3rdweek of October 2019		1st week of March 2020	
7	Teesta-V	2ndweek of May 2019	May 2019	Last week of February 2020	
8	Chuzachen	Last Week of Dec 2019		Last week of February 2020	
9	Burla	Last Week of June 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	

Format for Reporting of Mock Black Start Activity:

Mock drill on Black start is a continuous activity ongoing in the power system. In addition to black start mock drill, it is essential to monitor each black start to check the performance. ERLDC is in receipt of reports from various black start stations performing these activities from their

respective SLDC however, many a times essential information pertaining to performance monitoring of the activities are missing. In view of this it is proposed that, for any mock drill on black start, SLDC must share the following details to access the performance and the same need to be intimated one week before to ERLDC along with blackstart process. This will help in finding out any challenges and sharing of experiences with other utilities.

1. Name and Contact of Personnel available at SLDC:
2. Name and Contact of Personnel available at Generating Plant:
3. Name and Contact of Personnel available at Load Substation:
4. Single Line diagram of the mock drill:
5. Details of Steps taken for Mock Drill

Table 1: Performance monitoring of Mock Drill

Activity	Time (Minutes)
Time taken to start DG set after black out of Island	
Time taken to charge dead bus at Black start station	
Time taken to charge dead bus at Remote end by line charging	
Time taken to connect first load post a black out in the island	
Duration of stable island operation after successful black start and building up the of the island till synchronization with grid	
Time taken to synchronize the island with Grid	

6. Issues Observed:
7. Remedial Action Taken if Any for the challenges:
8. Any other details:

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

In line with the MoM of 4th NRCE Meeting dt.03-11-14 and “Operational Guidelines for determination Of TTC, ATC and TRM for the Short-Term Horizon (0-3 Months)” published by NRCE dt.20-02-15, thermal limit for transmission line has to be used for calculation of ATC/TTC. However, the thermal loading of transmission line depend on the Maximum Conductor Temperature, End equipment thermal rating. This has to be submitted by the Owner of the equipment. Further, the equipment owner also has to confirm that relay setting has been aligned so that the line can be operated up to its thermal limit.

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	Deliberation OCC Meeting
152	Item No. B3: Installation of PMUs	Powergrid informed that M/s GE had agreed to supply and install	<i>Powergrid informed that the work would be</i>

	for observation of the dynamic performance of STATCOMs	of 4 no's PMUs for 4 STATCOMs in the Eastern Region within the quantity variation clause under the existing URTDSM Project.	<i>completed by July 2019.</i>
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 and Odisha have submitted the Details. Jharkhand and DVC does not have any capacitor bank installed. West Bengal/ Sikkim/ may kindly update the status
155	Item No. B.12: Load Trimming Scheme on 400/132 kV Motihari ICTs.	OCC approved the load shedding scheme and advised Bihar to implement the scheme at the earliest.	<i>OCC advised BSPTCL to implement the scheme at the earliest.</i>
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.	<i>OCC advised all the SLDCs to submit the details to ERPC and ERLDC.</i>
156	Low frequency Oscillation at MTDC BNC-ALP-Agra	OCC advised ERTS-2 to submit the analysis report to ERLDC/ERPC	<i>OCC advised ERTS-2 to submit the analysis report to ERLDC/ERPC</i>
156	Item no. C.20: Updated Black Start and Restoration procedure of State--ERLDC	DVC and Orissa have submitted the updated restoration procedure.	<i>Jharkhand, West Bengal, Sikkim and Bihar agreed to share the details within a week.</i>
156	Item No. B.12: Status of Auto-Reclosure on Lines from Tala and Chukha Hydro Power Plant (Bhutan)	DGPC informed that an expert Committee was constituted to enable the autorecloser for transmission lines connected to Tala and Chuka hydro stations. The Committee had recommended for implementation of the autorecloser at Tala and Chuka. DGPC added that they are planning 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.	<i>DGPC informed that they are implementing autorecloser at Tala. Powergrid informed that autorecloser had been implemented at their end.</i>

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.

Members may please note and nominate two executives.

Deliberation in the meeting

OCC advised all the states and transmission licensees 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.

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

Item no. C.16: Implementation of Automatic Generation Control (AGC) in India (at Inter-State level)

The issue was discussed in 8th NPC Meeting held on 30th November 2018, it was decided that each RPC would submit the status of implementation of AGC to NPC.

In 40th TCC, NTPC informed that AGC at Barh STPS will be implemented by May, 2019.

DVC confirmed that unit#8 of Mejia TPS has been identified for AGC implementation as a pilot project.

The followings were decided in the TCC Meeting:

1. Status of implementation of AGC shall be regularly monitored in OCC meetings.
2. An workshop shall be organised in ERPC wherein NLDC and NTPC will be invited to interact with the ER constituents regarding the experience they have gained in implementing the AGC in other regions.

In 155th OCC, NTPC informed that implementation of AGC at Unit#4 & 5 of Barh STPS are in progress and was expected to completed by May 2019.

Odisha informed that unit#3 of OPGC had been selected for implementation of AGC.

WBPDCCL informed that unit#5 of Bakreswar had been selected for implementation of AGC.

In 156th OCC, OCC decided to organize the workshop at ERPC in May 2019 wherein NLDC, NTPC and Siemens will be invited to interact with the ER constituents.

The workshop on AGC would be held on 31st May 2019 at ERPC, Kolkata.

Members may note.

Deliberation in the meeting

OCC advised all the generators and SLDCs to attend the workshop on AGC.

Item no. C.17: 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.

Members may update.

Deliberation in the meeting

ERLDC informed that AMC for PSSE software had been done by POSOCO for all the RLDCs.

Item no. C.18: Availability of Auto-synchro check Relay Display for Substation Operators --ERLDC

As per 156th OCC Discussion, All SAS Based substations have to ensure the following in regard to the Auto-synchrocheck facility:

1. Availability of Auto-synchronization Display at Substation Operator Console as well as RTAMC.
2. Suitable wait time configuration for Auto-Synchronization facility reset (25 seconds) and synchronization condition monitoring (10 ms)
3. Possibility to use synchronization trolley in such substation for synchronization during black start activity.
4. Operator training for setting of auto-synchrocheck parameters setting as per the instruction of RLDC/SLDC operators and utilizing it during black start.

Details may kindly be shared on following email id : erldcprotection@posoco.in , chandan@posoco.in, saibal@posoco.in, saurav.sahay@posoco.in, akbasak@posoco.in, rajprotim@posoco.in

Members may update.

Deliberation in the meeting

OCC advised all the constituents to ensure availability of auto-synchrocheck facility at their substation.

Item no. C.19: Black Start Mock Drill at PPSP Power Plant --ERLDC

As per directions of ERPC Board in its 39th Meeting held on 17-11-2018, a committee was formed for the study of the black start. Vide minutes of the meeting held on 08-02-19 the committee advised WBSEDCL to Submit their OEM reply along with the committee MoM to CEA/CERC immediately for their observation and further review on the subject matter. In addition, Committee also advised WBSEDCL to visit Pump Storage capable plants in Western Region (SSP) and Southern Region (Srisaïlam) to have an overview on how they are conducting the black start mock-drill without any difficulty.

WBSEDCL may kindly update.

Deliberation in the meeting

WBSEDCL informed that the Committee report had been submitted to CEA.

PART D:: OPERATIONAL PLANNING

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of June 19 were prepared by ERPC Secretariat on the basis of Provisional LGBR for 2015-16 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 June 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 June 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 June 2019:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
DVC	Mezia TPS	7	500	14.05.19	18.06.19	18	COH (Blr,Turb,Gen.)
		3	210	25.06.19	30.07.19	6	COH (Blr-RLA,Turb-RLA,Gen.)
ODISHA	IB TPS	2	210	06.06.19	30.06.19	25	AOH
	Talcher TPS	2	60	25.06.19	09.07.19	6	AOH
WBPDC	Bandel TPS	1	60	16.06.19	14.08.19	15	Capital Overhauling
	Kolaghat TPS	1	210	07.06.18	30.06.19	30	R&M
	BkTPS	5	210	24.06.19	30.06.19	7	Boiler License renewal
NTPC	FSTPS	5	500	07.06.19	06.07.19	24	Boiler+Gen+ESP R&M
IPP	MPL	2	525	15.06.19	14.07.19	16	AOH
	GMR	1	350	01.06.19	05.07.19	30	Turbine

							Overhauling
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ERLDC may place the list transmission line shutdown discussed on 15th May 2019 through VC.

Members may confirm.

Deliberation in the meeting

ERLDC submitted the modified the shutdown procedure which is enclosed at **Annexure-D2.1**.

OCC advised all the constitutes to send their comments on the draft procedure to ERLDC.

OCC approved the Generator shutdown for June 2019 as follows:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
DVC	Mezia TPS	7	500	14.05.19	18.06.19	18	COH (Blr,Turb,Gen.)
ODISHA	Talcher TPS	2	60	06.07.19	25.07.19	20	AOH
WBPDC	Bandel TPS	1	60	16.06.19	14.08.19	15	Capital Overhauling
	Kolaghat TPS	1	210	07.06.18	30.06.19	30	R&M
	BkTPS	5	210	24.06.19	30.06.19	7	Boiler License renewal
NTPC	FSTPS	5	500	07.06.19	06.07.19	24	Boiler+Gen+ESP R&M
IPP	MPL	2	525	15.06.19	14.07.19	16	AOH
	GMR	1	350	01.06.19	05.07.19	30	Turbine Overhauling

The approved list 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
							Date	Time	
1	KOLAGHAT	WEST BENGAL	WBPDC	1	210	POLLUTION CONTROL PROBLEM	10-May-18	23:05	NO DEFINITE PROGRAM
2	KOLAGHAT	WEST BENGAL	WBPDC	3	210	POLLUTION CONTROL PROBLEM	23-Feb-17	11:51	NO DEFINITE PROGRAM
3	CTPS	JHARKHAND	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-17	00:00	NO DEFINITE PROGRAM
4	MEJIA	WEST BENGAL	DVC	2	210	CAPITAL OVERHAULING	8-May-19	00:00	8-Jun-19
5	KAHALGAON	BIHAR	NTPC	7	500	ANNUAL OVERHAULING	22-Apr-19	00:59	23-May-19
6	JITPL	ODISHA	JITPL	2	600	COAL SHORTAGE	26-Jun-18	00:03	SUBJECT TO COAL AVAILABILITY

									Y
7	STERLITE	ODHISA	GRIDCO	2	600	DUE TO PROBLEM IN OLTC SYSTEM OF Unit Transformer	10-Apr-19	00:29	20-May-19
8	SAGARDIGHI	WEST BENGAL	WBPDC	3	500	DESYN FOR SHORT MAINT.	16-Apr-19	23:58	16-May-19
9	BOKARO B	WEST BENGAL	DVC	3	210	PROBLEM IN HP ASH WATER PUMPS	26-Apr-19	16:27	14-May-19
10	RAGHNATHPUR	WEST BENGAL	DVC	1	600	PROBLEM IN SCANNER AIR FANS ASSOCIATED WITH FLAME STABILITY	30-Apr-19	16:31	18-May-19

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

(ii) Hydro Generating units:

Members may update.

(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	220 KV NEW PURNEA BEGUSARAI - D/C	BSPHCL	05-02-2019	13:35	S/D AVAILED BY BIHAR FOR PILE FOUNDATION IN KOSHI RIVER AT KURSELA LOCATION NO 413 A
6	400KV FARAKKA - KAHALGAON- I	POWERGRID	06-03-2019	08:28	FOR TAKING UP BAY UP GRADATION WORK OF BAY-22
7	765 JHARSUGUDA -RAIPUR I	POWERGRID	05-04-2019	22:44	TO FACILITATE FIRST TIME CHARGING OF 765 JHARSUGUDA -RAIPUR LINE -II .DUE TO VOLTAGE CONSTRAINT LINE -I KEPT OPEN.
8	765 KV JHARSGUDA ANGUL III	POWERGRID	02-04-2019	01:08	R-Ph CT Blast in 765kV Angul-Jharsuguda #3 Tie Bay at Angul
11	400KV PANDIABILI -NEW DUBRI S/C	POWERGRID	03-05-2019	09:55	One no. of tower in LOC 717 of 400kV New Duburi-Pandiabili and 400kV Baripada-Pandiabili is reported to have been collapsed on 220KV CHANDAKA-MENDHASAL-I & II. Baripada-Pandiabili line has been restored on ERS on 10.05.19.
12	220KV MENDHASAL-CHANDAKA -I & II	OPTCL	03-05-2019	10:58	One no. of tower in loc-717 of 400kV New Duburi-Pandiabili and 400kV

					Baripada-Pandiabili is reported to have been collapsed on 220KV CHANDAKA-MENDHASAL-I & II. Also one no of tower collapse of 220KV Mendhasal-Chandaka-I & II. Ckt-II charged at 21:50Hrs on 07.05.19 with special arrangement.
13	220KV MENDHASAL-CHANDAKA -III	OPTCL	04-05-2019	00:28	1 no. Tower collapse reported at around 11.6 km from Mendhasal
16	220 KV PANDIABILI - SAMANGARA D/C	OPTCL	03-05-2019	11:10	49 nos of tower collapse
17	220 KV ATRI -Narendrapur D/C	OPTCL	03-05-2019	11:11	2 no of tower collapse
18	132KV Nimapara-Samangara-Puri	OPTCL	03-05-2019	11:00	6 nos of tower collapse
19	132KV KHURDA-SAMUKA-PURI	OPTCL	03-05-2019	11:00	14 nos of tower collapse
20	132KV BALUGAON -KHURDA	OPTCL	03-05-2019	11:00	TOWER COLLAPSE NEAR JANKIA
21	132KV CHANDAKA-NIMAPARA	OPTCL	03-05-2019	11:00	8 nos of tower collapse
22	132KV BIDANASI-CHOUDWAR	OPTCL	03-05-2019	11:00	1 no. tower collapse.
23	132KV PHULNAKHARA LILO LINE	OPTCL	03-05-2019	11:00	2 nos. tower collapse. Presently Phulnakhara - Cuttack portion of LILO charged at 18:47 hrs on 11.05.19. However, 132KV Phulnakhara-BBSR portion of LILO yet to be charged.
24	132KV KESURA LILO LINE	OPTCL	03-05-2019	11:00	2 nos. tower collapse.

(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 April-2019 based on the inputs received from beneficiaries

Monthly commissioning List of Transmission element and generators: April 2019					
SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	800 MW Darlipali unit 1 (G.T. 1)	NTPC	04-04-2019	09:02	
2	765 KV Jharsuguda- Raipur I	OGPTL	04-04-2019	21:12	
3	765kv Jharsuguda - Raipur-2	OGPTL	05-04-2019	23:32	
4	400/220kv 315MVA ICT-2 at Bokaro-1	DVC	25-04-2019	19:14	First time loading
5	LIL0 132 KV Udala-Baripada SC line at Betanoti S/S	OPTCL	19-04-2019	14:02	arrangement(3.104 Kms) in existing
6	132KV BIHTA(New) – BIHTA(Old) circuit no. -2	BSPTCL	12.04.2019	17:10	Charged from Bihta(new) end
7	132KV BIHTA(New) – BIHTA(Old) circuit no. -1	BSPTCL	12.04.2019	17:30	Charged from Bihta(old) end , as bay is not ready at GSS Bihta (new)

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

System frequency touched a maximum of 50.29 Hz at 01:12Hrs of 07/04/19 & 18:00 Hrs of 29/04/19 and a minimum of 49.65 Hz at 23:03Hrs of 01/04/19. 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 April, 2019

Sr No	GD/GI	Date	Time	S/S involved	Summary	Load loss (MW)	Gen loss (MW)
1	GD-I	05-04-2019	15:03	Santaldih	220 KV bus II at Santaldih S/S was under shutdown. At 15:03 hrs total power failure occurred at Santaldih S/S due to flash over at B phase isolator of ST-III resulting tripping all feeders connected to S/S	40	480
2	GI-II	11-04-2019	13:39	Talcher HVDC	On 11-04-19 at 13:01 hrs +/-500 KV Talcher Kolar HVDC Pole 1 got blocked due to Emergency switch off signal received from Kolar end resulting reduction of power flow from 2000 MW to 1000 MW. Pole 2 was operated in metallic return mode after the incident. Due to event generation back down	0	190

					occurred at GMR and at JITPL		
3	GD-I	12-04-2019	23:55	Kishangunj	<p>400 kV Rangpo-Binaguri circuits were under planned outage for HTLS Reconductoring work. At 23:55 Hrs, R-Y phase to phase fault occurred on 400 kV Teesta 3-Kishanganj circuit resulting in its tripping. This led to evacuation of entire Sikkim hydro complex power through 400 kV Rangpo-Kishangunj single circuit. However, backup over current protection which was kept enabled for this circuit at Kishangunj end operated causing its tripping. This led to Isolation of Sikkim Hydro complex (1908 MW) with Gangtok Load (17 MW) and the island collapsed due to large load generation imbalance causing total blackout of 400/220/132 kV Rangpo, 400 kV Teesta V, 400 kV Teesta 3, 400/132 kV Dikchu, 220 kV Jorethang, 220 kV Tashiding, 132 kV Chujachen and 132 kV Gangtok substations. The large generation loss led to frequency drop by 0.15 Hz in the Indian grid (50.029 Hz to 49.859 Hz).</p>	17	1908
4	GI-II	16-04-2019	23:30	Kishangunj, Teesta III	<p>400 kV Rangpo-Binaguri circuits were under planned outage for HTLS Reconductoring work. At 23:32 Hrs, Resistive fault occurred in the Y phase on 400 kV Rangpo-Kishangunj circuit. This has led to tripping of circuit on Direction Earth Fault trip from Kishangunj end which has sent the direct trip to Rangpo end. With this fault, Dikchu 400/132 kV ICT tripped on Backup Overcurrent protection causing tripping of both its units. In addition, during this fault, Jorethang Unit 2 also tripped on generator protection. The SPS associated with this circuit did not operate at Rangpo End. With this, the entire power shifted on 400 kV Teesta 3-Kishanganj circuit. The power evacuation through a long path has resulted in low voltage at Teesta3, Rangpo and Teesta 5 and 220 kV generating station connected. As the line loading on 400 kV Teesta3-Kishanganj circuit was 1538 MW with voltage going to 360 kV, the SPS for Line</p>	0	1118

					overloading at Teesta 3 end operated tripping its unit 1. However, this did not reduce the loading on the line below the set limit of 2000 Amps. The low voltage persisted at Teesta 3 generating plant and after 5 minutes, the Teesta 3 Unit 2,3,4 and 6 tripped on minimal impedance stage 2 protection operation. After the loading on the 400 kV Teesta 3-Kishanganj circuit reduced to 747 MW and Voltage at Teesta3 has improved to 392 kV.		
5	GD-I	17-04-2019	10:16	TVNL	220 kV Ranchi – Hatia D/C was out of service. At 10:16 hrs 220 kV Biharshariff-Tenughat S/C tripped on R-N resulting into islanding of Hatia load with 2 running units of Tenughat and one unit of CPP Inland power. Island could not survive due to generation load unbalance (390MW of generation against load of 150MW) leading to the load loss of around 150 MW at Hatia/ Namkum/Lohardangha /Kamdara area in Jharkhand system and loss of two running units of Tenughat and 1 running unit of CPP Inland. 315 MVA ICT-I & II of Biharshariff tripped sensing the fault of 220 kV Biharshariff-Tenughat S/C. As per PMU data, fault was cleared within 200 ms.	165	390
6	GI-I	18-04-2019	10:16	Muzaffarpur	At 10:16 hrs 220 kV Muzaffarpur - Hazipur - II, 220 kV bus II at Muzaffarpur, 400/220 kV ICT -III at Muzaffarpur and 220 kV Muzaffarpur - Dhalkebar II tripped.	0	0
7	GD-I	27-04-2019	12:47	Khagul	220 kV Arrah Khagul D/C were out of service due to reduce the loading of 220 KV Patna Sipara S/C. 220 kV Khagul Sipara S/C was under breakdown prior to the incident. So Khagul was connected to only one source i.e. Patna. At 12:47 hrs 220 kV Patna Khagul S/C tripped on B-N fault resulting total power failure at Khagul S/C.	147	0
8	GD-I	29-04-2019	12:37	Patratu	At 12:37 Hrs, all lines emanating from 220 KV Patratu S/s tripped leading to a total power failure of the S/S	65	0

9	GI-II	30-04-2019	02:15	Jharsuguda	At 2:15hrs, 765 KV Bus I at Angul tripped on Bus bar protection due to Bph bursting of CT associated with Tie bay of 765 KV Angul Jharsuguda IV. At the same time, 1500 MVA 765/400 KV ICT IV also tripped on back up O/C protection.	0	0
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Participants in 157th OCC Meeting

Venue: ERPC Conference Hall, Kolkata

Time: 10:30 hrs

Date: 20.05.2019 (Monday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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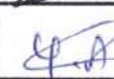
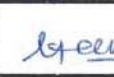
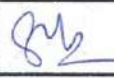



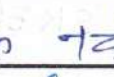


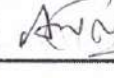


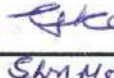
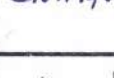
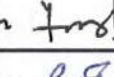


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Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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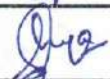
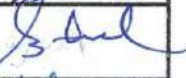
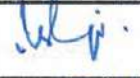

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Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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Power System Operation Corporation Ltd.



157th OCC Meeting



At ERPC, Kolkata

20th May, 2019

ER Grid Performances

ERLDC POSOCO

Highlights for the month of Apr-19

Frequency Profile

Average Freq:- 50.00 Hz
Avg FVI:- 0.428
Lowest FVI:- 0.026

Max- 50.29Hz on 07th
and 29th Apr' 19
Min- 49.65 Hz on 01st
Apr'19

73.13% of the time freq
was with in IEGC Band

Peak Demand-

ER: 23005 MW on 29th Apr
2019 at 20:57 hrs

% Growth in Average Demand
Met w.r.t. last year: 8.1%

BSPHCL : 5176 MW ; ON 29/04/19

JUVNL: 1284 MW; ON 29/04/19

DVC: 3207 MW; ON 16/04/19

GRIDCO: 5270 MW; ON 04/04/19

WB: 8590 MW; ON 16/04/19

SIKKIM: 115 MW; ON 13/04/19

*All data source are from SCADA

Energy met

Max. 499 MU on 29th Apr 2019

%Growth w.r.t. last year on Max
energy : 9.3%

Avg. 452 MU in Apr 2019

%Growth w.r.t. last year on Avg.
energy : 10.9%

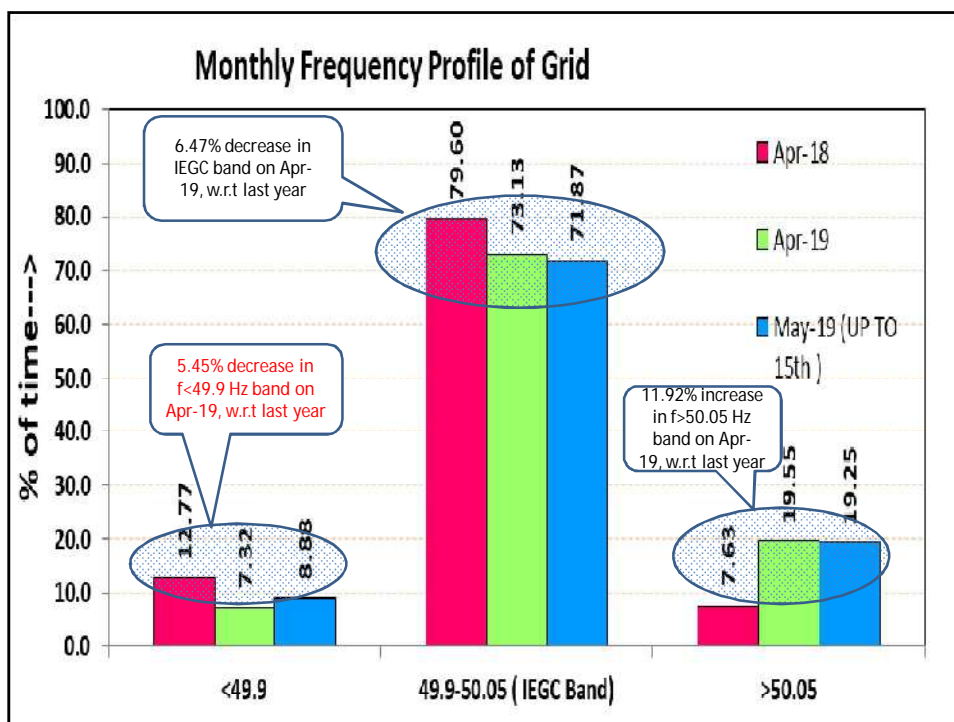
New Element

Generating Units- 800
MW Darlipali unit 1

Open Access

STOA transactions
approved -256 nos.

Energy Approved-
1359.69 MUs

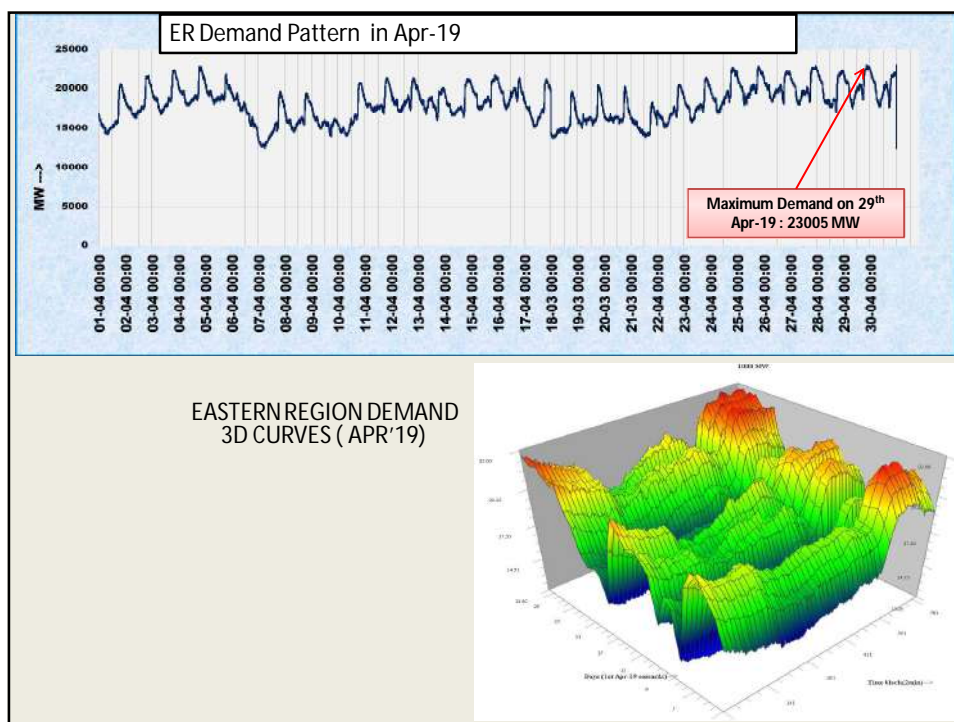


New Element addition during the month:

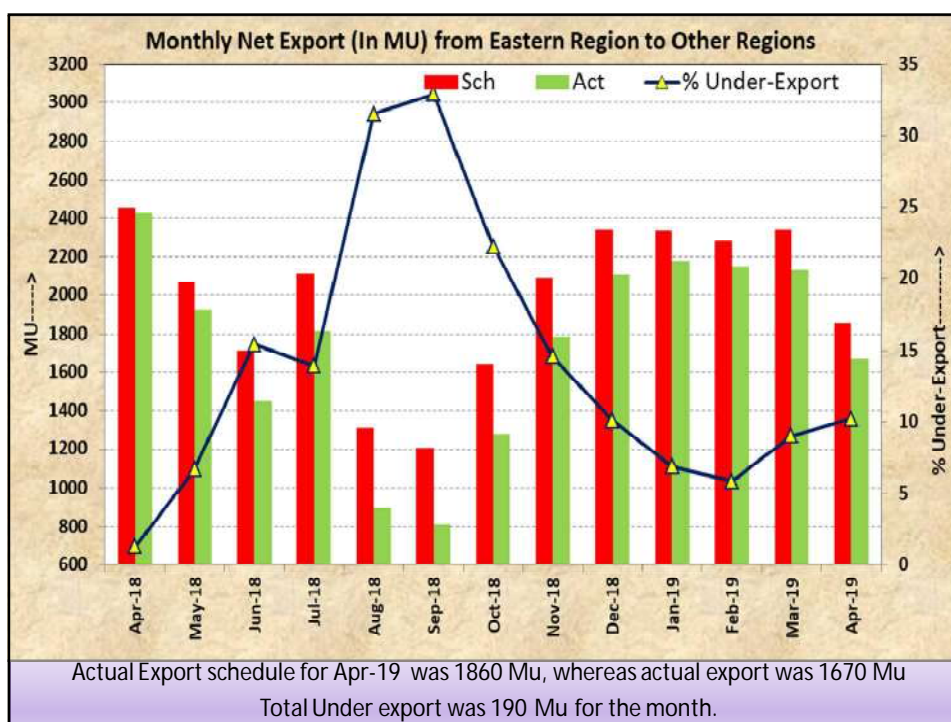
SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	800 MW Darlipali unit 1 (G.T. 1)	NTPC	04/04/19	9:02	First time synchronized
2	765 KV Jharsuguda Raipur I	OGPTL	04/04/19	21:12	
3	765kv Jharsuguda-Rsipur-2	OGPTL	05/04/19	23:32	
4	400/220KV, 315MVA ICT-2 at Bokaro-A	DVC	25/04/19	19:14	First time loading

So Far Highest Demand					
Constitute	Demand (in MW)	Date	Time	Dmd met (MW) on 29 th Apr'19 (max dmd met day)	
				MW	Time
Bihar	5275	09-May-19	20:54	5176	21:13
DVC	3256	29-Mar-19	8:02	3176	20:57
Jharkhand	1319	19-May-18	21:02	1284	21:23
Odisha	5558	23-Aug-18	20:21	4459	21:14
W. Bengal	9134	11-May-19	23:37	8464	23:25
Sikkim	117	28-Oct-16	19:22	90	18:52
ER	23193	10-May-19	23:00	23005	20:57
So Far Highest Energy Consumption					
Constitute	Energy consumption (in MUs)	Date	Energy met on 29 th Apr'19 (max dmd met day)		
Bihar	105.9	12-May-19	98		
DVC	75.8	12-July-18	69.6		
Jharkhand	27.8	19-May-18	26		
Odisha	123.5	02-Oct-18	95.5		
West Bengal	196.2	09-May-19	181.8		
Sikkim	2.1	07-Dec-17	1.4		
ER	499.8	18-Aug-18	499		

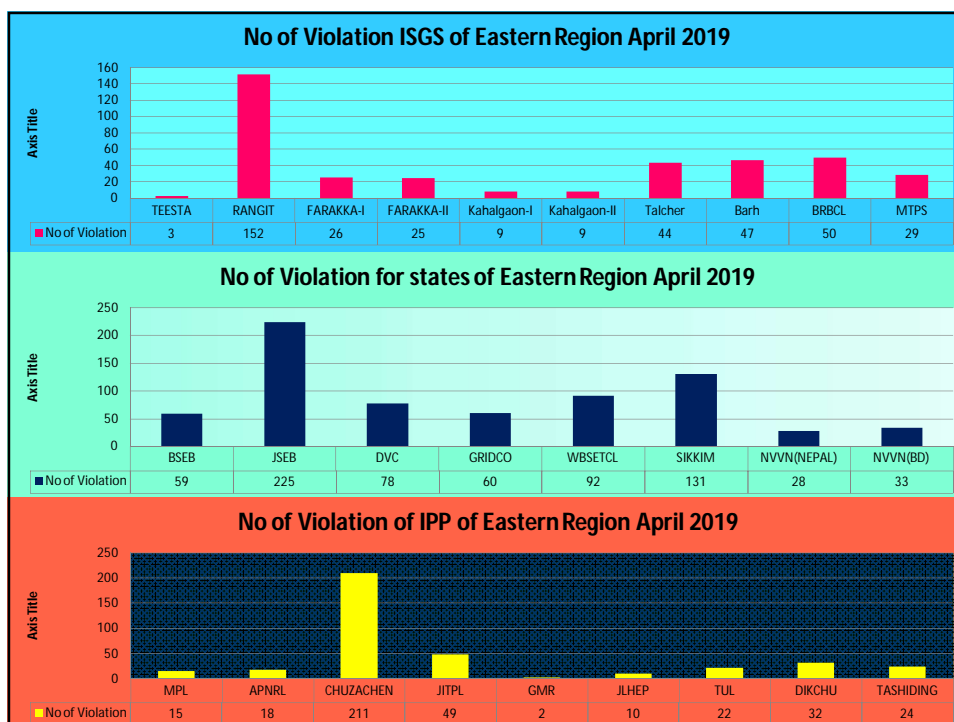
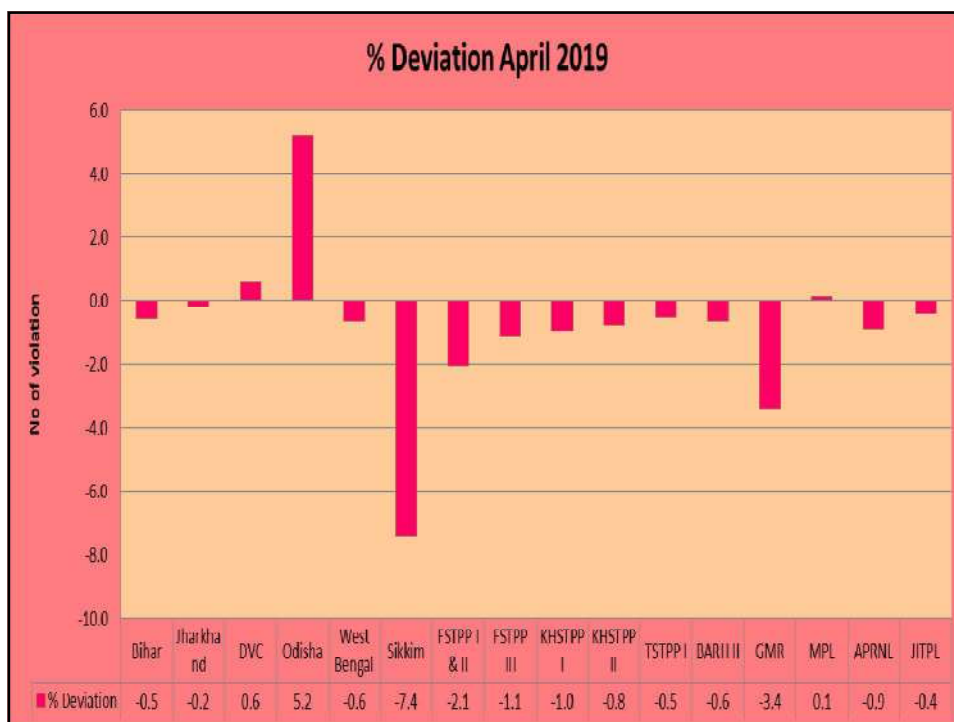
3D VIEW OF ER DEMAND PATTERN
(APR-18 to MAR-19)

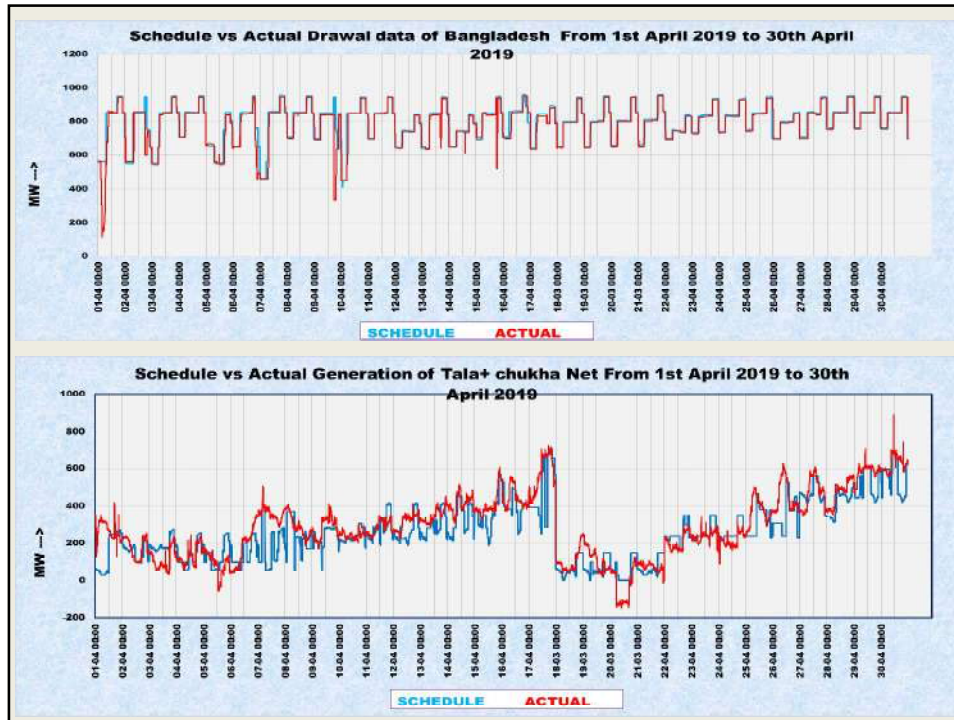


Over Drawl / Under Injection by ER
Entities
Non-compliance of direction issued by
SLDC

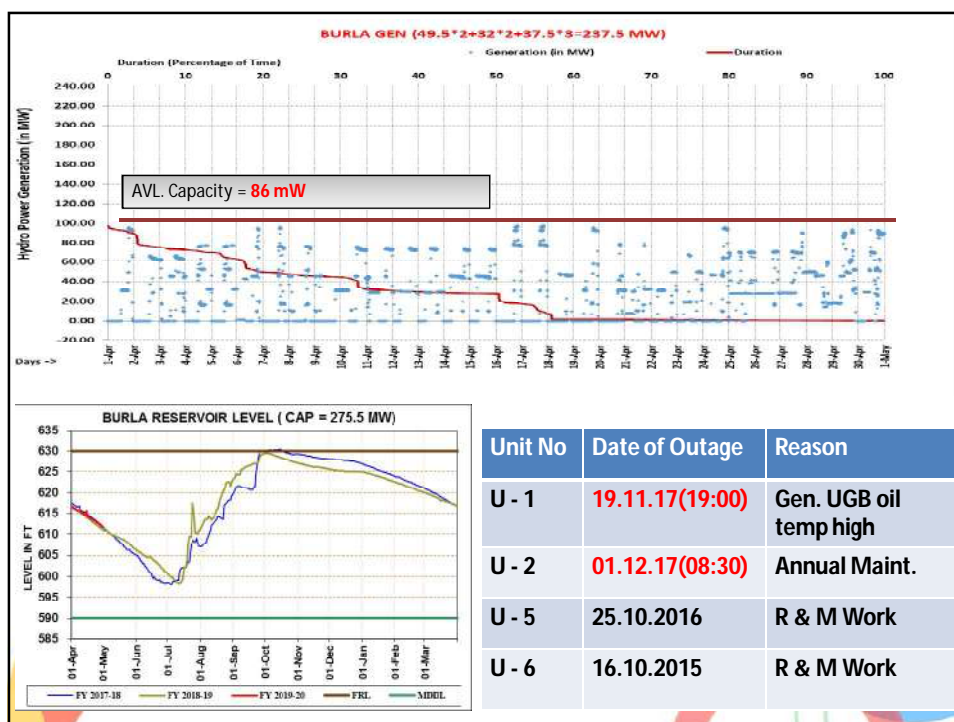
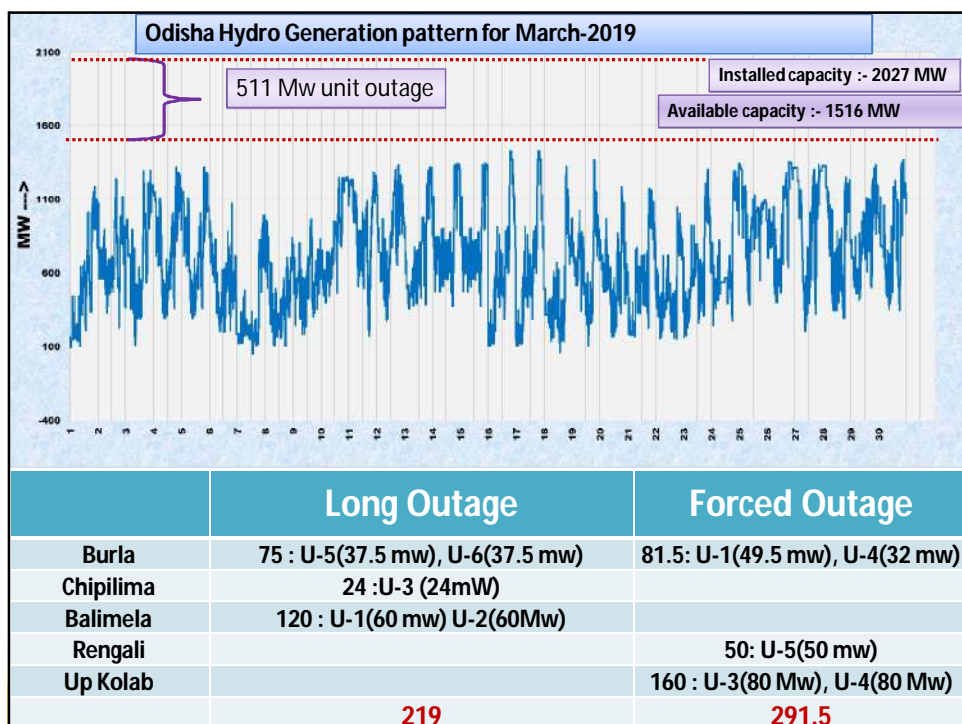


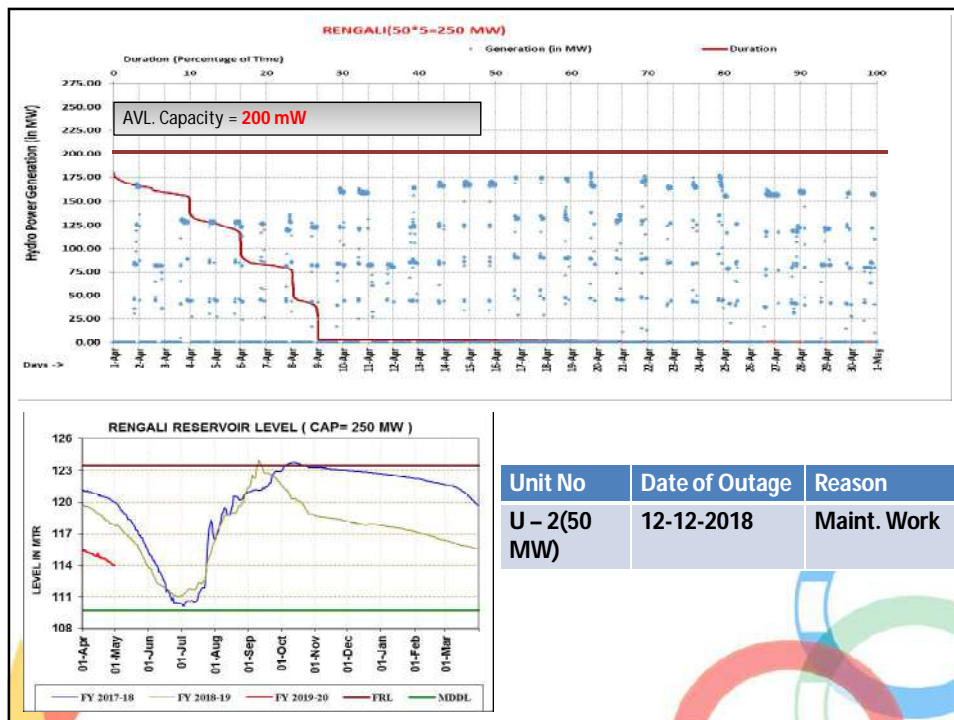
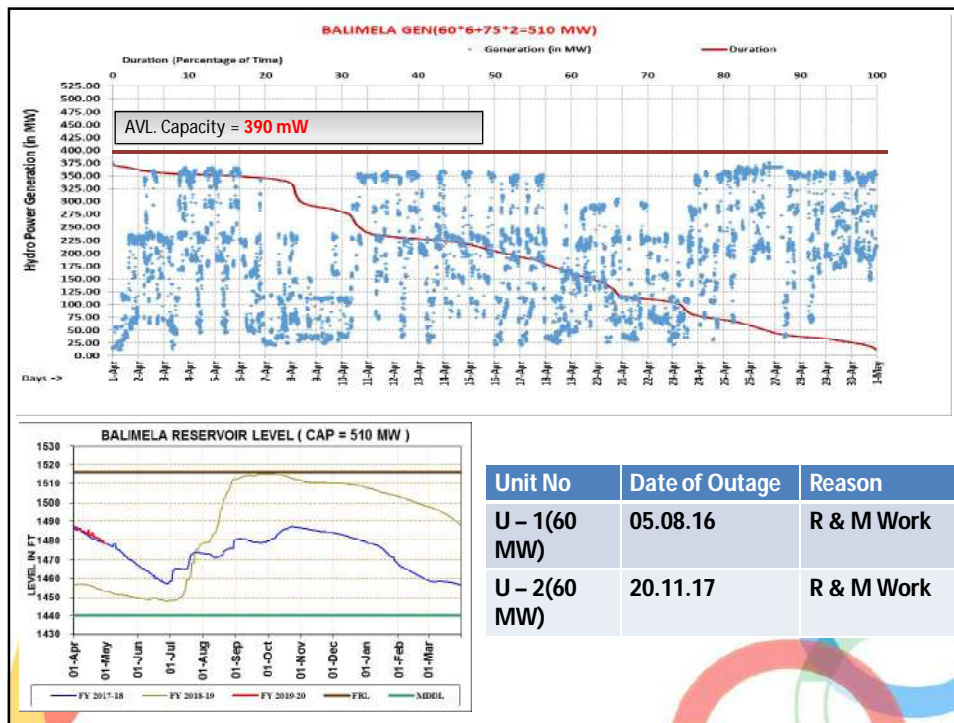
April 2019 Schedule vs Actual Status					
	Schedule	Actual	OD	Daily Avg OD	% Deviation
Bihar	2454	2440	-13	-0.4	-0.5
Jharkhand	491	490	-1	0.0	-0.2
DVC	-1456	-1448	8	0.3	0.6
Odisha	1004	1056	52	1.7	5.2
West Bengal	1496	1487	-9	-0.3	-0.6
Sikkim	44	41	-3	-0.1	-7.4
FSTPP I & II	837	820	-17	-0.6	-2.1
FSTPP III	231	228	-3	-0.1	-1.1
KHSTPP I	466	462	-4	-0.1	-1.0
KHSTPP II	690	685	-5	-0.2	-0.8
TSTPP I	557	554	-3	-0.1	-0.5
BARH II	823	818	-5	-0.2	-0.6
GMR	394	381	-13	-0.4	-3.4
MPL	575	576	1	0.0	0.1
APRNL	219	218	-2	-0.1	-0.9
JITPL	351	350	-1	0.0	-0.4

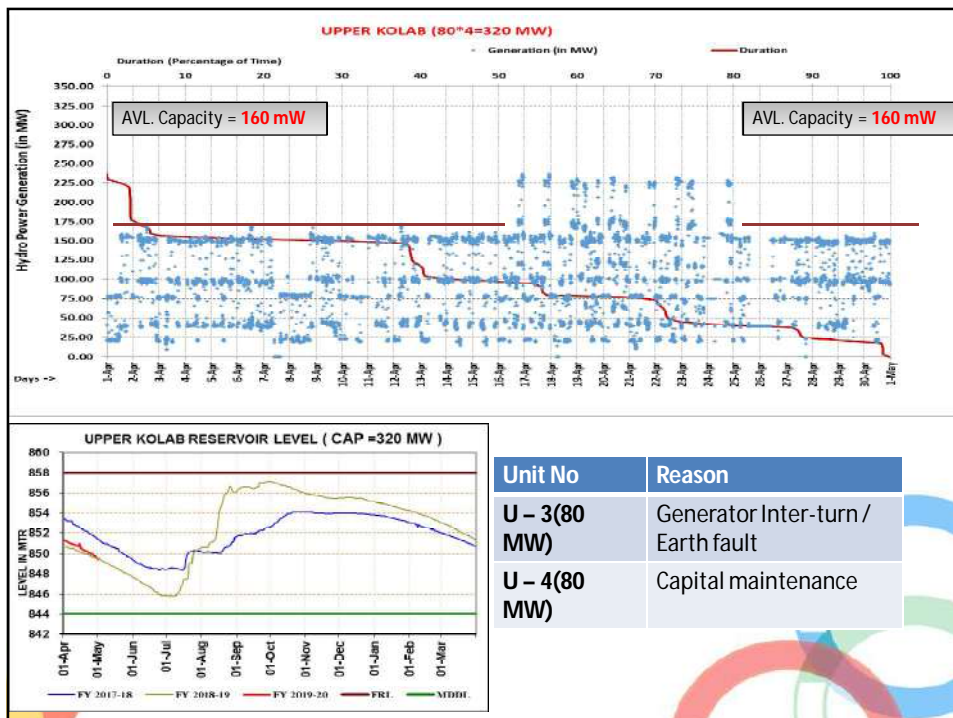
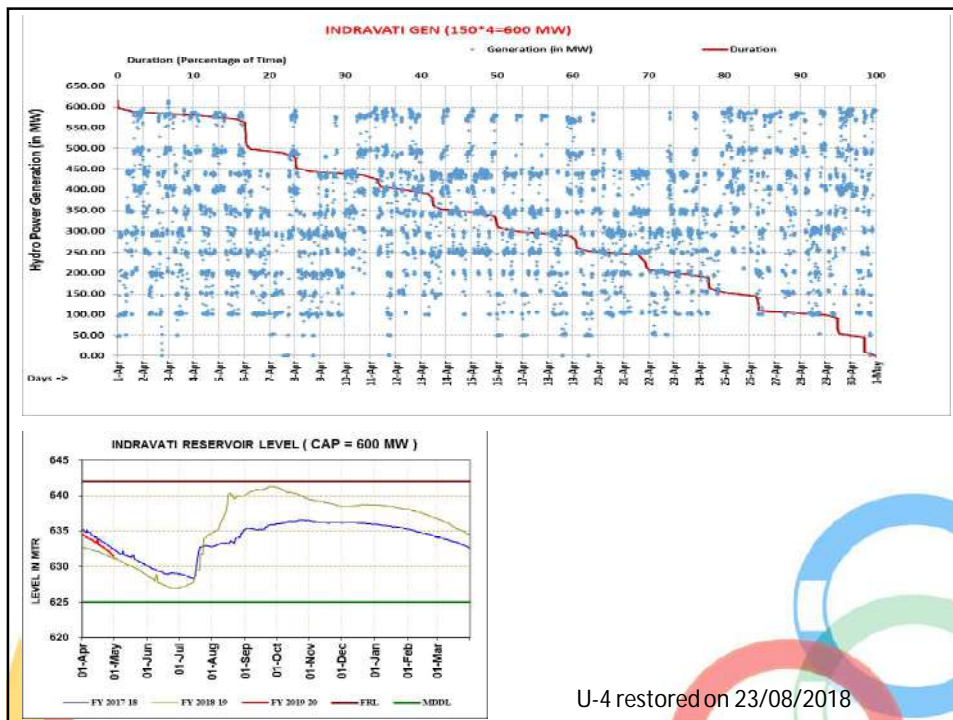


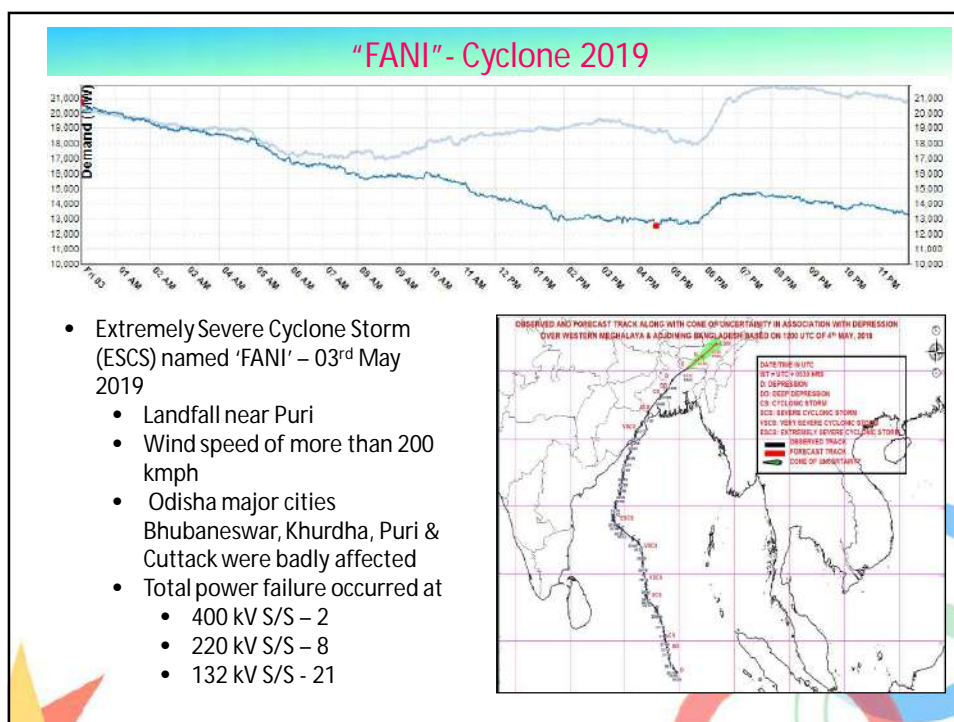
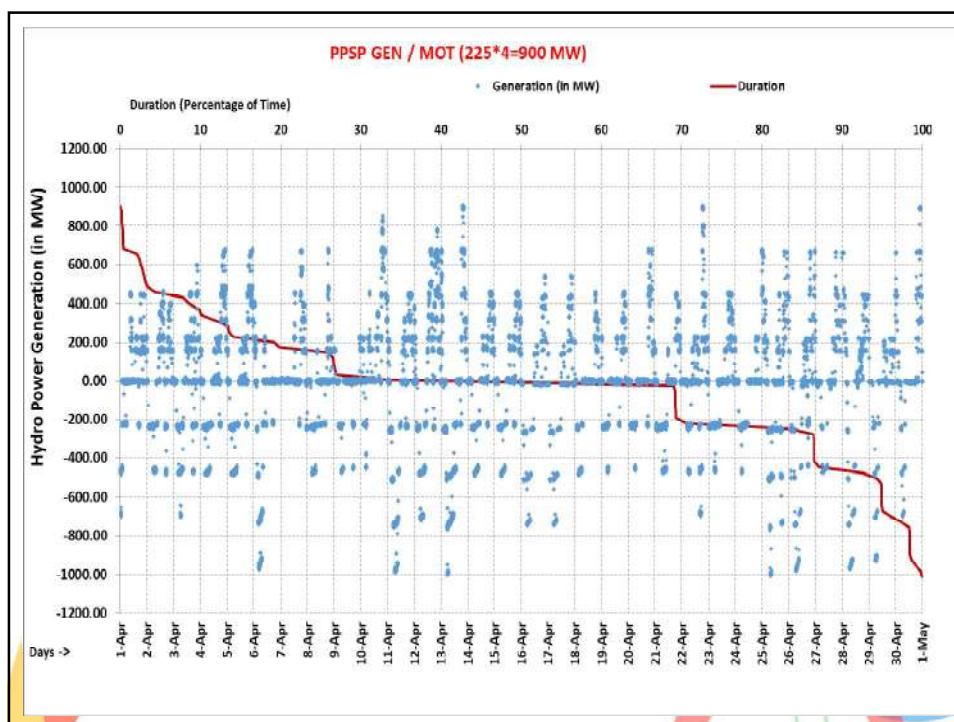


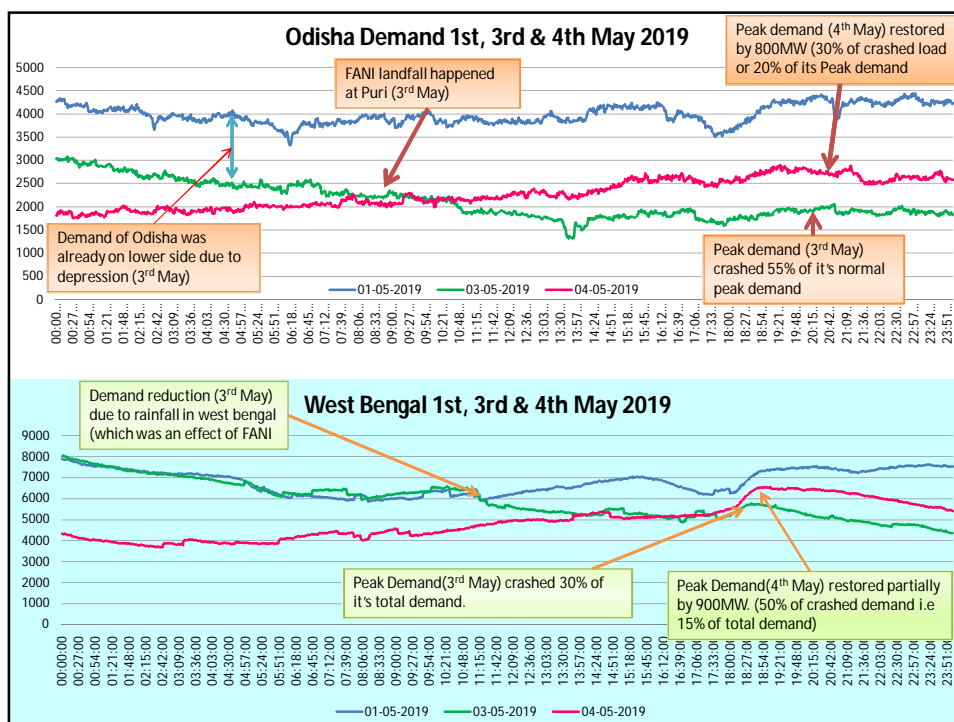
State Hydro Generators Performance











Status of substations which were affected during "FANI"

Sl No	Name of the station	Current Restoration status	Sl No	Name of the station	Current Restoration status
400kV/220kV			1	Bhubneswar (Mancheswar)	Yes
1	Pandiabili	Yes	2	PhulNakhra	Yes
2	Mendhashal	Yes	3	Khurda	Yes
220kV/132kV			4	Nimapara	Yes
1	Chandaka	Yes	5	Ransinghpur	Yes
2	Chandaka_B	Yes	6	Keshura	Yes
3	Atri	Yes	7	Pratapsasan	Yes
4	Samangara	No	8	Konark	Yes
5	Nayagarh	Yes	9	Puri	Yes
6	Cuttack	Yes	10	Banki	Yes
7	Paradip	Yes	11	Arugul	Yes
8	Bidanashi	Yes	12	Kaipadar	Yes
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Only 220kV Samangara S/S & 132kV Samuka S/S are still not restored. </div>			13	Balugaon	Yes
			14	Ganjam	Yes
			15	Chatrapur	Yes
			16	Chandpur	Yes
			17	Aska	Yes
			18	Berhampur	Yes
			19	IRE	Yes
			20	Rambha	Yes
			21	Samuka	No

Status of Lines were out due to tower collapse during "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.
- 1 no. Tower collapse reported for each 220kV Chandaka-Mendhasal-I & II & 220kV Mendhasal-Chandaka ckt-III & IV. 220kV Chandaka-Mendhasal-II restored on special arrangement through cross jumper of existing lines while ckt-IV restored on ERS.
- 132KV Chandaka-Nimapara Line: 8 Nos of tower collapse. Restored on 14.05.19
- 132 KV Ranasinghpur - Kesura - Nimapara :3 nos Tower collapse ----restored from Chandaka to Ranasinghpur to Kesura at 20:58 hrs of 13.5.19 .
- 49 tower collapse reported for 220 kV Samangara- Pandiabil D/C .
- 2 tower collapse for 220kV Narendrapur – Atri D/C.
- 132KV Bidanasi –Cowdhar:2 nos Tower collapse.
- 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) . 132kV Puri - Samuka restored on 19/05/19.

Report on poor governor response from the generators in the Eastern Region for the event in April 2019

Objective: Analysis of Governor Response (RGMO/FGMO) of Eastern Region Generators for FRC reported events in Indian Grid **for the Month of April 2019.**

Reference: In the 38th TCC/ERPC meeting, it was decided that ERLDC would analyze the governor response of generators and submit a report on the performance of RGMO/FGMO in the Units to ERPC/TCC committee for deliberation.

Relevant Regulatory Provision:

- **IEGC 5.2.f. i:** All Coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of 25 MW and above shall be operated under restricted governor mode of operation.
 - **IEGC 5.2.g:** Facilities available with/in load limiters, Automatic Turbine Runup System (ATRS), Turbine supervisory control, coordinated control system, etc., shall not be used to suppress the normal governor action in any manner and no dead bands and/or time delays shall be deliberately introduced. Provided that periodic checkups by third party should be conducted at regular interval once in two years through independent agencies selected by RLDCs or SLDCs as the case may be. The cost of such tests shall be recovered by the RLDCs or SLDCs from the Generators. If deemed necessary by RLDCs/SLDCs, the test may be conducted more than once in two years.
 - **IEGC 5.2.i :** The recommended rate for changing the governor setting, i.e., supplementary control for increasing or decreasing the output (generation level) for all generating units, irrespective of their type and size, would be one (1.0) per cent per minute or as per manufacturer's limits. However, if frequency falls below 49.8 Hz, all partly loaded generating units shall pick up additional load at a faster rate, according to their capability
 - **CERC order in 84/MP/2015 dated 31st July 2017 :** Para 23 (a) of the order state that "the Commission, starting from the month of September, 2017 shall be closely watching the primary response of ISGSs as reported by POSOCO/NLDCs. At the State level, SLDCs shall report the frequency response of intra-State generators to the concerned SERCs."
- Para 23 (c) of the order state that "All ISGSs are directed to provide primary response compulsorily in terms of Regulation 5.2 (f), (g), (h) and (i) of the Grid Code failing which we would not hesitate in initiating action under Section 142 of Electricity Act, 2003 for not providing desired RGMO/FGMO response without any valid reasons."

- **CERC Terms and conditions of Tariff regulation 2019:**
 - **Regulation 30(2)-(i):** In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;
 - Regulation 30(2)-(ii):** in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

- **Decision taken in OCC meeting:**

As per decision taken in 145th OCC meeting, generating station is to send 1 sec or higher resolution data to ERLDC/SLDC as the case may be.

- **Decision taken in special meeting on RGMO/FGMO on 31st January 2019 at ERPC:**

All the ISGS and state generating stations eligible for RGMO/FGMO as per IEGC 5.2 (f) are to take action in order to provide satisfactory primary response in line with IEGC 5.2 (f), (g), (h) and (i).

Details of action plans to be taken by generating stations and SLDCs are summarized in Table 2 & 3.

Introduction: During the Month of April 2019, three 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 11 th April 2019, at 13:00 hrs HVDC Talcher - Kolar pole-I got blocked due to emergency switch off signal from Kolar end. Load loss due to SPS operation in SR: 1123 MW.	50.07 Hz to 50.12 Hz	46.8%
On 12 th April 2019 at 15:25 hrs around 1500 MW generation loss occurred in Maharastra at Chandrapur and Dhariwal.	49.90 Hz to 49.77 Hz	2.2%
On 12 th April 2019 at 23:55 hrs, around 1865 MW generation loss occurred in Sikkim Complex.	50.029 Hz to 49.928 Hz	22.3 %

The Frequency Plots for all the events are given in Annexure-I for reference. It can be observed from the above table that during the second event i.e. Generation of more than 1500 MW in Maharashtra at Chandrapur and Dhariwal in Western Region, the FRC of Eastern Region is non-satisfactory. In case of first event i.e. load loss due to SPS operation of HVDC Talcher Kolar and third event i.e. generation loss occurred in Sikkim Complex., FRC of Eastern Region is below satisfactory level.

As per data received from generating station, in case of Teesta V, Teesta III & Dikchu, no units were in service during the event 1 & 2 and during event 3, all units tripped. **Non-satisfactory response has been observed for Adhunik, MPL as per data received from generating station. Oscillatory response has been observed for Budge Budge, Adhunik, GMR, JITPL, DSTPS & RTPS.** Details of the response observed are summarized in Table 2 & 3.

In case of event in the month of the March 2019, response was non-satisfactory for FSTPP, KhSTPP stage II, JITPL, BRBCL and MPL (response shown in Annexure III). Control area wise response was non-satisfactory for Jharkhand, DVC, GRIDCO & West Bengal. As per FRC received from DVC, no generating units in this control area had given satisfactory response. **FRC from West Bengal are yet to be received** (Format and methodology for calculation of FRC has been shared already). Among the state generators, generator end data are received only from HEL & Bakreswar TPP, which was not satisfactory.

Table 2: Response Based on ERLDC SCADA Data for the events in the month of April 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	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	Data are not available	
KhSTPP I	Non-Satisfactory	NTPC intimated that by 4 th Feb 2019 the fine-tuning activity would be completed NTPC to share the status of RGMO tuning and reason for non-satisfactory response.
KhSTPP II	Non-Satisfactory for event II & III.	
Talcher I & II	Non-Satisfactory as per ERLDC SCADA data. More data resolution is required for proper analysis	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 response has been observed for the event III	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.

Teesta V	No units were in service during the event 1 & 2. During event 3, all units tripped	NHPC to take up the matter of data collection in .csv format and the issue of fine tuning of the RGMO with their OEM. NHPC to share the status of RGMO tuning and the status of data collection in .csv format. NHPC to provide a detailed explanation with reason on the statement on no response during high hydro season.
Teesta III & Dikchu	No units were in service during the event 1 & 2. During event 3, all units tripped	Teesta III to fine-tune RGMO. No representative from Dikchu attended the meeting. Teesta III & Dikchu to share the status of RGMO tuning.
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 April 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; Generation reduced with reduction in frequency in case of event II & III. In case of event II, initial response has been observed for unit I. But did not sustain. In case of event III, unit I was running in V/V wide open condition at that time.	MPL to take up the issue of fine tuning of the RGMO with their OEM and rectify the issue in opportunity shutdown. Unit 2 will be resolved in the upcoming AOH. MPL to share the status of RGMO tuning.
Budge Budge	Total station response was below satisfactory level. Oscillatory unit output has been observed during the event. Response did not sustain.	CESC to share the reason for oscillatory unit output.

Adhunik	<p>As per PMU data recorded at ERLDC, unit output is oscillatory in nature for initial 5-6 seconds after the sudden change in frequency. This oscillatory output may introduce forced oscillation in the system.</p> <p>In case of event 1, generation was being ramped up. In case of event 2 & 3, no response has been observed. During the event in the March 2019, response from Adhunik units was satisfactory. As per APNRL, RGMO was out of service during the event 2 & 3 due to various reason (During event 2, unit 2 was being synchronised and during event 3 both the units were being operated at technical minimum.</p>	<p>APNRL to take the matter of oscillatory unit output with their OEM and share the plan of remedial action taken/to be taken.</p> <p>As per IEGC section 5.2.(f).ii.(c), If any generating unit is required to be operated without its governor in operation as specified in IEGC 5.2(f), the RLDC is to be immediately advised about the reason and duration of such operation.</p>
GMR	<p>As per PMU data recorded at ERLDC, unit output is oscillatory in nature for initial 3-4 seconds after the sudden change in frequency. This oscillatory output may introduce forced oscillation in the system.</p> <p>Satisfactory response observed only for event 3..</p>	<p>GMR to take the matter of oscillatory unit output with their OEM and share the plan of remedial action taken/to be taken.</p> <p>GMR to share the reason for non-satisfactory response for event 1 & 2.</p>
JITPL	<p>As per PMU data recorded at ERLDC, unit output is oscillatory in nature for initial 3-4 seconds after the sudden change in frequency. This oscillatory output may introduce forced oscillation in the system.</p> <p>Non-Satisfactory response observed.</p>	<p>JITPL to take the matter of oscillatory unit output with their OEM and share the plan of remedial action taken/to be taken.</p> <p>JITPL to share the reason for non-satisfactory response.</p>
DSTPS & RTPS	<p>As per PMU data recorded at ERLDC, unit output is oscillatory in nature for initial 5-6 seconds after the sudden change in frequency. This oscillatory output may introduce forced oscillation in the system.</p> <p>Response observed is non-satisfactory for all three events</p>	<p>DVC to take the matter of oscillatory unit output with DSTPS & RTPS and share the plan of remedial action taken/to be taken.</p> <p>DVC to share reason for non-satisfactory response.</p>
FRC shared by DVC	<p>Non-Satisfactory; As per generation data received, primary frequency response observed only for second and third events but response lasted for not more than 10 seconds</p>	<p>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</p>

** Based on data received on or before 10-05-2019*

*****Rest of other generating stations and SLDC have not submitted the details to ERLDC and thus Non-compliance of relevant regulations on data submission for analysis of grid events.***

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

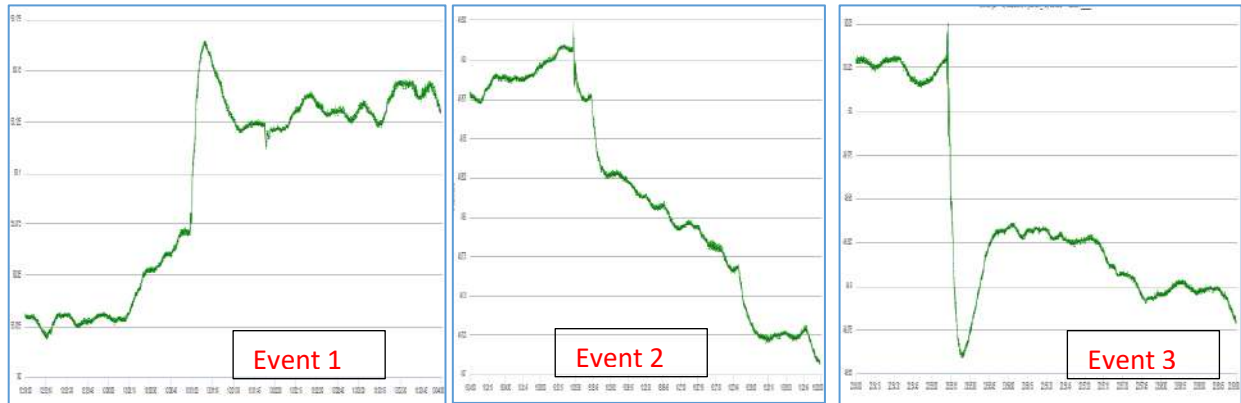
1. Inadequate RGMO/FGMO response for such critical Contingency and Large Frequency Drop in the grid in line with IEGC 5.2.f to 5.2.i.
2. Non-submission of data for RGMO Response in line with IEGC 5.2.r , IEGC 5.9.4.b, CEA Technical standards for connectivity to the Grid Regulation 6.4.d, CEA Grid Standard 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)
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 KhSTPP #1 (12-03-19), Barh #4 (17-02-19) Mejia #2 (08-05-19), Kahalgaon #7 (21-04-19). 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 (**DTSPS, RTPS, 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

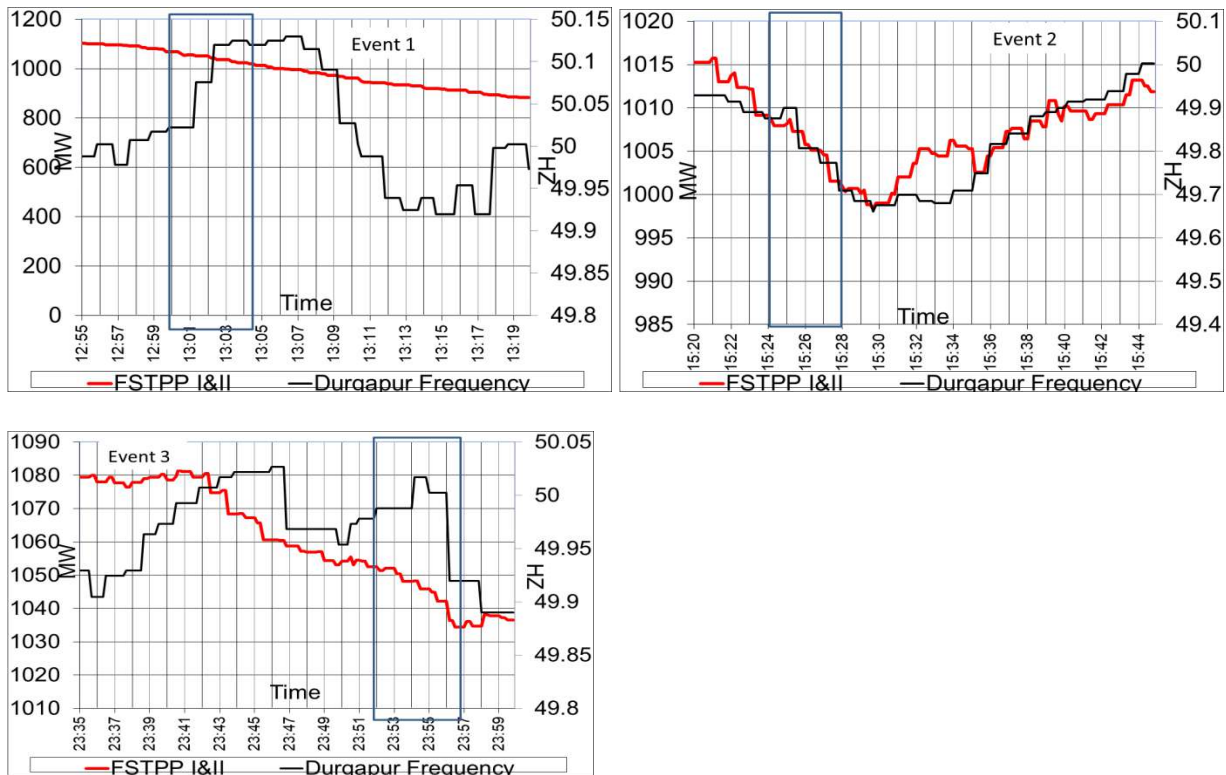
Even after so many discussions over Governor Response in the OCC and ERPC board meeting, there has not been any significant improvement of performance of Eastern Region Generating Station which resulted non-satisfactory primary frequency response at regional boundary of ER grid.

Annexure I: Frequency

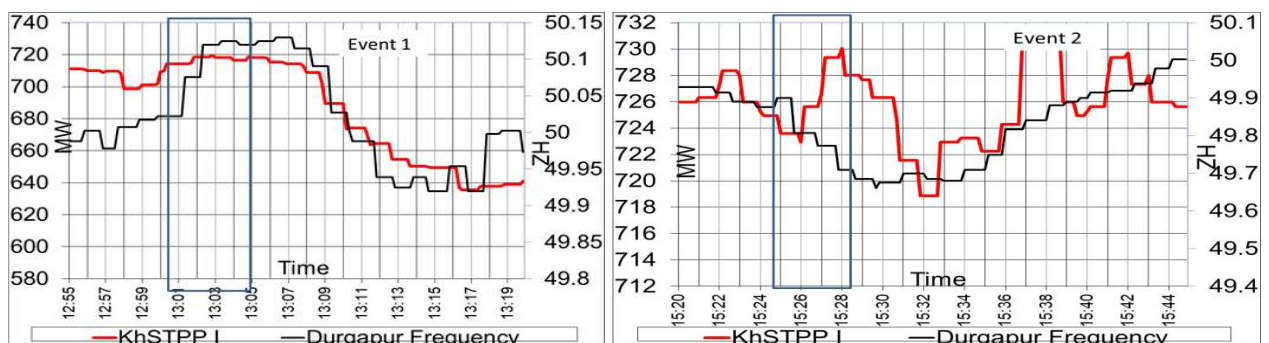


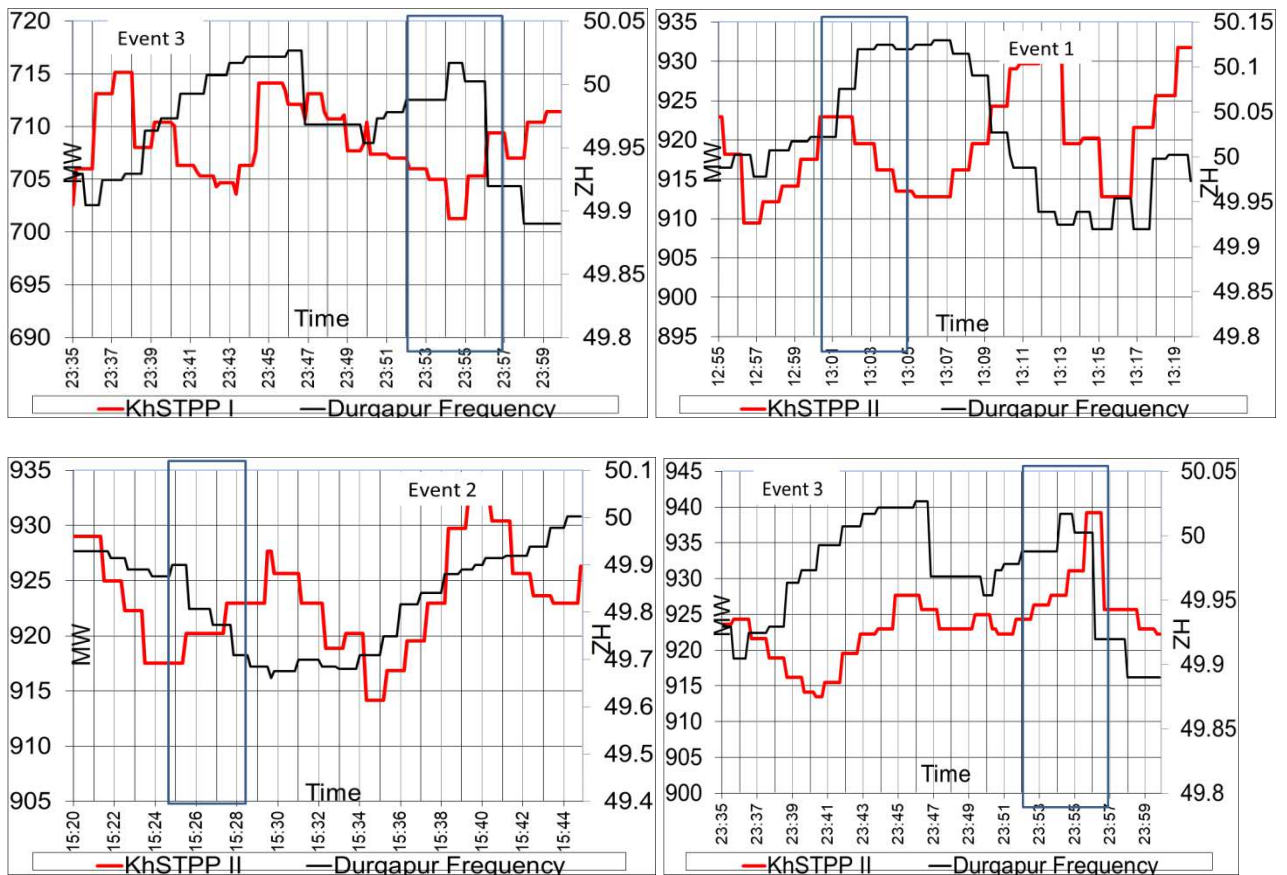
Annexure II: Response of generating stations as observed in ERLDC SCADA data and received form generating end

1. Response observed in ERLDC SCADA data for Farakka

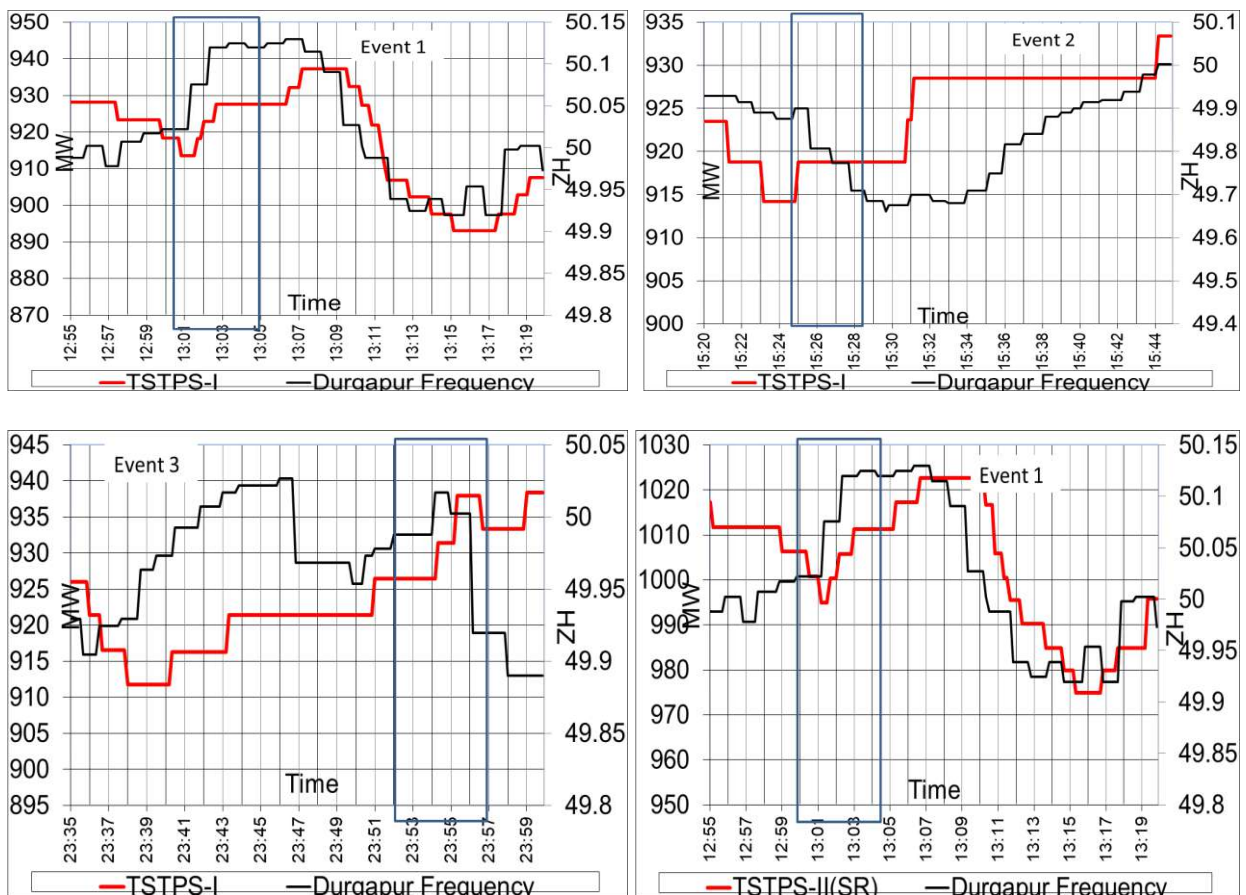


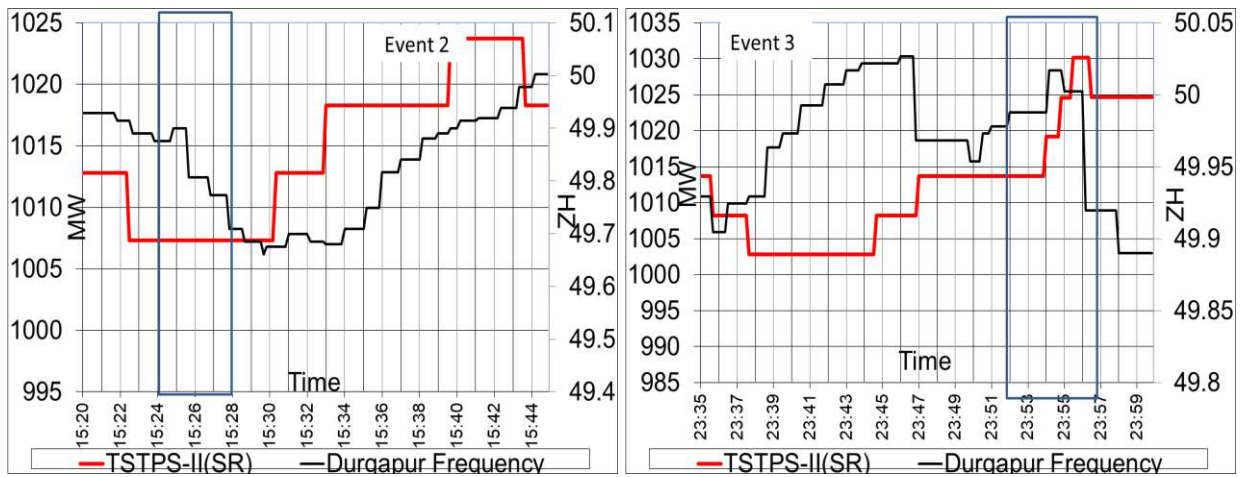
2. Response observed in ERLDC SCADA data for KhSTPP



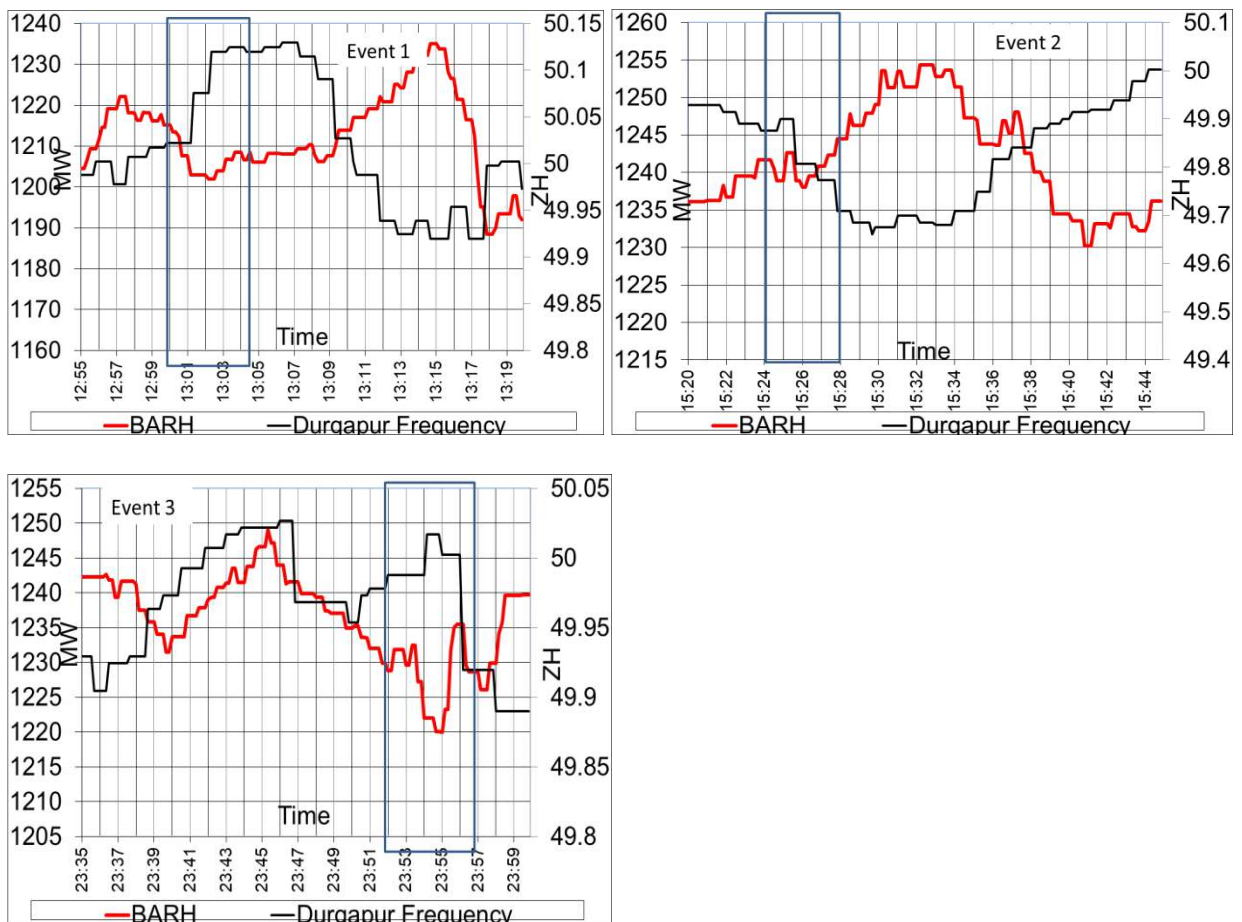


3. Response observed in ERLDC SCADA data for Talcher

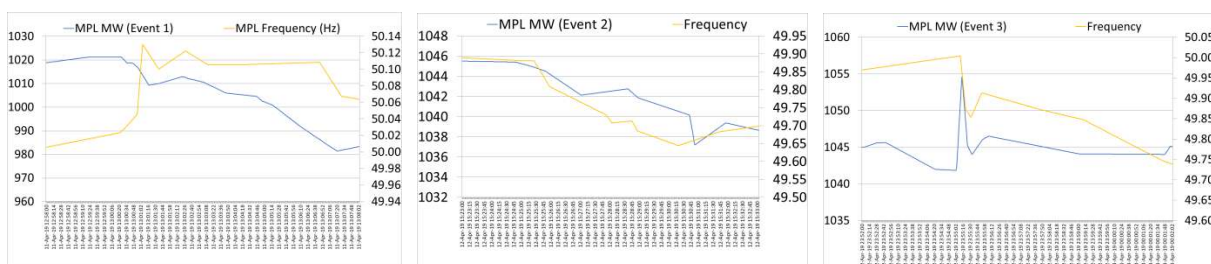




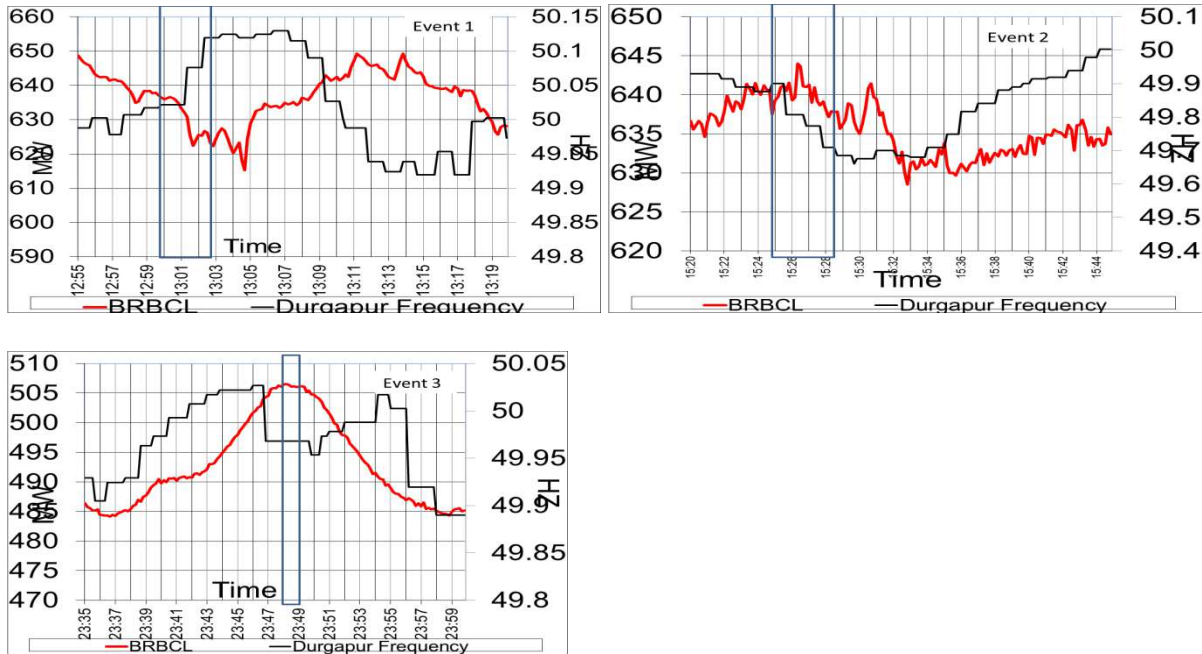
4. Response observed in ERLDC SCADA data for Barh



5. Response as received from MPL

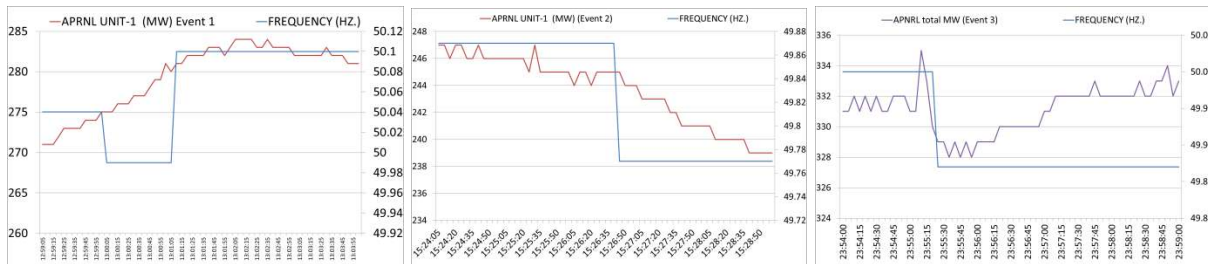


6. Response observed in ERLDC SCADA data for BRBCL

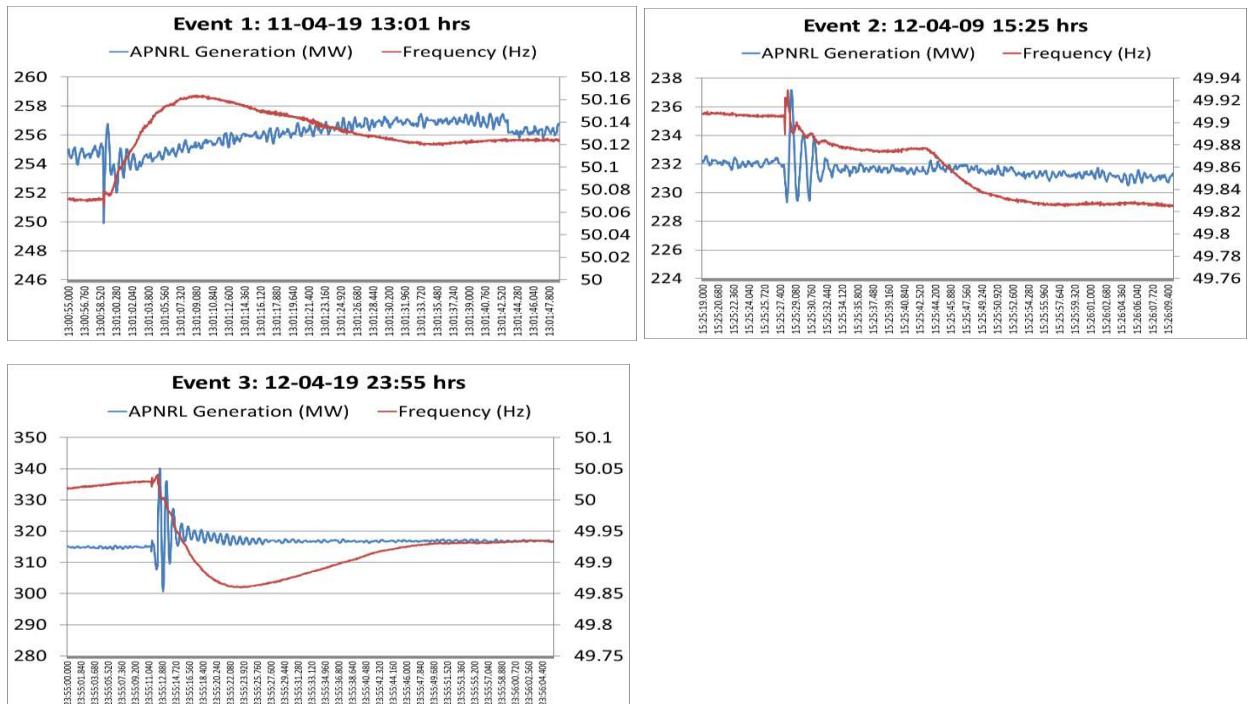


7. Response observed in Adhunik

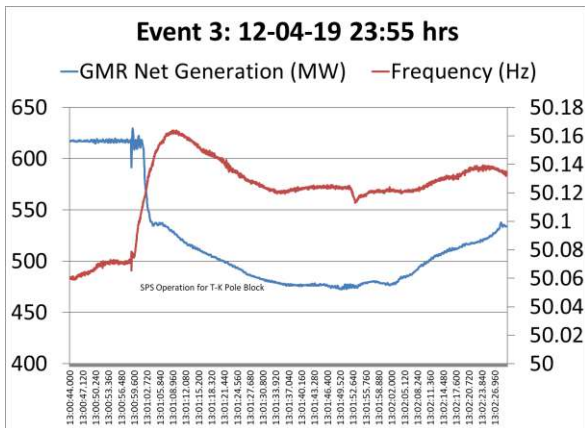
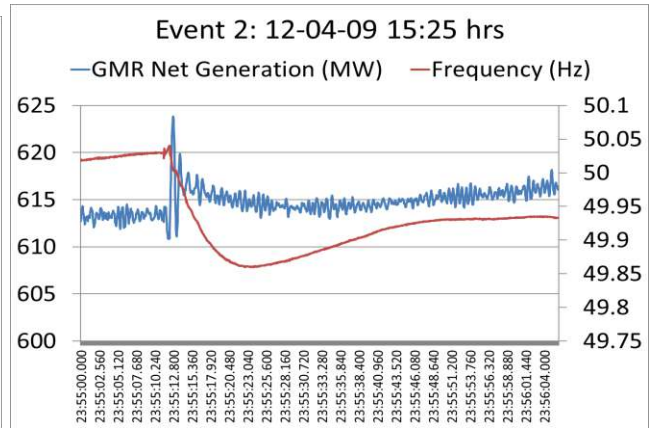
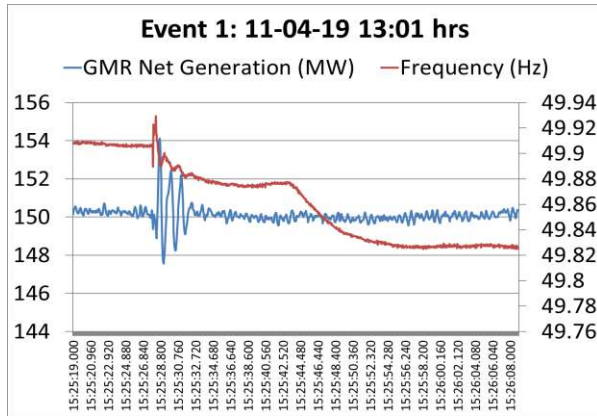
From DCS data:



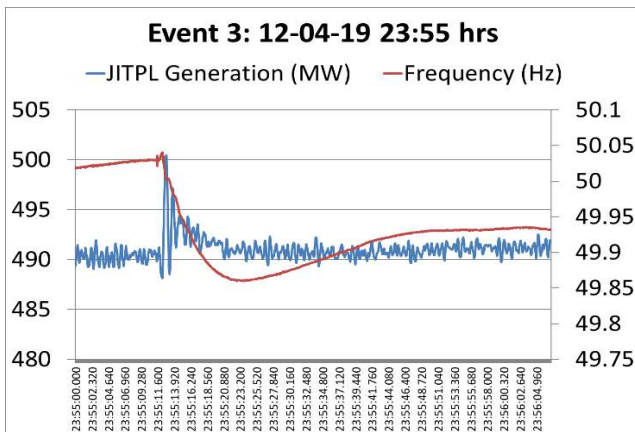
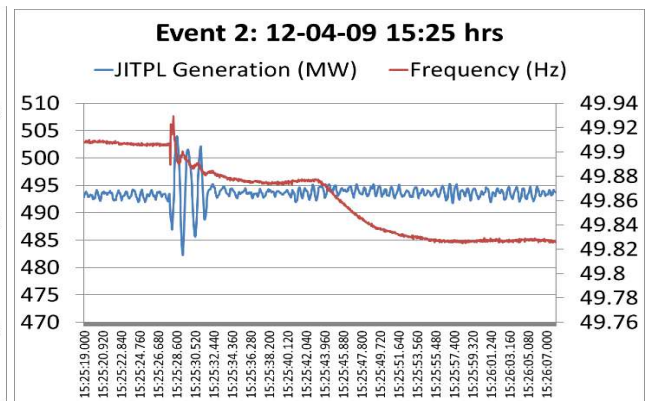
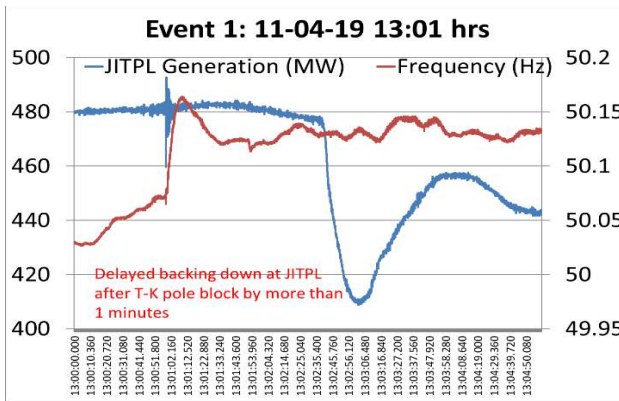
From PMU data recorded at ERLDC



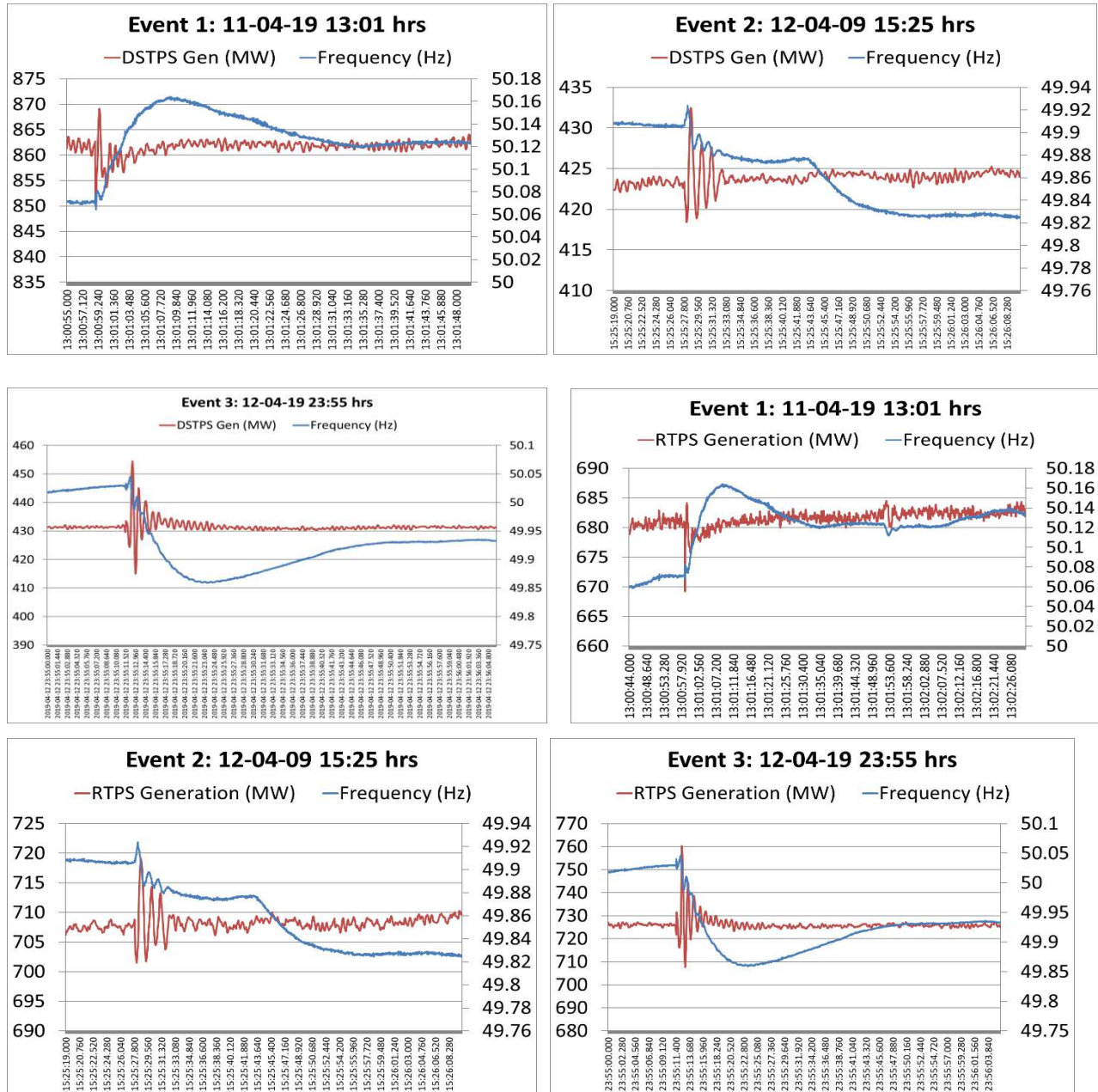
8. Response observed in ERLDC PMU data for GMR



9. Response observed in ERLDC PMU data for JITPL



10. Response as measured in PMU data for DSTPS & RTPS



Annexure III: Response of generating stations for the event in the month of March 2019 as observed in ERLDC SCADA data and received from generating end

Response Based on ERLDC SCADA Data (generation end data yet to be received)

Generating Station	Percentage of ideal response	Remarks	Action plans to be taken by generating stations/SLDCs as per decision taken in special meeting on 31-01-19 at ERPC and 155 th OCC meeting
FSTPP I & II	-17%	Non-Satisfactory	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	0 %	Non-Satisfactory	

KhSTPP I	73%	Satisfactory and response lasted for around 5 min	NTPC intimated that by 4 th Feb 2019 the fine-tuning activity would be completed NTPC to share the status of RGMO tuning and reason for non-satisfactory response for stage – II.
KhSTPP II	7%	Non-Satisfactory	
Talcher I & II	--	More data resolution is required for analysis	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	50 %	Unit generation was being ramped up prior to the event	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.
GMR	80 %	Satisfactory and response lasted for more than 5 min	No representative from GMR attended the meeting.
Adhunik	70 %	Satisfactory	No representative from Adhunik attended the meeting.
Teesta V	44 %	Unit generation was being ramped up prior to the event	NHPC to take up the matter of data collection in .csv format and the issue of fine tuning of the RGMO with their OEM. NHPC to share the status of RGMO tuning and the status of data collection in .csv format. NHPC to provide a detailed explanation with reason on the statement on no response during high hydro season.
Teesta III & Dikchu	--	Unit not in service	Teesta III to fine-tune RGMO. No representative from Dikchu attended the meeting. Teesta III & Dikchu to share the status of RGMO tuning.
JITPL	7%	Non-Satisfactory	No representative from JITPL attended the meeting. JITPL to share the status of RGMO tuning and reason for non-satisfactory response.
BRBCL	24%	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.
Jharkhand	-194%	Non-Satisfactory	Jharkhand SLDC to calculate FRC observed at the boundary of the control area and reason for non-satisfactory response.
WB	14%	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.

Response from High-Resolution Data recorded at generating stations/SLDCs *

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 and 155 th OCC meeting
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MPL	Non-Satisfactory; Generation reduced with reduction in frequency; resolution of data received is not suitable for analysis.	MPL to take up the issue of fine tuning of the RGMO with their OEM. MPL to share the status of RGMO tuning and reason for non-satisfactory response.
HEL	Non-Satisfactory; As per data received, 3 MW generation increase has been observed in place of RGMO influence of 6 MW. As per 5% droop characteristics, ideal response should be 21.84 MW.	HEL to share reason for RGMO influence less than ideal response as per droop characteristics.
Bakreswar TPS	Non-Satisfactory; Response of unit I, II & III cannot be analysed due to non-availability of data in excel/csv format. In case of unit 4 & 5, unit generation was more than I/C and response was very less and did not last for more than 10 sec.	WBPDCL to share the reason for non-satisfactory response along with remedial action to be taken.
FRC shared by DVC	Non-Satisfactory; As per generation data received, primary frequency response is not observed.	DVC intimated in the meeting that they were going to have an internal meeting. DVC to share the reason for non-satisfactory response along with remedial action to be taken.
FRC shared by GRIDCO	Non-Satisfactory response for Balimela unit # 6 and #8, Burla, Indravati & U Kolab units. Below satisfactory response for Balimela #3 & #4. Data were not available for Rengali and IBTPS.	GRIDCO to share the reason for non-satisfactory response along with remedial action to be taken

*** Based on data received on or before 09-04-2019**

****Rest of other generating stations and SLDC have not submitted the details to ERLDC and thus Non-compliance of relevant regulations on data submission for analysis of grid events.**

Eastern Regional Power Committee, Kolkata

Minutes of Special Meeting on Power support at Manique GSS from DVC and at Kendposi GSS from OPTCL held at ERLDC, Kolkata on 1st March, 2019 (Friday) at 15: 00 hrs

OPTCL, SLDC Odisha, JUSNL and SLDC DVC attended the meeting through video conference.

At the start of the meeting, ERPC explained that in 154th OCC Meeting held on 21st February 2019, JUSNL informed 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. 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. In line with OCC decision, this meeting had been called.

- OPTCL informed that 220/132kV ATRs at Joda are quite old and they are planning to augment one 100MVA 220/132kV ATR with 160 MVA. Power could be extended to JUSNL only after completion of the augmentation of ATR.
- OPTCL added that they are ready to take shutdown of one 100MVA 220/132kV ATR at Joda from next day to start the augmentation work and they needed 35 days to complete the work.
- DVC informed that unit #7 of Chandrapura TPS is under maintenance which would be in service from 20th March 2019 tentatively. DVC added that after bringing the unit #7 of Chandrapura into service they can give 35 MW during off peak and 25 MW during peak hours at Manique subjected to availability of unit #3 of Bokaro. DVC explained that at present unit #3 of Bokaro is in service but availability of the unit is uncertain.
- After detailed deliberation, the following were decided:
 1. OPTCL shall take shutdown of one 100MVA 220/132kV ATR at Joda from 2nd March 2019 to start the augmentation work
 2. After completion of augmentation of 220/132kV ATR at Joda, JUSNL shall avail the shutdown of 132kV Ramchandrapur-Adityapur D/C line tentatively from 6th April 2019.
 3. OPTCL shall provide additional 40 MW power from Joda (OPTCL) to feed Kendiposi loads during the shutdown period of 132kV Ramchandrapur-Adityapur D/C line
 4. DVC shall provide power support of 35 MW during off peak and 25 MW during peak hours at Manique subjected to availability of unit #3 of Bokaro during the shutdown period of 132kV Ramchandrapur-Adityapur D/C line
- OPTCL added that during shutdown of one 100MVA, 220/132kV ATR at Joda from 2nd March 2019, they can only give 20 MW power to Kendiposi during off peak hours and they cannot give any power during peak hours due to significant load growth in Joda area.
- Jharkhand agreed and requested to keep the 220kV Joda-Kendiposi line as idle charged condition so that they can draw railway power in case of any emergency.
- Odisha agreed but requested Jharkhand to avoid power drawal during peak hours.
- Jharkhand assured that they would draw power only during emergency after taking consent from OPTCL.
- It was opined that most of the JUSNL loads would be met by 220kV Chandil S/s during shutdown of 132kV Ramchandrapur-Adityapur D/C line. Jharkhand was advised to maintain the reliability of the 220kV Chandil S/s and ensure healthiness of the protection system at Chandil S/s.



एक महारत्न कम्पनी

FSTPS

Ref. No. FSTPS: 42: CGM (O&M) /03

Date: 14.05.2019

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 and #6 have been scheduled from 07-Jun-2019 to 06-July-2019 for 30 days and from 01-Nov-2019 to 05-Dec-2019 for 35 days respectively.

It may be mentioned that the Unit#6 of FSTPS has been running with liabilities in turbine due to which we are unable to operate the unit at full load. The boiler has also not been overhauled since long. Capital overhauling of the unit is urgently required to enhance the unit efficiency & reliability in order to serve the grid with full capability in a safe manner. The job will require 45 days shutdown for replacement of HP module, overhauling of IP & LP turbine and Generator Capital overhaul.

It was discussed and recorded in the 156th OCC MOM dated 03.05.2019 that Unit#6 may be taken in place of Unit#5 (approved from 07-June-19 for 30 days) in the month of June and July in case of emergency.

It is, therefore, requested that overhauling of FSTPS Unit#6 may please be allowed from 07-June-2019 to 21-July-2019 in place of November'19 as per LGBR. Since FSTPS Unit#5 is also due for overhaul, it is also kindly requested to allow a shutdown for 30 days, after completion of Unit#6 overhaul (from end of July'19).

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) CGM (F) – for kind information please



JHARKHAND URJA SANCHARAN NIGAM LIMITED

(CIN No. – U40108JH2013SGC001704)

Regd. Office – 2nd Floor, JUSNL (SLDC) Building, Kusai Colony, Doranda, Ranchi-02

Fax No. – 0651 – 2400123 (E-mail–cetjusnl@gmail.com)

Letter No72)..... G.M., C&M (NWBP)/ JUSNL
C.E. (Trans.)/1725/2017-18

Dated ..25-04-19

From,

Amar Nayak

General Manager, Contracts & Materials (non W.B. Project)

To,

The Member Secretary,

Eastern Regional Power Committee,.

14, Golf Club Road Tollygunje

Kolkata-700033, Kolkata, West Bengal 700033

e-mail - mserpc-power@nic.in

Sub: Request for placing agenda in OCC meeting of ERPC for Connectivity of newly constructed 220/132/33 KV (2x150+2x50) MVA Grid Substation Giridih of JUSNL through LILO of 220 KV Giridih (DVC) – Koderma (DVC) Transmission Line.

Sir,

Presently Power to Giridih District of Jharkhand is fed through DVC network and is not sufficient to meet demand of Giridih and nearby area. In order to meet the power requirement of Giridih, Jamua and Sariya, JUSNL has completed the construction work of 220/132/33 KV (2x150+2x50) MVA Grid Sub Station Giridih (JUSNL), 132/33 KV GSS at Jamua and 132/33 KV GSS at Saria.

On the upstream ,220/132/33 KV Grid Sub Station Giridih(JUSNL) is to be connected to under construction 220/132/33KV GSS Jasidih through 220 KV D/C Giridih-Jasidih transmission line and 220/132/33KV GSS Jasidih will be connected to existing 220/132 KV GSS at Dumka(Madanpur) through under construction 220KV D/C Dumka-Jasidih Transmission line. As an alternate source to 220/132/33KV GSS Jasidih, Jasidih will be connected to proposed 400/220KV GSS (TBCB mode) at Jasidih through 220 KV D/C transmission line.

The details of the present status of the above plan are as follows:

Sr. No.	Transmission Element	Present Status
1	220/132/33 KV Giridih GSS	Ready for commissioning.
2	220/132/33 KV Jasidih GSS	Work is in progress and expected to be completed by May 2019.
3	220 KV D/C Giridih- Jasidih Transmission line	Work awarded but progress is slow and delayed due to delay in forest clearance.
4	220 KV D/C Dumka(Madanpur)- Jasidih Transmission line	Work awarded but progress is slow and delayed due to delay in forest clearance.
5	400/220 KV GSS Jasidih along with associated transmission line.	Under TBCB. Bidding process is going on. It will take approx. 3 years for completion



Till completion of 400/220 KV GSS Jasidih alongwith associated line upto 220/132 KV GSS Jasidih (Which are under TBCB Scheme), the 220/132/33 KV GSS Giridih will remain on only one source i.e. 220/132KV GSS Dumka, which receives power through 220KV D/C Dumka – Maithon(PG) transmission line. The availability of power at Dumka will not be sufficient to meet the demand of Giridih, Jamua and Saria GSS in addition to Dumka region.

For early commissioning of 220/132/33 KV Grid Sub Station Giridih, JUSNL has explored one possibility and considered the same as the most suitable option of connectivity of Giridih GSS through LILO of 220 KV Giridih (DVC) – Koderma (DVC) Transmission Line at present (line diagram enclosed).

After completion of 220 KV D/C Giridih- Jasidih Transmission line and 220 KV D/C Dumka(Madanpur)- Jasidih Transmission line, this LILO will also act as an alternate source to 220/132/33 KV GSS Giridih.

Preliminary survey work for the above proposal has been carried out and the route length from existing tower No. KG-317 has been identified having length 19.30 Km with no involvement of forest and railway crossing.

After completion of this proposed LILO, Commissioning of newly constructed 220/132/33 KV (2x150+2x50) MVA Grid Substation Giridih (JUSNL) can be done. Further after completion of downstream network of Giridih GSS, power may be extended to 132/33KV GSS at Jamua and Saria of JUSNL and power crisis to Jamua, Tisri, Gawan ,Deori, Rajdhanwar, Birni, Sariya, Bagodar, Pirtand, Dumri and nearby villages will be resolved.

Concerned Utilities are DVC and JUSNL.

Agenda may be placed before OCC meeting of ERPC for recommendation to place the matter for discussion and decision.

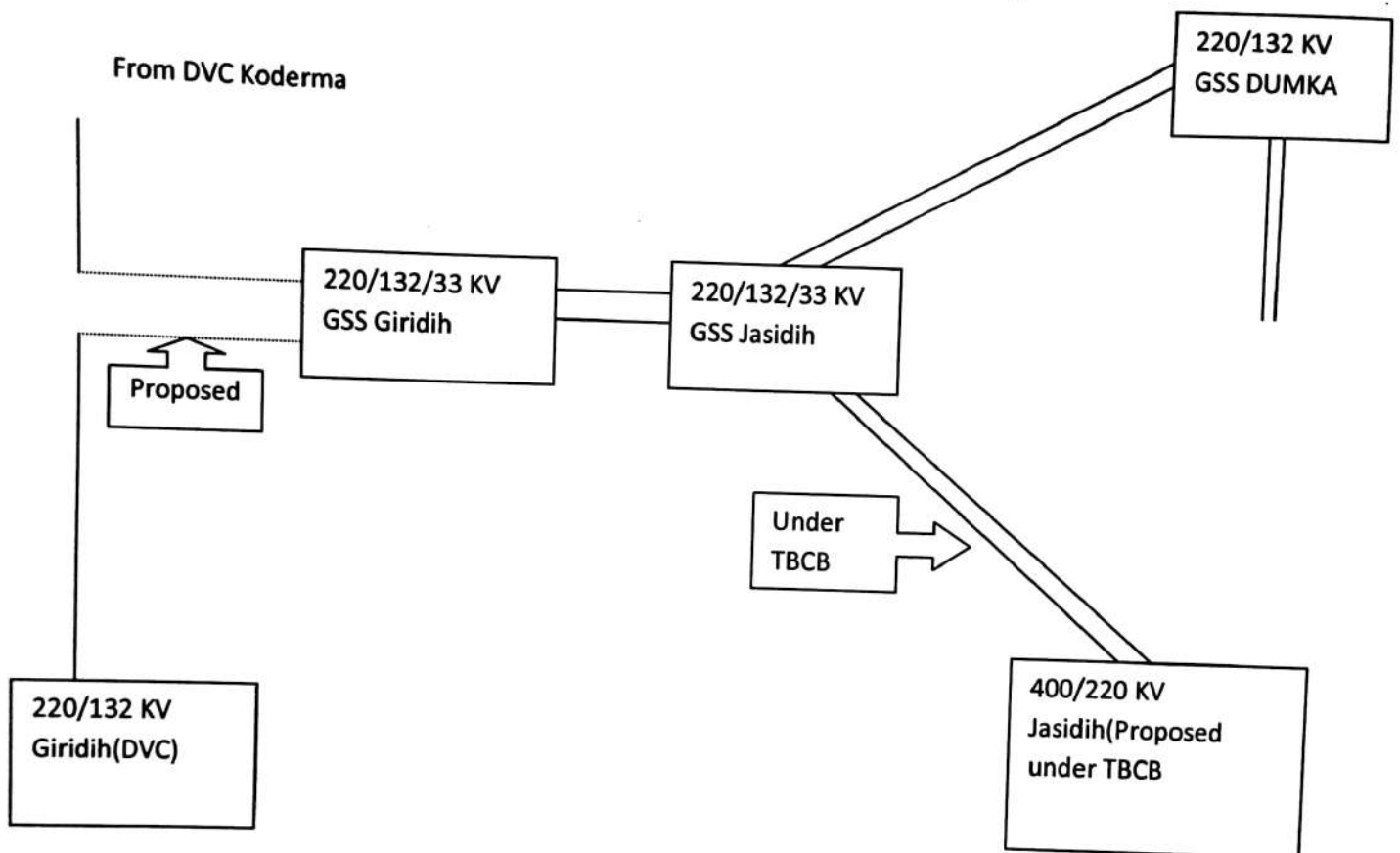
Encl. As above.

Yours faithfully

25/04/2017

General Manager, C&M (non W.B Project)

Proposed Connectivity of 220/132/33 KV GSS Giridih



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.

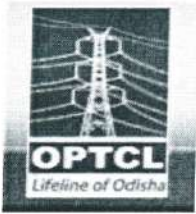
DVC once again requested to conduct a detailed study on utilization of 3rd 315 MVA, 400/220 kV ICT at Durgapur S/s considering the present and future network conditions.

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.



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OFFICE OF THE CHIEF LOAD DESPATCHER, SLDC

ODISHA POWER TRANSMISSION CORPORATION LIMITED

GRIDCO Colony, P.O.- Mancheswar Rly. Colony, Bhubaneswar-751017, FAX-0674- 2748509

CIN – U40102OR2004SGC007553

SGM(PS)-PL-419/2016/

1137⁽⁵⁾

Dtd...15/11/19

From

The Chief Load Despatcher,

SLDC, OPTCL Bhubaneswar-17

TO

THE MEMBER SECRETARY,

ERPC, Kolkata.

Ref.: - 1) This office letter No. SGM(PS)-PL-419/2016-1649 (5) dated 30/05/2018.

Sub: Regarding revision of weekly Deviation charge energy accounting of GRIDCO , due to erroneous less energy data reported at Bolangir PGCIL end SEM of 220kV Bolangir(PG)-Katapali line for the period from 04/05/2016 to 02/12/2018.

Sir,

With reference to the subject cited above, it was previously intimated to you that, the Bolangir PGCIL end SEM of 220kV Bolangir(PG)-Katapali(OPTCL) tie line was reported erroneous energy data as compared to Katapali(OPTCL) end SEM bearing SL.No. NP7561A from 04/05/2016 to 02/12/2018. Being a tie line, SEM at Bolangir(PG) is used for energy calculation at ERPC, Kolkata. There is a huge difference of energy data of both end meters and the net energy difference is calculated to be **97281.8 MWh** approximately during the period from 04/05/2016 to 02/12/2018. The net energy comparison sheet of both side of SEM data for all the above weeks and 15 minutes energy data of Katapali OPTCL end SEM for the above period are attached herewith for your ready reference.

Further, it has been observed that the ICTs SEM at Bolangir PGCIL end are considered for energy accounting at ERPC, Kolkata from 02/12/2018 onwards and the above energy data was rectified after engagement of the above ICTs SEM at Bolangir PGCIL.

It is therefore requested to resolve the above matter on next OCC meeting at ERPC, Kolkata.

Encl: As above

Yours faithfully

CHIEF LOAD DESPATCHER
SLDC, BHUBANESWAR

CC to :

- GM, ERLDC, Kolkata for information and necessary action.
- Director (Commercial), GRIDCO, Bhubaneswar
- Chief General Manager (PP), GRIDCO, Bhubaneswar
- Chief General Manager (O&M), OPTCL, Bhubaneswar

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



DGPC/O&MD/23/2019/ 451

April 22, 2019

Executive Director (Marketing)
Power Trading Corporation of India Limited
2nd Floor, NBCC Tower
15 Bhikaji Cama Place
New Delhi – 110 066

Kind Attn: Mr. Harish Saran

Subject: Shutdown of 132kV Motanga Substation for construction of additional 132kV Bus

Dear Sir,

Bhutan Power Corporation (BPC) vide their letter No. 85/TD/BPC/2019/Vol-1/78 dated March 26, 2019 has written to DGPC regarding shutdown of 132kV Motanga Substation for about 2 months to construct an additional 132kV Bus for providing power to upcoming industries in the area. The shutdown is required immediately to enable BPC to extend the supply to industries. At present there are only two 132kV feeders emanating from Motanga Substation i.e. 132kV Motanga – Rangia Feeder and 132kV Feeder to supply power to SD Silicon Factory in Samdrup Jongkhar (eastern Bhutan)

This is to inform that during the shutdown of 132kV Motanga Substation, the eastern grid will be disconnected from Rangia and Kurichhu Hydropower Plant (KHP) power can be evacuated via 132kV Gelephu - Salakati feeder only. However, when there is any fault in any of the link between 132kV Nangkhon SS to Jigmeling section, the whole eastern region will be under blackout and would cause generation loss since KHP power cannot be evacuated.

Therefore considering the system reliability and huge generation losses, the following is proposed as temporary measures:

1. Connect both Silicon Factory as well as Rangia line from the ERS tower so that reliability of the eastern grid is not affected.
2. Since energy meter already exists at Deothang end for 132kV Deothang-Motanga line and also at Silicon Factory end, the energy exported to Rangia to be derived as:

$$\text{Energy exported to Rangia (E}_R\text{)} = \text{Energy recorded at Deothang end} - \text{Energy consumed by Silicon Factory}$$

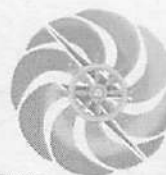
3. The relay settings at Rangia and Deothang needs to be changed accordingly.

The above arrangement will not only solve the reliability issue but also provide an alternative route for KHP power evacuation in the event of any trippings. The total line length between Deothang to Motanga is 10.5KM only, hence the line losses may be considered low and negligible during the temporary phase when the export energy to Rangia is calculated as above. We also wish to inform you that at Deothang end for 132kV Deothang-Motanga Line, main and check energy meters already

OPERATION & MAINTENANCE DEPARTMENT
DRUK GREEN POWER CORPORATION LIMITED

CORPORATE OFFICE: Post Box 1351, Thimphu, Kingdom of Bhutan. Tel # +975-2-336410/337110/337537.

Web: www.drukgreen.bt



འབྲུག་རྒྱུ་ཤུལ་འབྲུག་ཁྲོམ་ལམ་འཛིན་ཚད།

DrukGreen

exists. However at the Silicon Factory end there is only one main energy meter and hence a check energy meter needs to be installed.

In consideration of above, we would like to request PTC to kindly accept the power evacuation to Rangia and energy accounting methodology as proposed above as temporary measure during the shutdown period of 132kV Motanga Substation. Upon confirmation of above, the exact date of shutdown will be intimated for joint recording of final readings from the energy meters as well as revision of relay settings at both ends before charging the line.

Thanking you,

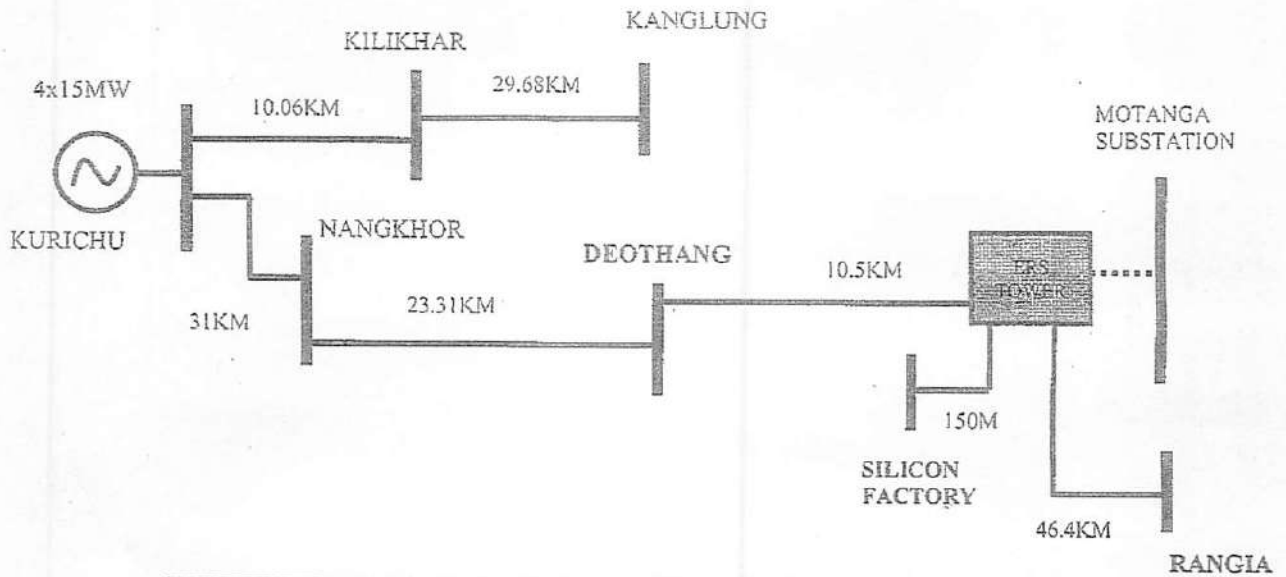
Yours faithfully,

Munna Prasad
Head, PMD
O&M Department

Copy to:

1. Superintending Engineer, KHP, Gyelpoizing.
2. General Manager, Transmission Department, BPC, Thimphu for kind information.

Connection Diagram of Rangia and Silicon Factory through ERS Tower



Energy Exported to be calculated as
 $E_{RANGIA} = E_{DEOTHANG} - E_{SILICON FACTORY}$

Lines loss of Deothang – Motanga Line recorded for past one year:

Sl. No.	Month	Line Losses (%)
1	January, 2018	0.31
2	February, 2018	-0.01
3	March, 2018	0.02
4	April, 2018	0.08
5	May, 2018	0.22
6	June, 2018	0.33
7	July, 2018	0.45
8	August, 2018	0.44
9	September, 2018	0.44
10	October, 2018	0.26
11	November, 2018	0.11
12	December, 2018	-0.05

fe

Annexure-D.1

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

SL.NO	PARTICULARS	PEAK DEMAND MW	ENERGY MU
1	BIHAR		
i)	NET MAX DEMAND	5100	2880
ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	332	138
	- Central Sector	3944	2276
iii)	SURPLUS(+)/DEFICIT(-)	-824	-466
2	JHARKHAND		
i)	NET MAX DEMAND	1340	820
ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	415	163
	- Central Sector	904	509
iii)	SURPLUS(+)/DEFICIT(-)	-21	-149
3	DVC		
i)	NET MAX DEMAND (OWN)	2960	1915
ii)	NET POWER AVAILABILITY- Own Source	5207	2806
	- Central Sector	230	286
	Long term Bi-lateral (Export)	1731	1246
iii)	SURPLUS(+)/DEFICIT(-)	746	-69
4	ODISHA		
i)	NET MAX DEMAND	4500	2905
ii)	NET POWER AVAILABILITY- Own Source	3589	1521
	- Central Sector	1247	768
iii)	SURPLUS(+)/DEFICIT(-)	336	-616
5	WEST BENGAL		
5.1	WBSEDCL		
i)	NET MAX DEMAND (OWN)	6710	3837
ii)	CESC's DRAWAL	84	60
iii)	TOTAL WBSEDCL's DEMAND	6794	3897
iv)	NET POWER AVAILABILITY- Own Source	4333	2007
	- Import from DPL	160	0
	- Central Sector	2408	1445
v)	SURPLUS(+)/DEFICIT(-)	107	-445
vi)	EXPORT (TO B'DESH & SIKKIM)	-103	-584
5.2	DPL		
i)	NET MAX DEMAND	305	210
ii)	NET POWER AVAILABILITY	465	222
iii)	SURPLUS(+)/DEFICIT(-)	160	12
5.3	CESC		
i)	NET MAX DEMAND	2260	1105
ii)	NET POWER AVAILABILITY - OWN SOURCE	750	525
	FROM HEL	540	383
	Import Requirement	970	197
iii)	TOTAL AVAILABILITY	2260	1105
iv)	SURPLUS(+)/DEFICIT(-)	0	0
6	WEST BENGAL (WBSEDCL+DPL+CESC) (excluding DVC's supply to WBSEDCL's command area)		
i)	NET MAX DEMAND	9275	5152
ii)	NET POWER AVAILABILITY- Own Source	5548	2754
	- Central Sector+Others	3918	1828
iii)	SURPLUS(+)/DEFICIT(-)	191	-570
7	SIKKIM		
i)	NET MAX DEMAND	95	45
ii)	NET POWER AVAILABILITY- Own Source	8	3
	- Central Sector+Others	158	99
iii)	SURPLUS(+)/DEFICIT(-)	71	57
8	EASTERN REGION At 1.03 AS DIVERSITY FACTOR		
i)	NET MAX DEMAND	22592	13717
	Long term Bi-lateral by DVC	1731	1246
	EXPORT BY WBSEDCL	-103	-584
ii)	NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)	25501	13151
iii)	PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)	1280	-1229

ERLDC, KOLKATA										
TRANSMISSION ELEMENTS OUTAGE APPROVED IN 157th OCC MEETING OF ERPC										
SL. No	NAME OF THE ELEMENTS	FROM		TO		REMARKS	S.D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY	COMMENTS
		DATE	TIME	DATE	TIME					
1	400KV MAIN BAY OF 400/220 KV 315MVA ICT-2 AT RANCHI	01-06-2019	09:30	01-06-2019	17:00	ODB	POWERGRID ER-I	AMP		
2	400KV Barh- Motihari CKT-1	01-06-2019	08:00	25-06-2019	18:00	OCB	POWERGRID ER-I	Realignmnet works of 400KV Barh- Motihari Line due to Construction of Barh Bypass by NHAI	NLDC	After completion of 400KV Gaya-Maithon-DC and 400KV Gaya-Koderma-DC
3	400KV Barh- Motihari CKT-II	01-06-2019	08:00	25-06-2019	18:00	OCB	POWERGRID ER-I	Realignmnet works of 400KV Barh- Motihari Line due to Construction of Barh Bypass by NHAI	NLDC	After completion of 400KV Gaya-Maithon-DC and 400KV Gaya-Koderma-DC
4	400kv BUS-4 AT BIHARSHARIFF	01-06-2019	09:30	01-06-2019	17:30	ODB	POWERGRID ER-I	AMP & jumper opening of isolator of future bay no.-425 for ICT-4 & its main bay commissioning		
5	400KV TIE BAY OF KODERMA-II AND FUTURE AT BIHARSHARIFF	01-06-2019	09:30	30-06-2019	17:30	OCB	POWERGRID ER-I	ICT-4 & its main bay no.-425 equipment erection & commissioning		
6	400KV MAIN BAY OF 400/220KV 500MVA ICT-1 AT KISHANGANJ	01-06-2019	09:00	01-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
7	765 KV SASARAM - FATEHPUR	01-06-2019	07:00	20-06-2019	19:00	ODB	POWERGRID ER-I	FOR TOWER STRENGTHENING WORK.	NLDC	Deferred in NRPC OCC forum. Details of work carried out till date & Balance work schedule may be furnished.
8	400 KV NABINAGAR-SASARAM-D/C	01-06-2019	07:00	20-06-2019	19:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF TOWER NO 170, CRITICALLY LEG BENT.		
9	400KV Bus -I. at Patna	01-06-2019	09:30	03-06-2019	17:30	ODB	POWERGRID ER-I	CB and sky bus connection under SS03 package of Patna Nabinagar Ckt 1	BSEB	
10	400/220kv 500MVA ICT 1 at Patna	01-06-2019	09:30	20-06-2019	17:30	OCB	POWERGRID ER-I	Construction of Firewall of ICT 2 and equipment uprating & jumper connection	BSEB	May avail on a hloiday at early morning
11	400 KV Patna Barh line 1	01-06-2019	09:30	15-06-2019	17:30	OCB	POWERGRID ER-I	Under Nabinagar - II package for commissioning of 80 MVAR Bus reactor as switchable line reactor		
12	40kkV D/C Binaguri - Bongaigaon (Twin) Line (POWERGRID)	01-06-2019	06:00	04-06-2019	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteeen loc no 273-274) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	NLDC	Work schedule may be requested from utility. Why 4 days SD required.
13	220 KV Bus #1 with Binaguri-Siliguri #1, Binaguri ICT#1 & 220KV Binaguri-Birpara#1	01-06-2019	09:00	01-06-2019	17:00	ODB	POWERGRID,ER-II	Commissioning of Bus #1 Bus bar protection for ICT#3 ERSS-XVII		May be taken on early morning on weekends considering real time TLDP generation
14	400KV BINAGURI-RANGPO-1 main bay 410 at Binaguri end	01-06-2019	10:00	20-06-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX	Propose after High hydro season	
15	400KV BINAGURI-RANGPO-2 main bay 413 at Binaguri end	01-06-2019	10:00	20-06-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX	Propose after High hydro season	
16	400KV BINAGURI-RANGPO-1 line	01-06-2019	10:00	01-06-2019	13:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX	Propose after High hydro season	
17	400KV BINAGURI-RANGPO-2 line	01-06-2019	14:00	01-06-2019	18:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX	Propose after High hydro season	
18	220 KV TBC at Malda	01-06-2019	08:00	06-06-2019	17:00	OCB	POWERGRID,ER-II	ERSS-XVII-B Constructional work	WB	May be availed after 15th june provided sufficient generation of hydro & load reduction of Malda

19	400KV TBC at Malda	01-06-2019	08:00	30-06-2019	17:00	OCB	POWERGRID,ER-II	ERSS-XVII-B Constructional work	WB	May be availed after 15th june provided sufficient generation of hydro & load reduction of Malda
20	400 KV Maithon-Mejia #3 line	01-06-2019	11:00	01-06-2019	13:00	ODB	POWERGRID,ER-II	Collection of first oil sample of line Bay CT (make: CGL) as per norms.	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
21	400KV Maithon-JSR line	01-06-2019	14:00	01-06-2019	15:00	ODB	POWERGRID,ER-II	Collection of first oil sample of line Bay CT (make: CGL) as per norms.	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
22	403 ICT#1 Main Bay at Subhasgram SS	01-06-2019	09:00	01-06-2019	17:00	ODB	POWERGRID,ER-II	AMP work		
23	50MVAR CHAIBASA#1 LINE REACTOR BAY (BAY NO.- 416R)	01-06-2019	09:00	10-06-2019	18:00	OCB	ER-II/ODISHA/ROURKELA	RETROFITTING OF OLD HYDRAULIC OPERATED BHEL MAKE CB BY NEW SPRING-SPRING OPERATED CGPISL MAKE CB		
24	400KV ROURKELA-CHAIBASA#1	01-06-2019	09:00	01-06-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR DISMANTLING OF INTERRUPTER & POLE COLUMN OF OLD BHEL MAKE CB OF 41652R.		
25	41252-main Bay of TISCO line	01-06-2019	09:00	01-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP Works		
26	220 KV ICT # 1 Main Bay (Bay No-201)	01-06-2019	09:00	01-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
27	400 KV Rourkela-Talcher Line # 1 in Non-Auto Mode	01-06-2019	08:00	15-06-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
28	400kV Sundargarh-Raigarh Ckt#1	01-06-2019	07:00	01-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose relay will be off. Line will be in service	NLDC	May be approved.
29	Retrofitting of BHEL make Sectionalizer Breaker (10C04-Q02) pertaining to 400kV Bus-2 & Bus-4 with GE make Breaker.	01-06-2019	06:00	10-06-2019	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of Sectionalizer Breaker (10C04-Q02) pertaining to 400kV Bus-2 & Bus-4 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		
30	400 KV ARAMBAG-KTTP line on TBC Bay.s/d of Main Bus 2 & Bus coupler	01-06-2019	06:00	01-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
31	220 main bay of sipara 1 at Patna	02-06-2019	09:30	04-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
32	220 KV Bus #2 with Binaguri-Siliguri #2, Binaguri ICT#2 & 220KV Binaguri-Birpara#2	02-06-2019	09:00	02-06-2019	17:00	ODB	POWERGRID,ER-II	Commissioning of Bus #2 Bus bar protection for ICT#3 ERSS-XVII		May be taken on early morning on weekends considering real time TLDP generation
33	132kV BUS-1 at Rangpo	02-06-2019	09:00	12-06-2019	17:00	OCB	POWERGRID,ER-II	For Bus extension to new Chuzachen bays (Construction works)	Sikkim	
34	220KV New Purnea Purnea -I	03-06-2019	09:30	13-06-2019	18:00	OCB	POWERGRID ER-I	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).		
35	Main Bay of 400 kV LKR-KHG Line -1 AT LAKHISARAI	03-06-2019	10:00	03-06-2019	17:30	ODB	POWERGRID ER-I	AMP of Main Bay of 400 kV LKR-KHG Line -1		
36	400 KV MAIN BUS-1 AT RANCHI	03-06-2019	09:30	04-06-2019	17:00	OCB	POWERGRID ER-I	Errction & Commissioning of Jack bus for Tie Bay of Ranchi-New Ranchi-I & II	JSEB	
37	765 KV GAYA BALIA-S/C	03-06-2019	08:00	18-06-2019	18:00	ODB	POWERGRID ER-I	FOR TOWER STRENGTHENING WORK.	NLDC	Deferred in NRPC OCC forum. Details of work carried out till date & Balance work schedule may be furnished.
38	400 KV 125 MVAR BR-I at Gaya ss	03-06-2019	09:00	05-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
39	400 KV BUS-I at Gaya S/S	03-06-2019	09:00	08-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BSEB	
40	400KV MAIN BAY OF 400/220KV 500MVA ICT-2 AT KISHANGANJ	03-06-2019	09:00	03-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		

41	400kV JSR - Maithon-s/c	03-06-2019	09:30	03-06-2019	17:30	ODB	POWERGRID ER-I	Static Auto reclose relay to be replaced with numerical relay at Jamshedpur		
42	400KV BIHARSHARIFF-BALIA-I	03-06-2019	08:00	04-06-2019	18:00	ODB	POWERGRID ER-I	Replacement of porcelain Insulator by polymer	NLDC	
43	220KV Siliguri Kishanganj Ckt-1	03-06-2019	09:00	05-06-2019	17:00	ODB	POWERGRID,ER-II	For retrofitting of Numerical Distance(M-I) relay, refurbishment of A/R relay, Bay AMP work and replacement of CVT JB/MB(Regional SIR point) & BPI (CC SIR point)		
44	400kV Maithon-Durgapur CKT-I	03-06-2019	09:00	04-06-2019	17:00	ODB	POWERGRID,ER-II	Fixing of Pilot String	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
45	400 KV BUS-III at Durgapur	03-06-2019	09:00	03-06-2019	17:00	ODB	POWERGRID,ER-II	ICT-III 400 KV Jumper connection	DVC	
46	208 Bay (220 KV Side of 315 MVA ICT#1) at Subhasgram SS	03-06-2019	09:00	03-06-2019	17:00	ODB	POWERGRID,ER-II	AMP Work		
47	400 KV 406 Main Bay of 315 MVA ICT-II	03-06-2019	09:00	03-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
48	220 KV Transfer Bus Coupler Bay (Bay No-203)	03-06-2019	09:00	03-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
49	400KV, 125MVAR Bus Reactor-2	03-06-2019	09:00	03-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	Re-calibration of WTI and Charging of Airc-Cell		
50	400KV Sundargarh-Rourkela Ckt #1	03-06-2019	07:00	03-06-2019	17:00	ODB	ER-II /ODISHA/SUNDERGARH	TL Maintenance works		
51	765KV 240 MVAR Bus Reactor-1 at Sundergarh	03-06-2019	10:00	03-06-2019	12:00	ODB	ER-II/Odisha/Sundergarh	Taking R-Ph Reactor in to service in place of Spare Reactor after attending oil leakage of R-Ph reactor	NLDC	May be approved.
52	500 MVA ICT-1 at Pandiabili	03-06-2019	09:00	03-06-2019	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Retrofitting of Back up impedance relays	GRIDCO	
53	400 KV Talcher-Meramundali	03-06-2019	10:00	03-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	
54	Barh Kahalgaon LINE # 1	03-06-2019	09:30	03-06-2019	18:00	ODB	BARH	For Up gradation & testing of SCADA		
55	400 kv Arambag-Durgapur line on TBC Bay s/d of 400KV Main Bus 1 & Bus coupler	03-06-2019	06:00	04-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
56	400kv KHARAGPUR-BARIPADA	03-06-2019	06:00	04-06-2019	10:00	ODB	WB	Tree Trimming		
57	400KV MAIN BAY OF PATNA-2 AT KISHANGANJ	04-06-2019	09:00	04-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
58	220 kv Ara -Khagaul -1	04-06-2019	10:00	04-06-2019	17:00	ODB	POWERGRID ER-I	Main 1 Distance Relay replacement work	BSEB	
59	400KV Bus 2 at Patna	04-06-2019	09:30	06-06-2019	17:30	ODB	POWERGRID ER-I	Stringing of Sky bus under SS03 package of Patna Nabinagar Ckt 1	BSEB	
60	400KV Bus#1 at Binaguri	04-06-2019	09:00	05-06-2019	17:00	ODB	POWERGRID,ER-II	400KV Bus#1 connection and bus stability ERSS-XVII	Propose after High hydro season	
61	220KV BUS-I at Malda	04-06-2019	08:00	06-05-2019	16:00	ODB	POWERGRID,ER-II	To conect isolator jumper(ERSS-XVII-B Constructional work)	WB	
62	Maithon-Mejia #1 Line	04-06-2019	10:00	05-06-2019	17:00	ODB	POWERGRID,ER-II	1. Rectification of defects in MTN Mejia-1 line as per CC observation. 2. Collection of first oil sample of line Bay CT (make: CGL) as per norms.	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
63	400 KV D/C Durgapur - Jamshedpur/ (Reconfigured as 400 KV D/C Andal(DVC)- JAMSHEDPUR LINE (TL-286-287)	04-06-2019	06:00	05-06-2019	17:00	ODB	POWERGRID,ER-II	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	
64	400 KV BUS-I of NTPC Farakka	04-06-2019	09:00	04-06-2019	18:00	ODB	POWERGRID,ER-II	For disconnecting BUS Isolator of bay no-22 from BUS-I (For augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	What other element will be out?	
65	315 MVA ICT#1 at Subhasgram S/s	04-06-2019	09:00	04-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of Numerical REF Relay and AMP of 315 MVA ICT#1.	WB	
66	400KV ROURKELA-CHAIBASA#1	04-06-2019	09:00	04-06-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FOR CRANE MOVEMENT FOR ERECTION OF INTERRUPTER & POLE COLUMN OF NEW CGPISL MAKE CB OF 41652R.		
67	400 kV Jeypore-Indravati S/C Line	04-06-2019	08:00	04-06-2019	18:00	ODB	ER-II/Odisha /Jeypore	For PID defect insulator replacement work and for attending S/D nature defects	Reason for availing SD may be elaborated.	
68	400kV Angul-Bolangir Line	04-06-2019	09:00	04-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	NLDC	Reason for availing SD may be elaborated.
69	400kV Angul-Meramunduli-1 Line	04-06-2019	09:00	04-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	GRIDCO	
70	400KV Sundargarh-Rourkela Ckt #2	04-06-2019	07:00	04-06-2019	17:00	ODB	ER-II /ODISHA/SUNDERGARH	TL Maintenance works		

71	765KV Sundargarh-Angul Ckt #4 with LR at Sundergarh	04-06-2019	10:00	04-06-2019	12:00	ODB	ER-II/Odisha/Sundergarh	To take spare Reactor in to service in place of B-Ph Reactor for attending oil leakage in B-Ph reactor	CKT-1,2,3 shall be in service.	
72	500 MVA ICT-2 at Pandiabili	04-06-2019	09:00	04-06-2019	17:00			Retrofitting of Back up impedance relays	GRIDCO	
73	Barh Kahalgaon LINE # 2	04-06-2019	09:30	04-06-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	For Up gradation & testing of SCADA		
74	220KV BUS-I AT NEW PURNEA	05-06-2019	09:30	05-06-2019	18:00	ODB	BARH	220KV BUS-I, AMP & BUS ISOLATOR WORK OF PRN CKT-I.	BSEB	
75	400 KV MAIN BUS-2 AT RANCHI	05-06-2019	09:30	06-06-2019	17:00	OCB	POWERGRID ER-I	Errction & Commissioning of Jack bus for Tie Bay of Ranchi-New Ranchi-I & II RNC-NRNC-I & CKT-II WILL BE OUT OF SERVICE DUE TO NON AVAILABILITY OF TIE BAY	JSEB	
76	400KV BARH- PATNA CKT - 3 & 4	05-06-2019	08:00	07-06-2019	18:00	ODB	POWERGRID ER-I	Realignmet works of 400KV Barh- Motihari Line due to Construction of Barh Bypass by NHAI	NLDC	Diversion sketch may be furnished.
77	400kv JSR - Chaibasa-II	05-06-2019	09:30	05-06-2019	17:30	ODB	POWERGRID ER-I	Static Auto reclose relay to be replaced with numerical relay at Jamshedpur		
78	220 kV Ara -Khagaul -1	05-06-2019	10:00	05-06-2019	17:00	ODB	POWERGRID ER-I	Main 1 Distance Relay replacement work	BSEB	
79	400KV BIHARSHARIFF-BALIA-II	05-06-2019	08:00	06-06-2019	18:00	ODB	POWERGRID ER-I	Replacement of porcelain Insulator by polymer	NLDC	Deferred in NRPC OCC forum. Details of work carried out till date & Balance work schedule may be furnished.
80	400/220kv 500MVA ICT-I at Sasaram	05-06-2019	09:00	08-06-2019	18:00	OCB	POWERGRID ER-I	Shifting of transformer for Transformer Retrofitting Work	BSEB	Sahupuri load may be shifted to sahupuri with consent of UP sldc
81	220KV SASARAM-SAHUPURI-S/C	05-06-2019	09:00	08-06-2019	18:00	OCB	POWERGRID ER-I	TO FACILITATE THE S/D OF 500MVA ICT-I AT SASARAM FOR REPLACEMENT OF ICT-II.	NLDC	Will be facilitated subject to UP consent.
82	125MVAR BR- I at Alipurduar	05-06-2019	07:00	07-06-2019	18:00	OCB	POWERGRID,ER-II	Oil leakage (from PRD & Main tank joint) and Air Cell rectification		
83	220KV SLG-DLK # I & II	05-06-2019	08:00	06-06-2019	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.		
84	220KV BUS-II at Malda	05-06-2019	08:00	07-05-2019	17:00	ODB	POWERGRID,ER-II	To conect isolator jumper(ERSS-XVII-B Constructional work)	WB	
85	400 kV 407 main Bay of Baripada-Duburi line	05-06-2019	09:00	06-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
86	220 KV Bus Coupler Bay (Bay No-204)	05-06-2019	09:00	05-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
87	400kv Sundargarh-Rourkela Ckt #3 & 4	05-06-2019	07:00	05-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works (Shut down of Sundargarh -Rourkela Ckt-III & IV is required together for maint. of Multi circuit/ LILO portion)		
88	Barh Patna LINE # 1	05-06-2019	09:30	05-06-2019	18:00	ODB	BARH	For Up gradation & testing of SCADA		
89	132 kV LAKHISARAI - LAKHISARAI-1	06-06-2019	10:00	06-06-2019	14:00	ODB	POWERGRID ER-I	AMP works of Bay Equipments.	BSEB	
90	400KV MAIN BAY OF BALIA-II AT BIHARSHARIFF	06-06-2019	09:30	06-06-2019	17:30	ODB	POWERGRID ER-I	AMP work		
91	400 KV 125 MVAR BR-II at Gaya ss	06-06-2019	09:00	08-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
92	400KV MAIN BAY OF NEW PURNEA-2 AT KISHANGANJ	06-06-2019	09:00	06-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
93	400KV Tie bay of 400KV New Psp-1 and Patratu-1 AT NEW RANCHI	06-06-2019	09:00	06-06-2019	17:00	ODB	POWERGRID ER-I	AMP WORK		
94	400KV MAIN BAY OF 400/220KV 315MVA ICT-II AT DALTANGANJ	06-06-2019	09:30	06-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
95	220 kV Ara- Sasaram	06-06-2019	10:00	06-06-2019	17:00	ODB	POWERGRID ER-I	Main 1 Distance Relay replacement work	BSEB	
96	220kv Bus Coupler Bay at Sasaram	06-06-2019	09:00	06-06-2019	18:00	ODB	POWERGRID ER-I	AMP work	BSEB	
97	220 main bay of sipara 2 at Patna	06-06-2019	09:30	08-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		

98	220KV Siliguri Kishanganj Ckt-2	06-06-2019	09:00	08-06-2019	17:00	ODB	POWERGRID,ER-II	For retrofitting of Numerical Distance(M-I) relay, refurbishment of A/R relay, Bay AMP work and replacement of CVT JB/MB(Regional SIR point) & BPI (CC SIR point)		
99	400KV Bus#2 at Binaguri	06-06-2019	09:00	07-06-2019	17:00	ODB	POWERGRID,ER-II	400KV Bus#2 connection and bus stability ERSS-XVII		
100	220KV BUS-1 at Rangpo	06-06-2019	08:00	08-06-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates)		
101	220KV Rangpo New Melli line	06-06-2019	08:00	12-06-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates)		
102	Maithon-Mejia #2 Line	06-06-2019	10:00	07-06-2019	17:00	ODB	POWERGRID,ER-II	1. Rectification of defects in MTN Mejia-2 line as per CC observation. 2. Collection of first oil sample of line Bay CT (make: CGL) as per norms.	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
103	400kV Maithon-Durgapur CKT-II	06-06-2019	09:00	07-06-2019	17:00	ODB	POWERGRID,ER-II	Fixing of Pilot String	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-	
104	400 KV BUS-I at Durgapur	06-06-2019	09:00	06-06-2019	17:00	ODB	POWERGRID,ER-II	Bus Bar relay checking & AMP	DVC	
105	315 MVA ICT#2 at Subhasgram S/s	06-06-2019	09:00	06-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of Numerical REF Relay	WB	
106	ICT-I (3x 105 MVA) at Jeypore	06-06-2019	08:00	06-06-2019	20:00	ODB	ER-II/Odisha /Jeypore	For changing ICT-I combination form Unit-I,III, IV to Unit-I, II & IV for charging Unit-II & For Isolator Retrofitting works (220KV ICT I	GRIDCO	
107	400 KV Balangir-Jeypore Line Main Bay(403 Bay)	06-06-2019	09:00	08-06-2019	18:00	ODB	ER-II/Odisha/Balangir	For arresting SF6 Gas leakage in R-Ph CB of 403 Bay CB.		
108	400kV Angul-Talcher Line	06-06-2019	09:00	06-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work		
109	400kV Angul-Meramunduli-2 Line	06-06-2019	09:00	06-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator & Line maintenance work	GRIDCO	
110	400kV Sundargarh-Raigarh Ckt #1	06-06-2019	07:00	06-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	May be approved.	May be approved.
111	765/400KV 1500MVA ICT-2 at Sundergarh	06-06-2019	09:00	06-06-2019	12:00	ODB	ER-II/Odisha/Sundergarh	Taking spare ICT in service in place of B-Ph ICT for attending oil leakage of B-Ph ICT	May be approved.	May be approved.
112	205 ICT-II Bay	06-06-2019	09:00	06-06-2019	18:00	ODB	ER-II/Odisha/Keonjhar	For CB timing & DCRM rectification job		
113	400 kv Future ICT main and Tie bay of Mendhasal ckt-1 and future ICT (410 & 411 bay)	06-06-2019	10:00	06-06-2019	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker		
114	220 KV TTPS-Joda Ckt 1	06-06-2019	10:00	06-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	
115	220 KV TTPS-Joda Ckt 2	06-06-2019	13:00	06-06-2019	15:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	May be taken only after return of ckt-i which is under long outage
116	Barh Patna LINE # 2	06-06-2019	09:30	06-06-2019	18:00	ODB	BARH	For Up gradation & testing of SCADA		
117	400KV Kh-LKR #1	06-06-2019	08:00	06-06-2019	18:30	ODB	KAHALGAON	PM works and Relay Testing		
118	400KV FKK-Sagardighi Line-1	06-06-2019	09:00	07-06-2019	17:00	ODB	FARAKKA	CB,CT and Relay test	WB	May be taken on weekendsat early hours 07-16
119	At Arambag:315 MVA ICT 3 in TBC bay,s/d of 400KV Main bus-1, Bus coupler	06-06-2019	06:00	06-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
120	400 kv Bakreswar- Jeerat	06-06-2019	06:00	06-06-2019	08:00	ODB	WB	RTU replacement		
121	400 kv Bakreswar-Arambag #2	06-06-2019	09:30	06-06-2019	11:30	ODB	WB	RTU replacement		
122	132 kv LAKHISARAI - LAKHISARAI-2	07-06-2019	10:00	07-06-2019	14:00	ODB	POWERGRID ER-I	AMP works of Bay Equipments.	BSEB	
123	220 KV MAIN BUS-1 AT RANCHI	07-06-2019	09:30	07-06-2019	17:00	ODB	POWERGRID ER-I	AMP	JSEB	
124	400KV TIE BAY OF NEW PURNEA-I & II AT KISHANGANJ	07-06-2019	09:00	07-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
125	400KV Main bay of Patratu-1 AT NEW RANCHI	07-06-2019	09:00	07-06-2019	17:00	ODB	POWERGRID ER-I	AMP WORK		
126	400/220kv 315 MVA ICT 2 at Jamshedpur S/s	07-06-2019	09:30	07-06-2019	17:30	ODB	POWERGRID ER-I	DCRM of OLTC to be carried out as per guide line of RHQ, AM department.	JSEB	
127	400KV TIE BAY OF ICT-2 AND FUTURE AT DALTANGANJ	07-06-2019	09:30	07-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
128	220 kv Ara- Nadokhar	07-06-2019	10:00	07-06-2019	17:00	ODB	POWERGRID ER-I	Main 1 Distance Relay replacement work	BSEB	
129	400KV North Bus-2 at Sasaram	07-06-2019	09:00	07-06-2019	18:00	ODB	POWERGRID ER-I	AMP work	NLDC	May be approved.

130	400 kV Patna-Ballia CKT 1	07-06-2019	09:00	07-06-2019	18:00	ODB	POWERGRID ER-I	Porcelain Insulator replacement by polymer	Deferred in NRPC OCC forum. Details of work carried out till date & Balance work schedule may be furnished.	Deferred in NRPC OCC forum. Details of work carried out till date & Balance work schedule may be furnished.
131	220 KV Ara khagaul line 1	07-06-2019	09:30	07-06-2019	17:30	ODB	POWERGRID ER-I	AMP	BSEB	
132	400kv Main bay of Ballia -IV at Patna	07-06-2019	09:30	09-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
133	220 KV MUZAFFARPUR-DHALKEBAR (NEPAL)-1	07-06-2019	09:30	07-06-2019	17:30	ODB	POWERGRID ER-I	INTEGRATION WORK OF SIGNAL WITH NTAMC/RTAMC	NLDC	May be approved.
134	400kV D/C Alipurduar - Binaguri (QUAD) Line (STERLITE)	07-06-2019	06:00	10-06-2019	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 .	NLDC	Work schedule may be requested from utility. Why 4 days SD required.
135	400KV BINAGURI-Kishanganj#2	07-06-2019	10:00	07-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay	Propose after High hydro season	
136	132kv Rangit-Kurseong Ckt	07-06-2019	09:00	07-06-2019	15:00	ODB	POWERGRID,ER-II	Damaged Cuductor Rectification Work at Loc 39-40	WB	
137	400KV BUS-II at Malda	07-06-2019	08:00	08-06-2019	17:00	OCB	POWERGRID,ER-II	Isolator opening(ERSS-XVII-B Constructional work)	WB	
138	400/220 KV ICT-5 at Malda	07-06-2019	08:00	07-06-2019	17:00	ODB	POWERGRID,ER-II	Recttification of 89M2 isolator.	WB	
139	132 KV D/C CK Road - Medinipur TL(TL- 180-181)	07-06-2019	06:00	08-06-2019	17:00	ODB	POWERGRID,ER-II	For Powerline crossing of 765 KV RMTL-AP 162/0 (DD+9)-163/0(DD+9). Span Length-265 mtr	WB	
140	400 KV BUS-II at Durgapur	07-06-2019	09:00	07-06-2019	17:00	ODB	POWERGRID,ER-II	Bus Bar relay checking & AMP	DVC	
141	400 KV Main Bus -I at Subhasgram SS	07-06-2019	09:00	07-06-2019	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -I at Subhasgram SS	WB	
142	ICT-II at Indravati	07-06-2019	08:00	07-06-2019	17:00	ODB	ER-II/Odisha /Indravati	For retrofitting of Backup Impedance relay in ICT-II at OHPC S/Y.	GRIDCO	
143	400 kV 411 Tie Bay of Baripada-Pandiabili & Baripada-TISCO I	07-06-2019	09:00	08-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP & Gasket replacement		
144	220 KV OPTCL # 2 Main Bay (Bay No-207)	07-06-2019	09:00	07-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
145	400kV Jeypore-Gazuwaka-I Line	07-06-2019	08:00	08-06-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	May be approved.
146	400kV Sundargarh-Raigarh Ckt #2	07-06-2019	07:00	07-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	May be approved.
147	765KV Bus-I at Sundargarh at Sundergarh	07-06-2019	09:00	16-06-2019	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	May be approved.
148	207 bus coupler	07-06-2019	09:00	07-06-2019	18:00	ODB	ER-II/Odisha/Keonjhar	For CB timing & DCRM rectification job		
149	220 KVBus Coupler (206) bay along with 200 kv bus-2	07-06-2019	10:00	07-06-2019	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker		
150	220 KV TTPS-Meramundali Ckt 1	07-06-2019	10:00	07-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	
151	220 KV TTPS-Meramundali Ckt 2	07-06-2019	13:00	07-06-2019	15:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	
152	Barh Patna LINE # 3	07-06-2019	09:30	07-06-2019	18:00	ODB	BARH	For Up gradation & testing of SCADA		
153	At Arambag:315 MVA ICT 3 in TBC bay,s/d of 400KV Main bus-2,Bus coupler	07-06-2019	06:00	07-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
154	400/220 Transformer-1 at Bakreswar	07-06-2019	09:00	07-06-2019	11:00	ODB	WB	RTU replacement		
155	400/220 Transformer-1 at Bakreswar	07-06-2019	14:30	07-06-2019	16:30	ODB	WB	RTU replacement		
156	132KV MAIN BAY OF 400/132KV 200MVA ICT- 1 AT LAKHISARAI	08-06-2019	10:00	08-06-2019	14:00	ODB	POWERGRID ER-I	AMP works of Bay Equipments.		
157	400KV MAIN BAY OF NEW RANCH-2 AT RANCHI	08-06-2019	09:00	08-06-2019	17:00	ODB	POWERGRID ER-I	BAY AMP, CB DCRM REPEAT TEST AS PER OS INSTRUCTION. AS THERE IS NO TIE BAY, SO LINE WILL BE UNDER S/D		
158	400KV MAIN BAY OF NEW PURNEA-1 AT KISHANGANJ	08-06-2019	09:00	08-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
159	400KV MAIN BAY OF SASARAM-I AT DALTANGANJ	08-06-2019	09:30	08-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
160	400 kV Patna-Ballia CKT 2	08-06-2019	09:00	08-06-2019	18:00	ODB	POWERGRID ER-I	Porcelain Insulator replacement by polymer	NLDC	Deferred in NRPC OCC forum. Details of work carried out till date & Balance work schedule may be furnished.
161	220 KV Ara Khagaul line 2	08-06-2019	09:30	08-06-2019	17:30	ODB	POWERGRID ER-I	AMP	BSEB	
162	220 KV MUZAFFARPUR-DHALKEBAR (NEPAL)-2	08-06-2019	09:30	08-06-2019	17:30	ODB	POWERGRID ER-I	INTEGRATION WORK OF SIGNAL WITH NTAMC/RTAMC	NLDC	
163	400KV BINAGURI-PURNEA-2	08-06-2019	10:00	08-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay	Propose after High hydro season	
164	132kv Rangit-Kurseong Ckt	08-06-2019	09:00	08-06-2019	14:00	ODB	POWERGRID,ER-II	Damaged Cuductor Bot-Ph Rectification Work at Loc 61-62	WB	
165	50 MVA ICT -I 132/66 KV at Gangtok	08-06-2019	09:00	08-06-2019	18:00	ODB	POWERGRID,ER-II	For AnnualAmp Works	Sikkim	

166	400 KV Maithon-Kahalgaon # 2 line	08-06-2019	09:00	09-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement of Main and line bay CT.	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
167	400 KV Main Bus -II at Subhasgram SS	08-06-2019	09:00	08-06-2019	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -II at Subhasgram SS	WB	
168	400kv Sundargarh-Raigarh Ckt #3 & 4	08-06-2019	07:00	08-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works (Shut down of Sundargarh -Raigarh Ckt-III & IV is required together for maint. of Multi circuit/ LILO portion)	NLDC	May be approved.
169	206 Bay at Keonjhar	08-06-2019	09:00	08-06-2019	18:00	ODB	ER-II/Odisha/Keonjhar	For CB timing & DCRM rectification job		
170	220 KV TTPS-Nalco(Rengali)	08-06-2019	10:00	08-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	
171	220 KV TTPS-Meramundali (Rengali)	08-06-2019	13:00	08-06-2019	15:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	
172	Barh Patna LINE # 4	08-06-2019	09:30	08-06-2019	18:00	ODB	BARH	For Up gradation & testing of SCADA		
173	400kv Kharagpur-KTPP#1	08-06-2019	07:00	09-06-2019	15:00	ODB	WB	Tree Trimming		
174	400 kV Bus Reactor	08-06-2019	09:00	08-06-2019	11:00	ODB	WB	RTU replacement		
175	400/220kv 315MVA ICT-II at Sasaram	09-06-2019	08:00	14-07-2019	18:00	OCB	POWERGRID ER-I	For Transformer Retrofitting Work	BSEB	Sahupuri load may be shifted to sahpuri with consent of UP sldc
176	400KV Main Bay of Ballia -3 at Patna	09-06-2019	10:00	09-06-2019	11:00	ODB	POWERGRID ER-I	CB dew point measurement		
177	400kv Tie bay of Barh 3 and ballia 3 at Patna	09-06-2019	13:00	09-06-2019	14:00	ODB	POWERGRID ER-I	CB dew point measurement		
178	400KV Main bay of Barh-3 at Patna	09-06-2019	16:00	09-06-2019	17:00	ODB	POWERGRID ER-I	CB dew point measurement		
179	220kv main bay of 220KV Fatuha line at Patna	09-06-2019	09:30	12-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
180	400KV BINAGURI-PURNEA-1	09-06-2019	10:00	09-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay	Propose after High hydro season	
181	220 KV Bus Coupler at Birpara	09-06-2019	08:00	09-06-2019	17:00	ODB	POWERGRID,ER-II	Conversion of Bus CVT from 1-Phase to 3- Phase		
182	ICT-I (3x 105 MVA) at Jeypore	09-06-2019	08:00	09-06-2019	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	
183	400KV GIS Main Bay-427 of Raigarh Ckt-4 at Sundergarh	09-06-2019	09:00	09-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
184	At Arambag:400KV Bus coupler Bay with 400kv Main Bus-1	09-06-2019	06:00	09-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
185	132KV MAIN BAY OF 400/132KV 200MVA ICT-2 AT LAKHISARAI	10-06-2019	10:00	10-06-2019	14:00	ODB	POWERGRID ER-I	AMP works of Bay Equipments.		
186	400KV MAIN BAY OF SIPAT-1 AT RANCHI	10-06-2019	09:30	10-06-2019	17:00	ODB	POWERGRID ER-I	AMP		
187	400KV KAHALGAON-BANKA-II	10-06-2019	08:00	19-06-2019	17:00	ODB	POWERGRID ER-I	For shifting of OPGW from old line to newly strung line		
188	400 /220 kv 315MVA ICT-II at Gaya ss	10-06-2019	09:00	12-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BSEB	May avail on a hloiday at early morning
189	400 KV BUS-I at Gaya S/S	10-06-2019	09:00	12-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BSEB	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC
190	400KV MAIN BAY OF BINAGURI-2 AT KISHANGANJ	10-06-2019	09:00	10-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
191	400KV Bus-1 AT NEW RANCHI	10-06-2019	09:00	10-06-2019	17:00	ODB	POWERGRID ER-I	AMP WORK		
192	400KV TIE BAY OF ICT-1 AND SSRM-I AT DALTANGANJ	10-06-2019	09:30	10-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
193	220KVM Main Bay of 400/220kv 315MVA ICT-2 at Sasaram	10-06-2019	09:00	10-06-2019	18:00	ODB	POWERGRID ER-I	AMP work		
194	400 BUS-1 AT MUZAFFARPUR	10-06-2019	09:00	11-06-2019	17:00	OCB	POWERGRID ER-I	Stringing of Jack Bus for Extension work (Nepal Bay)	BSEB	
195	400kv Kahalgaon-Barh -1	10-06-2019	09:00	10-06-2019	18:00	ODB	POWERGRID ER-I	Porcelain Insulator replacement by polymer	NLDC	
196	400kv Main bay of Ballia 4 at Patna	10-06-2019	10:00	10-06-2019	11:00	ODB	POWERGRID ER-I	CB dew point measurement		
197	400kv Tie bay of Barh 4 and Ballia 4 at Patna	10-06-2019	13:00	10-06-2019	14:00	ODB	POWERGRID ER-I	CB dew point measurement		
198	400kv Main bay Barh 4 at Patna	10-06-2019	16:00	10-06-2019	17:00	ODB	POWERGRID ER-I	CB dew point measurement		

199	400KV BUS-I AT CHANDWA	10-06-2019	09:00	12-06-2019	18:00	OCB	POWERGRID ER-I	INTERCONNETCION OF NEW 400KV BUS-I TO EXISTING 400KV BUS-I DUE TO EXTENSION OF NORTH KARNPURA BAY.	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
200	220KV Siliguri Binaguri Ckt-1	10-06-2019	09:00	10-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of numerical A/R relay	WB	
201	400KV BUS-I at Malda	10-06-2019	08:00	11-06-2019	17:00	OCB	POWERGRID,ER-II	Isolator opening(ERSS-XVII-B Constructional work)	WB	
202	500 MVA ICT #1 at Maithan	10-06-2019	08:00	10-06-2019	18:00	ODB	POWERGRID,ER-II	On load testing of CSD under ERSS-IX project work	DVC	
203	400kV Andar-jamshedpur Ckt-I	10-06-2019	09:00	11-06-2019	17:00	ODB	POWERGRID,ER-II	Fixing of Pilot String	DVC	
204	418 bay (ICT-II main Bay) at Durgapur	10-06-2019	09:00	12-06-2019	17:00	OCB	POWERGRID,ER-II	Interrupter replace of main CB		
205	400 KV Farakka- Berhampur-I	10-06-2019	09:00	11-06-2019	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.		
206	220 KV Main Bus-I at Subhasgram SS	10-06-2019	09:00	10-06-2019	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-I at Subhasgram SS	WB	
207	400kV Berhampore-Farakka-Line-1	10-06-2019	09:00	10-06-2019	17:00	ODB	POWERGRID,ER-II	Insulator Replacement damaged by miscreants		
208	400kv Malda-Purnea Ckt-1	10-06-2019	09:00	07-07-2019	17:00	ODB	POWERGRID,ER-II	Replacement of Porcelain Insulators with CLR Insulators.Ckt-wise S/D shall be taken on alternate days		
209	400kv Malda-Purnea Ckt-2	10-06-2019	09:00	07-07-2019	17:00	ODB	POWERGRID,ER-II	Replacement of Porcelain Insulators with CLR Insulators.Ckt-wise S/D shall be taken on alternate days		
210	Rengali main Bay (403) at Indravati	10-06-2019	08:00	10-06-2019	17:00	ODB	ER-II/Odisha /Indravati	To Replace the 400KV CT due to Oil Leakages.The power flow will be Interrupt in Indravati-Uihep Line Due to temporary shutdow of Uihep Main bay(412) at Indravati.		
211	125 MVAR Bus Reactor-1 at Baripada	10-06-2019	09:00	10-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
212	220 KV OPTCL # 1 Main Bay (Bay No-208)	10-06-2019	09:00	10-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
213	400kV Jeypore-Gazuwaka-II Line	10-06-2019	08:00	11-06-2019	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	May be approved.
214	765kV, 3X80MVAR Angul-Sundergarh circuit-1 Line reactor at Angul	10-06-2019	09:00	10-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	For taking Spare Reactor into service after gasket replacement work	NLDC	May be approved.
215	765 KV Sundargarh - Angul Ckt-III	10-06-2019	07:00	10-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	Line is under forced outage, why future SD is required.	Line is under forced outage, why future SD is required.
216	400KV GIS Tie Bay-428 of Raigarh Ckt-4 & Rourkela Ckt-4 at Sundergarh	10-06-2019	09:00	10-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
217	204 bay at Keonjhar	10-06-2019	09:00	10-06-2019	18:00	ODB	ER-II/Odisha/Keonjhar	For CB timing & DCRM rectification job		
218	500 MVA ICT-1	10-06-2019	09:30	12-06-2019	18:00	ODB	ER-II/Odisha/ Pandiabilli GIS	Cap and tan delta test of bushing.	GRIDCO	
219	220 KV Budhipadar-Korba Ckt-1	10-06-2019	10:00	10-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	May be approved.
220	400kV DSTPS-Jamshedpur Ckt#1	10-06-2019	10:30	11-06-2019	17:00	ODB	DVC	Annual relay maintenance work by CRITM		
221	400kv Bokaro-Koderma Ckt#1	10-06-2019	09:00	18-06-2019	18:00	OCB	DVC	to attend gas leakage of GD6Y section	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
222	Maintenance work for ICT#3	10-06-2019	09:30	20-06-2019	18:00	OCB	BARH	Annual Maintenance & Testing of ICT#3		
223	Maintenance work for ICT#3 Bay	10-06-2019	09:30	20-06-2019	18:00	OCB	BARH	Annual Maintenance & Testing of ICT#3 Bay		
224	At Arambag:400KV Bus coupler Bay with 400kv Main Bus-2	10-06-2019	06:00	10-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
225	400KV TIE BAY OF 400 KV SIPAT-1 & FUTURE AT RANCHI	11-06-2019	09:30	11-06-2019	17:00	ODB	POWERGRID ER-I	AMP		
226	400KV TIE BAY OF BINAGURI-I & II AT KISHANGANJ	11-06-2019	09:00	11-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
227	150MVAR VSC-1 OF STATCOM AT NEW RANCHI	11-06-2019	09:00	14-06-2019	17:00	OCB	POWERGRID ER-I	ACP installation Connector tightening of Bus duct		
228	400/220kv 315 MVA ICT -1 at Jamshedpur S/s	11-06-2019	09:30	11-06-2019	17:30	ODB	POWERGRID ER-I	DCRM of OLTC to be carried out as per guide line of RHQ ,AM department.	JSEB	
229	132 kV Ara -Dumraon	11-06-2019	10:00	11-06-2019	17:00	ODB	POWERGRID ER-I	Distance Relay replacement work	BSEB	
230	220KVMain Bay of 400/220kv 500MVA ICT-1 at Sasaram	11-06-2019	09:00	11-06-2019	18:00	ODB	POWERGRID ER-I	AMP work		
231	400kV Kahalgaon-Barh -2	11-06-2019	09:00	11-06-2019	18:00	ODB	POWERGRID ER-I	Porcelain Insulator replacement by polymer	NLDC	

232	400KV Biharsarif - Koderma CKT -I	11-06-2019	09:00	12-06-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
233	220KV Siliguri Binaguri Ckt-2	11-06-2019	09:00	11-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of numerical A/R relay	WB	May be taken on early morning on weekends considering real time TLDP generation
234	50 MVA ICT-II 132/66KV at Gangtok	11-06-2019	09:00	11-06-2019	18:00	ODB	POWERGRID,ER-II	For AnnualAmp Works	Sikkim	
235	400KV Maithon-Durgapur-1 line	11-06-2019	08:00	11-06-2019	18:00	ODB	POWERGRID,ER-II	Project work under ERSS-XVII, for reconnection of Tie Bay of RB-1/DGP-1 (405).	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
236	132 KV D/C CK Road -Birsingha TL	11-06-2019	06:00	12-06-2019	17:00	ODB	POWERGRID,ER-II	For Powerline crossing of 765 KV MJTL-AP 13/0 (DD+6)-14/0(DD+6). Span Length- mtr	WB	
237	220 KV Main Bus-II at Subhasgram SS	11-06-2019	09:00	11-06-2019	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-II at Subhasgram SS	WB	
238	400kv Berhampore-Farakka-Line-2	11-06-2019	09:00	11-06-2019	17:00	ODB	POWERGRID,ER-II	Insulator Replacement damaged by miscreants		
239	400KV TALCHER#2 & 400KV CHAIBASA#2 TIE BAY (BAY NO.-408)	11-06-2019	09:00	20-06-2019	18:00	OCB	ER-II/ODISHA/ROURKELA	RETROFITTING OF OLD HYDRAULIC OPERATED BHEL MAKE CB BY NEW SPRING-SPRING OPERATED CGPISL MAKE CB		
240	400KV ROURKELA-SUNDARGARH#1	11-06-2019	09:00	11-06-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	FIXING OF COUNTER WEIGHTS AT LOCATION NO.- 1111, 1090,1080,1019 & 946.		
241	400/220 kv 315MVA ICT II	11-06-2019	09:00	11-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Amp Works	GRIDCO	
242	400KV Balangir-Angul Line with LR	11-06-2019	08:00	13-06-2019	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator & AMP for 50MVAR Angul L/R and 401R 52 CB	NLDC	May be approved.
243	765 KV Sundargarh - Angul Ckt-IV	11-06-2019	07:00	11-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	may be clubbed with S.no 71	may be clubbed with S.no 71
244	400KV GIS Main Bay-429 of Rourkela Ckt-4 at Sundergarh	11-06-2019	09:00	11-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
245	315MVA ICT-I at Keonjhar	11-06-2019	09:00	11-06-2019	18:00	ODB	ER-II/Odisha/Keonjhar	Retro fitting of Back up Impedance relay		
246	Retrofitting of BHEL make Sectionalizer Breaker (10C04-Q01) pertaining to 400kv Bus-1 & Bus-3 with GE make Breaker.	11-06-2019	06:00	19-06-2019	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 make Breaker. Both the Bus shall be in service and there shall be no interruption of Power Flow through Talcher-Kolar HVDC link		
247	220 KV Budhipadar-Korba Ckt-2	11-06-2019	10:00	11-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	may be approved.
248	220 KV MAIN BUS-2 AT RANCHI	12-06-2019	09:30	12-06-2019	17:00	ODB	POWERGRID ER-I	AMP	JSEB	
249	400KV MAIN BAY OF BINAGURI-1 AT KISHANGANJ	12-06-2019	09:00	12-06-2019	18:00	ODB	POWERGRID ER-I	AMP WORK		
250	400kv Main Bay of Andal -I at Jamshedpur	12-06-2019	09:30	12-06-2019	17:30	ODB	POWERGRID ER-I	Maintenance of CB Catch gear unit, as per recommendation of RHQ Patna		
251	400KV MAIN BAY OF 400/220KV 315MVA ICT-I AT DALTANGANJ	12-06-2019	09:30	12-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
252	132 kv Ara -Ara	12-06-2019	10:00	12-06-2019	17:00	ODB	POWERGRID ER-I	Distance Relay replacement work	BSEB	
253	400KV Main Bay of Allahabad at Sasaram	12-06-2019	09:00	12-06-2019	18:00	ODB	POWERGRID ER-I	AMP work		
254	400/220 KV 315 MVA ICT-2 AT MUZAFFARPUR	12-06-2019	09:00	14-06-2019	17:30	OCB	POWERGRID ER-I	OLTC OVERHAULING WORK.	BSEB	May avail on a holiday at early morning, may be completed in 2days
255	400MLD-PRN-II	12-06-2019	08:00	13-06-2019	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting, 2 no Dead Tank CT replacement.		
256	400kv Andal-jamshedpur Ckt-II	12-06-2019	09:00	13-06-2019	17:00	ODB	POWERGRID,ER-II	Fixing of Pilot String	DVC	
257	400 KV Farakka- Kahalgaon-III line	12-06-2019	09:00	13-06-2019	18:00	ODB	POWERGRID,ER-II	For Jumper connection, relay setting change & Bay stability between Bay- 34 & 35 after upgradation of bay-34 under ERSS-XV projects.	After restoration of 400kv FSTPP-KhSTPP-I	
258	50 MVAR Sagardighi Line Reactor at Subhasgram S/s	12-06-2019	09:00	12-06-2019	17:00	ODB	POWERGRID,ER-II	VT Selection work and REF Relay Retrofitting work	Line SD required?	
259	400kv Binaguri-Bongaigaon Ckt-1	12-06-2019	09:00	21-06-2019	17:00	ODB	POWERGRID,ER-II	Repairing of conductors theft by miscreants time to time during S/D of the line due to voltage constraints.Ckt-wise S/D shall be taken on alternate days	NLDC	May be clubbed with S.no 12 .

260	400kV Binaguri-Bongaigaon Ckt-2	12-06-2019	09:00	21-06-2019	17:00	ODB	POWERGRID,ER-II	Repairing of conductors theft by miscreants time to time during S/D of the line due to voltage constraints.Ckt-wise S/D shall be taken on alternate days	NLDC	May be clubbed with S.no 12
261	400 KV ROURKELA-TALCHER#1	12-06-2019	09:00	13-06-2019	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.		
262	40552- Tie Bay of Kharagpur line & 315MVA ICT II	12-06-2019	09:00	12-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
263	220 KV ICT # 2 Main Bay (Bay No-202)	12-06-2019	08:00	15-06-2019	17:00	OCB	ER-II/Odisha/Rengali	CB Pole Overhauling & MOM Box Retrofitting		
264	400kV Jeypore-Gazuwaka-I Line	12-06-2019	08:00	15-06-2019	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	May be approved.
265	765kV, 3X110MVAR Bus Reactor-2	12-06-2019	09:00	12-06-2019	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	May be approved.
266	765 KV Sundargarh - Dharamjaygarh Ckt-III	12-06-2019	07:00	12-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	May be approved.
267	400KV GIS Main Bay-430 of Raigarh Ckt-3	12-06-2019	09:00	12-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
268	315MVA ICT-II at Keonjhar	12-06-2019	09:00	12-06-2019	16:00	ODB	ER-II/Odisha/Keonjhar	Retro fitting of Back up Impedance relay		
269	220 KV Budhipadar-Korba Ckt-3	12-06-2019	10:00	12-06-2019	12:00	ODB	ER-II/Odisha	For PMU integration	GRIDCO	May be approved.
270	400kv Arambag-KTPP Feeder Bay	12-06-2019	06:00	13-06-2019	15:00	ODB	WB	MAINTENANCE WORK		
271	400KV RANCHI- MAITHON(RB)-II	13-06-2019	09:00	13-06-2019	17:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATOR DAMGED BY MISCREANTS		
272	400 KV BUS-II at Gaya S/S	13-06-2019	09:00	14-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BSEB	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC
273	400 KV GAYA-NABINAGAR -1 line	13-06-2019	09:00	14-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
274	400kv Main Bay of Andal -II at Jamshedpur	13-06-2019	09:30	13-06-2019	17:30	ODB	POWERGRID ER-I	Maintenance of CB Catch gear unit, as per recommendation of RHQ Patna		
275	400KV MAIN BAY OF SASARAM-II AT DALTANGANJ	13-06-2019	09:30	13-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
276	132 kV Ara -Jagdishpur	13-06-2019	10:00	13-06-2019	17:00	ODB	POWERGRID ER-I	Distance Relay replacement work	BSEB	
277	132kV Pusauli-Kudra	13-06-2019	09:00	13-06-2019	18:00	ODB	POWERGRID ER-I	Relay retrofitting Job	BSEB	
278	220kv Bus coupler Bay at Patna	13-06-2019	09:30	15-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling	BSEB	
279	220 Main bay 400/220 ICT 1 at Patna	13-06-2019	09:30	15-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
280	400KV BUS-II AT CHANDWA	13-06-2019	09:00	15-06-2019	18:00	OCB	POWERGRID ER-I	INTERCONNETCION OF NEW 400KV BUS-II TO EXISTING 400KV BUS-II DUE TO EXTENSION OF NORTH KARNPURA BAY.	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
281	400KV Biharsarif - Koderma CKT -II	13-06-2019	09:00	14-06-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
282	±800kV HVDC Biswanathchariali - Alipurduar Line 1&2 (Aliprduar - Biswanath Chariali Section)	13-06-2019	06:00	15-06-2019	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in between loc no 8-9 of Alipurduar BNC Section) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	NLDC	NERPC & NRPC approval may be obtained. Confirmation regarding Alipurdaur-Agra Poles may be ensured.
283	400KV BINAGURI-TALA -4	13-06-2019	10:00	13-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	NLDC	subject to Bhutan consent.
284	400KV BINAGURI-TALA-1	13-06-2019	10:00	13-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay and Conductor bundle Spacer open in the span of 112-113, 123-124 and Broken replacement replacement at loc 117, 144	NLDC	subject to Bhutan consent.
285	132kV Rangit-Kurseong Ckt	13-06-2019	09:00	13-06-2019	15:00	ODB	POWERGRID,ER-II	Damaged Coductor Top & Mid-Ph Rectification Work at Loc 51-52	WB	
286	400 KV Maithon-Right bank #1 line	13-06-2019	08:00	27-06-2019	18:00	OCB	POWERGRID,ER-II	Project work under ERSS-XVII, reconnection of Tie Bay of RB-1/DGP-1 (405). 2. Re-conductoring work under ERSS-EXVII	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
287	220 KV S/C STPS - Chandil TL-(TL-229-230)-WBSETCL	13-06-2019	07:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	For Powerline crossing of 765 KV RMTL-AP 83/0 (DD+9)-84/0(DD+9). Span Length-160 mtr	WB	
288	420 Bay (Mithon-II & Future Tie bay) at Durgapur	13-06-2019	09:00	13-06-2019	17:00	ODB	POWERGRID,ER-II	Gasket replace in main pole		

289	220KV CESC CKT#2 (Bay No.203) at Powergrid,Subhasgram	13-06-2019	09:00	13-06-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	
290	400kV 80MVAR Reactor at Baharampore	13-06-2019	09:00	13-06-2019	17:00	ODB	POWERGRID,ER-II	Maint Work		
291	20452- 315MVA ICT II Bay	13-06-2019	09:00	13-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Amp Works		
292	765 KV Sundargarh - Dharamjaygarh Ckt-IV	13-06-2019	07:00	13-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	NLDC	May be approved.
293	400KV GIS Tie Bay-431 of Raigarh Ckt-3 & Rourkela Ckt-3 at Sundergarh	13-06-2019	09:00	13-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
294	Mendhasal-Pandiabili CKT-1 at Mendhasal Main bay NB: Line will be in service through tie Bay.	13-06-2019	09:30	13-06-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Amp of Bay (Timing, CRM, DCRM)	GRIDCO	May be approved only after restoration pof PURI
295	400kV DSTPS-Jamshedpur Ckt#2	13-06-2019	10:30	14-06-2019	17:00	ODB	DVC	Annual relay maintenance work by CRITM		
296	400KV Kh-LKR #2	13-06-2019	09:00	13-06-2019	17:30	ODB	KAHALGAON	PM works and Relay Testing		
297	400KV FKK-Sagardighi Line-2	13-06-2019	09:00	13-06-2019	17:00	ODB	FARAKKA	CB,CT and Relay test	WB	
298	400kV Ranchi -Rourkela 1	14-06-2019	09:30	14-06-2019	17:30	ODB	POWERGRID ER-I	For replacement of insulator damaged by miscreants at , Loc no 314,315,317		
299	400KV TIE BAY OF SSRM-II AND B/R-I AT DALTANGANJ	14-06-2019	09:30	14-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
300	132kV Pusauli-Mohania	14-06-2019	09:00	14-06-2019	18:00	ODB	POWERGRID ER-I	Relay retrofitting Job		
301	400KV Bus -I at Patna	14-06-2019	09:30	16-06-2019	17:30	ODB	POWERGRID ER-I	Dismantling and erection of Bus isolator of Dia of Patna Nabinagar D/C Under Nabinagar - II Package	BSEB	
302	132KV Bus coupler(Bay-104) at siliguri	14-06-2019	10:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	BAY AMP WORK.		
303	400KV BINAGURI-BONGAIGAON-1	14-06-2019	10:00	14-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay	Propose after High hydro season	May be clubbed with SNo 2
304	132kV Siliguri-Melli Ckt	14-06-2019	09:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	Damaged Cooductor Bot-Ph Rectification Work at Loc 61-62 & Balance Insulator Replacement Work	Sikkim	
305	132kV BUS-2 at Rangpo	14-06-2019	09:00	24-06-2019	17:00	OCB	POWERGRID,ER-II	For Bus extension to new Chuzachen bays (Construction works)	Sikkim	
306	400MLD-PRN-I	14-06-2019	08:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting		
307	400 Bus-I & Bus-III Sectionalize CB (BS-I) at Durgapur	14-06-2019	09:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	AMP works		
308	400 KV Farakka- Berhampur-II with Reactor at NTPC,Farakka	14-06-2019	09:00	15-06-2019	18:00	ODB	POWERGRID,ER-II	For balance protection scheme checking of bay-23 (Tie bay of 400 KV Fkk- Bhp-II and 400 KV Fkk- Khg-I) with respect with bay-24 & to carry out punch point works in TL.		
309	220KV NEWTOWN LINE (Bay No.205) at Powergrid,Subhasgram	14-06-2019	09:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	
310	400kV 125MVAR Reactor at Baharampore	14-06-2019	09:00	14-06-2019	17:00	ODB	POWERGRID,ER-II	Maint/Balance Construction Work		
311	400 KV ROURKELA-TALCHER#2	14-06-2019	09:00	15-06-2019	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.		
312	125 MVAR BR at Indravati	14-06-2019	08:00	14-06-2019	12:00	ODB	ER-II/Odisha /Indravati	To Replace Terminal Box of PRD.		
313	400KV Balangir-Jeypore Line with LR	14-06-2019	08:00	15-06-2019	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator & AMP for 50MVAR Jeypore L/R and 403R 52CB	NLDC	
314	400KV GIS Main Bay-432 of Rourkela Ckt-4 at Sundergarh	14-06-2019	09:00	14-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	AMP Work		
315	Mendhasal-Pandiabili CKT-2 at Mendhasal Main bay NB: Line will be in service through tie Bay.	14-06-2019	09:30	14-06-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Amp of Bay (Timing, CRM, DCRM)	GRIDCO	May be approved only after restoration pof PURI
316	220KV New Purnea Purnea -II	15-06-2019	09:30	25-06-2019	18:00	OCB	POWERGRID ER-I	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).		
317	400 KV GAYA-NABINAGAR -2 line	15-06-2019	09:00	16-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.		
318	400KV BINAGURI-TALA-3	15-06-2019	10:00	15-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	NLDC	subject to Bhutan consent.
319	400KV TIE OF BONGAIGAON-1 AND RANGPO-1 at Binaguri	15-06-2019	10:00	15-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose relay	Propose after High hydro season	
320	66 KV Gangtok-Tadong Line	15-06-2019	09:00	15-06-2019	14:00	ODB	POWERGRID,ER-II	For AnnualAmp Works	Sikkim	
321	220KV DLK-DLK- # II	15-06-2019	09:00	15-06-2019	11:00	ODB	POWERGRID,ER-II	For Newly replaced Y-Ph CT DGA Test (Replacement Date-30.03.2019)	WB	
322	132 KV Malda-WBSETCL-I	15-06-2019	08:00	15-06-2019	17:00	ODB	POWERGRID,ER-II	O/C Relay retrofitting	WB	
323	400 Bus-II & Bus-IV Sectionalize CB (BS-II) at Durgapur	15-06-2019	09:00	15-06-2019	17:00	ODB	POWERGRID,ER-II	AMP works		

324	220KV KLC Bantala Line (Bay No.206) at Powergrid,Subhasgram	15-06-2019	09:00	15-06-2019	17:00	ODB	POWERGRID,ER-II	AMP work	WB	
325	400 KV, 315 MVA ICT # 1	15-06-2019	08:00	15-06-2019	17:00	ODB	ER-II/Odisha/Rengali	For Retrofitting of Backup impedance Relay	GRIDCO	
326	Main Bay-709 of 765KV Raipur Ckt-2 at Sundergarh	15-06-2019	09:00	15-06-2019	14:00	ODB	ER-II/Odisha/Sundergarh	to take oil sample of 765KV CT after first time charging		
327	Mendhasal-Pandiabili CKT-1 & 2 Tie Bay at Mendhasal NB:Both line will be in service through Main Bay	15-06-2019	09:30	15-06-2019	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Amp of Tie Bay (Timing, CRM, DCRM)	GRIDCO	May be approved only after restoration pof PURI
328	400kv Main bay Of 400/220kv ICT 1 at Patna	16-06-2019	09:30	28-06-2019	17:30	OCB	POWERGRID ER-I	Equipment uprating under SS03 package for Patna Nabinagar Bay		
329	400kv Main bay Of 400/220kv ICT 1 at Patna	16-06-2019	09:30	19-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
330	400kv Tie bay Ballia 2 & Barh-I at Patna	16-06-2019	09:30	18-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
331	400KV BINAGURI-TALA 2	16-06-2019	10:00	16-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	NLDC	subject to Bhutan consent.
332	220KV BINAGURI-BIRPARA-1	16-06-2019	10:00	16-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay, Balance VD tightening , A/H tightening , CC Ring Refixing , Repairing of Conductor with repair sleeve etc .		
333	132 KV Malda-WSETCL-II	16-06-2019	08:00	16-06-2019	17:00	ODB	POWERGRID,ER-II	O/C Relay retrofitting	WB	
334	400 KV Rourkela-Talcher Line # 2 in Non-Auto Mode	16-06-2019	08:00	30-06-2019	17:00	ODB	ER-II/Odisha/Rengali	For PID Work		
335	315MVA ICT # II at Jeypore	16-06-2019	09:00	16-06-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of ICT # II, 208 Bay CT and testing of Back up Impedance relay	GRIDCO	
336	Main Bay-712 of 765KV Raipur Ckt-1 at Sundergarh	16-06-2019	09:00	16-06-2019	14:00	ODB	ER-II/Odisha/Sundergarh	to take oil sample of 765KV CT after first time charging		
337	220kv Jamshedpur-JINDAL Tie	16-06-2019	08:00	16-06-2019	16:00	ODB	DVC	for installation of Tower top earthing between location 228 to 235		
338	220KV BUS-II AT NEW PURNEA	17-06-2019	09:30	17-06-2019	18:00	ODB	POWERGRID ER-I	220KV BUS-II, AMP & BUS ISOLATOR WORK OF PRN CKT-I.	BSEB	
339	400KV RANCHI- MAITHON(RB)-I	17-06-2019	09:30	17-06-2019	17:00	ODB	POWERGRID ER-I	. LOC NO- 495 FOR REPLACEMENT OF INSULATOR DAMGED BY MISCREANTS		
340	765 KV BUS-I at Gaya S/S	17-06-2019	09:00	17-06-2019	18:00	ODB	POWERGRID ER-I	For Attending Corona Discharge from Bus connector.	NLDC	May be approved.
341	400KV MAIN BAY OF B/R-I AT DALTANGANJ	17-06-2019	09:30	17-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
342	220KV BUS-1 AT MUZAFFARPUR	17-06-2019	09:30	17-06-2019	17:30	ODB	POWERGRID ER-I	Switching of 220KV GIS	BSEB	
343	400KV Bus 2 at Patna	17-06-2019	09:30	19-06-2019	17:30	ODB	POWERGRID ER-I	Dismantling and erection of Bus Isolator of Dia of Patna Nabinagar D/C Under Nabinagar - II Package	BSEB	
344	220KV BINAGURI-BIRPARA-2	17-06-2019	10:00	17-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay,VD tightening , A/H tightening , CC Ring Refixing , Repairing of Conductor with Repair sleeve etc .		
345	132KV Rangpo-Gangtok line	17-06-2019	09:00	17-06-2019	18:00	ODB	POWERGRID,ER-II	Line A/R implementation & conductor repairing in b/w loc 104 & 105	Sikkim	
346	400 KV Farakka-Gokarna-I	17-06-2019	09:00	18-06-2019	18:00	ODB	POWERGRID,ER-II	For alignment checking and AMP of Isolators	WB	
347	402 Tie Bay of 315 MVA ICT#1 and 400 KV Subhasgram Sagardighi Line at Powergrid,Subhasgram	17-06-2019	09:00	17-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 402 Bay		
348	400kv Berhampore-Sagardighi-Line 1	17-06-2019	09:00	18-06-2019	17:00	ODB	POWERGRID,ER-II	Insulator Replacement damaged by miscreants	WB	
349	400 kv 408 Tie Bay of Baripada-Duburi & Baripada-Jamshedp	17-06-2019	09:00	18-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
350	400kv Jeypore-Gazuwaka-II Line	17-06-2019	08:00	20-06-2019	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	May be approved.
351	315 MVA, ICT-2 Main BAY (404 BAY)	17-06-2019	09:00	17-06-2019	18:00	ODB	ER-II/Odisha/Balangir	AMP for 404 52 CB and 404 CT		
352	400kv Sundargarh-Raigarh Ckt#3	17-06-2019	07:00	30-06-2019	17:00	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose relay will be off. Line will be in service	NLDC	May be approved.
353	765KV Bus-II at Sundargarh	17-06-2019	09:00	26-06-2019	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	May be approved.
354	400/220KV 315 MVA ICT-1 AT RANCHI	18-06-2019	09:30	21-06-2019	17:00	OCB	POWERGRID ER-I	Replacement of 01 No 220 KV (Y-Ph) & 2 Nos 33 KV (R & Y Ph) Bushings	JSEB	
355	765 KV BUS-II at Gaya S/S	18-06-2019	09:00	18-06-2019	18:00	ODB	POWERGRID ER-I	For Alignment of Bus Isolator.	NLDC	May be approved.
356	150MVAR VSC-2 OF STATCOM AT NEW RANCHI	18-06-2019	09:00	21-06-2019	17:00	OCB	POWERGRID ER-I	ACP installation Connector tightening of Bus duct		
357	132 kv Main Bus AT ARA	18-06-2019	09:00	18-06-2019	13:00	ODB	POWERGRID ER-I	132 kv Main Bus R phase CVT replacement due to secondary voltage violation. All 132kv lines will be out of service.	BSEB	
358	220KV BUS-2 AT MUZAFFARPUR	18-06-2019	09:30	18-06-2019	17:30	ODB	POWERGRID ER-I	Switching of 220KV GIS	BSEB	
359	400/220kv 500 MVA ICT 3 at Patna	18-06-2019	09:30	18-06-2019	13:30	ODB	POWERGRID ER-I	Sweep Test of 220kv Side CT	BSEB	May avail on a hloiday at early morning

360	400kV Koderma - Bokaro CKT -I	18-06-2019	09:00	19-06-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
361	400KV BINAGURI-Kishanganj#1	18-06-2019	10:00	18-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of auto-reclose and distance relay	Propose after High hydro season	
362	220KV BINAGURI-SILIGURI-1	18-06-2019	10:00	18-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	WB	May be taken on early morning on weekends considering real time TLDP generation
363	132KV Rangpo-Chuzachen line	18-06-2019	09:00	18-06-2019	18:00	ODB	POWERGRID,ER-II	Line A/R implementation	Sikkim	
364	400\220kV 315 MVAICT -3 at Rangpo	18-06-2019	08:00	22-06-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work,		
365	220KV Birpara-Chukha Ckt-I	18-06-2019	08:00	18-06-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	subject to Bhutan consent.
366	220KV MAIN BUS-I at Dalkhola	18-06-2019	09:00	18-06-2019	18:00	ODB	POWERGRID,ER-II	For Jumper rectification work	WB	
367	132 KV D/C Bishnupur - Khatra (TL- 180-181)	18-06-2019	06:00	19-06-2019	17:00	ODB	POWERGRID,ER-II	For Powerline crossing of 765 KV RMTL-AP 134/4 RC)-135/0(DD+9). Span Length-320 mtr	WB	
368	220 KV Bus Sectionalize CB (205) at Durgapur	18-06-2019	09:00	18-06-2019	17:00	ODB	POWERGRID,ER-II	AMP works		
369	405 Tie Bay of 315 MVA ICT#2 and 400 KV Subhasgram Jeerat Line at Powergrid,Subhasgram	18-06-2019	09:00	18-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 405 Bay		
370	400 KV FARAKKA-GOKARNA D/C	18-06-2019	08:00	20-06-2019	18:00	OCB	POWERGRID,ER-II	FOR COMPLETION OF LILO WORK.	WB	May be given at the end of june on weekends/holidays provided sufficient load reduction with arrival of monsoon
371	125MVAR BR & BR Main Bay (410)	18-06-2019	08:00	18-06-2019	17:00	ODB	ER-II/Odisha /Indravati	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.		
372	400 KV, 315 MVA ICT # 2	18-06-2019	09:00	18-06-2019	17:00	ODB	ER-II/Odisha/Rengali	For Retrofitting of Backup Impadance Relay	GRIDCO	
373	315MVA ICT-I at Bolangir	18-06-2019	09:00	18-06-2019	18:00	ODB	ER-II/Odisha/Balangir	Retrofit of Back up Impedance relay in ICT	NLDC	
374	220KV Side, 315MVA ICT-1 BAY (208 BAY)	18-06-2019	09:00	18-06-2019	18:00	ODB	ER-II/Odisha/Balangir	AMP for 208 52 CB and 208 CT		
375	400KV side Main bay(438) & Tie Bay (437) of 765/400KV ICTT-3(future) at Sundergarh	18-06-2019	09:00	22-06-2019	18:00	OCB	ER-II/Odisha/Sundergarh	For Earth Switch Cleaning excersice		
376	400KV MAIN BAY OF SILIGURI -I AT NEW PURNEA	19-06-2019	09:30	21-06-2019	18:00	OCB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF POLE COLOUMN OF Y-PH TO ATTENDT THE SF6 LEAKAGE.		
377	400 /220kV 500MVA ICT-III at Gaya ss	19-06-2019	09:00	20-06-2019	18:00	ODB	POWERGRID ER-I	For Upgradation of Bay equipments under Nabinagar - II Packagae.	BSEB	May avail on a hloiday at early morning
378	220KV MAIN BAY OF 220/132KV ATR-1 AT DALTANGANJ	19-06-2019	09:30	19-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
379	220Kv Patna Sipara -3	19-06-2019	09:30	19-06-2019	17:30	ODB	POWERGRID ER-I	AMP	BSEB	
380	220KV Birpara-Chukha Ckt-II	19-06-2019	08:00	19-06-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	subject to Bhutan consent.
381	400 KV Farakka-Gokarna-I	19-06-2019	09:00	20-06-2019	18:00	ODB	POWERGRID,ER-II	For alignment checking and AMP of Isolators	WB	
382	401 Main Bay of Subhasgram Sagardighi Line at Subhasgram SS	19-06-2019	09:00	19-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 401 Bay		
383	400 kV 410 main Bay of Baripada-Pandiabili line	19-06-2019	09:00	20-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP & Gasket replacement		
384	400 KV Keonjhar Main Bay (Bay No-401)	19-06-2019	09:00	19-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
385	315MVA ICT-II at Bolangir	19-06-2019	09:00	19-06-2019	18:00	ODB	ER-II/Odisha/Balangir	Retrofit of Back up Impedance relay in ICT	NLDC	
386	220KV Side, 315MVA ICT-2 BAY (212 BAY)	19-06-2019	09:00	19-06-2019	18:00	ODB	ER-II/Odisha/Balangir	AMP for 212 52 CB and 212 CT		
387	765KV Raipur240MVar LR-1 at Sundergarh	19-06-2019	09:00	19-06-2019	14:00	ODB	ER-II/Odisha/Sundergarh	online CSD commissioning works, multiple switching to be done during tuning of CSD	NLDC	May be approved.

388	400KV KTPS-Biharsharif Line#1	19-06-2019	09:00	19-06-2019	17:30	ODB	DVC	for preventive maintenance job	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
389	400kV Tata -Baripada line	20-06-2019	09:30	20-06-2019	17:30	ODB	POWERGRID ER-I	For replacement of insulator damaged by miscreants at , Loc no 208		
390	220KV MAIN BAY OF 220/132KV ATR-2 AT DALTANGANJ	20-06-2019	09:30	20-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
391	400KV Main Bay of Varanasi at Sasaram	20-06-2019	09:00	20-06-2019	18:00	ODB	POWERGRID ER-I	AMP work		
392	400KV 125 MVAR B/R-II AT CHAIBASA	20-06-2019	09:30	20-06-2019	17:30	ODB	POWERGRID ER-I	AMP WORK		
393	400kv Main Bay Ballia- 1 at Patna	20-06-2019	09:30	22-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
394	400kV Koderma - Bokaro CKT -II	20-06-2019	09:00	21-06-2019	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	After completion of 400kV Gaya-Maithon-DC and 400kV Gaya-Koderma-DC	
395	400kV Bus Sectionaliser (1A -1B) at Alipurduar	20-06-2019	07:00	20-06-2019	18:00	ODB	POWERGRID,ER-II	AMP Work		
396	400KV BINAGURI-RANGPO-1 line	20-06-2019	10:00	20-06-2019	13:00	ODB	POWERGRID,ER-II	Jumper connection work under ERSS-XX	Propose after High hydro season	if approved reason for availing SD may be elaborated.
397	400KV BINAGURI-RANGPO-2 line	20-06-2019	14:00	20-06-2019	18:00	ODB	POWERGRID,ER-II	Jumper connection work under ERSS-XX	Propose after High hydro season	if approved reason for availing SD may be elaborated.
398	220KV BINAGURI-SILIGURI-2	20-06-2019	10:00	20-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay	WB	
399	220kV New Melli-JLHEP Line 1	20-06-2019	11:00	20-06-2019	13:00	ODB	POWERGRID,ER-II	SF6 Gas Filling		
400	404 Main Bay of Subhasgram Rajarhat Line at Subhasgram SS	20-06-2019	09:00	20-06-2019	17:00	ODB	POWERGRID,ER-II	Retrofitting of A/R Relay in 404 Bay		
401	400kV Berhampore-Sagardighi-Line 2	20-06-2019	09:00	21-06-2019	17:00	ODB	POWERGRID,ER-II	Insulator Replacement damaged by miscreants	WB	
402	765KV Raipur240MVAR LR-2 at Sundergarh	20-06-2019	09:00	20-06-2019	14:00	ODB	ER-II/Odisha/Sundergarh	online CSD commissioning works, multiple switching to be done during tuning of CSD	NLDC	May be approved.
403	765KV Bus-I(GIS Section & Darlipali#1&2 dia) at Sundargarh	20-06-2019	09:00	21-06-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	May be approved.
404	132KV Kh-Kh	20-06-2019	09:00	20-06-2019	17:30	ODB	KAHALGAON	PM works and Relay Testing	BSEB	
405	400KV FKK-Bus Reactor-2	20-06-2019	09:00	21-06-2019	17:00	ODB	FARAKKA	Reactor testing & Emulsifier checking		
406	220KV MAIN BAY OF 400/220KV 315MVA ICT-1 AT DALTANGANJ	21-06-2019	09:30	21-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
407	400KV BINAGURI-Bongaigaon-1 main bay 412 at Binaguri	21-06-2019	10:00	10-07-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX	Propose after High hydro season	
408	400KV BINAGURI-Bongaigaon-2 main bay 415 at Binaguri	21-06-2019	10:00	10-07-2019	18:00	OCB	POWERGRID,ER-II	TBEA Bay upgradation work under ERSS-XX	Propose after High hydro season	
409	400KV BINAGURI-Bongaigaon-1 line	21-06-2019	10:00	21-06-2019	13:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX	Propose after High hydro season	Club with S.No 12
410	400KV BINAGUR-Bongaigaon-2 line	21-06-2019	14:00	21-06-2019	18:00	ODB	POWERGRID,ER-II	Jumper removal work under ERSS-XX as well as for Replacement and retrofitting of distance relay	Propose after High hydro season	Club with S.No 12
411	220kV Bus Coupler at New Melli	21-06-2019	11:00	21-06-2019	13:00	ODB	POWERGRID,ER-II	SF6 Gas Filling		
412	220 KV Birpara-New Siliguri Ckt-I	21-06-2019	08:00	21-06-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
413	414 Tie Bay of 500 MVA ICT#5 and 400 KV Subhasgram Haldia Line-2 at Powergrid,Subhasgram	21-06-2019	09:00	22-06-2019	17:00	OCB	POWERGRID,ER-II	Pole Inspection of 414 Breaker		
414	400KV CHAIBASA#1 & 400KV SUNDARGARH#1 TIE BAY (BAY NO.- 417)	21-06-2019	09:00	30-06-2019	18:00	OCB	ER-II/ODISHA/ROURKELA	RETROFITTING OF OLD HYDRAULIC OPERATED BHEL MAKE CB BY NEW SPRING-SPRING OPERATED CGPISL MAKE CB		
415	400 kV 403 Baripada-Duburi Line Main Bay at Duburi SS	21-06-2019	09:00	21-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
416	Jeypore-Gazuwaka-I FSC Bay	21-06-2019	08:00	21-06-2019	18:00	ODB	ER-II/Odisha/Jeypore	AMP of Jeypore-Gazuwaka-I FSC		
417	400KV Balangir-Angul Line Main BAY(401BAY)	21-06-2019	09:00	21-06-2019	18:00	ODB	ER-II/Odisha/Balangir	AMP for 401 52 CB and 401 CT		

418	400 kv (Quad) D/C Bongaigaon - Alipurduar line CKT- 1(BNG ALIP #1)	21-06-2019	08:00	21-06-2019	16:00	ODB	ENICL	AMP Work	NLDC	
419	400KV KTPS-Biharsharif Line#2	21-06-2019	09:00	21-06-2019	17:30	ODB	DVC	for preventive maintenance job	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
420	400KV BARH - PATNA CKT 3 & 4	22-06-2019	08:00	25-06-2019	18:00	ODB	POWERGRID ER-I	Realignmnet works of 400KV Barh- Motihari Line due to Construction of Barh Bypass by NHAI	NLDC	
421	400KV Bus -I at Patna	22-06-2019	09:30	23-06-2019	17:30	ODB	POWERGRID ER-I	Jumper connection of Bus isolator and Bus stability	BSEB	
422	315MVA ICT-1 at Binaguri	22-06-2019	10:00	22-06-2019	15:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
423	220 KV Birpara-New Siliguri Ckt-II	22-06-2019	08:00	22-06-2019	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
424	400 kv 4034 Tie Bay of Baripada Line & Bus Reactor at Duburi	22-06-2019	09:00	22-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
425	400 KV Keonjhar - Talcher # 2 Tie Bay (Bay No-402)	22-06-2019	09:00	22-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
426	Jeypore-Gazuwaka-II FSC Bay	22-06-2019	08:00	22-06-2019	18:00	ODB	ER-II/Odisha /Jeypore	AMP of Jeypore-Gazuwaka-II FSC		
427	400KV side Main bay(435) & Tie Bay (434) of 765/400KV ICT-4(future) at Sundergarh	22-06-2019	09:00	27-06-2019	18:00	OCB	ER-II/Odisha/Sundergarh	For Earth Switch Cleaning excersice		
428	Main Bay (433) of OPGC-1 Line	22-06-2019	09:00	24-06-2019	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. (If it is not availed on May)		
429	400 kv (Quad) D/C Bongaigaon - Alipurduar line CKT- 2(BNG ALIP #2)	22-06-2019	08:00	22-06-2019	16:00	ODB	ENICL	AMP Work	NLDC	NERPC approval may be obtained.
430	400kv Main bay of 400/220kv ICT 2 at Patna	23-06-2019	09:30	25-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
431	400 KV Subhasgram Rajarhat Line	23-06-2019	09:00	23-06-2019	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting & Testing	WB	
432	400 kv 404 Main Bay of 80 MVAR Bus Reactor at Duburi SS	23-06-2019	09:00	23-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
433	220KV JEYNAGAR-I Line	23-06-2019	08:00	23-06-2019	20:00	ODB	ER-II/Odisha /Jeypore	For 30 Years Old Line Isolator & TBC Isolator Retrofitting works of Jeynagar-I Bay	GRIDCO	
434	765KV Bus-II (GIS Section & Dharamjaygarh #1&2 dia)at Sundargarh	23-06-2019	09:00	24-06-2019	18:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	May be approved.
435	220kv Jamshedpur-JINDAL Tie	23-06-2019	08:00	23-06-2019	16:00	ODB	DVC	for installation of Tower top earthing between location 228 to 235	GRIDCO	
436	400KV MAIN BAY OF FARRAKA-S/C AT NEW PURNEA	24-06-2019	09:30	29-06-2019	18:00	OCB	POWERGRID ER-I	FOR SWAPING OF INTERRUPTER CHAMBER, FOR PIR TO NON PIR WITH GOKARNA MAIN CB.		
437	400KV MAIN BAY OF GOKARNA -S/C AT NEW PURNEA	24-06-2019	09:30	29-06-2019	18:00	OCB	POWERGRID ER-I	FOR SWAPING OF INTERRUPTER CHAMBER, FOR NON PIR TO PIR WITH FARRAKA MAIN CB.		
438	220KV MAIN BAY OF 400/220KV 315MVA ICT-2 AT DALTANGANJ	24-06-2019	09:30	24-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
439	400KV Main Bay of Nabinagar-1 at Sasaram	24-06-2019	09:00	24-06-2019	18:00	ODB	POWERGRID ER-I	AMP work		
440	400KV Bus 2 at Patna	24-06-2019	09:30	25-06-2019	17:30	ODB	POWERGRID ER-I	Jumper connection of Bus isolator and Bus stability	BSEB	
441	400\220KV 315 MVAICT -5 - at Rangpo	24-06-2019	08:00	29-06-2019	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work,		
442	400 KV Jeerat Sagardighi Line	24-06-2019	09:00	26-06-2019	17:00	ODB	POWERGRID,ER-II	A/R relay Testing in 400 KV Jeerat Sagardighi Line and Live line defects attending and defective isolator replacement in line..	WB	
443	Bus bar-1 at Indravati	24-06-2019	08:00	24-06-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works -Bus-1		All dia must be complete
444	400 kv 402 Main Bay of Duburi-Pandiabili Line at Duburi SS	24-06-2019	09:00	24-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
445	400 KV Talcher # 2 Main Bay (Bay No-403)	24-06-2019	09:00	24-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
446	220KV JEYNAGAR-I Line	24-06-2019	10:00	24-06-2019	13:00	ODB	ER-II/Odisha /Jeypore	For Change over of Jeynagar Line from TBC CB to Jeynagar-I Bay(204 CB) after Isolator Retrofitting works of 30 Years old 204 89C (Jeynagar -I Line Isolator)	GRIDCO	
447	220KV Side, BUS COUPLER BAY (204 BAY)	24-06-2019	09:00	24-06-2019	18:00	ODB	ER-II/Odisha/Balangir	AMP for 204 52 CB and 204 CT		
448	400 kv (Quad) D/C Alipurduar - Siliguri line CKT- 1(ALIP- SLG #1)	24-06-2019	08:00	24-06-2019	16:00	ODB	ENICL	AMP Work		
449	400KV Bus-2 AT NEW RANCHI	25-06-2019	09:00	26-06-2019	17:00	ODB	POWERGRID ER-I	AMP WORK (STATCOM out because it is connected through Bus-2 only and Bus-1 side main bay is not commissioned)		
450	220KV Bus Coupler Bay AT DALTANGANJ	25-06-2019	09:30	25-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		

451	400KV MAIN BAY OF 400/220KV 315MVA ICT-2 AT CHAIBASA	25-06-2019	09:30	25-06-2019	17:30	ODB	POWERGRID ER-I	CSD REPLACEMENT WORK.		
452	Tapping point of 400 KV D/C MID-KGP-CHANDITALA LILO LINE-(TL-56/0 &55/0).*****	25-06-2019	06:00	27-06-2019	17:00	OCB	POWERGRID,ER-II	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-- Subject to approval of ENGG and AM DEPT *****	WB	May be postponed to july
453	400 KV BUS-I of NTPC Farakka	25-06-2019	09:00	25-06-2019	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).	What other element will be out?	
454	400KV D/C (Twin Moose) Baharampur(India)-Bheramara (Bangladesh) CKT-I & CKT-II	25-06-2019	09:00	25-06-2019	17:00	ODB	POWERGRID,ER-II	Stringing of Newly constructed Bnagladesh -II crosising at LOC. NO. AP 68 & AP 69 with Bangladesh Line 1 (LOC NO 151 & LOC NO 152)	NLDC	subject to Bangladesh consent. Indent may be sent atleast 10 days in advance , so that Bangladesh can carry necessary load manangement
455	315 MVA ICT#1 at Rourkela	25-06-2019	09:00	25-06-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF EXISTING OLD ICT PROTECTION RELAYS WITH NEW NUMERICAL RELAYS		
456	Bus bar-2 at Indravati	25-06-2019	08:00	25-06-2019	17:00	ODB	ER-II/Odisha /Indravati	AMP works -Bus-2	What other element will be out?	
457	400 kv 4012 Tie Bay of Duburi-Pandiabili Line at Duburi SS	25-06-2019	09:00	25-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
458	220 kv Bus -I at Jeypore & 220 kv Bus Coupler CB(202 52)	25-06-2019	08:00	27-06-2019	18:00	OCB	ER-II/Odisha /Jeypore	For 30 Years old Isolator Retrofitting Works of Bus-I side Isolators of Jevnagar I. Jevnagar-2 & ICT-I & Bus Coupler Bay -TL Maintenance works -AMP work of Angul LR-1 at Sundergarh	GRIDCO	
459	765KV Sundergarh-Angul Ckt #1 with 240MVAR LR at Sundergarh	25-06-2019	07:00	25-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	-TL Maintenance works -AMP work of Angul LR-1 at Sundergarh	NLDC	May be approved.
460	400 kv (Quad) D/C Alipurduar - Siliguri line CKT- 2(ALIP- SLG #2)	25-06-2019	08:00	25-06-2019	16:00	ODB	ENICL	AMP Work		
461	132KV MAIN BAY OF 220/132KV ATR-1 AT DALTANGANJ	26-06-2019	09:30	26-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
462	400KV Tie Bay of Nabinagar & Spare Bay at Sasaram	26-06-2019	09:00	26-06-2019	18:00	ODB	POWERGRID ER-I	AMP work		
463	400kv Main Bay Barh-2 at Patna	26-06-2019	09:30	28-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
464	400kv Tie of Ballia 1 & Barh 2 at Patna	26-06-2019	09:30	27-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
465	80 MVAR Bus Reactor at Duburi SS	26-06-2019	09:00	26-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
466	400 KV Talcher # 1 Main Bay (Bay No-404)	26-06-2019	09:00	26-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
467	765KV Sundergarh-Angul Ckt #2 With 240MVAR LR at Sundergarh	26-06-2019	07:00	26-06-2019	17:00	ODB	ER-II/Odisha/Sundergarh	-TL Maintenance works AMP work of Angul LR-2 at Sundergarh	NLDC	May be approved.
468	132KV MAIN BAY OF 220/132KV ATR-2 AT DALTANGANJ	27-06-2019	09:30	27-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
469	400 KV Farakka-Sagardighi line-2	27-06-2019	09:00	27-06-2019	18:00	ODB	POWERGRID,ER-II	Replacement of earth pek at Tower no-103.	WB	
470	400 KV Subhasgram Sagardighi Line.	27-06-2019	09:00	29-06-2019	17:00	ODB	POWERGRID,ER-II	VT Selection work, A/R relay retrofitting & testing and Live line defects attending and defective isolator replacement in line.	WB	
471	315 MVA ICT#2 at Rourkela	27-06-2019	09:00	27-06-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF EXISTING OLD ICT PROTECTION RELAYS WITH NEW NUMERICAL RELAYS		
472	220 kv Bus-1 at Baripada	27-06-2019	09:00	27-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Isolator Alignment works	GRIDCO	
473	400KV GIS Bus-1 at Sundergarh	27-06-2019	09:00	27-06-2019	14:00	ODB	ER-II/Odisha/Sundergarh	for bus PT secondary circuit modification works		
474	400KV FKK-Bus Reactor-1	27-06-2019	09:00	28-06-2019	17:00	ODB	FARAKKA	Reactor & CB testing		
475	132KV MAIN BAY OF DALTANGANJ-I (JUSNL) AT DALTANGANJ	28-06-2019	09:30	28-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
476	132kv Rangpo Chuzachen and 132kv Rangpo Melli	28-06-2019	08:00	28-06-2019	18:00	ODB	POWERGRID,ER-II	For new Chuzachen bays LILO (Construction works)	Sikkim	

477	400KV D/C (Twin Moose) Baharampur(India)-Bheramara (Bangladesh) CKT-I & CKT-II	28-06-2019	09:00	28-06-2019	17:00	ODB	POWERGRID,ER-II	Stringing of Newly constructed Bnagladesh -II crosising at LOC. NO. AP 88 & AP 89 with Bangaladesh Line 1 (LOC NO 194 & LOC NO 195)	NLDC	subject to Bangladesh consent. Indent may be sent atleast 10 days in advance , so that Bangladesh can carry necessary load manangement
478	50 MVA ICT-IV AT MALDA	28-06-2019	09:00	15-08-2019	17:00	OCB	POWERGRID,ER-II	FOR REPLACEMENT OF 50 MVA ICT-IV BY 160 MVA ICT ALONG WITH BOTH SIDE BAYS AT MALDA UNDER ERSS-XXI.	WB	
479	125 MVAR BUS REACTOR-I at Rourkela	28-06-2019	09:00	28-06-2019	18:00	ODB	ER-II/ODISHA/ROURKELA	COMMISSIONING OF CSD IN ITS TIE BAY CB (42352 CB)		
480	220 kV Bus-2 at Baripada	28-06-2019	09:00	28-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Isolator Alignment works	GRIDCO	
481	220 kV Bus -II at Jeypore & 220 kV Bus Coupler CB(202 52)	28-06-2019	08:00	30-06-2019	18:00	OCB	ER-II/Odisha /Jeypore	For 30 Years old Isolator Retrofitting Works of Bus-II side Isolators of Jevnagar I, Jevnagar-2 & ICT-I & Bus Coupler Bay	GRIDCO	
482	400KV GIS Bus-2 at Sundergarh	28-06-2019	09:00	28-06-2019	14:00	ODB	ER-II/Odisha/Sundergarh	for bus PT secondary circuit modification works		
483	132KV MAIN BAY OF DALTANGANJ-II (JUSNL) AT DALTANGANJ	29-06-2019	09:30	29-06-2019	17:30	ODB	POWERGRID ER-I	Bay AMP		
484	400kv Main bay of Balia Line-2 at Patna	29-06-2019	09:30	30-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
485	400kv Main bay Barh 1 at Patna	29-06-2019	09:30	30-06-2019	17:30	OCB	POWERGRID ER-I	CB Overhauling		
486	400 KV Maithon-Right bank #2 line	29-06-2019	08:00	12-07-2019	18:00	OCB	POWERGRID,ER-II	Re-Conductoring work under ERSS-XVII	After completion of 400kv Gaya-Maithon-DC and 400kv Gaya-Koderma-DC	
487	125 MVAR Bus Reactor-2	29-06-2019	09:00	29-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
488	400 KV Talcher # 1 Tie Bay (Bay No-406)	29-06-2019	09:00	29-06-2019	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
489	400 KV Rajarhat Jeerat Line	30-06-2019	09:00	30-06-2019	17:00	ODB	POWERGRID,ER-II	A/R relay retrofitting & testing	WB	
490	132 kV Baripada-Bhograi Line 103 Bay	30-06-2019	10:00	30-06-2019	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
491	Biharsharif-Barhi (via Rajgir) 132kV line	20-06-2019	09:00	20-06-2019	17:00	ODB	BSPTCL	Reconductoring of Rajgir-Barhi section	1. Rajgir will avail power from BSF(SG) 2.S/D element is charged on no load from Barhi end	
492	220kv Biharsarif (PG)-Biharsarif Ckt-I	02/06/2019	09:00	02/06/2019	12:00	ODB	BSPTCL	Line Maintainance work	BSF(SG) will avail power from 220KV BSF(PG)-BSF ckt 2, 3 & 220kv TTPS T/L	
493	220kv Pusauli (PG)-Pusauli (BSPTCL)	02/06/2019	09:00	02/06/2019	15:00	ODB	BSPTCL	Over head line crossing of 220kv Pusauli (PG)-Pusauli (BSPTCL) & 220 KV Pusouli (PG)-Ara (PG) for LILO line construction on 2nd circuit of 220 KV Pusouli (PG)-Ara (PG) at Pusouli (BSPTCL).	GSS Pushauli will be powerless	
494	220kv Pusauli (PG)-Ara (PG)	02/06/2019	09:00	02/06/2019	15:00	ODB	BSPTCL	Over head line crossing of 220kv Pusauli (PG)-Pusauli (BSPTCL) & 220 KV Pusouli (PG)-Ara (PG) for LILO line construction on 2nd circuit of 220 KV Pusouli (PG)-Ara (PG) at Pusouli (BSPTCL).	GSS Pushauli will be powerless	
495	220 KV Gaya(PG)-Bodhgaya ckt 1	01-06-2019	10:00	07-06-2019	12:00	ODB	BSPTCL	Jumper tightening/replacement work at tension tower location no 1 & 03	During S/D period Bodhgaya will avail power from 220 kv D/C Khizersarai & another 220 KV Gaya (PG) ckt	
496	220 KV Gaya(PG)-Bodhgaya ckt 2	01-06-2019	12:30	01-06-2019	14:30	ODB	BSPTCL	Jumper tightening/replacement work at tension tower location no 1 & 03	During S/D period Bodhgaya will avail power from 220 kv D/C Khizersarai & another 220 KV Gaya (PG) ckt	

497	220 KV Gaya(PG)- Sonenagar ckt 1	02-06-2019	11:00	02-06-2019	13:30	ODB	BSPTCL	Jumper tightening/replacement work at tension towers	During S/D period GSS sonenagar will avail power from another Gaya(PG) ckt	
498	220 KV Gaya(PG)- Sonenagar ckt 2	02-06-2019	14:00	07-06-2019	16:00	ODB	BSPTCL	Jumper tightening/replacement work at tension towers	During S/D period GSS sonenagar will avail power from another Gaya(PG) ckt	
499	132kv Lakhisarai (PG) - Jamui ckt - 1	03-06-2019	11:00	03-06-2019	13:30	ODB	BSPTCL	Line maintainance work	During S/D period GSS Jamui will avail power from another 132kv Lakhisarai (PG) ckt	
500	132kv Lakhisarai (PG) - Jamui ckt 2	03-06-2019	14:00	03-06-2019	16:30	ODB	BSPTCL	Line maintainance work	During S/D period GSS Jamui will avail power from another 132kv Lakhisarai (PG) ckt	
501	220kv Patna(PG)-Sipara ckt3	03-06-2019	09:00	08-06-2019	17:00	OCB	BSPTCL	For stringing work of 220kv D/C Patna(PG)-Khagaul T/L	1.GSS Sipara will avail power from 220KV Patna(PG)-Sipara ckt 1 & 2. 2.There will be load restriction of around 25-30 MW	
502	220kv Patna(PG)-Sipara ckt1 ,2,& 3	09-06-2019	09:00	09-06-2019	14:00	ODB	BSPTCL	For stringing work of 220kv D/C Patna(PG)-Khagaul T/L	1.GSS Sipara will avail power from GSS Fatuha 2.There will be load restriction of around 115-135 MW	
503	132 KV NTPC(Kahalgaoon)-Sabour S/C T/L	02-06-2019	10:00	02-06-2019	16:00	ODB	BSPTCL	For replacement of damaged Y-phase conductor between loc. No. 1 & loc. No. 2	1. This line is charged on NO LOAD from NTPC (Kahalgaoon) end . 2.There will be no any load restriction.	
504	220 Kv Pushauli-Sasaram (PG) S/C T/L	02-06-2019	10:00	02-06-2019	10:15	ODB	BSPTCL	Over head line crossing of 220kv Pusauli (PG)-Pusauli (BSPTCL) & 220 KV Pusouli (PG) Ara (PG) for LILO line construction on 2nd circuit of 220 KV Pusouli (PG)-Ara (PG) at Pusouli (BSPTCL).	Pushauli will avail power from Ara(PG)	
505	220 Kv Pushauli-Ara (PG) S/C T/L	02-06-2019	10:30	02-06-2019	10:45	ODB	BSPTCL	Over head line crossing of 220kv Pusauli (PG)-Pusauli (BSPTCL) & 220 KV Pusouli (PG) Ara (PG) for LILO line construction on 2nd circuit of 220 KV Pusouli (PG)-Ara (PG) at Pusouli (BSPTCL).	This line is generally charged on no load	
506	220 kv Muzaffarpur (PG) -Hajipur ckt - 1	04-06-2019	10:00	04-06-2019	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	
507	220 kv Muzaffarpur (PG) -Hajipur ckt - 2	04-06-2019	12:00	04-06-2019	16:00	ODB	BSPTCL	Tree pruning work	GSS Hazipur will avail power from 220kv D/C BTPS T/L & another 220kv Muzaffarpur(PG) T/L	
508	132kv D/C Motihari (DMTCL)-Motihari	01-06-2019	09:00	01-06-2019	16:00	ODB	BSPTCL	Line maintainance work	GSS Motihari may be availed from Gss Motipur Gss Dhaka may avail from Sitamarhi.	

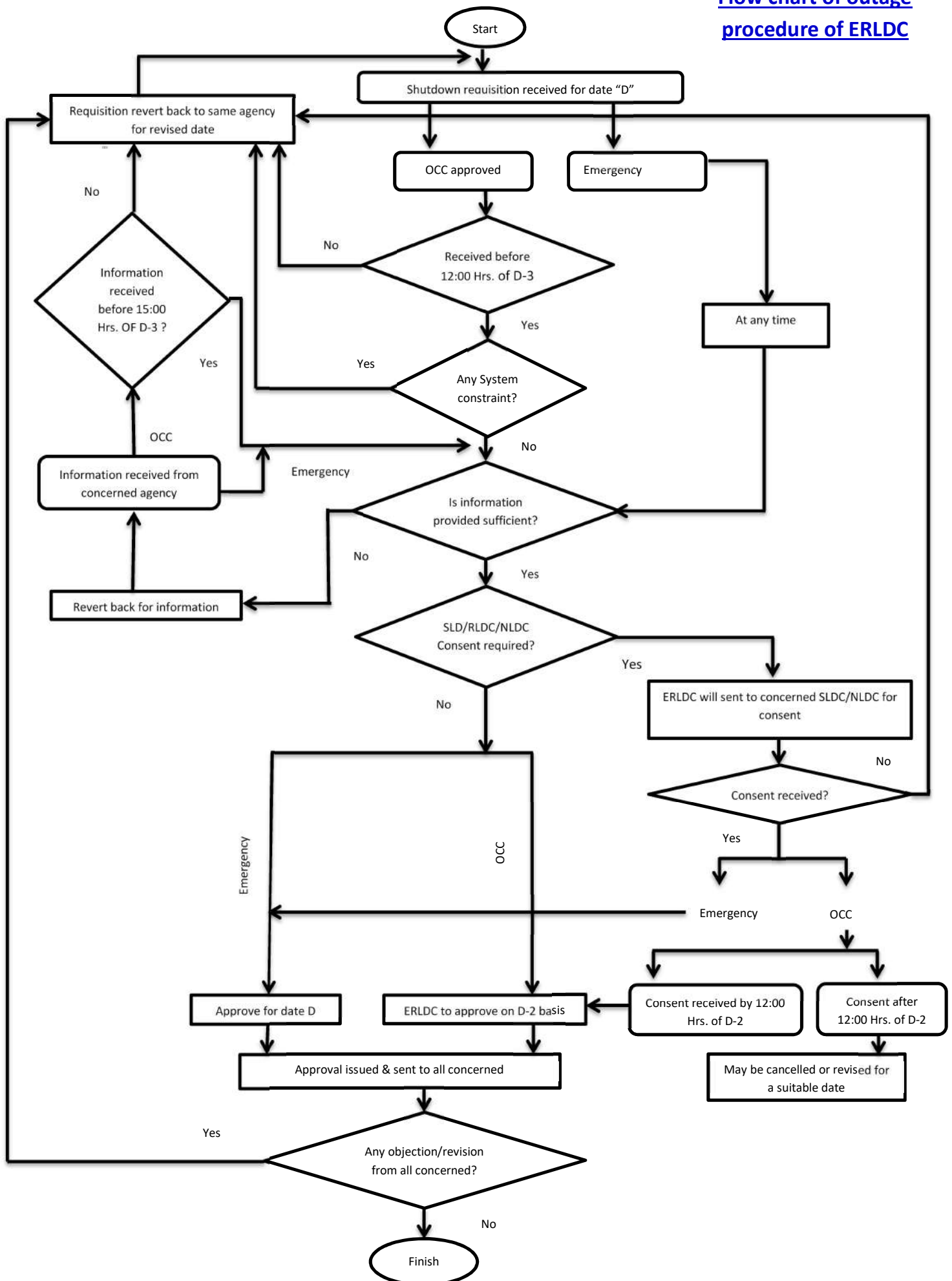
509	220 kv Darbhanga (DMTCL)-Laukahi ckt 1 & ckt2	12-06-2019	10:00	16-06-2019	16:00	ODB	BSPTCL	Line Maintainance work	1.132kv GSS Phulparas avail power from pandaul 2.Laukahi will avail power from 220KV D/C Madhepura 3.There will be no any load restriction	
510	132 KV Bettiah-Narkatayiganj-Ramnagar T/L	04-06-2019	11:00	05-06-2019	16:00	ODB	BSPTCL	line maintence work	1.gss ramnagar may power avail from nepal end 2.gss narkatiyaganj will be power less.	
511	220 kv Darbhanga (DMTCL)-Motipur ckt 1	03-06-2019	10:00	03-06-2019	17:00	ODB	BSPTCL	erection of new GE make plcc & Digital protection coupler at DMTCL(Darbhanga) and Motipur end.	1. 220kv MTPS-Motipur & one off the ckt 220kv DMTCL - Motipur line will remain in service 2.There will be no any load restiction	
512	221 kv Darbhanga (DMTCL)-Motipur ckt 2	04-06-2019	10:00	04-06-2019	17:00	ODB	BSPTCL	erection of new GE make plcc & Digital protection coupler at DMTCL(Darbhanga) and Motipur end.	1. 220kv MTPS-Motipur & one off the ckt 220kv DMTCL - Motipur line will remain in service 2.There will be no any load restiction	
513	220 KV Darbhanga(DMTCL)-Ujjayarpur S/C T/L	10-06-2019	09:00	10-06-2019	18:00	ODB	BSPTCL	Line Maintainance work	Ujjayarpur will avail power from alternate sources.	
514	400 kV Baripada-Pandiabili	20-05-2019	06:00	28-05-2019	18:00	OCB	ER-II/Odisha/ Pandiabili	Erection of Collapsed Tower No.-717 and Stringing of 400 kV Baripada-Pandiabili & New Duburi-Pandiabili line		
515	400 kV Meramundali-Mendhasal Ckt 1&2 (OPTCL)	27-05-2019	06:00	28-05-2019	18:00	OCB	ER-II/Odisha/ Pandiabili	D-Stringing of 400 kV Baripada-Pandiabili line (Which is on ERS) and stringing of Conductor for 400 kV Baripada-Pandiabili & New Duburi-Pandiabili line on new tower		
516	220 kV Mendhasal-Chandaka Ckt 1&2 (OPTCL)	27-05-2019	06:00	28-05-2019	18:00	OCB	ER-II/Odisha/ Pandiabili	D-Stringing of 400 kV Baripada-Pandiabili line (Which is on ERS) and stringing of Conductor for 400 kV Baripada-Pandiabili & New Duburi-Pandiabili line on new tower		
517	400KV Kahalgaon-Lakhisarai -1	27-05-2019	10:00	27-05-2019	11:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
518	400KV Kahalgaon-Lakhisarai -2	27-05-2019	11:00	27-05-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
519	400KV Kahalgaon-Banka-1	27-05-2019	12:00	27-05-2019	13:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
520	400KV Kahalgaon-Banka-2	27-05-2019	15:00	27-05-2019	16:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
521	400KV Kahalgaon-Farakka-1	27-05-2019	16:00	27-05-2019	17:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
522	400KV Kahalgaon-Farakka-2	28-05-2019	10:00	28-05-2019	11:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
523	400KV Kahalgaon-Farakka-3	28-05-2019	11:00	28-05-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
524	400KV Kahalgaon-Farakka-4	28-05-2019	12:00	28-05-2019	13:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
525	400KV Kahalgaon-Maithon-1	28-05-2019	15:00	28-05-2019	16:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
526	400KV Kahalgaon-Maithon-2	28-05-2019	16:00	28-05-2019	17:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
527	400KV Kahalgaon-Barh-1	29-05-2019	10:00	29-05-2019	11:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
528	400KV Kahalgaon-Barh-2	29-05-2019	11:00	29-05-2019	12:00	ODB	NTPC/POWERGRID	For Interfacing work in PMU		
529	400KV Alipurduar-Binaguri-1	27-05-2019	10:00	27-05-2019	11:00	ODB	POWERGRID	For Interfacing work in PMU		
530	400KV Alipurduar-Binaguri-2	27-05-2019	11:00	27-05-2019	12:00	ODB	POWERGRID	For Interfacing work in PMU		
531	400KV Alipurduar-Bongaigaon-1	27-05-2019	12:00	27-05-2019	13:00	ODB	POWERGRID	For Interfacing work in PMU		
532	400KV Alipurduar-Bongaigaon-2	27-05-2019	15:00	27-05-2019	16:00	ODB	POWERGRID	For Interfacing work in PMU		
533	800KV Alipurduar-Agra-1	28-05-2019	11:00	28-05-2019	13:00	ODB	POWERGRID	For Interfacing work in PMU		
534	800KV Alipurduar-Agra-2	28-05-2019	15:00	28-05-2019	17:00	ODB	POWERGRID	For Interfacing work in PMU		
535	800KV Pole-3	29-05-2019	11:00	29-05-2019	13:00	ODB	POWERGRID	For Interfacing work in PMU		
536	800KV Pole-4	29-05-2019	15:00	29-05-2019	17:00	ODB	POWERGRID	For Interfacing work in PMU		

537	400KV Jeerat-Sagardighi TL	03-06-2019	11:00	03-06-2019	13:00	ODB	POWERGRID	For Interfacing work in PMU		
538	400KV Jeerat-Rajarhat TL	03-06-2019	14:00	03-06-2019	16:00	ODB	POWERGRID	For Interfacing work in PMU		
539	400KV Talcher-Meramandali-1	03-06-2019	10:00	03-06-2019	12:30	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
540	400KV Talcher-Meramandali-2	03-06-2019	11:30	03-06-2019	12:30	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
541	400KV Talcher-Rengali-2	03-06-2019	15:00	03-06-2019	16:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
542	220KV TTPS-Meramandali-1	05-06-2019	10:00	05-06-2019	11:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
543	220KV TTPS-Meramandali-2	05-06-2019	11:00	05-06-2019	12:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
544	220KV TTPS-Rengali	05-06-2019	12:00	05-06-2019	13:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
545	220KV TTPS-Joda-1	05-06-2019	15:00	05-06-2019	16:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
546	220KV TTPS-Joda-2	05-06-2019	16:00	05-06-2019	18:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		May be taken only after return of ckt-i which is under long outage
547	220KV TTPS-Kaniha	06-06-2019	10:00	06-06-2019	11:00	ODB	NTPC/OPTCL/POWERGRID	For Interfacing work in PMU		
548	400KV Rajarhat-Subhasgram	08-06-2019	11:00	08-06-2019	12:00	ODB	POWERGRID	For Interfacing work in PMU		
549	400KV Rajarhat-Jeerat	09-06-2019	11:00	09-06-2019	12:00	ODB	POWERGRID	For Interfacing work in PMU		
550	STATCOM at Jeypore	20-06-2019	11:00	20-06-2019	14:00	ODB	ER-II/Odisha/Jeypore	For interfacing work in PMU		
551	400 kV Bus - A	29-06-2019	07:00	29-06-2019	20:00	ODB	MPL	Bus maintenance job		
552	400 kV Bus - B	31/06/19	07:00	31/06/19	20:00	OBD	MPL	Bus maintenance job		
553	132 KV Banka(PG)-Sabour ckt 1	10-06-2019	08:00	21-06-2019	17:00	OBD	BSPTCL	For tightening of Nuts & Bolts of Jumpers at 37 nos of angle tower		
554	133 KV Banka(PG)-Sabour ckt 2	22-06-2019	08:00	03-07-2019	17:00	OBD	BSPTCL	For tightening of Nuts & Bolts of Jumpers at 37 nos of angle tower		
555	220 Kv Pushauli-Sasaram (PG) S/C T/L	10-06-2019	10:00	10-06-2019	10:15	ODB	BSPTCL	Jumper connection of LILO line at Pushauli GSS	Pushauli will avail power from Ara(PG)	
556	220 Kv Pushauli-Ara (PG) S/C T/L	10-06-2019	10:30	10-06-2019	10:45	ODB	BSPTCL	Jumper connection of LILO line at Pushauli GSS	This line is generally charged on no load	

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 D'JAIGARH-JHARSUGUDA III	10-06-2019	09:00	10-06-2019	18:00	ODB	WRPC	For Replacement of Broken Insulator, ckt-4 A/R to be keep in Non auto mode & D'garh end dia to be kept open for bay & line equipment AMP works .		
2	765KV D'JAIGARH-JHARSUGUDA IV	11-06-2019	09:00	11-06-2019	18:00	ODB	WRPC	For Replacement of Broken Insulator, ckt-3 A/R to be keep in Non auto mode & D'garh end dia to be kept open for bay & line equipment AMP works .		
3	765KV D'JAIGARH-RANCHI I	18-06-2019	09:00	19-06-2019	18:00	ODB	WRPC	For Auto Reclose Testing works & For Replacement of 50 nos. open/hanging quad line spacer & D'garh end dia to be kept open for bays & line equipment AMP works .		
4	765KV D'JAIGARH - JHARSUGUDA 1	28-06-2019	09:00	28-06-2019	18:00	ODB	WRPC	For Auto Reclose Testing works & ckt-2 A/R to be keep in Non auto mode for line AMP & D'garh end dia to be kept open for bay & line equipment AMP works .		
5	765KV D'JAIGARH - JHARSUGUDA 2	29-06-2019	09:00	29-06-2019	18:00	ODB	WRPC	For Auto Reclose Testing works & ckt-1 A/R to be keep in Non auto mode for line AMP & D'garh end dia to be kept open for bay & line equipment AMP works .		
6	FATEHPUR-PG (765 KV)-SASARAM-ER (765KV)	20-05-2019	08:00	27-05-2019	18:00	ODB	ERPC	Strengthening of suspension towers delta configuration (419 Nos.). Not considered by 158 OCC earlier		
7	BALIA(400KV)-PATNA-ER (400KV)3	10-06-2019	08:00	12-06-2019	18:00	ODB	ERPC	For replacement of porcelain insulator with polymer for Tension Tower at ballia end.		
8	BALIA(400KV)-PATNA-ER (400KV)4	13-06-2019	08:00	15-06-2019	18:00	ODB	ERPC	For replacement of porcelain insulator with polymer for Tension Tower at Ballia		

Flow chart of outage procedure of ERLDC



ERLDC Shutdown approval process flow and time line-reg.

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

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

To tackle all the above following suggestions may be considered:

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

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 _____		