



# Minutes of **165<sup>th</sup> OCC Meeting**

**Date: 07.02.2020**  
**Eastern Regional Power Committee**  
**14, Golf Club Road, Tollygunge**  
**Kolkata: 700 033**

## **Eastern Regional Power Committee**

### **Minutes of 165<sup>th</sup> OCC Meeting held on 22<sup>nd</sup> January 2020 at ERPC, Kolkata**

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

#### **Item no. 1: Confirmation of minutes of 164<sup>th</sup> OCC meeting of ERPC held on 23.12.2019**

The minutes of 164<sup>th</sup> OCC meeting were uploaded in ERPC website and circulated vide letter dated 31.12.2019 to all the constituents.

ERPC Secretariat has received a request for amendment against the item no. B9 of OCC minutes. The original minutes as well as amendment sought are as follows:

#### **Original Recording**

*OCC advised Teesta Urja Limited to coordinate with NHPC for necessary action at their end to maintain reservoir level for the construction work.*

#### **Amendment Requested**

*Regarding the request of NHPC to Teesta III, it was informed by TUL that the same would be discussed mutually between NHPC and TUL.*

Members may deliberate and confirm the minutes of 164<sup>th</sup> OCC meeting.

#### **Deliberation in the meeting**

*OCC accepted the amendment sort by TUL. Thereafter OCC accepted the minutes of 164<sup>th</sup> OCC Meeting issued by ERPC Secretariat with the above amendment.*

## **PART A: ER GRID PERFORMANCE**

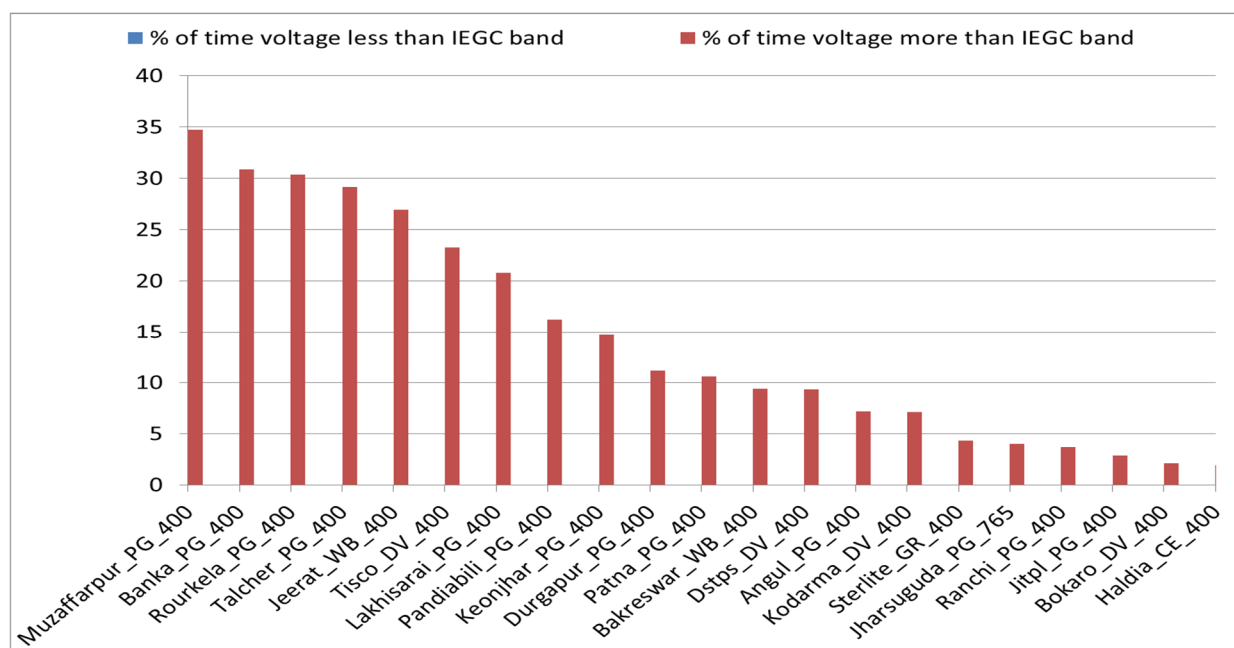
#### **Item no. A1: ER Grid performance during December, 2019**

The average consumption of Eastern Region for December - 2019 was 349 Mu. Eastern Region energy consumption reached a monthly maximum of 363 Mu on 30th December - 2019. Total Export schedule of Eastern region for December - 2019 was 3272 Mu, whereas actual export was 3222 Mu.

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

- 1. Frequency profile**
- 2. Over drawal/under injection by ER Entities**
- 3. Performance of Hydro Power Stations during peak hours**
- 4. Performance of ISGS during RRAS**
- 5. Reactive Power performance of Generators**
- 6. Over Voltage issue in ER substations**

High voltage is observed at different nodes in Eastern Region during the month of November and first week of December. Some of the nodes where voltage is beyond IEGC upper limit for significant amount of time during the month of December are shown below.



It can be seen that many of the high voltage nodes are generator nodes or close to generator node. As generators are not absorbing sufficient MVAR as per their capability curve is one of the reason for this sustained high voltage.

## 7. Restricted Governor /Free Governor Mode Operation of generators in ER

In 164<sup>th</sup> OCC, ERLDC presented the performance of the generators for a case of 1644 MW load loss on 1<sup>st</sup> November 2019.

OCC observed that the governor performance of the ER generators is not satisfactory and some constituents had not submitted the relevant details to ERLDC for detail analysis. During deliberation it was also emerged that there was a confusion in understanding the CERC regulation by the Generators.

DVC informed that they had already taken corrective action for Andal unit 1 and Mejia unit 7 & 8 in consultation with BHEL and ERLDC.

DVC added that the performance of the units would be reviewed and further action would be taken to improve the performance of other units of DVC.

After detailed deliberation, OCC decided the following:

- All the Generators and SLDCs shall formulate a systematic procedure to submit the relevant details to ERLDC for necessary analysis.
- The performance of the Generators shall be submitted to CERC for further necessary action
- ERLDC shall convene a separate meeting with IPPs, ISGS and state wise generators for better understanding of CERC regulations on RGMO/FGMO.

ERLDC informed that a workshop on “Calculation of FRC” would be held at ERLDC, Kolkata on 16<sup>th</sup> & 17<sup>th</sup> January 2020.

OCC advised all the SLDCs and Generating utilities to attend the workshop.

### **Deliberation in the meeting**

*ERLDC presented the performance of the Eastern Regional Grid during December 2019. The presentation is enclosed at **Annexure-A1**.*

*ERLDC presented a detailed analysis of the drawl and generation pattern of the Eastern Regional constituents. It emerged from the presentation that GMR and JITPL were under generated for significant times.*

*OCC advised GMR and JITPL to maintain the generation as per the schedule.*

*ERLDC highlighted that the reactive power performance of Adhunik is not satisfactory during high voltage. Adhunik units are not absorbing VAR from Grid during the high voltage.*

*OCC advised APNRL to take necessary action within a week to improve the reactive power performance.*

*ERLDC added that reactive power performance of Barh needed to be improved. The performance can be improved as the margin is available for absorbing more VAR during high voltage.*

*Powergrid informed that 10km out of 42 km reconductoring work of 400 KV Maithon – MPL – II has been completed. Powergrid added that they are unable to progress the work due to severe ROW issues hence they are planning to return the line for operation.*

*ERLDC informed that on 20<sup>th</sup> January 2020, at 12:36hrs, 1085 MW generation loss occurred at Chandrapur in WR due to bus bar protection operation. ERLDC requested all SLDCs to assess FRC and regional generating units are advised to assess primary frequency response at their boundary area and share the details with ERLDC along with reason of non-satisfactory response (if any) within one week.*



## **PART B: ITEMS FOR DISCUSSION**

### **Item No. B.1: Automatic Under Frequency Load Shedding (AUFLS) Scheme**

In the 2<sup>nd</sup> meeting of NPC held on 16<sup>th</sup> July 2013, the following AUFLS scheme with 4 stages of frequency viz. 49.2 Hz, 49.0 Hz, 48.8 Hz & 48.6 Hz had been decided to implement in all the regions:

| AUFLS             | Frequency (Hz) | Load relief in MW |             |             |             |            |              |
|-------------------|----------------|-------------------|-------------|-------------|-------------|------------|--------------|
|                   |                | NR                | WR          | SR *        | ER          | NER        | Total        |
| Stage-I           | 49.2           | 2160              | 2060        | 2350        | 820         | 100        | 7490         |
| Stage-II          | 49.0           | 2170              | 2070        | 2360        | 830         | 100        | 7530         |
| Stage-III         | 48.8           | 2190              | 2080        | 2390        | 830         | 100        | 7590         |
| Stage-IV          | 48.6           | 2200              | 2100        | 2400        | 840         | 100        | 7640         |
| <b>Total (MW)</b> |                | <b>8720</b>       | <b>8310</b> | <b>9500</b> | <b>3320</b> | <b>400</b> | <b>30250</b> |

\*SR grid not integrated with NEW grid at that point of time.

The scheme had been implemented throughout the country.

In 7<sup>th</sup> NPC meeting held on 08<sup>th</sup> September 2017, it was agreed that there is need for review of the quantum of load shedding. The RPCs were to deliberate on additional slabs of frequency as well as raising the set frequency for UFR operation and inform the outcome to NPC.

In 8<sup>th</sup> NPC meeting, held on 30.11.2018, members agreed for the AUFLS scheme with 4 stages and raising the frequency by 0.2 Hz viz. 49.4, 49.2, 49.0 & 48.8 Hz. It was further decided that the quantum for AUFLS would be reworked by NPC Secretariat considering the requirement of load shedding to increase the frequency to 50 Hz in each stage of AUFLS operation.

In 9<sup>th</sup> NPC meeting held on 22.11.2019, it was decided to implement the AUFLS scheme with 4 stages and raising the frequency by 0.2 Hz viz. 49.4, 49.2, 49.0 & 48.8 Hz by keeping the quantum for AUFLS same as decided in 2<sup>nd</sup> NPC Meeting. It was also decided that a committee with all RPCs and NLDC would study and review the required quantum for each slab of AUFLS and submit a report to NPC. Minutes of the meeting are awaited.

The total load quantum for ER constituents is given below:

| Control Area         | Stage –I (49.4 Hz) (MW) | Stage –II (49.2 Hz) (MW) | Stage–III (49.0Hz) (MW) | Stage–IV (48.8Hz) (MW) | Total Relief by Control Area |
|----------------------|-------------------------|--------------------------|-------------------------|------------------------|------------------------------|
| <b>Bihar</b>         | 98                      | 99                       | 99                      | 101                    | 397                          |
| <b>Jharkhand</b>     | 61                      | 62                       | 61                      | 62                     | 246                          |
| <b>DVC</b>           | 134                     | 135.5                    | 136                     | 137                    | 542.5                        |
| <b>Odisha</b>        | 181.5                   | 183.5                    | 184                     | 186                    | 735                          |
| <b>WB &amp; CESC</b> | 345.5                   | 350                      | 350                     | 354                    | 1399.5                       |
| <b>Total</b>         | <b>820</b>              | <b>830</b>               | <b>830</b>              | <b>840</b>             | <b>3320</b>                  |

In 42<sup>nd</sup> TCC, all the constituents were advised to implement the revised AUFLS scheme as per the NPC decision within a month and submit a report to ERPC Secretariat and ERLDC.

TCC decided to review the implementation status in the next OCC Meeting.

In 164<sup>th</sup> OCC, all the SLDCs and STUs were advised to implement the revised AUFLS scheme by 1<sup>st</sup> week of January 2020 and submit a report to ERPC Secretariat and ERLDC.

Members may update.

### **Deliberation in the meeting**

*JUSNL informed that revised AUFLS scheme had been implanted in Jharkhand except at Lalmatia and Jamthara.*

*DVC, Bihar and Odisha agreed to implement the revised AUFLS scheme by 31<sup>st</sup> January 2020. WBSETCL and CESC agreed to implement the revised AUFLS scheme by 15<sup>th</sup> February 2020.*

### **Item No. B.2: Installation of SPS at 400kV Durgapur (PG) S/S--DVC**

With the Installation of the 3<sup>rd</sup> ICT 400/220KV and 400KV Bus Splitting at PGCIL Parulia S/Stn different loading imbalances have been observed in the Interconnected network of DVC.

- (i) Drawl through 220KV Parulia PGCIL – Parulia DVC Tie Line has increased and on occasions load reaches to the tune of 220 -230MW per line.
- (ii) Sometimes 25% of this power is again transferred to WBSETCL Bidhannagar through the 220KV D/C DTPS (DVC) – WBSETCL Bidhannagar Tie Line although a 400KV D/C Connectivity exists between PGCIL Durgapur and WBSETCL Durgapur. For this ERLDC occasionally has to open the 220KV DTPS – WBSETCL Durgapur Tie Line for system stability.
- (iii) Unit Generation at MTPS and DTPS have to be maintained at a certain level to avoid overloading of 220KV D/C Parulia PG – Parulia DVC Tie Line.
- (iv) Power in 2 No's ICT in PGCIL Durgapur would flow from 400KV to 220KV and in One in the reverse direction.

This problem has been discussed at different Forums and finally at the CEA and CTU level the following was submitted and has already been placed in the AGENDA for 1<sup>st</sup> ERPC-TP which was supposed to be held on January 2019. Inference was as follows:

- (i) Second 220KV D/C Line between Durgapur PG and Parulia DVC (approx 1 KM) along with associated bays at both ends. However DVC may also opt for bunching of conductors to save for additional bays, provided the capacity of bay equipment support the higher current on account of bunching.
- (ii) Shifting of 400/220KV, 315MVA ICT – 1 from Durgapur – A section to Durgapur – B Section in the space vacated by shifting of bus reactor ( Shifting of 420KV 125MVar bus reactor – 4 in Durgapur – B section is required to create space for shifting and installation of 400/220KV, 315MVA ICT-I.

Incidentally 220KV D/C Parulia PGCIL – DVC Parulia lines are very important tie lines and complete disconnection of both the lines may have an adverse effect on the DVC system. In the present scenario, tripping of one of the 220KV Lines would create overloading of the other line causing the same to trip, thereby causing a complete 220KV TIE disconnection from CTU. The above 2 inference would completely mitigate the problem.

Till the implementation of the above, implementation of SPS at PGCIL end may be looked into wherein with the tripping of one number 220KV PGCIL – DVC Tie line, 2 numbers of ICT may be tripped so that one ICT along with one 220KV Tie Line would be sufficient to meet the loads of DVC with 220KV D/C DTPS(DVC) – WBSETCL Bidhannagar tie supporting for the rest.

Since DVC is the sole beneficiary in 220KV system from PGCIL Durgapur, hence tripping of ICT would not hamper any other interconnecting system.

Members to discuss.

### **Deliberation in the meeting**

It was informed that issue of overloading of 220kV Durgapur(PG)-Parulia D/c line was discussed in different fora. From the discussion, it was emerged that loading of 220kV Durgapur(PG)-Parulia D/c line would be reduced after commissioning of LILO of 220kV Waria-Parulia line at DSTPS.

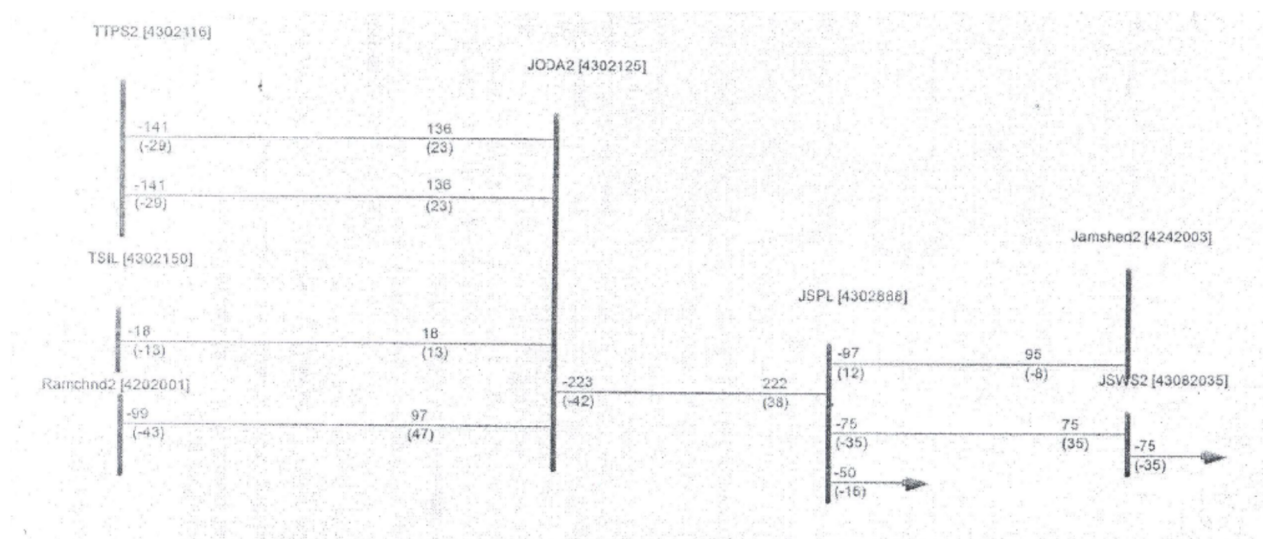
DVC added that LILO would be completed tentatively in last of March 2020.

After detailed deliberation, it was decided that requirement of SPS at Durgapur (PG) would be discussed based on the real time power flows after commissioning of LILO of 220kV Waria-Parulia line at DSTPS.

### Item No. B.3: Implementation of SPS to avoid overdrawl from Jamshedpur (DVC) S/s

In 8<sup>th</sup> SSCM, OPTCL informed that they need power assistance of maximum 55 MW from 220kV Jamshedpur S/s, DVC to meet the load of JSPL during replacement work of the conductor of 220kV Joda-JSPL line.

DVC agreed to provide maximum 55 MW from 220kV Jamshedpur S/s during the conductor replacement work, however DVC requested to implement SPS to avoid over drawl from 220kV Jamshedpur S/s during any contingency in the system.



Members may discuss.

### Deliberation in the meeting

DVC in principle agreed to provide maximum 55 MW (50 MW of JSPL load and 5 MW of JSW load) from 220kV Jamshedpur S/s, however DVC requested to implement SPS to avoid over drawl from 220kV Jamshedpur S/s during any contingency in the system.

OCC advised OPTCL to give a requisition and other relevant details to DVC.

OCC decided to discuss the SPS in a separate meeting with all the concerned utilities.

### Item No. B.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<br>2. System Frequency < 49.9 Hz AND deviation > 12 % or 50 MW<br>3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW | In service from 21 <sup>st</sup> August 2019.  | Condition 1: Block I feeders will be selected for load shedding<br>Condition 2: Block I & II feeders will be selected for load shedding<br>Condition 3: Block I, II & III feeders will be selected for load shedding |
| 5  | Odisha    | 1. System Frequency < 49.9 Hz<br>2. Odisha over-drawl > 150 MW<br>3. DISCOM over-drawl > (40 MW)  | 10 Months Sent for PSDF approval. It was informed that tender for the work has been floated. | 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 42<sup>nd</sup> TCC, Bihar informed that the testing of ADMS would be done by end of December 2019.

Odisha informed that ADMS would be implemented by May 2020.

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

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

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

In 164<sup>th</sup> OCC, Bihar informed that the testing of ADMS would be done by end of December 2019.

ERLDC informed that they would prepare a draft regarding uniform logic and settings for ADMS and would give a presentation on this in next OCC Meeting.

ERLDC may give a presentation. Members may discuss.

### **Deliberation in the meeting**

*Bihar informed that ADMS had been tested on 10<sup>th</sup> January 2020 but it was not successful.*

*ERLDC gave a presentation on the uniform logic. The presentation is enclosed at **Annexure-B4**. The proposed logic for ADMS operation is given below:*

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

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

#### **Item No. B.5: Implementation of Automatic Generation Control in Eastern Region**

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

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

- I. All thermal ISGS stations with installed capacity of 200 MW and above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC are directed to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by NLDC. NLDC shall notify the said requirements within one month of this order.
- II. All such ISGS stations whose tariff is determined or adopted by CERC shall have communication from the nearest wide band node to the RTU in the unit control room.
- III. The Central Transmission Utility (CTU) is directed to have communication availability from NLDC/ RLDCs to the nearest wide band node/ switchyard for the generating stations in a redundant and alternate path ensuring route diversity and dual communication.
- IV. The NLDC is also directed to commission the required communication infrastructure.
- V. The expenditure as a result of compliance of the above directions may be claimed as per relevant regulations or provisions of the PPA.
- VI. The NLDC is directed to monitor implementation of the above directions so that all the ISGS stations whose tariff is determined or adopted by CERC are AGC-enabled within six months of this order.
- VII. The framework regarding compensation for AGC support and deviation charges as stipulated in the Commission's Order in Petition no. 79/RC/2017 dated 06.12.2017 shall apply to the five pilot projects as also to other ISGS as and when they are AGC enabled. This arrangement shall remain in place till the relevant regulations inter alia on compensation for AGC services are framed by the Commission.
- VIII. NLDC/RLDCs are allowed to operate the AGC system for enabling the signals to the power plants at the earliest.
- IX. All new thermal ISGS stations with installed capacity of 200 MW and above and hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC shall mandatorily have the capability to provide AGC support.

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

#### **A. Status of implementation of AGC for ISGS stations**

The list of plants identified for AGC operation by NLDC in Eastern Region are as given below:

| <b>S. No.</b> | <b>Power Plant</b>    | <b>Thermal/Hydro</b> | <b>Cap (MW)</b> |
|---------------|-----------------------|----------------------|-----------------|
| 1             | Farakka STPS – I & II | Thermal              | 1600            |
| 2             | Kahalgaoon STPS – II  | Thermal              | 1500            |

|    |                                 |         |      |
|----|---------------------------------|---------|------|
| 3  | Barh STPS                       | Thermal | 1320 |
| 4  | Maithon Power Limited           | Thermal | 1050 |
| 5  | Talcher STPS – I                | Thermal | 1000 |
| 6  | Kahalgaoon STPS – I             | Thermal | 840  |
| 7  | Nabinagar Thermal Power Project | Thermal | 750  |
| 8  | NPGC                            | Thermal |      |
| 9  | Darlipalli                      | Thermal |      |
| 10 | Teesta – V                      | Hydro   | 510  |
| 11 | Farakka STPS – III              | Thermal | 500  |
| 12 | MTPS Stage - II                 | Thermal | 390  |
| 13 | Rangit                          | Hydro   | 60   |

In 161<sup>st</sup> OCC, all the ISGS stations were advised to implement the AGC within 6 months as per the above CERC order.

In 163<sup>rd</sup> OCC, NHPC and NTPC informed that they are in process of implementation of AGC at their stations in coordination with NLDC. The technical specifications have been prepared.

This issue was further deliberated in the 2<sup>nd</sup> TeST meeting held on 26.11.2019 at ERPC, Kolkata.

*MS, ERPC raised concerns about the present reporting of AGC data signal from generating stations to NLDC and concerned RLDC is getting data through NLDC over ICCP protocol.*

*NLDC informed that, as a part of pilot project of AGC, all generating stations' AGC data would be directly reporting to NLDC for first 3 years and the same would be diverted to respective RLDCs after SCADA upgradation.*

*NTPC raised the concern about the bandwidth requirement, list of signals and cable requirement for implementation of AGC.*

*NLDC informed that all generating stations must make arrangement for extending the AGC data signals to the nearest POWERGRID node and POWERGRID shall make available two Ethernet ports (main & its redundant) so that AGC signal from generating stations should reach to NLDC.*

*NLDC further informed that requirement for AGC implementation like list of signals, bandwidth requirement, hardware, software & cable requirement etc. are made available at POSOCO website (<https://posoco.in/spinning-reserves/>).*

*ERLDC suggested that firewalls should be available at both end i.e. at Generator end as well as NLDC end. NLDC informed that they have a firewall at their end in their system.*

*All generating stations agreed to install adequate level of firewall at their end for extending the AGC signals.*

*ERLDC raised concern about AGC implementation of Nabinagar (BRBCL) as OPGW communication link from generating station to nearest POWERGRID S/S i.e. 400 kV Sasaram is not available.*

*ERPC advised NLDC to add NPGC, Nabinagar (2x660 MW) in AGC implementation list as this station is commissioned in November 2019. NLDC agreed for the same.*

*It was decided to take the above issue to the next TCC/ERPC meeting for further deliberation.*

*In 42<sup>nd</sup> TCC, NTPC and NHPC informed that they would place the order by March 2020 and implement the AGC by June 2020. MPL informed that AGC would be implemented by February 2020.*

*Powergrid informed that only single communication connectivity is available at MPL, Teesta V and Rangit. Other generating stations are having dual communication connectivity.*

*TCC advised all generating stations to make arrangement for extending the AGC data signals to the nearest POWERGRID node.*

## **B. Status of implementation of AGC as a pilot project in states**

*In 162<sup>nd</sup> OCC, WBPDCCL submitted that Bakreswar TPP is planning to implement AGC but there is no clarity on the source from where to receive the AGC control signal (from SLDC/ERLDC). This aspect needed to be clarified first.*

*In the meeting, it was clarified that AGC signal for intra-state generating stations would be generated by the concerned SLDC and the relevant communication path is to be established between SLDC to plant. For ISGS stations, the AGC signal would be sent from NLDC.*

*OCC advised SLDC, WB to establish the required hardware for generating AGC signal at SLDC.*

*In 163<sup>rd</sup> OCC, OPGC and SLDC, Odisha were advised to formulate the plan jointly for implementation of AGC. OCC advised them to submit the schedule of implementation of AGC to ERPC and ERLDC within a week.*

*All SLDCs and their respective state sector generators were advised to visit Barh STPS as well as to NLDC to have a first-hand knowledge on the implementation and functioning of AGC at control centre level as well as at generating station level.*

Summary of status of implementation:

| State       | Station/Unit            | Action plan  |
|-------------|-------------------------|--|
| DVC         | Mejia unit#8            | <ul style="list-style-type: none"> <li>Finalization of technical specification, vendors and estimation: 30<sup>th</sup> November 2019</li> <li>NIT 31<sup>st</sup> January 2020</li> <li>Order placement 30<sup>th</sup> March 2020</li> <li>Commissioning of AGC 31<sup>st</sup> July 2020</li> </ul> |
| West Bengal | Unit-5 of Bakreswar TPP | SLDC, WB to establish the required hardware for generating AGC signal at SLDC.   |
| Odisha      | Unit#3 of OPGC          | SLDC, Odisha and OPGC agreed to submit their plan by 1 <sup>st</sup> week of November 2019   |

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

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

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

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

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

### **C. Issues related to AGC at Barh Stage-II (both units)**

NTPC informed that AGC at Barh Stage-II (both units) had been implemented on 23<sup>rd</sup> August 2019. But they are facing following issues related to AGC Implementation:

1. AGC Down schedule during Technical Minimum SG (Effective Ex Bus Schedule less than Technical Minimum- 680.63 MW)
2. AGC UP Schedule during full SG (Effective Ex Bus Schedule more than full capacity- 1237.5 MW)
3. Ramp Rate more than declared Ramp Rate (90 MW in a 15 Min block) due to AGC Schedule.
4. Violation of sign change regulation due to AGC schedule

*In 42<sup>nd</sup> TCC, NLDC confirmed that ramping issue has already been addressed.*

*NTPC and NLDC agreed to interact and settle the remaining issues.*

Members may update.

### **Deliberation in the meeting**

*Members noted.*

### **Item No. B.6: Outage of important transmission lines**

#### **1. 400 kV Kishenganj-Patna D/C lines:**

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

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

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

In 163<sup>rd</sup> OCC, Powergrid informed that both circuits of 400 kV Kishenganj-Patna D/C line would be restored through ERS by December 2019. Powergrid added that permanent restoration of both the circuits of 400 kV Kishenganj-Patna D/C lines would be completed by March 2020.

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

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

Powergrid may update.

### **Deliberation in the meeting**



*Powergrid informed that both circuits of 400 kV Kishenganj-Patna D/C line would be restored through ERS within two days.*

*It was informed that a special meeting with the concerned utilities would be held at Patna on 24<sup>th</sup> January 2020.*

## **2. 400 kV Purnea-Biharshariff D/c lines:**

In 161<sup>st</sup> OCC, ENCL informed that they were planning for the permanent restoration of the line using special high-performance conductor (HPC with ACCC conductor) between tower AP46/9A and AP47/1. 400 kV Purnea-Biharshariff D/c would be restored by end of November 2019.

In 162<sup>nd</sup> OCC, ENCL informed that 400 kV Purnea-Biharshariff D/c would be restored by 30<sup>th</sup> November 2019.

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

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

In 163<sup>rd</sup> OCC, ENCL informed that 400 kV Purnea-Biharshariff D/c would be restored by 30<sup>th</sup> November 2019.

In 164<sup>th</sup> OCC, ENCL informed that stringing of the conductor had been completed and stringing of OPGW is in progress.

ENCL added that they would charge 400 kV Purnea-Biharshariff D/c line by 27<sup>th</sup> December 2019.

*ENCL vide mail dated 29th December 2019 informed that 400 kV Purnea-Biharshariff D/c line was charged successfully on 29th December 2019.*

## **Deliberation in the meeting**

*Members noted.*

## **3. 400 kV Barh-Motihari D/C and 400 kV Barh-Gorahkpur D/C lines**

In 161<sup>st</sup> OCC, ERLDC informed that 400 KV Gorahkpur –Motihari(DMTCL) –D/C were out since 13/08/2019 on tower collapse at LOC 27/0 and 400 KV Barh–Motihari(DMTCL) –D/C were out since 04/09/2019 on tower collapse at LOC 26/0.

*In 163<sup>rd</sup> OCC, OCC advised Powergrid to make direct connectivity i.e. 400 kV Barh- Gorahkpur D/C line, till restoration of the LILO portion of Motihari.*

*Powergrid agreed to make direct connectivity with Twin Moose conductor but DMTCL has to do the necessary destringing of the conductor of the LILO section with the original line to enable PGCIL to establish the direct connectivity.*

*OCC advised DMTCL to complete the destringing work at the earliest so that Powergrid could start the bypass arrangement.*

*In 164<sup>th</sup> OCC, Member Secretary, ERPC informed that a separate meeting with the concerned utilities would be conducted at Patna, Bihar in January 2020.*

DMTCL vide mail dated 11th January 2020 informed that de-stringing of 400kV Barh-Gorakhpur ckt-1&2 of LILO section work completed. Detail report is enclosed at **Annexure-B6**.

Members may update.

### **Deliberation in the meeting**

*It was informed that a special meeting with the concerned utilities would be held at Patna on 24<sup>th</sup> January 2020.*

#### **Item No. B.7: Detailed guidelines for assessment of ramping capability of thermal ISGS-ERLDC**

Proviso (iii) to regulation 30(2) of CERC (Terms and Conditions of Tariff) regulations, 2019 specify that

“In case of thermal generating stations with effect from 1.4.2020:

- a) Rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
- b) An additional rate of return in equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019”

As per the direction detailed guidelines for operationalization of this provision have been prepared by NLDC and published on POSOCO website seeking feedback from stakeholders. The draft detailed guidelines are posted at the following link

“[https://posoco.in/wp-content/uploads/2020/01/Ramp\\_Assessment\\_detailed-guidelines\\_6Jan2020.pdf](https://posoco.in/wp-content/uploads/2020/01/Ramp_Assessment_detailed-guidelines_6Jan2020.pdf)”

Suggestions/feedback on these draft guidelines for assessment of ramping capability of thermal inter-state generating stations may kindly be forwarded to [feedback-ramp@posoco.in](mailto:feedback-ramp@posoco.in) by **21st January 2020**. Considering the suggestions and feedback received, the guidelines would be finalized and issued.

Members may note.

### **Deliberation in the meeting**

*Members noted.*

#### **Item No. B.8: Testing and Calibration of Special type Energy Meter**

Presently, POWERGRID have installed about 1310 nos. of Special Energy meters of 0.2 class accuracy in 765/400/220/132kV substations at about 189nos of locations in Eastern Region covering states of Orissa, West Bengal, Sikkim, Bihar and Jharkhand.

Out of 1310 no of meters installed in ER, around 768 meters (all L&T make) at 157 locations are more than five years old. Moreover, Testing and calibration of around 307 Interface meters in ER was last carried out in year 2013 i.e. more than 6 years ago. A list of 140 no of meters which are severely drifted in time is already communicated to POWERGRID for replacement and accordingly, replacement work has started. In view of the above, remaining 628 meters may be tested and calibrated as per the provision of aforesaid regulation. Further Time correction of meters of drifted meters may also be done (under testing and calibration).

In 162nd OCC, Powergrid submitted that out of 768 L&T meters, 140 would be removed from service by November 2019. Testing will be done for the remaining meters and the detailed plan

for the same including cost of testing would be submitted in the upcoming OCC. Powergrid clarified that in case of any abnormal results found during the testing, those L&T meters would be replaced by Genus meters and the defective L&T meters would be sent for calibration.

*In 163<sup>rd</sup> OCC Meeting held on 15.11.19, POWERGRID informed that they received the offer of 68 Lakhs (approx.) for testing and calibration of said 628 L&T meters.*

OCC referred the issue to Commercial Sub-Committee for concurrence.

In 41<sup>st</sup> CCM, POWERGRID representative informed that the testing and calibration of 628 L&T meters is required as per the provisions of existing metering regulation since they were tested and calibrated a long back. Further, if any, time correction is necessary that would also be done.

However, ERPC and ERLDC opined that CEA is coming up with new metering regulation along with technical specifications (5 min & 15 min provision) of meters for future requirement of grid. Since the testing and calibration of the proposed meters has cost implication, it was agreed that the same may kept in abeyance till issuance of further guidelines or regulations by competent authority.

The Matter was referred to forthcoming TCC/ERPC meeting.

In 42<sup>nd</sup> TCC, TCC decided the followings:

- 50 % of total old L&T Meters shall be tested and calibrated.
- ERLDC shall prepare the priority list for SEMs to be tested which are old and highly time drifted.
- Powergrid shall carry out testing and calibration for the old L&T meters as per the list.

In 164<sup>th</sup> OCC, ERLDC submitted the priority list of meters to be tested & calibrated. The list is enclosed at **Annexure-B8**.

Powergrid should take necessary action expeditiously on receipt of requisite information from ERLDC and inform the progress made in the next OCC Meeting.

ERLDC and Powergrid may update.

### **Deliberation in the meeting**

*Powergrid informed that necessary action has been taken to carry out testing and calibration of the meters. It would take 6 months to complete the work.*

### **Item No. B.9: Review of implementation of PSDF approved projects of Eastern Region.**

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

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

A Detailed statement of the Eastern Region project entities approved in PSDF is enclosed as **Annexure-B9**.

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

Members may update.

### **Deliberation in the meeting**

Members updated the status. The updated status is enclosed at **Annexure-B9**.

### **Item No. B.10: FGD phasing plan for units commissioned after 31.03.2018--CEA**

CEA requested to provide the phasing plan for the following units commissioned after 31.03.2018:

| S.N | Developer | Project Name    | Sector   | State  | Region | Unit No | Cap. (MW) | DT-of COMMISSIONING (DD/MM/YYYY) |
|-----|-----------|-----------------|----------|--------|--------|---------|-----------|----------------------------------|
| 1   | NTPC      | Nabi Nagar TPP  | Central  | Bihar  | ER     | U-3     | 250       | 26/02/2019                       |
| 2   | NTPC      | Nabi Nagar STPP | Central  | Bihar  | ER     | U-1     | 660       | 29/03/2019                       |
| 3   | OPGCL     | Ib valley TPP   | State Se | Odisha | ER     | U-3     | 660       | 20/04/2019                       |
| 4   | OPGCL     | Ib valley TPP   | State Se | Odisha | ER     | U-4     | 660       | 11/05/2019                       |

NTPC and OPGC may update.

### **Deliberation in the meeting**

NTPC and OPGC submitted the FGD plan as given below:

- BRBCL unit 3 10.04.2023
- NPGC unit 1 14.06.2022
- OPGC unit 3 & 4 31.12.2023

### **Item No. B.11: WIDE DEVIATION OF REAL TIME GENERATION/SCHEDULE GENERATION(SG) OF TALA WITH RESPECT TO DECLARED CAPACITY---WBSEDCL**

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

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

Members may discuss.

### **Deliberation in the meeting**

WBSEDCL explained that the Schedule Generation (SG) of Tala HEP differs widely w.r.t that of day ahead declared capacity. In few days the deviation in generation was in tune of 100 to 130 MW during the peak hours.

WBSEDCL informed that they are facing severe problem in balancing the load and generation due to the wide deviation in Tala HEP generation.

DGPC informed that they are giving the schedule to NLDC, Bhutan and they are generating as per the schedule declared.

OCC decided to communicate the issue to NLDC, Bhutan.

**Item No. B.12: Segregation of Tala and Chukha Energy--ERLDC**

Order related to Dagachu scheduling was issued by Honorable CERC on 11<sup>th</sup> Sept'14 vide order no 187/MP/2014. Para 15(ix) of this order is stated below:

Quote

*(viii) From the total power injected at Binaguri (New Siliguri) and Birpara, the actual injection of Dagachhu power as furnished by NLDC Bhutan / the designated Nodal Agency shall be subtracted to arrive at the total power of Tala and Chukha injected at Indian periphery.*

*(ix) The total power of Tala and Chukha so arrived above will be apportioned amongst Tala and Chukha in the ratio of the Tala and Chukha receipt at Indian periphery in the corresponding month of the previous year as per the published figure in the Regional Energy Accounts.*

Unquote

In view of the above, Tala and Chukha actual generation were calculated on the basis of REA of corresponding month of previous year. After deriving the components of injection of Tala and Chukha at Indian periphery, figure is forwarded to ERPC.

However, it was observed during the lean season that after adjusting Dagachu Power from the export of net power from Bhutan power at Indian Boundary, Bhutan has net import of India Power and accordingly, Bhutan REA during lean hydro season of previous year is as below:

| Month  | Chukha (Birpara Receipt) MWh | Tala (Binaguri Receipt) MWh | Ratio for Tala-Chukha Segregation | Ratio applied for Segregation                |
|--------|------------------------------|-----------------------------|-----------------------------------|--|
| Jan'19 | 2614.622                     | -----                       | N/A                               | Ratio of Dec'18 wef 01.12.2019 and continued |
| Feb'19 | 6630.766                     | -----                       | N/A                               | Decision pending                             |
| Mar'19 | 30757.309                    | -----                       | N/A                               | Decision pending                             |

In view of above, due to non-availability of Binaguri receipt data at Indian Periphery, segregation of Tala and Chukha energy at Indian Periphery for the month from Jan'19 to March'19 is not possible.

Members may discuss and finalize the method.

**Deliberation in the meeting**

OCC decided to consider January 2018 to March 2018 data for segregation of Tala and Chuka energy at Indian Periphery.

**Item No. B.13: Replacement of energy meter of 400kV Tata-Binaguri-II at Binaguri--DGPC**

DGPC informed that Power Grid has replaced the main energy meter of 400kV Tala-Binaguri feeder-II at Binaguri on December 24, 2019 without any intimation to Tala Power Plant (DGPC). It came to the knowledge of Tala HEP only during midnight while collecting the energy meter

reading from Binaguri end for the day. This clearly shows the energy meter was replaced without taking shutdown of the line and energy for the time taken to replace the meter was therefore, not accounted.

DGPC and Powergrid may explain.

#### **Deliberation in the meeting**

*OCC advised Powergrid to intimate the concerned utilities of Bhutan before replacing the energy meter.*

*ERLDC agreed to take care the energy computation during the meter replacement period.*

#### **Item No. B.14: Report of expert group to review India Electricity Grid Code(IEGC)--ERLDC**

The Commission vide office order dated 28.5.2019 constituted an Expert Group to review "Indian Electricity Grid Code and other related issues" under the Chairmanship of Shri Rakesh Nath, Ex-Chairperson, CEA & Ex-Member (Tech) of APTEL with Shri A.S.Bakshi, Ex-Chairperson, CEA & Ex-Member, CERC, Shri Ravinder, Ex-Chairperson, CEA & ExChief (Engg.), CERC as Members and Shri S.C.Shrivastava, Chief (Engg.), CERC as Member, Convenor. The group co-opted Shri S.R.Narasimhan, Director (S.O), POSOCO and Shri Hemant Jain, Chief Engineer (G.M), CEA as Members of the Expert Group.

The Terms of Reference (TOR) are as follows:

- a) To review the provisions of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 based on past experience, recent developments in the power system of India, changes in market structure and the future challenges which includes high level of renewable penetration in the grid, introduction of new products in market.
- b) Suggest appropriate regulatory intervention and prepare draft IEGC making recommendation for proposed amendment or changes in the existing Grid Code.

The Expert Group has finalized its recommendation as per comments received from various stake holder and several expert group meetings in the form of draft Indian Electricity Grid Code (IEGC), 2020, which is published in CERC website at the following link

<http://cercind.gov.in/2020/reports/Final%20Report%20dated%2014.1.2020.pdf>

Members may note.

#### **Deliberation in the meeting**

*OCC members requested Member Secretary, ERPC to conduct a workshop on the draft Indian Electricity Grid Code (IEGC), 2020 for better understanding.*

*Member Secretary, ERPC agreed to conduct the workshop in February 2020.*

#### **Item No. B.15: Updated Black Start and Restoration Procedure of Eastern Region – ERLDC**

In compliance with clause 5.8 (a) and (b) of the present IEGC, The Restoration Procedure has to be developed and updated annually by RLDC in consultation with NLDC, all users, STU,SLDC,CTU, RPC Secretariat of the region.

Draft copy of "Black Start and Restoration Procedure" was circulated on 16th Jan 2020 for review and feedback from stake holder. All stake holder are requested to give comments by 27th Jan 2020.

So that the procedure can be finalized by 30th Jan 2020.

Members may note.

### **Deliberation in the meeting**

*OCC advised all the constituents to give their comments at the earliest to [erldcprotection@posoco.co.in](mailto:erldcprotection@posoco.co.in).*

### **Item No. B.16: Additional agenda**

#### **1. Upgradation of existing Differential/REF/Backup over current Relays in different ICT/Reactor and Distance relay in different feeders of ER-I (From Static to IEC-61850 Compliant Numerical Relays).--Powergrid**

In various Sub-stations of POWERGRID ER-I which were commissioned before 2010 are having static type differential, Back up over current, REF relays installed in ICT/Reactor also in some transmission lines old & outdated distance relay .e.g EPIC also installed. In such relays DR , event data storing features are not available which create difficulty while analysis of tripping. Furthermore, service and spare support of such relay are not available from the respective OEM, in case of any issue arise during service due to end of life of product. Considering above and to make the system more reliable, POWERGRID ERTS-I has planned for phase wise replacement of existing static type above mentioned relays with numerical one. Shutdown of few elements in which relay replacement works carried out has been proposed in 160th OCC. As S/D of the elements taken for system improvement as well as increasing the reliability of the system, outage of the elements taken on account of said relay replacement may kindly be considered as deemed available as per the provisions of the regulation.

### **Deliberation in the meeting**

*It was informed that the deemed availability would be considered as per the CERC guidelines.*

## **PART C: ITEMS FOR UPDATE**

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

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

Members may note.

#### **Deliberation in the meeting**

*Members noted.*

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

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

Bihar may update.

#### **Deliberation in the meeting**

*Bihar was advised to review the UFR feeders as per the revised system configuration and suggested to shift the UFRs to unimportant radial loads.*

### **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 108<sup>th</sup> 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 December, 2019 has been received from CTPS, DVC, NTPC, West Bengal, JUSNL, WBPDC and CESC.

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

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

DVC may update.

#### **Deliberation in the meeting**

*Members noted.*



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

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

| Sl. No. | Name of the SPS    | Healthiness certificate received from | Healthiness certificate not received from |
|---------|--------------------|---------------------------------------|---|
| 1.      | Talcher HVDC       | NTPC, GMR,                            | JITPL, Powergrid,                         |
| 2.      | SPS in CESC system | CESEC                                 | Nil                                       |

Members may update.

### Deliberation in the meeting

Members noted.

### Item no. C.4: Review of the PSS Tuning of Generators in Eastern Region --ERLDC

On 31<sup>st</sup> 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.

In 42<sup>nd</sup> TCC, members updated the status as follows:

| Generating Power Plant   | Observation  | Status of Action Plan to be informed to OCC  |
|--|--|--|
| All Units of DVC Generating Plant  | Oscillation Observed at DSTPS on 24th April 2019 and other Oscillation events in the past.   | DVC gave consolidated plan for its units in 162 <sup>nd</sup> OCC  |
| All Units of OPGC and OHPC, Sterlite   | PSS are tuned long back and in many units PSS have not been tuned but are in service.  | OPGC units—Feb 2020<br>OHPC informed that they will submit the plan in January 2020.   |
| Sikkim Hydro Complex (Teesta-III, Teesta-V, Chujachen, Dikchu, Tashiding, Jorethang) | In view of Oscillation during the 16th April 2019 events and changes in Network configuration in Sikkim hydro Complex with augmentation of lines | Teesta-III: PSS Tuned on 21 Oct. 2019.<br><br>Dikchu: Done on 23 <sup>rd</sup> Nov. 2019.<br><br>Jorethang: Jan. 2020<br>Chujachen and Tashiding: Feb 2020<br>Teesta-V: March 2020 |
| MPL Plant  | Due to Change in Network configuration during to bus splitting at Maithon.   | MPL Unit-2: 14th June-2019 during AOH.<br>MPL Unit-1: Planned during AOH in Jan-2020.  |
| APNRL Plant  | Oscillation with Low Damping during transient and switching observed at the plant.   | APNRL attempted in Nov 2019 but not successful.  |
| Farakka NTPC Power Plant   | With Augmentation of new lines and changes in network configuration with upcoming bus split at Kahalgaon.  | PSS Tuning of Unit 4, 5 and 6 has been done.<br>Unit 1&2 are planned in December 2019. Unit 3 after  |

|                                      |  |   |
|--------------------------------------|--|---|
|                                      |  | overhauling.  |
| NPGC/BRBCL/KBUNL<br>NTPC Power Plant | The new units have been commissioned however there are no details on the PSS tuning activity in line with Indian Electricity Grid Code and CEA Grid Connectivity Standards | NPGC: December 2019—<br>report received<br>BRBCL: Unit 2 completed. |
| GMR                                  | Was done in 2013 and retuning is required with change in the network at Angul.   | During overhauling in Dec 2020                                      |
| Sterlite 4 X 600 MW                  | Due to network changes.  | Plan not yet submitted (Orissa SLDC)                                |

TCC advised all the concerned generating stations to take appropriate action to carry out PSS tuning of their units as per the schedule and submit the report to ERPC and ERLDC.

*In 164<sup>th</sup> OCC, ERLDC placed the detail list of generators where the PSS tuning is yet to be done and PSS tuning details received from the generators. Details are enclosed at **Annexure-C4**.*

*OCC advised all the concerned generators to submit the plan to carry out the PSS tuning.*

Members may update.

#### **Deliberation in the meeting**

*HEL informed that PSS tuning of HEL units had been done.*

*OCC advised all the generators to go through Annexure C4 and submit the action plan to carry out the PSS tuning.*

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

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

| SI No | State/Utility | TTC import(MW) |        | RM(MW) |        | ATC Import (MW) |        | Remark |
|-------|---------------|----------------|--------|--------|--------|-----------------|--------|--------|
|       |               | Import         | Export | Import | Export | Import          | Export |        |
| 1     | BSPTCL        | 5300           | --     | 100    | --     | 5200            | --     | Jan-20 |
| 2     | JUSNL         | 1172           | --     | 31     | --     | 1141            | --     | Apr-20 |
| 3     | DVC           | 1465           | 2873   | 63     | 50     | 1402            | 2850   | Apr-20 |
| 4     | OPTCL         | 3293           | 1112   | 86     | 62     | 3207            | 1053   | May-20 |
| 5     | WBSETCL       | 3639           | --     | 400    | --     | 3238            | --     | Jan-20 |
| 6     | Sikkim        | 295            | --     | 2.5    | --     | 292.5           | --     | Dec-19 |

Members may update.

#### **Deliberation in the meeting**

*ERLDC informed that Sikkim had discontinued to send the ATC and TTC.*

*OCC advised Sikkim to compute the ATC and TTC and send the details to ERLDC on monthly basis.*

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

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

| Sl no | Name of Hydro Station | Schedule                             | Tentative Date   | Schedule                   | Tentative Date                               |
|-------|-----------------------|--------------------------------------|--|----------------------------|--|
|       |                       | Test-I                               |  | Test-II                    |  |
| 1     | U.Kolab               | Last week of May, 2019               | Done on 19 <sup>th</sup> July 2019                               | Last Week of January 2020  | January 2020                                 |
| 2     | Maithon               | 1 <sup>st</sup> week of June 2019    | Taken up only after replacing the governing systems of the units | 1st Week of February 2020  |  |
| 3     | Rengali               | 2 <sup>nd</sup> week of June 2019    | Done on 27 <sup>th</sup> June 2019                               | Last week of November 2020 | Done on 17 <sup>th</sup> January 2020        |
| 4     | U. Indarvati          | 3 <sup>rd</sup> week of June 2019    | Done on 7 <sup>th</sup> November 2019                            | 2nd week of February 2020  |  |
| 5     | Subarnarekha          | 1 <sup>st</sup> week of October 2019 | Done 20 <sup>th</sup> August 2019                                | 1st week of January 2020   | 12 <sup>th</sup> Feb 2020                    |
| 6     | Balimela              | 3 <sup>rd</sup> week of October 2019 | Done on 17 <sup>th</sup> July 2019                               | 1st week of March 2020     | Dec 2019                                     |
| 7     | Teesta-V              | 2 <sup>nd</sup> week of May 2019     | Done on 28 <sup>th</sup> Nov 2019                                | Last week of February 2020 |  |
| 8     | Chuzachen             | Last Week of Dec 2019                | Done on 5 <sup>th</sup> December 2019                            | Last week of March 2020    |  |
| 9     | Burla                 | Last Week of June 2019               | Done on 20 <sup>th</sup> July 2019                               | Last week of February 2020 | December 2019                                |
| 10    | TLDP-III              | 1st Week of June 2019                | November-19  | 2nd Week of January 2020   |  |
| 11    | TLDP-IV               | Last Week of June 2019               | December-19  | 1st Week of February 2020  |  |
| 12    | Teesta-III            | Last Week of Oct 2019                |  | First Week of March 2020   |  |
| 13    | Jorthang              | First Week of May 2019               |  | First Week of Feb 2020     |  |
| 14    | Tasheding             | 2nd Week of May 2019                 |  | 2nd Week of Feb 2020       |  |
| 15    | Dikchu                | Sep 2019                             |  | 3rd Week of Feb 2020       | 19 <sup>th</sup> & 20 <sup>th</sup> Feb 2020 |

Members may update.

### **Deliberation in the meeting**

*Members updated the status as mentioned in above table.*

### **Item no. C.7: Mock Blackstart and controlled separation exercise at Teesta III--ERLDC**

As per IEGC each blackstart capable power plant needs to demonstrate its blackstart capability twice every year. Further as per the schedule the mock black start of Teesta-III is scheduled in the end of October 2019. Thus to carryout mock black start exercise with radial load of Bihar at Kishanganj and nearby substations a two steps procedure is proposed.

### **Step-1:- Controlled separation of one running unit at Teesta-III with loads at Kishanganj (Bihar) for formation of Island**

A controlled island will be formed in first step by taking some local load at 220 kV Kishanganj (Bihar), this requires bus split arrangement at Teesta-III, 400 kV/220 kV Kishanganj (PG) and

220 kV Kishanganj(Bihar). Once island is formed, system is expected to run in islanded mode for 15-20 minutes. After Teesta-III unit will be switched off resulting in collapse of island.

## **Step-2:- Blackstart of one unit at Teesta-III and extension of power to Kishanganj**

Then after tripping the machine blackstart needs to be initiated from DG set and after successful synchronisation of one of the unit power will be extended to the loads of already created island, the island may be operated with the loads for 15-20mins, before synchronising with grid at 400 kV Kishanganj(PG)

Teesta III is a pelton turbine so it may operate on any load. However, Minimum requirement of 20 MW has been known by telephonic conversation with station personnel.

*In 162<sup>nd</sup> OCC, ERLDC informed that it is a preliminary scheme, the detailed scheme would be prepared and it will be circulated to concerned utilities. The scheme would be finalized after receiving the suggestions from concerned utilities.*

*In 164<sup>th</sup> OCC, ERLDC informed that they had received the relevant details. They would conduct a meeting with the concerned constituents through VC for finalization of scheme.*

Members may discuss.

## **Deliberation in the meeting**

*A meeting was held in ERLDC on 22<sup>nd</sup> Jan 2020 for discussing the mock black start exercise wherein the following was agreed:*

- 1. Mock black start exercise of Teesta III HEP will be done in the month of March 2020 (as per the schedule finalized by OCC)*
- 2. Load will be extended to 132 kV radially connected loads from Teesta III through one 400 kV bus at Teesta III HEP - one 400 kV bus at Kishanganj (PG) – One 400/220 kV ICT at Kishanganj (PG) - one 220 kV bus at Kishanganj (PG)- one 220 kV Kishanganj – Kishanganj circuit – One 220 kV Kishanganj (BSPTCL) bus – 220/132 kV ICT at Kishanganj (BSPTCL) - 132 kV Kishanganj Bus.*
- 3. Following information to be sent by Teesta III HEP/Powergrid/BSPTCL to ERLDC*

| <i>Information to be shared</i>   | <i>Utilities</i>                |
|---|---------------------------------|
| <i>400/220 kV SLD of Kishanganj S/S (both PG and BSPTCL), Availability of 132 kV B/C or 132 kV bus sectionalizer at Kishanganj S/S (BSPTCL)</i> | <i>PG ERTS – I &amp; BSPTCL</i> |
| <i>Radial load from Kishanganj (BSPTCL) during noon (From 11 am to 5 pm schedule is zero)</i>   | <i>BSPTCL</i>                   |
| <i>Minimum load step change along with forbidden zone (if any)</i>  | <i>Teesta III HEP</i>           |

- 4. After receiving above information, ERLDC will formulate plan for mock black start in consultation with stakeholders.*

## **Item no. C.8: Summary of Status Update on Previous agenda items in OCC**

| <b>OCC</b> | <b>Agenda</b>   | <b>Decision</b>   | <b>Status Update</b>  |
|------------|---|---|---|
| <b>152</b> | <b>Item No. B3: Installation of PMUs for observation of the dynamic performance of STATCOMs</b> | Powergrid informed that M/s GE had agreed to supply and install of 4 no's PMUs for 4 STATCOMs in the Eastern Region within the quantity variation clause under the existing URTDSM Project. | Powergrid informed that 4 no's PMUs for 4 STATCOMs have been installed. |
| <b>155</b> | <b>C.22: Collection of</b>  | OCC advised all the constituents  | 157 <sup>th</sup> OCC advised all the                                   |

|     |   |  |   |
|-----|---|--|---|
|     | <b>modeling data from Renewable as well as conventional energy generators: ERLDC</b>                    | to submit the details of renewable power plants of 5 MW and above.   | SLDCs to submit the details to ERPC and ERLDC.<br>Format along with an explanation for collection of Wind and Solar Data has been shared by ERLDC to all SLDC.<br><b>Bihar/ West Bengal and Orissa are having Solar Plant with more than 5 MW capacity. However, details were received only from some of the plants in Odisha.</b>  |
| 156 | <b>Low frequency Oscillation at MTDC BNC-ALP-Agra</b>   | OCC Advised ERTS-2 to submit the analysis report to ERLDC/ERPC   | Powergrid informed that the issue was referred to ABB, Sweden. The report is yet to be received from ABB.   |
| 156 | <b>Item no. C.20: Updated Black Start and Restoration procedure of State--ERLDC</b>                     | Bihar, Jharkhand, DVC, West Bengal and Orissa have submitted the updated restoration procedure.  | Restoration procedure from Sikkim is yet to be received. Mail has been given by ERLDC to SLDC for early submission.   |
| 156 | <b>Item No. B.12: Status of Auto-Reclosure on Lines from Tala and Chukha Hydro Power Plant (Bhutan)</b> | 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.<br><br>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. | In 159 <sup>th</sup> OCC meeting DGPC informed that they are implementing autorecloser at Tala also. The A/R is implemented at Binaguri end and there have been various cases where successful A/R has occurred at Binaguri but due to no A/R attempt Tala has a blackout in June 2019. In addition, in month of Aug also many times 400 kV lines successfully reclosed from Binaguri end.<br><br>The experience on 220 kV Chukha-Birpara in the form of successful A/R has been observed on 25 <sup>th</sup> June 2019.<br><br><i>DGPC informed that they are still analyzing the performance of autorecloser at Chuka end.</i><br><br><i>OCC advised Bhutan</i> |

|                |  |  |   |
|----------------|--|--|---|
|                |  |  | <i>representatives to submit the relevant details (DR and relay settings) of autorecloser at Chuka end to ERLDC. The issue would be placed in next PCC Meeting for fruitful discussion.</i> |
| <b>160 OCC</b> | <b>Bypassing arrangement of LILO of 400kV Lines at Angul</b> | Powergrid informed that bypass arrangement would be completed by end of August 2019.<br>OPTCL informed that 2nd circuit of 400kV Meramundali-Mendhasal line would be commissioned by end of August 2019. | Powergrid informed that the bypassing arrangement has been completed.<br><br>OPTCL informed that 2nd circuit of 400kV Meramundali-Mendhasal line is ready for commissioning.                |

*In 164<sup>th</sup> OCC, DGPC informed that they are still analyzing the performance of autorecloser at Chuka end.*

*OCC advised Bhutan representatives to submit the relevant details (DR and relay settings) of autorecloser at Chuka end to ERLDC. The issue would be placed in next PCC Meeting for fruitful discussion.*

*Powergrid placed the scheme of Bypassing arrangement of LILO of 400kV Lines at Angul and explained the scheme in detail.*

*Powergrid informed that two group settings have to be adopted at Bolagiri, Talcher and Meramundali. Powergrid added that they received confirmation for the same from Bolangiri and Talcher.*

*OCC advised OPTCL to implement the settings and send the confirmation to Powergrid, ERPC and ERLDC.*

Members may update.

### **Deliberation in the meeting**

*Members updated the status as mentioned in above table.*

### **Item no. C.9: Transmission Constraint in the 220 kV System in Eastern Region—ERLDC**

| <b>Constituents</b> | <b>Constraint list</b>           | <b>Issues based on ATC/TTC case submission by States</b> | <b>Action Plan by Utilities/ SLDC</b>                   |
|---------------------|----------------------------------|--|---|
| West Bengal, DVC    | 220 kV Waria-Bidhan Nagar D/C    | N-1 Contingency  | 3 <sup>rd</sup> ICT at Bidhan Nagar would be installed. |
| CESC, PGCIL         | 220 kV Shubhasgram-EMSS D/C      | N-1 Contingency  |   |
| WBSETCL, PGCIL      | 220 kV Newtown-Rajarhat D/C      | N-1 Contingency  |   |
| WBSETCL             | 220 kV Howrah-New-Chanditala D/C | N-1 Contingency  |   |

|                  |                                  |                                   |   |
|------------------|----------------------------------|-----------------------------------|---|
| DVC, PGCIL       | 220 kV Durgapur (PG)-Parulia D/C | N-1 Contingency                   | Discussed in State Standing Committee Meeting   |
| Jharkhand, PGCIL | 220 kV Hatia-Ranchi D/C          | N-1 Contingency                   | 3 <sup>rd</sup> ckt of 220 kV Hatia-Ranchi has been commissioned.   |
| Bihar            | 220 kV Mujaffarpur-Hazipur D/C   | N-1 Contingency                   | A New 400/220/132 kV sub-station at Chhapra(2x500+2x200 MVA) has been proposed to meet the nearby growing power demand. The 220 kV connectivity of the proposed GSS as follow:-<br><ul style="list-style-type: none"> <li>• Chapra(new)-Amnour DCDS</li> <li>• Chhapra(new)-Goplaganj DCDS</li> </ul> |
| Bihar            | 220 kV Hazipur-Amnour D/C        | N-1 Contingency                   |   |
| Bihar, PGCIL     | 220 kV Patna-Sipara T/C          | N-1 Contingency                   | Two nos. of 400/220/132 kv Jakkanpur GSS and Naubarpur GSS are proposed in nearby area which is already approved in 13 <sup>th</sup> Plan   |
| Bihar, PGCIL     | 220 kV Khagaul-Sipara S/C        | Overload of 220 kV Khagaul-Sipara | Already resolved by addition of 02 mor lines i.e. 220 kV Khagaul-Patna(PG) D/C (Ckt 2 & 3)  |
| Bihar            | 220 kV Bodhgaya-Gaya D/C         | N-1 Contingency                   | A new 400/220/132 kV sub-station at Chandauti has been proposed with connectivity at 220 kV by LILO of both circuits of Gaya(PG)-Sonenagar(new)   |

OCC advised all the utilities to share their short term and long term action plans to remove the constraint to ERLDC. However till date action plan from none of the constituent is received.

Input received from BSPTCL vide letter dated 06-November-2019 are as shown above. All proposed action plans are long term in nature. Further the time line for the implementation of action plan is missing.

*In 163<sup>rd</sup> OCC, DVC and WBSETCL agreed to submit the action plan by next month.*

*OCC advised other constituents to submit the action plan at the earliest.*

JUSNL, WBSETCL and CESC may update.

### **Deliberation in the meeting**

*WESETCL informed that power flow in 220 kV Howrah-New-Chanditala D/C line is high due low generation availability at KTPP.*

*WBSETCL added that power flow in 220 kV Newtown-Rajarhat D/C would be reduced after commissioning of 400kV Rajarhat S/s and 765 kV network.*

**Item no. C.10: Monitoring of Next Six-Month New Element Integration in OCC and Its Update on Monthly Basis --ERLDC**

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

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

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

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

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

*In 162<sup>nd</sup> OCC, OCC advised all the constituents, SLDCs and ISTS licensees to submit the details the list of transmission elements / generators already synchronized / charged in the previous month as well as those expected to be commissioned in the near future (as per the format specified) to ERLDC*

*In 163<sup>rd</sup> OCC, OCC advised all the constituents, SLDCs and ISTS licensees to submit the details to [erldcprotection@posoco.co.in](mailto:erldcprotection@posoco.co.in) as per the format.*

List of upcoming Transmission Element is received from Bihar and Jharkhand and same is attached in **Annexure-C10**.

DVC, OPTCL , WBSETCL and Sikkim may update.

**Deliberation in the meeting**

*OCC advised DVC, OPTCL , WBSETCL and Sikkim to submit the relevant details to ERLDC at the earliest.*

**Item no. C.11: Reconductoring work of 400 kV Rangpo-Binaguri D/C lines**

In 162<sup>nd</sup> OCC, Powergrid informed that SPS at Rangpo is ready and it can be put in service as and when required.

Powergrid explained that reconductoring work of both 400 kV Rangpo-Binaguri D/C lines would take 1 year time approximately and they are ready to take shutdown of both the circuits from 01.11.2019.

ED, ERLDC advised Powergrid to complete the reconductoring work of one circuit by end of February 2019. He added that after February 2019, shutdown of both lines is not possible in view of the likelihood of rise in hydro generation in Sikkim.



MS, ERPC submitted that there is a need for reviewing the progress of the work by field visit. In this regard a Committee shall be formed comprising the members from ERPC Secretariat, ERLDC, WBSETCL, PGCIL, TVPTL etc. The Committee will visit the site and check the preparedness of the work. Also, periodic inspection will be done to assess the progress of the work.

In 42<sup>nd</sup> TCC, Powergrid updated that reconductoring of 11 km of both the circuits out of 110 km line had been completed (9.3 km in West Bengal and 1.7 km in Sikkim).

Powergrid further informed that they are facing severe ROW issues in Sikkim and requested Power and Energy Department, Govt. of Sikkim to support in resolving the ROW issues.

Powergrid added that they are putting all the efforts to complete the reconductoring work of both 400 kV Rangpo-Binaguri D/C lines by April 2020.

TCC advised Powergrid to complete the work as per the schedule so that evacuation of hydro power from Sikkim would not get affected in the coming monsoon season.

TCC requested Sikkim to help Powergrid in resolving the ROW issues for smooth completion of the reconductoring work.

ERPC Secretariat informed that a Committee with members from ERPC Secretariat, WBSETCL, PGCIL, TVPTL has been formed to monitor the progress of the work and the Committee would visit the site in every two months.

PGCIL was requested to furnish the status of progress to ERPC Secretariat every month for discussion in the OCC meeting.

Powergrid may update.

### **Deliberation in the meeting**

*Powergrid updated that reconductoring of 14 km of both the circuits out of 110 km line had been completed.*

*Powergrid added that 70% of the line is in hilly area and reconductoring of the hilly area would be completed by April 2020. Rest of the reconductoring work would be carried out by taking single circuit shutdown.*

### **Item no. C.12: Submission of Thermal Loading of Transmission line and associated terminal equipment by ISTS licensee**

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

| <b>Name of Utility</b>          | <b>Whether End Equipment Rating Submitted or Not?</b>       |
|---------------------------------|---|
| PGCIL ERTS-1 and ERTS-2         | Partial Details (Final Complete details yet to be received) |
| DMTCL                           | NA  |
| POWERLINKS                      | NA  |
| Sterlite (ENICL, OGPTL, PKTCL)  | NA  |
| TVPTL                           | NA  |
| Alipurduar Transmission Limited | NA  |

|           |  |
|-----------|--|
| Powerlink | NA   |
| CBPTCL    | NA   |
| OPTCL     | Submitted (Revised list given to OPTCL for submission) |
| WBSETCL   | Submitted  |
| BSPTCL    | Submitted  |
| DVC       | Submitted  |
| JUSNL     | NA   |

Members may update.

### **Deliberation in the meeting**

*OCC advised all the transmission utilities to submit the details to ERLDC at the earliest.*

#### **Item no. C.13: Conversion of Line Reactor as Bus reactor with NGR bypass Scheme -ERLDC**

A mail was circulated by ERLDC for collecting the switchability information of the Line reactors and the availability of the required NGR bypass arrangement for converting the line reactor to Bus reactor. So far following response received from the corresponding owner:

1. 400 kV Kishanganj-Darbhanga D/C at Darbhanga end (owned by ATL) – Switchable but no NGR by pass arrangement.
2. 400 kV Barh-Motihari D/C at Barh end (Owned by Barh) – Switchable but no NGR by pass arrangement.

All the other utilities are requested to submit the details at the earliest so that RLDC can do operational planning for better reactive power management.

Also, Barh and ATL are request to do necessary by pass arrangement of NGR as early as possible so that during winter season these resources could be used for maintaining better voltage profile in the grid.

In 163<sup>rd</sup> OCC, OCC advised all the utilities to submit the details to ERLDC and ERPC at the earliest (not later than 30/11/2019) so that ERLDC can do operational planning for better reactive power management.

OCC advised Barh and ATL to do the necessary by pass arrangement of NGR at the earliest.

In 164<sup>th</sup> OCC, NTPC requested to provide the scheme for NGR bypass arrangement.

OCC advised NTPC to interact with Powergrid for the scheme and advised submit the plan for implementation of NGR bypass arrangement at Barh STPS, NTPC.

List of Line reactors which cannot be converted into Bus reactor is attached in **Annexure-C13**.

Members may discuss.

### **Deliberation in the meeting**

*OCC advised all the constituents to go through the list and implement the necessary bypass arrangement.*

## **PART D:: OPERATIONAL PLANNING**

### **Item no. D.1: Anticipated power supply position during February 20**

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of February 20 were prepared by ERPC Secretariat on the basis of LGBR for 2019-20 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-D.1**.

Members may confirm.

#### **Deliberation in the meeting**

*Modified anticipated power supply position for the month of February 2020 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 February 20**

Generator shutdown for February 20:

| System        | Station      | Unit | Capacity (MW) | Period   |          | No. of Days | Reason                                 |
|---------------|--------------|------|---------------|----------|----------|-------------|--|
|               |              |      |               | From     | To       |             |  |
| DVC           | CTPS         | 8    | 250           | 22.02.20 | 28.03.20 | 8           | COH (Blr,Turb,Gen.)                    |
| ODISHA (NTPC) | Talcher TPS  | 1    | 60            | 01.02.20 | 15.02.20 | 15          | AOH                                    |
| WBPDC         | Kolaghat TPS | 4    | 210           | 01.02.20 | 15.03.20 | 29          | COH                                    |
| CESC          | Titagarh TPS | 2    | 60            | 22.02.20 | 07.03.20 | 8           | Not Specified                          |
| NTPC          | FSTPS        | 1    | 200           | 17.02.20 | 22.03.20 | 13          | Boiler acid cleaningDDCMIS R&M+HPT LPT |

Chuzachen vide mail dated 18<sup>th</sup> December 2019 informed that 2X55 MW Chuzachen HEP will be under periodical maintenance of the Dam and turbine components & remain unavailable to the Grid with effect from 04/02/20 to 18/02/20.

Dikchu informed that they are taking total plant shutdown required from 21:00 hrs of 30th Jan' 2020 to 21:00 hrs of 2nd Feb' 2020 (72 Hours) for silt flushing & other maintenance works at DAM. Dikchu generation will be zero during this duration.

ERLDC may place the list transmission line shutdown discussed on 20<sup>th</sup> January 2020 through VC.

Members may confirm.

#### **Deliberation in the meeting**

*The generator shutdown for Feb 2020 is given below:*

| System | Station | Unit | Capacity (MW) | Period   |          | No. of Days | Reason              |
|--------|---------|------|---------------|----------|----------|-------------|---------------------|
|        |         |      |               | From     | To       |             |                     |
| DVC    | MTPS    | 1    | 210           | 11.02.20 | 21.03.20 | 41          | COH (Blr,Turb,Gen.) |

|       |              |   |     |          |          |    |  |
|-------|--------------|---|-----|----------|----------|----|--|
| WBPDC | Kolaghat TPS | 4 | 210 | 01.02.20 | 15.03.20 | 29 | COH                                    |
| CESC  | Titagarh TPS | 2 | 60  | 22.02.20 | 07.03.20 | 8  | Not Specified                          |
| NTPC  | FSTPS        | 1 | 200 | 17.02.20 | 22.03.20 | 13 | Boiler acid cleaningDDCMIS R&M+HPT LPT |

Bihar informed that NTPC had taken shutdown of unit 1 of Talcher STPS from 15<sup>th</sup> January 2020 without taking any consent from them. As a result, they incurred huge commercial loss for arraigning power in short notice.

Bihar added that beneficiaries consent should be taken in advance for availing the shutdown which is deviating from LGBR.

NTPC informed that they had placed the details in the OCC Meeting however they agreed take the consent from beneficiaries before availing such shutdown.

Power links gave a presentation on requirement of Shut down of 400 KV Kishanganj-Purnea line 1 & 2 for re-routing of the line at tower no 365, by providing new Pile tower on River Parman.

OCC in principle agreed to the shutdown.

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

### **1. Re-routing of Location of 57 of 220kV S/C Birpara-Malbase TL which got vulnerable due to change in course of river Torsa.--Powergrid**

Location No.-57 of 220kV S/C Birpara-Malbase TL got vulnerable due to change in course of River Torsa. The location got vulnerable during this year flood during the Month of July-2019. We have provided boulder protection wall before the onset of monsoon in order to protect the tower however during monsoon due to heavy flow in river Torsa the available protection wall got collapsed and the tower got vulnerable. The distance of the tower from river Torsa is only 10 metres. The river originates from Bhutan hills and becomes very dangerous while touching the plains of Birpara. Location No.-57 is situated just by the side of river Torsa and such becomes vulnerable during monsoon every year due to heavy flow in adjoining river.

In order to avoid this problem, as a permanent measure we are planning to re-route the line away from the river through normal foundation. Total 4 Nos. new tower Foundation, 4 Nos. Tower new erection and 1.5 KM stringing shall be carried out from re-routing of line.

In order to carry-out the said work we are proposing S/D of 220kV S/C Birpara-Malbase TL on continuous basis as per following schedule:

| <u>SL. No</u> | <u>NAME OF THE ELEMENTS</u>  | <u>FROM</u> |             | <u>TO</u>   |             | <u>Type</u> | <u>REASON</u>  |
|---------------|------------------------------|-------------|-------------|-------------|-------------|-------------|--|
|               |                              | <u>DATE</u> | <u>TIME</u> | <u>DATE</u> | <u>TIME</u> |             |  |
| 1             | 220kV S/C Birpara-Malbase TL | 07.02.2020  | 08:00       | 25.02.2020  | 17:00       | OCB Basis   | Re-routing of Loc No.-57 which got vulnerable due to change in course of River Torsa. The work involves construction of 4 Nos. new Foundation, 4 Nos. tower erection & 1.5 KM Stringing. The work needs to be completed on |

|  |  |  |  |  |  |  |   |
|--|--|--|--|--|--|--|---|
|  |  |  |  |  |  |  | top priority as the location is in very vulnerable condition and if not completed may lead to tower collapse during upcoming monsoon. |
|--|--|--|--|--|--|--|---|

As this is an activity carried out for safe-guarding the system affected due to natural phenomenon, it is requested to consider the outages for above activities as per CERC regulations for non-attributable to POWERGRID.

### **Deliberation in the meeting**

*The shutdown was approved as per the list provided at Annexure-D2.*

*Regarding deemed availability, it was informed that the deemed availability would be considered as per the CERC guidelines.*

### **2) Replacement of Porcelain Insulators with CLR Insulators in 400kV D/C Maithon-Jamshedpur TL in section of line where repeated de-capping incidents have been reported and PID testing have revealed more than 50% strings defective.--Powergrid**

400kV D/C Maithon-Jamshedpur TL was commissioned in the year 1994. The line is more than 25 years in service and recently it has been observed that de-capping incidents have increased in the said line. Total no. of de-capping incidents reported from 1<sup>st</sup> April 2018 to till date is 4 nos. In order to avoid tripping, we are planning to replace Porcelain Insulators with CLR Insulators in the vulnerable section as per following schedule:

| Description                | From       | Time  | From       | Time  |     |                        |
|----------------------------|------------|-------|------------|-------|-----|------------------------|
| 400KV Maithon - Jamshedpur | 07.02.2020 | 08:00 | 12.02.2020 | 18:00 | ODB | From Loc No.-94 to 207 |
| 400KV Mejia - Jamshedpur*  | 13.02.2020 | 08:00 | 18.02.2020 | 18:00 | ODB | -Do-                   |
| 400KV Maithon - Jamshedpur | 19.02.2020 | 08:00 | 24.02.2020 | 18:00 | ODB | -Do-                   |
| 400KV Mejia - Jamshedpur*  | 25.02.2020 | 08:00 | 29.02.2020 | 18:00 | ODB | -Do-                   |

The original line was 400kV D/C Maithon-Jamshedpur TL and later on in the year 2010 one ckt was LILoed at Mejia. Hence, S/D of Mejia-Jamshedpur is also required along with 400kV Maithon-jamshedpur TL. As this is an activity carried out for system improvement, it is requested to consider the outages for above activities as per CERC regulations for non-attributable to POWERGRID.

### **Deliberation in the meeting**

*The shutdown was approved as per the list provided at Annexure-D2.*

*Regarding deemed availability, it was informed that the deemed availability would be considered as per the CERC guidelines.*

### **3) Replacement of Porcelain Insulators with CLR Insulators at major crossings in transmission lines under ER-II---Powergrid**

We are planning to replace Porcelain Insulators installed in all major crossings like Railway, all State Highways/National Highways/Expressways, Power Line crossings of 132kV and above and River Crossings etc. gradually for all the lines under ER-II as during decapping of porcelain disc

insulators, conductor is grounded and if such incident occurs in crossing spans consequential effects are much higher. To minimize consequential effects in case of de-capping, we are going to replace the Porcelain Insulators with Long Rod Polymer Insulators Presently, we are planning to replace insulators in following lines:

| SI No. | Name of Line                                   | Remarks                                 |
|--------|--|---|
| 1      | 400kV Maithon - Mejia # 3 line                 | Month-Feb-20.Schedule given in OCC list |
| 2      | 400kV Maithon - Mejia # 1 & 2 line             | -Do-                                    |
| 3      | 400kV D/C Binaguri-Purnea TL (In LILO Portion) | -Do-                                    |
| 4      | 400kV D/C Malda-Purnea TL (In LILO Portion)    | -Do-                                    |

The above has already

been discussed in 154<sup>th</sup> OCC Meeting.

As this is an activity carried out for system improvement, it is requested to consider the outages for above activities as per CERC regulations for non-attributable to POWERGRID.

### **Deliberation in the meeting**

*The shutdown was approved as per the list provided at Annexure-D2.*

*Regarding deemed availability, it was informed that the deemed availability would be considered as per the CERC guidelines.*

### **Item no. D.3: Prolonged outage of Power System elements in Eastern Region as on 10-01-2020**

#### **(i) Thermal Generating units:**

| S.No | Station   | Location    | Owner | Unit No | Capacity | Reason(s)  | Outage Date |
|------|-----------|-------------|-------|---------|----------|--|-------------|
| 1    | GMR       | ODISHA      | GMR   | 2       | 350      | COAL SHORTAGE  | 28-Dec-19   |
| 2    | FARAKKA   | WEST BENGAL | NTPC  | 3       | 200      | SUPER HEATER SPRAY LINE LEAKAGE  | 23-Dec-19   |
| 3    | JITPL     | ODISHA      | JITPL | 2       | 600      | PA Fan Problem   | 25-Dec-19   |
| 4    | KAHALGAON | BIHAR       | NTPC  | 7       | 500      | TURBINE BEARING VIBRATION  | 31-Dec-19   |
| 5    | KOLAGHAT  | WEST BENGAL | WBPDC | 3       | 210      | <i>units are available but kept in out of service due to less demand</i> | 24-Nov-19   |
| 6    | KOLAGHAT  | WEST BENGAL | WBPDC | 4       | 210      |  | 17-Nov-19   |
| 7    | KOLAGHAT  | WEST BENGAL | WBPDC | 5       | 210      |  | 1-Oct-19    |
| 8    | KOLAGHAT  | WEST BENGAL | WBPDC | 2       | 210      | ESP MAINTENANCE  | 26-Dec-18   |
| 9    | BANDEL    | WEST BENGAL | WBPDC | 5       | 250      | BOILER TUBE LEAKAGE  | 27-Nov-19   |
| 10   | BOKARO B  | JHARKHAND   | DVC   | 3       | 210      | PROBLEM IN ASH POND  | 12-Sep-19   |
| 11   | BOKARO A  | JHARKHAND   | DVC   | 1       | 500      | BOILER TUBE LEAKAGE  | 29-Sep-19   |

|    |              |             |        |   |     |   |           |
|----|--------------|-------------|--------|---|-----|---|-----------|
| 12 | RAGHUNATHPUR | WEST BENGAL | DVC    | 1 | 600 | PROBLEM IN GOVERNOR SYSTEM                        | 7-Jan-20  |
| 13 | MEJIA        | WEST BENGAL | DVC    | 2 | 210 | LOW SYSTEM DEMAND                                 | 5-Jan-20  |
| 14 | WARIA        | WEST BENGAL | DVC    | 4 | 210 | AUXILARY SUPPLY FAILURE                           | 24-Dec-19 |
| 15 | STERLITE     | ODISHA      | GRIDCO | 2 | 600 | DUE TO PROBLEM IN OLTC SYSTEM OF Unit Transformer | 10-Apr-19 |

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

**(ii) Hydro Generating units:**

| Sl. No. | Station   | Unit No. | Capacity (MW) | Reason (s) of outage                                      | Outage date |
|---------|-----------|----------|---------------|---|-------------|
| 1       | Balimela  | Unit- 1  | 60            | Renovation & Modernization work (Planned)                 | 05-08-2016  |
|         |           | Unit- 2  | 60            | Renovation & modernization work (Planned).                | 20-11-2017  |
| 2       | Burla     | Unit-1   | 49.5          | Turbine & Generator coupling cover water leakage (Forced) | 14-03-2018  |
|         |           | Unit-5   | 37.5          | Renovation. Modernization & up rating work (Planned)      | 25-10-2016  |
|         |           | Unit-6   | 37.5          | Renovation, Modernization & up rating work (Planned)      | 16-10-2016  |
|         |           | Unit-7   | 37.5          | Annual Maintenance  |             |
| 3       | Chiplima  | Unit-3   | 24            | Renovation & Modernization work (Planned)                 | 15-10-2015  |
| 4       | Indravati | Unit-3   | 150           | Annual Maintenance  | 17-11-2019  |
| 5       | U.KOLAB   | Unit-1   | 80            | Annual Maintenance  | 06-12-2019  |

It is seen that about 536 MW hydro capacities in Odisha is under forced outage / planned outage in the period of peak monsoon and therefore not available for providing the much needed peaking support during evening peak. SLDC / OHPC may please indicate restoration plan of the units.

**(iii) Transmission elements**

| SL NO | Transmission Element / ICT  | Agency        | Outage DATE | Reasons for Outage   |
|-------|-----------------------------|---------------|-------------|--|
| 1     | 220 KV BALIMELA - U' SILERU | OPTCL / APSEB | 10-03-2018  | LINE ANTITHEFT CHARGED FROM UPPER SILERU ON 17-04-18   |
| 2     | 400 KV IBEUL JHARSUGUDA D/C | IBEUL         | 29-04-2018  | TOWER COLLAPSE AT LOC 44,45  |
| 3     | 400 KV PATNA KISHANGANJ- I  | POWERGRID     | 01-09-2018  | TOWER COLLAPSE AT LOC 129. PILING DAMAGED  |
| 4     | 400 KV PATNA KISHANGANJ- II | POWERGRID     | 06-07-2019  | EMERGENCY HAND TRIPPED DUE TO FRUSTUM OF LOCATION NO: 129A/0 (A LEG) HAS BEEN EXPOSED ON SOIL EROSION. |

|    |   |                  |            |  |
|----|---|------------------|------------|--|
| 5  | 220 KV PANDIABILI - SAMANGARA D/C         | OPTCL            | 03-05-2019 | 49 NOS OF TOWER COLLAPSED.AS REPORTED BY SLDC OPTCL, TOTAL 60 NOS OF TOWER IN BETWEEN 220KV PANDIABILI – SAMANGARA LINE IN WHICH 48 NOS TOWERS FULLY DAMAGED AND 12 NOS TOWERS PARTIALLY DAMAGED. WORK UNDER PROGRESS.   |
| 6  | 400/132 KV, ICT II (200 MVA) AT KAHALGAON | NTPC             | 02-08-2019 | Y PHASE BUSHING BURSTED  |
| 7  | 132 KV KhSTPP-KAHALGAON(BSPTCL)           | BSPHCL           | 23-09-2019 | TO RESTRICT LOADING ON 400/132 KV KAHALGAON(NTPC) ICT 1 /LOAD OF KAHALGAON SHIFTED TO NEW SABOUR(GORADIH).   |
| 8  | 400 KV MOTIHARI(DMTCL)-GORAKHPUR-I        | POWERGRID/DMTCL  | 13-08-2019 | TOWER COLLAPSED REPORTED AT LOC 27/0(132) ON 15/08/19 AT 07:00 HRS.  |
| 9  | 400 KV MOTIHARI(DMTCL)-GORAKHPUR-II       | POWERGRID/DMTCL  | 13-08-2019 | TOWER COLLAPSED REPORTED AT LOC 27/0(132) ON 15/08/19 AT 07:00 HRS.  |
| 10 | 400 KV BARH-MOTIHARI(DMTCL) -I            | POWERGRID/DMTCL  | 04-09-2019 | <i>TOWER COLLAPSE AT LOCATION 26/0 AND 25/5</i>  |
| 11 | 400 KV BARH-MOTIHARI(DMTCL) -II           | POWERGRID/DMTCL  | 04-09-2019 | <i>TOWER COLLAPSE AT LOCATION 26/0 AND 25/5</i>  |
| 15 | 220KV BEGUSARAI-NEW PURNEA-I              | BSPTCL           | 13-10-2019 | B-N, 5.98kA, 12.6km at NEW PURNEA;Since line was tripping frequently in the past and hence will not to be charged till: 1)sag/clearance issue is resolved 2)Healthiness certificate from independent third party obtained 3)ensure auto reclosure healthiness.             |
| 16 | 220KV BEGUSARAI-NEW PURNEA-II             | BSPTCL           | 14-10-2019 | R-N, 1.93kA, 85.6km A/R successful at NEW PURNEA.Since line was tripping frequently in the past and hence will not be charged till: 1)sag/clearance issue is resolved 2)Healthiness certificate from independent third party obtained 3)ensure auto reclosure healthiness. |
| 17 | 400 KV BINAGURI-RANGPO-1                  | POWERGRID        | 01-11-2019 | <i>S/D AVAILABLE FOR RECONDUCTORING WORK TILL 31/01/2020</i>   |
| 18 | 400 KV BINAGURI-RANGPO-2                  | POWERGRID        | 01-11-2019 | <i>S/D AVAILABLE FOR RECONDUCTORING WORK TILL 31/01/2020</i>   |
| 19 | 400 KV MPL-MAITHON II                     | POWERGRID        | 20-11-2019 | RECONDUCTORING WORK  |
| 20 | 400 KV TALA - BINAGURI - IV               | POWERGRID/BHUTAN | 26-11-2019 | Approved S/D till 05.01.2020   |



|    |                                 |                  |            |  |
|----|---------------------------------|------------------|------------|--|
| 21 | 400 KV TALA - BINAGURI - II     | POWERGRID/BHUTAN | 07-01-2020 | OPENED ON OVER VOLTAGE AT BHUTAN END   |
| 22 | 400 KV ALIPURDUAR-JIGME LLING I | POWERGRID/BHUTAN | 05-12-2019 | Initially Antitheft charged from Alipurduar end at 19:59 hrs on 05.12.19 and later on at 22:48 hrs kept open on H/V. |
| 23 | 220 KV CHUKHA BIRPARA- 1        | BHUTAN/PGCIL     | 07-01-2020 | VOLTAGE REGULATION(AT CHUKHA END)  |

(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**

*It was informed that Chiplima unit 3 would be brought into service from February 2020.*

## **PART E :: ITEMS FOR INFORMATION**

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

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

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

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

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

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

### **Item No. E.2: Status of 1<sup>st</sup> Third Party Protection Audit:**

The compliance status of 1<sup>st</sup> Third Party Protection Audit observations is as follows:

| <b>Name of Constituents</b>        | <b>Total Observations</b> | <b>Complied</b> | <b>% of Compliance</b> |
|------------------------------------|---------------------------|-----------------|------------------------|
| <b>Powergrid</b>                   | 54                        | 46              | 85.19                  |
| <b>NTPC</b>                        | 16                        | 14              | 87.50                  |
| <b>NHPC</b>                        | 1                         | 1               | 100.00                 |
| <b>DVC</b>                         | 40                        | 26              | 65.00                  |
| <b>WB</b>                          | 68                        | 49              | 72.06                  |
| <b>Odisha</b>                      | 59                        | 42              | 71.19                  |
| <b>JUSNL</b>                       | 34                        | 25              | 73.53                  |
| <b>BSPTCL</b>                      | 16                        | 5               | 31.25                  |
| <b>IPP (GMR, Sterlite and MPL)</b> | 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 118<sup>th</sup> 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 December-2019 based on the inputs received from beneficiaries

| <b>SL NO</b> | <b>Element Name</b>      | <b>Owner</b> | <b>Charging Date</b> | <b>Charging Time</b> |
|--------------|--------------------------|--------------|----------------------|----------------------|
| 1            | 125 MVAR B/R at Arambagh | WBSETCL      | 12-12-2019           | 20:11                |

|    |  |         |            |       |
|----|--|---------|------------|-------|
| 2  | 220 KV Ranchi-Hatia III                                    | JUSNL   | 17-12-2019 | 13:07 |
| 3  | 765 kV main bay of Darlipali Jharsuguda- 2 at Darlipali    | NTPC    | 20-12-2019 | 17:23 |
| 4  | Main Bay of 400KV Muzaffarpur- Dhalkebar I at Muzaffarpur  | PGCIL   | 28-12-2019 | 12:47 |
| 5  | Main Bay of 400KV Muzaffarpur- Dhalkebar-II at Muzaffarpur | PGCIL   | 28-12-2019 | 13:03 |
| 6  | 400/132KV 315MVA ICT-III at Lakhisarai                     | PGCIL   | 29-12-2019 | 17:15 |
| 7  | 400/132KV 315MVA ICT-III at Banka                          | PGCIL   | 30-12-2019 | 19:43 |
| 8  | Darlipali unit -1 (800MW)                                  | NTPC    | 30-12-2019 | 00:00 |
| 9  | 132/33kv 50MVA Transformer 3 Sonarpur                      | WBSETCL | 19-12-2019 | 12:44 |
| 10 | 132/33kv 50Mva Transformer 3 Jangipur                      | WBSETCL | 19-12-2019 | 16:12 |
| 11 | 132/33KV 50MVA Tr#2 Khanyan                                | WBSETCL | 18-12-2019 | 12:11 |
| 12 | 132kv Gajole-Balurghat #1                                  | WBSETCL | 27-12-2019 | 15:31 |
| 13 | LILO OF 220kV EMSS-BBGS ckt. 2 at EM South S/S             | WBSETCL | 17-12-2019 |       |

#### **Item No. E.4: UFR operation during the month of December'19**

System frequency touched a maximum of 50.34 Hz at 20:59hrs of 15/12/19 and a minimum of 49.65 Hz at 16:17hrs of 11/12/19. Hence, no report of operation of UFR has been received from any of the constituents.


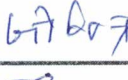
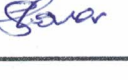
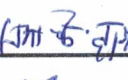

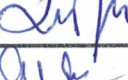
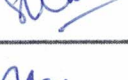
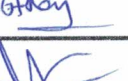



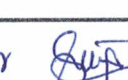
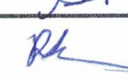
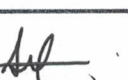




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**Participants in 165<sup>th</sup> OPERATION COORDINATION SUB-COMMITTEE (OCC) Meeting of ERPC**

Venue: ERPC Conference Hall, Kolkata

Time: 10:30 hrs

Date: 22.01.2020 (Wednesday)

| Sl No | Name             | Designation/<br>Organization | Contact<br>Number | Email                        | Signature   |
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"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford



# Participants in 165<sup>th</sup> OPERATION COORDINATION SUB-COMMITTEE (OCC) Meeting of ERPC

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| Sl No | Name                  | Designation/ Organization      | Contact Number | Email                         | Signature         |
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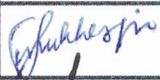
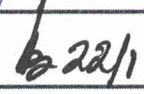
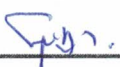

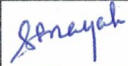


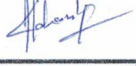
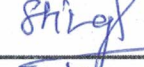

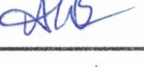







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Date: 22.01.2020 (Wednesday)

| Sl No | Name                  | Designation/<br>Organization   | Contact<br>Number | Email                              | Signature   |
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| 46    | PK Mahapatra          | AGM, OPGL                      | 9338715401        | Pradeep. mahapatra<br>@opgl.co.in  |    |
| 47    | P. K. DAS             | Sr. GM (EL), SLDC<br>ODISHA    | 9438907408        | Prashantk_das@gahm.co.in           |    |
| 48    | A. K. Mohanty         | DGM (EL), OHPC<br>Odisha       | 7328870019        | akm_678@yahoo.co.<br>in            |    |
| 49    | Siddhant Singh        | Manager (AM)                   | 8176005771        | SIDDHARTHA.SINGH<br>@GATEINFRA.COM |   |
| 50    | Madhu Sudan<br>Sahoo  | DGM (Elect)<br>GRIDCO          | 9692427876        | gridco.ebc@gmail.com               |  |
| 51    | Amr Kumar<br>Banerjee | DGM, OPTCL                     | 9438907352        | ele. akbanerjee@optcl.<br>co.in    |  |
| 52    | C. R. Mishra          | DGM, OPTCL                     | 9438907305        | ele. crmishra<br>@optcl.co.in      |  |
| 53    | Raju Kachhap          | Sr. Mgr, JUSNL                 | 7783087568        | rajukbts@yahoo.co.in               |  |
| 54    | C. R. Haldar          | ACE, WBSLDC                    | 94349 10379       | chinmay. haldar62 @<br>gmail. com  |  |
| 55    | S K Pramanik          | CGM (Am) PCL                   | 7603037367        | skpramanik@pocgcl.co.in            |  |
| 56    | J. DUTTA.             | D. L. E. CE)<br>DPE, DVL, KOL. | 9431515717        | Jayanta. dutta@dragov<br>india     |  |
| 57    |                       |                                |                   |                                    |   |
| 58    |                       |                                |                   |                                    |   |
| 59    |                       |                                |                   |                                    |   |
| 60    |                       |                                |                   |                                    |   |

"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Power System Operation Corporation  
Ltd.  
165<sup>th</sup> OCC Meeting





At ERPC, Kolkata  
20<sup>th</sup> January, 2020  
ER Grid Performances

ERLDC POSOCO

Highlights for the month of  
December-19

**Frequency Profile**  
Average Freq:- 50.00 Hz  
Avg FVI:- - 0.043  
Lowest FVI:- 0.026  
  
Max- 50.34 Hz on 15<sup>th</sup>  
December'19  
Min- 49.65 Hz on 11<sup>th</sup>  
December'19  
  
71.69% of the time freq  
was with in IEGC Band

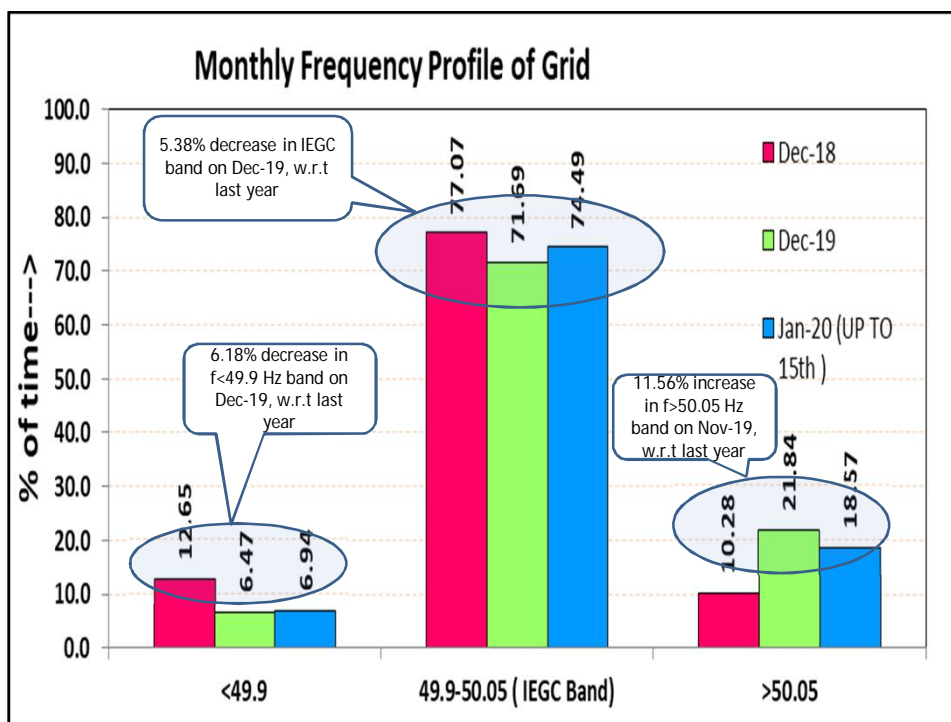
**Peak Demand\***  
ER: 18869 MW on 31<sup>st</sup>  
December 2019 at 18:16 hrs  
% Growth in Average Demand  
Met w.r.t. last year: 0.94%  
  
BSPHCL : 4756 MW ; ON 30/12/19  
JUVNL: 1391 MW; ON 31/12/19  
DVC: 3543 MW; ON 21/12/19  
GRIDCO: 4508 MW; ON 02/12/19  
WB: 6374MW; ON 11/12/19  
SIKKIM: 138 MW; ON 26/12/19  
  
**Energy met**  
Max. 366 MU on 31<sup>st</sup> Dec 2019  
%Growth w.r.t. last year on Max  
energy : (-)0.57%  
Avg. 353 MU in December 2019  
%Growth w.r.t. last year on Avg.  
energy : (-)0.5%

**New Unit**  
NIL

**Open Access**  
STOA transactions  
approved -206 nos.  
  
Energy Approved-  
648.97 MUs

**New Element addition during the month:**

| SL<br>NO | Element Name                           | Owner       | Charging<br>Date | Chargi<br>ng<br>Time | Remarks                             |
|----------|--|-------------|------------------|----------------------|-------------------------------------|
| 1        | 125 MVAR Bus Reactor at Arambagh       | WBSETC<br>L | 12-12-2019       | 20:11                | Voltage<br>change<br>414/412kV      |
| 2        | 220 KV Ranchi-Hatia III                | JUSNL       | 17-12-2019       | 13:07                |                                     |
| 3        | 400/132KV 315MVA ICT-III at Lakhisarai | PGCIL       | 29-12-2019       | 17:15                |                                     |
| 4        | 400/132KV 315MVA ICT-III at Banka      | PGCIL       | 30-12-2019       | 19:43                |                                     |
| 5        | Darlipali unit -1 (800MW)              | NTPC        | 30-12-2019       | 00:00                | Completed<br>trial run<br>operation |

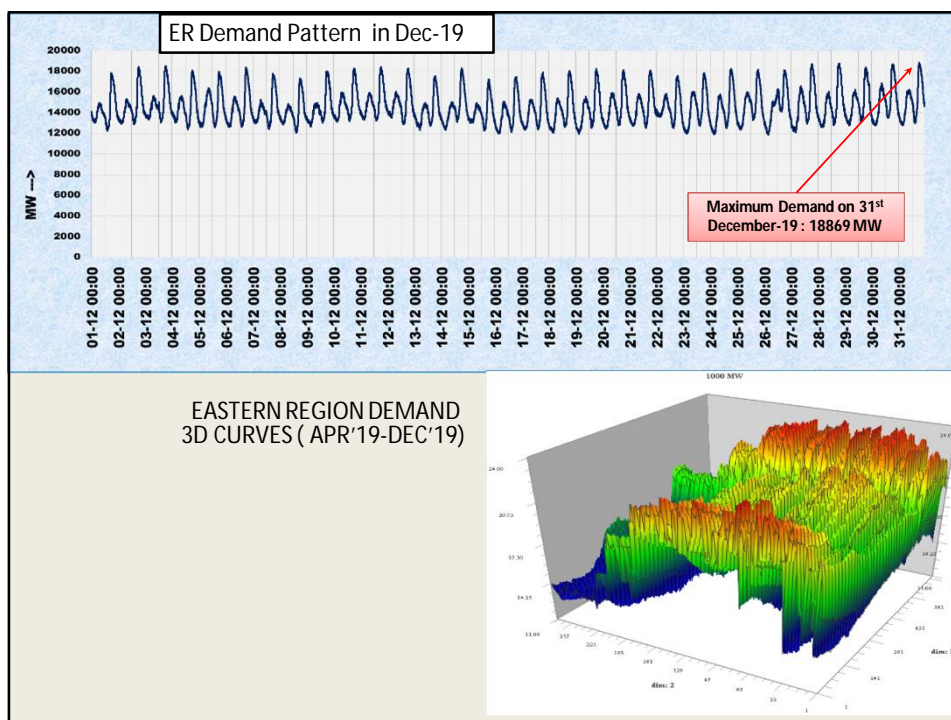


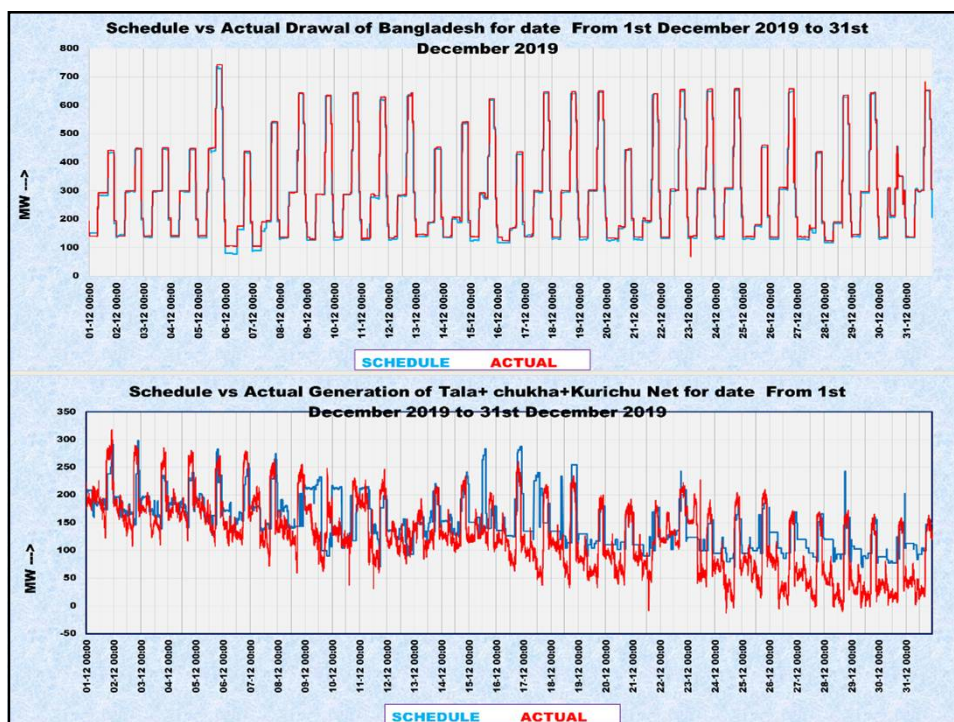
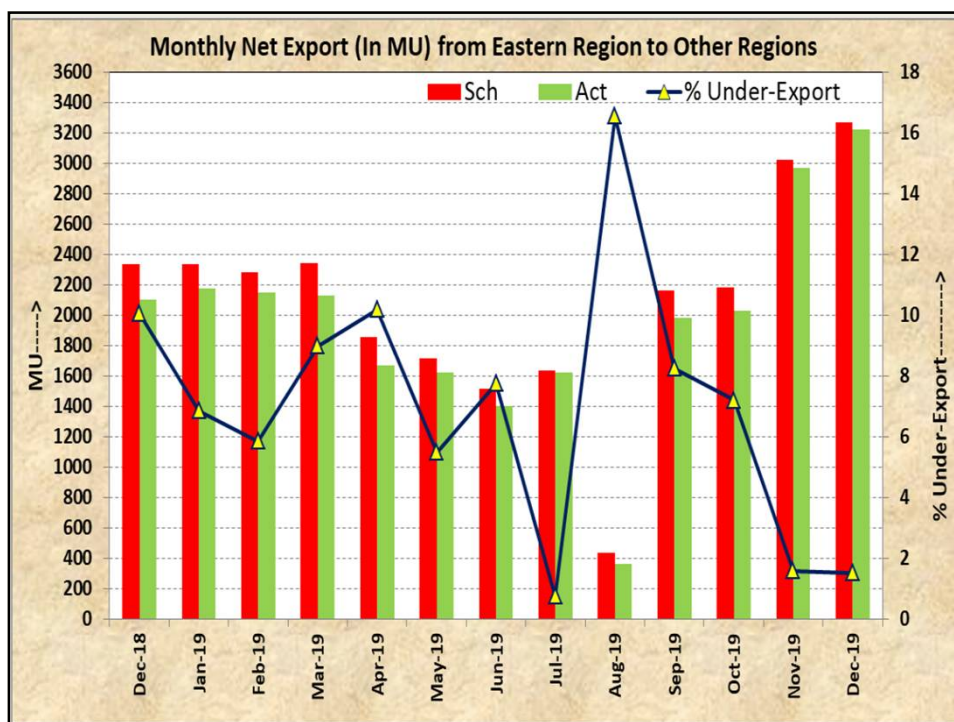


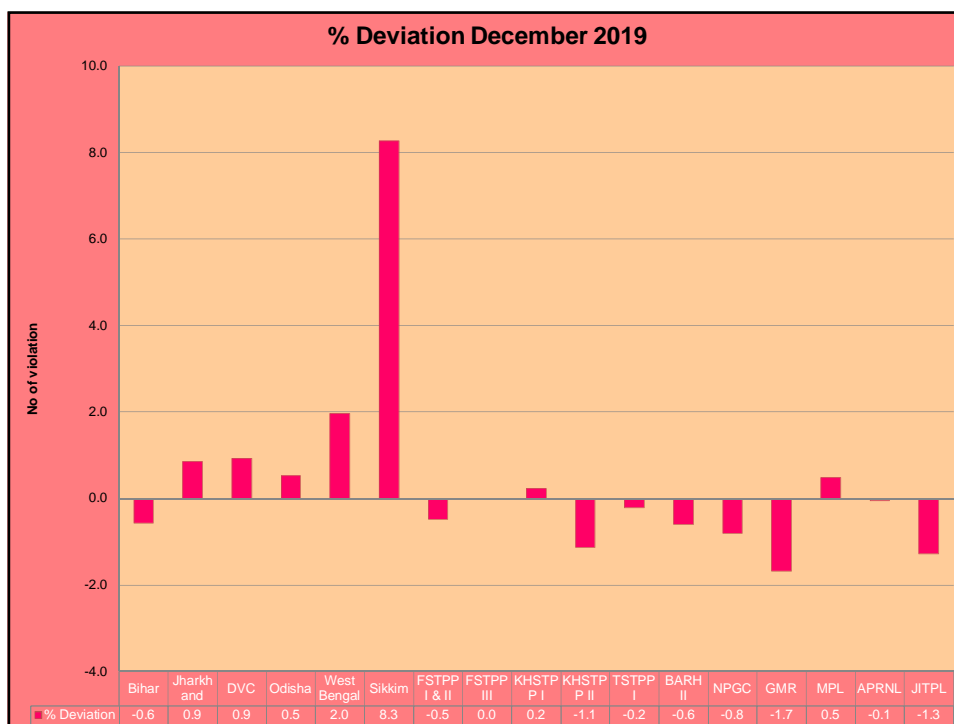
| So Far Highest Demand |                |           |       |   |       |
|-----------------------|----------------|-----------|-------|---|-------|
| Constitute            | Demand (in MW) | Date      | Time  | Dmd met (MW)<br>on 31 <sup>st</sup> Dec'19<br>(max dmd met day) |       |
|                       |                |           |       | MW  | Time  |
| Bihar                 | 5972           | 03-Sep-19 | 20:07 | 4656  | 19:34 |
| DVC                   | 3322           | 24-Jun-19 | 20:01 | 3090  | 19:06 |
| Jharkhand             | 1391           | 31-Dec-19 | 18:31 | 1391  | 18:31 |
| Odisha                | 5558           | 23-Aug-18 | 20:21 | 3697  | 18:11 |
| W. Bengal             | 9362           | 28-May-19 | 14:27 | 6255  | 17:59 |
| Sikkim                | 129            | 22-Nov-19 | 19:22 | 129   | 08:12 |
| ER                    | 23476          | 20-May-19 | 22:45 | 18869   | 18:16 |

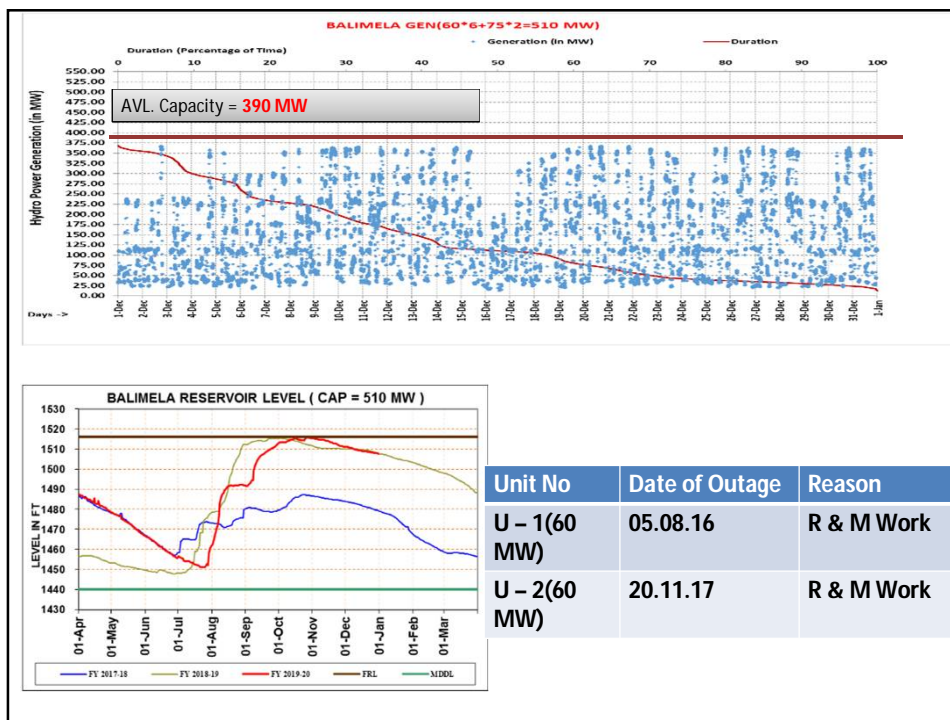
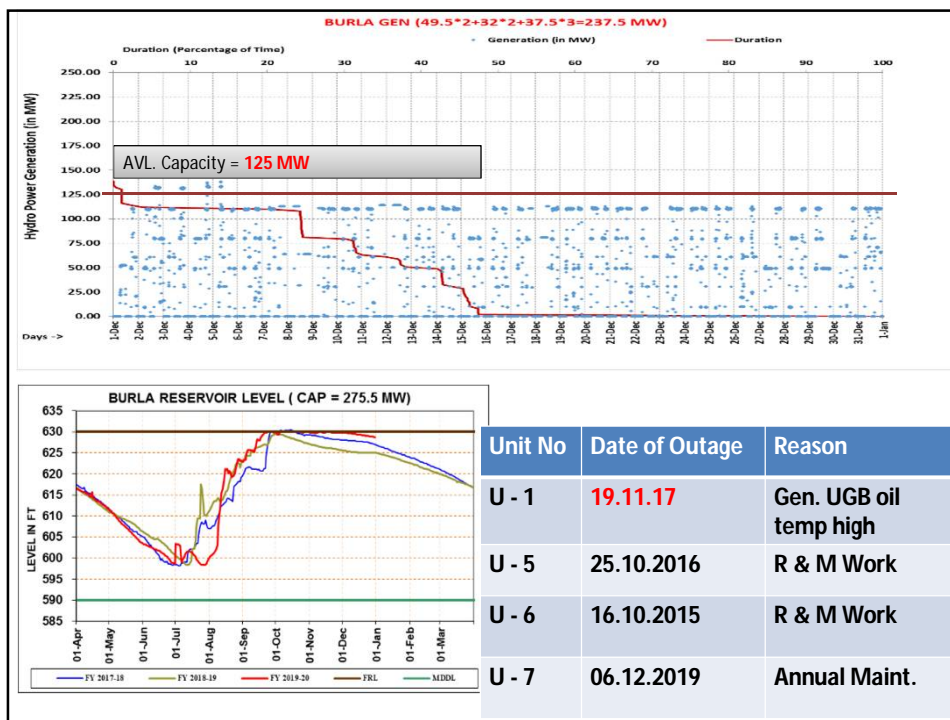
| So Far Highest Energy Consumption |                             |           |  |
|-----------------------------------|-----------------------------|-----------|--|
| Constitute                        | Energy consumption (in MUs) | Date      | Energy met on 31 <sup>st</sup> Dec'19<br>(max dmd met day) |
| Bihar                             | 121.4                       | 02-Sep-19 | 79.6   |
| DVC                               | 75.8                        | 12-Jul-18 | 63.9   |
| Jharkhand                         | 27.8                        | 19-May-19 | 26.2   |
| Odisha                            | 123.5                       | 02-Oct-18 | 65.9   |
| West Bengal                       | 199.9                       | 28-May-19 | 111.4  |
| Sikkim                            | 2.4                         | 26-Dec-19 | 2.1  |
| ER                                | 506.0                       | 25-Jun-19 | 361  |



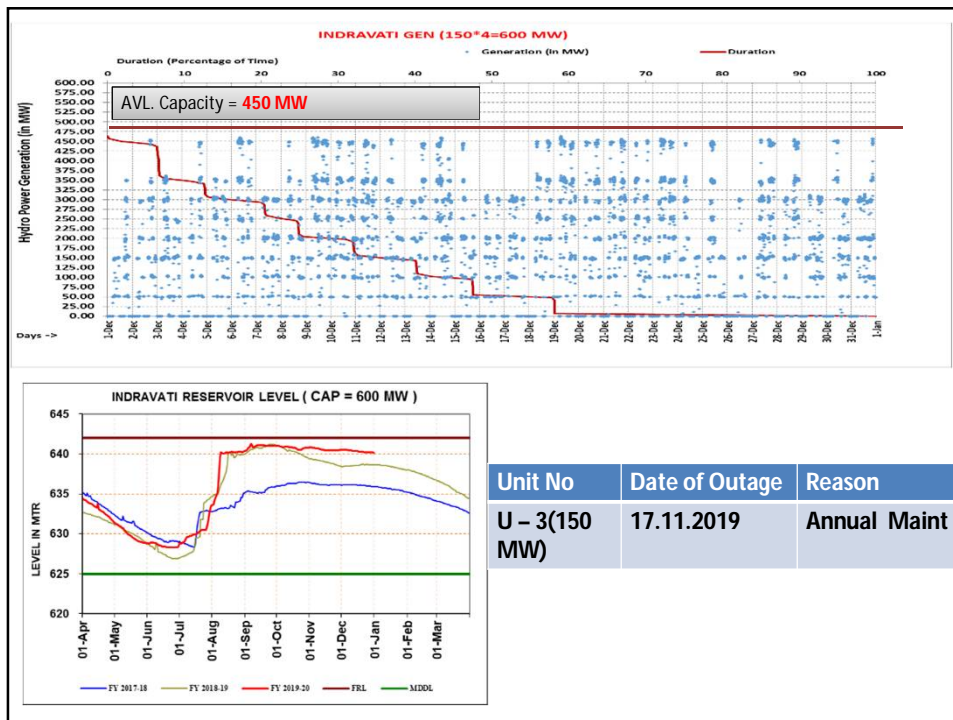
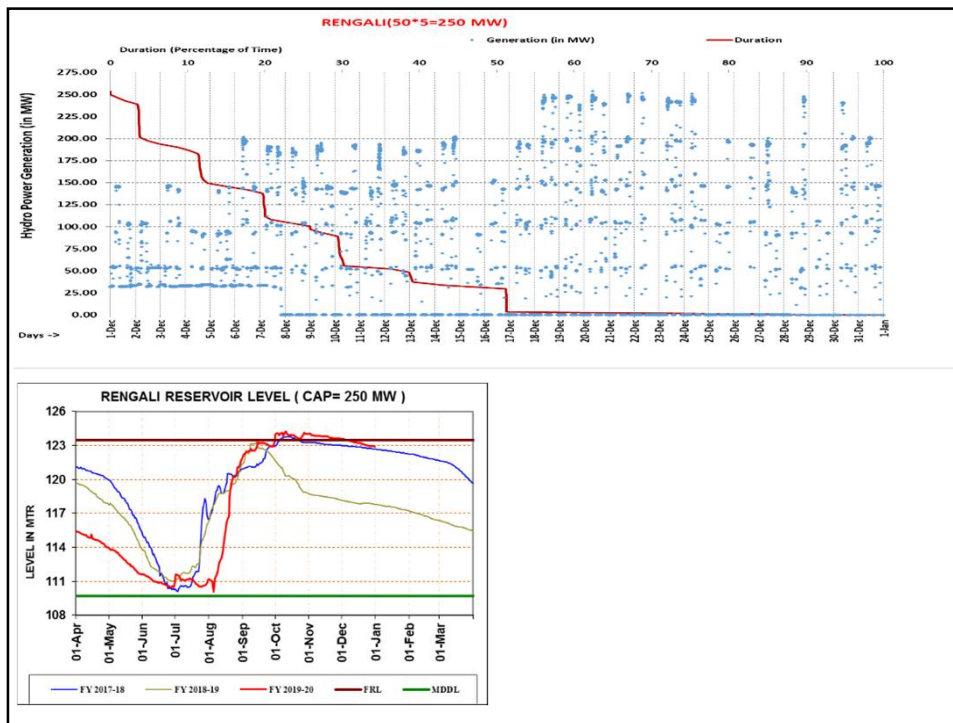


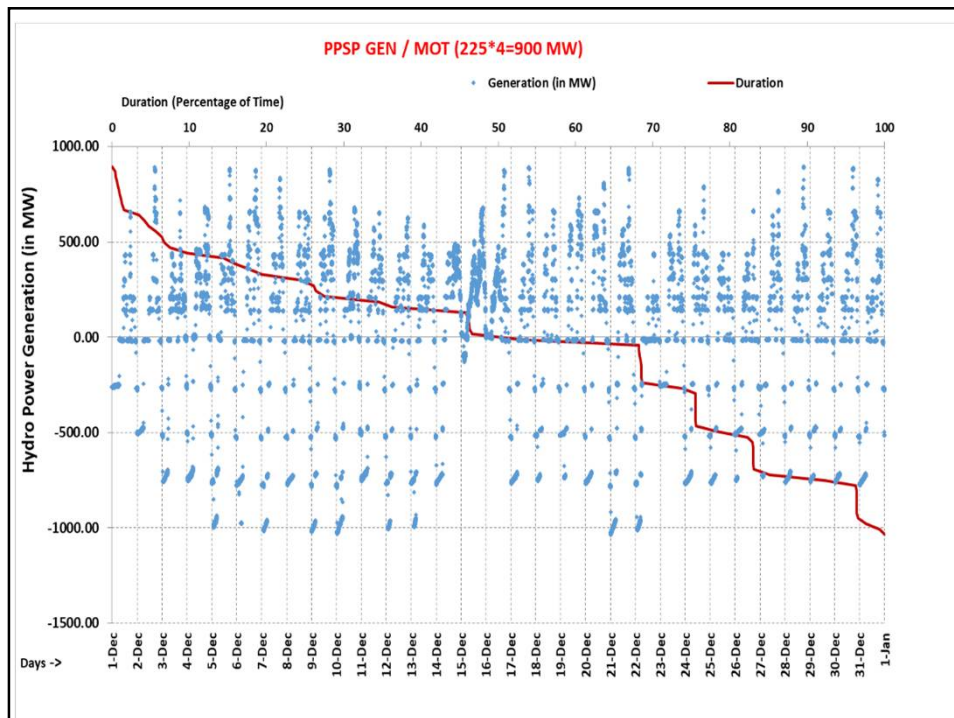
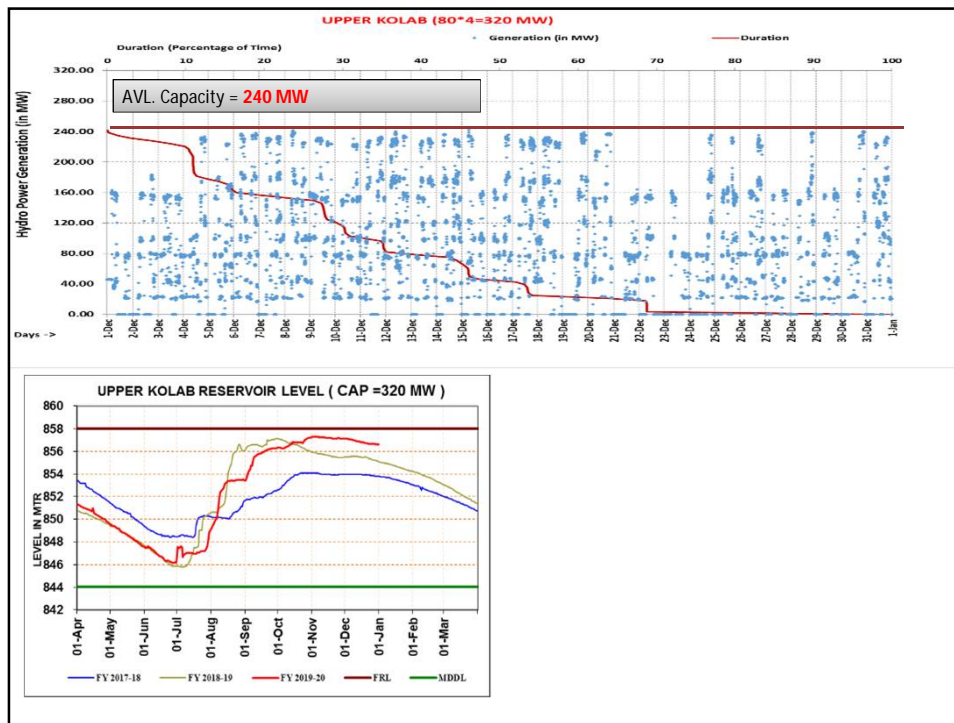


| December 2019 Schedule vs Actual Status |               |             |         |                   |             |
|---|---------------|-------------|---------|-------------------|-------------|
|   | Schedule (MU) | Actual (MU) | OD (MU) | Daily Avg OD (MU) | % Deviation |
| <b>Bihar</b>                            | 2124          | 2111        | -12     | -0.4              | -0.6        |
| <b>Jharkhand</b>                        | 508           | 512         | 4       | 0.1               | 0.9         |
| <b>DVC</b>                              | -982          | -973        | 9       | 0.3               | 0.9         |
| <b>Odisha</b>                           | 356           | 358         | 2       | 0.1               | 0.5         |
| <b>West Bengal</b>                      | 786           | 801         | 15      | 0.5               | 2.0         |
| <b>Sikkim</b>                           | 50            | 54          | 4       | 0.1               | 8.3         |
| <b>FSTPP I &amp; II</b>                 | 833           | 829         | -4      | -0.1              | -0.5        |
| <b>FSTPP III</b>                        | 308           | 310         | 2       | 0.1               | 0.0         |
| <b>KHSTPP I</b>                         | 427           | 428         | 1       | 0.0               | 0.2         |
| <b>KHSTPP II</b>                        | 900           | 890         | -10     | -0.3              | -1.1        |
| <b>TSTPP I</b>                          | 592           | 591         | -1      | 0.0               | -0.2        |
| <b>BARH II</b>                          | 390           | 388         | -2      | -0.1              | -0.6        |
| <b>NPGC</b>                             | 309           | 306         | -2      | -0.1              | -0.8        |
| <b>GMR</b>                              | 382           | 375         | -6      | -0.2              | -1.7        |
| <b>MPL</b>                              | 556           | 558         | 3       | 0.1               | 0.5         |
| <b>APRNL</b>                            | 250           | 250         | 0       | 0.0               | -0.1        |
| <b>JITPL</b>                            | 390           | 385         | -5      | -0.2              | -1.3        |





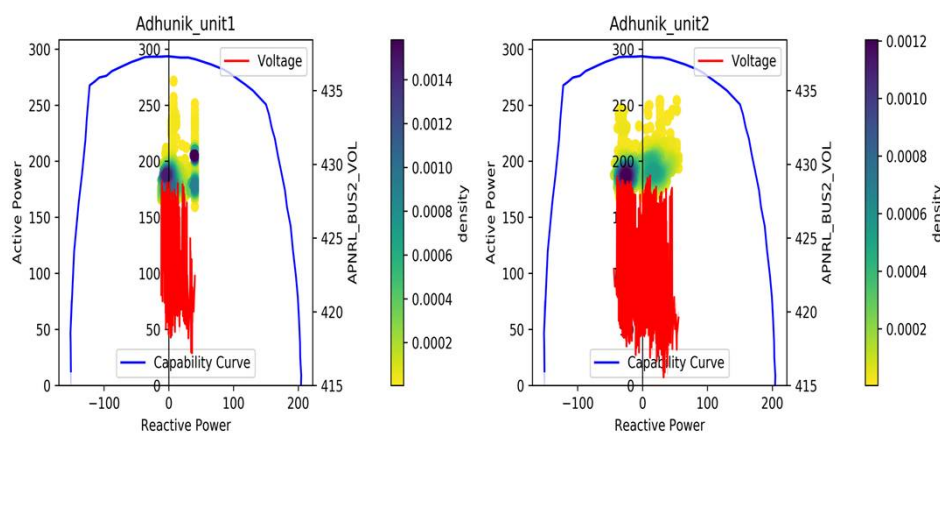




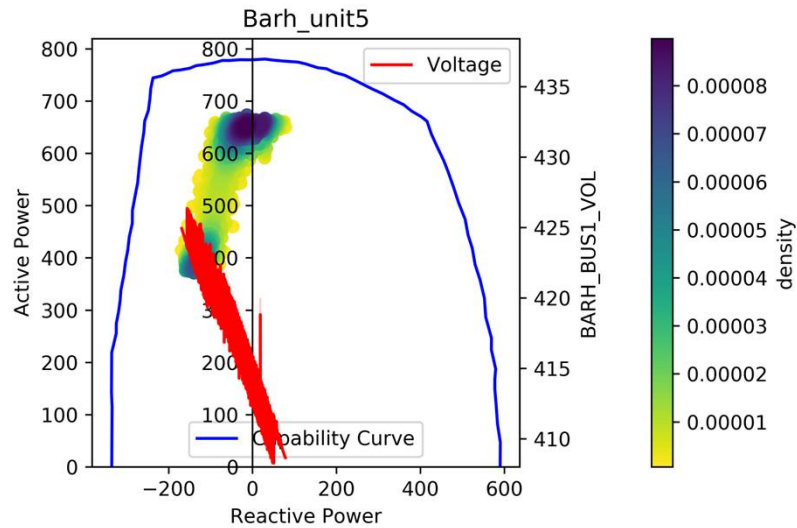
### Elements long outages leading to transmission constraint

- 400KV main bay of Indravati(GR)-Indravati (PG) out of service since last 2 years for breaker problem at Indravati(PG). Line was charged through main bay of 125 MVASR B/R breaker on Bus – II. Breaker to be replaced by OPTCL. Timeline of restoration is uncertain – may be updated by OPTCL? - **Readiness has been given by POWERGRID,- Inspection is pending.**
- 400 Kv Purnea – Biharsariff D/C were out since 10/08/18 on tower collapse at 47/0. ENICL submitted annexure B2 (protection settings confirmation) & B5 (undertaking about clearance from several statutory body) on 21<sup>st</sup> December 2019. Protection settings confirmation from Powergrid is pending). **Restored on 29-12-2019.**
- 400 kV Patna – Kisanganj I&II were out since 01/09/18 & 06/07/19 respectively on tower collapse.
- 400 KV Gorakhpur –Motihari (DMTCL) – D/C were out since 13/08/2019and 04/09/19 on tower collapse.
- 400 kV Rangpo – Binaguri D/C shutdown is approved from 01-11-2019 to 31-01-2020. Powergrid may update status of recent work progress status.
- 400 Kv Maithon – MPL – II shutdown was approved 26-01-2020.Powergrid may update status of recent work progress status.

## APNRL

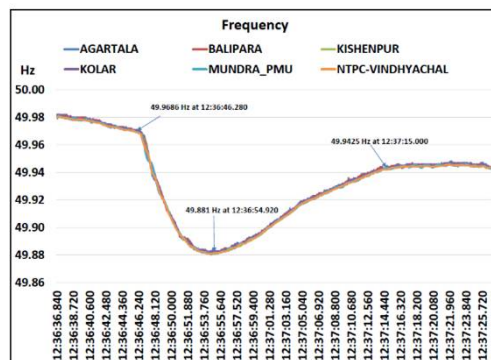


## Barh



## Assessment of FRC and primary frequency response of ER generating units

- On 20th January 2020, at 12:36hrs, due to bus bar protection operation 1085 MW generation loss occurred at Chandrapur in WR
- All SLDCs are advised to assess FRC and regional generating units are advised to assess primary frequency response at their boundary area and share with ERLDC along with reason of non-satisfactory response (if any) **within one week**





## Proposed Logic

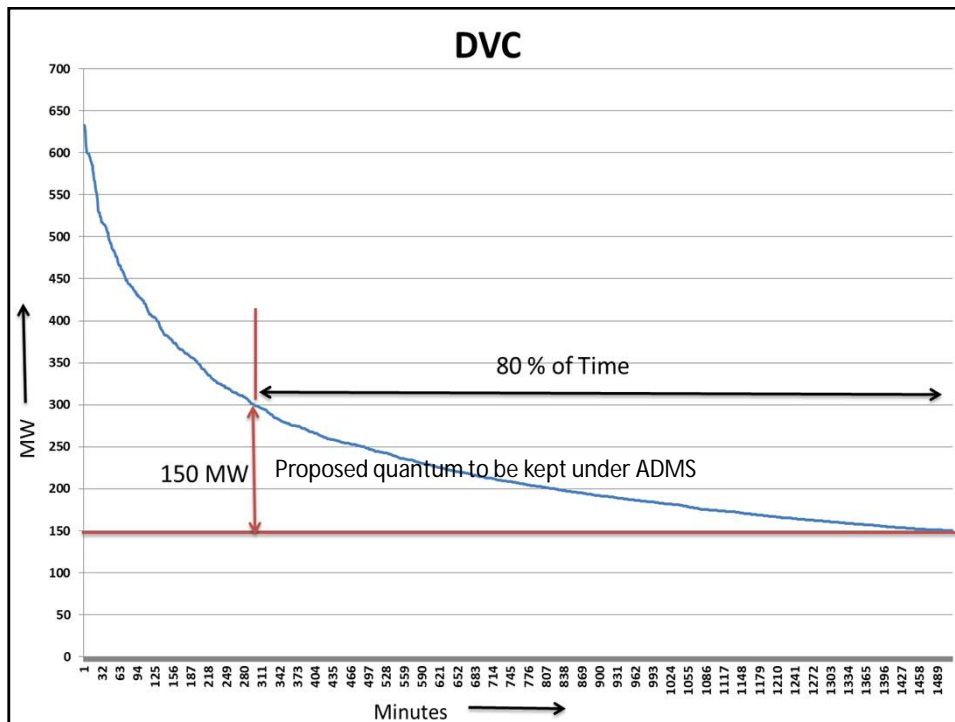
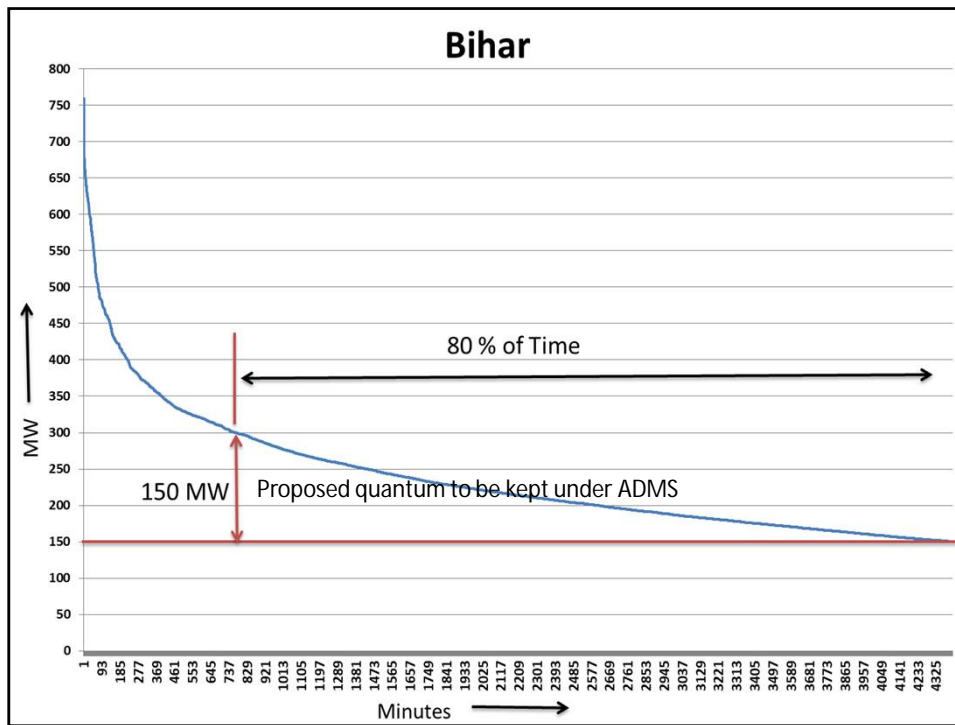
If frequency is less than 49.9 Hz for 3 minutes  
And  
Overdrwal/Under injection > 150 MW or 12 %

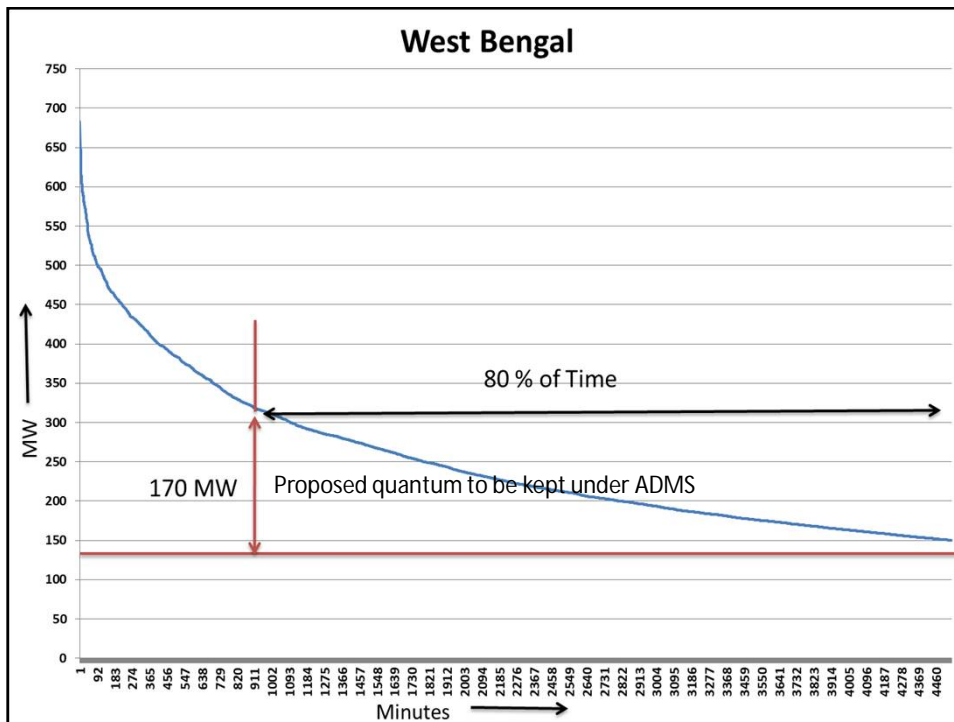
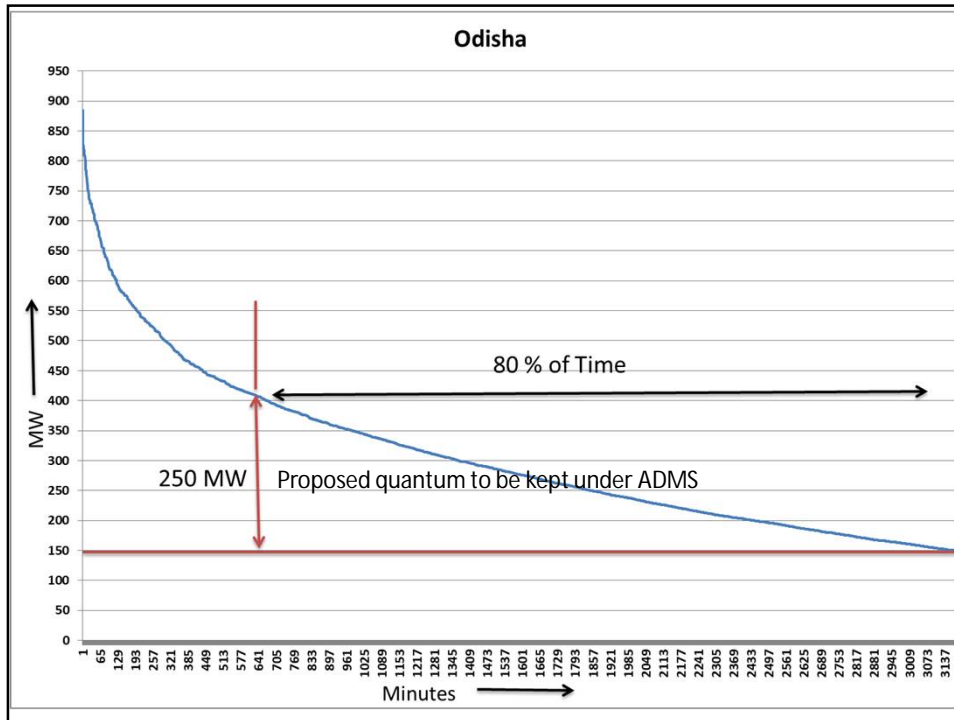
ADMS should operate

## Historic Data Analysis

- Duration for which above criteria is satisfied for year 2019

| SI No | State/Utility | Duration in Minutes | % of time |
|-------|---------------|---------------------|-----------|
| 1     | Bihar         | 4410                | 0.84%     |
| 2     | Jharkhand     | 0                   | 0.00%     |
| 3     | DVC           | 1516                | 0.29%     |
| 4     | West Bengal   | 4539                | 0.86%     |
| 5     | Odissa        | 3174                | 0.60%     |
| 6     | SIKKIM        | 0                   | 0.00%     |





### **Restoration schedule of 400 kV Barh-Motihari D/C and 400 kV Motihari-Gorakhpur D/C lines**

In 161<sup>st</sup> OCC, ERLDC informed that 400 KV Barh – Motihari (DMTCL) – D/C were out since **04/09/2019** on tower collapse at LOC 26/0 and 400 KV Motihari – Gorakhpur(DMTCL) –D/C were out since **13/08/2019** on tower collapse at LOC 27/0.

After detailed deliberation, it was emerged that one of the circuits of 400 KV Barh–Motihari(DMTCL) –D/C line could be restored as 400 KV Barh–Motihari(DMTCL) S/C line and other circuit could be directly connected to Gorakhpur to operate as 400 KV Barh–Gorakhpur S/C line keeping one circuit of 400 kV Motihari – Gorakhpur line under outage, till its tower restoration, so that Barh STPS generation could be evacuated safely.

Subsequently it was reported that on **7<sup>th</sup> Oct 2019** tower no 25/5 of Motihari-Barh got collapsed due to which temporary restoration of 400kV Barh-Motihari line as earlier planned, now seems to be in-feasible.

Under the circumstances POWERGRID is requested to furnish a detailed plan for restoration of 400kV Barh – Gorakhpur D/C (by passing the LILO point at Motihari) on urgent basis to maintain reliability of ER – NR inter regional corridor and safe evacuation of Barh STPS power.

The Committee constituted for analyzing the major outages of ISTS elements of ER had made extensive deliberation on this issue in its 3<sup>rd</sup> meeting held on 24.10.2019. The Committee also considered to visit the affected location of tower collapse in December, 2019 to assess the actual site condition and volume of work involved etc.

*In 163<sup>rd</sup> OCC, DMTCL informed that the restoration work would start from 15<sup>th</sup> December 2019 after completion of approach road for carrying the construction material and mobilization of gangs.*

**DMTCL added that restoration of 400 kV Barh-Motihari D/C line would take five months and restoration of 400 kV Motihari -Gorakhpur D/C line would take six months.**

#### **a) Direct connectivity of 400 kV Barh- Gorakhpur D/C line**

In 163<sup>rd</sup> OCC, Powergrid was advised to make direct connectivity i.e. 400 kV Barh- Gorakhpur D/C line, till restoration of the LILO portion of Motihari.

Powergrid agreed to make direct connectivity with Twin Moose conductor but DMTCL has to do the necessary destringing of the conductor of the LILO section with the original line to enable PGCIL to establish the direct connectivity.

OCC advised DMTCL to complete the destringing work at the earliest so that Powergrid could start the bypass arrangement.

Thereafter, DMTCL vide mail dated 11<sup>th</sup> January 2020 informed that de-stringing of 400kV Barh-Gorakhpur ckt-1&2 of LILO section work completed.

*POWERGRID informed that they have mobilized the required man and material for stringing of conductor to provide direct connectivity from BARH STPS to Gorakhpur which is likely to be completed within 5 days.*

**b) Issues related to Bihar:**

In 163<sup>rd</sup> OCC, Bihar informed that they are facing severe power shortage at Motihari due to outage of above lines and requested DMTCL to accelerate the restoration work. Bihar requested DMTCL to complete the restoration work before summer.

Thereafter, Bihar informed that, outage of the above 400 kV Transmission Lines has severally affected East Champaran (Motihari) & West Champaran (Bettiah) and the adjoining areas which caused acute power crisis since September '2019. The feeder wise load details at DMTCL (Motihari) is as follows:

|  |                         |                      |                  |
|--|-------------------------|----------------------|------------------|
| Motihari (DMTCL)<br>400/132 KV,<br><br><b>Transformer<br/>Capacity – 2*200<br/>MVA</b> | <b>132kV Substation</b> | <b>OFF peak load</b> | <b>Peak load</b> |
|  | Motihari                | 50                   | 60               |
|  | Bettiah                 | 45                   | 47               |
|  | Narkatiyaganj           | 12                   | 18               |
|  | Ramnagar                | 55                   | 65               |
|  | Valmikinagar            | 03                   | 05               |
|  | Raxaul                  | 30                   | 45               |
|  | Parwanipur (Nepal)      | 65                   | 80               |
|  | <b>TOTAL</b>            | <b>260</b>           | <b>320</b>       |

Therefore, 260-320 MW loss of load occurred due to outage of this transmission line. Nepal is also facing a deficit of 70-80 MW power supply through 132 kV Raxaul-Parwanipur (Nepal) line.

The vast areas which are adversely affected due to the outage of 400 KV Transmission Lines are being fed partially through GSS Gopalganj , Parwanipur (Nepal) T/L, Surajpura (Nepal) & GSS Sitamarhi . GSS Gopalganj is fed through single source i.e. 220 KV D/C MTPS-Gopalganj T/L. This Line gets overloaded during peak hours and in that condition BSPTCL is left with no other option except load shedding in almost five districts namely East Champaran( Motihari) & West Champaran (Bettiah) , Siwan , Gopalganj & Chhapra . The situation may further worsen in case of outage of 220 KV MTPS-Gopalganj T/L & it will lead to total blackout in the northern region of Bihar.

Due to outage of these 400 kV Transmission Lines since sep'2019, Bihar has to face a deficit of 320 MW, which was met through alternative sources with a load restriction of approximately 125-160 MW. In present scenario, due to lower demand BSPTCL is able to meet the demand

through available sources. But, the situation will worsen with increasing load demand in upcoming months.

Therefore, it is requested to kindly take necessary measures at your end to ensure the timely availability of 400 KV D/C Barh-Motihari-Gorakhpur T/L to avoid any load restriction.

**c) Latest restoration schedule submitted by DMTCL:**

| <b>400kV Motihari - Barh line with ERS single ckt</b>                    |                 |
|--|-----------------|
| <b>Activity</b>  | <b>End Date</b> |
| Piles -  | 30th Jan 2020   |
| Pile caps & chimney -  | 7th Feb 2020    |
| Tower supply -   | 10-Feb-20       |
| Conduotor supply -   | 30th Jan 2020   |
| Tower erection -   | 23-Feb-20       |
| Stringing completion for towers 25/1, 25/2 &25/3 -                       | 29-Feb-20       |
| ERS - Mobilization -   | 7th Feb 2020    |
| ERS - Installation & Stringing -   | 29th Feb 2020   |
| <b>400kV Motihari - Barh D/C line permanent restoration by 25-May-20</b> |                 |
| <b>400kV Motihari Gorakhpur D/C line</b>                                 |                 |
| Islanding-   | 19-Feb-20       |
| Pile completion -  | 24-Mar-20       |
| Pile caps & Chimney -  | 30-Mar-20       |
| Tower supply-  | 20-Feb-20       |
| Conductor supply -   | 20th Feb 2020   |
| Tower erection -   | 22-Apr-20       |
| Stringing  | 30-Apr-20       |
| Commissioning -  | 30 Apr 2020     |

\*\*\*\*\*

|  |      |          |                     |  | Annexure-B8 |
|--|------|----------|---------------------|--|-------------|
| <b>List of Meter for Testing &amp; calibration in Eastern Region</b> |      |          |                     |  |             |
| S. NO.   | Make | ERLDC ID | STATION             | BAY                                    | Meter No.   |
| 1  | L&T  | BI-09    | KAHALGAON(BSPHCL)   | 132 KV LALMATIA(JUVNL)                 | NP-6071-A   |
| 2  | L&T  | BI-10    | KAHALGAON(BSPHCL)   | 132KV KAHALGAON (NTPC)                 | NP-6076-A   |
| 3  | L&T  | RG-08    | RANGIT(NHPC)        | 66KV/11 KV TRANSFORMER                 | NP-5918-A   |
| 4  | L&T  | RG-01    | RANGIT(NHPC)        | RANGIT GT-1                            | NP-5919-A   |
| 5  | L&T  | RG-02    | RANGIT(NHPC)        | RANGIT GT-2                            | NP-5920-A   |
| 6  | L&T  | RG-03    | RANGIT(NHPC)        | RANGIT GT-3                            | NP-5921-A   |
| 7  | L&T  | RG-10    | RANGIT(NHPC)        | 132KV SAGBARI (SIKKIM) (MAIN)          | NP-5925-A   |
| 8  | L&T  | RG-07    | RANGIT(NHPC)        | 66KV RAVANGLA (SIKKIM) (MAIN)          | NP-5926-A   |
| 9  | L&T  | DV-06    | DSTPS(DVC)          | 400 KV JAMSHEDPUR (PG)-II (MAIN)       | NP-6522-A   |
| 10   | L&T  | DV-07    | DSTPS(DVC)          | 400 KV JAMSHEDPUR (PG)-II (CHECK)      | NP-6523-A   |
| 11   | L&T  | DV-10    | DSTPS(DVC)          | 400 KV JAMSHEDPUR-I (MAIN)             | NP-6524-A   |
| 12   | L&T  | DV-11    | DSTPS(DVC)          | 400 KV JAMSHEDPUR-I (CHECK)            | NP-6525-A   |
| 13   | L&T  | FK-31    | FARAKKA(NTPC)       | FARAKKA ST-5                           | NP-5215-A   |
| 14   | L&T  | FK-30    | FARAKKA(NTPC)       | FARAKKA GT-6                           | NP-5216-A   |
| 15   | L&T  | FK-09    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -2              | NP-5200-A   |
| 16   | L&T  | FK-26    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -2              | NP-5201-A   |
| 17   | L&T  | FK-08    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -1              | NP-5202-A   |
| 18   | L&T  | FK-25    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -1              | NP-5203-A   |
| 19   | L&T  | FK-12    | FARAKKA(NTPC)       | 400KV MALDA (PG) -1                    | NP-5204-A   |
| 20   | L&T  | FK-11    | FARAKKA(NTPC)       | 400KV DURGAPUR (PG) -2                 | NP-5208-A   |
| 21   | L&T  | FK-24    | FARAKKA(NTPC)       | 400KV DURGAPUR (PG) -2                 | NP-5209-A   |
| 22   | L&T  | FK-14    | FARAKKA(NTPC)       | 220KV LALMATIA (JUVNL)                 | NP-5211-A   |
| 23   | L&T  | FK-16    | FARAKKA(NTPC)       | 400KV SAGARDIGHI(WB)-1 (MAIN)          | NP-5213-A   |
| 24   | L&T  | FK-22    | FARAKKA(NTPC)       | 400KV SAGARDIGHI (WB)-1 (CHECK)        | NP-5214-A   |
| 25   | L&T  | FK-21    | FARAKKA(NTPC)       | 400KV SAGARDIGHI (WB)-2 (CHECK)        | NP-5220-A   |
| 26   | L&T  | FK-15    | FARAKKA(NTPC)       | 400KV SAGARDIGHI (WB)-2 (MAIN)         | NP-5221-A   |
| 27   | L&T  | FK-23    | FARAKKA(NTPC)       | 400KV DURGAPUR (PG) -1                 | NP-5222-A   |
| 28   | L&T  | FK-13    | FARAKKA(NTPC)       | 400KV MALDA (PG) -2                    | NP-5223-A   |
| 29   | L&T  | FK-29    | FARAKKA(NTPC)       | 400KV MALDA (PG) -2                    | NP-5224-A   |
| 30   | L&T  | FK-10    | FARAKKA(NTPC)       | 400KV DURGAPUR (PG) -1                 | NP-5228-A   |
| 31   | L&T  | FK-28    | FARAKKA(NTPC)       | 400KV MALDA (PG) -1                    | NP-5229-A   |
| 32   | L&T  | DV-26    | MEJIA (DVC)         | 400 KV MEJIA(DVC)-MAITHON(PG)-1(CHECK) | NP-7494-A   |
| 33   | L&T  | DV-27    | MEJIA (DVC)         | 400 KV MEJIA(DVC)-MAITHON(PG)-2(CHECK) | NP-7495-A   |
| 34   | L&T  | WB-14    | SAGARDIGHI(WBSETCL) | 400 KV DURGAPUR (PG) -1 (MAIN)         | NP-6546-A   |
| 35   | L&T  | WB-15    | SAGARDIGHI(WBSETCL) | 400 KV DURGAPUR (PG) -1 (CHECK)        | NP-6547-A   |
| 36   | L&T  | DV-35    | TISCO(DVC)          | 400 KV JAMSHEDPUR(PG)                  | NP-7406-A   |
| 37   | L&T  | DV-34    | TISCO(DVC)          | 400 KV BARIPADA(PG)                    | NP-7408-A   |
| 38   | L&T  | DV-20    | KODERMA (DVC)       | 400 KV - BIHARSHARIFF (PG)-1(MAIN)     | NP-7831-A   |
| 39   | L&T  | GM-10    | GMR (GRIDCO)        | 400 KV M'MUNDLI(GRIDCO)(MAIN)          | NP-7483-A   |
| 40   | L&T  | EM-93    | ROURKELA(PG)        | 400 KV SUNDERGARH(PG)-4                | NP-6545-A   |
| 41   | L&T  | MR-03    | MAITHON RB (MPL)    | 400 KV MAITHON (PG)-1 (CHECK)          | NP-6549-A   |
| 42   | L&T  | MR-04    | MAITHON RB (MPL)    | 400 KV MAITHON (PG)-2 (CHECK)          | NP-6550-A   |
| 43   | L&T  | MR-07    | MAITHON RB (MPL)    | 400 KV SIDE OF MAITHON RB STN TRF-1    | NP-6552-A   |
| 44   | L&T  | BI-22    | KHAGAUL(BSPHCL)     | 220 KV PATNA (PG)                      | NP-5833-A   |
| 45   | L&T  | BI-14    | KHAGAUL(BSPHCL)     | 220KV ARAH (PG)-2                      | NP-6060-A   |
| 46   | L&T  | BH-06    | BARH(NTPC)          | 400 KV PATNA-1(MAIN)                   | NP-6080-A   |
| 47   | L&T  | BH-04    | BARH(NTPC)          | 400 KV KAHALGAON-1(MAIN)               | NP-6111-A   |
| 48   | L&T  | BH-12    | BARH(NTPC)          | 400 KV SIDE OF ICT -I                  | NP-6531-A   |
| 49   | L&T  | KH-39    | KAHALGAON(NTPC)     | 400KV FARAKKA (NTPC) -3                | NP-7826-A   |
| 50   | L&T  | ER-45    | BINAGURI(PG)        | 220KV JALPAIGURI(WBSETCL)-2            | NP-5881-A   |
| 51   | L&T  | TS-07    | TEESTA(NHPC)        | 400KV RANGPO-1 (CHECK)                 | NP-5895-A   |
| 52   | L&T  | TS-08    | TEESTA(NHPC)        | 400KV RANGPO-2 (CHECK)                 | NP-5897-A   |
| 53   | L&T  | TS-06    | TEESTA(NHPC)        | 400KV RANGPO-2 (MAIN)                  | NP-5898-A   |
| 54   | L&T  | TS-01    | TEESTA(NHPC)        | TEESTA GT-1                            | NP-5899-A   |
| 55   | L&T  | TS-02    | TEESTA(NHPC)        | TEESTA GT-2                            | NP-5900-A   |
| 56   | L&T  | TS-03    | TEESTA(NHPC)        | TEESTA GT-3                            | NP-5901-A   |
| 57   | L&T  | EM-82    | RANCHI(PG)          | 400KV ROURKELLA (PG)-1                 | NP-5876-A   |
| 58   | L&T  | EM-83    | RANCHI(PG)          | 400KV ROURKELLA (PG)-2                 | NP-6530-A   |
| 59   | L&T  | FK-32    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -3 (MAIN)       | NP-5207-A   |
| 60   | L&T  | FK-35    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -4 (CHECK)      | NP-5217-A   |
| 61   | L&T  | FK-33    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -3 (CHECK)      | NP-5218-A   |
| 62   | L&T  | FK-34    | FARAKKA(NTPC)       | 400KV KAHALGAON (NTPC) -4 (MAIN)       | NP-5219-A   |
| 63   | L&T  | MR-12    | MAITHON RB (MPL)    | 400 KV RANCHI (PG)-2 (CHECK)           | NP-5252-A   |
| 64   | L&T  | DV-17    | MEJIA (DVC)         | 400KV JAMSHEDPUR (PG) (CHECK)          | NP-7493-A   |
| 65   | L&T  | SM-01    | RAVANGLA (SIKKIM)   | 66 KV RANGIT (NHPC)                    | NP-6481-A   |
| 66   | L&T  | ER-14    | PUSAULI(PG)         | 220KV NADHOKHAR(BSPHCL) -2             | NP-6511-A   |
| 67   | L&T  | ER-13    | PUSAULI(PG)         | 220KV NADHOKHAR(BSPHCL) -1             | NP-6512-A   |
| 68   | L&T  | ER-97    | PUSAULI(PG)         | 400/220KV ICT-1                        | NP-6513-A   |
| 69   | L&T  | ER-94    | PUSAULI(PG)         | 400/220KV ICT-2                        | NP-6516-A   |
| 70   | L&T  | ER-82    | PUSAULI(PG)         | 400KV SASARAM (PG) EAST BUS-1          | NP-6514-A   |
| 71   | L&T  | ER-83    | PUSAULI(PG)         | 400KV SASARAM (PG) EAST BUS-2          | NP-6515-A   |
| 72   | L&T  | BI-12    | DUMRAON(BSPHCL)     | 132KV ARAH (PG)                        | NP-6067-A   |

|     |     |       |                       |                                       |           |
|-----|-----|-------|-----------------------|---------------------------------------|-----------|
| 73  | L&T | BI-17 | DEHRI (BSPHCL)        | 220 KV GAYA (PG) -1                   | NP-7449-A |
| 74  | L&T | TL-18 | TALCHER(NTPC)         | 400KV MIRAMUNDALI(GRIDCO) (MAIN)      | NP-5970-A |
| 75  | L&T | ER-79 | PUSAULI(PG)           | 132KV MOHANIA(BSPHCL)                 | NP-6094-A |
| 76  | L&T | ER-78 | PUSAULI(PG)           | 132KV KUDRA(BSPHCL)                   | NP-6095-A |
| 77  | L&T | WB-59 | KALIMPONG (WBSETCL)   | 66 KV MELLI (SIKKIM)                  | NP-5994-A |
| 78  | L&T | SM-51 | MELLI (SIKKIM)        | 66 KV KALIMPONG (WBSETCL)             | NP-5849-A |
| 79  | L&T | EP-08 | PUSAULI(PG)           | 400 KV ALLAHABAD (NR)                 | NP-6091-A |
| 80  | L&T | JS-06 | HATIA(JUVNL)          | 220 KV RANCHI (PG)-2                  | NP-6121-A |
| 81  | L&T | JS-07 | HATIA(JUVNL)          | 220 KV RANCHI (PG)-1                  | NP-6122-A |
| 82  | L&T | JS-51 | RAMCHANDRAPUR(JUVNL)  | 220KV JODA (GRIDCO)                   | NP-6102-A |
| 83  | L&T | JS-01 | RAMCHANDRAPUR(JUVNL)  | 220KV JAMSHEDPUR(PG)-1                | NP-6103-A |
| 84  | L&T | WB-06 | MALDA (WBSETCL)       | 132 KV MALDA (PG) -2                  | NP-6472-A |
| 85  | L&T | WB-05 | MALDA (WBSETCL)       | 132KV MALDA (PG) -1                   | NP-6480-A |
| 86  | L&T | BI-62 | DEHRI (BSPHCL)        | 220KV PUSAULI (PG)                    | NP-6097-A |
| 87  | L&T | BI-66 | SONENAGAR (BSPHCL)    | 132KV NPGC(BSPHCL)                    | NP-6013-B |
| 88  | L&T | BI-60 | SONNAGAR(BSPHCL)      | 132KV JAPLA (JUVNL)                   | NP-6015-B |
| 89  | L&T | JS-55 | PATRATU (JUVNL)       | 132KV PATRATU (DVC) TRANSFER BUS      | NP-6003-B |
| 90  | L&T | JS-54 | PATRATU (JUVNL)       | 132KV PATRATU (DVC) -1                | NP-6004-B |
| 91  | L&T | JS-40 | PATRATU (JUVNL)       | 132KV PATRATU (DVC) -2                | NP-6005-B |
| 92  | L&T | BI-63 | KARAMNASHA(BSPHCL)    | 132KV CHANDAULI (UPSEB)               | NP-6017-B |
| 93  | L&T | BI-64 | KARAMNASHA(BSPHCL)    | 132KV SAHUPURI(UPSEB)                 | NP-6018-B |
| 94  | L&T | BI-49 | MOHANIA (BSPHCL)      | 132KV PUSAULI (PG)                    | NP-6099-A |
| 95  | L&T | DV-53 | PATRATU (DVC)         | 132KV PATRATU(JUVNL)-1&2(SUM)         | NP-6006-B |
| 96  | L&T | DV-18 | DHANBAD (DVC)         | 220 KV MAITHON (PG)-2                 | NP-6541-A |
| 97  | L&T | DV-19 | DHANBAD (DVC)         | 220 KV MAITHON (PG)-1                 | NP-6542-A |
| 98  | L&T | OR-09 | MIRAMUNDALI(GRIDCO)   | 220KV TSTPP (NTPC) -1                 | NP-5981-A |
| 99  | L&T | OR-10 | MIRAMUNDALI(GRIDCO)   | 220KV TSTPP (NTPC) -2                 | NP-5982-A |
| 100 | L&T | ER-62 | PURNEA(PG)            | 132KV PURNEA (BSPHCL) -1              | NP-6081-A |
| 101 | L&T | ER-63 | PURNEA(PG)            | 132KV PURNEA (BSPHCL) -2              | NP-6082-A |
| 102 | L&T | ER-48 | PURNEA(PG)            | 132KV PURNEA (BSPHCL) -3              | NP-6083-A |
| 103 | L&T | ER-49 | PURNEA(PG)            | 132KV KISHANGANJ (BSPHCL)             | NP-6084-A |
| 104 | L&T | EM-50 | PURNEA(PG)            | 400/220 KV ICT-2                      | NP-6086-A |
| 105 | L&T | ER-04 | PURNEA(PG)            | 400 KV SIDE 500 MVA ICT-1             | NP-6087-A |
| 106 | L&T | RG-04 | RANGIT(NHPC)          | 132KV KURSEONG(WBSETCL) (MAIN)        | NP-6503-A |
| 107 | L&T | RG-06 | RANGIT(NHPC)          | 132KV RAMMAM (WBSETCL) (MAIN)         | NP-6504-A |
| 108 | L&T | RG-11 | RANGIT(NHPC)          | 132KV RANGPO (PG) (MAIN)              | NP-6506-A |
| 109 | L&T | OR-04 | RENGALI (GRIDCO)      | 220KV RENGALI (PG) -2                 | NP-5985-A |
| 110 | L&T | OR-11 | RENGALI (GRIDCO)      | 220KV TSTPP (NTPC)                    | NP-5986-A |
| 111 | L&T | WB-51 | BIDHANNAGAR (WBSETCL) | 220 KV WARIA (DVC)-1                  | NP-6484-A |
| 112 | L&T | WB-07 | BIDHANNAGAR (WBSETCL) | 220 KV PARULIA (PG)                   | NP-6486-A |
| 113 | L&T | BI-03 | PURNEA (BSPHCL)       | 132KV PURNEA (PG) -1                  | NP-6088-A |
| 114 | L&T | BI-04 | PURNEA (BSPHCL)       | 132KV PURNEA (PG) -2                  | NP-6089-A |
| 115 | L&T | BI-51 | PURNEA (BSPHCL)       | 132KV PURNEA (PG)-3                   | NP-6090-A |
| 116 | L&T | WB-57 | KURSEONG(WBSETCL)     | 132 KV RANGIT(NHPC)                   | NP-7541-A |
| 117 | L&T | WB-58 | KURSEONG(WBSETCL)     | 132 KV SILIGURI(PG)                   | NP-7542-A |
| 118 | L&T | DV-04 | MEJIA(DVC)            | 400KV MAITHON (PG) (MAIN)             | NP-6557-A |
| 119 | L&T | BI-21 | BAISI (BSPHCL)        | 132 KV DALKHOLA (WBSETCL)             | NP-6085-A |
| 120 | L&T | BI-20 | KISHANGANJ (BSPHCL)   | 132 KV PURNEA (PG)                    | NP-5236-A |
| 121 | L&T | TL-24 | TALCHER(NTPC)         | 400KV RENGALI (PG) -2                 | NP-5972-A |
| 122 | L&T | OR-61 | BARIPADA(GRIDCO)      | 132KV BARIPADA(PG)                    | NP-5908-A |
| 123 | L&T | OR-62 | BANGRIPOSI(GRIDCO)    | 132KV BARIPADA(PG)                    | NP-5907-A |
| 124 | L&T | EM-59 | BARIPADA(PG)          | 220KV SIDE OF BARIPADA 220/132 KV ICT | NP-5911-A |
| 125 | L&T | DV-55 | MANIQUE (DVC)         | 132KV CHANDIL (JUVNL)                 | NP-6011-B |
| 126 | L&T | OR-63 | BALASORE(GRIDCO)      | 220KV BARIPADA(PG)-2                  | NP-5904-A |
| 127 | L&T | OR-60 | BALASORE(GRIDCO)      | 220KV BARIPADA(PG)-1                  | NP-5906-A |
| 128 | L&T | BI-19 | JAGDISHPUR(BSPHCL)    | 132 KV ARAH(PG)-2                     | NP-7689-A |
| 129 | L&T | ER-08 | DURGAPUR(PG)          | 400KV BIDHANAGAR(WB)-2                | NP-6459-A |
| 130 | L&T | ER-07 | DURGAPUR(PG)          | 400 KV JAMSHEDPUR(PG)                 | NP-6461-A |
| 131 | L&T | OR-54 | JINDAL (GRIDCO)       | 220KV JAMSHEDPUR (DVC)                | NP-6502-A |
| 132 | L&T | DV-51 | BARHI (DVC)           | 132KV RAJGIR/BSF (BSPHCL)             | NP-6007-B |
| 133 | L&T | JS-62 | TENUGHAT (JUVNL)      | 220KV BIHARSARIEFF (BSPHCL)           | NP-6115-A |
| 134 | L&T | JS-57 | CHANDIL (JUVNL)       | 220KV SANTALDIH (WBSETCL)             | NP-7436-A |
| 135 | L&T | JS-05 | CHANDIL(JUVNL)        | 220 KV RANCHI (PG)-1                  | NP-7434-A |
| 136 | L&T | ER-05 | DURGAPUR(PG)          | 220KV PARULIA (DVC) -1                | NP-6456-A |
| 137 | L&T | EM-08 | BINAGURI(PG)          | 400KV TALA (THP)-2                    | NP-5087-A |
| 138 | L&T | EM-14 | BINAGURI(PG)          | 400KV KISHANGANJ(PG)-2                | NP-5093-A |
| 139 | L&T | JS-52 | KENDOPOLI (JUVNL)     | 132KV JODA (GRIDCO)                   | NP-6117-A |
| 140 | L&T | OR-53 | JODA (GRIDCO)         | 220KV RAMCHANDRAPUR (JUVNL)           | NP-5937-A |
| 141 | L&T | OR-52 | JODA (GRIDCO)         | 132KV KENDOPOLI (JUVNL)               | NP-5939-A |
| 142 | L&T | EM-74 | SUBHASGRAM(PG)        | 400KV SAGARDIGHI(WBSETCL)             | NP-5846-A |
| 143 | L&T | WB-20 | BIDHANNAGAR (WBSETCL) | 400 KV DURGAPUR (PG) -2               | NP-6499-A |
| 144 | L&T | JS-58 | GARWA(JUVNL)          | 132KV RIHAND (UPSEB)                  | NP-6113-A |
| 145 | L&T | JS-53 | GOELKERA (JUVNL)      | 132KV ROURKELA (GRIDCO)               | NP-6009-B |
| 146 | L&T | JS-64 | JAPLA (JUVNL)         | 132KV SONENAGAR (BSPHCL)              | NP-6112-A |
| 147 | L&T | ER-06 | DURGAPUR(PG)          | 220KV PARULIA (DVC) -2                | NP-6458-A |
| 148 | L&T | EM-91 | DURGAPUR(PG)          | 400 KV SAGARDIGHI (WBSETCL)-1         | NP-6548-A |



|     |     |       |                        |                                 |           |
|-----|-----|-------|------------------------|---------------------------------|-----------|
| 149 | L&T | BH-13 | BARH(NTPC)             | 400 KV SIDE OF ICT -II          | NP-7481-A |
| 150 | L&T | OR-56 | BUDHIPADAR (GRIDCO)    | 220KV RAIGARH (MPEB)            | NP-5940-A |
| 151 | L&T | OR-57 | BUDHIPADAR (GRIDCO)    | 220KK KORBA (MPEB) -2           | NP-5941-A |
| 152 | L&T | OR-59 | BUDHIPADAR (GRIDCO)    | 220KK KORBA (MPEB) -3           | NP-5944-A |
| 153 | L&T | OR-01 | TARKERA (GRIDCO)       | 220KV ROURKELA (PG) -1          | NP-5934-A |
| 154 | L&T | OR-02 | TARKERA (GRIDCO)       | 220KV ROURKELA (PG) -2          | NP-5935-A |
| 155 | L&T | ER-54 | SILIGURI(PG)           | 132KV KURSEONG(WBSETCL)         | NP-5947-A |
| 156 | L&T | ER-50 | SILIGURI(PG)           | 220KV KISHANGANJ (PG) -1        | NP-5949-A |
| 157 | L&T | DV-60 | WARIA (DVC)            | 220KV BIDHANNAGAR (WBSETCL)-1   | NP-6564-B |
| 158 | L&T | JS-63 | LALMATIA (JUVNL)       | 132KV KAHALGAON (BSPHCL)        | NP-6107-A |
| 159 | L&T | JS-03 | LALMATIA (JUVNL)       | 132KV KAHALGAON (NTPC)          | NP-6108-A |
| 160 | L&T | JS-04 | LALMATIA (JUVNL)       | 220KV FARAKKA (NTPC)            | NP-6109-A |
| 161 | L&T | ER-30 | RENGALI(PG)            | 220KV RENGALI (GRIDCO) -1       | NP-5989-A |
| 162 | L&T | ER-31 | RENGALI(PG)            | 220KV RENGALI (GRIDCO) -2       | NP-5990-A |
| 163 | L&T | DV-01 | PARULIA (DVC)          | 220KV PARULIA (PG) -1&2(SUM)    | NP-6563-B |
| 164 | L&T | ER-53 | SILIGURI(PG)           | 132KV NJP(WBSETCL)              | NP-5946-A |
| 165 | L&T | ER-76 | SILIGURI(PG)           | 220/132 KV ICT -1               | NP-5951-A |
| 166 | L&T | WB-11 | RAMMAM (WBSETCL)       | 132 KV RANGIT (NHPC)            | NP-5917-A |
| 167 | L&T | JS-65 | DEOGARH (JUVNL)        | 132KV SULTANGANJ (BSPHCL)       | NP-6048-B |
| 168 | L&T | ER-29 | RENGALI(PG)            | 400KV INDRAVATI (PG)            | NP-5987-A |
| 169 | L&T | WB-04 | NBU(WBSETCL)           | 132KV SILIGURI(PG)              | NP-5953-A |
| 170 | L&T | WB-03 | NJP(WBSETCL)           | 132KV SILIGURI(PG)              | NP-5952-A |
| 171 | L&T | JS-66 | JAMTARA (JUVNL)        | 132KV MAITHON (DVC)             | NP-6110-A |
| 172 | L&T | OR-05 | JEYNAGAR (GRIDCO)      | 220KV JEYPORE (PG) -1           | NP-5963-A |
| 173 | L&T | OR-06 | JEYNAGAR (GRIDCO)      | 220KV JEYPORE (PG) -2           | NP-5964-A |
| 174 | L&T | ER-39 | BIRPARA(PG)            | 220KV CHUKHA (CHPC) -1          | NP-6465-A |
| 175 | L&T | EM-94 | RANCHI(PG)             | 400 KV MAITHON RB -I            | NP-7839-A |
| 176 | L&T | ER-96 | ARAH(PG)               | 220/132 KV ICT-2                | NP-6059-A |
| 177 | L&T | OR-21 | MENDHASAL (GRIDCO)     | 400 KV PANDIABILI (PG)-1        | NP-5980-A |
| 178 | L&T | EM-21 | BIHARSHARIFF(PG)       | 400KV BALIA (NR)-1              | NP-6061-A |
| 179 | L&T | ER-90 | BIHARSHARIFF(PG)       | 400KV SASARAM (NR) -2           | NP-6062-A |
| 180 | L&T | ER-01 | BIHARSHARIFF(PG)       | 400/220 KV ICT-1                | NP-6063-A |
| 181 | L&T | EP-74 | BIHARSHARIFF(PG)       | 400 KV KAHALGAON(NTPC) LINE-1   | NP-6064-A |
| 182 | L&T | EM-22 | BIHARSHARIFF(PG)       | 400KV BALIA (NR)-2              | NP-6065-A |
| 183 | L&T | ER-03 | BIHARSHARIFF(PG)       | 400/220 KV ICT-3                | NP-6068-A |
| 184 | L&T | ER-02 | BIHARSHARIFF(PG)       | 400/220 KV ICT-2                | NP-6069-A |
| 185 | L&T | DV-05 | MEJIA(DVC)             | 400KV JAMSHEDPUR (PG) (MAIN)    | NP-6508-A |
| 186 | L&T | OR-13 | INDRAVATI P/H (GRIDCO) | 400KV INDRAVATI (PG)            | NP-5967-A |
| 187 | L&T | WB-02 | BIRPARA (WBSETCL)      | 132KV BIRPARA(PG)-2             | NP-5893-A |
| 188 | L&T | ER-18 | JAMSHEDPUR(PG)         | 400/220 KV ICT-2                | NP-6105-A |
| 189 | L&T | ER-17 | JAMSHEDPUR(PG)         | 400/220 KV ICT-1                | NP-6106-A |
| 190 | L&T | BI-48 | BIHARSHARIFF (BSPHCL)  | 132KV RAJGIR (BSPHCL)           | NP-6070-A |
| 191 | L&T | BI-55 | RAJGIR(BSPHCL)         | 132KV BARHI (DVC)               | NP-6066-A |
| 192 | L&T | BI-11 | ARAH(BSPHCL)           | 132KV ARAH (PG)                 | NP-6052-A |
| 193 | L&T | ER-09 | ARAH(PG)               | 132KV ARAH (BSPHCL)             | NP-6051-A |
| 194 | L&T | ER-10 | ARAH(PG)               | 132KV DUMRAO (BSPHCL)           | NP-6054-A |
| 195 | L&T | ER-65 | PURNEA(PG)             | 220KV DALKHOLA (PG) -2          | NP-7419-A |
| 196 | L&T | ER-64 | PURNEA(PG)             | 220KV DALKHOLA (PG) -1          | NP-7420-A |
| 197 | L&T | BI-02 | BIHARSHARIFF(BSPHCL)   | 220KV BIHARSHARIF(PG)-2         | NP-5840-A |
| 198 | L&T | BI-01 | BIHARSHARIFF(BSPHCL)   | 220KV BIHARSHARIF(PG)-1         | NP-5841-A |
| 199 | L&T | BI-67 | BIHARSHARIFF(BSPHCL)   | 220KV BIHARSHARIF(PG)-3         | NP-5843-A |
| 200 | L&T | BI-57 | BIHARSHARIFF(BSPHCL)   | 220KV TENUGHAT (JUVNL)          | NP-5844-A |
| 201 | L&T | EP-42 | PATNA(PG)              | 400 KV BALIA (NR)-3             | NP-7684-A |
| 202 | L&T | EP-40 | PATNA(PG)              | 400 KV BARH(NTPC)-3             | NP-7685-A |
| 203 | L&T | BI-18 | DEHRI (BSPHCL)         | 220 KV GAYA (PG) -1             | NP-7397-A |
| 204 | L&T | EP-17 | GAYA(PG)               | 400 KV SIDE 1500 MVA GAYA ICT-2 | NP-7469-A |
| 205 | L&T | EM-75 | BIRPARA(PG)            | 132KV BIRPARA(WB)-2             | NP-6470-A |
| 206 | L&T | EP-32 | BOLANGIR(PG)           | 400 KV ANGUL(PG) LINE           | NP-7538-A |
| 207 | L&T | ER-86 | INDRAVATI(PG)          | 400KV INDRAVATI P/H)            | NP-5966-A |
| 208 | L&T | ET-10 | JEYPORE(PG)            | 430 V SIDE OF TERTIARY TRF(PG)  | NP-5965-A |
| 209 | L&T | KG-01 | KAHALGAON(NTPC)        | KAHALGAON GT-5                  | NP-5116-A |
| 210 | L&T | KH-32 | KAHALGAON(NTPC)        | 400KV BANKA-2(MAIN)             | NP-5117-A |
| 211 | L&T | KH-33 | KAHALGAON(NTPC)        | 400KV BANKA-1(CHECK)            | NP-5235-A |
| 212 | L&T | KH-13 | KAHALGAON(NTPC)        | 132KV SABOUR (BSPHCL)           | NP-5239-A |
| 213 | L&T | KH-23 | KAHALGAON(NTPC)        | 400KV MAITHON (PG) -1           | NP-5242-A |
| 214 | L&T | KH-14 | KAHALGAON(NTPC)        | 132KV LALMATIA (BSPHCL)         | NP-5244-A |
| 215 | L&T | KH-31 | KAHALGAON(NTPC)        | 400KV BANKA-1(MAIN)             | NP-5245-A |
| 216 | L&T | KH-11 | KAHALGAON(NTPC)        | 400KV LAKHISARAI(PG)-1          | NP-5246-A |
| 217 | L&T | KH-09 | KAHALGAON(NTPC)        | 400KV MAITHON (PG) -1           | NP-5247-A |
| 218 | L&T | KH-25 | KAHALGAON(NTPC)        | 400KV LAKHISARAI(PG)-1          | NP-5248-A |
| 219 | L&T | KH-02 | KAHALGAON(NTPC)        | KAHALGAON GT-2                  | NP-5250-A |
| 220 | L&T | KH-16 | KAHALGAON(NTPC)        | K'GAON 400/132 ATR-II           | NP-5251-A |
| 221 | L&T | KH-24 | KAHALGAON(NTPC)        | 400KV MAITHON (PG) -2           | NP-5253-A |
| 222 | L&T | KH-08 | KAHALGAON(NTPC)        | 400KV FARAKKA (NTPC) -2         | NP-5254-A |
| 223 | L&T | KH-17 | KAHALGAON(NTPC)        | COLONY TRANSFORMER-I            | NP-5255-A |
| 224 | L&T | KH-06 | KAHALGAON(NTPC)        | KAHALGAON STN TRANS-2           | NP-5256-A |
| 225 | L&T | KH-10 | KAHALGAON(NTPC)        | 400KV MAITHON (PG) -2           | NP-5257-A |
| 226 | L&T | KH-07 | KAHALGAON(NTPC)        | 400KV FARAKKA (NTPC) -1         | NP-5258-A |

|     |     |       |                      |  |           |
|-----|-----|-------|----------------------|--|-----------|
| 227 | L&T | KH-21 | KAHALGAON(NTPC)      | 400KV FARAKKA (NTPC) -1                      | NP-5259-A |
| 228 | L&T | KH-22 | KAHALGAON(NTPC)      | 400KV FARAKKA (NTPC) -2                      | NP-5260-A |
| 229 | L&T | KH-19 | KAHALGAON(NTPC)      | 132KV KAHALGAON (BSPHCL)                     | NP-5261-A |
| 230 | L&T | KH-05 | KAHALGAON(NTPC)      | KAHALGAON STN TRANS-1                        | NP-5262-A |
| 231 | L&T | KH-27 | KAHALGAON(NTPC)      | 400/132 ATR-I                                | NP-5263-A |
| 232 | L&T | KH-37 | KAHALGAON(NTPC)      | 400KV BARH-1 (CHECK)                         | NP-5264-A |
| 233 | L&T | KH-28 | KAHALGAON(NTPC)      | 400/132 ATR-II                               | NP-5265-A |
| 234 | L&T | KH-36 | KAHALGAON(NTPC)      | 400KV BARH-2 (MAIN)                          | NP-5266-A |
| 235 | L&T | KH-18 | KAHALGAON(NTPC)      | COLONY TRANSFORMER-II                        | NP-5267-A |
| 236 | L&T | KH-38 | KAHALGAON(NTPC)      | 400KV BARH-2 (CHECK)                         | NP-5268-A |
| 237 | L&T | KH-35 | KAHALGAON(NTPC)      | 400KV BARH-1 (MAIN)                          | NP-5269-A |
| 238 | L&T | KH-15 | KAHALGAON(NTPC)      | K'GAON 400/132 ATR-I                         | NP-5837-A |
| 239 | L&T | KH-03 | KAHALGAON(NTPC)      | KAHALGAON GT-3                               | NP-5850-A |
| 240 | L&T | KH-01 | KAHALGAON(NTPC)      | KAHALGAON GT-1                               | NP-5851-A |
| 241 | L&T | KG-02 | KAHALGAON(NTPC)      | KAHALGAON GT-6                               | NP-5852-A |
| 242 | L&T | KG-06 | KAHALGAON(NTPC)      | 132KV STN TRANS-5                            | NP-5856-A |
| 243 | L&T | KG-03 | KAHALGAON(NTPC)      | KAHALGAON GT-7                               | NP-5857-A |
| 244 | L&T | KH-04 | KAHALGAON(NTPC)      | KAHALGAON GT-4                               | NP-5859-A |
| 245 | L&T | KH-34 | KAHALGAON(NTPC)      | 400KV BANKA-2(CHECK)                         | NP-5861-A |
| 246 | L&T | KG-04 | KAHALGAON(NTPC)      | 132KV STN TRANS-3                            | NP-5862-A |
| 247 | L&T | KG-05 | KAHALGAON(NTPC)      | 132KV STN TRANS-4                            | NP-5863-A |
| 248 | L&T | ET-11 | KEONJHAR(PG)         | 33 KV SIDE OF TERTIARY TRF(PG)               | NP-7921-A |
| 249 | L&T | DV-65 | KHARAGPUR (DVC)      | 132KV KHARAGPUR (WBSETCL)                    | NP-6559-B |
| 250 | L&T | ES-46 | KISHANAGNJ(PG)       | 400 KV SIDE OF 500 MVA ICT-1                 | NP-7413-A |
| 251 | L&T | DV-09 | K'NESWARI (DVC)      | 220KV MAITHON (PG) -4                        | NP-6493-A |
| 252 | L&T | WB-10 | KOLAGHAT (WBSETCL)   | 400 KV KHARAGPUR (WBSETCL)                   | NP-6487-A |
| 253 | L&T | DV-61 | KOLAGHAT(DVC)        | 132KV KOLAGHAT (WBSETCL)                     | NP-6558-B |
| 254 | L&T | ER-15 | MAITHON(PG)          | 400KV DSTPS ANDAL (DVC)                      | NP-6521-A |
| 255 | L&T | DV-16 | MEJIA (DVC)          | 400 KV MAITHON(DVC) (CHECK)                  | NP-6776-A |
| 256 | L&T | EM-23 | MUZAFFARPUR(PG)      | 400KV BIHARSARIF-1                           | NP-5071-A |
| 257 | L&T | EM-25 | MUZAFFARPUR(PG)      | 400KV GORAKHPUR(NR)-1                        | NP-5074-A |
| 258 | L&T | EM-27 | MUZAFFARPUR(PG)      | 400KV PURNEA-1                               | NP-5075-A |
| 259 | L&T | EM-26 | MUZAFFARPUR(PG)      | 400KV GORAKHPUR(NR)-2                        | NP-9981-A |
| 260 | L&T | EM-30 | MUZAFFARPUR(PG)      | 400/220KV ICT-1                              | NP-9983-A |
| 261 | L&T | BI-56 | NALANDA(BSPHCL)      | 132KV BARHI (DVC)                            | NP-7690-A |
| 262 | L&T | EN-86 | NEW MELLI(PG)        | 220 KV TASHIDING                             | NP-8740-A |
| 263 | L&T | EN-85 | NEW MELLI(PG)        | 220 KV RANGPO(PG)-2                          | NP-8746-A |
| 264 | L&T | ES-39 | PANDIABILI(PG)       | 415 V SIDE OF TERTIRAY AT PANDIABIL          | NP-7462-A |
| 265 | L&T | EM-71 | PATNA(PG)            | 400KV BARH-2                                 | NP-5838-A |
| 266 | L&T | EP-41 | PATNA(PG)            | 400 KV BARH(NTPC)-4                          | NP-8632-A |
| 267 | L&T | DV-62 | PURULIA (DVC)        | 132KV PURULIA (WBSETCL)                      | NP-6560-B |
| 268 | L&T | EG-66 | PUSAULI(PG)          | 415 V SIDE OF PUSAULI 11/0.415 ST LIGHT TF-1 | NP-6016-B |
| 269 | L&T | JS-02 | RAMCHANDRAPUR(JUVNL) | 220KV JAMSHEDPUR(PG)-2                       | NP-5119-A |
| 270 | L&T | EG-89 | RANCHI NEW(PG)       | 765 KV SIDE OF 765/400 KV ICT-1              | NP-7848-A |
| 271 | L&T | EG-90 | RANCHI NEW(PG)       | 400 KV SIDE OF 765/400 KV ICT-1              | NP-8756-A |
| 272 | L&T | EM-47 | RANCHI(PG)           | 400KV SIPAT(WR)-1                            | NP-5835-A |
| 273 | L&T | EM-48 | RANCHI(PG)           | 400KV SIPAT(WR)-2                            | NP-5836-A |
| 274 | L&T | EM-61 | RANCHI(PG)           | 220KV SIDE OF RANCHI ICT-1                   | NP-5870-A |
| 275 | L&T | EM-41 | RANCHI(PG)           | 400KV RAGHUNATHPUR(DVC)-II                   | NP-5871-A |
| 276 | L&T | EM-43 | RANCHI(PG)           | 220KV SIDE ICT-2                             | NP-5872-A |
| 277 | L&T | EM-42 | RANCHI(PG)           | 400KV SIDE ICT-2                             | NP-5873-A |
| 278 | L&T | EM-45 | RANCHI(PG)           | 220KV CHANDIL (JUVNL)-1                      | NP-5874-A |
| 279 | L&T | EM-46 | RANCHI(PG)           | 400KV MAITHON-1                              | NP-5877-A |
| 280 | L&T | EM-60 | RANCHI(PG)           | 400KV SIDE OF RANCHI ICT-1                   | NP-5878-A |
| 281 | L&T | EM-44 | RANCHI(PG)           | 220KV PATRATU (JUVNL)                        | NP-5879-A |
| 282 | L&T | ER-28 | RENGALI(PG)          | 400KV BARIPADA (PG)                          | NP-5991-A |
| 283 | L&T | WB-12 | SAGARDIGHI(WBSETCL)  | 400 KV FARAKKA (NTPC)-1(MAIN)                | NP-6482-A |
| 284 | L&T | WB-13 | SAGARDIGHI(WBSETCL)  | 400 KV SUBHASGRAM(PG)                        | NP-6483-A |
| 285 | L&T | WB-21 | SAGARDIGHI(WBSETCL)  | 400 KV DURGAPUR(PG)-1(MAIN)                  | NP-7964-A |
| 286 | L&T | WB-22 | SAGARDIGHI(WBSETCL)  | 400 KV DURGAPUR(PG)-1(CHECK)                 | NP-7990-A |
| 287 | L&T | ST-12 | STERLITE             | 400 KV SUNDERGARH (CHECK)-1                  | NP-6536-A |
| 288 | L&T | ST-11 | STERLITE             | 400 KV SUNDERGARH (CHECK)-2                  | NP-6537-A |
| 289 | L&T | ST-10 | STERLITE             | 400 KV SUNDERGARH (MAIN)-1                   | NP-6538-A |
| 290 | L&T | ST-09 | STERLITE             | 400 KV SUNDERGARH (MAIN)-2                   | NP-6539-A |
| 291 | L&T | TL-14 | TALCHER(NTPC)        | 400KV TSTPP STG-I - STG-II-1                 | NP-5066-A |
| 292 | L&T | TL-19 | TALCHER(NTPC)        | 400KV ANGUL (PG) (MAIN)                      | NP-5067-A |
| 293 | L&T | TL-16 | TALCHER(NTPC)        | 400KV TSTPP STG-II - STG-I -1                | NP-5069-A |
| 294 | L&T | TL-17 | TALCHER(NTPC)        | 400KV TSTPP STG-II - STG-I -2                | NP-5070-A |
| 295 | L&T | TL-25 | TALCHER(NTPC)        | 400/220KV ATR-1                              | NP-5077-A |
| 296 | L&T | TL-27 | TALCHER(NTPC)        | 400KV MIRAMUNDALI (CHECK)                    | NP-5078-A |
| 297 | L&T | TL-13 | TALCHER(NTPC)        | 220/11 KV STATION TRANS. -1                  | NP-5081-A |
| 298 | L&T | TL-21 | TALCHER(NTPC)        | 400KV ROURKELA (PG) -1                       | NP-5082-A |
| 299 | L&T | TL-05 | TALCHER(NTPC)        | 400KV ROURKELA (PG) -1                       | NP-5083-A |
| 300 | L&T | TL-06 | TALCHER(NTPC)        | 400KV ROURKELA (PG) -2                       | NP-5084-A |
| 301 | L&T | TL-07 | TALCHER(NTPC)        | 400KV RENGALI (PG) -1                        | NP-5085-A |
| 302 | L&T | TL-12 | TALCHER(NTPC)        | 220KV M'MUNDALI (GRIDCO) -2                  | NP-5101-A |
| 303 | L&T | TL-10 | TALCHER(NTPC)        | 220KV RENGALI HPS (GRIDCO)                   | NP-5102-A |
| 304 | L&T | TL-09 | TALCHER(NTPC)        | 220KV TTPS (GRIDCO)                          | NP-5103-A |

|     |     |       |               |                             |           |
|-----|-----|-------|---------------|-----------------------------|-----------|
| 305 | L&T | TL-28 | TALCHER(NTPC) | 400KV ANGUL (PG) (CHECK)    | NP-5104-A |
| 306 | L&T | TL-02 | TALCHER(NTPC) | TALCHER GT-2                | NP-5105-A |
| 307 | L&T | TL-08 | TALCHER(NTPC) | 400KV RENGALI (PG) -2       | NP-5106-A |
| 308 | L&T | TL-01 | TALCHER(NTPC) | TALCHER GT-1                | NP-5107-A |
| 309 | L&T | TL-03 | TALCHER(NTPC) | 400/220KV ATR-1             | NP-5108-A |
| 310 | L&T | TL-04 | TALCHER(NTPC) | 400/220KV ATR-2             | NP-5109-A |
| 311 | L&T | TL-23 | TALCHER(NTPC) | 400KV RENGALI (PG) -1       | NP-5110-A |
| 312 | L&T | TL-11 | TALCHER(NTPC) | 220KV M'MUNDALI (GRIDCO) -1 | NP-5112-A |
| 313 | L&T | TL-26 | TALCHER(NTPC) | 400/220KV ATR-2             | NP-5113-A |
| 314 | L&T | TL-22 | TALCHER(NTPC) | 400KV ROURKELA (PG) -2      | NP-5115-A |

Precautions to be taken during accuracy check of Special Energy meters

**Precautions applicable to all sub stations**

- 1 Take One meter at a time for accuracy check for inservice meters
- Take 220 kV of ICT SEMS one after one on first day (All meter on 220 kv can be taken for calibration in one day one after one)
- 2 Take 400 side of ICT SEMs one after one on Second day (All 400 kV side meters can be taken up for calibration in One day one after one)
- 3 (One day gap should be allowed between 220 kV side and 400 kV side of ICT)
- 4 While taking out 400 kV feeder SEM, ensure standby meter(Other meter) is in service.
- 5 After Shorting CT circuits, and removing PT supply to SEM , Meter can be given for accuracy check.
- 6 SEM meter need not be removed from the location
- 7 Accuracy check of SEMs at SEB location is also to be carried out.
- 8 Genus SEM meters need not be calibrated as they are new
- 9 Calibration of Main/Check meters and standby meter of same feeder should be avoided.
- 10 Calibration plan may be shared with ERLDC.

| POWER SYSTEM DEVELOPMENT FUND                     |             |          |  |                  |                   |                  |                              |                            |                                 |                           |                   |                               |                                      |   |
|---|-------------|----------|--|------------------|-------------------|------------------|------------------------------|----------------------------|---------------------------------|---------------------------|-------------------|-------------------------------|--------------------------------------|---|
| Status of the Projects approved in Eastern Region |             |          |  |                  |                   |                  |                              |                            |                                 |                           |                   |                               |                                      |   |
| Sl No   | State       | Entity   | Name of the Proposal & No  | Date of Sanction | Approved DPR cost | Sanctioned Grant | Date of signing of Agreement | Date of First Disbursement | Completion Schedule (in months) | Grant Disbursed till date | % Grant disbursed | Under process of disbursement | Total Awards amount placed till date | Remarks                                       |
| 1   | Bihar       | BSPTCL   | Renovation and Upgradation of protection system of substations. (18)   | 11-May-15        | 71.35             | 64.22            | 3-Dec-15                     | 16-May-16                  | 24                              | 56.04                     | 87.26%            |                               | 69.20                                | Final 10% not yet claimed                     |
| 2   |             |          | Installation of Capacitor bank in 20 Nos of Grid Sub Station. (74)   | 5-Sep-16         | 20.98             | 18.88            | 14-Mar-18                    | 26-Mar-19                  | 24                              | 16.99                     | 89.98%            |                               | 20.98                                | Final 10% not yet claimed                     |
| 3   |             |          | Renovation and Upgradation of the protection and control system of 12nos 132/33 Grid Sub Station. (73)   | 2-Jan-17         | 54.69             | 49.22            | Agreement not signed         |                            | 24                              | 0.00                      | 0.00%             |                               |                                      | Agreement not signed                          |
|   |             |          | <b>Total</b>   |                  | <b>147.02</b>     | <b>132.32</b>    |                              |                            |                                 | <b>73.03</b>              | <b>55.19%</b>     |                               | <b>90.18</b>                         |   |
| 4   | Jharkhand   | JUSNL    | Renovation & Upgradation of protection system of Jharkhnad. (161)  | 15-Nov-17        | 153.48            | 138.13           | 3-Jul-18                     | 28-Mar-19                  | 16                              | 39.03                     | 28.26%            | 75.65                         | 140.09                               | 60% grant under process of disbursement       |
| 5   |             |          | Reliable Communication & data acquisition system upto 132kV Substations ER. (177)  | 24-May-19        | 46.82             | 22.36            | Agreement not signed         |                            |                                 |                           | 0.00%             |                               |                                      | Agreement not signed                          |
|   |             |          | <b>Total</b>   |                  | <b>200.3</b>      | <b>160.49</b>    |                              |                            |                                 | <b>39.03</b>              | <b>24.32%</b>     | <b>75.65</b>                  | <b>140.09</b>                        |   |
| 6   | Odisha      | OPTCL    | Renovation and Upgradation of protection system of substaions. (08)  | 11-May-15        | 180.56            | 162.50           | 5-Aug-15                     | 22-Mar-16                  | 24                              | 46.04                     | 28.33%            |                               | 60.26                                | Final 10% not yet claimed                     |
| 7   |             |          | Implementation of OPGW based reliable communication at 132 kv and above substations.   | 15-Nov-17        | 51.22             | 25.61            | 3-Jan-18                     | 29-Mar-19                  | 36                              | 7.68                      | 29.99%            |                               | 51.22                                | 60% grant not yet requested                   |
| 8   |             |          | Installation of 125 MVAR Bus Reactor along with construction of associated by each at 400kV Grid S/S of Mendhasal, Meramundali & New Duburi for VAR control & stabilisation of system voltage. (179)           | 27-Jul-18        | 30.26             | 27.23            | 21-Sep-18                    | 1-Apr-19                   | 18                              | 2.72                      | 9.99%             |                               |                                      | Awards not yet placed & 20% not yet requested |
| 9   |             |          | Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha. (196)   | 24-May-19        | 3.26              | 2.93             | Agreement signed             |                            | 10                              |                           | 0.00%             |                               |                                      | Agreement signed                              |
| 10  |             |          | Protection Upgradation and installation os Substation Automatic System (SAS) for seven nos of 220/132/33kV Substations (Balasore, Bidanasi, Budhipadar, Katapali, Narendrapur, New Bolangir & Paradeep). (209) | 24-May-19        | 40.7              | 36.63            |                              |                            | 18                              |                           | 0.00%             |                               |                                      | Agreement is under execution                  |
| 11  |             | OHPCL    | Renovation and Upgradation of protection and control system of OHPC. (109)   | 22-May-17        | 24.83             | 22.35            | 19-Sep-17                    | 25-May-18                  | 24                              | 4.07                      | 18.19%            |                               | 17.17                                | 60% grant not yet requested                   |
|   |             |          | <b>Total</b>   |                  | <b>330.83</b>     | <b>277.25</b>    |                              |                            |                                 | <b>59.11</b>              | <b>21.32%</b>     |                               | <b>121.66</b>                        |   |
| 12  | West Bengal | WBSET CL | Renovation and Upgradation of protection system of substations. (07)   | 31-Dec-14        | 120.67            | 108.60           | 10-Feb-15                    | 4-Feb-16                   | 15                              | 46.10                     | 42.45%            |                               | 51.23                                | Project Completed. Short closed               |
| 13  |             |          | Installation of switchable reactor & shunt capacitor for voltage improvement. (88)   | 22-May-17        | 48.19             | 43.37            | 10-Aug-17                    | 22-Jun-18                  | 19                              | 11.69                     | 26.95%            |                               | 28.30                                | 60% not yet claimed                           |
| 14  |             |          | Renovation & Modernisation of Transmission System. (87)  | 22-May-17        | 93.51             | 70.13            | 10-Aug-17                    | 25-Jun-18                  | 25                              | 63.12                     | 90.00%            |                               | 93.51                                | Final 10% not yet claimed                     |
| 15  |             |          | Installation of Bus Reactors at different 400kV Substation within the state of West Bengal for reactive power management of the Grid. (210)  | 24-May-19        | 79.71             | 71.74            | 24-Jun-19                    | 23-Oct-19                  | 19                              |                           | 0.00%             | 7.17                          |                                      | Order would be placed in Feb 20               |
| 16  |             |          | Project for establishment of reliable communication and data acquisition at different substation at WBSWTCL. (222)   | 24-May-19        | 62.39             | 31.19            | 24-Jun-19                    | 23-Oct-19                  | 25                              | 3.12                      | 10.00%            |                               |                                      | Tendering in process& 20% not yet requested   |

| POWER SYSTEM DEVELOPMENT FUND                     |        |              |   |                  |                   |                  |                              |                            |                                 |                           |                   |                               |                                      |  |
|---|--------|--------------|---|------------------|-------------------|------------------|------------------------------|----------------------------|---------------------------------|---------------------------|-------------------|-------------------------------|--------------------------------------|--|
| Status of the Projects approved in Eastern Region |        |              |   |                  |                   |                  |                              |                            |                                 |                           |                   |                               |                                      |  |
| Sl No   | State  | Entity       | Name of the Proposal & No   | Date of Sanction | Approved DPR cost | Sanctioned Grant | Date of signing of Agreement | Date of First Disbursement | Completion Schedule (in months) | Grant Disbursed till date | % Grant disbursed | Under process of disbursement | Total Awards amount placed till date | Remarks  |
| 17  |        | WBPDC L      | Renovation and Modernization of 220/ 132 kV STPS switch yard and implementation of Substaion Automation System. (72)  | 5-Sep-16         | 26.09             | 23.48            | 29-Dec-16                    | 18-May-17                  | 18                              | 7.05                      | 30.02%            |                               |                                      | 60% not yet claimed. Claimed on 15th Jan 2020        |
| 18  |        |              | Implementation of Islanding scheme at Bandel Thermal Power Station. (97)  | 16-May-17        | 1.54              | 1.39             | 10-Aug-17                    | 14-Dec-17                  | 8                               | 1.39                      | 100.00%           |                               |                                      | Project Completed                                    |
| 19  |        |              | Renovation and Modernization of switchyard and related protection system of different power stations (BTPS, BKTPS and KTPS) of WBPDC L. (155)   | 27-Jul-18        | 50.18             | 45.16            | 20-Dec-18                    | 27-Mar-19                  | 12                              | 4.52                      | 10.01%            |                               |                                      | 20% not yet claimed. Claimed on 31 Dec 2019          |
|   |        |              | <b>Total</b>  |                  | <b>482.28</b>     | <b>395.06</b>    |                              |                            |                                 | <b>136.99</b>             | <b>34.68%</b>     |                               | <b>173.04</b>                        |  |
| 20  | DVC    | DVC          | Renovation and Upgradation of the protection and control system of Ramgarh Sub Station. (81)  | 2-Jan-17         | 28.85             | 25.96            | 11-Apr-17                    | 31-May-17                  | 24                              | 22.95                     | 88.41%            |                               | 28.27                                | Final 10% not yet claimed.                           |
| 21  |        |              | Renovation and Modernization of control and protection system and replcement of equipment at Parulia, Durgapur, Kalyanewari, Giridhi Jamsedpur, Barjora, Burnpur, Dhanbad and Bundwan substation. (106) | 16-May-17        | 156.11            | 140.50           | 21-Jun-17                    | 14-Dec-17                  | 24                              | 36.06                     | 25.67%            |                               | 122.75                               | 60% not yet claimed. wiil be done by end of Jan 2020 |
|   |        |              | <b>Total</b>  |                  | <b>184.96</b>     | <b>166.46</b>    |                              |                            |                                 | <b>59.01</b>              | <b>35.45%</b>     |                               | <b>151.03</b>                        |  |
| 22  | Sikkim | ENPD, Sikkim | Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim. (173)                         | 24-May-19        | 20.00             | 10.00            | 4-Dec-19                     |                            |                                 |                           | 0.00%             |                               |                                      | Initla 10% not yet claimed                           |
|   |        |              |   |                  | <b>20.00</b>      | <b>10.00</b>     |                              |                            |                                 | <b>0.00</b>               | <b>0.00%</b>      |                               | <b>0.00</b>                          |  |
| 23  | PGCIL  | PGCIL        | Installation of STATCOMs in ER at Ranchi-New, Rourkela, Kishanganj and Jeypore substations of POWERGRID. (56)   | 5-Jan-16         | 700.31            | 630.28           | 29-Sep-16                    | 31-Mar-17                  | 30                              | 571.69                    | 90.70%            |                               | 651.52                               | Project Completed                                    |
| 24  | ERPC   | ERPC         | Creation and Maintenance of web based protection database management. (67)  | 17-Mar-16        | 20                | 20.00            | 26-Apr-16                    | 28-Jun-16                  | 18                              | 14.83                     | 74.15%            |                               | 16.48                                | Final 10% not yet claimed                            |
| 25  |        |              | Study Programme on power trading at NORD POOL Academy for Power System Engineers of Eastern Region. (122)   | 27-Jul-18        | 5.46              | 5.46             | 21-Sep-18                    | 27-Mar-19                  | 60                              | 4.61                      | 84.43%            |                               | 5.37                                 | Final 10% not yet claimed                            |
| 26  |        |              | Traning Program for Power system Engineers of various constituents of Eastern Region. (117)   | 27-Jul-18        | 0.61              | 0.61             | 21-Sep-18                    | 11-Apr-19                  | 60                              | 0.18                      | 29.51%            |                               | 0.61                                 | 60% not yet claimed                                  |
|   |        |              | <b>Total</b>  |                  | <b>726.38</b>     | <b>656.35</b>    |                              |                            |                                 | <b>591.31</b>             | <b>90.09%</b>     |                               | <b>673.98</b>                        |  |
|   |        |              | <b>GrandTotal</b>   |                  | <b>2,091.77</b>   | <b>1,797.94</b>  |                              |                            |                                 | <b>958.48</b>             | <b>53.31%</b>     | <b>75.65</b>                  | <b>1349.96</b>                       |  |

### PSS Tuning Status in Eastern Region

Power System Stabilizer (PSS) tuning is an ongoing exercise in Eastern regional grid after observation of various low frequency oscillation from time to time in the grid. In line with this, OCC has decided that all generating plants in eastern region will submit their PSS tuning plan to ERLDC/ERPC and the test reports for validation. During last 3 years, 36 Units PSS have been tuned whose details are given below in table 1. While the units where PSS have not been tuned in last three are given in table 2. It has been observed that utility such as OPGC, OHPC, WBSEDCL, NTPC, GMR and few others have yet not submitted their plan for PSS tuning to ERLDC/ERPC.

**In view of the above, all generating utilities who have not yet submitted their PSS tuning plan are advised to submit the same to ERLDC/ERPC in compliance to CERC and CEA regulation on Power System stabilizer and associated tuning for reliability and security of the Grid.**

**Table 1: Unit Where PSS tuning Completed during last Three years (2016-2019)**

| Power Plant           | Unit No | PSS tuned (Yes/No) | PSS in Service (Yes/No) | Last PSS Tuning Date |
|-----------------------|---------|--------------------|-------------------------|----------------------|
| Kolaghat-WBPDCL       | 4-5     | Yes                | Yes                     | 2019                 |
| Sagardighi-WBPDCL     | 3-4     | Yes                | Yes                     | 2019                 |
| Santhaldih-WBPDCL     | 5-6     | Yes                | Yes                     | 2019                 |
| Bandel-WBPDCL         | 5       | Yes                | Yes                     | 2019                 |
| Bakreshwar-WBPDCL     | 1-5     | Yes                | Yes                     | 2019                 |
| Budge Budge-CESC      | 3       | Yes                | Yes                     | 2019                 |
| Durgapur-DVC          | 1-2     | Yes                | Yes                     | 2019                 |
| Koderma-DVC           | 2       | Yes                | Yes                     | 2019                 |
| Kahalgaon NTPC        | 1       | Yes                | Yes                     | 2017                 |
| Kahalgaon NTPC        | 2-3     | Yes                | Yes                     | 2016                 |
| BRBCL                 | 2       | Yes                | Yes                     | 2019                 |
| Teesta-III            | 1-6     | Yes                | Yes                     | 2019                 |
| Tashiding             | 1-2     | Yes                | Yes                     | 2017                 |
| Dikchu                | 1-2     | yes                | yes                     | 2017                 |
| Maithon Power Limited | 1       | Yes                | Yes                     | 2019                 |
| Maithon Power Limited | 2       | Yes                | Yes                     | 2017                 |
| JITPL                 | 1-2     | Yes                | Yes                     | 2016                 |
| Tenughat              | 1-2     | Yes                | Yes                     | 2017                 |
| Adhunik               | 2       | Attempted          | Yes                     | 2019                 |

(\*Total 36 units PSS has been tuned, among these few Units may require re-tuning due to network changes and has been intimated)

**Table 2 : Units Where PSS tuning is carried out prior to 2016 or No Information on Tuning has been shared.**

| Power Plant | Unit No | Utility                 | Remarks from Utility on Tuning |
|-------------|---------|-------------------------|--------------------------------|
| DPL         | 7-8     | WBPDCL (After takeover) | No Details                     |
| PPSP        | 1-4     | WBSEDCL                 | No Details                     |

|                                    |                  |                 |   |
|------------------------------------|------------------|-----------------|---|
| <b>TLDP III</b>                    | <b>1-4</b>       | <b>WBSEDCL</b>  | <b>No Details</b>                                       |
| <b>TLDP IV</b>                     | <b>1-4</b>       | <b>WBSEDCL</b>  | <b>No Details</b>                                       |
| <b>Budge Budge</b>                 | <b>1-2</b>       | <b>CESC</b>     | <b>No Details</b>                                       |
| <b>Kahalgaon</b>                   | <b>4-7</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>Farakka</b>                     | <b>1-6</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>Talcher Stage 1</b>             | <b>1-2</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>Talcher Stage 2</b>             | <b>3-6</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>NPGC</b>                        | <b>1-1</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>BRBCL</b>                       | <b>1-3</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>KBUNL</b>                       | <b>1-4</b>       | <b>NTPC</b>     | <b>No Details</b>                                       |
| <b>Rangit</b>                      | <b>1-3</b>       | <b>NHPC</b>     | <b>No Details</b>                                       |
| <b>GMR</b>                         | <b>1-3</b>       | <b>GMR</b>      | <b>No Details</b>                                       |
| <b>IB TPS</b>                      | <b>1-4</b>       | <b>OPGC</b>     | <b>No Details</b>                                       |
| <b>Upper Indravati</b>             | <b>1-4</b>       | <b>OHPC</b>     | <b>No Details</b>                                       |
| <b>Balimela</b>                    | <b>1-8</b>       | <b>OHPC</b>     | <b>No Details</b>                                       |
| <b>Upper Kolab</b>                 | <b>1-4</b>       | <b>OHPC</b>     | <b>No Details</b>                                       |
| <b>Rengali</b>                     | <b>1-5</b>       | <b>OHPC</b>     | <b>No Details</b>                                       |
| <b>Sterlite</b>                    | <b>1-4</b>       | <b>Sterlite</b> | <b>No Details</b>                                       |
| <b>Subarnrekha</b>                 | <b>1-2</b>       | <b>JUUNL</b>    | <b>No Details</b>                                       |
| <b>Tala, Chukha<br/>Mangdechhu</b> | <b>All Units</b> | <b>BPC</b>      | <b>No Details</b>                                       |
| Chujachen                          | 1-2              | IPP             | Planned In Feb 2020                                     |
| Teesta 5                           | 1-3              | NHPC            | Planned In March 2020                                   |
| Waria                              | 4-1              | DVC             | Planned in April 2020                                   |
| Mejia                              | 4-8              | DVC             | Planned in December 2019                                |
| Chandrapura B                      | 1-2              | DVC             | Planned in December 2019                                |
| Raghunathpur                       | 1-2              | DVC             | Planned in Feb 2021 for Unit 1 and June 2021 for Unit 2 |
| Jorethang                          | 1-2              | IPP             | Planned In Jan 2020                                     |
| Bokaro                             | A1,B             | DVC             | Planned in Jun 2020                                     |
| Koderma                            | 1-1              | DVC             | Planned in May 2020                                     |
| Barh                               | 4-5              | NTPC            | Planned in Nov 2019                                     |
| Sagardighi                         | 1-2              | WBPDC           | PSS tuning Order Placed for one Unit                    |
| Kolaghat                           | 1-3              | WBPDC           | PSS tuning planned with DAVR Upgrade (Order placed)     |
| Adhunik                            | 1-2              | APNRL           | Unit 1 in Next AOH , Unit 2 in Dec 2019                 |

(\*Units need to submit their PSS tuning plan in line with IEGC and CEA standard Regulations to ERLDC/ERPC)



| Sl. No. | Transmission Elements  | Agency/Owner  | Scheme(ERSS/TBCB /Standing Committee/State) | Schedule Completion | Projected Month for Completion | Issue being faced if any for delay in commissioning |
|---------|--|---|---|---------------------|--------------------------------|---|
| 1       | Construction of Loop In Loop Out arrangement of 132 KV Tx. line Madhepura- Sonebarsa 132 KV S/C Tx.line on D/C Tower at Saharsa Existing against NIT No. 38/PR/BSPTCL/2014.  | M/s VSPL  | Special Plan of Phase-III BRGF              | 31.07.2018          | Jan., 2020                     | ROW issues  |
| 2       | Construction of 02 nos. 132KV Line bays at each 132/33KV Grid-Substation Mahnar & Shahpuratori and Construction of 02nos. 220KV Line bays at 220/132/33KV GSS Samastipur(New) against NIT No. 85/PR/BSPTCL/2018.   | M/s A.K. Das Associates Ltd. In JV with M/s REW Contracts Pvt. Ltd. | State Plan                                  | 13.10.2019          | April, 2020                    |   |
| 3       | Construction of 132 KV D/C transmission line from Laukahi – Phulparas with HTLS Conductor against NIT No. 111/PR/BSPTCL/2018   | M/s M/s. Larsen & Toubro Limited                                    | State Plan                                  | 06.02.2019          | Dec., 2020                     |   |
| 4       | Construction of 220 KV D/C Saharsa(New)- Begusarai Transmission line with ACSR Zebra Conductor against NIT No. 54/PR/BSPTCL/2018.  | M/s Associated Power Structures Pvt. Ltd                            | State Plan                                  | 20.04.2020          | April, 2020                    |   |
| 5       | Construction of 02 Nos of 132KV bays each at GSS Muzaffarpur & Vaishali against NIT 65/PR/BSPTCL/2018  | M/s Jagabandhu Enterprisers Pvt. Ltd. in JV with M/s MHD Power      | State Plan                                  | 13.07.2019          | April, 2020                    |   |
| 6       | Construction of 02 Nos of 132KV bays at GSS Runnisaipur & 02 Nos 220KV line bays at GSS Motipur against NIT 76/PR/BSPTCL/2018  | M/s Powertech Engineers   | State Plan                                  | 13.07.2019          | June, 2020                     |   |
| 7       | Construction of 220 KV D/c transmission line from 220/132/33 KV GSS Chapra(New), Amnour to 400/220 KV GSS Muzaffarpur (PG) with Zebra conductor and 132 KV D/c transmission line from 220/132/33 KV GSS Chapra(New), Amnour to 132/33 KV GSS Vaishali with Panther conductor against NIT No- 51/PR/BSPTCL/2018 | M/s KRRTPL  | State Plan                                  | 20.04.2020          | Dec., 2020                     |   |
| 8       | Augmentation of existing 132/33KV GSS Ekma (1x20MVA + 1x50MVA) by 3x50 MVA capacity against NIT No- 36/PR/BSPTCL/2018  | M/s REW Contracts Pvt. Ltd.   | State Plan                                  | 15.04.2020          | Dec., 2020                     |   |
| 9       | Capacity augmentation of GSS Hajipur, Gopalganj & Darbhanga by replacement of power transformer NIT No- 46/PR/BSPTCL/2018  | M/s A.K. Das Associates Ltd. In JV with M/s REW Contracts Pvt. Ltd. | State Plan                                  | 20.01.2020          | Sept., 2020                    |   |



| Sl. No. | Transmission Elements   | Agency/Owner   | Scheme(ERSS/TBCB /Standing Committee/State) | Schedule Completion | Projected Month for Completion | Issue being faced if any for delay in commissioning |
|---------|---|--|---|---------------------|--------------------------------|---|
| 10      | Construction of<br>(i) 132 KV D/C by making LILO arrangement of 132 KV DCSS Saharsa(OLD)-Banmankhi Transmission Line at Saharsa (New) GSS ( line length approx. 20 RKM)<br>(ii) 132 KV D/C by making LILO arrangement of 132 KV DCSS Saharsa(OLD)-Udakishanganj Transmission Line at Saharsa (New) GSS ( line length approx. 15 RKM) and<br>(iii) 132KV D/C by making LILO arrangement of one circuit of Madhepura-Sonebarsa 132KV D/C transmission line at Saharsa (New) GSS ( line length approx. 35 RKM) against NIT No. 53/PR/BSPTCL/2018 | M/s KRRTPL   | State Plan                                  | 20.01.2020          | May, 2020                      |   |
| 11      | Construction of 02 Nos. of 220 KV Line bay at 220/132/33 KV GSS Kishanganj (New) with SAS and 02 Nos. of 132 KV Line bay at 132/33 KV GSS Araria against NIT No. 67/PR/BSPTCL/2018  | M/s A.K. Das Associates Ltd.<br>In JV with M/s REW Contracts Pvt. Ltd. | State Plan                                  | 13.10.2019          | March, 2020                    |   |
| 12      | Construction of 04 Nos of 132/33 KV Transformer Bays in Gaya Transmission Circle against NIT No. 120/PR/BSPTCL/2018   | M/s KRRTPL   | State Plan                                  | 24.11.2019          | May, 2020                      |   |
| 13      | Construction of 03 Nos of 132/33 KV Transformer Bays in Saran, Kosi & Darbhanga Transmission Circle against NIT No. 121/PR/BSPTCL/2018  | M/s KRRTPL   | State Plan                                  | 24.11.2019          | May, 2020                      |   |
| 14      | Construction of 03 Nos of 132/33 KV Transformer Bays in Biharsharif & Dehri-on-sona Transmission Circle against NIT No. 122/PR/BSPTCL/2018  | M/s Jagabandhu Enterprisers Pvt. Ltd. in JV with M/s MHD Power         | State Plan                                  | 24.11.2019          | May, 2020                      |   |
| 15      | Supply, erection, testing and commissioning of 06 Nos. of 50 MVA Power Transformer with construction/modification of foundation in Transmission Circle Muzaffarpur against NIT No. 125/PR/BSPTCL/2018   | M/s REW Contracts Pvt. Ltd.  | State Plan                                  | 24.02.2020          | Sept., 2020                    |   |
| 16      | Supply, erection, testing and commissioning of 06 Nos. of 50 MVA Power Transformer with construction/modification of foundation in Transmission Circle Saran, Kosi & Darbhanga against NIT No. 126/PR/BSPTCL/2018   | M/s KRRTPL   | State Plan                                  | 24.02.2020          | Sept., 2020                    |   |
| 17      | Supply, erection, testing and commissioning of 06 Nos. of 50 MVA Power Transformer with construction/modification of foundation in Transmission Circle Gaya against NIT No. 127/PR/BSPTCL/2018  | M/s KPM Infrastructure Pvt. Ltd.                                       | State Plan                                  | 24.02.2020          | Sept., 2020                    |   |
| 18      | Supply, erection, testing and commissioning of 05 Nos. of 50 MVA Power Transformer with construction/modification of foundation in Transmission Circle Purnea & Bhagalpur against NIT No. 128/PR/BSPTCL/2018  | M/s KRRTPL   | State Plan                                  | 24.02.2020          | Sept., 2020                    |   |



| Sl. No. | Transmission Elements   | Agency/Owner                        | Scheme(ERSS/TBCB /Standing Committee/State) | Schedule Completion | Projected Month for Completion | Issue being faced if any for delay in commissioning   |
|---------|---|-------------------------------------|---|---------------------|--------------------------------|---|
| 19      | Supply, erection, testing and commissioning of 05 Nos. of 50 MVA Power Transformer with construction/modification of foundation in Transmission Circle Patna & Dehri-on-sone against NIT No. 129/PR/BSPTCL/2018   | M/s KPM                             | State Plan                                  | 24.02.2020          | Sept., 2020                    |   |
| 20      | Construction of 132KV Laukahi-Supaul Transmission line against NIT No.- 15/PR/BSPTCL/2014, Pkg-D  | M/s. Larsen & Toubro Limited        | Special Plan of Phase-III BRGF              | 28.02.2019          | 31.01.2020                     | ROW issues  |
| 21      | Construction of 132/33KV GSS Benipur  | M/s KPM                             | State Plan                                  | 16.05.2018          | Jan., 2020                     | ROW issues  |
| 22      | Restoration of different Transmission Lines (Total – 06 nos.) of BSPTCL by constructing Pile Foundation (Total – 14 nos.) /Height Raising (Total – 01 No.) on turnkey basis.  | M/S New Modern Technomech Pvt. Ltd. | O & M head                                  | 21.11.2018          | 31.01.2020                     | Delay in getting S/D and during rainy season site could not be approached   |
| 23      | Construction of 220 KV D/C Raxaul(New)-Sitamarhi (New) Transmission Line with Twin Moose Conductor (Line Length - 120 RKM) on turnkey basis under state plan against NIT no. 60/PR/BSPTCL/2018  | M/s KEC                             | State Plan                                  | 20.04.2020          | FY 2020-21                     |   |
| 24      | Construction of 220 KV D/C Raxaul(New)-Gopalganj Transmission Line with Twin Moose Conductor (Line Length - 80 RKM) on turnkey basis under state plan against NIT no. 62/PR/BSPTCL/2018   | M/s KEC                             | State Plan                                  | 20.04.2020          | FY 2020-21                     |   |
| 25      | Construction of (i) 220 KV D/C Transmission Line from GSS Sitamarhi (New) to 220/132/33 KV GSS Motipur with Twin ACSR Moose Conductor (Approx Line Length -54 RKM) (ii) 132 KV D/C Transmission line from GSS Sitamarhi (New) to 132/33 KV GSS Runnisaipur with Single ACSR Moose Conductor Transmission Line (17 RKM) a under State Plan 61/PR/BSPTCL/2018 | M/s KEC                             | State Plan                                  | 20.04.2020          | FY 2020-21                     |   |
| 26      | 220 KV Line Bays at 220 KV GSS Darbhanga (02 nos. )   | M/s ABN                             | Special Plan of Phase-III BRGF              | 24.05.2016          | Dec., 2020                     | Non availability of Land, Work for civil portion awarded separately on 30.05.2019 with completion period up to 29/09/2019.                    |
| 27      | Construction of 132 KV Line bays at 132/33KV GSS Darbhanga  | M/s ABN                             | Special Plan of Phase-III BRGF              | 21.12.2015          | Jan., 2020                     | Addition in scope of work   |
| 28      | Construction of 2 Nos. 132 KV Line bays at 132/33KV GSS Supaul (Existing)   | M/s GE                              | Special Plan of Phase-III BRGF              | 20.05.2016          | Jan., 2020                     | Due to bad condition of approach road particularly in rainy season. Unavailability of sand. Addition in scope of work at 132/33 KV GSS Supaul |



| Sl. No. | Transmission Elements   | Agency/Owner  | Scheme(ERSS/TBCB /Standing Committee/State) | Schedule Completion | Projected Month for Completion | Issue being faced if any for delay in commissioning |
|---------|---|---|---|---------------------|--------------------------------|---|
| 29      | <p>construction of</p> <p>1) 220 KV D/C Muzaffarpur(PG)-Garaul Transmission Line with ACSR Zebra Conductor (Line Length-20 RKM)</p> <p>2) 132 KV D/C Garaul-Mahnar Transmission Line with ACSR Panther Conductor (Line Length- 45 RKM)</p> <p>3) LILO of both circuit of 132 KV D/C Muzaffarpur-vaishali Transmission Line at Garaul GSS with ACSR Panther Conductor (Line Length- 2x15 RKM)</p> <p>4) 132 KV D/C Transmission line from GSS Chhapra(New)-Ekma with ACSR Panther Conductor (Line Length - 45 RKM) on turnkey basis against NIT NO:- 50/PR/BSPTCL/2018</p> | M/s R S infra Projects Pvt. Ltd.  | State Plan                                  | 20.04.2020          | April, 2020                    |   |
| 30      | <p>Construction of Second circuit stringing of 220 KV DCSS Darbhanga (400/220 KV) – Samastipur (New) Transmission Line (Line Length- 47 KM)</p> <p>NIT No - 72/PR/BSPTCL/2018.</p>  | <p>M/s New Modern Technomech Pvt. Ltd.</p> <p>JV With M/S MKB Power Construction Pvt. Ltd</p> | State Plan                                  | 14.10.2019          | Jan., 2020                     |   |



# Jharkhand Urja Sancharan Nigam Limited

## UNDER CONSTRUCTION SUBSTATIONS TO BE COMMISSIONED UPTO MARCH 2020

| Sl. No. | Transmission Elements              | Agency/ Owner | Scheme (ERSS, TBCB/ Standing Committee/ State) | Schedule Completion | Expected Month for completion | Issue Being Faced            |
|---------|------------------------------------|---------------|--|---------------------|-------------------------------|------------------------------|
| 1       | 400/220/132 kV GSS, Latehar        | JUSNL         | JCP work                                       | 23.08.2013          | 23-Mar-20                     | Delay in land acquisition    |
| 2       | 400/220 kV GSS, Patratu            | JUSNL         | JCP work                                       | 23.08.2013          | 23-Mar-20                     | Delay in land acquisition    |
| 3       | 220/132 kV GSS, Lohardagga         | JUSNL         | JCP work                                       | 23.08.2013          | 23-Mar-20                     | Delay in land acquisition    |
| 4       | 220/132 kV GSS, Garhwa             | JUSNL         | State  | 02.09.2018          | 21-Feb-20                     | Delay in land acquisition    |
| 5       | 220/132/33 kV GSS, Godda           | JUSNL         | State  | 02.09.2018          | 16-Feb-20                     | Delay in land acquisition    |
| 6       | 220/132/33 kV GSS, Giridih         | JUSNL         | State  | 28.03.2018          | 14-Feb-20                     | Delay in land acquisition    |
| 7       | 220/132/33 kV GSS, Jasidih         | JUSNL         | State  | 13.12.2018          | 18-Feb-20                     | Delay in land acquisition    |
| 8       | 220/132/33 kV GSS, Chatra          | JUSNL         | State  | 07.12.2014          | 21-Feb-20                     | Delay in land acquisition    |
| 9       | 220/132/33 kV GSS, Ratu            | JUSNL         | State  | 29.03.2018          | 25-Mar-20                     | Delay in land acquisition    |
| 10      | 132/33 kV GSS, Bahragora           | JUSNL         | State  | 07.05.2018          | 26-Feb-20                     | Delay in land acquisition    |
| 11      | 132/33 kV GSS, Jamua               | JUSNL         | State  | 07.05.2018          | 22-Feb-20                     | Delay in land acquisition    |
| 12      | 132/33 kV GSS, Saria               | JUSNL         | State  | 29.03.2018          | 24-Feb-20                     | Delay in land acquisition    |
| 13      | 400 kV D/C Patratu - Latehar       | JUSNL         | JCP work                                       | 23.08.2013          | 15-Mar-20                     | Forest clearance & ROW issue |
| 14      | 400 kV D/C Bero - Patratu          | JUSNL         | JCP work                                       | 23.08.2013          | 10-Mar-20                     | Forest clearance & ROW issue |
| 15      | 220 kV D/C Chatra - Latehar        | JUSNL         | State  | 19.06.2014          | 16-Mar-20                     | Forest clearance & ROW issue |
| 16      | 220 kV D/C Godda - Dumka           | JUSNL         | State  | 07.05.2018          | 21-Feb-20                     | Forest clearance & ROW issue |
| 17      | 220 kV D/C Godda - Lalmatia        | JUSNL         | State  | 07.05.2018          | 19-Feb-20                     | Forest clearance & ROW issue |
| 18      | 220 kV D/C Jasidih - Dumka         | JUSNL         | State  | 01.02.2018          | 26-Feb-20                     | Forest clearance & ROW issue |
| 19      | 220 kV D/C Jasidih - Giridih       | JUSNL         | State  | 07.05.2018          | 21-Feb-20                     | Forest clearance & ROW issue |
| 20      | 220 kV D/C Ratu - Patratu          | JUSNL         | State  | 08.05.2018          | 14-Mar-20                     | Forest clearance & ROW issue |
| 21      | 220 kV D/C Garhwa - Daltonganj     | JUSNL         | State  | 14.08.2016          | 12-Feb-20                     | Forest clearance & ROW issue |
| 22      | 132 kV D/C Giridih - Saria         | JUSNL         | State  | 07.05.2018          | 16-Feb-20                     | Forest clearance & ROW issue |
| 23      | 132 kV D/C Giridih - Jamua         | JUSNL         | State  | 07.05.2018          | 19-Feb-20                     | Forest clearance & ROW issue |
| 24      | 132 kV D/C Bahragora - Dalbhumgarh | JUSNL         | State  | 07.05.2018          | 28-Feb-20                     | Forest clearance & ROW issue |

General Manager, C&M (NWBP)

| List of line Reactors |         |             |            |                         |        |             |                |  |                                 |        |  |                                 |  |
|-----------------------|---------|-------------|------------|-------------------------|--------|-------------|----------------|--|---------------------------------|--------|--|---------------------------------|--|
| Sl No                 | Voltage | From Bus    | To Bus     | Line Owner              | Ckt ID | Line Length | Reactor (MVar) |  |                                 |        |  |                                 | Remarks                                  |
|                       |         |             |            |                         |        |             | From End       | Switchable (with additional CB) : YES or NO? | Provision to use as Bus reactor | To End | Switchable (with additional CB) : YES or NO? | Provision to use as Bus reactor |  |
| 1                     | 400     | B'shariff   | Sasaram    | POWERGRID               | 1      | 195         | 1X50           | YES  | NO                              |        |  |                                 |  |
| 2                     | 400     | Farakka     | Durgapur   | POWERGRID               | 1      | 150         | 1X50           | NO   | NO                              | -      |  |                                 |  |
| 3                     | 400     | Gorakhpur   | Motihari   | POWERGRID + DMTCL(LILO) | 1      | 190         | 1X80           |  |                                 | 1X50   | YES  | NO                              |  |
| 4                     | 400     | Gorakhpur   | Motihari   | POWERGRID + DMTCL(LILO) | 2      | 190         | 1X80           |  |                                 | 1X50   | YES  | NO                              |  |
| 5                     | 400     | K'gaon      | Maithon    | POWERGRID               | 1      | 172         | -              |  |                                 | 1X50   | NO   | NO                              |  |
| 6                     | 400     | K'gaon      | Maithon    | POWERGRID               | 2      | 172         | -              |  |                                 | 1X50   | NO   | NO                              |  |
| 7                     | 400     | Lakhisarai  | B'shariff  | POWERGRID               | 2      | 89          | -              |  |                                 | 1X50   | YES  | NO                              |  |
| 8                     | 400     | Maithon     | Gaya       | POWERGRID               | 1      | 235         | 1X50           | YES  | NO                              | 1X50   | YES  | YES                             |  |
| 9                     | 400     | Maithon     | Gaya       | POWERGRID               | 2      | 235         | 1X50           | YES  | NO                              | 1X50   | YES  | YES                             |  |
| 10                    | 400     | Maithon     | Mejia      | POWERGRID               | 1      | 83          | 1X50           | YES  | NO                              | -      |  |                                 |  |
| 11                    | 400     | Malda       | New purnea | POWERGRID               | 1      | 167         | 1X63           | NO   | NO                              | -      |  |                                 |  |
| 12                    | 400     | Malda       | New purnea | POWERGRID               | 2      | 167         | 1X63           | NO   | NO                              | -      |  |                                 |  |
| 13                    | 400     | Meramundali | Angul      | POWERGRID               | 1      | 21          | 1X63           | YES  | NO                              | -      |  |                                 |  |
| 14                    | 400     | Motihari    | Barh       | POWERGRID               | 1      | 237         | 1X80           | YES  | NO                              | 1X63   | YES  | NO                              |  |
| 15                    | 400     | Motihari    | Barh       | POWERGRID               | 2      | 237         | 1X80           | YES  | NO                              | 1X63   | YES  | NO                              |  |
| 16                    | 400     | Mpl         | Ranchi     | POWERGRID               | 1      | 188         | 1X50           | YES  | NO                              | 1X50   | YES  | YES                             |  |
| 17                    | 400     | Mpl         | Ranchi     | POWERGRID               | 2      | 188         | 1X50           | YES  | NO                              | 1X50   | YES  | YES                             |  |
| 18                    | 400     | Pandiabili  | Mendasal   | POWERGRID               | 1      | 273         | 1X63           | NO   | NO                              |        |  |                                 | LR at Medhasal end shifted to Pandiabili |
| 19                    | 400     | Pandiabili  | Mendasal   | POWERGRID               | 2      | 273         | 1X63           | NO   | NO                              |        |  |                                 |  |
| 20                    | 400     | Rengali     | Keonjhor   | POWERGRID               | 1      | 100         | 1X63           | NO   | NO                              |        |  |                                 |  |
| 21                    | 400     | Rourkela    | Talcher    | POWERGRID               | 1      | 175         | -              |  |                                 | 1X50   | NO   | NO                              |  |
| 22                    | 400     | Rourkela    | Talcher    | POWERGRID               | 2      | 175         | -              |  |                                 | 1X50   | NO   | NO                              |  |
| 23                    | 400     | RTPS        | Ranchi     | POWERGRID               | 2      | 155.5       | 1X50           | NO   | NO                              | -      |  |                                 |  |
| 24                    | 400     | RTPS        | Ranchi     | POWERGRID               | 3      | 155.5       | 1X50           | NO   | NO                              | -      |  |                                 |  |
| 25                    | 400     | Sagardighi  | Subashgram | POWERGRID               | 1      | 256.3       |                |  |                                 | 1X50   | YES  | NO                              |  |
| 26                    | 400     | Darbhanga   | Kishanganj | ATL                     | 1      | 209         | 1X80           | YES  | NO                              | 1X80   | YES  | YES                             |  |
| 27                    | 400     | Darbhanga   | Kishanganj | ATL                     | 2      | 209         | 1X80           | YES  | NO                              | 1X80   | YES  | YES                             |  |
| 28                    | 400     | Baripada    | Keonjhar   | POWERGRID               | 1      | 156.25      | 3X16.67        | YES  | NO                              | -      |  |                                 |  |

**Annexure-D.1**

**Anticipated Power Supply Position for the month of  
Feb-20**

| SL.NO      | PARTICULARS  | PEAK DEMAND<br>MW | ENERGY<br>MU |
|------------|--|-------------------|--------------|
| <b>1</b>   | <b>BIHAR</b>   |                   |              |
| i)         | NET MAX DEMAND   | 4650              | 2380         |
| ii)        | NET POWER AVAILABILITY- Own Source (including bilateral)   | 427               | 329          |
|            | - Central Sector   | 4200              | 2136         |
| iii)       | SURPLUS(+)/DEFICIT(-)  | -23               | 85           |
| <b>2</b>   | <b>JHARKHAND</b>   |                   |              |
| i)         | NET MAX DEMAND   | 1370              | 770          |
| ii)        | NET POWER AVAILABILITY- Own Source (including bilateral)   | 415               | 153          |
|            | - Central Sector   | 938               | 445          |
| iii)       | SURPLUS(+)/DEFICIT(-)  | -17               | -172         |
| <b>3</b>   | <b>DVC</b>   |                   |              |
| i)         | NET MAX DEMAND (OWN)   | 3045              | 1710         |
| ii)        | NET POWER AVAILABILITY- Own Source   | 5165              | 2606         |
|            | - Central Sector   | 511               | 198          |
|            | Long term Bi-lateral (Export)  | 1825              | 1227         |
| iii)       | SURPLUS(+)/DEFICIT(-)  | 806               | -133         |
| <b>4</b>   | <b>ODISHA</b>  |                   |              |
| i)         | NET MAX DEMAND   | 4000              | 2500         |
| ii)        | NET POWER AVAILABILITY- Own Source   | 3690              | 1446         |
|            | - Central Sector   | 1665              | 776          |
| iii)       | SURPLUS(+)/DEFICIT(-)  | 1354              | -278         |
| <b>5</b>   | <b>WEST BENGAL</b>   |                   |              |
| <b>5.1</b> | <b>WBSEDCL</b>   |                   |              |
| i)         | NET MAX DEMAND (OWN)   | 5700              | 2963         |
| ii)        | CESC's DRAWAL  | 0                 | 57           |
| iii)       | TOTAL WBSEDCL's DEMAND   | 5700              | 3020         |
| iv)        | NET POWER AVAILABILITY- Own Source   | 4598              | 1732         |
|            | - Import from DPL  | 365               | 0            |
|            | - Central Sector   | 2416              | 1090         |
| v)         | SURPLUS(+)/DEFICIT(-)  | 1679              | -198         |
| vi)        | EXPORT (TO B'DESH & SIKKIM)  | 742               | -186         |
| <b>5.2</b> | <b>DPL</b>   |                   |              |
| i)         | NET MAX DEMAND   | 0                 | 190          |
| ii)        | NET POWER AVAILABILITY   | 365               | 205          |
| iii)       | SURPLUS(+)/DEFICIT(-)  | 365               | 15           |
| <b>5.3</b> | <b>CESC</b>  |                   |              |
| i)         | NET MAX DEMAND   | 1550              | 720          |
| ii)        | NET POWER AVAILABILITY - OWN SOURCE  | 760               | 420          |
|            | FROM HEL   | 540               | 250          |
|            | Import Requirement   | 250               | 50           |
| iii)       | TOTAL AVAILABILITY   | 1550              | 720          |
| iv)        | SURPLUS(+)/DEFICIT(-)  | 0                 | 0            |
| <b>6</b>   | <b>WEST BENGAL (WBSEDCL+DPL+CESC)</b><br><b>(excluding DVC's supply to WBSEDCL's command area)</b> |                   |              |
| i)         | NET MAX DEMAND   | 7250              | 3873         |
| ii)        | NET POWER AVAILABILITY- Own Source   | 5723              | 2357         |
|            | - Central Sector+Others  | 3206              | 1340         |
| iii)       | SURPLUS(+)/DEFICIT(-)  | 1679              | -176         |
| <b>7</b>   | <b>SIKKIM</b>  |                   |              |
| i)         | NET MAX DEMAND   | 120               | 63           |
| ii)        | NET POWER AVAILABILITY- Own Source   | 2                 | 1            |
|            | - Central Sector+Others  | 175               | 63           |
| iii)       | SURPLUS(+)/DEFICIT(-)  | 58                | 1            |
| <b>8</b>   | <b>EASTERN REGION</b>  |                   |              |
|            | <b>At 1.03 AS DIVERSITY FACTOR</b>   |                   |              |
| i)         | NET MAX DEMAND   | 19839             | 11296        |
|            | Long term Bi-lateral by DVC  | 1825              | 1227         |
|            | EXPORT BY WBSEDCL  | 742               | -186         |
| ii)        | NET TOTAL POWER AVAILABILITY OF ER<br>(INCLUDING C/S ALLOCATION)                                   | 26117             | 11850        |
| iii)       | PEAK SURPLUS(+)/DEFICIT(-) OF ER<br>(ii)-(i)   | 3710              | -487         |

| ERLDC, KOLKATA   |  |          |          |          |          |         |                           |   |  |  |
|--|--|----------|----------|----------|----------|---------|---------------------------|---|--|--|
| TRANSMISSION ELEMENTS OUTAGE APPROVED IN 165th OCC MEETING OF ERPC |  |          |          |          |          |         |                           |   |  |  |
|  |  | FROM     |          | TO       |          |         |                           |   |  |  |
| SI   | NAME OF THE ELEMENTS                                     | DATE     | TIME     | DATE     | TIME     | REMARKS | S.D availed BY            | Reason  | SUBJECT TO CONSENT FROM AGENCY   | COMMENTS   |
| 1  | 132 kv Purnea(PG)-Kishanganj T/L                         | 20/01/20 | 08:00    | 05/02/20 | 17:00    | OCB     | BSPTCL                    | For dismantlntg of existing conduora and towers , erection of new towers and restringing of conductor at loc. No. 80, 81& 83 across Parman river            | GSS Kishanganj may avail power from GSS Kishanganj(new)/ Dalkola via GSS Baisi |  |
| 2  | 400KV Maithon-Right Bank #II                             | 24/01/20 | 08:00    | 07/02/20 | 18:00    | OCB     | ER-II, POWERGRID          | Re conducting work  |  |  |
| 3  | A/R of 400KV Maithon-Right Bank #I                       | 24/01/20 | 08:00    | 07/02/20 | 18:00    | ODB     | ER-II, POWERGRID          | MTN RB Ckt-I will be kept in NON-Auto during Re conducting in MTN RB Ckt-II for safety measure.   |  |  |
| 4  | 400/220kv 315MVA ICT 2 at Biharsharif                    | 24/01/20 | 10:00    | 29/02/20 | 18:00    | OCB     | POWERGRID ER-I            | BUSHING Replacement and OLTC Overhauling  | BSEB   |  |
| 5  | 400/220 KV 315 MVA ICT-1 AT MUZAFFARPUR                  | 25/01/20 | 9:30     | 28/01/20 | 17:30    | ODB     | POWERGRID ER-I            | OLTC OVERHAULING & AMP work   | BSEB   |  |
| 6  | Main bay of 400kv Maithon-MPL Ckt#2,( Bay no 406) at MPL | 25/01/20 | 08:00    | 08/02/20 | 18:00    | OCB     | ER-II, POWERGRID          | Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.               |  |  |
| 7  | 400kV Bus-2 at MPL                                       | 26/01/20 | 10:00    | 26/01/20 | 18:00    | ODB     | ER-II, POWERGRID          | Dismantling of Bus isolator of 406 bay  | MPL  | During one unit outage of MPL tentative 3rd week of March 2020 |
| 8  | 400kV Bus-IV AT MAITHON                                  | 27/01/20 | 10:00    | 27/02/20 | 18:00    | ODB     | ER-II, POWERGRID          | Dismantlinh work of Bus isolator of 400kV RB-1 under ERSS-XVII project work   |  |  |
| 9  | 400KV Bus-Reactor-1 at Rangpo                            | 01/02/20 | 09:00    | 01/02/20 | 18:00    | ODB     | ER-II, POWERGRID          | AMP Works   |  |  |
| 10   | 400KV Rangpo-Teesta-v Ckt-2                              | 01/02/20 | 08:00    | 29/02/20 | 18:00    | OCB     | ER-II, POWERGRID          | For Reconductring work of 400 KV Rangpo-Binaguri-I in multi-circuit portion (M/C:- 8-14 to Gantry).   | TEESTA-V   |  |
| 11   | 400KV RANGPO-BINAGURI D/C I & II LINE                    | 01/02/20 | 08:00    | 29/02/20 | 18:00    | OCB     | ER-II, POWERGRID          | For Reconductring work  |  |  |
| 12   | 400KV RBTPS-Ranchi I&II                                  | 01/02/20 | 08:00    | 02/02/20 | 18:00    | OCB     | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # II Line   | MPL  | During one unit outage of MPL tentative 3rd week of March 2020 |
| 13   | A/R in non-auto mode in 400KV TeestallI-Kishanganj-I     | 01/02/20 | 07:00    | 28/02/20 | 18:00    | ODB     | ER-II, POWERGRID          | For OPGW installation Work  |  |  |
| 14   | A/R in non-auto mode in 400KV Malda-Farakka - II         | 01/02/20 | 07:00    | 28/02/20 | 18:00    | ODB     | ER-II, POWERGRID          | For OPGW installation Work  |  |  |
| 15   | A/R in non-auto mode in 220KV Binaguri-Siliguri-I & II   | 01/02/20 | 07:00    | 28/02/20 | 18:00    | ODB     | ER-II, POWERGRID          | For OPGW installation Work  |  |  |
| 16   | 400KV BINAGURI-BONGAIGAON-1                              | 01/02/20 | 10:00    | 02/02/20 | 15:00    | ODB     | ER-II, POWERGRID          | Bay upgradation work  | NLDC   |  |
| 17   | 400KV D/C Alipurduar-Bongaigaon Ckt- 1                   | 01/02/20 | 07:00    | 01/02/20 | 17:00    | ODB     | ENICL                     | AMP Work  |  |  |
| 18   | 400 KV Rourkela-SUNDARGARH#1 LINE                        | 01/02/20 | 10:30    | 01/02/20 | 13:00    | ODB     | ER-II/ODISHA/ROURKELA     | FOR TAKING THE LINE REACTOR OUT OF SERVICE FOR GASKET REPLACEMENT & OVERHAULING WORKS TO ARREST OIL LEAKAGES  |  |  |
| 19   | 63 MVar, 400 KV SUNDARGARH#1 LINE REACTOR                | 01/02/20 | 09:30    | 16/02/20 | 18:00    | OCB     | ER-II/ODISHA/ROURKELA     | GASKET REPLACEMENT & OVERHAULING WORKS TO ARREST OIL LEAKAGES   |  |  |
| 20   | ICT-I (3x 105 MVA) at Jeypore                            | 01/02/20 | 08:00:00 | 01/02/20 | 18:00:00 | ODB     | ER-II/Odisha /Jeypore     | For changing ICT-I combination form Unit-I,II, IV to Unit-I, III & IV for charging Unit-III & Retrofitting works of Overcurrent, REF, Earth Fault Relay     | GRIDCO   |  |
| 21   | 315MVA, ICT-2  | 01/02/20 | 09:00    | 08/02/20 | 18:00    | OCB     | ER-II/Odisha/Balangir     | Internal inspection and Bushings lead connection checking due to rise in fault gases.   | GRIDCO   |  |
| 22   | 400KV Main Bus-II  | 01/02/20 | 09:00    | 01/02/20 | 17:30    | ODB     | ER-II/Odisha/BARIPADA S/S | GIS Bus Duct and Bus isolator/earthswitch AMP works   |  |  |
| 23   | 400KV Baripada-Kharagpur line                            | 01/02/20 | 09:00    | 15/02/20 | 17:30    | ODB     | ER-II/Odisha/BARIPADA S/S | Line Auto-reclose switch is to be kept in Non-auto mode for Online PID scanning work of porcelain insulator of concerned line                               | WB   |  |
| 24   | A/R OF 400 KV Rengali - Talcher # 1 Line (Non-Auto)      | 01/02/20 | 08:00    | 10/02/20 | 17:00    | ODB     | ER-II/Odisha/Rengali      | For PID Measurement   |  |  |
| 25   | 220kV Budhipathar-Korba S/c Line                         | 01/02/20 | 08:00    | 12/02/20 | 18:00    | OCB     | ER- II/ODISHA/SUNDERGARH  | For Modification/diversion work associated with OPGC MGR Railway Diversion project.   | NLDC   |  |
| 26   | A/R of 400 kV Baripada-Duburi Line                       | 01/02/20 | 07:00    | 29/02/20 | 18:00    | ODB     | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Additional Requirement)" | GRIDCO   |  |
| 27   | A/R of 400 kV Dubur-Pandiabili Line                      | 01/02/20 | 07:00    | 29/02/20 | 18:00    | ODB     | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Additional Requirement)" | GRIDCO   |  |
| 28   | A/R of 765 kV Angul-Srikakulam Ckt 1                     | 01/02/20 | 07:00    | 29/02/20 | 18:00    | ODB     | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"   | NLDC   |  |
| 29   | A/R of 400 kV Angul-GMR Ckt 1                            | 01/02/20 | 07:00    | 29/02/20 | 18:00    | ODB     | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"   | GRIDCO   |  |



|    |   |          |       |          |       |     |                           |  |   |  |
|----|---|----------|-------|----------|-------|-----|---------------------------|--|---|--|
| 30 | A/R of 400 kV Angul-JITPL Ckt 1                                 | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"          |   |  |
| 31 | A/R of 400k kV Angul-GMR Ckt 2                                  | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"          | GRIDCO  |  |
| 32 | A/R of 400 kV Angul-JITPL Ckt 2                                 | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | ER-II/Odisha              | Line Auto-reclose switch is to be kept in Non-auto mode For stringing of OPGW under "EASTERN REGION FIBRE OPTIC EXPANSION PROJECT (Reliable Requirement)"          |   |  |
| 33 | 400 KV Maithon -Gaya Ckt I                                      | 01/02/20 | 09:00 | 01/02/20 | 18:00 | ODB | ER1                       | Replacement of Disc insulators which has been damaged by miscreants<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE   |   |  |
| 34 | 400kv Main of Varansi -I along with its reactor at Biharsharif  | 01/02/20 | 09:30 | 01/02/20 | 13:00 | ODB | POWERGRID ER-I            | NTAMC Signal testing   | NLDC  |  |
| 35 | 400KV 63MVAR L/R OF Muzaffarpur-2 AT New Purnea                 | 01/02/20 | 9:00  | 01/02/20 | 12:00 | ODB | POWERGRID ER-I            | CT Oil Sampling  |   |  |
| 36 | 400KV 63MVAR L/R OF Muzaffarpur-1 AT New Purnea                 | 01/02/20 | 13:00 | 01/02/20 | 16:00 | ODB | POWERGRID ER-I            | CT Oil Sampling  |   |  |
| 37 | A/R OF 765KV Pusauli-Fatehpur Line                              | 01/02/20 | 9:00  | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | Tower Strengthening work. (During these days Auto reclosure of Pusauli-Fatehpur line will be in non-auto mode from both side)                                      |   |  |
| 38 | 400/220 KV 500MVA ICT-1 AT PUSAULI                              | 01/02/20 | 9:00  | 04/02/20 | 18:00 | OCB | POWERGRID ER-I            | For the movement of 315MVA Spare ICT . Load on 220kv sasaram-sahupur-s/c should be restricted to 100MW. Submitted for load restriction on 220 kv Sasaram Sahupuri. | BSEB  | BSEB AGREED FOR 3 DAYS BEFORE ELECTION |
| 39 | A/R OF 400 KV BIHARSHARIF-BANKA-II                              | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | OPGW WORK  |   |  |
| 40 | A/R OF 400 KV BIHARSHARIF-KODERMA-II                            | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | OPGW WORK  | DVC   |  |
| 41 | A/R OF 400 KV RANCHI-MAITHON(RB)-II                             | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | OPGW WORK  |   |  |
| 42 | A/R OF 400 KV BARH-MOTIHARI-II                                  | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | OPGW WORK  |   |  |
| 43 | A/R OF 400 KV MOTIHARI-GORKAHPUR-II                             | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | OPGW WORK  | NLDC  |  |
| 44 | A/R OF 400 KV PATNA-KISANGANJ-II                                | 01/02/20 | 07:00 | 29/02/20 | 18:00 | ODB | POWERGRID ER-I            | OPGW WORK  |   |  |
| 45 | 400kv BUS-2 AT PATNA  | 01/02/20 | 09:00 | 03/02/20 | 18:00 | ODB | POWERGRID ER-I            | 1. Main Jack Bus twin to Quad replacement.<br>2. 03 nos. ICT bay CT replacement<br>3. 41289A, 41289B and 41189B Isolator replacement.                              | After restoration of 400kv Barh-Gorkhapur-dc  |  |
| 46 | 500MVA ICT-I AT PATNA   | 01/02/20 | 09:00 | 07/02/20 | 18:00 | OCB | POWERGRID ER-I            | 1. Main Jack Bus twin to Quad replacement.<br>2. 03 nos. ICT bay CT replacement<br>3. 41289A, 41289B and 41189B Isolator replacement.                              | BSEB  | MAY BE TAKEN BEFORE ELECTION           |
| 47 | 132 KV Purnea(PG)-Purnea ckt1                                   | 01/02/20 | 10:00 | 01/02/20 | 16:00 | ODB | BSPTCL                    | For line & bay maintenance work  | Purnea will avail power from ckt 2 & 3  |  |
| 48 | 413 Main bay of 400KV BUS Reactor-I                             | 01/02/20 | 09:00 | 01/02/20 | 18:00 | ODB | ER-II/Odisha/Sundergarh   | AMP  |   |  |
| 49 | 414 Tie Bay (400 kV Chandwa-Gaya Ckt -I ) at Gaya               | 01/02/20 | 09:00 | 01/02/20 | 18:00 | ODB | ER-I                      | For AMP work   |   |  |
| 50 | 400KV MAIN BAY OF 400/220KV 315MVA ICT-3 at Biharshariff        | 01/02/20 | 10:00 | 01/02/20 | 18:00 | ODB | POWERGRID ER-I            | AMP WORK   |   |  |
| 51 | 400kv Tie bay of Varansi -1 and Furure bay at Biharsharif       | 01/02/20 | 14:00 | 01/02/20 | 18:00 | ODB | POWERGRID ER-I            | NTAMC Signal testing   |   |  |
| 52 | 500MVA ICT-1 AT MAITHON   | 02/02/20 | 08:00 | 03/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Onload testing of CSD  | DVC   |  |
| 53 | 400 KV D/C FARAKKA-BERHAMPURE CKT 1                             | 02/02/20 | 09:00 | 03/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Rectification of shut down nature defects in various locations in Transmission line.   | FSPPP   |  |
| 54 | 400kv D/C Alipurduar-Bongaigaon Ckt- 2                          | 02/02/20 | 07:00 | 02/02/20 | 17:00 | ODB | ENICL                     | AMP Work   |   |  |
| 55 | 160 MVA ICT#1   | 02/02/20 | 09:00 | 02/02/20 | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S | AMP works  | GRIDCO  |  |
| 56 | 400kv Main of Varansi -II along with its reactor at Biharsharif | 02/02/20 | 09:30 | 02/02/20 | 13:00 | ODB | POWERGRID ER-I            | NTAMC Signal testing   | NLDC  |  |
| 57 | 400 kV Kahalgaon-Lakhisarai-I                                   | 02/02/20 | 9:30  | 02/02/20 | 17:30 | ODB | POWERGRID ER-I            | Retrofitting of PLCC. A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |   |  |
| 58 | 132 KV Kahalgaon(NTPC)-Kahalgaon(BSPTCL) S/C T/L                | 02/02/20 | 09:00 | 20/02/20 | 17:00 | OCB | BSPTCL                    | Reconductoring with HTLS conductor   | Kahalgaon (BSPTCL) will avail power from Goradih GIS.Consent from SLDC Ranchi will be required. |  |
| 59 | 132 KV Katiaha-Kusaha S/C T/L                                   | 02/02/20 | 10:00 | 02/02/20 | 10:20 | ODB | BSPTCL                    | Maintenance work of 132 KV main bus  | NLDC  |  |
| 60 | 132 KV Katiaha-Kusaha S/C T/L                                   | 02/02/20 | 17:10 | 02/02/20 | 17:20 | ODB | BSPTCL                    | Maintenance work of 132 KV main bus  | NLDC  |  |

|    |   |            |          |          |          |     |                              |   |  |   |
|----|---|------------|----------|----------|----------|-----|------------------------------|---|--|---|
| 61 | 132 KV Purnea(PG)-Purnea ckt2                                     | 02/02/20   | 10:00    | 02/02/20 | 16:00    | ODB | BSPTCL                       | For line & bay maintenance work   | Purnea will avail power from ckt 1 & 3       |   |
| 62 | 432 Tie bay of Varansi -2 and Furure bay at Biharsharif           | 02-02-2020 | 14:00    | 02/02/20 | 18:00    | ODB | POWERGRID ER-I               | NTAMC Signal testing  |  |   |
| 63 | 400KV D/C BINAGURI-NEW PURNEA TL-I                                | 03/02/20   | 09:00    | 03/02/20 | 17:00    | ODB | ER-II, POWERGRID             | CLR Insulator replacement in Crossings  |  |   |
| 64 | 400KV Maithon-Kahalgaon I   | 03/02/20   | 08:00    | 04/02/20 | 18::00   | OCB | ER-II, POWERGRID             | 1. PL Crossing during Re-conductoring work of Maithon - Right Bank # II Line.<br>2. Bay upgradation work: isolation and dismantling of Main Bay equipment |  |   |
| 65 | 400KV Maithon-Kahalgaon II  | 03/02/20   | 08:00    | 04/02/20 | 18::00   | OCB | ER-II, POWERGRID             | PL Crossing during Re-conductoring work of Maithon - Right Bank # II Line   |  |   |
| 66 | 400/220 KV 315 MVA ICT-3 at MALDA                                 | 03/02/20   | 08:00    | 15/03/20 | 17:00    | OCB | ER-II, POWERGRID             | ERSS-XVII-B Constructional work . Complete ICT along  | WB   | Deferred till completion of Madhyamik Examination in West |
| 67 | 400KV Durgapur-Sagardighi Line-2                                  | 03/02/20   | 08:00    | 03/02/20 | 17:00    | ODB | ER-II, POWERGRID             | Main -1 Relay Retrofitting Works  | WB   |   |
| 68 | 400kv D/C Alipurduar-Bongaigaon Ckt- 1                            | 03/02/20   | 07:00    | 03/02/20 | 17:00    | ODB | ENCL                         | AMP Work  |  |   |
| 69 | 220kv BUS-I at Jeypore SS   | 03/02/20   | 08:00:00 | 03/02/20 | 18:00:00 | ODB | ER-II/Odisha /Jeypore        | AMP Works & Isolator alignment of 220kv Bus-I Side of ICT-I, Bus-Coupler,TBC Bay, Jayanagar-I & II Line   |  |   |
| 70 | A/R OF 400KV Sundergarh-Raigarh Ckt #1&3                          | 03/02/20   | 8:00     | 14/02/20 | 18:00    | ODB | ER- II/ODISHA/SUNDERGARH     | For PID Testing of Porcelain Insulator. Only Auto reclose   | NLDC   |   |
| 71 | 400 KV Chandwa-Gaya Ckt II  | 03/02/20   | 09:00    | 03/02/20 | 18:00    | ODB | ER1                          | Replacement of Disc insulators which has been damaged by miscreants<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE                                      |  |   |
| 72 | 400kv Bus 1 at Biharsharif  | 03/02/20   | 09:30    | 07/02/20 | 18:00    | ODB | POWERGRID ER-I               | Upgradation of Busbar Scheme under project head   | BSEB   |   |
| 73 | 400KV 80MVAR L/R of Farakka at New Purnea                         | 03/02/20   | 10:00    | 03/02/20 | 18:00    | ODB | POWERGRID ER-I               | CB AMP Works  |  |   |
| 74 | 765KV BUS-I AT 765/400 KV NEW RANCHI                              | 03/02/20   | 9:00     | 04/02/20 | 17:00    | ODB | POWERGRID ER-I               | MDINIPUR BAY EXTENSION WORK   | NLDC   |   |
| 75 | 400 KV Muzaffarpur- Gorakhpur line-1                              | 03/02/20   | 9:30     | 03/02/20 | 17:30    | ODB | POWERGRID ER-I               | LINE BAY AMP WORK   | After restoration of 400kv Barh-Gorkhapur-dc |   |
| 76 | 400kv Arambag- NewPPSP #1   | 03/02/20   | 06:00    | 03/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |   |
| 77 | At Kharagpur : 400/220 KV 315MVA-TRANSFORMER-II                   | 03/02/20   | 07:00    | 04/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |   |
| 78 | 400KV SgTPP-farakka#1 ckt. & 400 kv SgTPP-subhasgram ckt          | 03/02/20   | 06:00    | 03/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |   |
| 79 | NewChanditala: 400kv MB#1 & 315MVA ICT#3                          | 03/02/20   | 06:00    | 03/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |   |
| 80 | 400kv MTPS- Maithon Line#1  | 03/02/20   | 09:00    | 05/02/20 | 17:00    | ODB | 400kv MTPS S/Y, DVC          | Tan delta test of CT & tit-bit maintenance work   |  |   |
| 81 | 400kv DSTPS-Jamshedpur Ckt#1                                      | 03/02/20   | 08:30    | 08/02/20 | 17:00    | OCB | 400kv DSTPS S/Y, DVC         | 1.O/H activities including testing on CTs,CVTs,CBs<br>2. Line ABT Meter calibration<br>3.Replacement of damaged/defective gland plates in CT JB's         |  |   |
| 82 | 220 KV Gaya(PG)-Dehri ckt1  | 03/02/20   | 09:00    | 03/02/20 | 17:00    | ODB | BSPTCL                       | 220 KV Main Bus maintenance work  | Dehri will avail power from Pushauli(PG)     |   |
| 83 | 220 KV BSF(PG)-BSF ICT1   | 03/02/20   | 11:00    | 03/02/20 | 15:00    | ODB | BSPTCL                       | For line & bay maintenance work   | BSF will avail power from alternate sources  |   |
| 84 | 132 KV Purnea(PG)-Purnea ckt3                                     | 03/02/20   | 10:00    | 03/02/20 | 16:00    | ODB | BSPTCL                       | For line & bay maintenance work   | Purnea will avail power from ckt 1 & 2.      |   |
| 85 | 400KV JAMSHEDPUR-TISCO  | 03/02/20   | 09:00    | 03/02/20 | 17:30    | ODB | DVC                          | Amp   |  |   |
| 86 | 400KV TALCHER MAIN BAY 409  | 03/02/20   | 09:00    | 03/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS        | AMP Work  |  |   |
| 87 | 400 KV 403 main bay of 315MVA ICT#1                               | 03/02/20   | 09:00    | 03/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S    | AMP works   |  |   |
| 88 | 400 kv Mendhasal -Pandiabili-1 main bay at Mendhasal sub-station. | 03/02/20   | 09:00    | 03/02/20 | 18:00    | ODB | ER-II/Odisha/ Pandiabili GIS | DCRM of main bay.   |  |   |
| 89 | 418 Main Bay (400 kv Chandwa-Gaya Ckt -II ) at Gaya               | 03/02/20   | 09:00    | 03/02/20 | 18:00    | ODB | ER-I                         | For AMP work  |  |   |
| 90 | 220KV SIDE MAIN BAY OF 220/132kv 160MVA ICT -1 PURNEA.            | 03/02/20   | 09:00    | 03/02/20 | 17:00    | ODB | POWERGRID ER-1               | CB AMP WORK   |  |   |
| 91 | 400KV MAIN BAY OF 80MVAR Bus Reactor 2 at Biharshariff            | 03/02/20   | 10:00    | 03/02/20 | 18:00    | ODB | POWERGRID ER-I               | AMP WORK  |  |   |
| 92 | 400kv main bay of 125MVAR Bus reactor -3 at Biharsharif           | 03/02/20   | 14:00    | 03/02/20 | 18:00    | ODB | POWERGRID ER-I               | NTAMC Signal testing  |  |   |
| 93 | 400KV Allahabad Line Reactor Bay (CWL29Q50)                       | 03/02/20   | 09:00    | 06/02/20 | 18:00    | OCB | POWERGRID ER-I               | Overhauling of CWL29Q50-Y phase Pole  |  |   |
| 94 | 400KV RANCHI-MAITHAN-I MAIN BAY (401) AT RANCHI                   | 03/02/20   | 09:30    | 03/02/20 | 17:00    | ODB | POWERGRID ER-I               | AMP. LINE WILL REMAIN CHARGED THROUGH MAIN BAY  |  |   |
| 95 | MAIN BAY (103) OF 132KV BANKA -BANKA-1 (BSPTCL) AT BANKA SS       | 03/02/20   | 09:00    | 03/02/20 | 13:00    | ODB | POWERGRID ER-I               | AMP WORK. LINE WILL BE CHARGED THROUGH TRANSFER BUS   |  |   |
| 96 | 125MVAR BR- I at Alipurduar                                       | 04/02/20   | 08:00    | 07/02/20 | 17:00    | OCB | ER-II, POWERGRID             | Oil leakage (from PRD & Main tank joint ) and Air Cell rectification  |  |   |
| 97 | 400KV D/C BINAGURI-NEW PURNEA TL-II                               | 04/02/20   | 09:00    | 04/02/20 | 17:00    | ODB | ER-II, POWERGRID             | CLR Insulator replacement in Crossings  |  |   |
| 98 | 400kv Bus Reactor-2 (125 Mvar) at BAHARAMPORE                     | 04/02/20   | 09:00    | 04/02/20 | 17:00    | ODB | ER-II, POWERGRID             | Bus Reactor Maintenance.  |  |   |
| 99 | 400 KV D/C FARAKKA-BERHAMPORE CKT 2                               | 04/02/20   | 09:00    | 05/02/20 | 17:00    | ODB | ER-II, POWERGRID             | Rectification of shut down nature defects in various locations in Transmission line.  |  |   |

|     |   |            |          |            |          |     |                              |  |  |   |
|-----|---|------------|----------|------------|----------|-----|------------------------------|--|--|---|
| 100 | 132 KV Siliguri Kursong   | 04/02/20   | 08:00    | 05/02/20   | 17:00    | ODB | ER-II, POWERGRID             | Identified defect liquidation and jumper tightening  | WB   |   |
| 101 | 400kV D/C Alipurduar-Bongaigaon Ckt- 2                            | 04/02/20   | 07:00    | 04/02/20   | 17:00    | ODB | ENICL                        | AMP Work   |  |   |
| 102 | 400 KV Rourkela-SUNDARGARH#1 LINE                                 | 04/02/20   | 09:00    | 04/02/20   | 18:00    | ODB | ER-II/ODISHA/ROURKELA        | FOR DISMANTLING OF REACTOR BUSHINGS (SHUTDOWN BEING AVAILED AS CLEARANCE IS LESS)  |  |   |
| 103 | 400kV Angul-Bolangir Line   | 04/02/20   | 09:00    | 04/02/20   | 18:00    | ODB | ER-II/Odisha/Angul SS        | Commissioning of LILO Isolator   | NLDC   |   |
| 104 | 400kV Angul-Meramunduli-1 Line                                    | 04/02/20   | 09:00    | 04/02/20   | 18:00    | ODB | ER-II/Odisha/Angul SS        | Commissioning of LILO Isolator   | GRIDCO                                       |   |
| 105 | 220KV BUS-II at Jeypore SS  | 04/02/20   | 08:00:00 | 04/02/20   | 18:00:00 | ODB | ER-II/Odisha /Jeypore        | AMP Works & Isolator alignment of 220kV Bus-II Side of ICT-I, Bus-Coupler,TBC Bay, Jayanagar-I & II Line                 | GRIDCO                                       |   |
| 106 | 400 KVRengali- Keonjhar Line                                      | 04/02/20   | 08:00    | 04/02/20   | 20:00    | ODB | ER-II/Odisha/Rengali         | Relay Retrofitting   |  |   |
| 107 | 765 KV DC Sundargarh - Angul Ckt #3                               | 04/02/20   | 8:00     | 07/02/20   | 18:00    | OCB | ER- II/ODISHA/SUNDERGARH     | Rectification of clearance issues at TP tower  | NLDC   |   |
| 108 | 400 kV Pandiabili-Duburi line                                     | 04/02/20   | 10:00    | 05/02/20   | 16:00    | ODB | ER-II/Odisha                 | To open the dislocated Aviation balloons in the spans between Tower No711 to 731 for carrying out OPGW installation work | GRIDCO                                       |   |
| 109 | 765KV GAYA-VARANASI-II  | 04/02/20   | 09:00    | 09/02/20   | 18:00    | ODB | ER1                          | FOR STRENGTHENING OF 765 KV LINE TOWER   | NLDC   |   |
| 110 | 220 kV Ara - Khagaul Ckt 1  | 04/02/20   | 09:00    | 04/02/20   | 17:30    | ODB | POWERGRID ER-1               | Main 1 Distance Relay replacement depending upon GE Engineer Visit and AMP Work at Ara Ss                                | BSEB   |   |
| 111 | 400 KV Patna-Ballia-3   | 04/02/20   | 08:00    | 05/02/20   | 18:00    | ODB | POWERGRID ER-1               | replacement of pilot porcelain string by polymer in tension tower loc no : 307,306,316,338,357,373,385,409               | NLDC   |   |
| 112 | 220 KV PURNEA-DALKHOLA-II   | 04/02/20   | 10:00    | 04/02/20   | 13:00    | ODB | POWERGRID ER-1               | <b>BAY CT OIL SAMPLING</b>   |  |   |
| 113 | 400 kV NEW RANCHI-CHANDWA-I & II                                  | 04/02/20   | 09:00    | 05/02/20   | 17:00    | ODB | POWERGRID ER-I               | Overhead powerline crossing of 400 KV ESSAR-Latehar T/L and 400 KV Patratu-Latehar T/L                                   | NLDC   |   |
| 114 | 400KV 50MVAR L/R OF Lakhisarai 2 at BiharSharif( SWITCHABLE)      | 04/02/20   | 10:00    | 05/02/20   | 18:00    | ODB | POWERGRID ER-I               | Relay Retrofitment and AMP   |  |   |
| 115 | 400KV BIHARSHARIF- LAKHISARAI CKT-I                               | 04/02/20   | 08:00    | 04/02/20   | 18:00    | ODB | POWERGRID ER-I               | Replacement of flashed Insulator at Loc. No. LILO 5 (DB+0) A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE                 |  |   |
| 116 | 400KV Bus sectionalizer of Bus-1 & 3 at BiharSharif               | 04/02/20   | 14:00    | 04/02/20   | 18:00    | ODB | POWERGRID ER-I               | NTAMC Signal testing   |  |   |
| 117 | 400KV KAHALGAON -MAITHON CKT 1                                    | 04/02/20   | 08:00    | 04/02/20   | 18:00    | ODB | POWERGRID ER-I               | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)          |  |   |
| 118 | 400KV 80MVAR L/R of Gokarna at New Purnea                         | 04/02/20   | 10:00    | 04/02/20   | 18:00    | ODB | POWERGRID ER-I               | CB AMP Works   |  |   |
| 119 | 400 KV Muzaffarpur- Gorakhpur line-2                              | 04/02/20   | 9:30     | 04/02/20   | 17:30    | ODB | POWERGRID ER-I               | LINE BAY AMP WORK  | After restoration of 400kv Barh-Gorkhapur-dc |   |
| 120 | NewChanditala: 400kv MB#2 & 315MVA ICT#3                          | 04/02/20   | 06:00    | 04/02/20   | 15:00    | ODB | WB                           | Winter Maintenance   |  |   |
| 121 | 400KV Arambag- NewPPSP#2  | 04/02/20   | 06:00    | 04/02/20   | 15:00    | ODB | WB                           | Winter Maintenance   |  |   |
| 122 | 400KV SgTPP-Jeerat ckt.   | 04/02/20   | 06:00    | 04/02/20   | 16:00    | ODB | WB                           | Winter Maintenance   |  |   |
| 123 | 220 KV Gaya(PG)-Dehri ckt2  | 04/02/20   | 09:00    | 04/02/20   | 17:00    | ODB | BSPTCL                       | 220 KV Main Bus maintenance work   | Dehri will avail power from Pushauli(PG)     |   |
| 124 | 220 KV BSF(PG)-BSF ICT2   | 04/02/20   | 11:00    | 04/02/20   | 15:00    | ODB | BSPTCL                       | For line & bay maintenance work  | BSF will avail power from alternate sources  |   |
| 125 | 132 KV Kataiya-Duhabi S/C T/L                                     | 04/02/20   | 09:00    | 05/02/20   | 16:00    | ODB | BSPTCL                       | For erection & commissioning of LA & CVT   | Consent from Nepal will be required.         |   |
| 126 | 40552- Tie Bay of Kharagpur line & 315MVA ICT II                  | 04-02-2020 | 09:00    | 04-02-2020 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S    | AMP works  |  |   |
| 127 | 400 kv Mendhasal -Pandiabili-2 main bay at Mendhasal sub-station. | 04-02-2020 | 09:00    | 04-02-2020 | 18:00    | ODB | ER-II/Odisha/ Pandiabili GIS | DCRM of main bay.  |  |   |
| 128 | 711 Main Bay of 765KV Raipur ckt-1 & Angul ckt-3                  | 04-02-2020 | 08:00    | 04-02-2020 | 18:00    | ODB | ER-II/Odisha/Sundergarh      | AMP  | NLDC   |   |
| 129 | 400KV 408 BAY AMP   | 04-02-2020 | 09:00    | 04-02-2020 | 18:00    | ODB | ER-II/Odisha/Keonjhar        | AMP WORKS.   |  |   |
| 130 | 400KV RANCHI-MAITHAN-I & 315 MVA ICT-I TIE BAY (402) AT RANCHI    | 04-02-2020 | 09:30    | 04-02-2020 | 17:00    | ODB | POWERGRID ER-I               | AMP. LINE & ICT-I WILL REMAIN CHARGED THROUGH MAIN BAY   |  |   |
| 131 | MAIN BAY (105) OF 132KV BANKA -BANKA-2 (BSPTCL) AT BANKA SS       | 04-02-2020 | 09:00    | 04-02-2020 | 13:00    | ODB | POWERGRID ER-I               | AMP WORK. LINE WILL BE CHARGED THROUGH TRANSFER BUS  |  |   |
| 132 | ICT-3 main bay 403 AT PATNA                                       | 04-02-2020 | 10:00    | 04-02-2020 | 18:00    | ODB | POWERGRID ER-I               | AMP  |  |   |
| 133 | 400KV D/C BINAGURI-NEW PURNEA TL-I                                | 05/02/20   | 09:00    | 05/02/20   | 17:00    | ODB | ER-II, POWERGRID             | CLR Insulator replacement in Crossings   |  |   |
| 134 | 220KV Bus Coupler at Birpara                                      | 05/02/20   | 08:00    | 05/02/20   | 17:30    | ODB | ER-II, POWERGRID             | AMP work   |  |   |
| 135 | 400KV Maithon-Durgapur I&II                                       | 05/02/20   | 08:00    | 06/02/20   | 18:00    | OCB | ER-II, POWERGRID             | PL Crossing during Re-conductoring work of Maithon - Right Bank # II Line  |  |   |
| 136 | 220 kV Bus-I at MALDA   | 05/02/20   | 08:00    | 05/02/20   | 17:00    | ODB | ER-II, POWERGRID             | ERSS-XVII-B Constructional work. For removal of existing HCB Isolator of ICT-3.  | WB   | Deferred till completion of Madhyamik Examination in West Bengal. It will be reviewed in Feb OCC meeting. |
| 137 | 220KV WBSETCL-Subhasgram Line-1                                   | 05/02/20   | 09:00    | 05/02/20   | 17:00    | ODB | ER-II, POWERGRID             | For Rectification of abnormal sound Coming from Line Isolator  | WB   |   |
| 138 | Shutdown in 400KV Malda-Farakka - II                              | 05/02/20   | 10:00    | 05/02/20   | 17:00    | ODB | ER-II, POWERGRID             | For OPGW installation Work in longer spans   |  |   |
| 139 | 400KV Durgapur-Farakka line-2                                     | 05/02/20   | 08:00    | 05/02/20   | 17:00    | ODB | ER-II, POWERGRID             | Main-2 Relay Retrofitting Works  |  |   |

|     |   |          |          |          |          |     |                              |   |  |  |
|-----|---|----------|----------|----------|----------|-----|------------------------------|---|--|--|
| 140 | 132 KV D/C Jeerat - Bonga TL  | 05/02/20 | 08:00    | 06/02/20 | 17:00    | ODB | ER-II, POWERGRID             | Stringing b/w AP 38/0 to 39/0 of 400 KV Jeerat(New)-Jeerat TL over existing 132 KV D/C Jeerat - Bonga TL  | WB   |  |
| 141 | 400KV Maithon - Mejia # 3 line  | 05/02/20 | 09:00    | 06/02/20 | 17:00    | ODB | ER-II, POWERGRID             | Replacement of insulators at Major crossings.   | DVC  |  |
| 142 | 400KV BINAGURI-Kishanganj-1   | 05/02/20 | 10:00    | 05/02/20 | 15:00    | ODB | ER-II, POWERGRID             | Replacement and retrofitting distance relay   |  |  |
| 143 | 220 Bus 1   | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA        | AMP WORKS   | GRIDCO   |  |
| 144 | 400KV Angul-Talcher Line  | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS        | Commissioning of LILO Isolator  |  |  |
| 145 | 400KV Angul-Meramunduli-2 Line  | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS        | Commissioning of LILO Isolator  | GRIDCO   |  |
| 146 | 315MVA ICT # II at Jeypore  | 05/02/20 | 08:00:00 | 05/02/20 | 18:00:00 | ODB | ER-II/Odisha /Jeypore        | AMP of ICT # II and Retrofitting works of Overcurrent, REF, Earth Fault Relay   | GRIDCO   |  |
| 147 | 400KV Sundargarh-Rourkela ckt-4   | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/Odisha/Sundargarh      | Wave Trap connector modification work   |  |  |
| 148 | 315MVA ICT-I  | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/Odisha/Keonjhar        | WTI & OTI Calibration to be check   | GRIDCO   |  |
| 149 | 220 kv Ara - Khagaul Ckt 2  | 05/02/20 | 09:00    | 05/02/20 | 17:30    | ODB | POWERGRID ER-1               | Main 1 Distance Relay replacement depending upon GE Engineer Visit and AMP Work at Ara Ss   | BSEB   |  |
| 150 | 400KV 80MVAR/LR OF Purnia 2 at BiharSharif  | 05/02/20 | 10:00    | 05/02/20 | 18:00    | ODB | POWERGRID ER-I               | AMP Work  |  |  |
| 151 | 400KV BIHARSHARIF- LAKHISARAI CKT-II  | 05/02/20 | 08:00    | 05/02/20 | 18:00    | ODB | POWERGRID ER-I               | Replacement of flashed Insulator at Loc. No. 358 (TP TOWER)<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |  |  |
| 152 | 400KV Bus sectionalizer of Bus-2 & 4 at BiharSharif   | 05/02/20 | 09:30    | 05/02/20 | 13:00    | ODB | POWERGRID ER-I               | NTAMC Signal testing  |  |  |
| 153 | 400KV KAHALGAON -MAITHON CKT 2  | 05/02/20 | 08:00    | 05/02/20 | 18:00    | ODB | POWERGRID ER-I               | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)   |  |  |
| 154 | 765/400 KV 3*500 MVA ICT AT PUSAULI   | 05/02/20 | 9:00     | 05/02/20 | 18:00    | ODB | POWERGRID ER-I               | Retrofitting work of CSD Relay , During the S/D ,power flow in 765kv Sasaram -Fatehpur-s/c will be zero.  | NLDC   |  |
| 155 | HVDC SASARAM  | 05/02/20 | 9:00     | 05/02/20 | 15:00    | ODB | POWERGRID ER-I               | For the movement of 315MVA Spare ICT under East Side filter Bank (CWC S3, CWC54, CWC55, CWC56)  |  |  |
| 156 | 400/220 KV 500 MVA ICT-3 AT MUZAFFARPUR   | 05/02/20 | 9:30     | 06/02/20 | 17:30    | ODB | POWERGRID ER-I               | RETROFITTING OF BACKUP IMPEDANCE RELAY.   | BSEB   |  |
| 157 | 220KV MUZ-DHALKEBAR (Nepal) -1 & 2 Line   | 05/02/20 | 9:30     | 08/02/20 | 17:30    | OCB | POWERGRID ER-I               | DE-STRINGING & RE-STRINING OF ONE SPAN OF 400KV LINE IN NEAR BY MUZAFFARPUR SUBSTATION. PLCC &  | NLDC   |  |
| 158 | 125MVAR Bus Reactor-I AT PATNA  | 05/02/20 | 10:00    | 05/02/20 | 18:00    | ODB | POWERGRID ER-I               | AMP   |  |  |
| 159 | 400KV Arambag-BKTPP ckt   | 05/02/20 | 06:00    | 05/02/20 | 15:00    | ODB | WB                           | Winter Maintenance  |  |  |
| 160 | At Kharagpur : 400/220 KV 315MVA-TRANSFORMER-I  | 05/02/20 | 07:00    | 06/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |  |
| 161 | 400 kv SgTPP-Parulia#1 ckt. and 400 kv SgTPP-Gokarna#2 ckt.                                   | 05/02/20 | 06:00    | 05/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |  |
| 162 | NewChanditala: 400kv MB#2 & 315MVA ICT#2  | 05/02/20 | 06:00    | 05/02/20 | 16:00    | ODB | WB                           | Winter Maintenance  |  |  |
| 163 | 132 KV Banka(PG)-Sabour D/C T/L line  | 05/02/20 | 09:00    | 05/02/20 | 14:00    | ODB | BSPTCL                       | for stringing work in 132KV Sabour sultangnaj LILO to jagdishpur line between (Ap 23/0- Ap24/0).  | 1.Sabour will avail power from Goradih(GIS)<br>2.No load restriction |  |
| 164 | 132 KV Rajgir-Barhi S/C T/L   | 05/02/20 | 08:00    | 05/02/20 | 16:00    | ODB | BSPTCL                       | For tower top patrolling and maintenance work   | Consent from SLDC DVC will be required.                              |  |
| 165 | 132 KV Nalanda-Barhi S/C T/L  | 05/02/20 | 08:00    | 05/02/20 | 16:00    | ODB | BSPTCL                       | For tower top patrolling and maintenance work   | Consent from SLDC DVC will be required.                              |  |
| 166 | 220 KV Dehri-Pushauli(PG) S/C T/L   | 05/02/20 | 09:00    | 05/02/20 | 17:00    | ODB | BSPTCL                       | 220 KV Main Bus maintenance work  | Dehri will avail power from Gaya(PG)                                 |  |
| 167 | 400KV Baripada-Kharagpur Line   | 05/02/20 | 09:00    | 05/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S    | Replacement of faulty insulator   | WB   |  |
| 168 | 400KV GMR-1 MAIN BAY 427  | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS        | AMP Work  |  |  |
| 169 | 20352- 220KV Bus Coupler Bay  | 05/02/20 | 09:00    | 05/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S    | AMP works   |  |  |
| 170 | 400 KV tie bay of Mendhasal-Pandiabili -1 & Mendhasal Pandiabili -2 at Mendhasal sub-station. | 05/02/20 | 09:00    | 05/02/20 | 18:00    | ODB | ER-II/Odisha/ Pandiabili GIS | DCRM of tie bay.  |  |  |
| 171 | 220KV SIDE MAIN BAY OF 220/132kv 160MVA ICT -2 PURNEA.  | 05/02/20 | 09:00    | 05/02/20 | 17:00    | ODB | POWERGRID ER-1               | CB AMP WORK   |  |  |
| 172 | 220KV Bus Coupler Bay (204-52) at New Purnea  | 05/02/20 | 10:00    | 05/02/20 | 18:00    | ODB | POWERGRID ER-I               | CB AMP Works  |  |  |
| 173 | 400KV RANCHI-80 MVAR B/R MAIN BAY (418) AT RANCHI   | 05/02/20 | 09:30    | 05/02/20 | 17:00    | ODB | POWERGRID ER-I               | AMP. REACTOR WILL REMAIN CHARGED THROUGH TIE BAY  |  |  |
| 174 | MAIN BAY (106) OF 132KV BANKA-SABOUR-1 (BSPTCL) AT BANKA SS                                   | 05/02/20 | 09:00    | 05/02/20 | 13:00    | ODB | POWERGRID ER-I               | AMP WORK. LINE WILL BE CHARGED THROUGH TRANSFER BUS   |  |  |
| 175 | 400KV D/C BINAGURI-NEW PURNEA TL-II   | 06/02/20 | 09:00    | 06/02/20 | 17:00    | ODB | ER-II, POWERGRID             | CLR Insulator replacement in Crossings  |  |  |
| 176 | 400 kv Farakka-Sagardighi-II T/L  | 06/02/20 | 09:00    | 06/02/20 | 16:00    | ODB | ER-II, POWERGRID             | Rectification of Shutdown nature defect in line.  | WB   |  |
| 177 | 400 KV Maithon-Durgapur Ckt-I   | 06/02/20 | 10:00    | 06/02/20 | 18:00    | ODB | ER-II, POWERGRID             | Fixing of pilot string and rectification of missing member in top section and liquidation of shutdown nature defects. Ckt wise shut-down shall be taken on alternate day basis. |  |  |
| 178 | 220KV/132KV ICT-IV at MALDA   | 06/02/20 | 08:00    | 06/02/20 | 12:00    | ODB | ER-II, POWERGRID             | Implementation of NIFS system   | WB   |  |
| 179 | 400KV BUS-II at MALDA   | 06/02/20 | 08:00    | 06/02/20 | 17:00    | ODB | ER-II, POWERGRID             | ERSS-XVII-B Constructional work. For removal of existing pantograph Isolator of ICT-3.  | WB   |  |
| 180 | 315 MVA ICT#1 at Subhasgram   | 06/02/20 | 09:00    | 06/02/20 | 17:00    | ODB | ER-II, POWERGRID             | REF Relay retrofitting work   | WB   |  |
| 181 | 400KV BINAGURI-Kishanganj-1   | 06/02/20 | 10:00    | 06/02/20 | 15:00    | ODB | ER-II, POWERGRID             | Replacement and retrofitting of auto-reclose relay  |  |  |

|     |   |            |       |            |       |     |                              |  |   |   |
|-----|---|------------|-------|------------|-------|-----|------------------------------|--|---|---|
| 182 | 132 KV Siliguri Melli                                       | 06/02/20   | 08:00 | 07/02/20   | 17:00 | ODB | ER-II, POWERGRID             | Identified defect liquidation and jumper tightening  | SIKKIM  |   |
| 183 | 220 Bus 2   | 06/02/20   | 09:00 | 06/02/20   | 18:00 | ODB | ER-II/ODISHA/ROURKELA        | AMP WORKS  | GRIDCO  |   |
| 184 | 400 KV BUS # 1  | 06/02/20   | 09:00 | 06/02/20   | 17:00 | ODB | ER-II/Odisha/Rengali         | AMP Work   |   |   |
| 185 | 80 MVAR bus reactor at Pandiabili                           | 06/02/20   | 09:30 | 06/02/20   | 10:00 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation( 401-52,401-89A,401-89B,401-89R, 402-52,402-89A,402-89B)                           |   |   |
| 186 | 400 kv Pandiabili-Baripada line with line reactor.          | 06/02/20   | 10:00 | 06/02/20   | 10:30 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(403-52,403-89A,403-89B,403-89L,403-52R,403-89AR )                                  |   |   |
| 187 | 400 kv Pandiabili-Duburi line with line reactor.            | 06/02/20   | 10:30 | 06/02/20   | 11:00 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(404-52,404-89A,404-89B,404-89L, 404-52R,404-89AR )                                 |   |   |
| 188 | 500 MVA ICT-1 at Pandiabili                                 | 06/02/20   | 11:00 | 06/02/20   | 11:30 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(406-52,406-89A,406-89B,406-89T, 207-52,207-89A,207-89B,207-89C )                   | GRIDCO  |   |
| 189 | 500 MVA ICT-2 at Pandiabili                                 | 06/02/20   | 11:30 | 06/02/20   | 12:00 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(407-52,407-89A,407-89B,407-89T, 202-52,202-89A,202-89B,202-89C )                   | GRIDCO  |   |
| 190 | 400 kv Pandiabili-Mendhasal ckt-2                           | 06/02/20   | 14:30 | 06/02/20   | 15:00 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(407-52,407-89A,407-89B,407-89T )   | GRIDCO  |   |
| 191 | 400 kv Pandiabili-Mendhasal ckt-1                           | 06/02/20   | 15:00 | 06/02/20   | 15:30 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(409-52,409-89A,409-89B,409-89L )   | GRIDCO  |   |
| 192 | 400 kv Pandiabili- Mendhasal ckt-2                          | 06/02/20   | 15:30 | 06/02/20   | 16:00 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(411-52,411-89A,411-89B,412-52,412-89A,412-89B,412-89L )                            | GRIDCO  |   |
| 193 | 400 KV GIS BUS-II   | 06/02/20   | 09:00 | 06/02/20   | 18:00 | ODB | ER-II/Odisha/Sundergarh      | AMP of BUS Sectionalizer(425)  |   |   |
| 194 | 400KV Sundergarh-Rourkela Ckt #2                            | 06/02/20   | 8:00  | 06/02/20   | 18:00 | ODB | ER- II/ODISHA/SUNDERGARH     | TL Maintenance works   |   |   |
| 195 | 315MVA ICT-II   | 06/02/20   | 09:00 | 06/02/20   | 18:00 | ODB | ER-II/Odisha/Keonjhar        | WTI & OTI Calibration to be check  | GRIDCO  |   |
| 196 | 132 kV Ara -Ara (BSPTCL)-s/c                                | 06/02/20   | 10:00 | 06/02/20   | 17:00 | ODB | POWERGRID ER-1               | AMP Work At Ara Ss   | BSEB  |   |
| 197 | 400 KV Patna-Ballia-4                                       | 06/02/20   | 08:00 | 07/02/20   | 18:00 | ODB | POWERGRID ER-1               | replacement of pilotporcelain string by polymer in tension tower loc No: 306,317,342,371,372,378,432,433,434       | NLDC  |   |
| 198 | 400KV 63MVAR L/R OF SASARAM-I at BiharSharif( SWITCHABLE)   | 06/02/20   | 10:00 | 07/02/20   | 18:00 | ODB | POWERGRID ER-I               | Relay Retrofitment and AMP WORK  |   |   |
| 199 | 400KV KAHALGAON-FARAKKA CKT 1                               | 06/02/20   | 08:00 | 06/02/20   | 18:00 | ODB | POWERGRID ER-I               | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)    |   |   |
| 200 | 400KV Main Bus- I at Chandwa                                | 06/02/20   | 10:00 | 06/02/20   | 13:00 | ODB | POWERGRID ER-I               | Physical remote operation check of New Ranchi-I bay elements from RTAMC/NTAMC.                                     |   |   |
| 201 | 400KV Main Bus- II at Chandwa                               | 06/02/20   | 14:00 | 06/02/20   | 17:00 | ODB | POWERGRID ER-I               | Physical remote operation check of New Ranchi-II bay elements from RTAMC/NTAMC.                                    |   |   |
| 202 | 400 KV Pusauli Allahabd Line                                | 06/02/20   | 9:00  | 11/02/20   | 18:00 | ODB | POWERGRID ER-I               | Replacement of insulators at Road/Rail/River/Power Line Crossings<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE | NLDC  | NRPC NEEDS INFORMATION ON LOCATION WISE WORK DONE |
| 203 | 132 kv DALTONGANJ Daltonganj Line-1                         | 06/02/20   | 9:30  | 06/02/20   | 17:30 | ODB | POWERGRID ER-I               | Line AMP   | JSEB  |   |
| 204 | 765KV BUS-II AT 765/400 KV NEW RANCHI                       | 06/02/20   | 9:00  | 07/02/20   | 17:00 | ODB | POWERGRID ER-I               | MDINIPUR BAY EXTENSION WORK  | NLDC  |   |
| 205 | 400 KV Muzaffarpur- Darbhanga line-2                        | 06/02/20   | 9:30  | 07/02/20   | 17:30 | ODB | POWERGRID ER-I               | STRINING OF ONE SPAN OF 400 KV MUZAFFARPUR-DHALKEBAR LINE.   |   |   |
| 206 | 400 kV Patna-Barh CKT 1                                     | 06/02/20   | 09:00 | 06/02/20   | 17:30 | ODB | POWERGRID ER-I               | Replacement of porcelain insulator by polmer<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE                      |   |   |
| 207 | NewChanditala: 400kv MB#1 & 315MVA ICT#2                    | 06/02/20   | 06:00 | 06/02/20   | 15:00 | ODB | WB                           | Winter Maintenance   |   |   |
| 208 | 400KV Arambag-New Chanditala ckt                            | 06/02/20   | 06:00 | 06/02/20   | 15:00 | ODB | WB                           | Winter Maintenance   |   |   |
| 209 | 400 kv SgTPP-Parulia#1 ckt. and 400 kv SgTPP-Parulia#2 ckt. | 06/02/20   | 06:00 | 06/02/20   | 15:00 | ODB | WB                           | Winter Maintenance   |   |   |
| 210 | 400kv MTPS-Maithon Line#2                                   | 06/02/20   | 09:00 | 08/02/20   | 17:00 | ODB | 400kv MTPS S/Y, DVC          | Tan delta test of CT & tit-bit maintenance work  |   |   |
| 211 | 220 KV DMTCL(Darbhanga)-Samastipur(New) S/C T/L             | 06/02/20   | 09:00 | 07/02/20   | 17:00 | ODB | BSPTCL                       | For line maintenance work  | Samastipur (New) will avail power from alternate sources. |   |
| 212 | 220 KV Patna(PG)-Khagaul ckt 1                              | 06/02/20   | 09:00 | 06/02/20   | 16:00 | ODB | BSPTCL                       | For line & bay maintenance work  | Khagaul will avail power alternate sources                |   |
| 213 | 220 KV BSF(PG)-BSF ICT3                                     | 06/02/20   | 11:00 | 06/02/20   | 15:00 | ODB | BSPTCL                       | For line & bay maintenance work  | BSF will avail power from alternate sources               |   |
| 214 | 400KV Baripada-Kharagpur Line                               | 06/02/20   | 09:00 | 06/02/20   | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S    | Replacement of faulty insulator  | WB  |   |
| 215 | 41652-Future Line Bay GIS                                   | 06-02-2020 | 09:00 | 06-02-2020 | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S    | AMP works  |   |   |
| 216 | 400 kv Future ICT bay-410 bay.                              | 06-02-2020 | 16:00 | 06-02-2020 | 16:30 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(410-52,410-89A,410-89B )   |   |   |
| 217 | 220 kv bus coupler 206 bay                                  | 06-02-2020 | 16:30 | 06-02-2020 | 15:00 | ODB | ER-II/Odisha/ Pandiabili GIS | NTAMC command Signal validation(206-52,206-89A,206-89B )   |   |   |
| 218 | 708 Main Bay of 765KV Raipur ckt-2 & Angul ckt-4            | 06-02-2020 | 08:00 | 06-02-2020 | 18:00 | ODB | ER-II/Odisha/Sundergarh      | AMP  | NLDC  |   |
| 219 | 713 Main Bay ( 765 kV Gaya-Varanasi ckt-II ) at Gaya        | 06-02-2020 | 09:00 | 06-02-2020 | 18:00 | ODB | ER1                          | For AMP work   | NLDC  |   |
| 220 | 220kV Side bay of 400/220kv 500MVA ICT-1 at New Purnea      | 06-02-2020 | 10:00 | 06-02-2020 | 18:00 | ODB | POWERGRID ER-I               | CB AMP Works   |   |   |

|     |   |            |       |            |       |     |   |   |   |                         |
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| 221 | TIE BAY (414) OF 400KV RANCHI-ROURKELA-I & RGP-2 AT RANCHI  | 06-02-2020 | 09:30 | 06-02-2020 | 17:00 | ODB | POWERGRID ER-I                          | AMP WORK  |   |                         |
| 222 | MAIN BAY (107) OF 132KV BANKA-SABOUR-2 (BSPTCL) AT BANKA SS | 06-02-2020 | 09:00 | 06-02-2020 | 13:00 | ODB | POWERGRID ER-I                          | AMP WORK. LINE WILL BE CHARGED THROUGH TRANSFER BUS   |   |                         |
| 223 | Barh-2 main bay 415 AT PATNA                                | 06-02-2020 | 10:00 | 06-02-2020 | 18:00 | ODB | POWERGRID ER-I                          | AMP   |   |                         |
| 224 | 132KV RANGPO-GANGTOK -1                                     | 07/02/20   | 09:00 | 08/02/20   | 18:00 | OCB | ER-II, POWERGRID                        | For Balance insulator changing works at Loc 105,106, 116 and AMP works  | SIKKIM  |                         |
| 225 | 400KV D/C MALDA-NEW PURNEA TL-I                             | 07/02/20   | 09:00 | 07/02/20   | 17:00 | ODB | ER-II, POWERGRID                        | CLR Insulator replacement in Crossings  |   |                         |
| 226 | 400 KV Binaguri Bongaigaon Ckt I                            | 07/02/20   | 00:00 | 08/02/20   | 00:00 | ODB | ER-II, POWERGRID                        | CLR Insulator replacement in Crossings  | NLDC  |                         |
| 227 | 132KV Bus Coupler at Birpara                                | 07/02/20   | 08:00 | 07/02/20   | 17:30 | ODB | ER-II, POWERGRID                        | AMP work  | WB  |                         |
| 228 | 220kV S/C Birpara-Malbase TL                                | 07/02/20   | 08:00 | 25/02/20   | 17:00 | OCB | ER-II, POWERGRID                        | Re-routing of Loc No.-57 which got vulnerbale due to change in course of River Torsa.The work involves construction of 4 Nos. new Foundation,4 Nos. tower erection & 1.5 KM Stringing.The work needs to be completed on top priority as the location is in very vulnerbale condition and if not completed may lead to tower collapse during upcoming monsoon. | NLDC  | After consent of Bhutan |
| 229 | 400 KV Maithon-Durgapur Ckt-II                              | 07/02/20   | 10:00 | 07/02/20   | 18:00 | ODB | ER-II, POWERGRID                        | Fixing of pilot string and rectification of missing member in top section and liquidation of shutdown nature defects. Ckt wise shut-down shall be taken on alternate day basis.Internal inspection/Overhauling of interrupter of 400kV CB of Main Bay at Maithan  |   |                         |
| 230 | 220KV Maithon-Dumka I&II                                    | 07/02/20   | 08:00 | 08/02/20   | 18:00 | OCB | ER-II, POWERGRID                        | PL Crossing during Re-conductoring work of Maithon - Right Bank # II Line   | JSEB  |                         |
| 231 | 400KV Maithon - Jamshedpur                                  | 07/02/20   | 08:00 | 12/02/20   | 18:00 | ODB | ER-II, POWERGRID                        | Insulator Replacement work  |   |                         |
| 232 | 400KV Bus-II AT MAITHON                                     | 07/02/20   | 10:00 | 08/02/20   | 17:00 | ODB | ER-II, POWERGRID                        | Commissioning work like stability checking of ICT-3   |   |                         |
| 233 | 400KV BUS-I at MALDA  | 07/02/20   | 08:00 | 07/02/20   | 17:00 | ODB | ER-II, POWERGRID                        | ERSS-XVII-B Constructional work. For removal of existing pantograph Isolator of ICT-3.  |   |                         |
| 234 | 315 MVA ICT#2 at Subhasgram                                 | 07/02/20   | 09:00 | 07/02/20   | 17:00 | ODB | ER-II, POWERGRID                        | REF Relay retrofitting work   | WB  |                         |
| 235 | 400KV Maithon - Mejia # 1 line                              | 07/02/20   | 09:00 | 07/02/20   | 17:00 | ODB | ER-II, POWERGRID                        | Replacement of insulators at Major crossings.   | DVC   |                         |
| 236 | 400KV BINAGURI-Kishanganj-2                                 | 07/02/20   | 10:00 | 07/02/20   | 15:00 | ODB | ER-II, POWERGRID                        | Replacement and retrofitting distance relay   |   |                         |
| 237 | 220KV Transfer Bus  | 07/02/20   | 09:00 | 07/02/20   | 18:00 | ODB | ER-II/ODISHA/ROURKELA                   | AMP WORKS   |   |                         |
| 238 | 400KV Baripada-Duburi Line                                  | 07/02/20   | 09:00 | 08/02/20   | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S               | Replacement of porcelain insulator into polymer insulator in Tr. line for NH crossing.  | GRIDCO  |                         |
| 239 | 765 KV DC Sundargarh - Angul Ckt # 4                        | 07/02/20   | 8:00  | 10/02/20   | 18:00 | OCB | ER-II/ODISHA/SUNDERGARH                 | Rectification of clearance issues at TP tower   | NLDC  |                         |
| 240 | 400 KV GIS BUS-I  | 07/02/20   | 09:00 | 07/02/20   | 18:00 | ODB | ER-II/Odisha/Sundergarh                 | AMP of BUS Sectionalizer(426)   |   |                         |
| 241 | 220 kV Bus Main Bus- 1 at Ara                               | 07/02/20   | 10:00 | 07/02/20   | 17:00 | ODB | POWERGRID ER-1                          | AMP Work At Ara Ss  | BSEB  |                         |
| 242 | 400KV KAHALGAON - FARAKKA CKT 2                             | 07/02/20   | 08:00 | 07/02/20   | 18:00 | ODB | POWERGRID ER-I                          | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)   |   |                         |
| 243 | 315MVA ICT-III AT BANKA SS                                  | 07/02/20   | 9:00  | 07/02/20   | 17:00 | ODB | POWERGRID ER-I                          | CSD Commissioning work (FINAL TUNNING)  | BSEB  |                         |
| 244 | 132 KV DALTONGANJ Daltonganj Line-2                         | 07/02/20   | 9:30  | 07/02/20   | 17:30 | ODB | POWERGRID ER-I                          | Line AMP  | JSEB  |                         |
| 245 | 400/220 KV 315 MVA ICT-2 AT MUZAFFARPUR                     | 07/02/20   | 9:30  | 08/02/20   | 17:30 | ODB | POWERGRID ER-I                          | RETROFITTING OF BACKUP IMPEDANCE & REF RELAY ETC.   | BSEB  |                         |
| 246 | 400 kV Patna-Barh CKT 2                                     | 07/02/20   | 09:00 | 07/02/20   | 17:30 | ODB | POWERGRID ER-I                          | Replacement of porcelain insulator by polmer A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |   |                         |
| 247 | 132 KV Bus 1 AT MOTIHARI                                    | 07/02/20   | 08:00 | 08/02/19   | 18:00 | OCB | POWERGRID ER-I                          | Interconnection of Extension Bus ( By POWERGRID)to existing Bus (DMTCL)   | BSEB  |                         |
| 248 | At Kharagpur : 80MVAR 400KV Bus Reactor                     | 07/02/20   | 07:00 | 09/02/20   | 16:00 | ODB | WB                                      | Winter Maintenance  |   |                         |
| 249 | 400KV Arambag-KTPP ckt                                      | 07/02/20   | 06:00 | 07/02/20   | 15:00 | ODB | WB                                      | Winter Maintenance  |   |                         |
| 250 | NewChanditala: 400kv MB#2 & 315MVA ICT#1                    | 07/02/20   | 06:00 | 07/02/20   | 15:00 | ODB | WB                                      | Winter Maintenance  |   |                         |
| 251 | 220kV DTPS-Bidhannagar Tie-II                               | 07/02/20   | 09:00 | 07/02/20   | 14:00 | ODB | ASP Sub-Station, GOMD-VI, DVC, Durgapur | Replacement of the damaged bottom conductor near the D/E cone of the dead end tower of WBSETCL end  | WB  |                         |
| 252 | 132 KV Sultanganj-Deoghar S/C T/L                           | 07/02/20   | 11:00 | 07/02/20   | 14:00 | ODB | BSPTCL                                  | Maintenance work of 132 KV main bus   | Consent from SLDC Ranchi will be required.        |                         |
| 253 | 220 KV Sonenagar(New)-Gaya(PG) ckt1                         | 07/02/20   | 11:00 | 08/02/20   | 16:00 | ODB | BSPTCL                                  | For line maintenance work   | Sonenagar(New) will avail power alternate sources |                         |
| 254 | 220 KV Patna(PG)-Gaurichak ck1                              | 07/02/20   | 11:00 | 07/02/20   | 17:00 | ODB | BSPTCL                                  | For line & bay maintenance work   | Gaurichak will avail power from alternate sources |                         |

|     |  |            |          |            |          |     |                          |  |   |
|-----|--|------------|----------|------------|----------|-----|--------------------------|--|---|
| 255 | 132 kv Bettiah-Narkatiyaganj-Ramnagar T/L                      | 07/02/20   | 11:00    | 12/02/20   | 15:00    | ODB | BSPTCL                   | (1) tree cutting and pruning of tree branches.<br>(2) jumper tightenig of all tension tower in lilo portion of 132 kv transmissio line for gss narkatiyaganj.<br>(3) 132kv ramnagar bay maintenance at gss bettiah end.<br>(4) 132kv bettiah:-01 & 02 bay maintenance at gss narkatiyaganj.<br>(5) 132kv main bus and high level isolator maintenance at gss narkatiyaganj.<br>(6) 33kv main bus isolator and high level isolator maintenance at gss narkatiyaganj.<br>(7) 20 mva tr no:-01 & 02 bay maintenance along with 20 mva tr no:-01 & 02 maintenance. | 1) GSS Ramnagar may avail power from nepal end.<br>(2) GSS Narkatiyaganj will remain power less. (3).consent from Nepal will be required. |
| 256 | Banka(PG)-Sultanganj D/C T/L                                   | 07/02/20   | 11:00    | 07/02/20   | 14:00    | ODB | BSPTCL                   | Maintenance work of 132 KV main bus  | Consent from SLDC Ranchi will be required.  |
| 257 | 400 kV Meramundali - New Duburi Ckt-I                          | 07/02/20   | 08:00    | 07/02/20   | 17:00    | ODB | GRIDCO                   | For line & bay maintenance work  |   |
| 258 | 400KV GMR-2 MAIN BAY 430                                       | 07-02-2020 | 09:00    | 07-02-2020 | 18:00    | ODB | ER-II/Odisha/Angul SS    | AMP Work   |   |
| 259 | 425 Main Bay (400 kv ICT-II ) at Gaya                          | 07-02-2020 | 09:00:00 | 07-02-2020 | 18:00:00 | ODB | ER-I                     | For AMP work   |   |
| 260 | 220KV SIDE MAIN BAY OF 220/132kv 160MVA ICT -3 PURNEA.         | 07-02-2020 | 09:00    | 07-02-2020 | 17:00    | ODB | POWERGRID ER-1           | CB AMP WORK  |   |
| 261 | 400kv Bus coupler bay at Chandwa                               | 07-02-2020 | 10:00    | 07-02-2020 | 13:00    | ODB | POWERGRID ER-I           | Physical remote operation check of Bus coupler bay (407) elements from RTAMC/NTAMC.  |   |
| 262 | TIE BAY (420) OF 400KV RANCHI-SIPAT-I & FUTURE BAY AT RANCHI   | 07-02-2020 | 09:30    | 07-02-2020 | 17:00    | ODB | POWERGRID ER-I           | AMP WORK   |   |
| 263 | 409 Main bay ICT 2 AT PATNA                                    | 07-02-2020 | 09:00    | 08-02-2020 | 18:00    | OCB | POWERGRID ER-I           | BCU updration works under S503 package   |   |
| 264 | 400KV D/C MALDA-NEW PURNEA TL-II                               | 08/02/20   | 09:00    | 08/02/20   | 17:00    | ODB | ER-II, POWERGRID         | CLR Insulator replacement in Crossings   |   |
| 265 | 400 kv S/C Sagardighi- Subhasgram T/L                          | 08/02/20   | 09:00    | 08/02/20   | 17:00    | ODB | ER-II, POWERGRID         | Rectification of Shutdown nature defect in line.   | WB  |
| 266 | 400KV Maithon-Right Bank #I                                    | 08/02/20   | 08:00    | 22/02/20   | 18:00    | OCB | ER-II, POWERGRID         | Re conducting work   | MPL   |
| 267 | A/R of 400KV Maithon-Right Bank #II                            | 08/02/20   | 08:00    | 22/02/20   | 18:00    | ODB | ER-II, POWERGRID         | MTN RB Ckt-II will be kept in NON-Auto during Re conducting in MTN RB Ckt-I for safety measure.  |   |
| 268 | 400KV BINAGURI-Kishanganj-2                                    | 08/02/20   | 10:00    | 08/02/20   | 15:00    | ODB | ER-II, POWERGRID         | Replacement and retrofitting of auto-reclose relay   |   |
| 269 | 400 KV BUS # 2   | 08/02/20   | 09:00    | 08/02/20   | 17:00    | ODB | ER-II/Odisha/Rengali     | AMP Work   |   |
| 270 | 400KV Sundergarh-Rourkela Ckt # 3 & 4                          | 08/02/20   | 8:00     | 07/02/20   | 18:00    | ODB | ER- II/ODISHA/SUNDERGARH | TL Maintenance works (Due to Multi circuit in LULO portion, Shut down of both Ckts require together)   |   |
| 271 | 400KV Sundargarh-Raigarh ckt-4                                 | 08/02/20   | 09:00    | 08/02/20   | 18:00    | ODB | ER-II/Odisha/Sundergarh  | AMP OF GIS BAY   | NLDC  |
| 272 | 220 kV Bus Main Bus -2 at Ara                                  | 08/02/20   | 10:00    | 08/02/20   | 17:00    | ODB | POWERGRID ER-1           | AMP Work At Ara Ss   | BSEB  |
| 273 | 400KV Bus Reactor 1 at BiharSharif                             | 08/02/20   | 10:00    | 09/02/20   | 18:00    | ODB | POWERGRID ER-I           | Relay Retrofitment and AMP WORK  |   |
| 274 | NewChanditala: 400kv MB#1 & 315MVA ICT#1                       | 08/02/20   | 06:00    | 08/02/20   | 15:00    | ODB | WB                       | Winter Maintenance   |   |
| 275 | 132 KV Lakhisari(PG)-Jamui D/C T/L                             | 08/02/20   | 11:00    | 08/02/20   | 15:00    | ODB | BSPTCL                   | For line & bay maintenance work  | Jamui will avail power from alternate sources   |
| 276 | 220 KV BiharSharif-TTPS S/C T/L                                | 08/02/20   | 09:00    | 08/02/20   | 17:00    | ODB | BSPTCL                   | For line & bay maintenance work  | Consent from TTPS & SLDC Ranchi will be required.   |
| 277 | 220 KV Patna(PG)-Gaurichak ck2                                 | 08/02/20   | 11:00    | 08/02/20   | 17:00    | ODB | BSPTCL                   | For line & bay maintenance work  | Gaurichak will avail power from alternate sources   |
| 278 | 220KV Budhipadar - Raigarh line(Circuit - I)                   | 08/02/20   | 08:00    | 07/02/20   | 17:00    | OCB | GRIDCO                   | Diversion work due to construction of OPGC MGR line (railway line for transportation of coal to OPGC)  | NLDC  |
| 279 | 220KV Budhipadar - Korba Circuit - II                          | 08/02/20   | 08:00    | 07/02/20   | 17:00    | OCB | GRIDCO                   | Diversion work due to construction of OPGC MGR line (railway line for transportation of coal to OPGC)  | NLDC  |
| 280 | 220 KV TARKERA#2 MAIN BAY (209)                                | 08/02/20   | 09:00    | 08/02/20   | 18:00    | ODB | ER-II/ODISHA/ROURKELA    | AMP WORKS  |   |
| 281 | 765KV SNG CKT-2 & ICT-1 TIE BAY 705                            | 08/02/20   | 09:00    | 08/02/20   | 18:00    | ODB | ER-II/Odisha/Angul SS    | AMP work   | NLDC  |
| 282 | 400KV Main Bay of 400/220kv 315MVA ICT -3 at BiharSharif       | 08/02/20   | 11:00    | 08/02/20   | 13:00    | ODB | POWERGRID ER-I           | Compressor Overhauling of CB   |   |
| 283 | 400kv Tie bay of Lakhisarai 1 and 315MVA ICT- 1 at BiharSharif | 08/02/20   | 10:00    | 08/02/20   | 18:00    | ODB | POWERGRID ER-I           | AMP Work   |   |
| 284 | TIE BAY (423) OF 400KV RANCHI-SIPAT-II & FUTURE BAY AT RANCHI  | 08/02/20   | 09:30    | 08/02/20   | 17:00    | ODB | POWERGRID ER-I           | AMP WORK   |   |
| 285 | 400KV D/C MALDA-NEW PURNEA TL-I                                | 09/02/20   | 09:00    | 09/02/20   | 17:00    | ODB | ER-II, POWERGRID         | CLR Insulator replacement in Crossings   |   |
| 286 | 220kv BUS-1 AT MAITHON   | 09/02/20   | 10:00    | 09/02/20   | 18:00    | ODB | ER-II, POWERGRID         | dismantling of bus jumper of 220kv Dumka-1&2 line  | DVC   |
| 287 | 400kv Bus-2 at MPL   | 09/02/20   | 11:00    | 09/02/20   | 19:00    | ODB | ER-II, POWERGRID         | connection of jumper of Bus isolator of 406 bay  | MPL   |
| 288 | 400kv Bus 2 at BiharSharif                                     | 09/02/20   | 09:30    | 14/02/20   | 18:00    | ODB | POWERGRID ER-I           | Upgradation of Busbar Scheme under project head  |   |
| 289 | 132 KV Bus 2 AT MOTIHARI                                       | 09/02/20   | 08:00    | 10/02/20   | 18:00    | OCB | POWERGRID ER-I           | Interconnection of Extension Bus ( By POWERGRID)to existing Bus (DMTCL)  | BSEB  |

Subject to avialbility of line#2

WRPC CONSENT REQUIRED

WRPC CONSENT REQUIRED

During one unit outage of MPL tentative 3rd week of March 2020



|     |   |          |          |            |          |     |                           |   |   |
|-----|---|----------|----------|------------|----------|-----|---------------------------|---|---|
| 290 | 220 KV Sonenagar(New)-Gaya(PG) ckt2                             | 09/02/20 | 11:00    | 10/02/20   | 16:00    | ODB | BSPTCL                    | For line maintenance work   | Sonenagar(New) will avail power alternate sources |
| 291 | 220 KV Patna(PG)-Gaurichak ck3                                  | 09/02/20 | 11:00    | 09/02/20   | 17:00    | ODB | BSPTCL                    | For line & bay maintenance work   | Gaurichak will avail power from alternate sources |
| 292 | Tie bay of 400kv Maithon-MPL Ckt#2/ST-1,( Bay no 405) at MPL    | 09/02/20 | 09:00    | 28/02/20   | 19:00    | OCB | ER-II, POWERGRID          | Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.   |   |
| 293 | 408 Bay (Tie Bay of 315 MVA ICT#3 and future Bay) at Subhasgram | 09/02/20 | 09:00    | 14/02/20   | 17:00    | OCB | ER-II, POWERGRID          | For isolator and CT retrofitting work under ERSS-XVIII Project  |   |
| 294 | 400 kv 407 main Bay of Baripada-Duburi line                     | 09/02/20 | 09:00:00 | 10/02/20   | 17:30:00 | OCB | ER-II/Odisha/BARIPADA S/S | AMP works & Gasket replacement  |   |
| 295 | 400kv Main Bay of Tenughat 1 at Biharsharif                     | 09/02/20 | 10:00    | 09/02/20   | 18:00    | ODB | POWERGRID ER-I            | AMP Work  |   |
| 296 | 400kv Tie bay of 315MVA ICT 3 and 80MVAR B/R-2 at Bihar sharif  | 09/02/20 | 11:00    | 09/02/20   | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |   |
| 297 | 416 bay Balia Line-2 bay AT PATNA                               | 09/02/20 | 09:00    | 10-02-2020 | 18:00    | OCB | POWERGRID ER-I            | BCU updraton works under S503 package   |   |
| 298 | 400KV D/C MALDA-NEW PURNEA TL-II                                | 10/02/20 | 09:00    | 10/02/20   | 17:00    | ODB | ER-II, POWERGRID          | CLR Insulator replacement in Crossings  |   |
| 299 | 400 KV Binaguri Bongaigaon Ckt II                               | 10/02/20 | 00:00    | 11/02/20   | 00:00    | ODB | ER-II, POWERGRID          | CLR Insulator replacement in Crossings  | NLDC  |
| 300 | 400 KV Tala-Binaguri Ckt-I                                      | 10/02/20 | 08:00    | 12/02/20   | 17:30    | ODB | ER-II, POWERGRID          | Replacement of Porcelain Insulator with Polymer Insulator at major crossing like (railway,river,road,power line) crossing.  | NLDC  |
| 301 | 400 kv D/C Sagardighi-Berhampore T/L CKT-I                      | 10/02/20 | 09:00    | 10/02/20   | 17:00    | ODB | ER-II, POWERGRID          | Required for Indo-Bangladesh line contruction work Baharampore-Bheramara Project-II   | WB  |
| 302 | 400KV RBTPS-Ranchi I&II   | 10/02/20 | 08:00    | 11/02/20   | 18:00    | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # I Line  | MPL   |
| 303 | 220kv BUS-2 AT MAITHON  | 10/02/20 | 10:00    | 12/02/20   | 18:00    | ODB | ER-II, POWERGRID          | Stringing of 220kv JACK BUS   | DVC   |
| 304 | 220kv Maithon-DUMKA Line1&2                                     | 10/02/20 | 10:00    | 12/02/20   | 18:00    | ODB | ER-II, POWERGRID          | Stringing of 220kv JACK BUS. Bus jumper connection and stability checking for ICT-3   | JSEB  |
| 305 | 400 kv Malda-Farakka-I  | 10/02/20 | 08:00    | 11/02/20   | 17:00    | ODB | ER-II, POWERGRID          | TL Work   |   |
| 306 | 400KV Maithon - Mejia #2 line                                   | 10/02/20 | 09:00    | 11/02/20   | 17:00    | ODB | ER-II, POWERGRID          | Replacement of insulators at Major crossings.   | DVC   |
| 307 | 400KV Bus#1 at Binaguri   | 10/02/20 | 09:00    | 12/02/20   | 17:00    | ODB | ER-II, POWERGRID          | Busbar stability and GIS connection, Rangpo Bay upgradation work (Bus isolator dismantling / erection)- 3 occasions   | ERSS XVII   |
| 308 | 400KV BINAGURI-PURNEA-1   | 10/02/20 | 10:00    | 10/02/20   | 15:00    | ODB | ER-II, POWERGRID          | Replacement and retrofitting of auto-reclose relay  |   |
| 309 | 400kv Bus -I at Jeypore S/S                                     | 10/02/20 | 09:00:00 | 10/02/20   | 18:00:00 | ODB | ER-II/Odisha /Jeypore     | AMP Works of 400kv BUS-I  |   |
| 310 | 765/400KV 1500MVA ICT-I   | 10/02/20 | 09:00    | 10/02/20   | 18:00    | ODB | ER-II/Odisha/Sundergarh   | AMP   | NLDC  |
| 311 | 765kv Sundergarh-Dharmajayagahr-III line                        | 10/02/20 | 09:00    | 10/02/20   | 18:00    | ODB | ER-II/Odisha/Sundergarh   | Line Jumper Modification work from Quad to twin work  | NLDC  |
| 312 | 125MVAR Bus Reactor   | 10/02/20 | 09:00    | 15/02/20   | 18:00    | ODB | ER-II/Odisha/Keonjhar     | Checking/Repairing of conservator Aircel  |   |
| 313 | 400/220 kv ICT-I at Gaya  | 10/02/20 | 09:00    | 10/02/20   | 18:00    | ODB | ER-I                      | For AMP work  | BSEB  |
| 314 | 400kv125MVAR Bus Reactor -3 at Biharshariff                     | 10/02/20 | 10:00    | 11/02/20   | 18:00    | ODB | POWERGRID ER-I            | Relay Retrofitment and AMP WORK   |   |
| 315 | 400KV Maithon - Gaya-I  | 10/02/20 | 08:00    | 11/02/20   | 18:00    | ODB | POWERGRID, ER-1           | For Insulator cleaning.<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |   |
| 316 | 400kv New Purnea -Siliguri-1 Line                               | 10/02/20 | 10:00    | 10/02/20   | 18:00    | ODB | POWERGRID ER-I            | Relay retrofitting works IN 63MVAR Siliguri-1 L/R<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |   |
| 317 | 400KV RANCHI-NEW RANCH-1  | 10/02/20 | 9:30     | 10/02/20   | 17:00    | ODB | POWERGRID ER-I            | To facilitate the s/d of its main bay due to unability of tie bay at Ranchi.<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE   |   |
| 318 | 200MVA ICT-I AT BANKA SS  | 10/02/20 | 9:00     | 10/02/20   | 18:00    | ODB | POWERGRID ER-I            | AMP WORK  | BSEB  |
| 319 | 400 kv Kahalgaoon-Lakhisarai-II                                 | 10/02/20 | 9:30     | 10/02/20   | 17:30    | ODB | POWERGRID ER-I            | Retrofitting of PLCC<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE   |   |
| 320 | +800 KV HVDC BNC AGRA   | 10/02/20 | 09:00    | 25/02/20   | 18:00    | OCB | POWERGRID ER-I            | 15 DAY SD REQUIRED SHIFTING OF LINE TO ERS TO RECTIFY VULNERABLE LOCATION 1619, 1618 WHOSE LEGS /MAIN BRACING HAVE BEEN CUT BY MISCREANTS. DATES TENTATIVE AND SHALL BE CONFIRMED BASED ON SITE CONDITION | NLDC  |
| 321 | At Arambag : 315 MVA ICT-1                                      | 10/02/20 | 06:00    | 10/02/20   | 15:00    | ODB | WB                        | Winter Maintenance  |   |
| 322 | NewChanditala: 400kv MB#1 and 400kv NewChanditala-Kharagpur#1   | 10/02/20 | 07:00    | 10/02/20   | 15:00    | ODB | WB                        | Winter Maintenance  |   |
| 323 | 400kv MTPS-Maithon Line#3                                       | 10/02/20 | 09:00    | 12/02/20   | 17:00    | ODB | 400kv MTPS S/Y, DVC       | Tan delta test of CT & tit-bit maintenance work   |   |
| 324 | 400kv DSTPS-Jamshedpur Ckt#2                                    | 10/02/20 | 08:30    | 15/02/20   | 17:00    | OCB | 400kv DSTPS S/Y, DVC      | 1.O/H activities including testing on CTs,CVTs,CBs<br>2. Line ABT Meter calibration<br>3.Replacement of damaged/defective gland plates in CT JBs  |   |
| 325 | 220kv Khizersarai-Gaya PG ckt # 1                               | 10/02/20 | 08:00    | 11/02/20   | 16:00    | ODB | BGCL                      | For tower top patrolling and maintenance work   | No Load Restriction                               |
| 326 | Main bay of 400kv Maithon-MPL Ckt#1,( Bay no 403) at MPL        | 10/02/20 | 09:00    | 25/02/20   | 18:00    | OCB | ER-II, POWERGRID          | Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.   |   |

During one unit outage of MPL tentative 3rd week of March 2020

NERPC CONSENT NEEDED

|     |  |          |          |          |          |     |                           |  |   |
|-----|--|----------|----------|----------|----------|-----|---------------------------|--|---|
| 327 | 220 KV TARKERA#1 MAIN BAY (210)  | 10/02/20 | 09:00    | 10/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | AMP WORKS  |   |
| 328 | Rengali Main Bay (403)   | 10/02/20 | 09:00    | 10/02/20 | 18:00    | ODB | ER-II/Odisha/Indravati    | AMP works of Rengali Main Bay (403). Power flow will be Interrupted in 400kV Indravati-UIHEP Line Due to temporary shutdown of UIHEP Main bay(412) at Indravati.   |   |
| 329 | 703 Main bay of 765kV/400kV,1500MVA ICT-I                                | 10/02/20 | 09:00    | 13/02/20 | 18:00    | OCB | ER-II/Odisha/Sundergarh   | SIEMENS Centre guide valve modification work in Mechanism drive and AMP  | NLDC  |
| 330 | 220 KV TBC BAY(BAY NO-204) AT PURNEA                                     | 10/02/20 | 09:00    | 10/02/20 | 17:00    | ODB | POWERGRID ER-1            | CB AMP WORK  |   |
| 331 | 400kv Tie bay of Lakhisarai 1 and 315MVA ICT- 1 at Biharsharif           | 10/02/20 | 11:00    | 10/02/20 | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB   |   |
| 332 | MAIN BAY (427) OF 400KV RANCHI-NEW RANCH-1 AT RANCHI                     | 10/02/20 | 09:30    | 10/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP WORK. AS THERE IS NO TIE BAY, SO LINE WILL BE UNDER S/D  |   |
| 333 | MAIN BAY OF 765 KV NRNC-DMG-CKT-I (BAY NO -704) AT 765/400 KV NEW RANCHI | 10/02/20 | 09:00    | 10/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP  | NLDC  |
| 334 | At Kharagpur : 400KV Bus Coupler Bay                                     | 10/02/20 | 07:00    | 10/02/20 | 15:00    | ODB | WB                        | Winter Maintenance   |   |
| 335 | 220 KV DALKHOLA-PURNEA -II   | 11/02/20 | 09:00    | 11/02/20 | 17:00    | ODB | ER-II, POWERGRID          | AMP  |   |
| 336 | 220KV Birpara-Chukha Ckt-I   | 11/02/20 | 08:00    | 11/02/20 | 17:30    | ODB | ER-II, POWERGRID          | Retrofitting of Numerical Distance Relay   | NLDC  |
| 337 | 400 kv D/C Sagardighi-Berhampore T/L CKT-II                              | 11/02/20 | 09:00    | 11/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Required for Indo-Bangladesh line construction work under Baharampore-Bheramara Project-II   | WB  |
| 338 | 400 KV S/C FARAKKA-DURGAPUR-II   | 11/02/20 | 09:00    | 11/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Rectification of shut down nature defects in various locations in Transmission line.   |   |
| 339 | 400KV BINAGURI-PURNEA-2  | 11/02/20 | 10:00    | 11/02/20 | 15:00    | ODB | ER-II, POWERGRID          | Replacement and retrofitting of auto-reclose relay   |   |
| 340 | 400/220 kv, 315 MVA ICT I  | 11/02/20 | 09:30    | 25/02/20 | 10:30    | OCB | ER-II/ODISHA/ROURKELA     | FOR DISMANTLING AND ERECTION OF GANTRY TOWERS AND STRINGING FOR PARALLELING OF ICT BY SPML   | GRIDCO  |
| 341 | 400kV Angul-Meramundali S/C Line 1                                       | 11/02/20 | 08:00    | 11/02/20 | 18:00    | ODB | ER-II/Odisha/Angul TL     | Line shutdown defects maintenance work<br>* If LILO bypass arrangement completed then 400kV Angul-Meramundali ckt 1 & 400kV Angul-Bolagiri s/d required<br>**If LILO bypass arrangement not completed then only 400kV Angul-Meramundali ckt 1 s/d required | GRIDCO  |
| 342 | 400kV Bus -II at Jeypore S/S   | 11/02/20 | 09:00:00 | 11/02/20 | 18:00:00 | ODB | ER-II/Odisha /Jeypore     | AMP Works of 400kV BUS-II  |   |
| 343 | 315MVA, ICT-1  | 11/02/20 | 09:00    | 11/02/20 | 18:00    | ODB | ER-II/Odisha/Balangir     | AMP for 315MVA, ICT-1  | GRIDCO  |
| 344 | 220 KV BUS # 1   | 11/02/20 | 09:00    | 11/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | AMP Work   |   |
| 345 | 400 KV Rengali - Talcher # 2 Line(Non-Auto)                              | 11/02/20 | 08:00    | 20/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | For PID Measurement  |   |
| 346 | 765 KV DC Sundargarh - Dharamajaygarh Ckt #4                             | 11/02/20 | 8:00     | 11/02/20 | 18:00    | ODB | ER- II/ODISHA/SUNDERGARH  | TL Maintenance works   | NLDC  |
| 347 | 765kV Sundergarh-Dharmajayagahr-IV line                                  | 11/02/20 | 09:00    | 11/02/20 | 18:00    | ODB | ER-II/Odisha/Sundergarh   | Line Jumper Modification work from Quad to twin work   | NLDC  |
| 348 | 400 KV BSF-Ballia ckt-1  | 11/02/20 | 08:00    | 11/02/20 | 18:00    | ODB | POWERGRID ER-1            | liquidation of defects fixing of spacer cap, conductor cut at different locations  | NLDC  |
| 349 | 400KV KAHALGAON- FARAKKA CKT 3   | 11/02/20 | 08:00    | 11/02/20 | 18:00    | ODB | POWERGRID ER-I            | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)  |   |
| 350 | 400kv Kishanganj-Rangpo -s/c   | 11/02/20 | 09:00    | 11/02/20 | 18:00    | ODB | POWERGRID ER-I            | for Annual maintenance of its switchable L/Reactor at kishanganj end .S/d of line required due to clearance problem during testing for safety purpose  |   |
| 351 | 400kV New Purnea- Kishanganj-1 Line                                      | 11/02/20 | 10:00    | 11/02/20 | 18:00    | ODB | POWERGRID ER-I            | Relay retrofitting works IN 63MVAR Kishanganj-1 L/R  |   |
| 352 | 400 KV Pusauli -Biharsharif Line-2                                       | 11/02/20 | 9:00     | 16/02/20 | 18:00    | ODB | POWERGRID ER-I            | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)  |   |
| 353 | 400KV RANCHI-NEW RANCH-2   | 11/02/20 | 9:30     | 11/02/20 | 17:00    | ODB | POWERGRID ER-I            | To facilitate the s/d of its main bay due to inability of tie bay at Ranchi.<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |   |
| 354 | 200MVA ICT-II AT BANKA SS  | 11/02/20 | 9:00     | 11/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP WORK   | BSEB  |
| 355 | NewChanditala: 400kv MB#2 and 400kv NewChanditala-Kharagpur#1            | 11/02/20 | 06:00    | 11/02/20 | 15:00    | ODB | WB                        | Winter Maintenance   |   |
| 356 | At Arambag : 315 MVA ICT-2   | 11/02/20 | 06:00    | 11/02/20 | 15:00    | ODB | WB                        | Winter Maintenance   |   |
| 357 | BKTPP-Arambag  | 11/02/20 | 06:00    | 11/02/20 | 15:00    | ODB | WB                        | Winter Maintenance   |   |
| 358 | 132 Lakhisarai(PG)-Lakhisarai ckt1                                       | 11/02/20 | 09:00    | 11/02/20 | 16:00    | ODB | BSPTCL                    | For line & bay maintenance work  | Lakhisarai will avail power from ckt 2                    |
| 359 | 400kV Converter Trans. Main Bay at Alipurduar                            | 11/02/20 | 07:00    | 11/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Rectification of SF6 leakage from PIR Blanking Plate   |   |
| 360 | 404 bay (B; Nagar-II main bay) at Durgapur                               | 11/02/20 | 09:30    | 11/02/20 | 17:30    | ODB | ER-II, POWERGRID          | AMP works  | B* Nagar-II line shall remain service through Tie bay-405 |
| 361 | 400 kv 411 Tie Bay of Baripada-Pandiabili & Baripada-TISCO line          | 11/02/20 | 09:00    | 12/02/20 | 17:30    | OCB | ER-II/Odisha/BARIPADA S/S | Gasket replacement   |   |
| 362 | 400kv TIE Bay of Tenughat 1 and Lakhisarai 2 at Bihar sharif             | 11/02/20 | 10:00    | 11/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP Work and CB Compressor overhauling   |   |
| 363 | 400kv Main Bay of 400/220kv 315MVA ICT -1 at Biharsharif                 | 11/02/20 | 11:00    | 11/02/20 | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB   |   |
| 364 | 400KV Bihar Sharif-2 Line Reactor Bay (CWL89Q50)                         | 11/02/20 | 09:00    | 14/02/20 | 18:00    | OCB | POWERGRID ER-I            | Overhauling of CWL89Q50-Y phase Pole   |   |

|     |  |          |       |          |       |     |                          |   |  |
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| 365 | MAIN BAY (430) OF 400KV RANCHI-NEW RANCH-2 AT RANCHI                   | 11/02/20 | 09:30 | 11/02/20 | 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   |  |
| 366 | TIE BAY OF 765 KV B/R-II & FUTURE(BAY NO-708) AT 765/400 KV NEW RANCHI | 11/02/20 | 09:00 | 11/02/20 | 17:00 | ODB | POWERGRID ER-I           | AMP   | NLDC   |
| 367 | 412 Main bay Of ICT 1 AT PATNA   | 11/02/20 | 09:00 | 12/02/20 | 18:00 | OCB | POWERGRID ER-I           | BCU updration works under SS03 package  |  |
| 368 | 400KV Bus-Reactor-1 at rangpo  | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | ER-II, POWERGRID         | AMP Works   |  |
| 369 | 220 KV DALKHOLA-DALKHOLA -II   | 12/02/20 | 09:00 | 12/02/20 | 17:00 | ODB | ER-II, POWERGRID         | AMP   | WB   |
| 370 | 400kV Bus Reactor (80 MVAR) at Gokarna                                 | 12/02/20 | 09:00 | 13/02/20 | 17:00 | ODB | ER-II, POWERGRID         | Bus Reactor Maintenance.  | WB   |
| 371 | 400KV Maithon-Kahalgaon I&II   | 12/02/20 | 08:00 | 13/02/20 | 18:00 | OCB | ER-II, POWERGRID         | PL Crossing during Re-conductoring work of Maithon - Right Bank # I Line  |  |
| 372 | 400 kV Malda-Farakka-II  | 12/02/20 | 08:00 | 13/02/20 | 17:00 | ODB | ER-II, POWERGRID         | TL Work   |  |
| 373 | 400kV Angul-Meramundali D/C Line 2                                     | 12/02/20 | 08:00 | 12/02/20 | 18:00 | ODB | ER-II/Odisha/Angul TL    | Line shutdown defects maintenance work<br>* If LILO bypass arrangment completed then 400kV Angul-Meramundali ckt 2 & 400kV Angul-Talchar s/d required<br>**If LILO bypass arrangment not completed then only 400kV Angul-Meramundali ckt 2 s/d required | GRIDCO                                       |
| 374 | 765KV Sundargarh-NTPC Darlipalli ckt-1                                 | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | ER-II/Odisha/Sundergarh  | Line Jumper Modification work from Quad to twin work  | NLDC   |
| 375 | 400KV Sundergarh-Raigarh Ckt #2  | 12/02/20 | 8:00  | 12/02/20 | 18:00 | ODB | ER- II/ODISHA/SUNDERGARH | TL Maintenance works  | NLDC   |
| 376 | 765kv Sundergarh-Dharmajayagahr-I line                                 | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | ER-II/Odisha/Sundergarh  | Line Jumper Modification work from Quad to twin work  | NLDC   |
| 377 | 400/220 kv ICT-III at Gaya   | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | ER-I                     | For AMP work  | BSEB   |
| 378 | 765KV GAYA-VARANASI-I  | 12/02/20 | 09:00 | 19/02/20 | 18:00 | ODB | ER1                      | FOR STRENGTHENING OF 765 KV LINE TOWER  | NLDC   |
| 379 | 400 KV BSF-Ballia ckt-2  | 12/02/20 | 08:00 | 12/02/20 | 18:00 | ODB | POWERGRID ER-1           | liquidation of defects fixing of spacer cap, conductor cut at different locations   | NLDC   |
| 380 | 220 KV BUS COUPLER (BA NO-206) AT PURNEA                               | 12/02/20 | 09:00 | 12/02/20 | 17:00 | ODB | POWERGRID ER-1           | <b>CB AMP WORK</b>  |  |
| 381 | 400kv 50MVAR L/R of Varansi 2 at BiharSharif                           | 12/02/20 | 10:00 | 13/02/20 | 18:00 | ODB | POWERGRID ER-I           | Relay Retrofitment and AMP WORK   |  |
| 382 | 400KV Maithon - Gaya-II  | 12/02/20 | 08:00 | 13/02/20 | 18:00 | ODB | POWERGRID, ER-1          | For Insulator cleaning.<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  |  |
| 383 | 400KV KAHALGAON -FARAKKA CKT 4   | 12/02/20 | 08:00 | 12/02/20 | 18:00 | ODB | POWERGRID ER-I           | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)   |  |
| 384 | 63 MVAR TEESTA III L/R AT KISHANGANJ ( SWITCHABLE)                     | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | POWERGRID ER-I           | <b>Reactor CSD Commissioning</b>  |  |
| 385 | 400KV 63MVAR L/R OF Muzaffarpur-1 AT New Purnea (switchable)           | 12/02/20 | 9:00  | 12/02/20 | 18:00 | ODB | POWERGRID ER-I           | Relay retrofitting works IN 63MVAR Muzaffarpur-1 L/R  |  |
| 386 | 400KV RANCHI-MAITHAN (RB)-1 TL   | 12/02/20 | 9:00  | 12/02/20 | 17:30 | ODB | POWERGRID ER-I           | FOR FLASHED INSULATOR REPLACEMENT AT LOCATION NO. 516, A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE  | MPL  |
| 387 | BkTPP-Jeerat   | 12/02/20 | 06:00 | 12/02/20 | 15:00 | ODB | WB                       | Winter Maintenance  |  |
| 388 | At Arambag : 315 MVA ICT-3   | 12/02/20 | 06:00 | 12/02/20 | 15:00 | ODB | WB                       | Winter Maintenance  |  |
| 389 | NewChanditala: 400kv MB#1 and 400kv NewChanditala-Kharagpur#2          | 12/02/20 | 06:00 | 12/02/20 | 15:00 | ODB | WB                       | Winter Maintenance  |  |
| 390 | 220kv Khizersarai-Gaya PG ck t# 2                                      | 12/02/20 | 08:00 | 13/02/20 | 16:00 | ODB | BGCL                     | For tower top patrolling and maintenance work   | No Load Restriction                          |
| 391 | <b>400 kv Meramundali - New Duburi Ckt-II</b>                          | 12/02/20 | 08:00 | 12/02/20 | 17:00 | ODB | GRIDCO                   | For line & bay maintenance work   |  |
| 392 | 400kV Converter Trans. TIE Bay at Alipurduar                           | 12/02/20 | 07:00 | 12/02/20 | 17:00 | ODB | ER-II, POWERGRID         | Rectification of SF6 leakage from PIR Blanking Plate  |  |
| 393 | 424 Bay ( 125 MVAR BR-3 Main Bay) at Durgapur                          | 12/02/20 | 09:30 | 12/02/20 | 17:30 | ODB | ER-II, POWERGRID         | AMP worka   | BR-3 shall remain service through 423 Tie CB |
| 394 | 400KV MAIN BAY OF TALCHER#1 (406)                                      | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | ER-II/ODISHA/ROURKELA    | AMP WORKS   |  |
| 395 | 315MVA, ICT-1 Main Bay (402 BAY)                                       | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | ER-II/Odisha/Balangir    | AMP for 402 52CB and 402CT  |  |
| 396 | 132kv Pusauli-Kudra Line Bay (Bay 105)                                 | 12/02/20 | 09:00 | 12/02/20 | 18:00 | ODB | POWERGRID ER-I           | AMP work & Relay Retrofitting   |  |
| 397 | MAIN BAY (201) OF 220KV RANCHI-HATIA-2 AT RANCHI                       | 12/02/20 | 09:30 | 12/02/20 | 17:00 | ODB | POWERGRID ER-I           | AMP. LINE WILL REMAIN CHARGED THROUGH TBC BAY   |  |
| 398 | 102 Bay(160 MVA ATR-1 (IV Side) AT DALTONGANJ                          | 12/02/20 | 09:30 | 12/02/20 | 17:30 | ODB | POWERGRID ER-I           | Bay AMP   |  |
| 399 | 220kv Rangpo - Tashiding Line  | 13/02/20 | 09:00 | 13/02/20 | 18:00 | ODB | ER-II, POWERGRID         | AMP Works   | TASHIDING                                    |
| 400 | 50 MVA ICT-I 132/66 KV at Gangtok                                      | 13/02/20 | 09:00 | 13/02/20 | 18:00 | ODB | ER-II, POWERGRID         | For AMP work  | SIKKIM                                       |
| 401 | 220KV ALIPURDUAR-SALAKATY-1  | 13/02/20 | 08:00 | 13/02/20 | 17:00 | ODB | ER-II, POWERGRID         | Bay AMP Work  |  |
| 402 | 220 KV Alipurduar - Birpara Ckt I                                      | 13/02/20 | 00:00 | 14/02/20 | 00:00 | ODB | ER-II, POWERGRID         | CLR Insulator replacement in Crossings  |  |
| 403 | 400 KV Tala-Binaguri Ckt-II  | 13/02/20 | 08:00 | 15/02/20 | 17:30 | ODB | ER-II, POWERGRID         | Replacement of Porcelain Insulator with Polymer Insulator at major crossing like (railway,river,road,power line) crossing.  | NLDC   |
| 404 | 220KV Birpara-Chukha Ckt-II  | 13/02/20 | 08:00 | 13/02/20 | 17:30 | ODB | ER-II, POWERGRID         | Retrofitting of Numerical Distance Relay  | NLDC   |
| 405 | 400KV Mejia - Jamshedpur   | 13/02/20 | 08:00 | 18/02/20 | 18:00 | ODB | ER-II, POWERGRID         | Insulator Replacement work  | DVC  |

Subject to availability of rest 3 lines

|     |  |          |       |            |       |     |                           |   |  |
|-----|--|----------|-------|------------|-------|-----|---------------------------|---|--|
| 406 | 400KV Bus#2 at Binaguri  | 13/02/20 | 09:00 | 15/02/20   | 17:00 | ODB | ER-II, POWERGRID          | Busbar stability and GIS connection, Rangpo Bay upgradation work (Bus isolator dismantling / erection)- 3 occasions |  |
| 407 | 220 KV BUS # 2   | 13/02/20 | 09:00 | 13/02/20   | 17:00 | ODB | ER-II/Odisha/Rengali      | AMP Work  |  |
| 408 | 765kV Sundergarh-Dharmajayagahr-II line                          | 13/02/20 | 09:00 | 13/02/20   | 18:00 | ODB | ER-II/Odisha/Sundergarh   | Line Jumper Modification work from Quad to twin work  | NLDC   |
| 409 | 400KV Sundergarh-Raigarh Ckt #4                                  | 13/02/20 | 8:00  | 13/02/20   | 18:00 | ODB | ER- II/ODISHA/SUNDERGARH  | TL Maintenance works  | NLDC   |
| 410 | 400KV Sundergarh-Raigarh Ckt # 1&3                               | 13/02/20 | 8:00  | 28/02/20   | 18:00 | OCB | ER- II/ODISHA/SUNDERGARH  | Tower Erection and Stringing for OPGC MGR diversion   | NLDC   |
| 411 | 400 kV Bus Reactor-I at Gaya                                     | 13/02/20 | 09:00 | 13/02/20   | 18:00 | ODB | ER-I                      | For AMP work  |  |
| 412 | 765 KV Ranchi-Dharmajaygarh TL(CKT-II)                           | 13/02/20 | 08:00 | 14/02/20   | 18:00 | ODB | POWERGRID ER-I            | Power Line Crossing of 765 kV Ranchi Medinipur line under TBCB<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE     | NLDC   |
| 413 | 400kv main Bya of new Purnia -1 at Biharsharif                   | 13/02/20 | 10:00 | 13/02/20   | 18:00 | ODB | POWERGRID ER-I            | AMP Work  |  |
| 414 | 400KV KAHALGAON -BANKA CKT 2                                     | 13/02/20 | 08:00 | 13/02/20   | 18:00 | ODB | POWERGRID ER-I            | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)     |  |
| 415 | 63 MVAR RANGPO L/R AT KISHANGANJ ( SWITCHABLE)                   | 13/02/20 | 09:00 | 13/02/20   | 18:00 | ODB | POWERGRID ER-I            | <b>Reactor CSD Commissioning</b>  |  |
| 416 | 400KV 63MVAR L/R OF Muzaffarpur-2 AT New Purnea (switchable)     | 13/02/20 | 9:00  | 13/02/20   | 18:00 | ODB | POWERGRID ER-I            | Relay retrofitting works IN 63MVAR Muzaffarpur-2 L/R  |  |
| 417 | 400KV RANCHI-MAITHAN (RB)-2 TL                                   | 13/02/20 | 9:00  | 13/02/20   | 17:30 | ODB | POWERGRID ER-I            | FOR FLASHED INSULATOR REPLACEMENT AT LOCATION NO. 414,495, A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE            | MPL  |
| 418 | NewChanditala: 400kv MB#2 and 400kv NewChanditala-Kharagpur#2    | 13/02/20 | 06:00 | 13/02/20   | 15:00 | ODB | WB                        | Winter Maintenance  |  |
| 419 | At Arambag : 315 MVA ICT-4                                       | 13/02/20 | 06:00 | 13/02/20   | 15:00 | ODB | WB                        | Winter Maintenance  |  |
| 420 | 400KV MTPS-Jamshedpur Line                                       | 13/02/20 | 09:00 | 15/02/20   | 17:00 | ODB | 400kv MTPS S/y, DVC       | Tan delta test of CT & tit-bit maintenance work   |  |
| 421 | 132 Lakhisarai(PG)-Lakhisarai ckt2                               | 13/02/20 | 09:00 | 13/02/20   | 16:00 | ODB | BSPTCL                    | For line & bay maintenance work   | Lakhisarai will avail power from ckt 1                       |
| 422 | 429 Bay (Jamshedpur Line-1 Tie Bay) at Durgapur                  | 13/02/20 | 09:30 | 13/02/20   | 17:30 | ODB | ER-II, POWERGRID          | AMP works   | Jamshedpur line-1 shall remain service through 430 Main Bay. |
| 423 | 400KV MAIN BAY OF TALCHER#2 (407)                                | 13/02/20 | 09:00 | 13/02/20   | 18:00 | ODB | ER-II/ODISHA/ROURKELA     | AMP WORKS   |  |
| 424 | 765KV SNG CKT-2 MAIN BAY 706                                     | 13/02/20 | 09:00 | 13/02/20   | 18:00 | ODB | ER-II/Odisha/Angul SS     | AMP work  | NLDC   |
| 425 | 400 kV 408 Tie Bay of Baripada-Duburi & Baripada-Jamshedpur line | 13/02/20 | 09:00 | 14/02/20   | 17:30 | OCB | ER-II/Odisha/BARIPADA S/S | Gasket replacement  |  |
| 426 | 400kv TIE Bay of New Purnia 1 and Future at Bihar sharif         | 13/02/20 | 10:00 | 13/02/20   | 18:00 | ODB | POWERGRID ER-I            | AMP Work  |  |
| 427 | 132kv Pusaali-Mohania Line Bay (Bay 103)                         | 13/02/20 | 09:00 | 13/02/20   | 18:00 | ODB | POWERGRID ER-I            | AMP work & Relay Retrofitting   |  |
| 428 | 220KV BUS COUPLER BAY (203) AT RANCHI                            | 13/02/20 | 09:30 | 13/02/20   | 17:00 | ODB | POWERGRID ER-I            | AMP WORK.   |  |
| 429 | 103 bay( Chatarpur Line-1 bay) AT DALTONGANJ                     | 13/02/20 | 09:30 | 13/02/20   | 17:30 | ODB | POWERGRID ER-I            | Bay AMP   |  |
| 430 | REACTOR BAY OF 765 KV L/R-(BAY NO 704R) AT 765/400 KV NEW RANCHI | 13/02/20 | 09:00 | 13/02/20   | 17:00 | ODB | POWERGRID ER-I            | AMP   | NLDC   |
| 431 | 413 Main Bay Ballia 1 AT PATNA                                   | 13/02/20 | 09:00 | 14/02/20   | 18:00 | OCB | POWERGRID ER-I            | BCU updation works under SS03 package   |  |
| 432 | 132KV Rangit-kurseong Line                                       | 14/02/20 | 09:00 | 14/02/20   | 17:00 | ODB | ER-II, POWERGRID          | Rectification of Damaged Conductor bottom Ph & Mid Ph loc 33-34   | WB   |
| 433 | 220KV ALIPURDUAR-SALAKATY-2                                      | 14/02/20 | 08:00 | 14/02/20   | 17:00 | ODB | ER-II, POWERGRID          | Bay AMP Work  |  |
| 434 | 220 kV Bus-II at MALDA   | 14/02/20 | 08:00 | 14/02/20   | 17:00 | ODB | ER-II, POWERGRID          | ERSS-XVII-B Constructional work. For removal of existing HCB Isolator of ICT-3.                                     | WB   |
| 435 | 765/400KV 1500 MVA ICT-II  | 14/02/20 | 09:00 | 17/02/20   | 18:00 | ODB | ER-II/Odisha/Sundergarh   | AMP   | NLDC   |
| 436 | 400kv SOMVAR L/R of Varansi 1 at BiharSharif                     | 14/02/20 | 10:00 | 15/02/20   | 18:00 | ODB | POWERGRID ER-I            | Relay Retrofitment and AMP WORK   |  |
| 437 | 125MVAR Bus Reactor-1 at New Purnea                              | 14/02/20 | 9:00  | 14/02/20   | 18:00 | ODB | POWERGRID ER-I            | Relay retrofitting works IN 125MVAR Bus Reactor-1   |  |
| 438 | 400 KV Pusaali-Biharsharif Line-1                                | 14/02/20 | 9:00  | 14/02/20   | 18:00 | ODB | POWERGRID ER-I            | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)     |  |
| 439 | 400KV KTPP-New Chanditala  | 14/02/20 | 06:00 | 14.02.2020 | 15:00 | ODB | WB                        | Winter Maintenance  |  |
| 440 | At Arambag : 50 MVAR Bus Reacor                                  | 14/02/20 | 06:00 | 14/02/20   | 15:00 | ODB | WB                        | Winter Maintenance  |  |
| 441 | NewChanditala: 400kv MB#1 and 400kv NewChanditala-Arambag        | 14/02/20 | 06:00 | 14/02/20   | 15:00 | ODB | WB                        | Winter Maintenance  |  |
| 442 | 430 Bay (Jamshedpur Line-1 Main Bay ) at Durgapur                | 14/02/20 | 09:30 | 14/02/20   | 17:30 | ODB | ER-II, POWERGRID          | AMP works   | Jamshedpur Line-1 shall remains service throught 429 Tie Bay |
| 443 | 220 KV TARKERA#2 LINE BAY (209L)                                 | 14/02/20 | 09:00 | 14/02/20   | 18:00 | ODB | ER-II/ODISHA/ROURKELA     | AMP WORKS   |  |
| 444 | 706 Main Bay of 765/400KV,1500MVA ICT-I                          | 14/02/20 | 09:00 | 17/02/20   | 18:00 | OCB | ER-II/Odisha/Sundergarh   | SIEMENS Centre guide valve modification work in Mechanism drive and AMP   | NLDC   |
| 445 | 710 Line Reactor Bay (765 kV Gaya-Varanasi ckt-I) at Gaya        | 14/02/20 | 09:00 | 14/02/20   | 18:00 | ODB | ER1                       | For AMP work  | NLDC   |
| 446 | 400kv Main Bay Lakhisarai 2 at Biharsharif                       | 14/02/20 | 11:00 | 14/02/20   | 13:00 | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |  |
| 447 | 400kv Main Bay Sasaram 1 at Biharsharif                          | 14/02/20 | 11:00 | 14/02/20   | 13:00 | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |  |
| 448 | 220KV SIDE MAIN BAY (209) OF 400/220 KV 315 MVA ICT-2 AT RANCHI  | 14/02/20 | 09:30 | 14/02/20   | 17:00 | ODB | POWERGRID ER-I            | AMP WORK.   |  |

Subject to availability of rest 3 lines

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| 449 | 104 Bay(Chatarpur Line-2 bay) AT DALTONGANJ   | 14/02/20 | 09:30    | 14/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |   |
| 450 | REACTOR BAY OF 765 KV L/R-II (BAY NO 715R) AT 765/400 KV NEW RANCHI                     | 14/02/20 | 09:00    | 14/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP   | NLDC  |
| 451 | 50 MVA ICT-II 132/66KV at Gangtok   | 15/02/20 | 09:00    | 15/02/20 | 18:00    | ODB | ER-II, POWERGRID          | For AMP work  | SIKKIM  |
| 452 | 400KV Binaguri - Bongaigaon D/C (Twin) Line (POWERGRID)                                 | 15/02/20 | 00:00    | 18/02/20 | 00:00    | ODB | ER-II, POWERGRID          | Stringing at crossing between Loc. No. 11/0 - 12/0 of Jigmeling line and loc. No. 273-274 of Binaguri - Bongaigaon Line   | NLDC  |
| 453 | 400KV BINAGURI-BONGAIGAON-2   | 15/02/20 | 10:00    | 16/02/20 | 15:00    | ODB | ER-II, POWERGRID          | Bay upgradation work  | NLDC  |
| 454 | 400 KV Rourkela-SUNDARGARH#1 LINE   | 15/02/20 | 09:00    | 15/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | FOR ERECTION OF REACTOR BUSHINGS (SHUTDOWN BEING AVAILED AS CLEARANCE IS LESS)  |   |
| 455 | 125 MVAR Bus Reactor # 1  | 15/02/20 | 09:00    | 15/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | AMP Work  |   |
| 456 | 400KV Sundergarh-Raigarh Ckt #2&4   | 15/02/20 | 8:00     | 28/02/20 | 18:00    | ODB | ER-II/ODISHA/SUNDERGARH   | For PID Testing of Porcelain Insulator. Only Auto reclose   | NLDC  |
| 457 | 125MVAR Bus Reactor-2 at New Purnea   | 15/02/20 | 9:00     | 15/02/20 | 18:00    | ODB | POWERGRID ER-I            | Relay retrofitting works IN 125MVAR Bus Reactor-2   |   |
| 458 | 400 KV Bus 1 AT DARBHANGA   | 15/02/20 | 08:00    | 16/02/20 | 18:00    | OCB | POWERGRID ER-I            | Interconnection of Extension Bus ( By POWERGRID)to existing Bus (DMTCL & ATL)   | DMTCL   |
| 459 | NewChanditala: 400kv MB#2 and 400kv NewChanditala-Arambag                               | 15/02/20 | 06:00    | 15/02/20 | 15:00    | ODB | WB                        | Winter Maintenance  |   |
| 460 | 400KV KTPP-Kharagpur 2  | 15/02/20 | 06:00    | 15/02/20 | 15:00    | ODB | WB                        | Winter Maintenance  |   |
| 461 | 220KV Jamshedpur-Jindal Tie   | 15/02/20 | 08:00    | 15/02/20 | 17:30    | ODB | GOMD-III, DVC, Jamshedpur | Hardware checking work at loc no.52,53,63,73  | GRIDCO  |
| 462 | 220 KV DMTCL(Darbhanga)-Laukahi ckt1  | 15/02/20 | 09:00    | 23/02/20 | 16:00    | ODB | BSPTCL                    | For line maintenance work   | Laukahi will avail power from alternate sources |
| 463 | 220 KV DMTCL(Darbhanga)-Laukahi ckt2  | 15/02/20 | 09:00    | 23/02/20 | 16:00    | ODB | BSPTCL                    | For line maintenance work   | Laukahi will avail power from alternate sources |
| 464 | 411 Bay (Tie Bay of 315 MVA ICT#4 and Future bay) at Subhasgram                         | 15/02/20 | 09:00    | 21/02/20 | 17:00    | OCB | ER-II, POWERGRID          | For isolator and CT retrofitting work under ERSS-XVIII Project  |   |
| 465 | 765KV BR-1 MAIN BAY 712   | 15/02/20 | 09:00:00 | 15/02/20 | 18:00:00 | ODB | ER-II/Odisha/Angul SS     | AMP work  | NLDC  |
| 466 | 80MVAR B/R-1 Main Bay (408 Bay)   | 15/02/20 | 09:00    | 15/02/20 | 18:00    | ODB | ER-II/Odisha/Balangir     | AMP for 408 52CB and 408 CT   |   |
| 467 | 400 kv 410 main Bay of Baripada-Pandiabili line   | 15/02/20 | 09:00    | 16/02/20 | 17:30    | OCB | ER-II/Odisha/BARIPADA S/S | Gasket replacement  |   |
| 468 | 400kv Tie bay of 315 MVA ICT 3 and Bus reactor 2 at BiharSharif                         | 15/02/20 | 09:30    | 15/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP   |   |
| 469 | 400KV CWD50Q50 Bay (Tie Bay of Ac filter east side and Converter transformer East Side) | 15/02/20 | 09:00    | 18/02/20 | 18:00    | OCB | POWERGRID ER-I            | Overhauling of CWD50Q50 R&Y-Phase Pole  |   |
| 470 | 400KV SIDE MAIN BAY (406) OF 400/220 KV 315 MVA ICT-2 AT RANCHI                         | 15/02/20 | 09:30    | 15/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP WORK.   |   |
| 471 | 405 Bay(315 MVA ICT-2 Tie Bay) AT DALTONGANJ  | 15/02/20 | 09:30    | 15/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |   |
| 472 | 414 Balia-1 Tie Bay AT PATNA  | 15/02/20 | 09:00    | 16/02/20 | 18:00    | OCB | POWERGRID ER-I            | BCU updratn works under SS03 package  |   |
| 473 | 214 Main bay ICT 1 AT PATNA   | 15/02/20 | 09:00    | 16/02/20 | 18:00    | OCB | POWERGRID ER-I            | CB Overhauling & BCU updratn works under SS03 package   |   |
| 474 | 400KV Rangpo-Teesta-V Ckt-1   | 16/02/20 | 09:00    | 16/02/20 | 18:00    | ODB | ER-II, POWERGRID          | AMP Works   | TEESTA-V  |
| 475 | 400KV Baripada-Keonjhar line  | 16/02/20 | 09:00    | 29/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | Line Auto-reclose switch is to be kept in Non-auto mode for Online PID scanning work of porcelain insulator of concerned line   |   |
| 476 | 400/220kv 500MVA ICT 4 at BiharSharif   | 16/02/20 | 10:00    | 16/02/20 | 18:00    | ODB | POWERGRID ER-I            | CSD Commissioning work  | BSEB  |
| 477 | 400kv TIE Bay of Sasaram 1 and Bus reactor 1 at Bihar sharif                            | 16/02/20 | 11:00    | 16/02/20 | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |   |
| 478 | 132KV BUS-SECTIONALIZER-1 at Rangpo   | 17/02/20 | 09:00    | 17/02/20 | 18:00    | ODB | ER-II, POWERGRID          | AMP Works   | SIKKIM  |
| 479 | 400 KV Tala-Binaguri Ckt-III  | 17/02/20 | 08:00    | 19/02/20 | 17:30    | ODB | ER-II, POWERGRID          | Replacement of Porcelain Insulator with Polymer Insulator at major crossing like (railway,river,road,power line) crossing,  | NLDC  |
| 480 | 220KV Maithon-Dumka I&II  | 17/02/20 | 08:00    | 18/02/20 | 18:00    | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # I Line  | JSEB  |
| 481 | 400 KV Rourkela-SUNDARGARH#1 LINE   | 17/02/20 | 10:30    | 17/02/20 | 12:30    | ODB | ER-II/ODISHA/ROURKELA     | FOR TAKING THE LINE REACTOR INTO SERVICE AFTER OVERHAULING  |   |
| 482 | 3x110 MVAR 765 kv BUS Reactor I   | 17/02/20 | 09:00    | 17/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS     | AMP Work  | NLDC  |
| 483 | 50MVAR Line Reactor   | 17/02/20 | 09:00    | 17/02/20 | 18:00    | ODB | ER-II/Odisha /Indravati   | For Arresting Oil Leakage from Turret CT Line Reactor .The Line reactor is not a Switchable One , for Which the Power Flow In the Indravati-Rengali Line will be Interrupt. |   |
| 484 | 400KV Main Bus-I  | 17/02/20 | 09:00    | 17/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works & Bus side isolator rectification works   |   |
| 485 | 765KV Sundargarh-Angul Ckt #1   | 17/02/20 | 8:00     | 17/02/20 | 18:00    | ODB | ER-II/ODISHA/SUNDERGARH   | TL Maintenance works  | NLDC  |
| 486 | 220KV BUS -1AT PURNEA   | 17/02/20 | 09:00    | 17/02/20 | 17:00    | ODB | POWERGRID ER-1            | AMP WORK  |   |
| 487 | 400KV 80MVAR L/R OF Purnia 1 at BiharSharif   | 17/02/20 | 10:00    | 18/02/20 | 18:00    | ODB | POWERGRID ER-I            | Relay Retrofitment and AMP WORK   |   |
| 488 | 400 KV Pusauli-Varanasi Line  | 17/02/20 | 9:00     | 17/02/20 | 18:00    | ODB | POWERGRID ER-I            | Replacement of insulators at Road/Rail/River/Power Line Crossings (A/R of other ckt to be put in non-auto mode)   | NLDC  |
| 489 | 400/220 KV 500MVA ICT-2 AT PATNA  | 17/02/20 | 09:00    | 17/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP   | BSEB  |
| 490 | 400 kv bus 2 AT DARBHANGA   | 17/02/20 | 08:00    | 18/02/20 | 18:00    | OCB | POWERGRID ER-I            | Interconnection of Extension Bus ( By POWERGRID)to existing Bus (DMTCL & ATL)   | DMTCL   |
| 491 | NewChanditala: 400kv 80MVAR bus reactor and 400kv MB#2                                  | 17/02/20 | 06:00    | 17/02/20 | 15:00    | ODB | WB                        | Winter Maintenance  |   |

|     |   |          |       |          |       |     |                           |  |  |
|-----|---|----------|-------|----------|-------|-----|---------------------------|--|--|
| 492 | At Arambag : 125 MVAR Bus Reacor                              | 17/02/20 | 06:00 | 17/02/20 | 15:00 | ODB | WB                        | Winter Maintenance   |  |
| 493 | 132KV Bay(Bay 104) of Rangpo-II Line at Gangtok               | 17/02/20 | 09:00 | 17/02/20 | 14:00 | ODB | ER-II, POWERGRID          | For AMP work   |  |
| 494 | 201 Bay (220KV ICT-1 Main bay ) at Durgapur                   | 17/02/20 | 09:30 | 17/02/20 | 17:30 | ODB | ER-II, POWERGRID          | AMP works  | ICT-1 shall remain service through 202 TBC Bay   |
| 495 | 220 KV TARKERA#1 LINE BAY (210L)                              | 17/02/20 | 09:00 | 17/02/20 | 18:00 | ODB | ER-II/ODISHA/ROURKELA     | AMP WORKS  |  |
| 496 | 80MVAR B/R-1 TIE Bay (40708 Bay)                              | 17/02/20 | 09:00 | 17/02/20 | 18:00 | ODB | ER-II/Odisha/Balangir     | AMP for 40708 52CB and 40708 CT  |  |
| 497 | 220KV Bus Coupler 207 Bay                                     | 17/02/20 | 09:00 | 18/02/20 | 18:00 | ODB | ER-II/Odisha/Keonjhar     | AMP Work and Rectification of CB found faulty timing & DCRM graphs. Shutdown shall be taken if not availed in JAN'20.                                  |  |
| 498 | 705 Tie Bay ( 765 kv BR-II & 765 KV ICT-II ) at Gaya          | 17/02/20 | 09:00 | 17/02/20 | 18:00 | ODB | ER-I                      | For AMP work   | NLDC   |
| 499 | 400kv Main Bay of Bus Reactor 1 at Biharsharif                | 17/02/20 | 11:00 | 17/02/20 | 13:00 | ODB | POWERGRID ER-I            | Compressor Overhauling of CB   |  |
| 500 | 406 Bay(315 MVA ICT-2 Main Bay) AT DALTONGANJ                 | 17/02/20 | 09:30 | 17/02/20 | 17:30 | ODB | POWERGRID ER-I            | Bay AMP  |  |
| 501 | Main bay of PPSP CKT-I I(Bay no-422) AT 765/400 KV NEW RANCHI | 17/02/20 | 09:00 | 17/02/20 | 17:00 | ODB | POWERGRID ER-I            | AMP  | NLDC   |
| 502 | 417 Tie bay Balia-2 AT PATNA                                  | 17/02/20 | 09:00 | 18/02/20 | 18:00 | OCB | POWERGRID ER-I            | BCU updraton works under S503 package  |  |
| 503 | 400KV Tie Bay of DSTPS-Jamshedpur Ckts                        | 17/02/20 | 08:30 | 22/02/20 | 17:00 | OCB | 400KV DSTPS S/Y, DVC      | 1.O/H activities including testing on CTs,CVTs,CBs<br>2.Replacement of damaged/defective gland plates in CT JBs  |  |
| 504 | 220KV ALIPURDUJAR-WBSETCL-1                                   | 18/02/20 | 08:00 | 18/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Bay AMP Work   | WB   |
| 505 | 400KV Maithon-Kahalgaon I                                     | 18/02/20 | 08:00 | 19/02/20 | 18:00 | ODB | ER-II, POWERGRID          | Bay upgradation work: connection of jumper and bay stability checking etc after upgradation of Main Bay equipment under ERSS-XVII                      |  |
| 506 | 220KV/132KV ICT-IV at MALDA                                   | 18/02/20 | 08:00 | 18/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Implementation of NIFS system  | WB   |
| 507 | 220 KV D/C Arambag - Damjur TL                                | 18/02/20 | 08:00 | 20/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Stringing b/w AP 35/0 to 36/0 of 765 KV Medinipur Jeerat TL Over existing 220 KV D/C Arambag - Damjur TL   | WB   |
| 508 | 220 KV S/C Arambag - Rishra TL                                | 18/02/20 | 08:00 | 20/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Stringing b/w AP 36/0 to 37/0 of 765 KV Medinipur Jeerat TL Over existing 220 KV S/C Arambag - Rishra TL   | WB   |
| 509 | 400 KV S/C Sagardighi - Jeerat TL                             | 18/02/20 | 08:00 | 19/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Stringing b/w AP 149/0 to 150/0 of 765 KV Medinipur Jeerat TL over existing 400 KV S/C Sagardighi - Jeerat TL  | WB   |
| 510 | 125 MVAR Bus Reactor # 2                                      | 18/02/20 | 09:00 | 18/02/20 | 17:00 | ODB | ER-II/Odisha/Rengali      | AMP Work   |  |
| 511 | 765KV Sundargarh-Angul ckt-2                                  | 18/02/20 | 09:00 | 18/02/20 | 12:00 | ODB | ER-II/Odisha/Sundergarh   | Line Jumper Modification work from Quad to twin work   | NLDC   |
| 512 | 220KV BUS -2 AT PURNEA  | 18/02/20 | 09:00 | 18/02/20 | 17:00 | ODB | POWERGRID ER-1            | <b>AMP WORK</b>  |  |
| 513 | 400 KV MAIN BUS-1 AT 400/220 KV RANCHI                        | 18/02/20 | 9:30  | 18/02/20 | 17:00 | ODB | POWERGRID ER-I            | STABILITY TEST FOR BUS BAR PROTECTION OF 429 BAY (TIE BAY OF RNC-RNC-2 AS COMMISSIONING TEST).   | JSEB   |
| 514 | 400 KV RANCHI-RANCHI-2 TL                                     | 18/02/20 | 9:00  | 18/02/20 | 17:30 | ODB | POWERGRID ER-I            | STABILITY TEST FOR BUS BAR PROTECTION OF 429 BAY (TIE BAY OF RNC-RNC-2 AS COMMISSIONING TEST).<br>A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE        |  |
| 515 | 400/220 KV 500MVA ICT-3 AT PATNA                              | 18/02/20 | 09:00 | 18/02/20 | 18:00 | ODB | POWERGRID ER-I            | AMP  | BSEB   |
| 516 | 209 Bay (220KV ICT-2 main bay) at Durgapur                    | 18/02/20 | 09:30 | 18/02/20 | 17:30 | ODB | ER-II, POWERGRID          | AMP works  | ICT-2 shall remains service throught 210 TBC Bay |
| 517 | 765KV BR-2 & ICT-4 TIE BAY 714                                | 18/02/20 | 10:00 | 18/02/20 | 17:00 | ODB | ER-II/Odisha/Angul SS     | AMP Work   | NLDC   |
| 518 | 407R52- Duburi Line Reactor Bay                               | 18/02/20 | 09:00 | 18/02/20 | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S | AMP works  |  |
| 519 | 710 Main Bay of 765KV Sundargarh-Angul ckt-3                  | 18/02/20 | 09:00 | 21/02/20 | 18:00 | OCB | ER-II/Odisha/Sundergarh   | SIEMENS Centre guide valve modification work in Mechanism drive and AMP  | NLDC   |
| 520 | 706 Main Bay (765/400 kv ICT-II ) at Gaya                     | 18/02/20 | 09:00 | 18/02/20 | 18:00 | ODB | ER1                       | For AMP work   | NLDC   |
| 521 | 400kv Main Bay of 400/220kv 315MVA ICT 2 at Biharsharif       | 18/02/20 | 11:00 | 18/02/20 | 13:00 | ODB | POWERGRID ER-I            | Compressor Overhauling of CB   |  |
| 522 | 400kv Main bay of AC filter East Side (CWD50Q52)              | 18/02/20 | 09:00 | 18/02/20 | 18:00 | ODB | POWERGRID ER-I            | AMP work   |  |
| 523 | 407 Bay(Sasaram Line-1 main bay) AT DALTONGANJ                | 18/02/20 | 09:30 | 18/02/20 | 17:30 | ODB | POWERGRID ER-I            | Bay AMP  |  |
| 524 | At Arambag : 400 KV Bus-Coupler Bay                           | 18/02/20 | 06:00 | 18/02/20 | 15:00 | ODB | WB                        | Winter Maintenance   |  |
| 525 | 400KV Rangpo-Teesta-v Ckt-2                                   | 19/02/20 | 08:00 | 23/02/20 | 17:00 | OCB | ER-II, POWERGRID          | For rectification of SF6 gas leakage repair work,  | TEESTA-V   |
| 526 | 220KV ALIPURDUJAR-WBSETCL-2                                   | 19/02/20 | 08:00 | 19/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Bay AMP Work   | WB   |
| 527 | 220 KV PG(Maithon)-Dhanbad I&II                               | 19/02/20 | 08:00 | 20/02/20 | 18:00 | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # I Line   | DVC  |
| 528 | 400KV Maithon - Jamshedpur                                    | 19/02/20 | 08:00 | 24/02/20 | 18:00 | ODB | ER-II, POWERGRID          | Insulator Replacement work   |  |
| 529 | 220 KV D/C Arambagh-Damjur TL                                 | 19/02/20 | 08:00 | 19/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Stringing b/w AP 35/0 to 36/0 of 765 KV D/C Medinipur-Jeerat TL over existing 220 KV D/C Arambagh-Damjur Transmission line (WBSETCL)                   | WB   |
| 530 | 3x110 MVAR 765 kv BUS Reactor II                              | 19/02/20 | 09:00 | 19/02/20 | 18:00 | ODB | ER-II/Odisha/Angul SS     | AMP Work   | NLDC   |
| 531 | 80 MVAR BUA REACTOR-1   | 19/02/20 | 09:00 | 19/02/20 | 18:00 | ODB | ER-II/Odisha/Balangir     | AMP for 80MVAR B/R-1   |  |
| 532 | Line Reactor 6 ( Purnia 1 Reactor) at Bihar Sharif            | 19/02/20 | 10:00 | 20/02/20 | 18:00 | ODB | POWERGRID ER-I            | Relay Retrofitment and AMP WORK  |  |
| 533 | 765 kv Fatehpur-Sasaram-s/c                                   | 19/02/20 | 08:00 | 20/02/20 | 18:00 | OCB | POWERGRID NR-3            | For Tower rectification work at Location no. 326   | NLDC   |
| 534 | 400 KV MAIN BUS-2 AT 400/220 KV RANCHI                        | 19/02/20 | 9:30  | 19/02/20 | 17:00 | ODB | POWERGRID ER-I            | Fixing of Stool in Yph Bus-II CVT & AMP. During the S/D, all Lines and equipments will remain Chrged through Bus-I except 400 kv RNC-NRNC- 1 & 2 line. | JSEB   |

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|-----|---|----------|----------|----------|----------|-----|---------------------------|--|---|
| 535 | 400 KV RANCHI-RANCHI-1 TL   | 19/02/20 | 9:30     | 19/02/20 | 17:00    | ODB | POWERGRID ER-I            | To facilitate the s/d of Bus-II at Ranchi due to unability of tie bay at Ranchi.   |   |
| 536 | 400 KV RANCHI-RANCHI-2 TL   | 19/02/20 | 9:30     | 19/02/20 | 17:00    | ODB | POWERGRID ER-I            | To facilitate the s/d of Bus-II at Ranchi due to unability of tie bay at Ranchi.   |   |
| 537 | 400 KV PPSP L/R-2 AT 765/400 KV NEW RANCHI  | 19/02/20 | 09:00    | 19/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP  |   |
| 538 | 400 KV BUS-1 AT MUZAFFARPUR   | 19/02/20 | 9:30     | 20/02/20 | 17:30    | ODB | POWERGRID ER-I            | BUS AMP WORK   | BSEB  |
| 539 | 400 kV Barh-Kahalgaon CKT I   | 19/02/20 | 09:00    | 19/02/20 | 17:30    | ODB | POWERGRID ER-I            | Replacement of porcelain insulator by polmer A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE   |   |
| 540 | 401 Bay (Main Bay of Berhampore-Bheramara-2 ) at BAHARAMPORE                              | 19/02/20 | 09:00    | 19/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Circuit Breaker Maintenance  |   |
| 541 | 204 Bay ( 220 KV DVC-2 line Main bay) at Durgapur   | 19/02/20 | 09:30    | 19/02/20 | 17:30    | ODB | ER-II, POWERGRID          | AMP works  | DVC-2 line shall remain service through 202 TBC Bay |
| 542 | 400 KV TALCHER#1 LINE BAY (406L)  | 19/02/20 | 09:00    | 19/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | AMP WORKS  |   |
| 543 | 201main bay of 220KV Baripada-Balasore Line -1  | 19/02/20 | 09:00    | 19/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works  |   |
| 544 | 220KV 204 Bay (Future line bay)   | 19/02/20 | 09:00    | 19/02/20 | 18:00    | ODB | ER-II/Odisha/Keonjhar     | AMP Work and Rectification of CB found faulty timing . Shutdown shall be taken if not availed in JAN'20.   |   |
| 545 | 709 Main Bay (765/400 KV ICT-III ) at Gaya  | 19/02/20 | 09:00    | 19/02/20 | 18:00    | ODB | ER-I                      | For AMP work   | NLDC  |
| 546 | 400kv TIE Bay of 315MVA ICT-2 and B/R 3 at Bihar sharif                                   | 19/02/20 | 11:00    | 19/02/20 | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB   |   |
| 547 | Main Bay of 400kV Kishanganj-1 (407-52) at New Purnea                                     | 19/02/20 | 09:00    | 19/02/20 | 12:00    | ODB | POWERGRID ER-I            | CT Oil Sampling  |   |
| 548 | Tie Bay of 400kV Kishanganj-1 & Muzaffarpur-2 (408-52) at New Purnea                      | 19/02/20 | 12:00    | 19/02/20 | 15:00    | ODB | POWERGRID ER-I            | CT Oil Sampling  |   |
| 549 | Main Bay of 400kV Muzaffarpur-2(409-52) at New Purnea                                     | 19/02/20 | 15:00    | 19/02/20 | 18:00    | ODB | POWERGRID ER-I            | CT Oil Sampling  |   |
| 550 | 400KV CWD10Q50 Bay (Tie Bay of Ac filter north side and Converter transformer north Side) | 19/02/20 | 09:00    | 22/02/20 | 18:00    | OCB | POWERGRID ER-I            | Overhauling of CWD10Q50-Y phase Pole   |   |
| 551 | 400kV Tie Bay of Varanasi Line (CWD30Q50)   | 19/02/20 | 09:00    | 19/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP work   |   |
| 552 | 408 Bay(Tie bay of Sasaram line-1 & ICT-1) AT DALTONGANJ                                  | 19/02/20 | 09:30    | 19/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP  |   |
| 553 | 418 Barh-1 main bay AT PATNA  | 19/02/20 | 09:00    | 20/02/20 | 18:00    | OCB | POWERGRID ER-I            | BCU updrtn works under S503 package  |   |
| 554 | At Arambag : 400 KV TBC Bay   | 19/02/20 | 06:00    | 19/02/20 | 15:00    | ODB | WB                        | Winter Maintenance   |   |
| 555 | 132KV Rangit-Rammam Line  | 20/02/20 | 10:00    | 20/02/20 | 16:00    | ODB | ER-II, POWERGRID          | Rectification of Damaged Conductor top Ph loc 95-96  | WB  |
| 556 | 400kv BUS-1 AT BAHARAMPORE  | 20/02/20 | 09:00    | 20/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Construction Activity of 400KV Baharampore-Bheramara Project-II  | NLDC  |
| 557 | 400 KV Durgapur -Jamshedpur S/C-I   | 20/02/20 | 10:00    | 20/02/20 | 18:00    | ODB | ER-II, POWERGRID          | Replacement of broken insulator by Miscreants.   |   |
| 558 | 220 KV D/C Arambagh-Damjur TL   | 20/02/20 | 08:00    | 20/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Stringing b/w AP 35/0 to 36/0 of 765 KV D/C Medinipur-Jeerat TL over existing 220 KV D/C Arambagh-Damjur Transmission line (WBSETCL)   | WB  |
| 559 | 220 KV D/C Jeerat - Dharampur TL  | 20/02/20 | 08:00    | 21/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Stringing b/w AP 43/0 to 44/0 of 400 KV Jeerat(New)-Jeerat TL over existing 220 KV D/C Jeerat - Dharampur TL   | WB  |
| 560 | COUP Transformer (3x 166.7 MVA) at Jeypore  | 20/02/20 | 10:00:00 | 20/02/20 | 13:00:00 | ODB | ER-II/Odisha /Jeypore     | For changing Coup. Transformer combination form Unit-I,II, IV to Unit-I, III & IV for charging Unit-III  |   |
| 561 | 400 KV Rengali-Indravati Line   | 20/02/20 | 08:00    | 20/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | To attend S/D nature Defects   | NLDC  |
| 562 | 400KV Sundargarh-OPGC ckt-1   | 20/02/20 | 09:00    | 20/02/20 | 20:00    | ODB | ER-II/Odisha/Sundergarh   | AMP OF GIS BAYS  | GRIDCO  |
| 563 | 400 kV Bus Reactor-II at Gaya   | 20/02/20 | 09:00    | 20/02/20 | 18:00    | ODB | ER-I                      | For AMP work   |   |
| 564 | 80 MVAR LINE REACTOR of 400 KV RANCHI-SIPAT-2 LINE (NON SWITCHABLE )                      | 20/02/20 | 9:30     | 20/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP OF L/R .Hence the L/R is not Switchable, So for Isolation of L/R and charging after AMP work, the line will switched off for 20mintues in two occaions each. During S/d of L/R, the line may be taken into service without L/R | NLDC  |
| 565 | 400 KV RANCHI-SIPAT-2   | 20/02/20 | 9:30     | 20/02/20 | 9:50     | ODB | POWERGRID ER-I            | for Isolation of 80 MVAR Line Reactor at Ranchi for AMP  | NLDC  |
| 566 | 400 KV RANCHI-SIPAT-2   | 20/02/20 | 16:40    | 20/02/20 | 17:00    | ODB | POWERGRID ER-I            | For taking 80 MVAR Line Reactor at Ranchi into service after AMP work.   | NLDC  |
| 567 | 400KV CBSA KGP 1 LINE AT CHAIBASA   | 20/02/20 | 9:30     | 20/02/20 | 17:30    | ODB | POWERGRID ER-I            | Retrofitting of RTD for online monitoring of WTI & OTI temperature   |   |
| 568 | 400 kV Barh-Kahalgaon CKT II  | 20/02/20 | 09:00    | 20/02/20 | 17:30    | ODB | POWERGRID ER-I            | Replacement of porcelain insulator by polmer A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE   |   |
| 569 | 132 KV Bay(Bay 105) of Rangpo-I Line at Gangtok   | 20/02/20 | 09:00    | 20/02/20 | 14:00    | ODB | ER-II, POWERGRID          | For AMP work   |   |
| 570 | 417 Bay(CT-2 Tie Bay ) at Durgapur  | 20/02/20 | 09:30    | 20/02/20 | 17:30    | ODB | ER-II, POWERGRID          | AMP Works  | ICT-2 shall remains service throught 418 Main Bay   |
| 571 | 400 KV TIE BAY OF 125 MVAR BR2 & SNG#4 (426)  | 20/02/20 | 09:00    | 20/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | AMP WORKS  |   |
| 572 | 765KV BR-2 MAIN BAY 715   | 20/02/20 | 10:00    | 20/02/20 | 17:00    | ODB | ER-II/Odisha/Angul SS     | AMP Work   | NLDC  |
| 573 | 211 bay(220KV side of 500MVA ICT #3)  | 20/02/20 | 09:00    | 20/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works  |   |
| 574 | 220KV OPTCL-II 206 Bay  | 20/02/20 | 09:00    | 20/02/20 | 18:00    | ODB | ER-II/Odisha/Keonjhar     | AMP Work and Rectification of CB found faulty timing . Shutdown shall be taken if not availed in JAN'20.   |   |
| 575 | 400kv Main Bay of Banka 1 at Biharsharif  | 20/02/20 | 11:00    | 19/02/20 | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB   |   |



|     |   |          |       |          |       |     |                           |   |           |   |
|-----|---|----------|-------|----------|-------|-----|---------------------------|---|-----------|---|
| 576 | 400KV TIE Bay of Banka 1 and Banka 2 at Bihar sharif                  | 20/02/20 | 11:00 | 20/02/20 | 13:00 | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |           |   |
| 577 | Main Bay of 400KV Kishanganj-1 (410-52) at New Purnea                 | 20/02/20 | 09:00 | 20/02/20 | 12:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 578 | Main Bay of 400KV Muzaffarpur-1(412-52) at New Purnea                 | 20/02/20 | 12:00 | 20/02/20 | 15:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 579 | Tie Bay of 400KV Kishanganj-2 & Muzaffarpur-1 (411-52) at New Purnea  | 20/02/20 | 15:00 | 20/02/20 | 18:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 580 | 400KV Tie Bay of Allahabad Line (CWD20Q50)                            | 20/02/20 | 09:00 | 20/02/20 | 18:00 | ODB | POWERGRID ER-I            | AMP work  |           |   |
| 581 | 409 Bay(Main bay of 315 MVA ICT-1) AT DALTONGANJ                      | 20/02/20 | 09:30 | 20/02/20 | 17:30 | ODB | POWERGRID ER-I            | Bay AMP   |           |   |
| 582 | 132KV RANGPO-CHUZACHEN-1  | 21/02/20 | 09:00 | 21/02/20 | 18:00 | ODB | ER-II, POWERGRID          | AMP Works   | CHUZACHEN |   |
| 583 | 400KV BUS-2 AT BAHARAMPORE  | 21/02/20 | 09:00 | 21/02/20 | 17:00 | ODB | ER-II, POWERGRID          | Construction Activity of 400KV Baharampore-Bheramara Project-II   | NLDC      |   |
| 584 | 132KV S/C Maithan Hydel - Jamtara                                     | 21/02/20 | 08:00 | 22/02/20 | 18:00 | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # I Line                                      | JSEB      |   |
| 585 | 125 MVAR 400 kV Bus Reactor 2   | 21/02/20 | 09:00 | 21/02/20 | 18:00 | ODB | ER-II/Odisha/Angul SS     | AMP Work  |           |   |
| 586 | 400KV 80MVAR Bus Reactor 2 at BiharSharif                             | 21/02/20 | 10:00 | 22/02/20 | 18:00 | ODB | POWERGRID ER-I            | Relay Retrofitment and AMP WORK   |           |   |
| 587 | 765 KV -B/R-1 AT 765/400 KV NEW RANCHI                                | 21/02/20 | 9:00  | 21/02/20 | 17:00 | ODB | POWERGRID ER-I            | AMP   | NLDC      |   |
| 588 | 220 KV BUS-1 AT MUZAFFARPUR   | 21/02/20 | 9:30  | 22/02/20 | 17:30 | ODB | POWERGRID ER-I            | BUS AMP WORK  | BSEB      |   |
| 589 | 400 kV Meramundali - Vedanta Ckt-I                                    | 21/02/20 | 08:00 | 21/02/20 | 17:00 | ODB | GRIDCO                    | For line & bay maintenance work   |           |   |
| 590 | 220kV BUS Coupler Bay (202)   | 21/02/20 | 08:00 | 21/02/20 | 18:00 | ODB | ER-II/Odisha /Jeyapore    | AMP of 202 Bay (Bus Coupler Bay)  |           |   |
| 591 | 125MVAR BUS REACTOR-2 Tie Bay( 40506 Bay)                             | 21/02/20 | 09:00 | 21/02/20 | 18:00 | ODB | ER-II/Odisha/Balangir     | AMP for 40506 52CB & 40506 CT   |           |   |
| 592 | 10852- 132KV Bangriposi Line Main Bay                                 | 21/02/20 | 09:00 | 21/02/20 | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   |           |   |
| 593 | 724 Main Bay of 765KV Sundargarh-Dharamjaygarh ckt-2                  | 21/02/20 | 09:00 | 25/02/20 | 18:00 | OCB | ER-II/Odisha/Sundergarh   | SIEMENS Centre guide valve modification work in Mechanism drive and AMP                                       | NLDC      |   |
| 594 | 220KV TBC 201 Bay   | 21/02/20 | 09:00 | 21/02/20 | 18:00 | ODB | ER-II/Odisha/Keonjhar     | AMP Work and Rectification of CB found faulty timing . Shutdown shall be taken if not availed in JAN'20.      |           |   |
| 595 | 400KV Main Bay Banka 2 , at Biharsharif                               | 21/02/20 | 11:00 | 21/02/20 | 13:00 | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |           |   |
| 596 | Main Bay of 400KV Malda-2 (413-52) at New Purnea                      | 21/02/20 | 09:00 | 21/02/20 | 13:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 597 | Tie Bay of 400KV Malda-2 & Bus Reactor-1 (414-52) at New Purnea       | 21/02/20 | 14:00 | 21/02/20 | 17:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 598 | 410 Bay(Main bay of Sasaram Line-2 bay) AT DALTONGANJ                 | 21/02/20 | 09:30 | 21/02/20 | 17:30 | ODB | POWERGRID ER-I            | Bay AMP   |           |   |
| 599 | 411 Nabinagar-1 Tie bay AT PATNA                                      | 21/02/20 | 09:00 | 21/02/20 | 18:00 | ODB | POWERGRID ER-I            | AMP   |           |   |
| 600 | 400KV Alipurduar - New Siliguri D/C (QUAD) Line (STERLITE)            | 22/02/20 | 00:00 | 25/02/20 | 00:00 | ODB | ER-II, POWERGRID          | Stringing at crossing between Loc. No. 13/0 - 14/0 of Jigmeling line and loc. No. 292-293 of Sterlite Line    |           |   |
| 601 | 400 KV Main Bus -I at Subhasgram                                      | 22/02/20 | 09:00 | 22/02/20 | 17:00 | ODB | ER-II, POWERGRID          | AMP of 400 KV Main Bus -I at Subhasgram SS  | WB        |   |
| 602 | 400 KV Rourkela-SUNDARGARH#3 LINE                                     | 22/02/20 | 10:00 | 22/02/20 | 13:00 | ODB | ER-II/ODISHA/ROURKELA     | FOR TAKING THE LINE REACTOR OUT OF SERVICE FOR GASKET REPLACEMENT & OVERHAULING WORKS TO ARREST OIL LEACKAGES |           |   |
| 603 | 63 MVAR, 400 KV SUNDARGARH#3 LINE REACTOR                             | 22/02/20 | 10:00 | 07/03/20 | 13:00 | OCB | ER-II/ODISHA/ROURKELA     | GASKET REPLACEMENT & OVERHAULING WORKS TO ARREST OIL LEACKAGES  |           |   |
| 604 | 125 MVAR Bus Reactor  | 22/02/20 | 09:00 | 22/02/20 | 18:00 | ODB | ER-II/Odisha /Jeyapore    | AMP of 125 MVAR Bus Reactor   |           |   |
| 605 | 220 kV Bus-1  | 22/02/20 | 09:00 | 22/02/20 | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S | Isolator alignment work   | GRIDCO    |   |
| 606 | 765 KV GAYA-BALIA-S/C   | 22/02/20 | 09:00 | 29/02/20 | 18:00 | ODB | ER1                       | FOR STRENGTHENING OF 765 KV LINE TOWER  | NLDC      |   |
| 607 | 50 MVAR LINE REACTOR of 400 KV RANCHI-MAITHAN RB-1 LINE (SWITCHABLE ) | 22/02/20 | 9:30  | 22/02/20 | 17:00 | ODB | POWERGRID ER-I            | AMP. LINE WILL REMAIN CHARGE WITHOUT LINE REACTOR   |           |   |
| 608 | 400 KV Bus 1 AT MOTIHARI  | 22/02/20 | 08:00 | 23/02/20 | 18:00 | OCB | POWERGRID ER-I            | Interconnection of Extension Bus ( By POWERGRID)to existing Bus (DMTCL)                                       | DMTCL     |   |
| 609 | 220KV Jamshedpur-Jindal Tie   | 22/02/20 | 08:00 | 22/02/20 | 17:30 | ODB | GOMD-III, DVC, Jamshedpur | Hardware Checking work at loc no.227,234,235,240  | GRIDCO    |   |
| 610 | 66 KV Bay(Bay 606) of Lagyap(LLHP) Line at Gangtok                    | 22/02/20 | 09:00 | 22/02/20 | 14:00 | ODB | ER-II, POWERGRID          | For AMP work  |           |   |
| 611 | 765KV SKLM Ckt-1, TIE BAY 728   | 22/02/20 | 09:00 | 22/02/20 | 18:00 | ODB | ER-II/Odisha/Angul SS     | AMP Work  | NLDC      |   |
| 612 | 416 Main Bay (400 kV ICT-I ) at Gaya                                  | 22/02/20 | 09:00 | 22/02/20 | 18:00 | ODB | ER-I                      | For AMP work  |           |   |
| 613 | Main Bay of 400KV Bus Reactor-1 (415-52) at New Purnea                | 22/02/20 | 09:00 | 22/02/20 | 12:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 614 | Main Bay of 400KV Malda-1 (416-52) at New Purnea                      | 22/02/20 | 12:00 | 22/02/20 | 15:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 615 | Tie Bay of 400KV Malda-1 & Bus Reactor-2 (417-52) at New Purnea       | 22/02/20 | 15:00 | 22/02/20 | 18:00 | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |   |
| 616 | 205 bay Bus coupler AT PATNA  | 22/02/20 | 09:00 | 23/02/20 | 0.75  | OCB | POWERGRID ER-I            | AMP & CB Overhauling & BCU updation works under SS03 package  |           |   |
| 617 | 400KV Maithon-Right Bank #II  | 23/02/20 | 08:00 | 08/03/20 | 18:00 | OCB | ER-II, POWERGRID          | Re conducting work  | MPL       | Subject to availability of rest 3 lines |
| 618 | A/R of 400KV Maithon-Right Bank #I                                    | 23/02/20 | 08:00 | 08/03/20 | 18:00 | ODB | ER-II, POWERGRID          | MTN RB Ckt-I will be kept in NON-Auto during Re conducting in MTN RB Ckt-II for safety measure.               |           |   |
| 619 | 220 KV Main Bus-I at Subhasgram                                       | 23/02/20 | 09:00 | 23/02/20 | 17:00 | ODB | ER-II, POWERGRID          | AMP of 220 KV Main Bus-I at Subhasgram SS   | WB        |   |
| 620 | 63 MVAR Bus Reactor   | 23/02/20 | 09:00 | 23/02/20 | 18:00 | ODB | ER-II/Odisha /Jeyapore    | AMP of 63 MVAR Bus Reactor & CSD testing  |           |   |
| 621 | 80 MVAR Bus Reactor at Duburi SS                                      | 23/02/20 | 09:00 | 23/02/20 | 17:30 | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   | GRIDCO    |   |
| 622 | 765kv/400kv ,1500MVA ICT-3  | 23/02/20 | 08:30 | 23/02/20 | 20:00 | ODB | ER-II/Odisha/Sundergarh   | Spare Changeover & LA Stool arrangement work  | NLDC      |   |
| 623 | 400KV 125VAR Bus Reactor 4 at Biharshariff                            | 23/02/20 | 10:00 | 24/02/20 | 18:00 | ODB | POWERGRID ER-I            | Relay Retrofitment and AMP WORK   |           |   |
| 624 | 400KV Pusauli- Daltonganj Line-1                                      | 23/02/20 | 9:00  | 14/03/20 | 18:00 | OCB | POWERGRID ER-I            | Rectification of Tower No:- 170 of Pusauli- Nabinagr D/C Line having critical leg bend                        |           |   |
| 625 | 400KV Pusauli-Nabinagar Line-1  | 23/02/20 | 9:00  | 26/03/20 | 18:00 | OCB | POWERGRID ER-I            | Rectification of Tower No:- 170 of Pusauli- Nabinagr D/C Line having critical leg bend                        |           |   |
| 626 | 50 MVAR LINE REACTOR of 400 KV RANCHI-MAITHAN RB-2 LINE (SWITCHABLE ) | 23/02/20 | 9:30  | 23/02/20 | 17:00 | ODB | POWERGRID ER-I            | AMP. LINE WILL REMAIN CHARGE WITHOUT LINE REACTOR   |           |   |

|     |   |          |          |          |          |     |                           |   |        |  |
|-----|---|----------|----------|----------|----------|-----|---------------------------|---|--------|--|
| 627 | 400KV Baripada-Keonjhar Line                                | 23/02/20 | 09:00    | 23/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | Replacement of faulty insulator   |        |  |
| 628 | 220KV Main Bay of 400/220kv 315MVA ICT 3 at Biharsharif     | 23/02/20 | 11:00    | 23/02/20 | 13:00    | ODB | POWERGRID ER-I            | Compressor Overhauling of CB  |        |  |
| 629 | 411 Bay(Sasaramm line-2 tie bay) AT DALTONGANJ              | 23/02/20 | 09:30    | 23/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |        |  |
| 630 | 132KV S/C Maithan Hydel - Jamtara                           | 24/02/20 | 08:00    | 25/02/20 | 18:00    | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # II Line   | JSEB   |  |
| 631 | 220 KV Main Bus-II at Subhasgram                            | 24/02/20 | 09:00    | 24/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Remaining AMP of 220 KV Main Bus-II at Subhasgram SS  | WB     |  |
| 632 | 220 KV S/C Arambagh-Rishra TL                               | 24/02/20 | 08:00    | 24/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Stringing b/w AP 36/0 to 37/0 of 765 KV D/C Medinipur-Jeerat TL over existing 220 KV S/C Arambagh-Rishra Transmission line (WBSETCL)  | WB     |  |
| 633 | 400kv D/C IB-OPGC-Jharsuguda(Sundargarh) Ckt-1              | 24/02/20 | 09:00    | 24/02/20 | 18:00    | ODB | OGPTL                     | AMP Work  |        |  |
| 634 | Bus bar-1 at Indravati                                      | 24/02/20 | 09:00    | 24/02/20 | 18:00    | ODB | ER-II/Odisha/Indravati    | AMP works of Bus-1  | GRIDCO |  |
| 635 | 220KV Balangir-Kantapali line                               | 24/02/20 | 09:00    | 24/02/20 | 18:00    | ODB | ER-II/Odisha/Balangir     | AMP for 203 52CB & 203 CT   | GRIDCO |  |
| 636 | 765kv/400kv ,1500MVA ICT-4                                  | 24/02/20 | 08:30    | 24/02/20 | 20:00    | ODB | ER-II/Odisha/Sundergarh   | Spare Changeover & LA Stool arrangement work  | NLDC   |  |
| 637 | 765 KV Sundargarh-NTPC (Darlipali) #2                       | 24/02/20 | 8:00     | 24/02/20 | 18:00    | ODB | ER- II/ODISHA/SUNDERGARH  | TL Maintenance works  | NLDC   |  |
| 638 | 80MVAR Bus Reator   | 24/02/20 | 09:00    | 24/02/20 | 18:00    | ODB | ER-II/Odisha/Keonjhar     | Fne tuning of CSD of Tie Bay  |        |  |
| 639 | 400/220kv 500MVA ICT-2 at New Purnea                        | 24/02/20 | 12:00    | 24/02/20 | 15:00    | ODB | POWERGRID ER-I            | CT Oil Sampling of 220kv bay  |        |  |
| 640 | 400/220 KV 315 MVA ICT-1 AT RANCHI                          | 24/02/20 | 9:30     | 28/02/20 | 17:00    | OCB | POWERGRID ER-I            | Backup impedance relay installation (GE) & Replacement of 01 No 220 KV (Y-Ph) & 3 Nos 33 KV (R, Y & BPh) Bushings. 315 MVA ICT-1 WILL BE UNDER S/D SO LOAD WILL BE RESTRICTED TO 250 MW TO JUSNL THROUGH 315 MVA ICT-2. | JSEB   | SUBJECT TO GENERATION AVAILABILITY AT TENUGHAT |
| 641 | 765 KV B/R-2 AT 765/400 KV NEW RANCHI                       | 24/02/20 | 09:00    | 24/02/20 | 17:00    | ODB | POWERGRID ER-I            | AMP   | NLDC   |  |
| 642 | 400 KV Bus 2 AT MOTIHARI                                    | 24/02/20 | 08:00    | 25/02/20 | 18:00    | OCB | POWERGRID ER-I            | Interconnection of Extension Bus ( By POWERGRID)to existing Bus (DMTCL)   | DMTCL  |  |
| 643 | 400KV Baripada-Keonjhar Line                                | 24/02/20 | 09:00    | 24/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | Replacement of faulty insulator   |        |  |
| 644 | 66 KV Bay(Bay 605) of Bulbulay Line at Gangtok              | 24/02/20 | 09:00    | 24/02/20 | 14:00    | ODB | ER-II, POWERGRID          | For AMP work  |        |  |
| 645 | 765KV SKLM Ckt-2, MAIN BAY 726                              | 24/02/20 | 09:00    | 24/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS     | AMP work  | NLDC   |  |
| 646 | 404-main bay of 80MVAR Bus Reactor at Duburi SS             | 24/02/20 | 09:00    | 24/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   |        |  |
| 647 | Main Bay of 400KV Farakka (419-52) at New Purnea            | 24/02/20 | 09:00    | 24/02/20 | 12:00    | ODB | POWERGRID ER-I            | CT Oil Sampling   |        |  |
| 648 | Main Bay of 400KV Gokarna (422-52) at New Purnea            | 24/02/20 | 15:00    | 24/02/20 | 18:00    | ODB | POWERGRID ER-I            | CT Oil Sampling   |        |  |
| 649 | 400KV Main bay of AC filter North Side (CWD10Q52)           | 24/02/20 | 09:00    | 24/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP work  |        |  |
| 650 | 412 Bay(Main bay of 80 MVAR Bus Reactor) AT DALTONGANJ      | 24/02/20 | 09:30    | 24/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |        |  |
| 651 | 208 bay main bay sipara 1 AT PATNA                          | 24/02/20 | 09:00    | 25/02/20 | 18:00    | OCB | POWERGRID ER-I            | AMP & CB Overhauling & BCU updation works under SS03 package  |        |  |
| 652 | 220 KV BIRPARA-NEW SILIGURI Ckt-I                           | 25/02/20 | 08:00    | 25/02/20 | 17:30    | ODB | ER-II, POWERGRID          | Rectification of Damage Conductor, Displaced VD, Loose A/H  |        |  |
| 653 | 400KV Mejia - Jamshedpur                                    | 25/02/20 | 08:00    | 29/02/20 | 18:00    | ODB | ER-II, POWERGRID          | Insulator Replacement work  | DVC    |  |
| 654 | 400KV Bus-III AT MAITHON                                    | 25/02/20 | 10:00    | 25/02/20 | 19:00    | ODB | ER-II, POWERGRID          | Dismantling work of Bus isolator of 400kv RB-2 under ERSS-XVII project work   |        |  |
| 655 | 400 KV Jeerat Sagardighi Line                               | 25/02/20 | 09:00    | 25/02/20 | 17:00    | ODB | ER-II, POWERGRID          | A/R relay Retrofitting and Testing in 400 KV Jeerat Sagardighi Line.  | WB     |  |
| 656 | 220 KV S/C Arambagh-Rishra TL                               | 25/02/20 | 08:00    | 25/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Stringing b/w AP 36/0 to 37/0 of 765 KV D/C Medinipur-Jeerat TL over existing 220 KV S/C Arambagh-Rishra Transmission line (WBSETCL)  | WB     |  |
| 657 | 400 KV S/C Berhampore - Jeerat TL                           | 25/02/20 | 08:00    | 26/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Stringing b/w AP 138/0 to 139/0 of 765 KV Medinipur Jeerat TL over existing 400 KV S/C Berhampore - Jeerat TL   | WB     |  |
| 658 | 400KV D/C IB-OPGC-Jharsuguda(Sundargarh) Ckt-2              | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | OGPTL                     | AMP Work  |        |  |
| 659 | 400 KV Rourkela-SUNDARGARH#3 LINE                           | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | FOR DISMANTLING OF REACTOR BUSHINGS (SHUTDOWN BEING AVAILED AS CLEARANCE IS LESS)   |        |  |
| 660 | 765KV BUS-1   | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS     | AMP work  | NLDC   |  |
| 661 | 400/220KV ICT#2   | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | ER-II/Odisha/Indravati    | To topup the oil in ICT#2 Y-ph. During this shutdown Power flow from ICT#2 will be Interrupted.   | GRIDCO |  |
| 662 | 765KV Sundergarh-Raipur ckt-1 along with its LR             | 25/02/20 | 08:30    | 25/02/20 | 18:00    | ODB | ER-II/Odisha/Sundergarh   | MAIN2 RELAY MODIFICATION WORK & ISOLATOR ALLIGNMENT WORK  | NLDC   |  |
| 663 | 765 KV Sundargarh-NTPC (Darlipali) #1                       | 25/02/20 | 8:00     | 25/02/20 | 18:00    | ODB | ER- II/ODISHA/SUNDERGARH  | TL Maintenance works  | NLDC   |  |
| 664 | 400KV CBSA KGP 2 LINE AT CHAIBASA                           | 25/02/20 | 9:30     | 25/02/20 | 17:30    | ODB | POWERGRID ER-I            | Top up of transformer Oil in 63 Mvar Line reactor.  |        |  |
| 665 | 220 KV BUS-2 AT MUZAFFARPUR                                 | 25/02/20 | 9:30     | 26/02/20 | 17:30    | ODB | POWERGRID ER-I            | BUS AMP WORK  | BSEB   |  |
| 666 | 400KV ICT#2 Main Bay (403) at OHPC S/Y                      | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | ER-II/Odisha/Indravati    | AMP works of 400KV ICT#2 Main Bay (403) at OHPC S/Y. During this shutdown Power flow from ICT#2 will be Interrupted.  |        |  |
| 667 | 220KV ICT#2 Main Bay (205) at OHPC S/Y                      | 25/02/20 | 09:00:00 | 25/02/20 | 18:00:00 | ODB | ER-II/Odisha/Indravati    | AMP works of 220KV ICT#2 Main Bay (205) at OHPC S/Y. During this shutdown Power flow from ICT#2 will be Interrupted.  |        |  |
| 668 | 40304-Tie bay of Duburi-BPD line & Bus Reactor at Duburi SS | 25/02/20 | 09:00    | 25/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   |        |  |
| 669 | 400 KV, 125 MVAR BR # 1 Main Bay (Bay No-410)               | 25/02/20 | 09:00    | 25/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | AMP Work  |        |  |

|     |  |          |          |          |          |     |                           |   |           |
|-----|--|----------|----------|----------|----------|-----|---------------------------|---|-----------|
| 670 | 400KV 404 BAY AMP  | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | ER-II/Odisha/Keonjhar     | AMP WORKS.Shutdown shall be taken if not availed in JAN'20.   |           |
| 671 | 415 Main Bay (400 kV Chandwa-Gaya Ckt -I ) at Gaya                               | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | ER-I                      | For AMP work  |           |
| 672 | Tie Bay of 400KV Farakka & Bihar Shariff-2 (420-52) at New Purnea                | 25/02/20 | 09:00    | 25/02/20 | 12:00    | ODB | POWERGRID ER-I            | CT Oil Sampling   |           |
| 673 | 400KV Main Bay of HVDC (CWD50Q51)  | 25/02/20 | 09:00    | 25/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP work  |           |
| 674 | 210 Bay(Latehar Line-2 Bay) AT DALTONGANJ  | 25/02/20 | 09:30:00 | 25/02/20 | 17:30:00 | ODB | POWERGRID ER-I            | Bay AMP   |           |
| 675 | 220 KV Alipurduar - Birpara Ckt II   | 26/02/20 | 00:00    | 27/02/20 | 00:00    | ODB | ER-II, POWERGRID          | CLR Insulator replacement in Crossings  |           |
| 676 | 220 KV BIRPARA-NEW SILIGURI Ckt-II   | 26/02/20 | 08:00    | 26/02/20 | 17:30    | ODB | ER-II, POWERGRID          | Rectification of Damage Conductor, Displaced VD, Loose A/H  |           |
| 677 | 220 KV Maithon-Dhanbad I&II  | 26/02/20 | 08:00    | 27/02/20 | 18:00    | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # IIIline                                   | DVC       |
| 678 | 132 KV D/C Jeerat - Bonga TL   | 26/02/20 | 08:00    | 27/02/20 | 17:00    | ODB | ER-II, POWERGRID          | ringing b/w AP 24/0 to 25/0 of 400 KV Jeerat(New)- Subhasgram TL over existing 132 KV D/C Jeerat - Bonga TL | WB        |
| 679 | 220 KV Bus #1 with Siliguri #1, ICT#1, Birpara#1 & Bus Section-I at Binaguri     | 26/02/20 | 09:00    | 27/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Commissioning of Bus #1 Bus bar protection for ICT#3 ERSS-XVII  | WB        |
| 680 | 400 KV Rourkela-SUNDARGARH#2 LINE  | 26/02/20 | 09:00    | 26/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | LINE AMP WORKS  |           |
| 681 | 765KV Raipur ckt-2 along with its LR   | 26/02/20 | 08:30    | 26/02/20 | 18:00    | ODB | ER-II/Odisha/Sundergarh   | MAIN2 RELAY MODIFICATION WORK & ISOLATOR ALLIGNMENT WORK  | NLDC      |
| 682 | 400 kV Meramundali - Vedanta Ckt-II  | 26/02/20 | 08:00    | 26/02/20 | 17:00    | ODB | GRIDCO                    | For line & bay maintenance work   |           |
| 683 | 220KV Future line-IV BAY (209 BAY )  | 26/02/20 | 09:00    | 26/02/20 | 18:00    | ODB | ER-II/Odisha/Balangir     | AMP for 209 52CB & 209 CT   |           |
| 684 | 40852- Tie Bay of Duburi line & Jamshedpur line                                  | 26/02/20 | 09:00    | 26/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   |           |
| 685 | 723 Tie Bay of 765KV Sundargarh-Dharamjaygarh ckt-2 & 765KV NTPC Darlipalli ck-1 | 26/02/20 | 09:00    | 29/02/20 | 18:00    | OCB | ER-II/Odisha/Sundergarh   | SIEMENS Centre guide valve modification work in Mechanism drive and AMP                                     | NLDC      |
| 686 | 400KV 406 BAY AMP  | 26/02/20 | 09:00    | 26/02/20 | 18:00    | ODB | ER-II/Odisha/Keonjhar     | AMP WORKS.Shutdown shall be taken if not availed in JAN'20.   |           |
| 687 | 417 Tie Bay (400 kV Chandwa-Gaya Ckt -II ) at Gaya                               | 26/02/20 | 09:00    | 26/02/20 | 18:00    | ODB | ER-I                      | For AMP work  |           |
| 688 | Main Bay of 400KV Muzaffarpur-1 (409-52) at New Purnea                           | 26/02/20 | 09:00    | 26/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP WORKS   |           |
| 689 | 208 Bay(Latehar Line-1 Bay) AT DALTONGANJ  | 26/02/20 | 09:30    | 26/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |           |
| 690 | 210 bay main bay sipara 2 AT PATNA   | 26/02/20 | 09:00    | 27/02/20 | 18:00    | OCB | POWERGRID ER-I            | AMP & CB Overhauling & BCU updraton works under SS03 package  |           |
| 691 | 765kV D/C Jharsuguda(Sundargarh)-Raipur pool CKT-1                               | 27/02/20 | 09:00    | 27/02/20 | 18:00    | ODB | OGPTL                     | Annual line maintenance and Jumper Rectification work   | NLDC      |
| 692 | 765KV BUS-2  | 27/02/20 | 09:00    | 27/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS     | AMP work  | NLDC      |
| 693 | Bus bar-2 at Indravati   | 27/02/20 | 09:00    | 27/02/20 | 18:00    | ODB | ER-II/Odisha/Indravati    | AMP works of Bus-2  | GRIDCO    |
| 694 | 220KV Bus-II   | 27/02/20 | 09:00    | 27/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | Isolator alignment work   | GRIDCO    |
| 695 | 765 kV BR-I at Gaya  | 27/02/20 | 09:00    | 27/02/20 | 18:00    | ODB | ER I                      | For AMP work  | NLDC      |
| 696 | 400 kV Patna-Barh CKT3   | 27/02/20 | 09:00    | 27/02/20 | 17:30    | ODB | POWERGRID ER-I            | Replacement of porcelain insulator by polmer A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE                  |           |
| 697 | 66 KV Bay(Bay 607) of Tadong Line at Gangtok                                     | 27/02/20 | 09:00    | 27/02/20 | 14:00    | ODB | ER-II, POWERGRID          | For AMP work  |           |
| 698 | 403 Bay (315 MVA ICT#1 Main Bay) at Subhasgram                                   | 27/02/20 | 09:00    | 27/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Bay AMP Work  |           |
| 699 | 400 KV BR # 1 & Indravati Line Tie Bay (Bay No-411)                              | 27/02/20 | 09:00    | 27/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | AMP Work  |           |
| 700 | Main Bay of 400kV Kishanganj-1 (410-52) at New Purnea                            | 27/02/20 | 09:00    | 27/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP WORKS   |           |
| 701 | 765KV Main Bay of Fathehpur (707-Bay) AT PUSAULI                                 | 27/02/20 | 09:00    | 27/02/20 | 18:00    | ODB | POWERGRID ER-I            | AMP Work  | NLDC      |
| 702 | 211 Bay(220 KV Bus coupler Bay) AT DALTONGANJ                                    | 27/02/20 | 09:30    | 27/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |           |
| 703 | 213 main bay 220KV Fatuha line AT PATNA  | 27/02/20 | 09:00    | 28/02/20 | 18:00    | OCB | POWERGRID ER-I            | CB Overhauling & BCU updraton works under SS03 package  |           |
| 704 | 400KV Maithon-Durgapur I&II  | 28/02/20 | 08:00    | 29/02/20 | 18:00    | OCB | ER-II, POWERGRID          | PL Crossing during Re-conductoring work of Maithon - Right Bank # I Line                                    |           |
| 705 | 220 KV Bus #2 with Siliguri #2, ICT#2, Birpara#2 & Bus Section-II at Binaguri    | 28/02/20 | 09:00    | 29/02/20 | 17:00    | ODB | ER-II, POWERGRID          | Commissioning of Bus #2 Bus bar protection for ICT#3 ERSS-XVII  | WB        |
| 706 | 765kV D/C Jharsuguda(Sundargarh)-Raipur pool CKT-1                               | 28/02/20 | 09:00    | 28/02/20 | 18:00    | ODB | OGPTL                     | Annual line maintenance and Jumper Rectification work   | NLDC      |
| 707 | 125 MVAR 400 kV Bus Reactor 1  | 28/02/20 | 09:00    | 28/02/20 | 18:00    | ODB | ER-II/Odisha/Angul SS     | AMP work  |           |
| 708 | 500 MVA ICT III  | 28/02/20 | 09:00    | 28/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   | GRIDCO    |
| 709 | 765 kV BR-II at Gaya   | 28/02/20 | 09:00    | 28/02/20 | 18:00    | ODB | ER1                       | For AMP work  | NLDC      |
| 710 | 400KV Pusauli-Nabinagar Line-2   | 28/02/20 | 9:00     | 11/03/20 | 18:00    | OCB | POWERGRID ER-I            | Rectification of Tower No:- 170 of Pusauli- Nabinagr D/C Line having critical leg bend                      | NABINAGAR |
| 711 | 400 kV Patna-Barh CKT 4  | 28/02/20 | 09:00    | 28/02/20 | 17:30    | ODB | POWERGRID ER-I            | Replacement of porcelain insulator by polmer A/R OF OTHER CKT TO BE PUT INTO NON AUTO MODE                  |           |
| 712 | 400KV MAIN BAY OF BR#1 (422)   | 28/02/20 | 09:00    | 28/02/20 | 18:00    | ODB | ER-II/ODISHA/ROURKELA     | FOR CHANGING COMPRESSOR   |           |
| 713 | 220KV Transfer BUS BAY (210 BAY)   | 28/02/20 | 09:00    | 28/02/20 | 18:00    | ODB | ER-II/Odisha/Balangir     | AMP for 210 52CB & 210 CT   |           |
| 714 | 101 Bay(160 MVA AVR-2 IV Side bay) AT DALTONGANJ                                 | 28/02/20 | 09:30    | 28/02/20 | 17:30    | ODB | POWERGRID ER-I            | Bay AMP   |           |
| 715 | 765kV D/C Jharsuguda(Sundargarh)-Raipur pool CKT-1                               | 29/02/20 | 09:00    | 29/02/20 | 18:00    | ODB | OGPTL                     | Annual line maintenance and Jumper Rectification work   | NLDC      |
| 716 | 125MVAR Bus Reactor-I  | 29/02/20 | 09:00    | 29/02/20 | 17:30    | ODB | ER-II/Odisha/BARIPADA S/S | AMP works   |           |
| 717 | 66 KV Bay( Bay 604) of Sherathang Line at Gangtok                                | 29/02/20 | 09:00    | 29/02/20 | 14:00    | ODB | ER-II, POWERGRID          | For AMP work  |           |
| 718 | 400 KV , 125 MVAR Bus Reactor # 2 Tie Bay  | 29/02/20 | 09:00    | 29/02/20 | 17:00    | ODB | ER-II/Odisha/Rengali      | AMP Work  |           |