



Minutes for **162nd OCC Meeting**

Date: 05.11.2019
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

Eastern Regional Power Committee

Minutes for 162nd OCC Meeting to be held on 22nd October, 2019 at ERPC, Kolkata

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

Item no. 1: Confirmation of minutes of 161st OCC meeting of ERPC held on 20.09.2019

The minutes of 161st OCC meeting were uploaded in ERPC website and circulated vide letter dated 01.10.2019 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

ERLDC vide mail dated 14th October 2019 had requested for amendments to the minutes of item nos. B2, B5 and B11.

ERLDC requested for following modification in the deliberations of Item No. B2 for better understanding. The details are given below:

“NTPC has informed that the 400 kV Bus split is ready for operationalization at 400 kV Kahalgaon. But two 400/132kV ICTs are to be erected for the new bus section at 400 kV Kahalgaon and the ICTs are yet to be delivered.

NTPC added that the entire station is already operating with only one 400/132kV ICT, the other being under major breakdown. NTPC thus requested other constituents to spare a 400/132kV ICT temporarily for an interim arrangement at 400 kV Kahalgaon and expressed difficulty in operationalizing the split bus arrangement till 2 nos 400/132kV ICTs for each of the bus sections are available.”

ERLDC requested for modification in Item No. B5 which is as given below:

“OCC appreciated the ERLDC proposal.

Member Secretary, ERPC informed that investment made in strengthening of towers should be recovered through tariff. Clear guidelines need to be formulated by the competent authorities for this. It was decided by OCC to raise this issue in the TCC and ERPC meetings so that a definite proposal could be forwarded to CEA and CERC.

OCC advised POWERGRID, ENICL, DMTCL, ATL and other ISTS licensees whose transmission line towers are prone to be affected by change of river course and flooding of river banks, should furnish a detail list of such tower locations together with tower types and tentative cost for constructing pile foundations for the towers to ERPC and ERLDC so that a detail agenda could be placed in TCC and ERPC Meeting.”

ERLDC requested for addendum in the minutes which was inadvertently not minuted under Item No. B11. The details are as given below:

“BSPTCL assured that requisite SEMs would be installed in 3-4 days and their details would be communicated to ERLDC.”

OCC confirmed the minutes of 161st OCC Meeting with the above amendments and addendum.

PART A : ER GRID PERFORMANCE

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

The average consumption of Eastern Region for September- 2019 was 450 Mu. Eastern Region energy consumption reached a monthly maximum of 489 Mu on 16th September - 2019. Total Export schedule of Eastern region for September- 2019 was 2162.9 Mu, whereas actual export was 1984.3 Mu.

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

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

Member may discuss.

Deliberation in the meeting

ERLDC presented the performance of the Eastern Regional Grid during September 2019.

ERLDC presented a detailed analysis of the drawl pattern of the Eastern Regional constituents. It emerged from the presentation that Odisha had overdrawn from the Grid for significant times. Odisha informed that the overdrawl was due to consideration of OPGC U-4 as a regional entity by ERLDC which SLDC is scheduling as an intra-state generator. If OPGC U-4 schedule and actual is included within Odisha, the overdrawl will be within considerable limit.

ERLDC added that NTPC, Farakka and GMR had been continuously under generating w.r.t. their schedule. Farakka Stg-I & II is being scheduled up to its DC during peak but the station is not able to achieve actual generation as per DC during peak.

GMR informed that they are now maintaining the schedule from 1st October 2019 and ERLDC also confirmed the same.

NTPC informed that due to wet and poor quality of coal they were unable to maintain the generation as per DC.

MS, ERPC informed that, from the definite pattern of generation, it emerged that Farakka is consistently not generating as per the DC. He informed that such generation pattern against schedule could be construed as gaming and is a gross violation of grid discipline. Farakka should revise the DC well in advance, if they felt they would not be able to generate as per the schedule.

Odisha submitted that the beneficiaries are suffering due to unfaithful declaration of DC. OCC noted the observation.

OCC advised Farakka to declare the DC faithfully. OCC decided to review the status of under injection of GMR and Farakka in next OCC Meeting.

Farakka, NTPC assured that the problem of under injection will be taken care of by next OCC meeting.

ERLDC informed that high voltage had been observed at Patna and Barh 400kV Buses. ERLDC added that the reactive power performance of Barh STPS is not satisfactory during high voltage. The performance can be improved as the margin is available for absorbing more VAR during high voltage.

ED, ERLDC informed that shutdown of reactors will not be given from 15th November onwards.

Item no. A2: Presentation on restoration of OPTCL transmission system after the cyclone FANI

In 161st OCC, OPTCL gave a brief presentation on devastation of OPTCL transmission system during FANI cyclone and the restoration of the transmission lines.

OCC advised OPTCL give a detailed presentation on restoration of OPTCL transmission system in next OCC Meeting for the benefit of other constituents.

Odisha may give a presentation.

Deliberation in the meeting

*OPTCL gave a detailed presentation on the restoration of the transmission lines due to FANI cyclone. The presentation is enclosed at **Annexure-A2**.*

OCC highly appreciated the efforts made by Odisha in normalizing the system. This has set an example for the other to follow.

MS, ERPC also advised OPTCL to give a detailed presentation on devastation of OPTCL transmission system during FANI cyclone and the restoration of the transmission lines in the seminar to be hosted by NPTI in January 2020.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Operationalization of 400 kV Durgapur Bus Splitting Scheme

The following decisions were taken in 161st OCC meeting:

- As suggested by ERLDC, all the ICTs at Durgapur PG shall be kept in service to meet the Puja demand.
- However, ERLDC shall take necessary decision on real time basis keeping in view the security and reliability of the grid.
- DVC shall carry out a detailed study on power flow pattern through the ICTs with present and future network condition and submit the details to ERPC and ERLDC for further deliberation.
- Separate meeting with representatives from Powergrid, CTU, DVC, WBSETCL, ERLDC and ERPC shall be convened at ERPC for further course of action.

Members may discuss.

Deliberation in the meeting

OCC advised DVC to carry out a detailed study on power flow pattern through the ICTs with the present and future network condition and submit the details to ERPC and ERLDC at the earliest for further deliberation. Thereafter, a separate meeting with representatives from Powergrid, CTU, DVC, WBSETCL, ERLDC and ERPC shall be convened at ERPC to decide further course of action for both short term and long term.

OCC decided that existing arrangement will be continued till further decision on this issue takes place in the above meeting.

Item No. B.2: Outage of important transmission lines

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

In 161st OCC, Powergrid informed that 400 kV Kishenganj-Patna D/C lines would be restored by end of March 2020.

Deliberation in the meeting

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

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

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

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

In 161st OCC, ENCIL 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.

Deliberation in the meeting

ENICL informed that 400 kV Purnea-Biharshariff D/c would be restored by 30th November 2019.

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

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

3. 400 kV Barh-Motihari D/C and 400 kV Barh-Gorakhpur D/C lines

In 161st OCC, ERLDC informed that 400 KV Gorakhpur –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.

After detailed deliberation, it was emerged that one circuit of 400 KV Barh–Motihari(DMTCL) –D/C line could be restored as 400 KV Barh–Motihari(DMTCL) line and other circuit could be directly connected to Gorakhpur as 400 KV Barh-Gorakhpur line so that Barh STPS generation could be evacuated safely.

Subsequently it has been reported that on 7th Oct 2019 tower no 25/5 of Motihari-Barh got collapsed due to which temporary restoration of 400kV Barh-Motihari line as planned, now seems 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) on urgent basis to maintain reliability of ER – NR inter regional corridor and safe evacuation of Barh STPS power.

Members may update.

Deliberation in the meeting

DMTCL informed that they are working on the restoration plan.

BSPTCL informed that DMTCL has not yet prepared the restoration plan. As a result they are facing power shortage at Motihari. BSPTCL requested DMTCL to restore 400 KV Barh–Motihari(DMTCL) –D/C line at the earliest.

OCC advised DMTCL to submit a detailed plan for restoration in the special meeting to be held at ERPC Kolkata on 24th October 2019.

Item No. B.3: Implementation of 400 kV Rangpo-Binaguri SPS Scheme for Contingent Measures --ERLDC

400 kV Rangpo-Kishanganj and 400 kV Teesta3-Kishanganj circuit from TVTPL have shown poor availability due to multiple forced outage over the last few months. Under such condition 400 kV Rangpo-Bingauri D/C with power flow limitation of 1700 MW had been used for evacuation of Sikkim Hydro complex. The old SPS on these lines in the mean time was used for 400kV Rangpo-Kishanganj line (with a different logic) to avoid loading of one Rangpo-Binaguri line beyond its thermal limit in the event of outage of the other circuit of Teesta III – Kishanganj. Last month during contingency of 400 kV Rangpo-Kishanganj and 400 kV Teesta3-Kishanganj Power from 400kV Rangpo towards Binaguri was evacuated in split-bus mode due to unavailability of old SPS at Rangpo. Subsequently, as a precautionary measure, to operate the system under contingency of 400 kV Rangpo-Kishanganj and 400 kV Teesta3-Kishanganj, SPS for Rangpo-Binguri line has been re-wired with bus coupled at Rangpo to evacuate 1700 MW power. The SPS will remain disabled in case the 400 kV Rangpo-Kishanganj S/C, 400 kV Teesta3-Kishanganj S/C and 400 kV

Rangpo-Bingauri D/C are in service. The SPS will be enabled under contingency of both circuits of TVTPL.

In 161st OCC, Powergrid informed that SPS at Rangpo is ready and it can be put in service as and when required.

OCC decided to keep the SPS in standby mode and the SPS shall be in service under any outage of TVTPL lines.

Members may update.

Deliberation in the meeting

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, TVTPL 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.

Item No. B.4: Evacuation of Dikchu HEP Generation during any Transmission Constraint-TUL

Teesta Urja Limited (TUL) vide letter dated 23rd September 2019 informed that LILO of one circuit of 400kV D/C Teesta III-Kishanganj line at Dikchu was allowed by CERC as an interim arrangement depending upon margin available in the transmission system. TUL added that the construction of permanent evacuation path for Dikchu HEP was not yet awarded.

TUL requested ERPC Secretariat to take up the issue of construction of permanent evacuation path for Dikchu HEP with Sneha Kinetic Power Projects Pvt. Ltd. TUL also requested to ensure evacuation Teesta III HEP generation over Dikchu HEP generation during any transmission constraint.

The issue was communicated to Dikchu vide letter dated 3rd October 2019 and Dikchu was advised to attend 162nd OCC Meeting.

Members may discuss.

Deliberation in the meeting

Dikchu was not present in the meeting.

OCC agreed to accord higher priority to scheduling of generation from Teesta-III HEP of TUL than scheduling of generation from Dikchu in the event of any transmission constraint in ISTS corridor of Sikkim.

Item No. B.5: Data for preparation Load Generation Balance Report (LGBR) of ER for the year 2020-21

As per the IEGC, RPC Secretariat is responsible for finalization of the Annual Load Generation Balance Report (LGBR) for Peak as well as Off-peak scenarios and the annual outage plan for the respective region

To facilitate the preparation of LGBR of Eastern Region by ERPC Secretariat within the schedule period, the following data/information for the year **2020-21** in respect of the constituents/utilities of Eastern Region is urgently required:

- i) The unit wise and station wise monthly energy generation proposed from existing units during 2020-21 (thermal/hydro/RES).
- ii) Annual maintenance programme for each of the generating units (thermal and hydro both).
- iii) Generating units under R&M / long outage indicating date of outage and reasons of outage and expected date of return (thermal and hydro both).
- iv) Partial and forced outage figures (in %) of generating units for the last 3 years.
- v) Month wise peak demand (MW) – restricted and unrestricted peak demand.
- vi) Month wise off-peak demand (MW).
- vii) Month wise energy requirement (in MU).
- viii) Month wise & source wise power (both MU & MW) purchase and/or sale plan.
- ix) Schedule of commissioning of new generating units during 2020-21 and unit-wise monthly generation programme (in MU).
- x) Allocation of power from new generating units.
- xi) Month wise and annual planned outage of transmission system (Transmission lines 220kV and above / ICTs / Reactors/ other elements).

Information may please also be submitted in the form of soft copy through email (mail ID: **mserpc-power@nic.in / erpcjha@yahoo.co.in**).

In 161st OCC, all the utilities were advised to plan the load and generation properly for peak & off-peak of the year 2020-21 and submit the plan to ERPC.

NTPC requested to decide off peak months for better planning of their unit shutdown.

Based on the past few years data demand is less during November to March.

OCC advised NTPC to plan the overhauling of their units accordingly.

Members may furnish the above data.

Deliberation in the meeting

ERPC Secretariat informed that MPL, DVC, NHPC and WBPDCCL have already submitted the data. CESC, Bhutan, OPTCL and Bihar agreed to submit the data by next OCC meeting.

OCC requested all the other constituents to submit the data by 1st week of November for preparation of Load Generation Balance Report (LGBR).

Item No. B.6: Declaration of high demand / low demand season for 2020-21--ERLDC

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

“The capacity charge shall be recovered under two segments of the year, i.e. High Demand Season (period of three months) and Low Demand Season (period of remaining nine

months), and within each season in two parts viz., Capacity Charge for Peak Hours of the month and Capacity Charge for Off Peak Hours of the month”

“The number of hours of “Peak” and “Off-Peak” periods during a day shall be four and twenty respectively. The hours of Peak and Off-Peak periods during a day shall be declared by the concerned RLDC at least a week in advance. The High Demand Season (period of three months, consecutive or otherwise) and Low Demand Season (period of remaining nine months, consecutive or otherwise) in a region shall be declared by the concerned RLDC, at least six months in advance:

Provided that RLDC, after duly considering the comments of the concerned stakeholders, shall declare Peak Hours and High Demand Season in such a way as to coincide with the majority of the Peak Hours and High Demand Season of the region to the maximum extent possible”

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

Year	Months with highest net energy met
2016-17	April, July, August
2017-18	September, March, August
2018-19	August, July, June
2019-20 (LGBR)	August, September, July

Based on the detailed analysis, it is observed that net energy met by Eastern Region is high in the months of July, August and September. **Therefore, the months of July, August and September are selected as high demand season for the year of 2020-21 for the Eastern Regional Grid** and same has been posted in ERLDC’s website as well as communicated to all SLDCs vide letter no ERLDC/SO/148-Op.Cor./2595-2602 dated 01st October 2019. As no comments have been received from any constituent till date, so July, August and September are selected as high demand season for the year of 2020-21 for Eastern Region.

Members may discuss.

Deliberation in the meeting

ERLDC submitted that an exercise has been done for identification of high demand season for Eastern Region for 2016-17, 2017-18, 2018-19 and 2019-20 (as per draft LGBR for 2019-20). Based on the detailed analysis, it is observed that net energy met by Eastern Region is high in the months of July, August and September. Therefore, the months of July, August and September are selected as high demand season for the year of 2020-21 for the Eastern Regional Grid and the same has been posted in ERLDC’s website as well as communicated to all SLDCs vide letter no ERLDC/SO/148-Op.Cor./2595-2602 dated 01st October 2019. As no comments have been received from any constituent till date, so July, August and September are selected as high demand season for the year of 2020-21 for Eastern Region.

ERLDC clarified that peak (Max 4 hours) and off-peak hours (rest 20 hours) can be declared 7 days in advance.

ERLDC added that if a generating station’s major share allocation is in the other region, that region’s demand pattern has to be considered by the station for its availability determination.

MS, ERPC submitted that high demand/low demand seasons are based on Regional demand pattern rather than constituent wise demand pattern. If any constituent has any fruitful suggestions, it can be forwarded to ERLDC by 31st October 2019. But the final decision in this regard will be taken by ERLDC.

Item No. B.7: Implementation of Automatic Generation Control in Eastern Region--ERLDC

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 01st August 2019 and operationalized since 23rd August, 2019.

Vide order dated 28th 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.

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

NTPC informed that AGC had been successfully implemented at Barh Stage-II, NTPC. However some technical issues (like the net effective schedule (Base Schedule+AGC+RGMO) and ramp rates were crossing the technical limits of the generating units etc.) need to be addressed. Otherwise, this might hamper the healthiness of the units.

OCC decided to take up issue with NLDC and CERC for necessary action and advised NTPC to submit the details to ERPC and ERLDC.

Member may update.

Deliberation in the meeting

NTPC, Barh informed that they had submitted the details of technical issues being faced after implementation of AGC at Barh Stage-II to NLDC.

OCC requested NTPC Barh to submit the details to ERPC and ERLDC.

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.

DVC submitted the plan for implementation of AGC at Mejia unit#8 as follows:

- Finalization of technical specification, vendors and estimation: 30th November 2019
- NIT 31th January 2020
- Order placement 30th March 2020
- Commissioning of AGC 31st July 2020

OPGC and SLDC, Odisha agreed to submit their plan by 1st week of November 2019.

Item No. B.8: Testing and Calibration of Special type Energy Meter--ERLDC

Availability Based Tariff, Interface Meters (Special Energy Meters) have been installed by CTU at the points of interconnection with Inter-State Transmission System (ISTS) for the purpose of energy accounting and billing. As per Central Electricity Authority (CEA) notification no. 502/70/CEA/DP & D dated 17.03.2006, all interface meters shall have to be tested at least once in five years using NABL accredited mobile laboratory or at any accredited laboratory. In this regard Clause 18(1) (b) of CEA (Installation and Operation of Meters) Regulations, 2006 state that:

Quote.....

All interface meters shall be tested at least once in five years. These meters shall also be tested whenever the energy and other quantities recorded by the meter are abnormal or inconsistent with electrically adjacent meters. Whenever there is unreasonable difference between the quantity recorded by interface meter and the corresponding value monitored at the billing center via communication network, the communication system and terminal equipment shall be tested and rectified. The meters may be tested using NABL accredited mobile laboratory or at any accredited laboratory and recalibrated if required at manufacturer's works.

.....Unquote

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).

Members may discuss.

Deliberation in the meeting

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.

Item No. B.9: Requirement of Bank details for sharing of net benefits accrued in National Pool Account towards SCED--ERLDC

Hon'ble Commission, vide order Petition No. 08/Sm/2019(Suo-Motu) dated 11th Sep'2019 has directed to share the net benefit accrued in the National Pool Account on account of SCED in the ratio of 50:50 between the SCED generator and the concerned beneficiaries on monthly basis. The relevant extract from order is quoted below:

Quote

".....share the net benefits accrued in the pool after adjusting compensation for part load operation of the generators in the ratio of 50:50 between the generators participating in SCED and the concerned beneficiaries / Discoms, on a monthly basis...."

Unquote

The benefits shall be shared in proportion of the scheduled energy from the SCED generator on monthly basis as per Regional Energy Account (REA). In this connection, it is required to share the bank details of all beneficiaries to POSOCO to facilitate payments to the beneficiaries on account of net benefits accrued in National Pool Account (SCED).

In this respect, NLDC communication along with format has been forwarded to all the beneficiaries on 25th September'2019 and reminders are also given to the beneficiaries. Till date, we have received communication from NVVN(Bangladesh), Bihar, Jharkhand, Gridco & POWERGRID(ER-2).

West Bengal, Sikkim, DVC & POWERGRID(ER-I) may update the status

Deliberation in the meeting

ERLDC informed that bank details from all the constituents had been received.

Item No. B.10: 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.

Members may discuss.

Deliberation in the meeting

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.

Item No. B.11: Non-commissioning of PMUs under URTDSM System--Powergrid

Under URTDSM project, 17 nos. PMUs could not be commissioned due to various reason as mentioned below:

- a. Bankruptcy/admin. issue : 2 PMUs (IPPS at Monnet & IndBharat)
- b. Non-availability of comn link : 5 PMUs (Sterlite IPP & JITPL IPP)
:2 PMUs at Tenughat
- c. Substation not ready : 3 PMU at Patraru:
- d. Non-confirm by KhSTPS: 5 PMUs (As per prev SCADA meeting, NTPC to intimate about completion of CT-PT interfacing and subsequent arrangement of gate-pass for further Commissioning by GE)

Apart from the above, PMUs at Talcher STPS and TTPS were integrated but following works are pending which is to be completed by NTPC:

- a) **Talcher STPS (5 PMU)** – Digital data interfacing pending. NTPC intimated that they will carry out the interfacing by their own. TSTPS, NTPC to convey the completion status.
- b) **TTPS (3 PMU)** – Digital interfacing not done due to unavailability of points. TTPS, NTPC to take up the interfacing by their own for completion of the pending works.
In 24th SCADA O&M meeting held on 14.08.2019, NTPC intimated that they will take necessary action for completion of the pending works. But till date the work is pending. NTPC to convey completion status.

As there is no change in status even after long period of waiting, pending completion of above, POWERGRID may be given go-ahead for submitting tariff petition based on the supply and works carried out in actual.

Members may discuss.

Deliberation in the meeting

It was decided to discuss the issues in 1st TeST meeting scheduled to be held on 24th October 2019.

Item No. B.12: Permission for OPGW laying in TLDP-NJP OPGW link under Fiber Optic Expansion Project (Additional Requirement)--Powergrid

In 27th ERPC meeting, OPGW laying on TLDP-NJP was approved based on advice of NLDC. Accordingly, tendering has been carried out and work order has been placed on party by POWERGRID. Tower schedule of 220KV TLDP-NJP TL has been provided by WBSETCL. However, they are yet to confirm towards the starting of work , permission of laying OPGW on 220KV TLDP-NJP TL & nomination of WBSETCL representative to issue the PTW.

The matter was also discussed in 24th SCADA O&M held on 14.08.2019 wherein WBSETCL intimated that they will look into the matter. But till date no response received from WBSETCL. WBSETCL to extend co-ordination in line with the agreement and approvals in ERPCs.

Members may discuss.

Deliberation in the meeting

OCC requested WBSETCL to give permission to work for laying OPGW in 220kV TLDP-NJP line at the earliest.

Item No. B.13: Information regarding ‘Upgradation of SCADA/RTUs/SAS in the Central sector stations and strengthening of OPGW network in Eastern Region’ Project—Powergrid

In 39th ERPC meeting held on 17th November-2018, it was decided that-

- a) Power Grid shall place a proposal before PSDF Committee for financing the above project from PSDF.*
- b) In case of non-availability of required funding from PSDF, the project shall be implemented by PowerGrid and the cost shall be recovered by Power Grid through tariff.*

Accordingly POWERGRID applied for financing of the above project through PSDF vide letter no C/LD&C/PSDF/19-20/1 dated 22.07.2019. Subsequently, NLDC (nodal agency for PSDF) has intimated vide letter ref. NLDC-PSDF/TEG-51st meeting/2019-20/143 dated 18.09.2019 regarding non-availability of PSDF Fund for the above project. Hence, it may be kindly recorded that POWERGRID has already initiated the Placement of LOA and execution of the project through tariff basis.

Members may note.

Deliberation in the meeting

Members noted.

Item No. B.14: Early commissioning of 125MVAR Bus Reactor at Subhasgram and 500MVA ICT-III at Maithon—Powergrid

Under ERSS-XX package, both 500MVA ICT-III at Maithon and 125MVAR Bus Reactor at Subhasgram is suspected to be commissioning in april, 2020. However material received at both the site and also considering the requirement of the grid that it is prudent to adding reactor in Subhasgram with definitely be beneficiary for upcoming winter. Again it is evident that, if S/D provided, entire commissioning activity of the supplied ICT-III at Maithon can be finished before summer season.

As such considering the present load scenario in Subhasgram and Maithon and flexibility in system it is proposed, that ahead of schedule commissioning of the subject ICT-III at Maithon and 125MVAR Bus Reactor at Subhasgram S/S may be agreed.

Members may discuss

Deliberation in the meeting

OCC agreed to the proposal of early commissioning of 125MVAR Bus Reactor at Subhasgram and 500MVA ICT-III at Maithon for the benefit of Eastern Region Grid.

Item No. B.15: Utilization of old 50MVA ICT-IV at Malda SS—Powergrid

Under ERSS-XX package, 01 No 220/132 KV, 50 MVA ICT has been upgraded by 160 MVA ICT at Malda S/S. As off now the transformer is kept at respective S/S. If any constituents require the same the transformer may be refurbished for future use otherwise POWERGRID will decide alternatives. The old ICT was commissioned way back in 1995 and removed from service w.e.f 24.07.2019.

Members may discuss.

Deliberation in the meeting

OCC advised all the constituents to submit the requisition to Powergrid in case they need 50 MVA, 220/132kV ICT.

West Bengal requested OCC to give them 7 days of time and they would revert back about the requirement of the spare 50MVA ICT.

Thereafter, WBSETCL confirmed that they don't need the 50 MVA spare ICT.

Item No. B.16: Replacement of old PLCC of ER--Powergrid

In Eastern Region, mostly the available links for 400 KV, 220 KV & 132 KV are either BPL or ABB make PLCC. As known to everybody, BPL make PLCC is obsolete and there are many maloperation history across the regions and almost in all constituents' area for PLCC itself.

For ABB make PLCC, also the old ETL-21 model first replaced by ETL-41 model in most places of POWERGRID however, it is observed that wherever the old PLCC panels are kept, due to problem of spare either the channels become unavailable or some maloperation takes place. Apart from maloperation, signal strength also varies according to length of the line and many times tuning problem observed for conventional PLCC.

Recently M/S. ABB has produced a letter stating the End of Life for following products:-

1. ETL-4X
2. ETL-8X.
3. NSD-50.
4. VFT Modem/NSK-5.
5. NSD 70-C/D.

As almost all the links are mostly populated by either old BPL (Model:-6515 or 9515) or ABB (ETL-21/41 & NSD-50), there are no option other than migration to upgraded DTPC (Digital Tele protection coupler). DTPC works through OPGW links & distance related issues also can be resolved, apart from support for ongoing spares. Related letter of M/S. ABB enclosed for reference.

For replacement from old PLCC to DTPC of different links, S/D is planned from November-19 to January-20 in phased manner. Details plan for each line will be submitted afterwards for further reference.

As this S/D is entirely planned for system improvement in view of obsolete technology, it is proposed consider the outages non-attributable to POWERGRID.

Members may discuss.

Deliberation in the meeting

OCC requested Powergrid to submit the detailed plan of replacement and deemed availability would be decided according to CERC regulations.

Item No. B.17: Additional agenda

1. Restoration of Collapsed Tower of 400 kV Teesta III – Kishanganj Transmission line:

TVTPL gave a detailed presentation on collapse of tower no. AP 254 of 400 kV Rangpo – Kishanganj line on 07.08.2019 and the restoration process. The presentation is enclosed at

Annexure-B17. TVTPL informed that other circuit i.e. 400 kV Teesta III – Kishanganj Line was taken shutdown on 09.08.2019 for restoration work of 400 kV Rangpo – Kishanganj line. Both the 400 kV Rangpo – Kishanganj Line and 400 kV Teesta III – Kishanganj Line were restored on 23.08.2019

TVTPL has requested to consider the outage period as deemed available.

OCC opined that such a request should be placed in time so that concerned members could visit the site for detail analysis.

MS, ERPC referred the issue to special meeting scheduled to be held at ERPC on 24th October 2019 for further deliberation.

He advised TVTPL to attend the meeting and present a detailed report comprising the following:

1. Government weather report of the cyclone.
2. Substantial data to prove that tower toppling was not due to design fault.
3. Reason for extending pre-committed restoration time of 3 days to 14 days.

PART C: ITEMS FOR UPDATE

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

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

Members may note.

Deliberation in the meeting

Members noted.

UFR Inspection Report of BSPTCL substations on 22.08.2019:

The ERPC UFR inspection group visited 132/33kV Digha, 132/33kV Mithapur and 132/33kV Gaighat substations of BSPTCL for UFR Audit on 22.08.2019. The team physically inspected the feeders which are connected with UFRs at the above sub-stations. The report of the inspection is furnished below:

Sl. No.	Name of the substations	Feeder connected with UFR	Voltage rating	Adopted UFR setting	Tested initiated frequency	UFR make
			(kV)	(Hz)	(Hz)	
1	132/33kV Digha	Pataliputra	33	49.0	49.0	AREVA Micom P127
2		Excise Colony	33	49.2	-	RMS 2H34K2
3		Digha-I	33	48.6	-	RMS 2H34K2
4		Digha-II	33	48.6	-	RMS 2H34K2
5	132/33kV Mithapur	Pesu-IV	33	48.8	48.8	AREVA Micom P142
6		Pesu-V	33	48.8	48.8	AREVA Micom P142
7	132/33kV Gaighat	Saidpur	33	48.6	48.59	SEL-351A
8		City Feeder	33	48.6	48.59	SEL-351A

The above UFR setting were tested with help of Secondary injection Kit owned by BSPTCL. During the inspection, the followings were observed:

Substation	Observation
132/33 kV Digha	For 33 kV Pataliputra feeder, the UFR is provided with direct trip wiring and the relay tripped at desired frequency. For all other three feeders, The UFR relays were not working as the relays got burned due to some DC fault in substation.
	33 kV Excise colony feeder consists of emergency loads like supply to Airport & Hospital etc.
132/33 kV Mithapur	The UFRs are provided with direct trip wiring and tripped at desired frequency.

	33 kV Pesu-V feeder was charged on no-load. It was found that the feeder was being used only in case of contingency.
132/33 kV Gaighat	The UFRs are provided with direct trip wiring and tripped at desired frequency

In 161st 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.

Bihar may explain.

Deliberation in the meeting

Bihar informed that they are in process of reviewing the UFR feeders and agreed to submit the revised list.

Item no. C.2: Status of Islanding Schemes healthiness installed in Eastern Region

At present, the following islanding schemes are in service:

1. CESC as a whole Islanding Scheme, CESC
2. BkTPS Islanding Scheme, WBPDC
3. Tata Power Islanding Scheme, Haldia
4. Chandrapura TPS Islanding Scheme, DVC
5. Farakka Islanding Scheme, NTPC
6. Bandel Islanding Scheme, WBPDC

In 108th OCC meeting, respective constituents agreed to certify that the islanding schemes under their control area are in service on monthly basis.

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

Members may note.

Deliberation in the meeting

Members noted.

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

The Status of healthiness certificate for September, 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	CESC	Nil

Members may update.

Deliberation in the meeting

Members noted.

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

The latest status along with proposed logic as follows:

SI No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 25.11.16	F <49.9 AND deviation > 12 % or 150 MW
2	DVC	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 17.06.2016	
3	Bihar	F <49.7 AND deviation > 12 % or 150 MW	They would place the order to Chemtrol for implementation.	F <49.9 AND deviation > 12 % or 150 MW
4	Jharkhand	1. System Frequency < 49.9 Hz AND deviation > 12 % or 25 MW 2. System Frequency < 49.9 Hz AND deviation > 12 % or 50 MW 3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW	In service from 21 st August 2019.	Condition 1: Block I feeders will be selected for load shedding Condition 2: Block I & II feeders will be selected for load shedding Condition 3: Block I, II & III feeders will be selected for load shedding
5	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months Sent for PSDF approval. 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 142nd OCC, it was opined that uniform logic should be implemented for all the states. OCC decided to review the logic of ADMS after implementation of the scheme by all the states.

In 160th OCC, BSPTCL informed that installation of ADMS had been completed and the testing would be done by 15th August 2019.

Members may update.

Deliberation in the meeting

BSPTCL informed that installation of ADMS had been completed and the testing would be done by 15th November 2019.

Odisha informed that tender had been floated for implementation of ADMS.

Item no. C.5: Review of the PSS Tuning of Generators in Eastern Region --ERLDC

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

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

Generating Power Plant	Remarks	Status of Action Plan to be informed to OCC
All Units of DVC Generating Plant	Oscillation Observed at DSTPS on 24 th April 2019 and other Oscillation events in the past.	<i>DVC submitted the plan for PSS tuning of each unit which is enclosed at Annexure-C5.</i>
Sikkim Hydro Complex (Teesta3, Teesta 5, Chujachen, Dikchu, Tashiding, Jorethang)	In view of Oscillation during the 16 th April 2019 events and changes in Network configuration in Sikkim hydro Complex with augmentation of lines	Teesta3: Oct 2019. Tuning activity is already in progress. Other Plants yet to send their details. ERLDC View: In view of Power swings and oscillation, all units are advised to go through PSS tuning in next three months.
MPL Plant	Due to Change in Network configuration due to bus splitting at Maithon.	MPL Unit-2: 14th June-2019 in the AOH. Will be done again. MPL Unit-1: Done on 3 rd Aug 2019
APNRL Plant	Oscillation with Low Damping during transient and switching observed at the plant.	Scheduled in November 2019
Farakka NTPC Power Plant	With Augmentation of new lines and changes in network configuration with upcoming bus split at Kahalgaon.	NTPC has not yet submitted the details. ERLDC View: They have informed that they will do during AOH however compliance of IEGC and CEA regulation must be ensured atearliest and PSS tuning of All Units must be completed within next 3 months.
NPGC/BRBCL/KBUNL 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	BRBCL has submitted PSS tuning details only for Unit 2. For other units' details to be submitted by NTPC.

Members may update.

Deliberation in the meeting

Members updated their status as mentioned in above table.

Item no. C.6: Update on status of telemetry

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

Major issues are given below:

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

In 159th OCC, ERLDC informed that PMU data available at ERLDC is intermittent due to communication issues and PMU data reporting from PDCs at SLDCs is also intermittent.

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

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

Non-Availability of SCADA data from Subarnarekha Hydro Power Station (one of the Black Start Capable station in Jharkhand)

Members may update.

Deliberation in the meeting

ERLDC presented the latest status of telemetry.

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

Item no. C.7: Transfer capability determination by the states

Latest status of State ATC/TTC declared by states for the month of January-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	--	Oct-19
2	JUSNL	1024	--	28	--	996	--	Dec-19
3	DVC	1446	3358	63	50	1383	3308	Feb-20
4	OPTCL	2454	--	86	--	1468	--	Jan-20
5	WBSETCL	3732	--	400	--	3332	--	Oct-19
6	Sikkim	295	--	2.5	--	292.5	--	Dec-19

As per the “Detailed Procedure for Relieving Congestion in Real Time Operation” Following has also been mandated for monitoring of Congestion in Real Time :

1. As all SLDCs of Eastern region are now declaring ATC/TTC, so, now it would be desirable to have the display for Eastern region where ATC/TTC calculated by states will be monitored in real time with actual drawal. Status of ATC/TTC Weblinks maintained by SLDCs is given below :

SLDC	ATC/TTC Weblink
Orissa	Dynamic Link for each month (Static Location for All months ATC/TTC to be kept for easy access)
Jharkhand	Web Link to be prepared by SLDC
Sikkim	Web Link to be prepared by SLDC

2. Utility wise present status of declaration of assumptions and LGBR used for ATC/TTC calculation and constraints in arriving at the TTC/ATC value based on the available online information are as follows:

SLDC	ATC/TTC Review
West Bengal	Constraints and Load/gen Assumption needs to be mentioned
Bihar	Constraints and Load/gen Assumption needs to be mentioned
Sikkim	Constraints and Load/gen Assumption needs to be mentioned

ERLDC may explain. Members may update.

Deliberation in the meeting

OCC advised all the SLDCs to provide/display the ATC/TTC figures in their respective websites along with the actual flows in their websites import / export in real time. The assumptions for TTC/ATC calculations and limiting constraint details should also be made available.

West Bengal and Bihar informed that they are placing the details of constraints and load/gen assumption details for recent months.

Item no. C.8: 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 th July 2019	Last Week of January 2020	
2	Maithon	1 st week of June 2019	Taken up only after replacing the governing systems of the units	1st Week of February 2020	
3	Rengali	2 nd week of June 2019	Done on 27 th June 2019	Last week of November 2020	
4	U. Indarvati	3 rd week of June 2019	1 st Week of November 2019	2nd week of February 2020	
5	Subarnarekha	1 st week of October 2019	Done 20 th August 2019	1st week of January 2020	
6	Balimela	3 rd week of October 2019	Done on 17 th July 2019	1st week of March 2020	Dec 2019
7	Teesta-V	2 nd week of May 2019	During winter	Last week of February 2020	
8	Chuzachen	Last Week of Dec 2019		Last week of February 2020	
9	Burla	Last Week of June 2019	Done on 20 th 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	

Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

Item no. C.9: Summary of Status Update on Previous agenda items in OCC

OCC	Agenda	Decision	Status Update
152	Item No. B3: Installation of PMUs for observation of the dynamic performance of STATCOMs	Powergrid informed that M/s GE had agreed to supply and install of 4 no's PMUs for 4 STATCOMs in the Eastern Region within the quantity variation clause under the existing URTDSM Project.	PMU for STATCOMS at Rourkela and Jeypore have been commissioned in Aug 2019. <i>Powergrid informed that material supplied at Ranchi and Kishanganj were damaged. New material would be supplied by November 2019.</i>
155	C.22: Collection of modeling data from Renewable as well as conventional energy generators: ERLDC	OCC advised all the constituents to submit the details of renewable power plants of 5 MW and above.	Format along with an explanation for collection of Wind and Solar Data had been shared by ERLDC with all SLDCs. Bihar/ West Bengal and Orissa are having Solar Plant with more than 5 MW capacity. However, details have not yet been received in terms of modeling data. OCC advised all the SLDCs to submit the details to ERPC and ERLDC.
156	Low frequency Oscillation at MTDC BNC-ALP-Agra	OCC Advised ERTS-2 to submit the analysis report to ERLDC/ERPC	159th OCC Powergrid informed that the issue was referred to ABB, Sweden. Powergrid informed that the report is yet to be received from ABB.
156	Item no. C.20: Updated Black Start and Restoration procedure of State--ERLDC	Bihar, Jharkhand, DVC, West Bengal and Orissa have submitted the updated restoration procedure.	Restoration procedure form Sikkim is yet to be received. Mail has been given by ERLDC to SLDC for early submission.
156	Item No. B.12: Status of Auto-Reclosure on Lines from Tala and Chukha Hydro Power Plant (Bhutan)	DGPC informed that an Expert Committee was constituted to enable the autorecloser for transmission lines connected to Tala and Chuka hydro stations. The Committee had recommended for implementation of the autorecloser at Tala and Chuka. DGPC added that they are planning to implement the autorecloser scheme for the transmission lines connected at Chuka by May 2019. Based on the experience gained, they would implement the autorecloser scheme for the transmission lines connected at Tala.	In 159 th 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 non-implementation of A/R at Tala end, a blackout at the station occurred in June 2019. In addition, in month of Aug also many times 400 kV lines successfully reclosed from Binaguri end. The experience on 220 kV Chukha-Birpara in the form of successful A/R has been observed on 25 th June 2019. DGPC has informed that after the deliberation in their group, they would be implementing the A/R at Tala by the end on August 2019. <i>DGPC informed that they are analyzing the performance of A/R at Chuka.</i>

160 OCC	Bypassing arrangement of LILO of 400kV Lines at Angul	Powergrid informed that bypass arrangement would be completed by end of August 2019. OPTCL informed that 2nd circuit of 400kV Meramundali-Mendhasal line would be commissioned by end of August 2019.	As per POWERGRID email dated 16 th September, the anticipated date for commissioning of the LILO by-pass arrangements at Angul SS is by end of Oct'2019 . <i>Powergrid informed that the bypassing arrangement would be completed by November 2019.</i>
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Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

Item no. C.10: 400 kV Split Bus operation of 400 kV Kahalgaon Substation --ERLDC

In the 158th OCC meeting, Bus split operation of 400 kV Kahalgaon substation has been discussed. NTPC has informed that the 400 kV Bus split is ready for operationalization in all aspects. NTPC and PGCIL have informed that the group setting for revised protection setting has been implemented w.r.t. Bus split arrangement at remote ends. OCC decided to monitor the power flows after putting the Durgapur bus splitting in service and further decision on putting the Kahalgaon bus splitting scheme in operation would be reviewed in next OCC Meeting.

The Durgapur Bus split trial has been demonstrated in 159th and 160th OCC meeting and results and power flow was presented to the members. It was observed that there is no constraint on the 400 kV network during normal bus split operation of Durgapur substation.

With these experiences of 400 kV Durgapur Bus split, it is desired that 400 kV Kahalgaon Bus split may be operationalized.

In 161st OCC, NTPC has informed that the 400 kV Bus split is ready for operationalization at 400 kV Kahalgaon. But two ICTs are to be erected at 400 kV Kahalgaon and the ICTs are yet to be delivered.

NTPC requested other constituents to spare the ICTs temporarily for an interim arrangement at 400 kV Kahalgaon.

OCC advised NTPC to submit the details to ERPC and ERLDC.

Members may update.

Deliberation in the meeting

OCC requested all the constituents to spare a 400/132kV ICT to NTPC, if available.

Item no. C.11: Transmission Constraint in the 220 kV System in Eastern Region—ERLDC

Constituents	Constraint list	Issues based on ATC/TTC case submission by States	Action Plan by Utilities/S LDC
West Bengal, DVC	220 kV Waria-Bidhan Nagar D/C	N-1 Contingency	

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	
Jharkhand, PGCIL	220 kV Hatia-Ranchi D/C	N-1 Contingency	
Bihar	220 kV Mujaffarpur-Hazipur D/C	N-1 Contingency	
Bihar,PGCIL	220 kV Patna-Sipara T/C	N-1 Contingency	
Bihar,PGCIL	220 kV Khagaul-Sipara S/C	Overload of 220 kV Khagaul-Sipara	
Bihar	220 kV Bodhgaya-Gaya D/C	N-1 Contingency	
Bihar	220 kV Hazipur-Amnour D/C	N-1 Contingency	

All Utilities may kindly share their short term and long term action plans to handle the aforesaid insecure situations.

In 161st OCC, all the utilities were advised to share their short term and long term action plans to remove the constraint to ERLDC.

Members may update.

Deliberation in the meeting

All the utilities were once again advised to share their short term and long term action plans to remove the constraint to ERLDC.

Item no. C.12: 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 month 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 161st OCC, all the constituents were advised to submit the details to ERLDC.

Members may update.

Deliberation in the meeting

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

Item no. C.13: Finalization Outage Request and processing timeline--ERLDC

The procedure for timeline regarding submission of outage request till approval of the outage formulated by ERLDC has been circulated and discussed in 156th OCC meeting held at NTPC, Kahalgaon. The same had also been presented in 157th OCC meeting held at ERPC, Kolkata for beneficiary's comments/suggestion. The procedure mentioned through a flow chart in **Annexure-C13** may be approved and minute unless any modification/suggestion recommended.

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

In 161st OCC it was informed that comments have been received only from Powergrid.

OCC advised all the other constituents to submit their comments to ERLDC at the earliest.

Members may decide.

Deliberation in the meeting

OCC finalized the outage request and processing timeline as given in Annexure-C13 considering all the days including Saturday, Sunday and holidays as 'D'.

ERLDC informed that it is difficult interact with SLDCs and other transmission licensees during Saturday, Sunday and holidays. The approval of shutdown is subjected to SLDCs and other transmission licensees clearance.

OCC advised all the SLDCs and transmission licensees to cooperate with ERLDC for giving the approval during Saturday, Sunday and holidays.

PART D:: OPERATIONAL PLANNING

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of November 19 were prepared by ERPC Secretariat on the basis of LGBR for 2019-20 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-D.1**.

Members may confirm.

Deliberation in the meeting

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

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

Generator shutdown for November 19:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
DVC	Mezia TPS	2	210	29.10.19	03.12.19	30	COH (Blr,Turb-RLA,Gen.)
WBPDC	Kolaghat TPS	2	210	01.08.19	31.03.20	30	R&M
		5	210	24.11.19	30.11.19	7	Boiler License renewal
		6	210	01.11.19	28.11.19	28	Boiler Overhauling
	Bandel TPS	5	215	12.11.19	18.11.19	7	Boiler License renewal
	BkTPS	3	210	01.11.19	10.11.19	7	Boiler License renewal
		1	210	16.11.19	05.12.19	15	Boiler Overhauling
	STPS	5	250	01.11.19	05.12.19	30	Capital Overhauling
CESC	BUDGE-BUDGE	1	250	10.11.19	14.11.19	5	Not Specified
		2	250	16.11.19	30.11.19	15	Not Specified
NTPC	KhSTPS	2	210	10.11.19	09.12.19	21	AOH
	FSTPS	3	200	04.11.19	18.12.19	27	Boiler acid cleaningDDCMIS R&M+HPT LPT
		6	500	01.11.19	05.12.19	30	Boiler +HPT LPT+IPT+GEN
	KUBNL, MTPS-II	3	195	15.11.19	20.12.19	16	LP rotor inspection,Boiler OH & Com.Modifi/NOX
	Barh	4	660	10.11.19	28.01.20	21	Boiler Modification
IPP	MPL	1	525	01.11.19	14.11.19	14	AOH

ERLDC may place the list transmission line shutdown discussed on 18th October 2019 through VC.

Members may confirm.

Deliberation in the meeting

Approved generator shutdown for November 19:

System	Station	Unit	Capacity (MW)	Period		No. of Days	Reason
				From	To		
WBPDC	BKTPS	1	210	16.11.19	05.12.19	15	Boiler Overhauling
	STPS	5	250	01.11.19	05.12.19	30	Capital Overhauling
CESC	BUDGE-BUDGE	1	250	01.11.19	08.11.19	8	Not Specified
		2	250	10.11.19	29.11.19	20	Not Specified
NTPC	KhSTPS	2	210	10.11.19	09.12.19	30	AOH
	FSTPS	3	200	06.12.19	19.01.19	45	Boiler acid cleaningDDCMIS R&M+HPT LPT
		5	500	18.10.19	17.11.19	30	Boiler +HPT LPT+IPT+GEN
	KUBNL, MTPS-II	4	195	15.11.19	20.12.19	16	LP rotor inspection,Boiler OH & Com.Modifi/NOX
	Barh	4	660	10.11.19	28.01.20	21	Boiler Modification
IPP	APNRL	2	270	7.11.19	30.11.19	23	Annual Maint. APNRL informed that they have intimated the schedule to the beneficiaries.

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

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

(i) Thermal Generating units:

S.No	Station	Location	Owner	Unit No	Capacity	Reason(s)	Outage
1	KOLAGHAT	WEST BENGAL	WBPDC	1	210	POLLUTION CONTROL PROBLEM	10-May-18
2	CTPS	JHARKHAND	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-17
3	DSTPS	WEST BENGAL	DVC	1	500	ANNUAL OVERHAUL	26-Aug-19
4	MEJIA	WEST BENGAL	DVC	4	210	BOILER LICENSE RENEWAL	6-Sep-19

5	JITPL	ODISHA	JITPL	1	600	PA Fan Duct leakage	7-Jul-19
6	GMR	ODISHA	GMR	1	350	COAL SHORTAGE	13-Sep-19
7	KOLAGHAT	WEST BENGAL	WBPDC	3	210	LOW DRUM LEVEL	15-Sep-19
8	KOLAGHAT	WEST BENGAL	WBPDC	5	210	OVER VOLTAGE PROTECTION TRIP	1-Oct-19
9	SANTALDIH	WEST BENGAL	WBPDC	6	250	FURNACE PRESSURE LOW	11-Oct-19
10	DPL	WEST BENGAL	WBPDC	7	300	P A FAN PROBLEM	8-Oct-19
11	WARIA	WEST BENGAL	DVC	4	210	INITIALLY FLAME FAILURE /LATER ON COAL SHORTAGE	26-Sep-19
12	MEJIA B	WEST BENGAL	DVC	8	500	COAL SHORTAGE	1-Oct-19
13	MEJIA	JHARKHAND	DVC	2	210	COAL FEEDING PROBLEM	22-Sep-19
14	BOKARO B	JHARKHAND	DVC	3	210	PROBLEM IN ASH POND	12-Sep-19
15	CTPS	JHARKHAND	DVC	8	250	GENERATOR FIELD EXCITATION FAILURE	10-Oct-19
16	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
		Unit-4	60	Annual Maintenance	15-09-2019
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
3	Chiplima	Unit-3	24	Renovation & Modernization work (Planned)	15-10-2015
4	Rengali	Unit-2	50	Capital Maintenance (Planned)	12-12-2018

It is seen that about 379 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 N O	Transmission Element / ICT	Agency	Outage From	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	400KV NEW PURNEA-BIHARSARIFF(PG)-D/C	ENICL	10-08-2018	TOWER COLLAPSE AT LOC 47/0
4	400 KV PATNA KISHANGANJ- I	POWERGRID	01-09-2018	TOWER COLLAPSE AT LOC 129. PILING DAMAGED
5	400 KV PATNA KISHANGANJ- II	POWERGRID	06-07-2019	EMERGENCY HAND TRIPPED DUE TO FRUSTUM OF LOCATION NO: 129A/0 (A LEG) HAS BEEN EXPOSED ON SOIL EROSION.
6	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.
7	400/132 KV, ICT II (200 MVA) AT KAHALGAON	NTPC	02-08-2019	Y PHASE BUSHING BURSTED
8	400 KV MOTIHARI(DMTCL)-GORAKHPUR-I	POWERGRID/DMTCL	13-08-2019	LINE SWITCHED OFF DUE TO ANTICIPATED TOWER COLLAPSE AT LOC 27/0(132) DUE TO CHANGE OF COURSE OF GANDAK RIVER.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	LINE SWITCHED OFF DUE TO ANTICIPATED TOWER COLLAPSE AT LOC 27/0(132) DUE TO CHANGE OF COURSE OF GANDAK RIVER.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	TOWER COLLAPSE AT LOCATION 26/0 AND 25/5
11	400 KV BARH-MOTIHARI(DMTCL) -II	POWERGRID/DMTCL	04-09-2019	TOWER COLLAPSE AT LOCATION 26/0 AND 25/5
12	FSC of 400kV Ranchi-Sipat DC at Ranchi end	POWERGRID	07-09-2019	Due to faulty card. As per PGCIL, faulty card has been replaced in 2019.

13	FSC of 400kV Jeypore-Bolangir at Bolangir end	POWERGRID	25-04-2019	Taken out by Powergrid asset management department
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(Reported as per Clause 5.2(e) of IEGC)

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

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

Members may update.

Deliberation in the meeting

Members noted.

PART E::ITEMS FOR INFORMATION

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

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

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

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

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

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

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

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

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

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

The substation wise status of compliance are available at ERPC website (Observations include PLCC rectification/activation which needs a comprehensive plan).

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

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

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

SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	400/220Kv 500 MVA ICT - 4 at Biharsharif	PGCIL	04-09-2019	18:00	FTC no load charged at 17:30hrs of 03/09/19

2	LILO of 220kV Arah-Sasaram(PG)-1 at Nadokhar	BSPTCL	08-09-2019	11:52	
3	400 kv tie bay of Kahalgaon 3 and Berhampur 1 at farakka	PGCIL	09-09-2019	12:50	Upgraded to 3000A
4	Mangdhechu U#3	MHPA	16-09-2019	12:30	
5	220kV Dumka-Govindpur-I	PGCIL	25-09-2019	17:35	
6	220kV Dumka-Govindpur- II	PGCIL	25-09-2019	17:35	
7	132kv Newtown AA3- Basirhat#2	WBSETC L	24-09-2019	20:24	D/C tower of route length 46.239 KM (ACSR panther)
8	132kv Newtown AA3-Basirhat#1	WBSETC L	27-09-2019	20:05	
9	132kv Ashoknagar-Basirhat#2	WBSETC L	28-09-2019	19:55	D/C tower of route Length 39.066 KM (ACSR panther)
10	132kv Ashoknagar-Basirhat#1	WBSETC L	30-09-2019	16:45	
11	160 MVA ICT IV at Malda	PGCIL	29-09-2019	11:14	
12	132kv Cochbehar-Dinhata line	WBSETC L	30-09-2019	16:15	LILO od 132kv Mathabhanga-Coachbihar-II
13	132kv Mathabhanga-Dinhata	WBSETC L	30-09-2019	16:16	

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

System frequency touched a maximum of 50.27 Hz at 08:04hrs of 05/09/19 and a minimum of 49.62 Hz at 18:50hrs of 09/09/19 & 18:44hrs of 18/09/19. Hence, no report of operation of UFR has been received from any of the constituents.

Participants in 162nd OCC Meeting of ERPC

Venue: ERPC Conference Hall, Kolkata

Time: 10:30 hrs

Date: 22.10.2019 (Tuesday)

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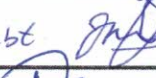






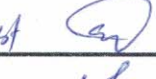
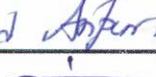

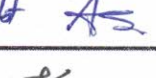
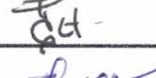
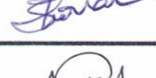
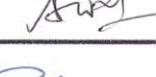

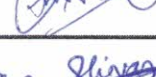

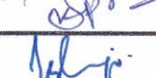
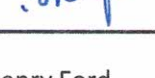
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Participants in 162nd OCC Meeting of ERPC

Venue: ERPC Conference Hall, Kolkata

Time: 10:30 hrs

Date: 21.10.2019 (Tuesday)

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Participants in 162nd OCC Meeting of ERPC

Venue: ERPC Conference Hall, Kolkata

Time: 10:30 hrs

Date: 22.10.2019 (Tuesday)

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Participants in 162nd OCC Meeting of ERPC

Venue: ERPC Conference Hall, Kolkata

Time: 10:30 hrs

Date: 22.10.2019 (Tuesday)

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Extremely Severe Cyclone (FANI) Effects on Power Infrastructure

Damage... Restoration.... & Lesson Learnt



OPTCL- ODISHA

P.K.Pattanaik

20th Sept. 2019

Out line.....

1. Introduction.
2. Extremely Severe Cyclone FANI in ODISHA.
 - Preparatory Action plan for Cyclone
 - Impact on Power Infrastructure.
 - Subsequent Actions of Restoration.
 - Challenges and Opportunities involved
 - Lesson Learnt.
3. Build-Back-Better Infrastructure.
4. SOP for Early Restoration.
5. Adoption of Innovative Technology.
 - Monitoring of Grid Failure.
 - Coordination plan with Stake holder
6. Conclusion.

FANI CYCLONE



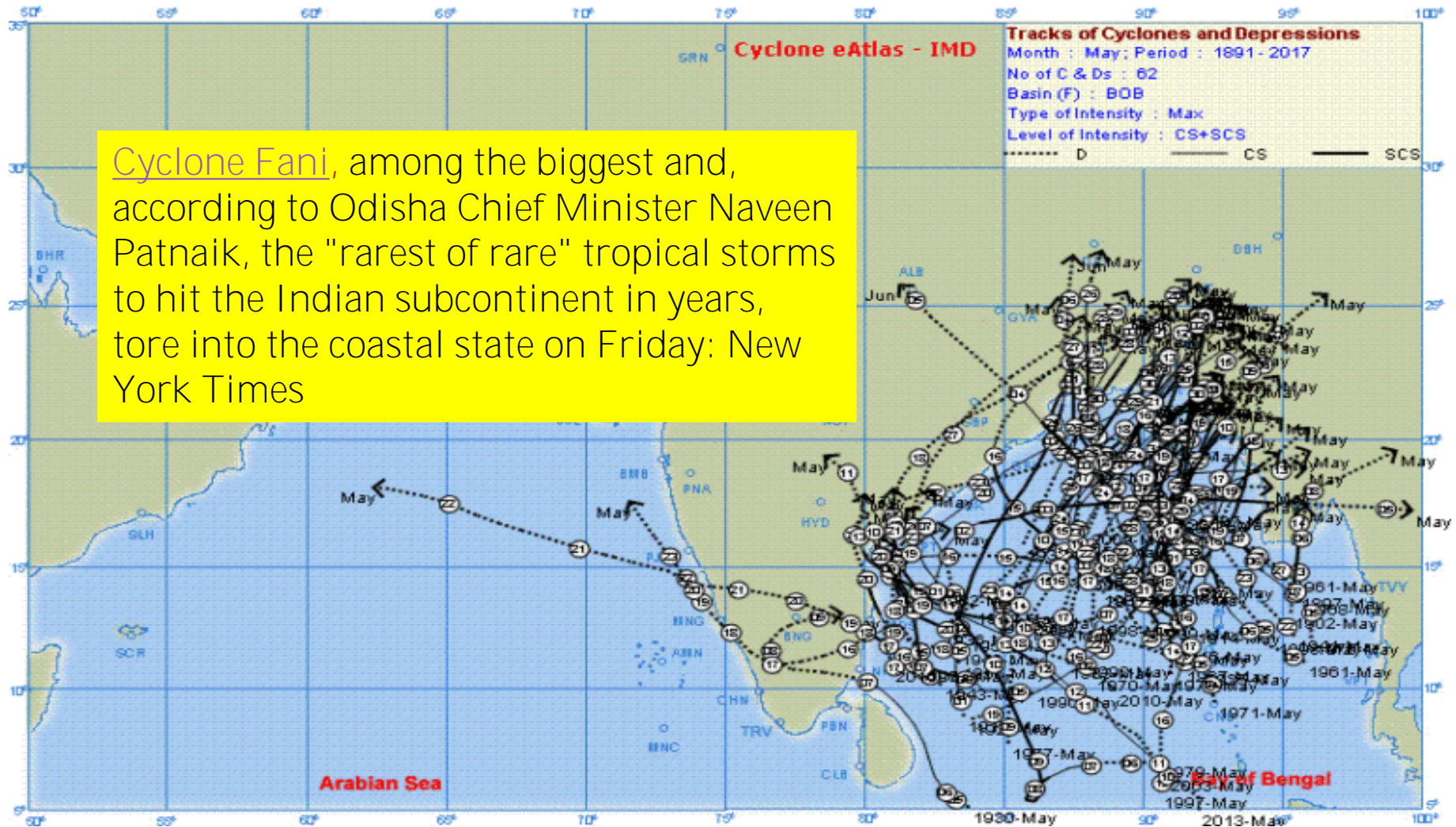
**“DEVASTATED
BUT NOT DEFEATED”**



Extremely Severe Cyclone FANI in ODISHA

The pathway followed by cyclones in the month of May from 1891 to 2017. Source: India Meteorological Department (Maximum are of D or DD (Depression or Deep Depression. Very few of CS (Cyclone Storm and SCS (Super Cyclone Storm)

Cyclone Fani, among the biggest and, according to Odisha Chief Minister Naveen Patnaik, the "rarest of rare" tropical storms to hit the Indian subcontinent in years, tore into the coastal state on Friday: New York Times



Extremely Severe Cyclone FANI in ODISHA

Odisha, being one of the costal elongated state, facing to Bay of Bengal, has been suffered with severe wind climatic zone .

FANI, a rare summer strongest cyclone in in the Bay of Bengal in the last 20 years hit ODISHA on May 03 with of very less casualties compared to 1999 cyclone. Even the Hurricane Sandy (2012), Harvey and Maria (2017) had the death toll of more than 200 with of wind speed 175 Kmph in the developed countries. Cyclone Fani, equivalent to a Category 4 hurricane (on the Saffir-Simpson Scale)

This is the result of a very effective strategy of disaster preparation and quick responses.

*So only countries across the globe including **UNDRR** have hailed with acknowledgement of appreciation to us. In*

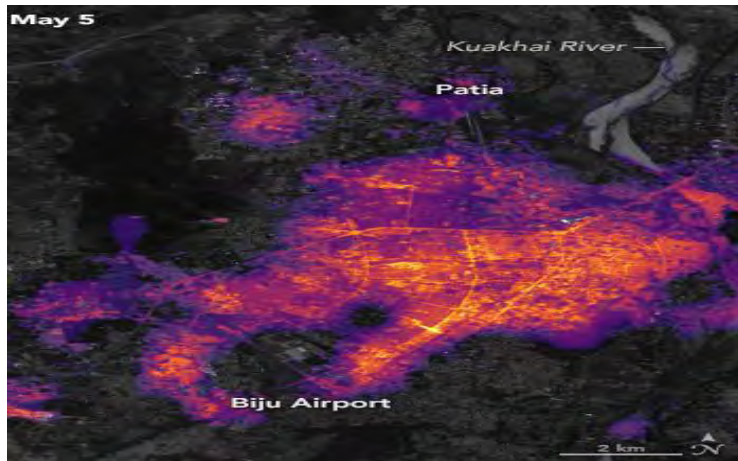
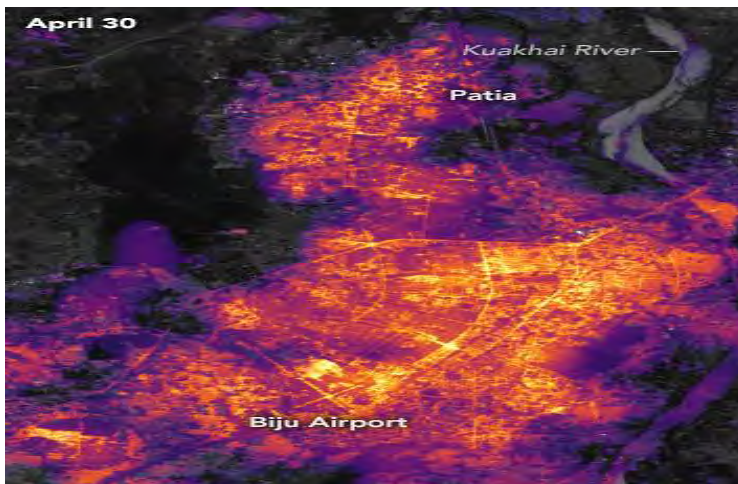
Year	Cyclone	Max.Speed d/kmph	Casualties
2019	Fani	250	41
2018	Titli	56	77
2014	HudHud	185	03
2013	Phailin	215	21
1999	Super Cyclone	250	10,000

Compiled from IMD and News Reports

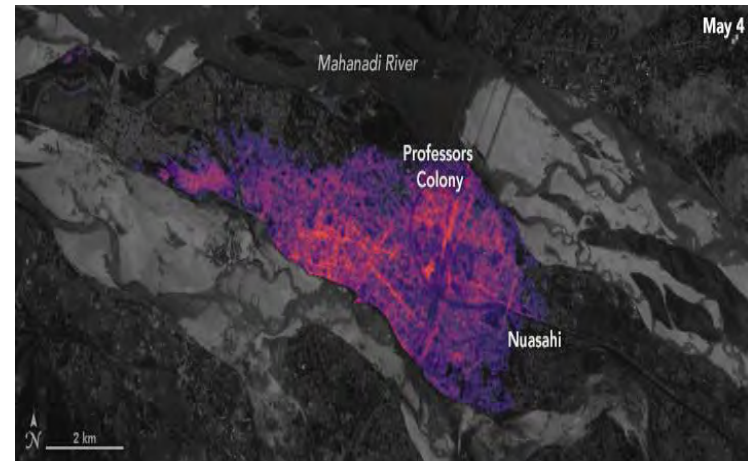
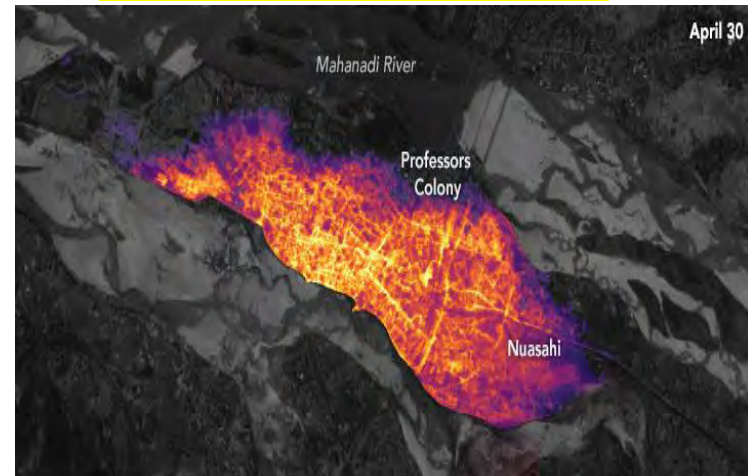
Similarly in the POWER SECTOR also we have achieved the ever best restoration after severe damage of main links to different command area, the testimony is being depicted by NASA with satellite photographs on 30th April, 4th and 5th MAY 2019.

Satellite photograph by NASA

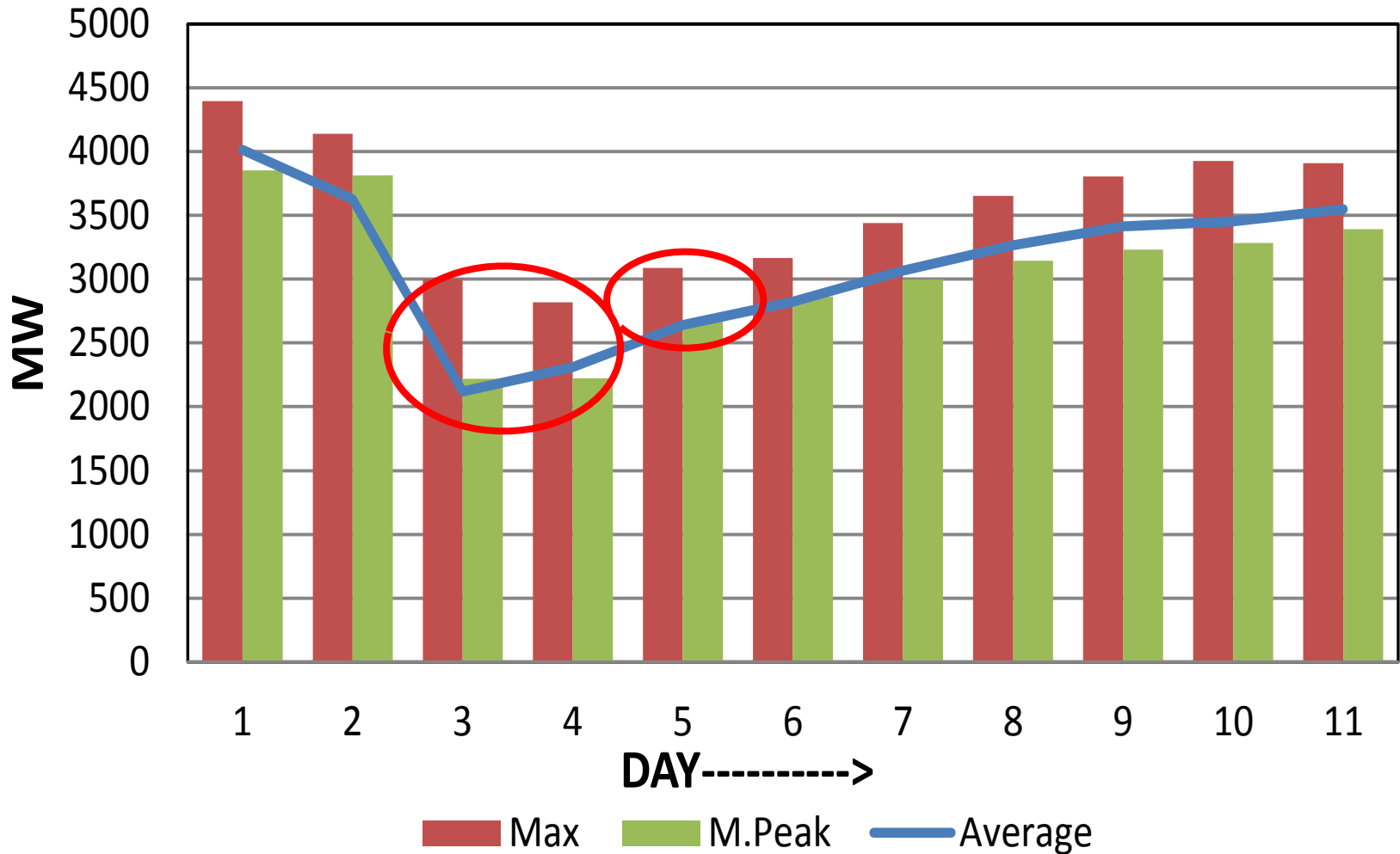
Bhubaneswar City



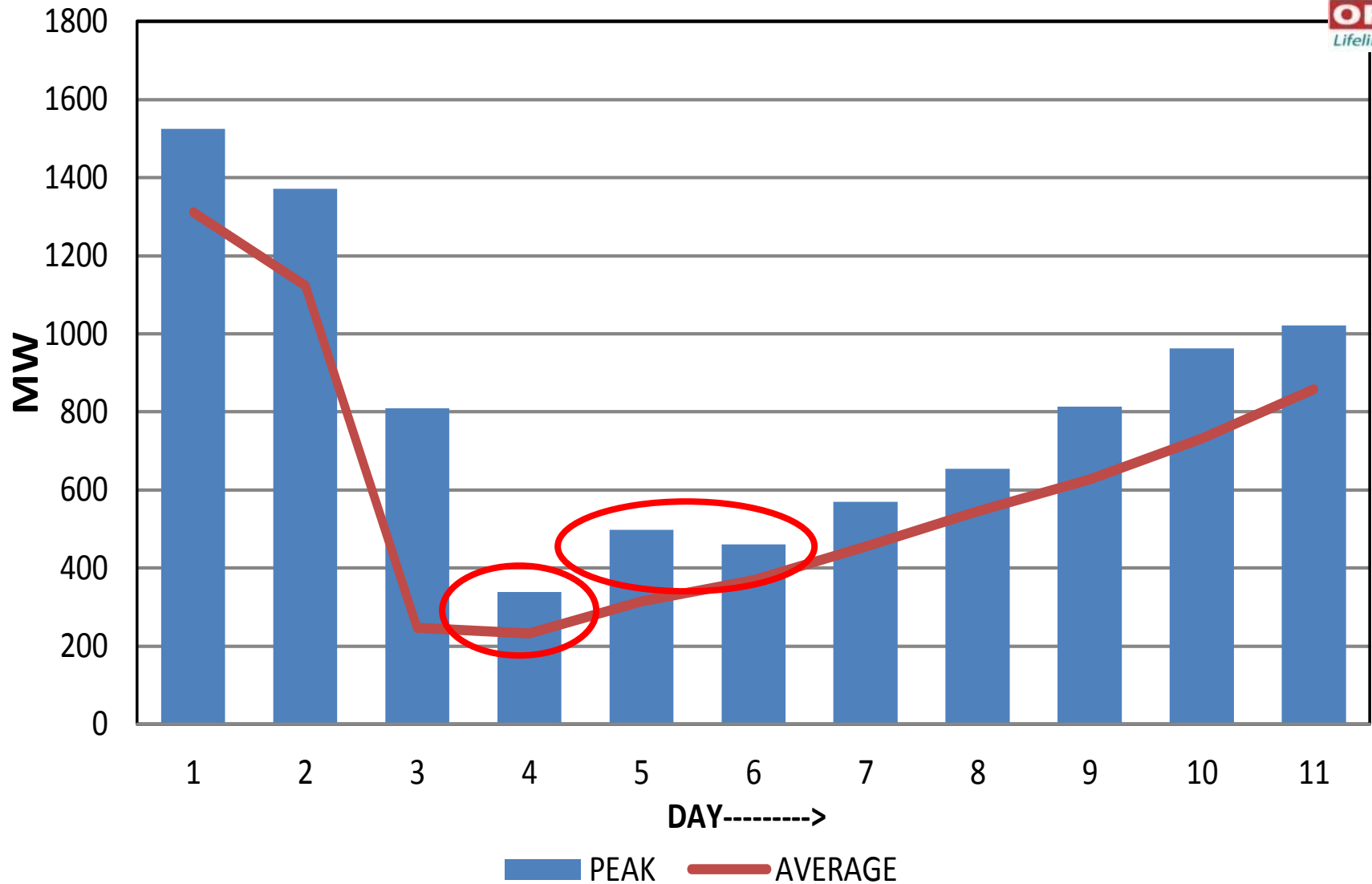
Cuttack City



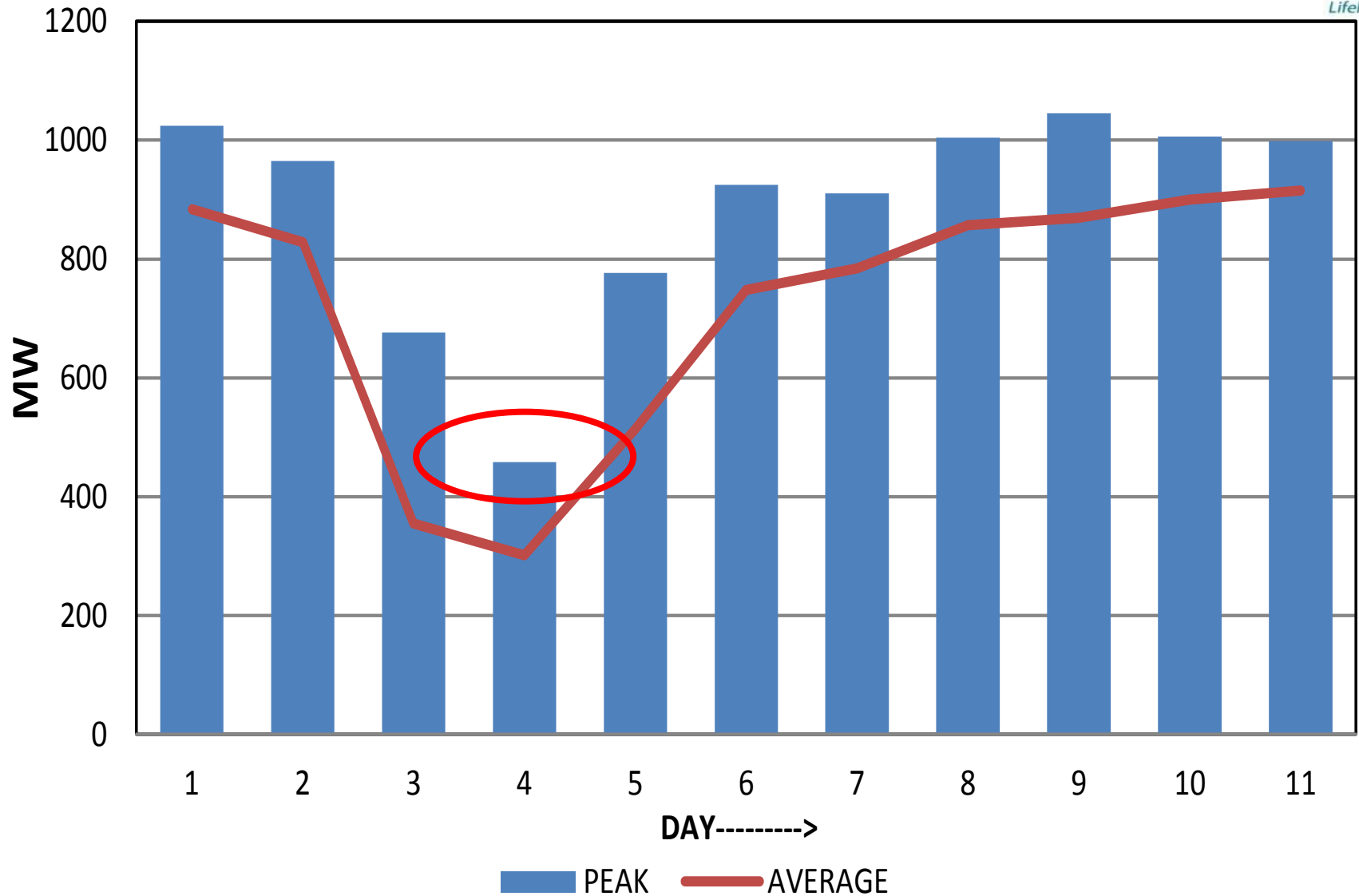
DEMAND PROFILE OF STATE



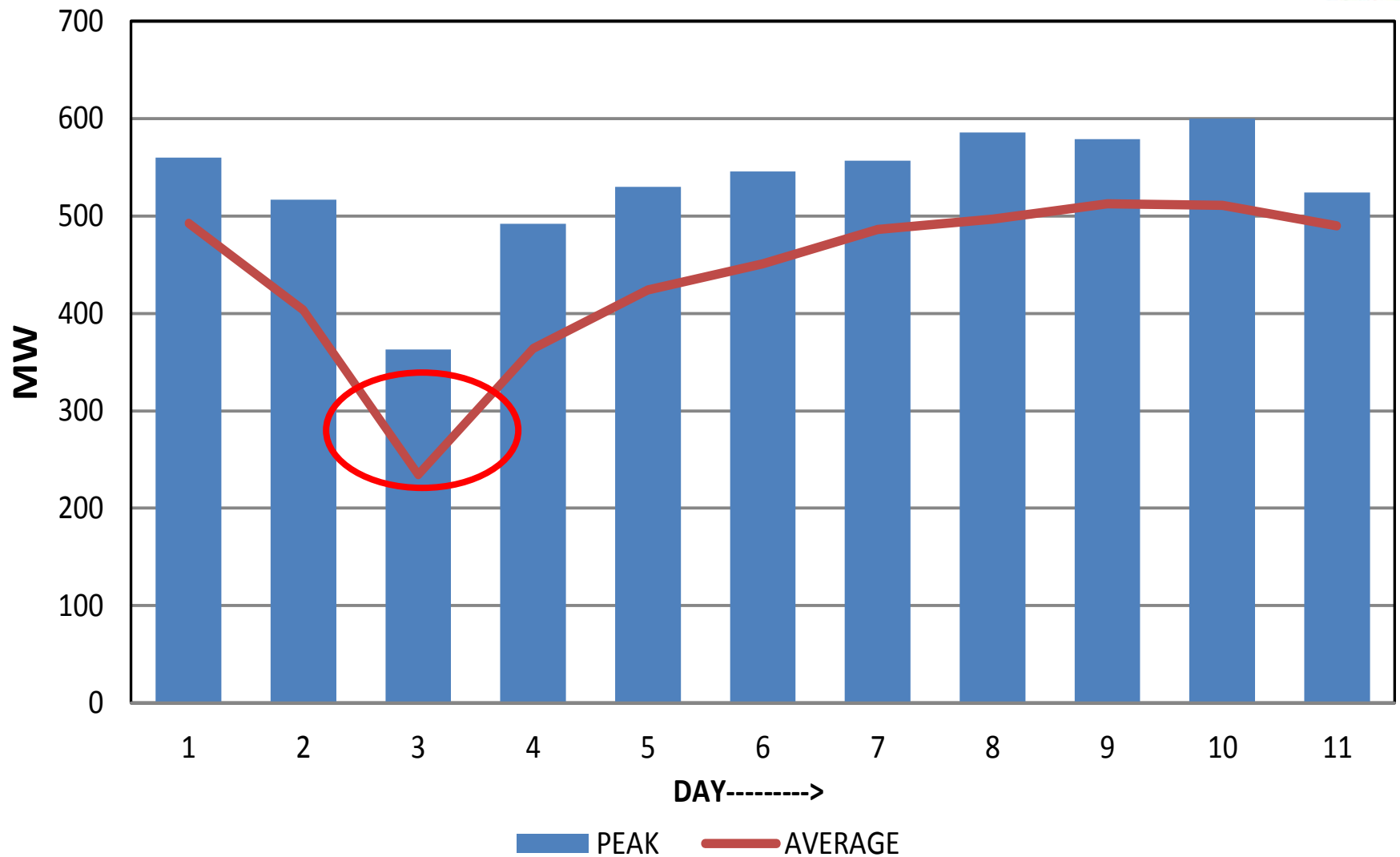
PEAK & AVERAGE DRAWL OF CESU



PEAK & AVERAGE DRAWL OF NESCO



PEAK & AVERAGE DRAWL OF SOUTHCO



Our Preparatory Action Plan... (Six-A's)

1. **Anticipation of Extreme Event:** 5 days well advance call was from IMD for cyclone FANI.
2. **Action Plan with Timeline:** Series of meeting with all involved units for well planned strategy.
3. **Allocation with Assignment:** Advance deployment of the team with working group with work allocation, time line assignment and checking of equipment at grid Substations.
4. **Advance Material Arrangement:** Advance material arrangement like ERS tower, hardware and others with transportation plan.
5. **Activation of communication channel:** Dedicated point to point Carrier channels were activated and made operational with all anticipated grid sub-stations to be affected.
6. **Alternate network planning:** The detail alternate network planning with inter-department pep-talk conducted for emergency power supply to affected command area

Impacts on Power Infrastructure..

Districts Affected

Critically Affected: Puri, Khurda(Bhubaneswar), Cuttack, Kendrapada and Jagatsinghpur

Widely Affected: Angul, Dhenkanal, Nayagarh, Jajpur, Bhadrak, Balasore, Mayurbhanj, Keonjhar, Ganjam,

Power line infrastructure in Gajapati, Kandhamal & Rayagada districts are also affected partially

Odisha Map

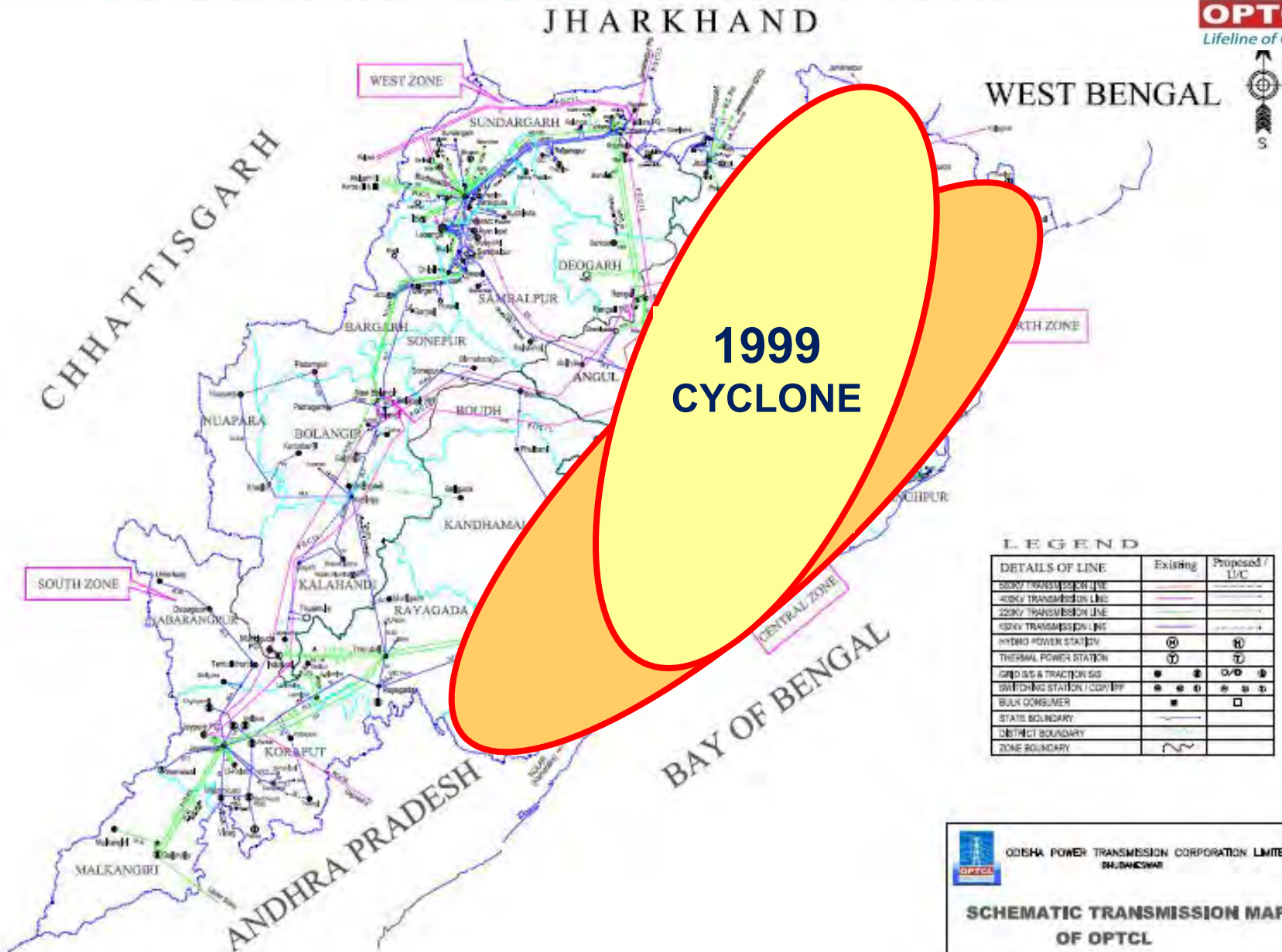


Where we Operate...



OPTCL

Lifeline of Odisha



**1999
CYCLONE**

LEGEND

DETAILS OF LINE	Existing	Proposed / U/C
800V TRANSMISSION LINE		
400V TRANSMISSION LINE		
220V TRANSMISSION LINE		
132V TRANSMISSION LINE		
HYDRO POWER STATION		
THERMAL POWER STATION		
GRID DS & TRACTION SS		
SWITCHING STATION / CQV BP		
BULK CONSUMER		
STATE BOUNDARY		
DISTRICT BOUNDARY		
ZONE BOUNDARY		



ODISHA POWER TRANSMISSION CORPORATION LIMITED
Bhubaneswar

**SCHEMATIC TRANSMISSION MAP
OF OPTCL**

Growth of T & D Infrastructure

Parameters		Year 1999 Super Cyclone	Year 2019 FANI Cyclone	% growth	Network Density Growth / 100Sq Km
Voltage with Sub-station Capacity in MVA	400KV	0 (0)	4 (2520)	400% / (Extra 2520 MVA)	-
	220KV	12(1270)	32 (9060)	167% / 613%	-
	132KV	54 (2680.5)	115 (8161)	113% / 204.4%	-
Total		66 (3950.5)	152 (19741)	130.3% / 399.7%	-
Voltage with Ckt Km Length and Network Density per 100 sq Km	400 kV	238 / 0.153	1197/0.768	402.9%	402.9%
	220 kV	3834 / 2.46	6106/ 3.921	59.25%	59.25%
	132kV	4055/ 2.604	6875/ 4.415	69.54%	69.54%
	TOTAL	8127/ 5.22	14178 / 9.105	74.45%	74.45%

Area of Odisha State = 1,55,707Sq.Km

Infrastructure Damage

Transmission Sector		Distribution Sector		
Towers (115 Nos.) with 87fully affected and 28 partly towers		1.	33/11 Sub-stations damaged	441
220 KV (Fully/Partly)	54 / 21 nos.	2.	33, 11KV HT Feeders	1859, needs rewiring of 1,13,034 Kms.
132 KV (Fully/Partly)	33/ 7 nos.	3.	DTR affected	66,032 nos, 12,042 needs new installation
Lines (250 Kms.) 19 Lines Major and 13 Lines Minor		4.	Poles	2,19,405 nos. poles up-rooted, requires new erection
400 KV (0+1line)	-	5.	Consumers Affected	45.74 Lakhs
220 KV (8+7 lines)	160 Kms			
132 KV (11+5 lines)	90 Kms			
OPGW Earth wire	80 Kms			
31 nos EHV Grid Sub-stations Affected, Bhubaneswar, Cuttack and PURI command area went to BLACKOUT				

AFFECTED NETWORKS



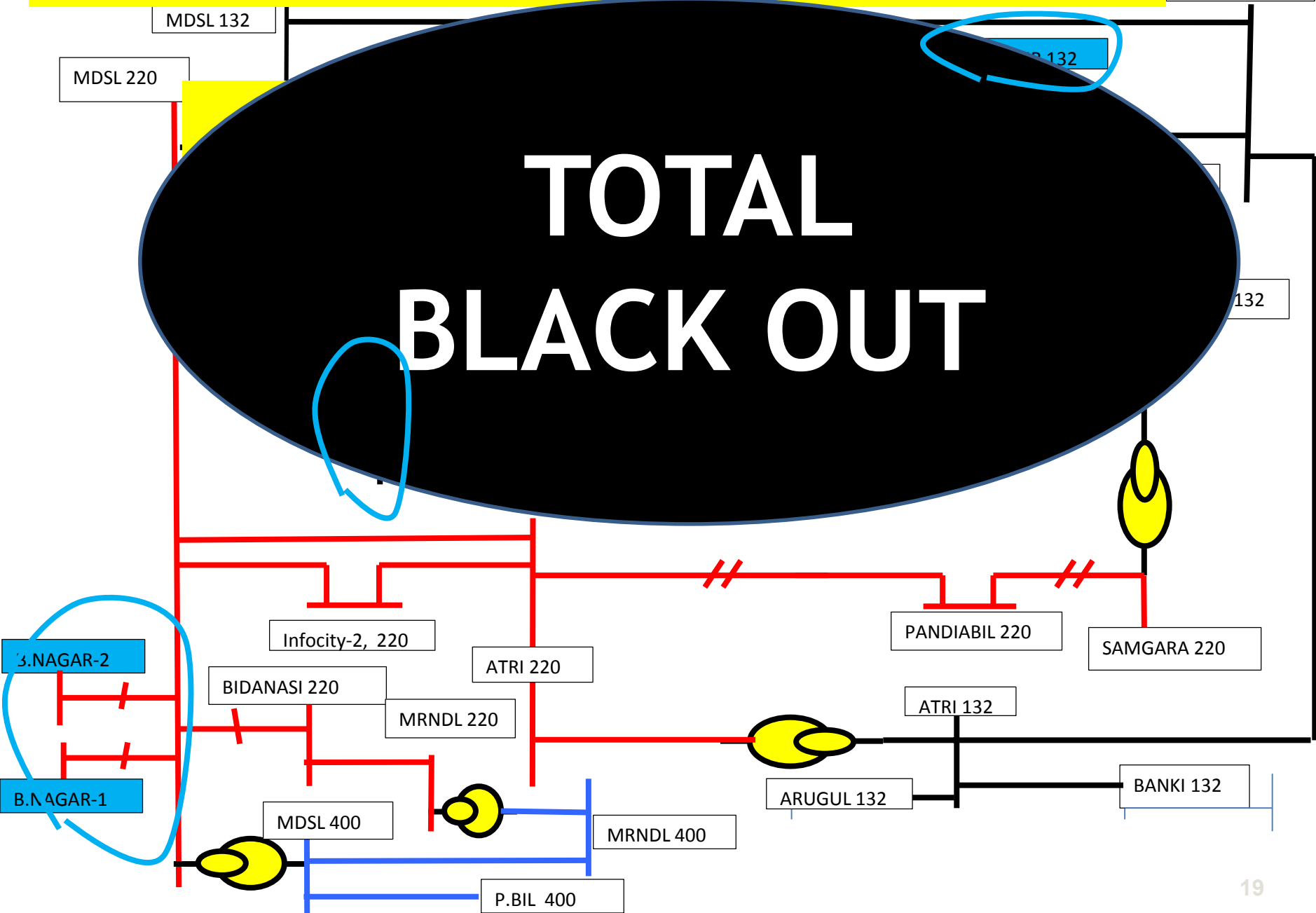
MINOR (13 LINES)

1. 400KV MENDHASAL-MERAMUNDALI
2. 220 MENDHASAL-ATRI-1
3. 220KV MENDHASAL- INFOCITY - ckt1
4. 220KV ATRI- INFOCITY- ckt 2
5. 220KV CHANDAKA-CHANDAKA-B
6. 220KV MERAMUNDALI-BIDANASI
7. 220KV ATRI-PANDIABILI-1
8. 220KV ATRI- PANDIABILI-2
9. 132KV MENDHASAL KHURDA
10. 132KV CUTTACK- JAGATSINGPUR
11. 132KV ATRI-KHURDA
12. 132KV CHANDAKA- BBSR -2
13. 132 KV BPPL- CHANDAKA

MAJOR (19 LINES)

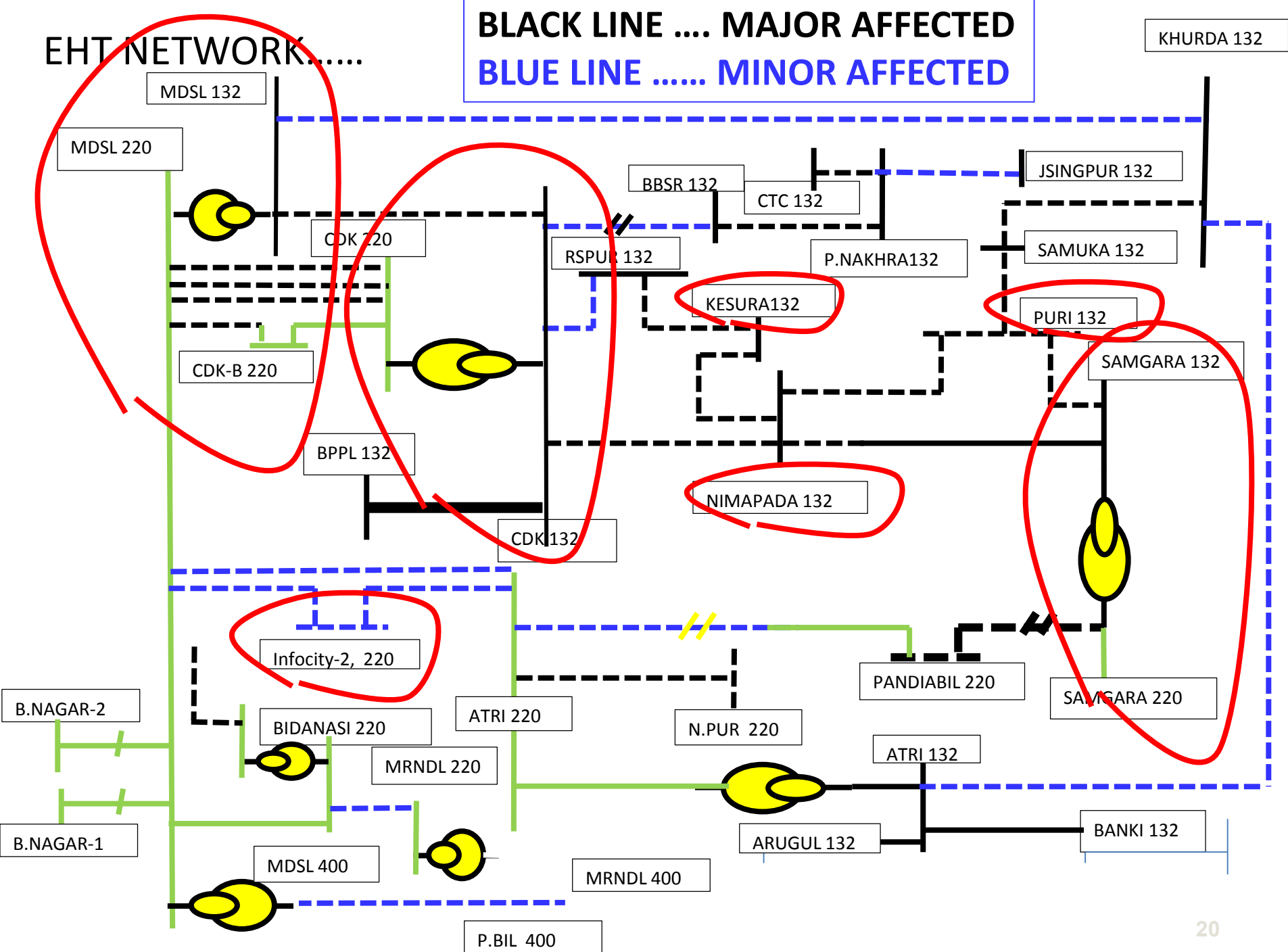
1. 220 MENDHASAL-CHANDAKA-1&2 (DC)
2. 220 MENDHASAL-CHANDAKA-3 &4 (DC)
3. 220KV P.BILLI- SAMAGARA-1 &2 (DC)
4. 220KV ATRI- NARENDRAPUR-1&2 (DC)
5. 132KV MENDHASAL CHANDAKA
6. 132KV KESURA- RSPUR LILO
7. 132KV PHULNAKHARA – CUTTACK LILO
8. 132KV BIDANASI –CHOUDWAR
9. 132KV BIDANASI -CHANDAKA
10. 132KV NIMAPADA PURI
11. 132KV NIMAPADA – CHANDAKA
12. 132KV SAMAGARA-PURI
13. 132KV SAMAGARA – NIMAPADA
14. 132KV KHURDA-SAMUKA
15. 132KV SAMUKA-PURI

EHT NETWORK BBSR, CUTTACK AND PURI COMMAND AREA



EHT NETWORK.....

BLACK LINE MAJOR AFFECTED
BLUE LINE MINOR AFFECTED



MINOR AFFECTED NETWORKS (12 Lines)



Sl. No.	AFFECTED LINES	NATURE OF DAMAGE
1	220 MENDHASAL-ATRI-1	Clearing of fallen tree branches and repair of conductor
2	132KV MENDHASAL KHURDA	Low clearance and jumper damage
3	220KV MENDHASAL- INFOCITY - ckt1	Damage of 3 number of LA at Infocity
4	220KV ATRI- INFOCITY- ckt 2	Damage of 3 number of LA at Infocity
5	220KV CHANDAKA-CHANDAKA-B	Damage of 3 number of LA at Chandaka
6	220KV MERAMUNDALI-BIDANASI	Conductor snapping with insulator failure
7	132KV CUTTACK- JAGATSINGPUR	Conductor snapping with insulator failure
8	132KV ATRI-KHURDA.	Conductor snapping with insulator failure
9	132KV CHANDAKA - BBSR -2	Low clearance and jumper damage
10	220KV ATRI-PANDIABILI-1	Snapped and curled OPGW with 12 Towers
11	220KV ATRI- PANDIABILI-2	Snapped and curled OPGW with 12 Towers.
12	400KV MENDHASAL- MERAMUNDALI	Conductor and OPGW snapping with insulator failure

MAJOR AFFECTED NETWORKS (19 Lines, 115 Towers)

Sl. No.	AFFECTED LINES	NATURE OF DAMAGE
1	220 MENDHASAL-CHANDAKA-1&2	2 Towers Collapsed
2	220 MENDHASAL-CHANDAKA-3 &4	1 Tower Collapsed
3	220KV PANDIABILL- SAMAGARA - 1 & 2	64 Towers Damaged
4	220KV ATRI - NARENDRAPUR - 1 & 2	5 Towers Damaged
5	132KV MENDHASAL CHANDAKA	2 Towers Collapsed
6	132KV KESURA- RSPUR LILO	3 Towers Collapsed
7	132KV PHUL NAKHARA CUTTACK LILO	3 Towers Collapsed

MAJOR AFFECTED NETWORKS (19 Lines, 115 Towers)

Sl. No.	AFFECTED LINES	NATURE OF DAMAGE
8	132KV BIDANASI -CHANDAKA	2 Towers Collapsed
9	132KV BIDANASI -CHOUDWAR	
10	132KV SAMAGARA - NIMAPADA	6 Towers collapsed
11	132KV NIMAPADA PURI	
12	132KV SAMAGARA-PURI	
13	132KV CHANDAKA-NIMAPADA	9 Towers collapsed + 1 Partially
14	132KV KHURDA-SAMUKA	14 Towers collapsed
15	132KV SAMUKA-PURI	4 Towers collapsed

Grid Sub-Stations Affected

Sl. No.	EHV Grid Sub-stations	Sl. No.	EHV Grid Sub-stations
1	400 KV Mendhasal	10	132/33 KV Arugul
2	220/33 KV Infocity	11	132/33 KV Banki
3	220/132/33 KV Chandaka	12	132/33 KV Kesura
4	220/132/33 KV Chandaka B	13	132/33 KV Mancheswar
5	220/132/33 KV Atri	14	132/33 KV Ransinghpur
6	220/132/33 KV Samagara	15	132/33 KV Unit-8
7	220/132/33 KV Bidanasi	16	132/33 KV Khurda
8	220/132/33 KV Cuttack	17	132/33 KV Phulnakhara
9	220/132/33 KV Paradeep	18	132/33 KV Choudwar

Grid Sub-Stations Affected

Sl. No.	EHV Grid Sub-stations	Sl No	EHV Grid Sub-stations
19	132/33 KV Puri	28	132/33 KV Kendrapada
20	132/33 KV Samuka	29	132/33 KV Pattamundei
21	132/33 KV Nimapara	30	132/33 KV Olabhara
22	132/33 KV Konark	31	132/33 KV Chandikhol
23	132/33 KV Nuapatna		
24	132/33 KV Salepur		
25	132/33 KV Jagatsinghpur		
26	132/33 KV Tirtol		
27	132/33 KV Marsaghai		

CRITICALLY DAMAGED TOWERS

Harishpur, Chandaka – Nimapada Loc. 161 & 162



Analysis: Severe wind speed, tension on the long span conductor caused twisting of tower.

132KV Nimapada - Puri Line LOC 98



Analysis: Severe wind speed, saline effect erosion, caused twisting of tower.

Chandaka- Nimapada Line



Analysis: Severe wind speed, with corrosion effect, caused toppling of tower.

Oruali, Nimapada - Puri Line, Loc. 47

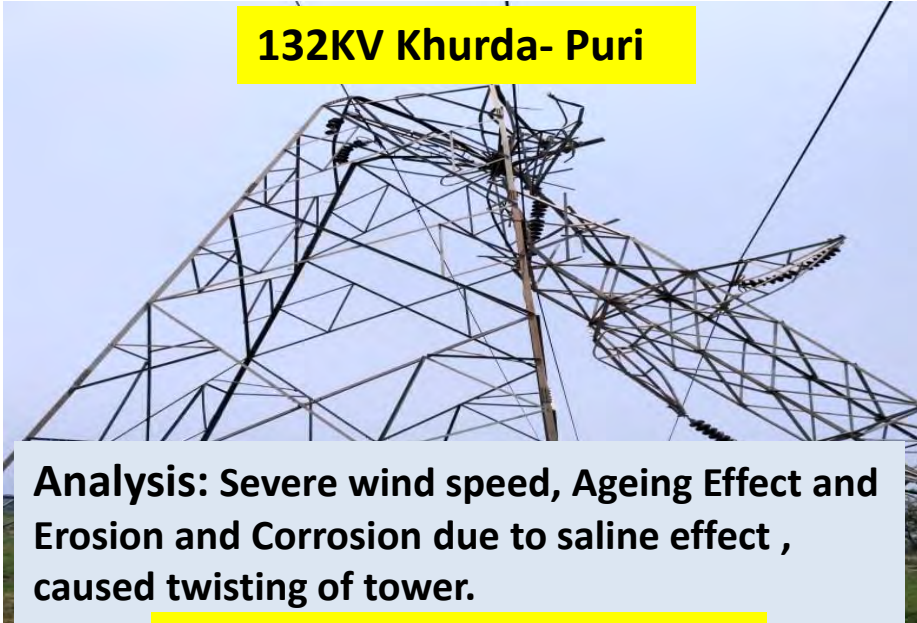


Analysis: Severe wind speed, gradual STUB exposure due to water logging and long span, caused twisting of tower.

CRITICALLY DAMAGED TOWERS



132KV Khurda- Puri



Analysis: Severe wind speed, Ageing Effect and Erosion and Corrosion due to saline effect , caused twisting of tower.

220KV Mendhasal- Chandaka3/4 Loc



Analysis: Topple of 400KV PGCIL Tower upon the conductor caused tension and consequence of dragging to Tension Tower

132KV Chandaka- Nimapada



Analysis: Severe wind speed, with corrosion effect, caused toppling of tower.

132KV Bidanasi- Choudwar LOC 16

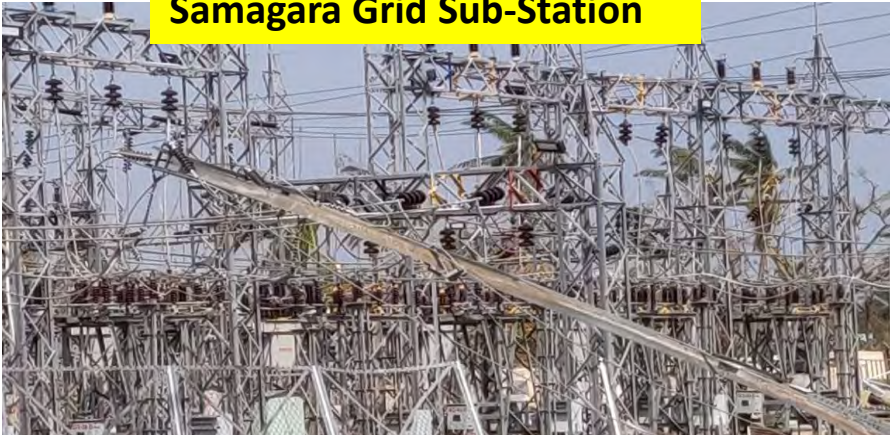


Analysis: Severe wind speed, OPEN WIND ZONE in the river bed, with of enhancing wind effect, caused twisting of tower.

Minor DAMAGED Structures

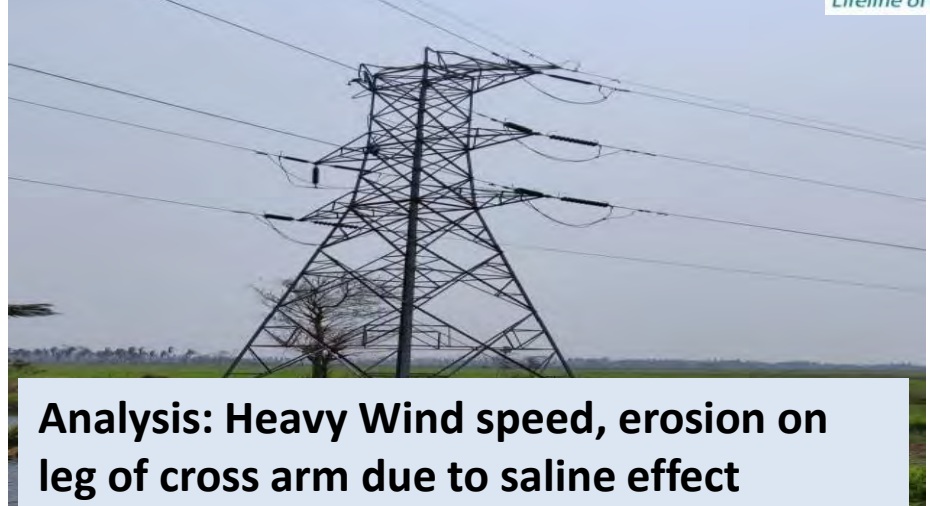


Samagara Grid Sub-Station



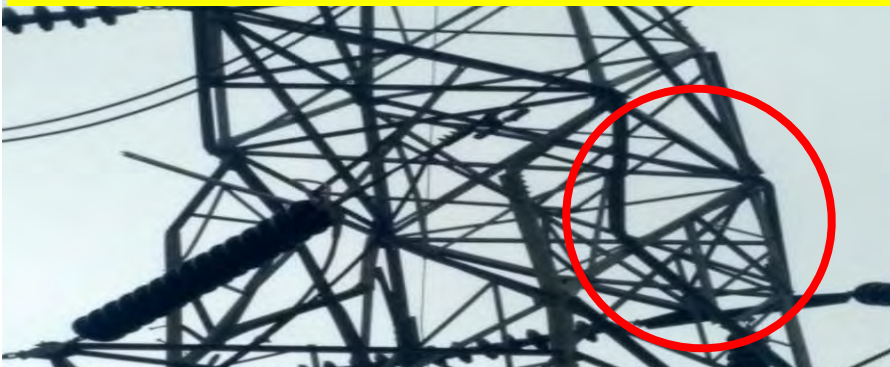
Analysis: Falling of 33KV outgoing Pole resulted with damage of the S/S structures.

220KV Mendhsal- Chandka 1/2 TOP Bending



Analysis: Heavy Wind speed, erosion on leg of cross arm due to saline effect caused bending of TOP

220KV Mendhsal-Chandaka 1/2 Cross arm



Analysis: Topple of 400KV PGCIL Tower upon the conductor caused tension and consequence of Cross arm bending.

132 KV Nimapada-Puri



Analysis: Severe wind speed, tension on the long span conductor caused twisting of tower.

Minor DAMAGED Structures

132KV Nimapada- Chandaka



Analysis: Wind speed and long span caused bending of cross arm

132KV Mendhasal -Khurda



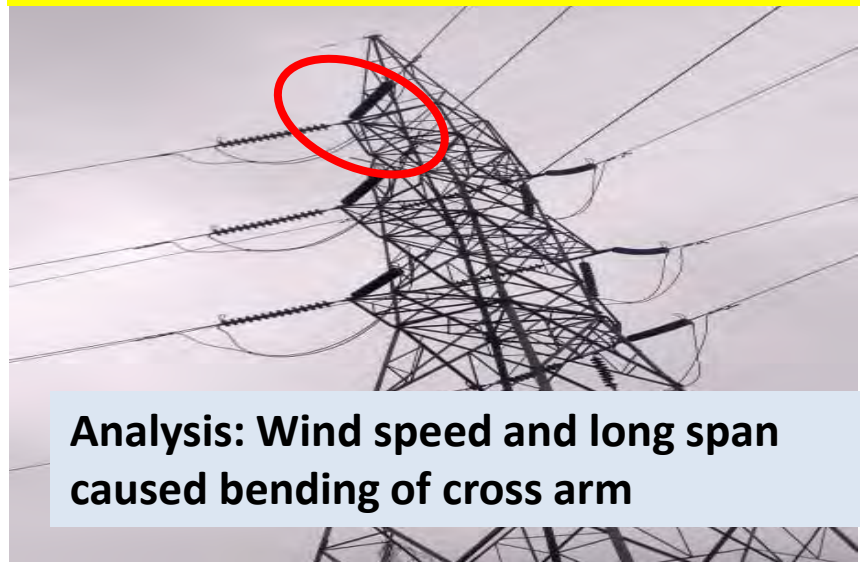
Analysis: Severe wind speed, Ageing Effect and Corrosion of Tower members, caused twisting of tower.

132KV Nimapada- Chandaka



Analysis: Wind speed and Saline Effect caused twisting from first section

220KV Mendhsal-Chandaka 1/2 Cross arm



Analysis: Wind speed and long span caused bending of cross arm

Subsequent Restoration Plan



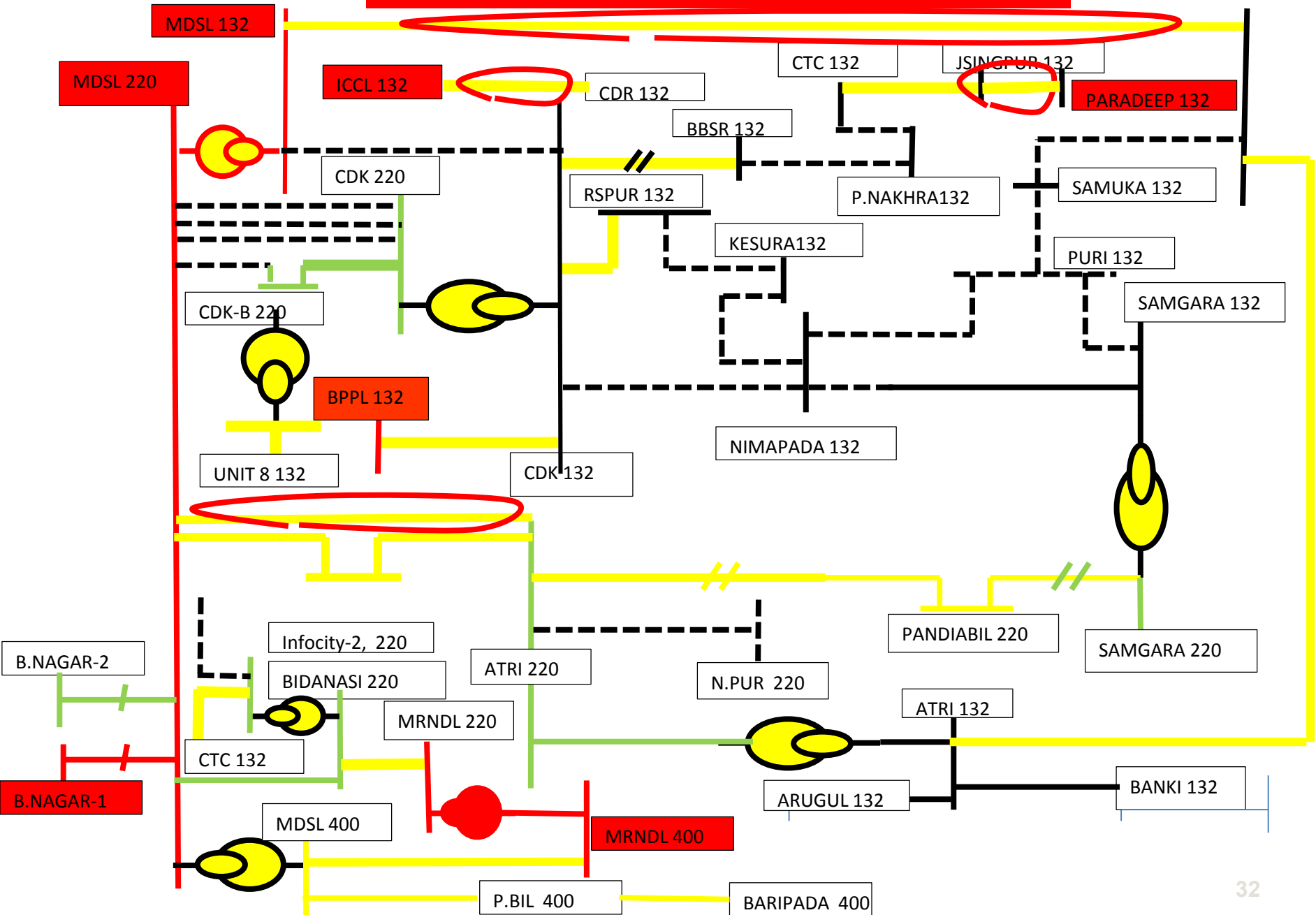
1. **Assessment, Identification and categorization of Work:** Immediate post-disaster damage assessment through multiple squads and categorisation of damages.
2. **Work Plan to avail emergency Power supply to different command area:** Multi working groups selected under the guidance of Director (Operation) and Director (Project) with Experienced Engineers from different parts of ODISHA and assigned with Team Leader with designated empanelled agencies.
3. **Work Plan for permanent arrangement:** Other Multi working groups to work parallel were also selected under the guidance of both Directors with Experienced Engineers from different parts of ODISHA and assigned with Team Leader with designated empanelled agencies
4. **Work Review on Daily basis:** End of each day's work, both directors were reviewing the works with the team leaders to plan for the next day. CMD was also reviewing the work on daily basis on paying site visit to encourage and motivate the working group as well as solving the issues.
5. **Working Supports :** HRD and Safety wing was also supporting and encouraging the working group, visiting the worksite and taking the review on the works. Mass kitchen and Rest rooms were also arranged for the outside team coming from Odisha and other states. Liaison team was assigned for the work plan for the team coming from different parts of Country.

MINOR AFFECTED NETWORKS (12 Lines)

Sl. No.	AFFECTED LINES	RESTORATION
1	220 MENDHASAL-ATRI-1	04.05.2019
2	132KV MENDHASAL KHURDA	04.05.2019
3	220KV MENDHASAL- INFOCITY - ckt1	05.05.2019
4	220KV ATRI- INFOCITY- ckt 2	05.05.2019
5	220KV CHANDAKA-CHANDAKA-B	05.05.2019
6	220KV MERAMUNDALI-BIDANASI	05.05.2019
7	132KV CUTTACK- JAGATSINGPUR	05.05.2019
8	132KV ATRI-KHURDA.	05.05.2019
9	132KV CHANDAKA - BBSR -2	07.05.2019
10	220KV ATRI-PANDIABILI-1	07.05.2019
11	220KV ATRI- PANDIABILI-2	07.05.2019
12	400KV MENDHASAL- MERAMUNDALI	07.05.2019

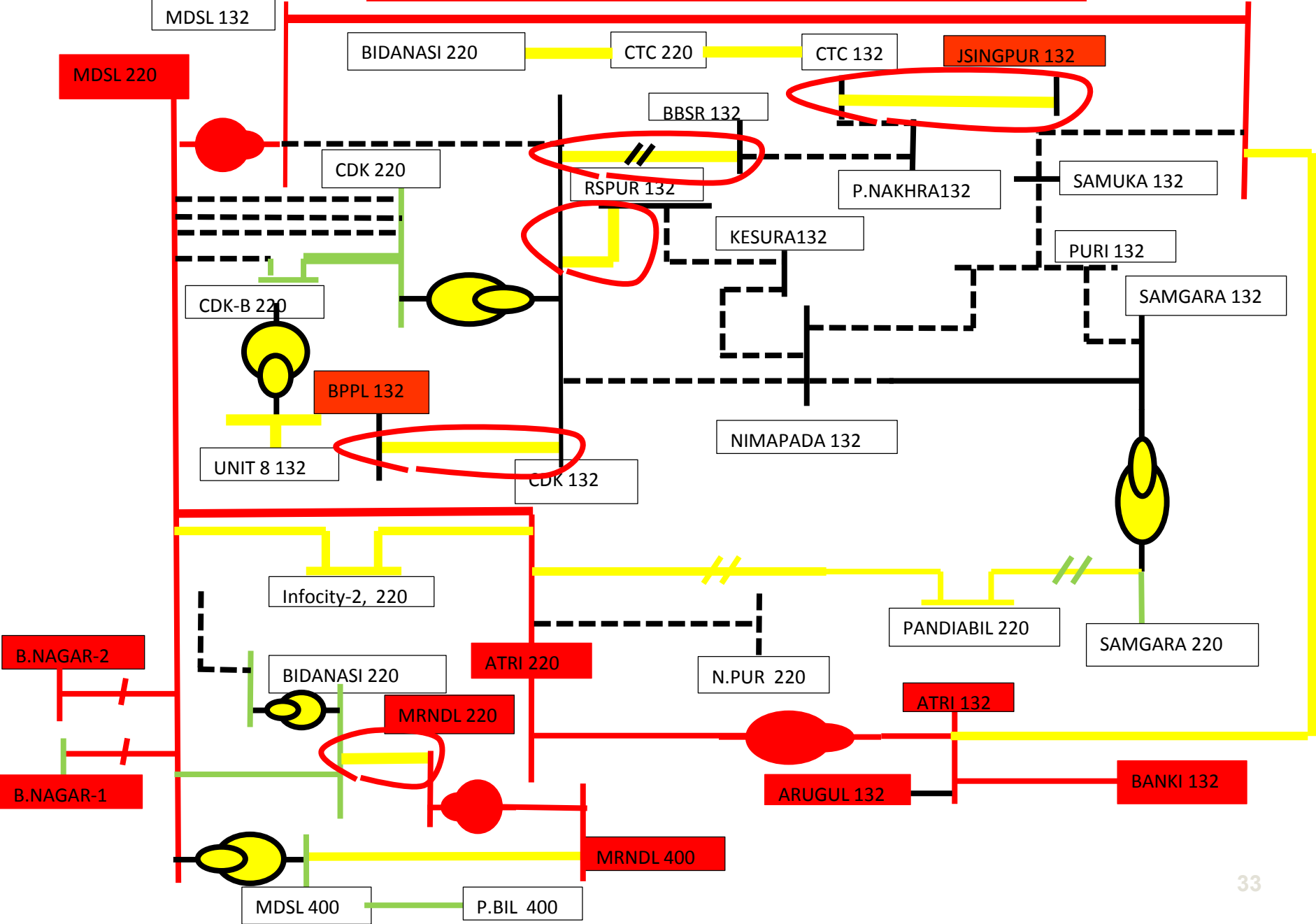
RESTORATION STATUS ON 4TH MAY 19....

KHURDA 132



EHT NETWORK..... RESTORATION STATUS ON 5TH MAY 19....

KHURDA 132

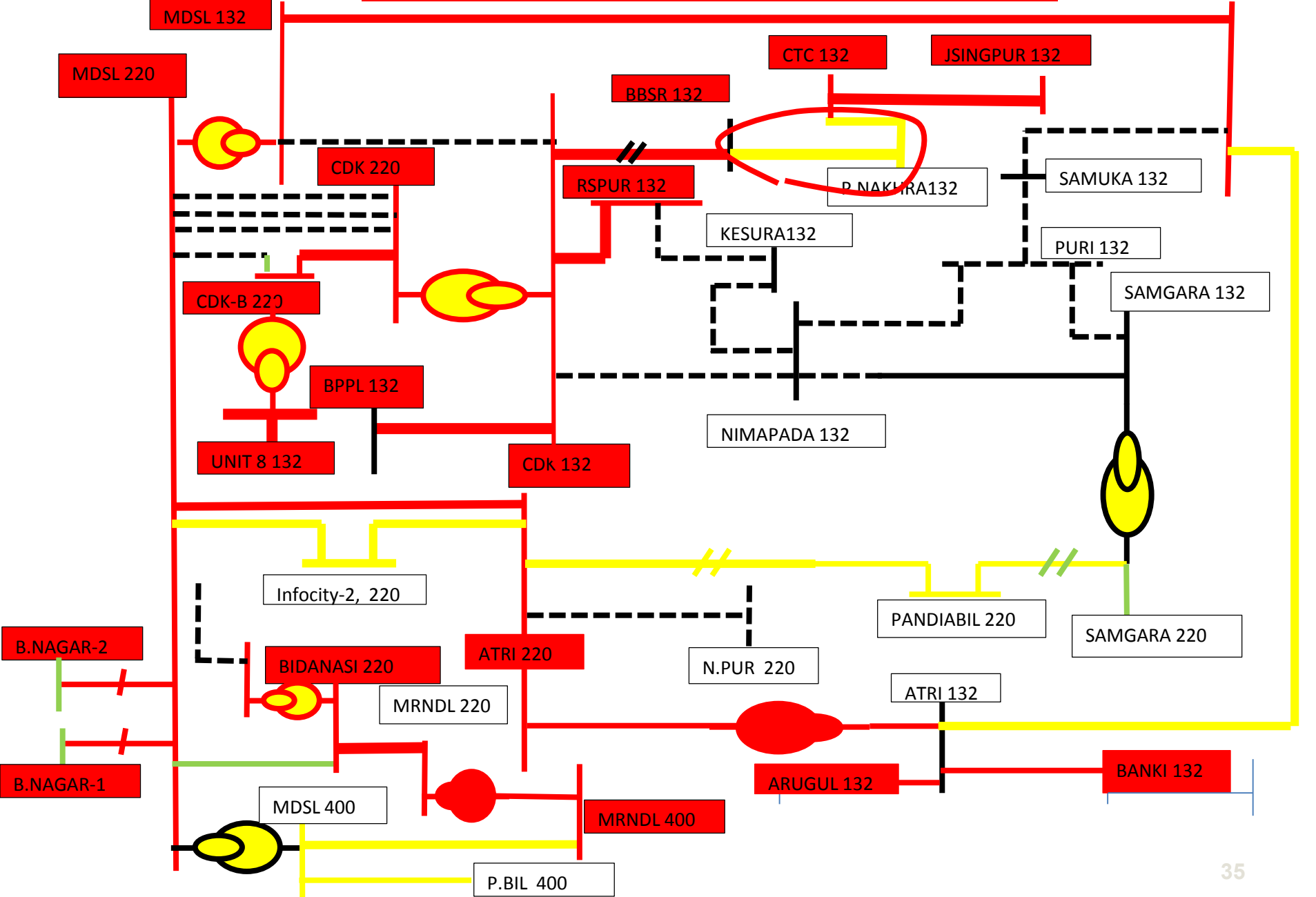


SYSTEM REVIVED ON 05.05.19

- 132kV Jagatsinghpur - Cuttack charged at 10:37 hrs CUTTACK supply
- 220kV Cuttack - Bidanasi line charged at 11:22 hrs
- Chandaka grid availed power supply from CHOUDWAR end through 132 KV Chandaka -BPPL feeder at 15:39 hrs
- 220 KV Chandaka - Chandaka 'B' ckt. Charged at 16:28 hrs from Chandaka end.
- 132 KV Chandaka - BBSR Ckt. 1 charged at 16:37 hrs
- 220kV Meramundali - Bidanasi charged at 19:09 hrs
- 132 KV Chandaka - Ransinghpur line charged at 22:02 hrs
- 132kV Chandaka B - Unit 8 line charged through underground cable at 17:40 hrs

EHT NETWORK..... RESTORATION STATUS ON 6TH MAY 19....

KHURDA 132

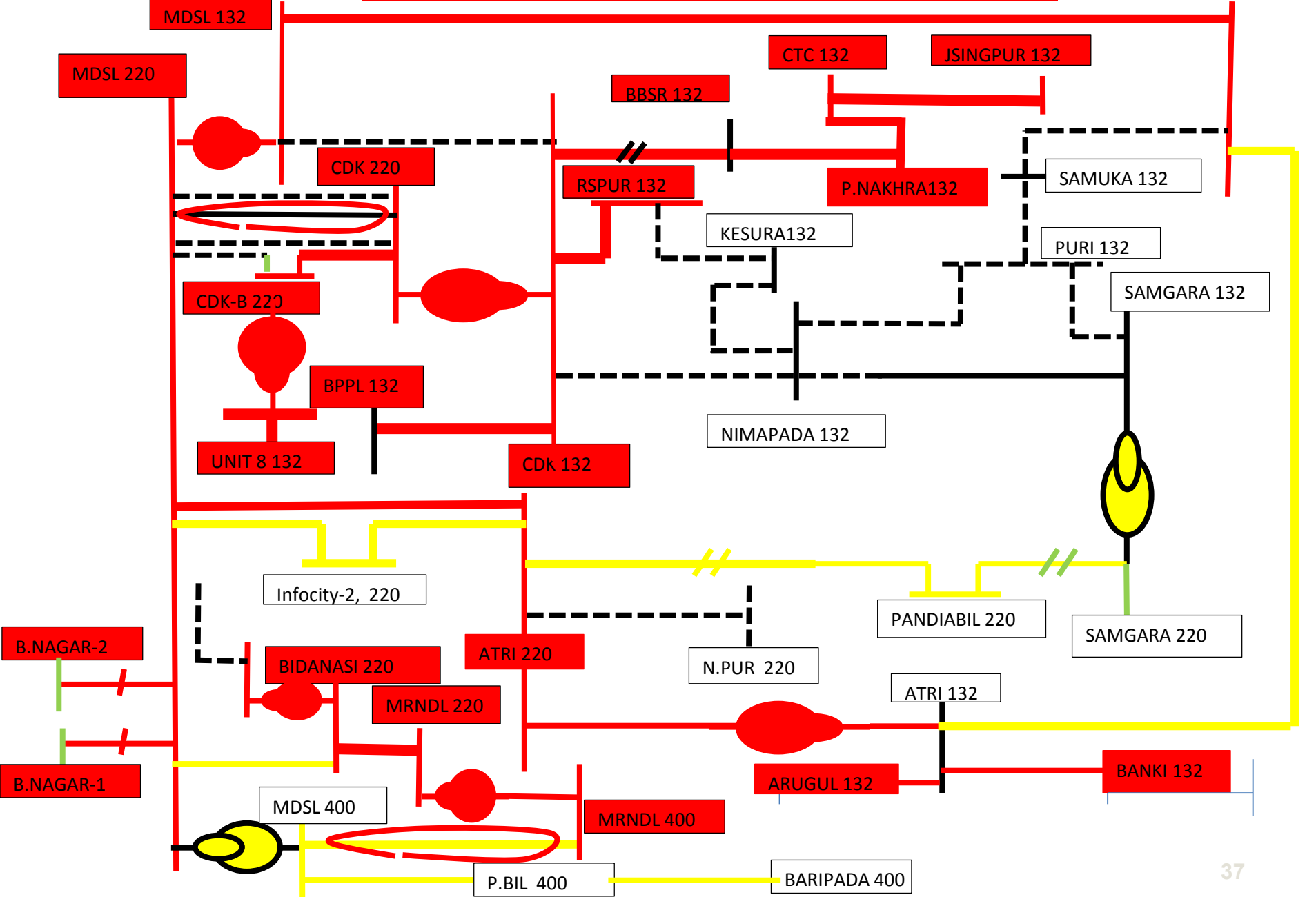


SYSTEM REVIVED ON 06.05.19

- 132kV CUTTACK- BHUBANESWAR

EHT NETWORK..... RESTORATION STATUS ON 7TH MAY 19....

KHURDA 132

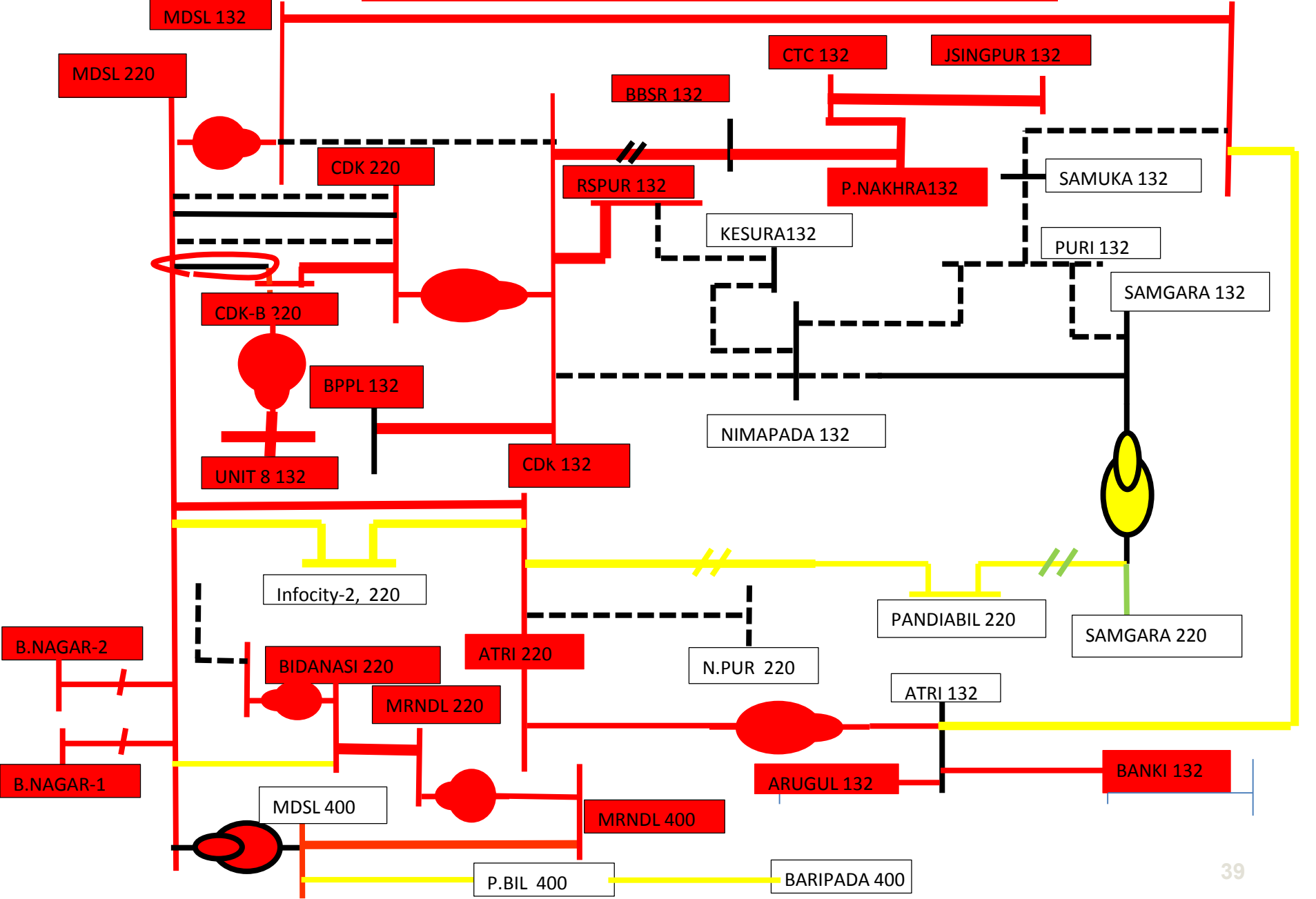


SYSTEM REVIVED ON 07.05.19

- 220kV Mendhasal - Chandaka CKT - II charged at 21.50hrs from Mendhasal end by Inter-Linking .
- 400kV Meramundali - Mendhasal Line charged at 21.21 hrs

EHT NETWORK..... RESTORATION STATUS ON 8TH MAY 19....

KHURDA 132



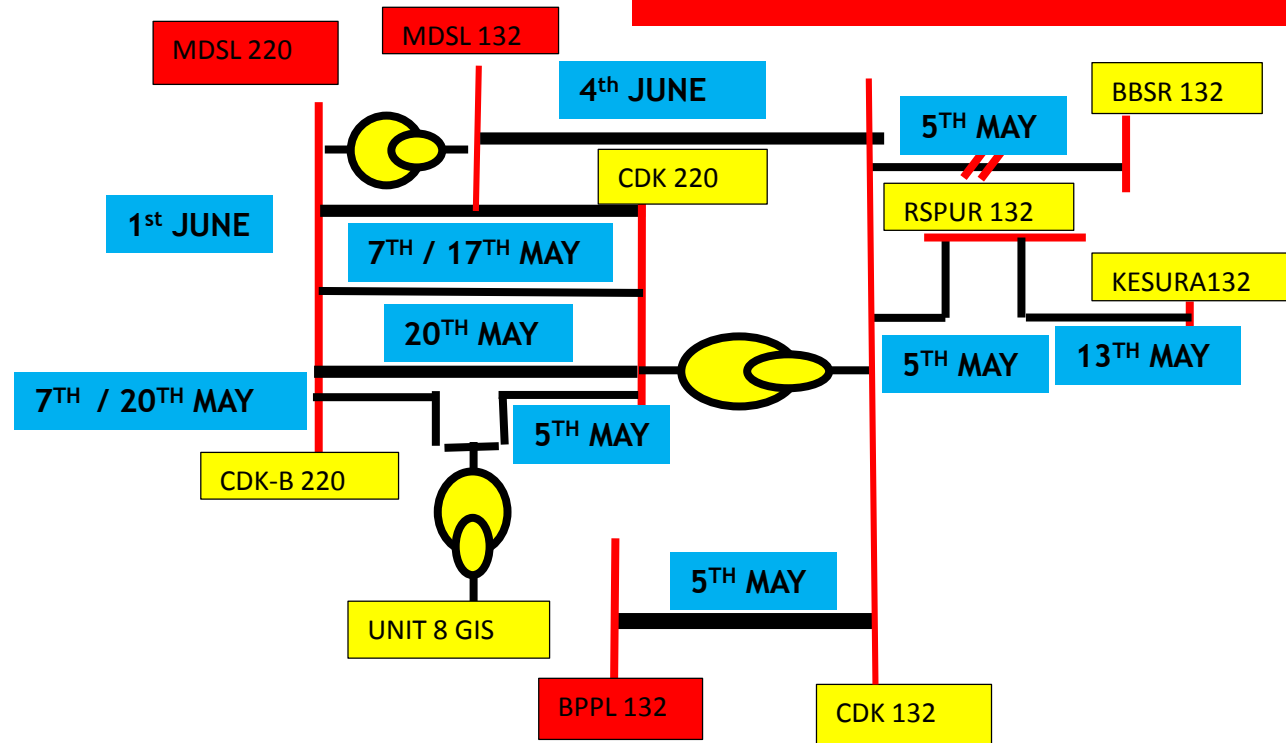
SOME CRITICAL RESTORATION

132KV Bidanasi-Choudwar LOC 16in River Bed

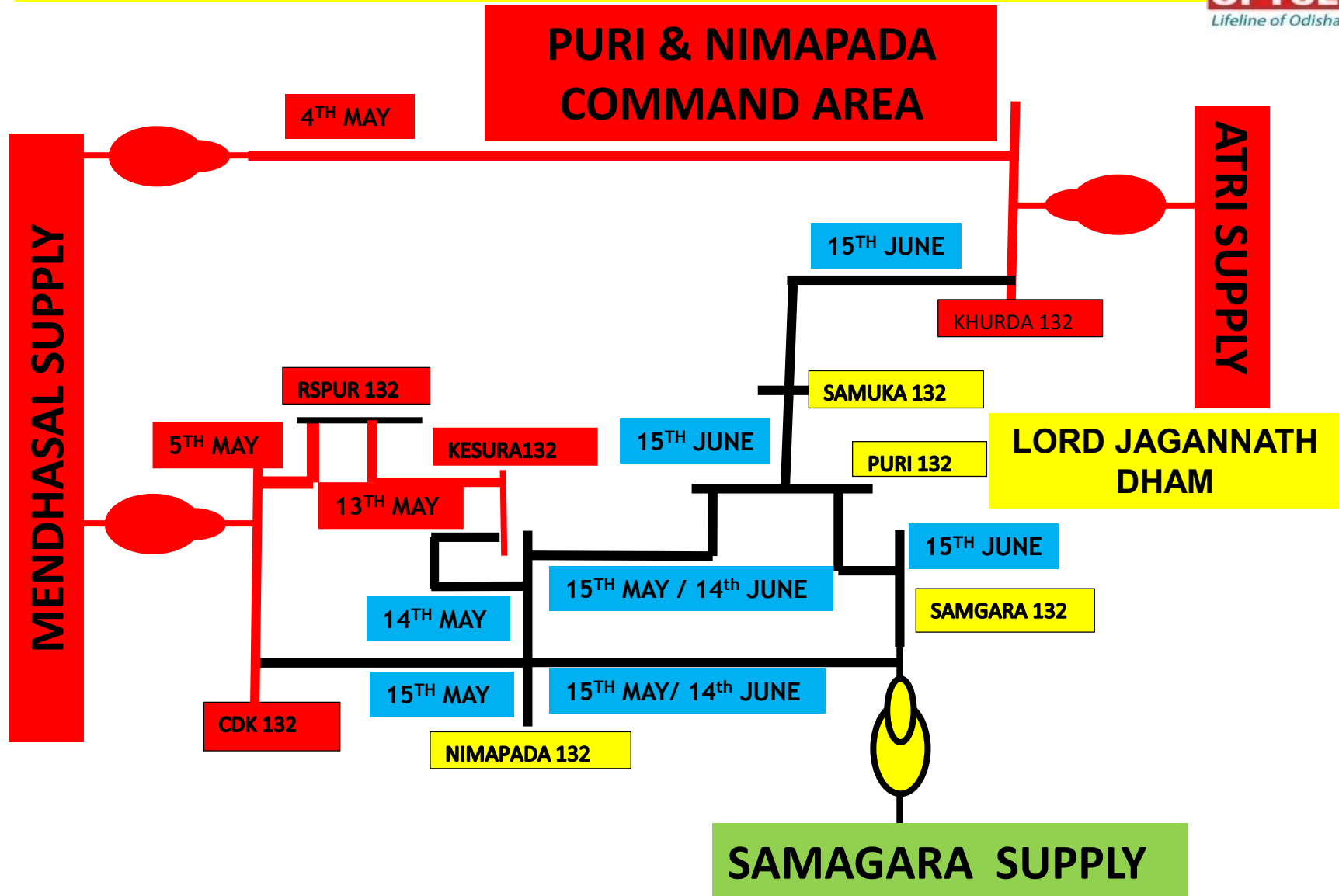


TEMPORARY SUPPLY ON 5TH MAY & FINAL COMPLETION ON 4TH JUNE 2019.

BHUBANESWAR COMMAND AREA



TEMPORARY SUPPLY ON 15TH MAY & FINAL COMPLETION ON 15TH JUNE 2019.



MAJOR AFFECTED NETWORKS (19 Lines, 115 Towers)



Sl. No.	AFFECTED LINES	NATURE OF DAMAGE	ACTION PLAN	
			Temporary Arrangement/ Action Plan	Permanent Arrangement
1	220 MENDHASAL- CHANDAKA-1&2	2 Towers Collapsed	Chandaka-2 charged with inter-linking arrangement and taken into service on 07.05.19	Line-2 charged on 17 th May and Line-1 on 1 st JUNE
2	220 MENDHASAL- CHANDAKA-3 &4	1 Tower Collapsed	Chandaka-4 charged with 2 Nos ERS and taken into service on 07.05.19	After repair both charged on 20 th May
3	220KV PANDIABILL- SAMAGARA - 1 & 2	64 Towers Damaged	Survey under progress	Restoration Plan worked out
4	220KV ATRI - NARENDRAPUR - 1 & 2	5 Towers Damaged	New Towers installed and charged on 28 th May and 29 th May	
5	132KV MENDHASAL CHANDAKA	2 Towers Collapsed	New Towers installed and charged on 4 th JUNE 19	
6	132KV KESURA- RSPUR LILO	3 Towers Collapsed	New Tower Erected with repair of STUB. Completed on 13 th May	
7	132KV PHUL NAKHARA CUTTACK LILO	3 Towers Collapsed	New Tower Erected. Taken into service on 11 th May	

MAJOR AFFECTED NETWORKS (19 Lines, 115 Towers)



Sl. No.	AFFECTED LINES	NATURE OF DAMAGE	ACTION PLAN	
			Temporary Arrangement/ Action Plan	Permanent Arrangement
8	132KV BIDANASI -CHANDAKA	2 Towers Collapsed	Charged on 22 nd May 2019	
9	132KV BIDANASI -CHOUDWAR			
10	132KV SAMAGARA - NIMAPADA	6 Towers collapsed	Erection of ERS completed in 6 Location and charged on 14 th May 19	New Tower installed & CHARGED ON 15 th June 19.
11	132KV NIMAPADA PURI			
12	132KV SAMAGARA-PURI		ERS Tower on Nimapada- Puri used for PURI supply and charged on 15 th May 19.	
13	132KV CHANDAKA-NIMAPADA	9 Towers collapsed + 1 Partially	Erection completed in 10 Location with repair of STUB and charged on 15 th May 19	
14	132KV KHURDA-SAMUKA	14 Towers collapsed	NO ACTION	New Tower installed & CHARGED on 15 th June
15	132KV SAMUKA-PURI	4 Towers collapsed	ERS tower Erected and CHARGED ON 28 th May	New Tower installed charged on 15 th June 19.

SEQUENCE OF RESTORATION OF TRANSMISSION ELEMENTS OF BHUBANESWAR -CUTTACK COMMAND AREA

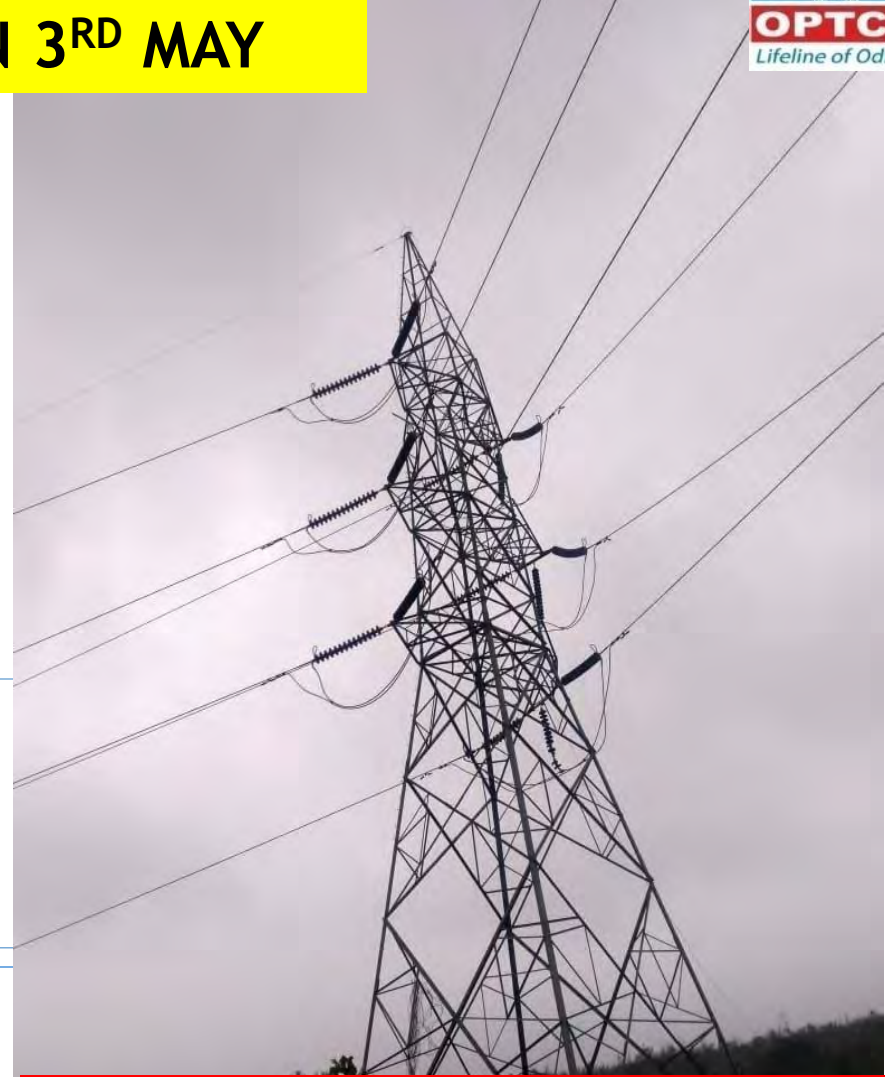
Sl. No	Name of Sub-Stn/Lne	Date	Time	Remarks
1	220 KV Bhanjanagar-Mendhasal ckt-I	03.05.19	17:30	Tripped at 22:24 on 05.05.19, and finally charged at 19.35 hrs on dt 10.05.19
2	132 kV ICCL Choudwar fdr	03.05.19	21:00	
3	132 kV Choudwar-Traction fdr	03.05.19	21:52	
4	Auto TRF No-1 of Mendhashal	04.05.19	16:32	
5	220 kV Mendhasala- Atri fdr	04.05.19	23:42	
6	132kv Atri-Banki fdr	05.05.19	00:14	
7	132 kV Atri -Arugul Fdr	05.05.19	00:15	
8	132 kVParadeep- Jagatsinghpur -Cuttack Fdr	05.05.19	10:46	SCB Medical got power supply from Cuttack at 11:32 Hrs on 05.05.19
9	220 kV Cuttack- Bidanasi Fdr	05.05.19	11:22	
10	132 kV Choudwar-BPPL-Chandaka FDR	05.05.19	15:39	Chandaka Grid S/S avail power supply.
11	Auto TRF No-1 of Chandaka	05.05.19	16:26	
12	220 kV Chandaka- Chandaka-B Fdr	05.05.19	16:28	
13	132 kV Chandaka- Manchsewar Fdr	05.05.19	16:37	Mancheswar Grid S/s charged.
14	SLDC avail Power supply from Mancheswar	05.05.19	17:08	
15	33 kV UNIT-8 S/S Charged from Chandaka-B	05.05.19	17:40	
16	220 kV Bidanasi- Meramandauli FDR	05.05.19	18:59	
17	220 kV bidanasi-cuttack Ckt-2	05.05.19	19:09	
18	220 kV Bidansi- Cuttack Ckt-1	5.05.19	19:22	
19	160 MVA Auto-1 of Cuttack	05.05.19	20:08	
20	132 kV Cuttack-Mancheswar Fdr	05.05.19	21:33	
21	132 kV Chandaka-Ranashingpur	05.05.19	22:02	AIIMS got power supply from Ranasinghpur at 22:39 Hrs on 05.05.19
22	220 kV Atri-Pandiavail Ckt-1	06.05.19	08:25	
23	132 kV Khurdha-Kaipadhar Traction	06.05.19	13:50	
24	220 kV Atri-Infocity Fdr	06.05.19	21:21	
25	132 kV Jagatsinghpur-Gorakhnath Traction	06.05.19	14:24	
26	132 kV Atri -Arugul Fdr	06.05.19	15:34	
27	132 kV Chandapur- Khurdha	06.05.19	15:35	
28	400 kV Meramanduli-Mendhasala Ckt-1	07.05.19	21:48	
29	220 kV Mendhasala- Chandaka Ckt-2	07.05.19	21:50	
30	400/220 kV, 315 MVA ICT-1 of Mendhasala	07.05.19	22:31	
31	400 kV Mendhasala-Pandiavali CKT-1	07.05.19	22:40	
32	400 kV Mendhasala-Pandiavali CKT-2	07.05.19	23:42	
33	220 kVMendhasala-Chandaka-B Ckt-4	08.05.19	14:46	
34	ICT-2 of Mendhasala	10.05.19	22:05	
35	400 kV Pandiavail-Baripada	10.05.19	23:27	
36	132 kV Phulnakhara-Cuttack fdr	11.05.19	18:47	Phulnakhara Grid S/S charged.

220KV MENDHASAL- CHANDAKA LINE 1/2

DAMAGED ON 3RD MAY



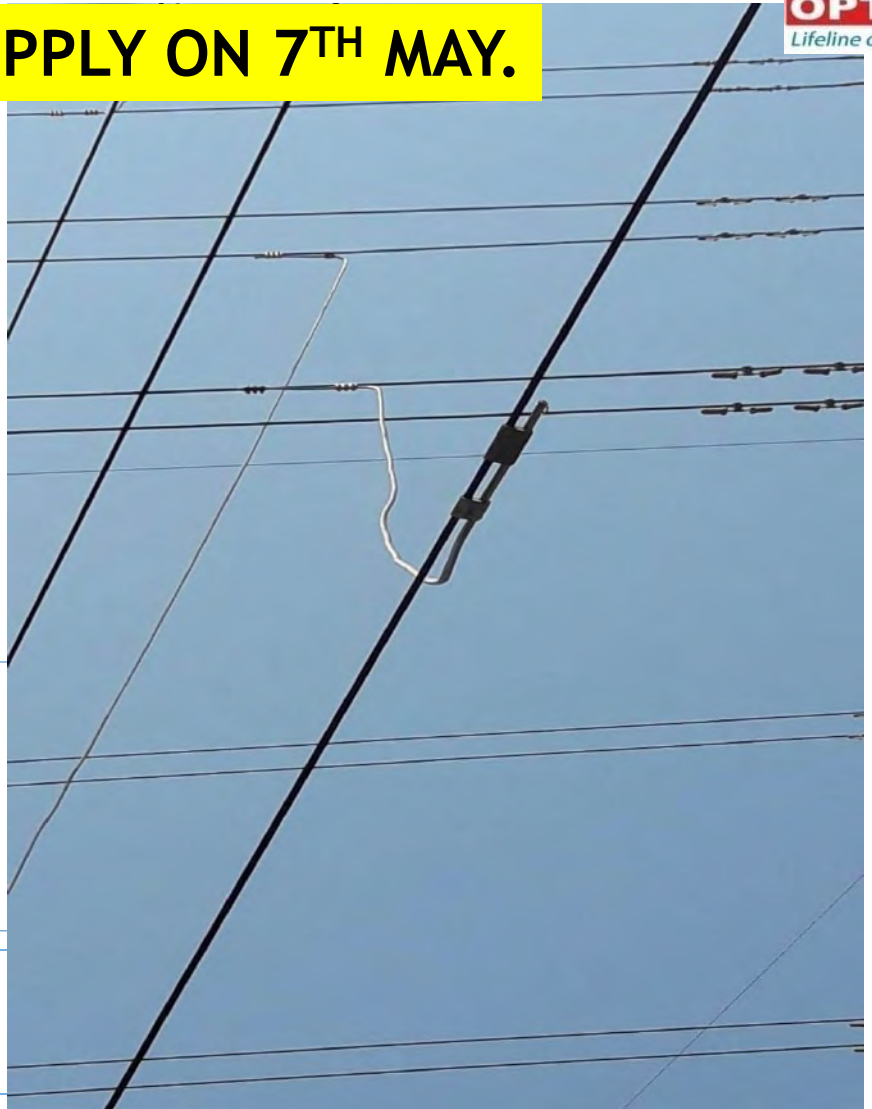
**DAMAGED TOWER 220KV
MENDHASAL-CHANDAKA AT
LOCATION NO 35 ON 3RD MAY**



**DAMAGED CROSS ARM 220KV
MENDHASAL-CHANDAKA AT
LOCATION NO 46 ON 3RD MAY**

220KV MENDHASAL- CHANDAKA LINE 1/2

TEMPORARY SUPPLY ON 7TH MAY.



**TEMPORARY SOLUTION BY INTERLINKING OF VAILABLE
LINK SUPPLY WAS EXTENDED ON 7TH MAY 19**

220KV MENDHASAL- CHANDAKA LINE 1/2

PERMANENT SOLUTION ON 17TH MAY



**DAMAGED TOWER 220KV
MENDHASAL-CHANDAKA AT
LOCATION NO 35 ON 3RD MAY**



**FULLY ERECTED TOWER AFTER
REPAIR ON 17TH MAY**

220KV MENDHASAL- CHANDAKA LINE 1/2

PERMANENT SOLUTION ON 1ST JUNE



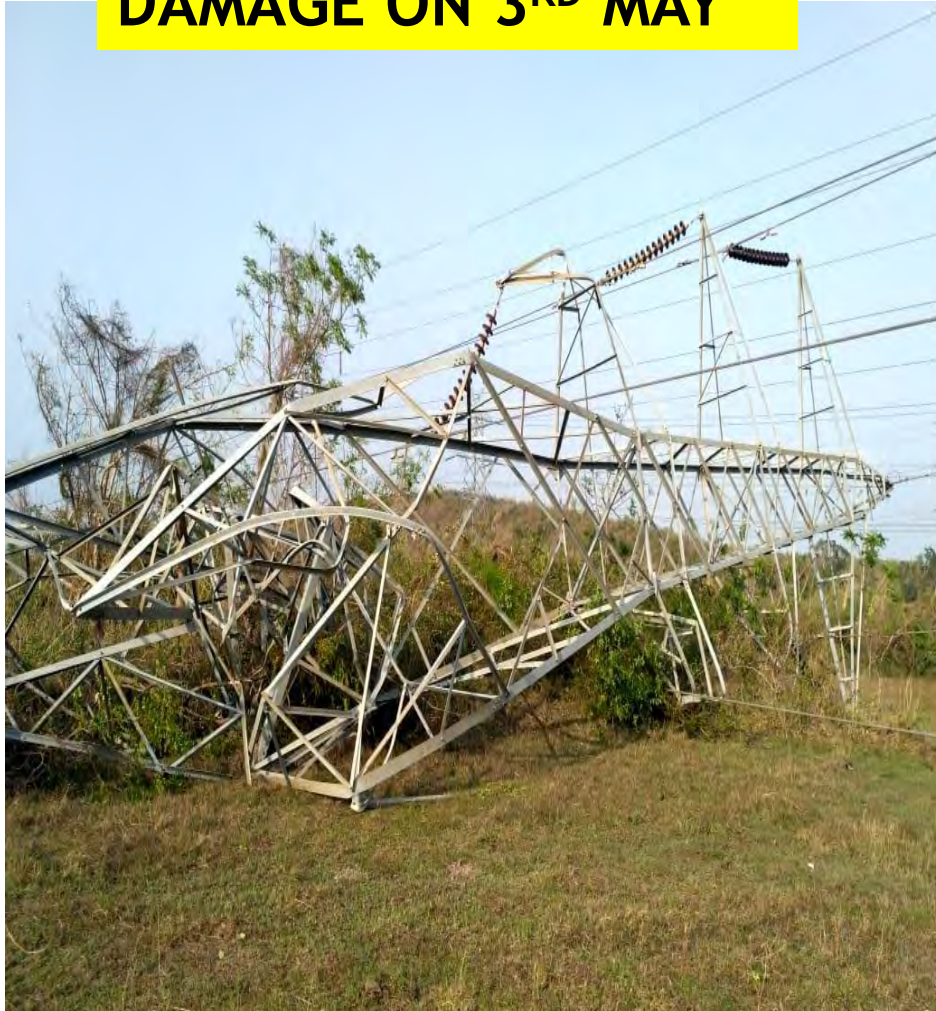
**DAMAGED TOWER AT
LOCATION NO 46 ON 3RD MAY**



**NEW TOWER ERECTION ON PLAN
AND WORK ON PROGRESS**

220KV MENDHASAL- CHANDAKA LINE 3/4

DAMAGE ON 3RD MAY



**COLLAPSED TOWER 220KV
MENDHASAL-CHANDAKA LINE 3/4
AT LOCATION NO 474 ON 3RD MAY**

TEMP. SUPPLY ON 7TH MAY



**TEMPORARY ERS TOWER
SOLUTION ON 7TH MAY FOR
CIRCUIT 4 LOCATION NO 474**

220KV MENDHASAL- CHANDAKA LINE 3/4

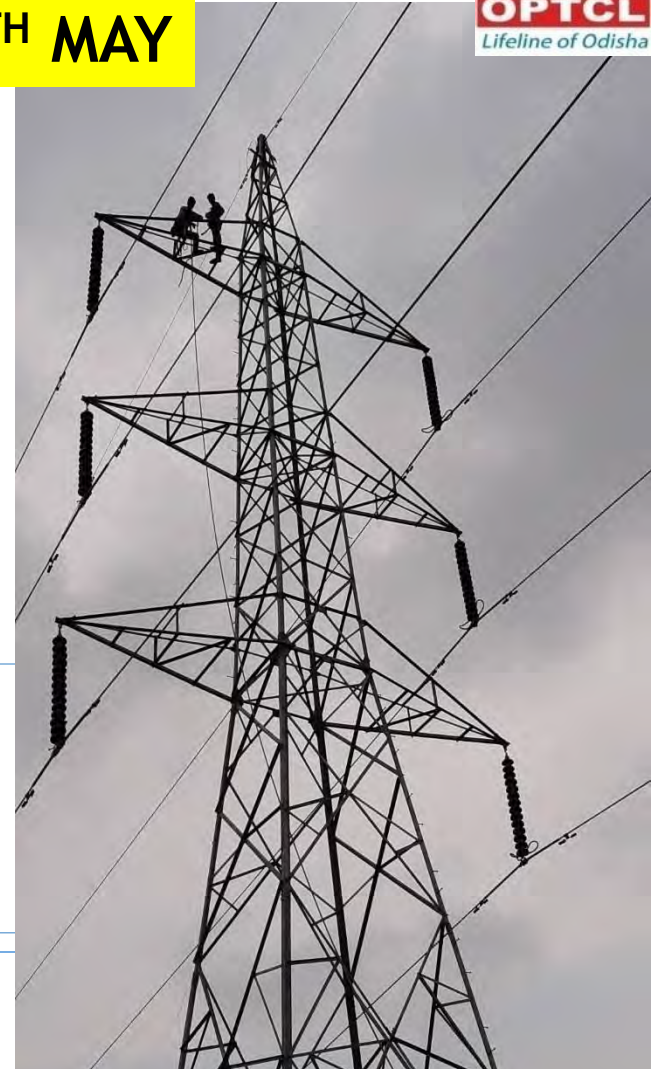
PERMANENT SUPPLY ON 20TH MAY



**TOWER ERECTION
ON PROGRESS**



**TOWER ERECTION ON
PROGRESS**



**FULL TOWER ERECTION
ON 20TH MAY 19**



ERS TOWER ERECTION



Experience with Distribution System

Distribution Network Damage

Sl No	Items	CESU	NESCO	SOUTHCO	TOTAL
1	33/11 KV S/s - Affected (Nos.)	272	169	-	441
3	33 KV Feeder - Affected (Nos.)	163	68	45	276
5	11 KV Feeder - Affected (Nos.)	908	493	182	1583
7	DTRs - Affected (Nos.)	65,024	798	210	66,032
9	Consumers - Affected (Nos.)	25,01,131	14,76,447	6,50,305	46,27,883

District wise Damage - CESU

Sl. No.	Name of District	33 KV Feeder	33/11 KV Sub-stations	11 KV Feeder	DTR	Consumer
1	Angul	16	28	96	8153	224680
2	Dhenkanal	15	22	75	4844	198132
3	Cuttack	31	63	197	11926	490532
4	Puri	20	23	98	7538	291171
5	Nayagarh	10	21	55	6446	213310
6	Bhubaneswar City	28	38	156	7844	316257
7	Khurda	18	26	78	6099	250666
8	Kendrapada	13	26	78	6044	256747
9	Jagatsinghpur	9	21	61	5249	217443
10	Jajpur	3	4	14	881	42193
CESU TOTAL		163	272	908	65024	2501131

Damage of Distribution Structure



Damage of Distribution Structure



Damage of Distribution Structure





Immediate Response

- ▶ Just after cyclone receded, patrolling teams started clearing small debris and assessing the damages.
- ▶ Minor damages were also rectified and consumers given power supply in less affected areas.
- ▶ Control Rooms were setup at Energy Department, OPTCL & DISCOM Offices.
- ▶ Plan of Action (POA) and Restoration Protocols were chalked out.
- ▶ Expenditure modalities finalized for restoration work.
- ▶ Requisition placed with SRC for advance fund allotment.

Manpower Mobilization

- ▶ Around 800 workmen mobilised from EPC contractors & Rate Contract Agencies and engaged in restoration work of EHT network.
- ▶ Around 6000 workmen (in 512 gangs) sourced from Discoms, CPSUs (NTPC & PGCIL), Corporates (Tata, L&T, Godrej, Adani, FEDCO), Contractors, other States (Telengana, West Bengal, Bihar, Kerala) and engaged in revival of Distribution network.
- ▶ Apart from above, another 1200 manpower also deployed by licensed HT Contractors for restoration & onward rectification in Bhubaneswar, Cuttack, Khurda, Puri, Nimapada & Jagatsinghpur.
- ▶ Almost 200 Engineers/Officers are deputed from other Discoms to CESU area.

Logistic Support

- ▶ Arrangements for accommodation & food made at multiple locations.
- ▶ 3 large camps organized at PTC, Chandaka, Samagara Grid, Puri and Nimapada Grid for 2000 people.
- ▶ Machineries like DG Sets, Pole Erection Machines, Welding Machines, Power Saws, Earth Movers sourced from CPSUs, Discoms, Contractors and local parties.
- ▶ Transportation vehicles for men & material arranged on hire basis locally.
- ▶ Help Desk made operational at Bhubaneswar Railway Station to coordinate with outside teams/gangs.

Challenges, Opportunities & Lessons Learnt from FANI

SI	Points	Challenges	Opportunities	Lessons Learnt
1	Patrolling during Disasters	Inaccessible water and fallen tree logged area. Communication failure.	Managed by manual approach on creating the front by ODRAF and NDRF team. Sharing of information by pre-defined meeting.	To use of GPS based Android App Patrolling software which can be integrated with Drone camera for quick decision.
2	Material Management	Infrastructure damage beyond availability with difficult situation of its transportation.	Materials diversion from the up-coming and running projects. Carriage by head loading, Boats, wooden Platform from access point.	Emergency E-Procurement Policy with pre-defined guidelines.
3	Work completion before monsoon break.	1. Monsoon about to break during mid JUNE. 2. Working with Scorching Sun in the mid-summer.	1. Managed by utilizing the multi-gang agencies. 2. Motivation from higher authorities. 3. Allowed to work during night with emergency light support with higher wages.	Strategic and time-bound work plan with dedicated and involved working groups.

Challenges, Opportunities & Lesson Learnt from FANI



SI	Points	Challenges	Opportunities	Lessons Learnt
4	Temporary Power supply Extension	Severe damage of multi-link network.	<ol style="list-style-type: none"> 1. By use of ERS Towers as per the target timeline assigned 2. Alternate Power supply by Inter-linking NETWORK with jumpering of the part healthy system. 	<ol style="list-style-type: none"> 1. Advanced strategic plan with logistic approach and experienced empanelled working agencies. 2. Creation of ERS, Disaster Management Unit and Disaster Response Centre being equipped with personnel, vehicles, T&P at different Zones.
5	Early Supply Extension to Consumers	Severe Damage of Distribution Network	Phase wise diversion of distribution areas to healthy Grids, optimising the capacities of Sub-station.	<ol style="list-style-type: none"> 1. Adaption to RMU, SCADA, GIS, Auto-healing system, SAS, EMS etc.. 2. Underground cables to main important localities

Resiliency of Power Structure during Disasters



1. Full proof Strategic Plan :

- Six A's Preparatory Tool
- Well documented POST event Reports on Learning lessons.

2. Secondary Network Up-gradation: (Distribution)

- Mechanism of RMU (Ring Main Unit) with sectionalisers to ULBs.
- Use of NBLS Tower, UG cable for Trunk Lines
- H-pole, UG cable, Spun pole for internal ring.
- HTLS conductor with up gradation of hardware.
- Polymer Insulators.

3. Primary System Up gradation: (Transmission)

- Network and equipment (Transformers) with N-1 contingency.
- Use of Robust and resilient Equipment
- GIS and Hybrid Grids.
- 400KV CTS (Costal Transmission Scheme) with wind resilient Tower. (Here the link could be Paradeep-Uttara-Mendhasal-Berhempur- Jeypore Link
- Gradual changeover of TL with same ROW, abolition of OLD tower with up gradation to next voltage level if required.

Resiliency of Power Structure during Disasters



4. Distributed Independent Sources:

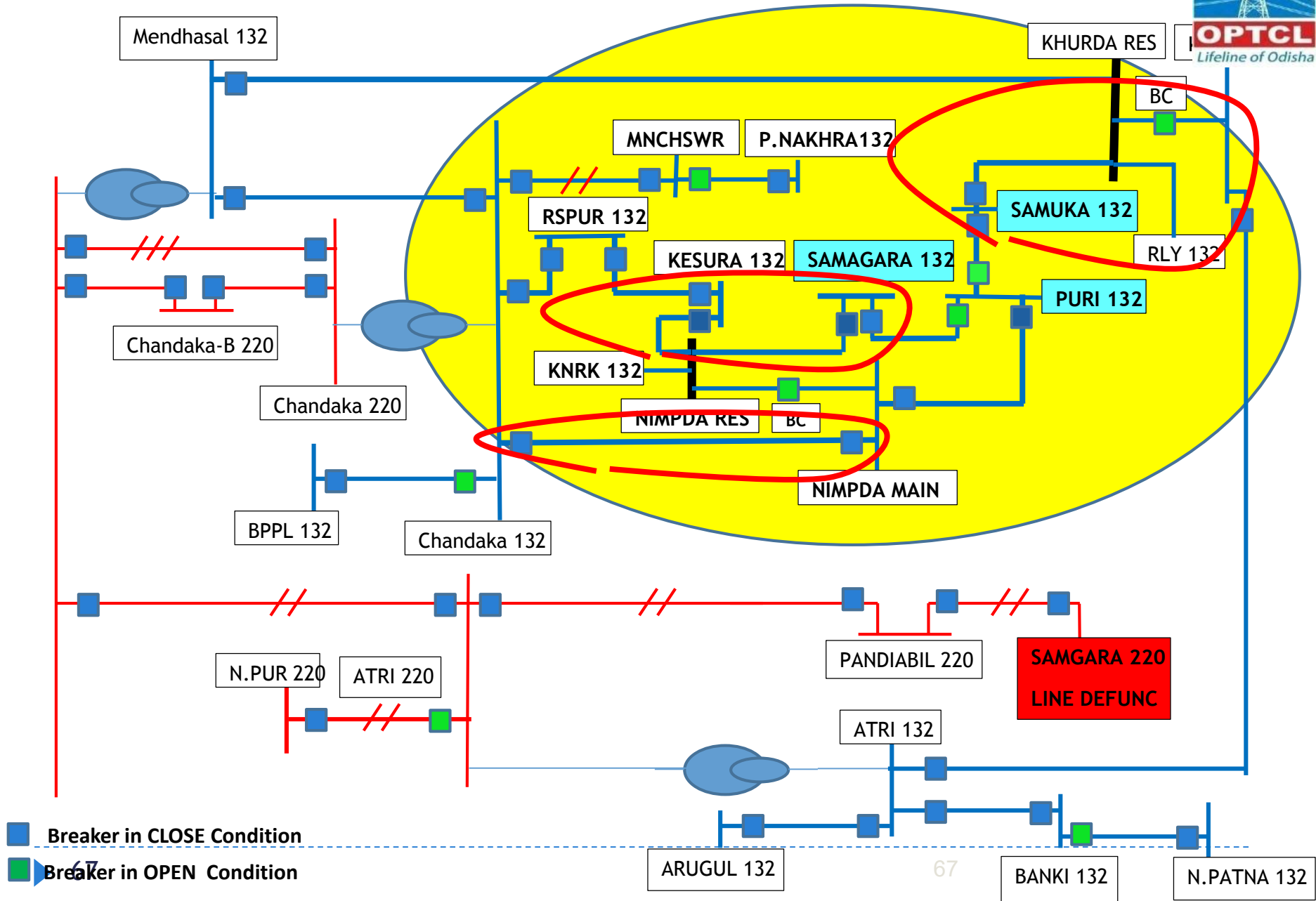
- Micro-Grid with DER (Distributed Energy Resources)
- DG (Distributed Generation) with integration of RE (Renewable Energy).
- Remote Control GIS grids

5. Adaption to Innovative:

- IoT (Internet of Things) for Auto control for system stability.
- Sensor driven Real time Data analysis and consequent recovery control action.
- Self Healing Network with Auto- Reclose,
- SCADA, SAS and LADR concept for system control.
- GIS and other Hybrid Grids for environment resilient grids .
- Modern innovative SMART GRID and Modern Digital Grid Concept for reliability and stability.

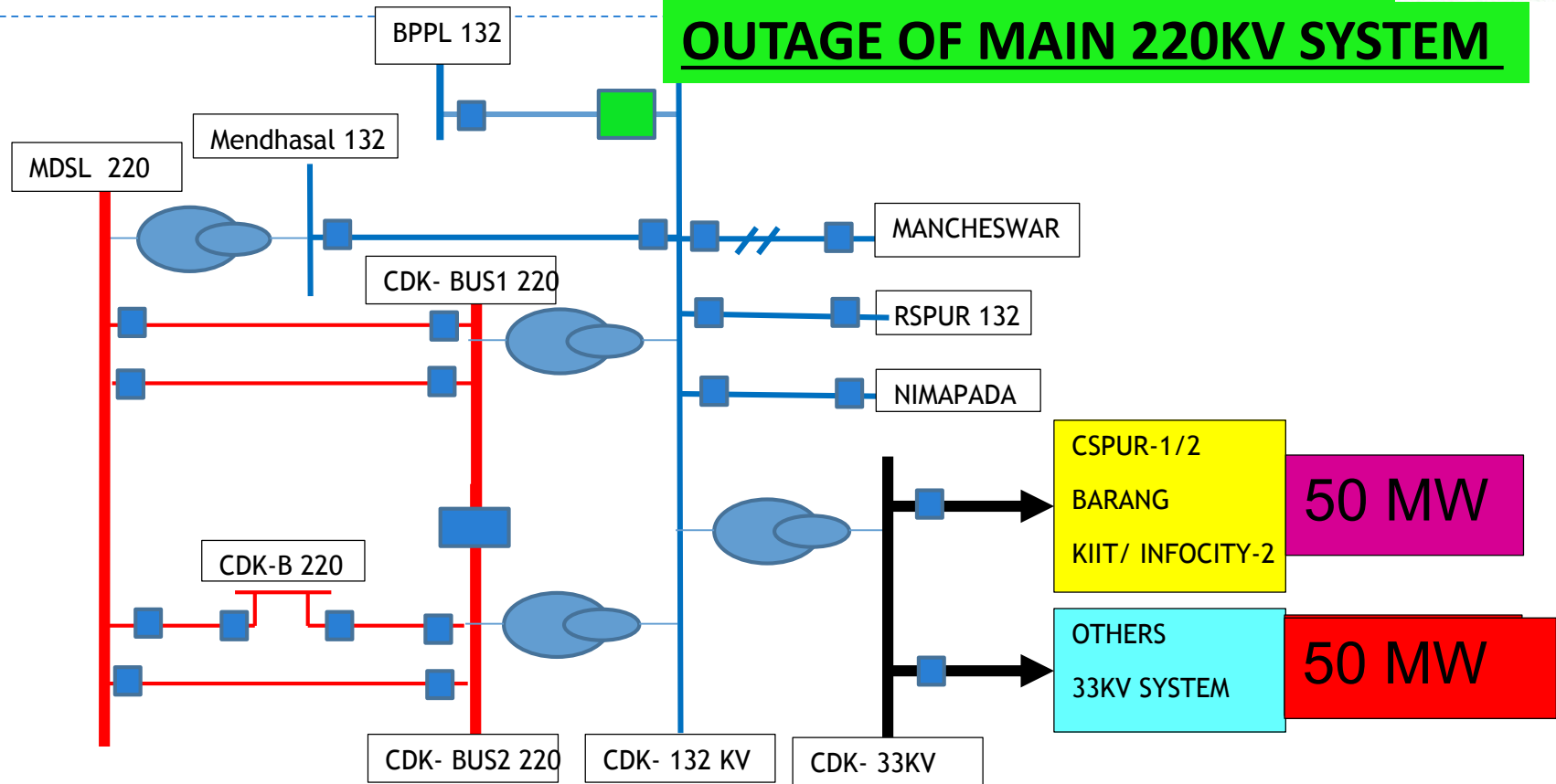
Example of Stable System network to PURI command area even the major 220KV power supply is yet to be in operation after FANI is explained.

STABLE EHT NETWORK DURING RATH YATRA 2019 FOR STEADY POWER SUPPLY TO PURI COMMAND AREA

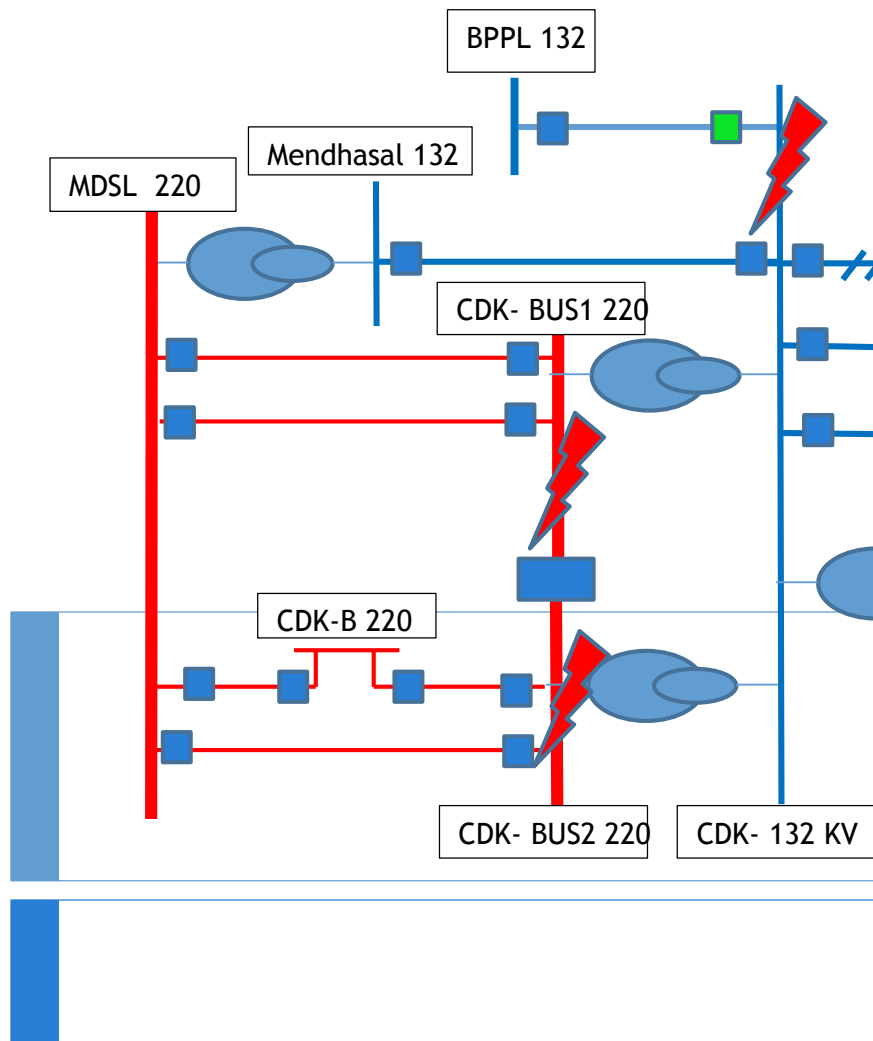


AUTO SHADED CONCEPT CHANDAKA GRID SUB-STATION FOR UN-INTERRUPTED SUPPLY TO IMPORTANT AREA

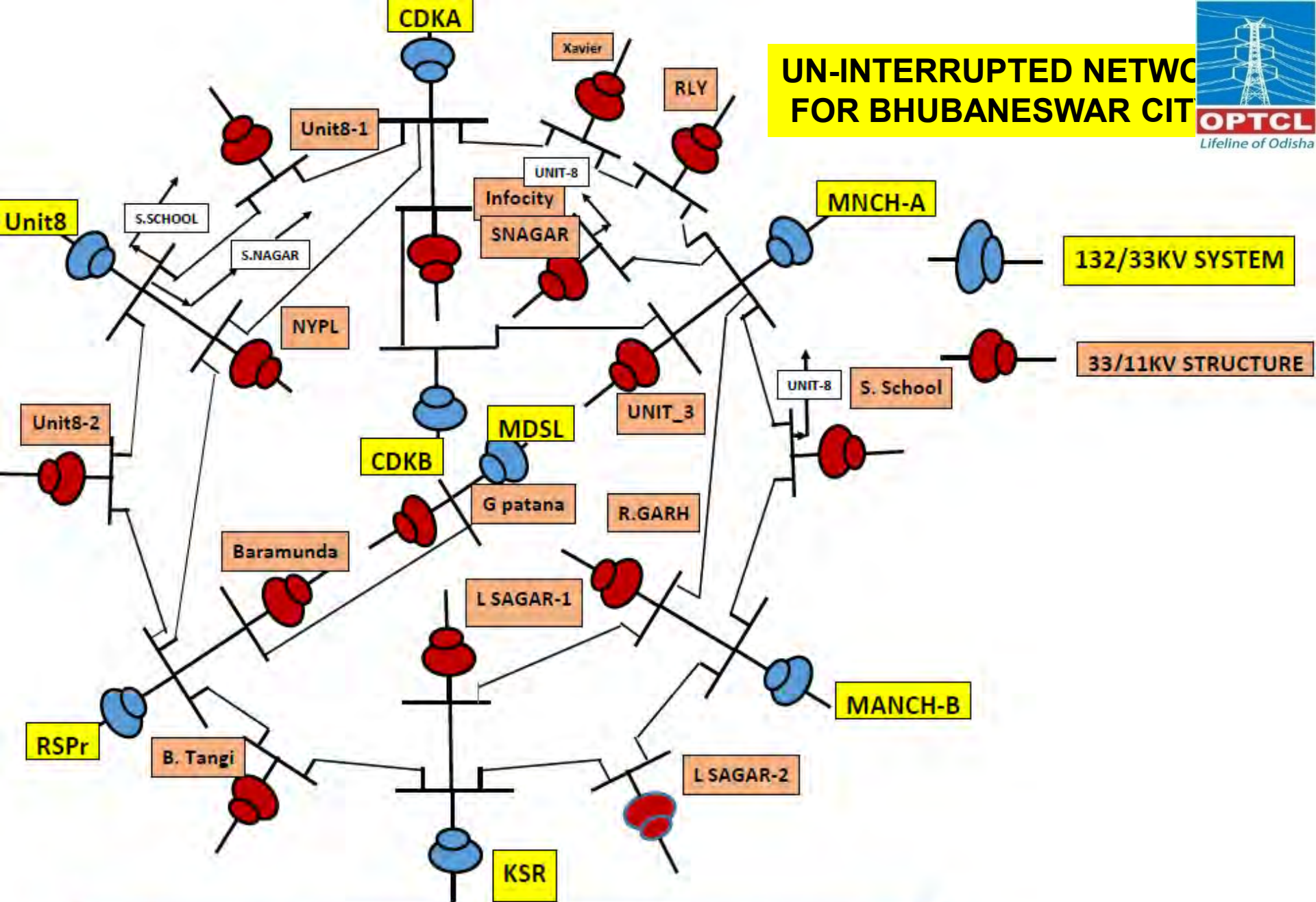
OUTAGE OF MAIN 220KV SYSTEM



AUTO SHADED CHANDAKA GRID SUB-STATION



UN-INTERRUPTED NETWORK FOR BHUBANESWAR CITY



RING MAIN NETWORK FOR BHUBANESWAR COMMAND AREA

Build-Back-Better for un-interrupted Power supply



1. Revisiting of Tower Design and Profile:

- Reconstruction of the damaged stretch of the TL, ensuring smaller span.
- Adopting strongest Tower that permits higher angles of deviations withstanding of Zone-6.
- For Disaster vulnerable areas, 6 legged / 8-legged stabler towers / monopoles @ smaller span to sustain wind velocity higher than 200KMPH.
- For Flood vulnerable, PILE FOUNDATION and embankment structure to be chosen

2. Revisiting of Line Conductors and Tower Accessories :

- Use of HTLS (High Temperature Low Sag) and other high temperature endurance conductors
- Long-rod insulators, Polymer Insulators.
- Glass fibre Flexible cross arm.
- Corrosion free tower materials, especially for saline affected Zone.

3. Use of Tower Patrolling Software :

- Tower Patrolling software (Android base mobile friendly) using GPS technology can allow us to have pro-active action on the tower

4. Development Data base on Tower Scheduling and Profile:

- The Off-line testing, tower scheduling and other data could be maintained for immediate action

5. Central/State Acts on ROW

- Need of Central/State Act for RoW settlement for T&D projects.
- Stipulation of Benchmark value
- Conversion of Agricultural land to homesteads. .

Build-Back-Better for un-interrupted Power supply

6. Adaption to Innovative and On-Line Monitoring Tools:

- Use of ON-LINE monitoring devices like PID, Leakage current monitor,
- Fault passage Indicators, Thermal scanning.
- Auto vibrator sensing for looseness on Tower members.

7. Creation of ERS and Disaster Management Unit:

- Creation of ERS, Disaster Management Unit and Disaster Response Centre being equipped with personnel, vehicles, T&P at different Zones.
- The specialised empanelled agencies, satisfying the norms to be created to meet these exigencies.
- Mock Training to be acquaintance to new technology.

8. Encouragement for indigenous home land products:

- ERS Tower is proven of Disaster resilient, but its production being at overseas results with higher cost.
- Encouragement should be for domestic capacity building for easy availability with less price

9. Training and development

- Grooming the youngsters under experienced officers
- Interstate collaboration and deal for extension of helping hand.
- Allowing the youngsters to be the part of the disaster plan.

Distribution Structural Improvement.

1. Up-gradation of Infra-structures.
2. Use of H pole instead rail, joist or RCC or Spun.
3. Use of AB cables.
4. Adaption to RMU either inter-connected or radially fed depending upon the situation.
5. Adaption to Innovative: SCADA, GIS, Auto-healing system, SAS, EMS etc..
6. Underground cables to main important localities.
7. Study of un-interrupted Power supply to Bhubaneswar command area is explained below.

SOP for Early Restoration.

ACTION for Alternate Supply

- Each Identified critical lines in the NETWORK have defined SOP.
- On Outage, the nodal officer immediately avails the alternate supply or for the automated system the standby network gets closed.
- The Nodal Officer then intimates SLDC for Load/ Supply adjustment .

Restoration in case of Damage or Permanent Failure

- Assess the damage
- Acquire the category
- Prioritise the Action Plan
- Short Term Planning with Review
- Long Term Planning with Review
- Closure of the Project With report on Lessons learnt for future reference.

Adoption of Innovative Technology.

- **Monitoring of Grid Failure:** SCADA, SAS and PMU with Digital system already in the role to the maximum grids and integration to REMOTE station by the use of IEDs (Intelligent Electronic Devices) is to be done for easy control, monitoring, supervising and if required necessary real time rectification.
- **Coordination plan with Stake holder:** On-line Data monitoring by the EMS module at present available in SLDC to work upon the pre-scheduling structure with Inter-disciplinary role in line with GRID CODE. We also meet all our stake holders with bi-monthly meeting to discuss the deficiencies and discrepancies.
- **Preparation of a DPR :** We are in action of preparing a DPR on “ What NOW... What NEXT.. (WNWN) ” For resilient Power Infrastructure.

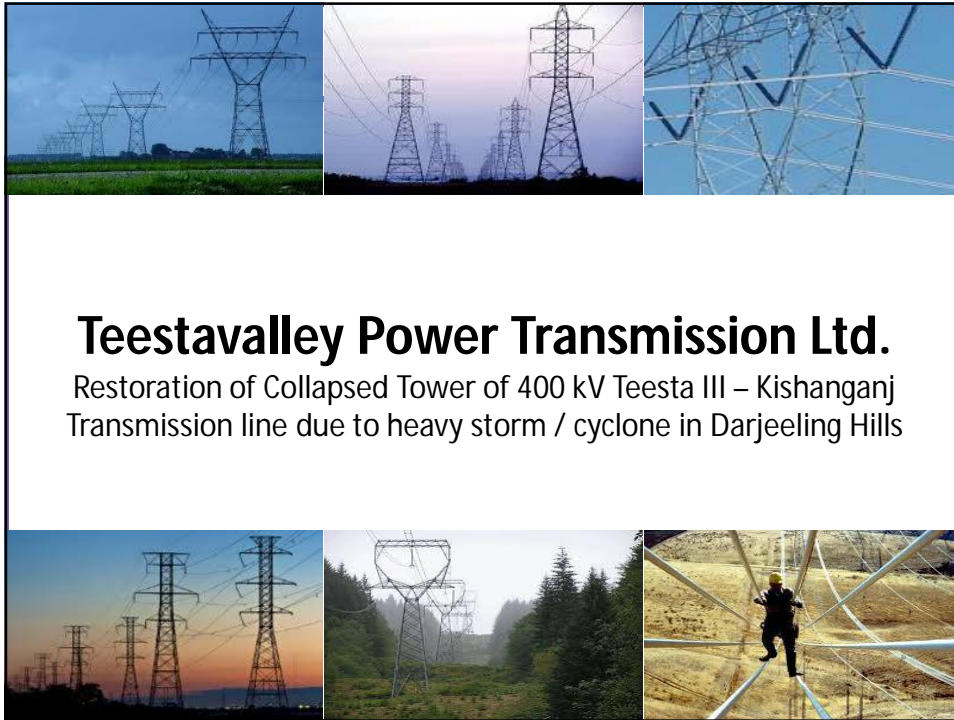
CONCLUSION

Our approach is testimony of our willingness to embrace the changes in the emerging environment with our MANTRA

(PQRS: **P**ower with **Q**uality, **R**eliability **S**afety and security.) with a tag line of **WE CAN WE WILL**

*"If we don't strive for change,
then change will drive us away."*

THANK YOU!



Teestavalley Power Transmission Ltd.

Restoration of Collapsed Tower of 400 kV Teesta III – Kishanganj Transmission line due to heavy storm / cyclone in Darjeeling Hills

About the Incident (Cross arm damage of AP 254 on 07.08.19)



- There were heavy storm, rainfall & cyclone in Darjeeling District of West Bengal since 15th July 2019.
- Tower no. AP 254 (located in Fuguri Village under Mirik Block of Darjeeling Hills) got affected and the top and middle cross-arm on one side got damaged at 00:58 hrs on 07.08.2019 causing tripping of one circuit of the transmission line, i.e. 400 kV Rangpo – Kishanganj line. However, other circuit i.e. 400 kV Teesta III – Kishanganj Line was under energized condition and was carrying power from Teesta III HEP
- The tower no. AP 254 is reinforced DC type tower of altitude more than 1000m and was erected in the month of February 2016 and the stringing of the spans involving the tower location no. AP 254 was completed in July 2016. The preceding and succeeding spans are 146m and 743m with elevation difference of 57 m and 228m respectively

Bad weather and affected areas of Darjeeling Hills



- Due to the heavy storm, rainfall & cyclone, there were falling of trees, land slide, damages of house, Road , etc in Darjeeling hills reported in newspaper on 07.08.2019 and published in the newspaper.
- There were obstruction at 29 mile of NH-10 due to the rainfall
- There were incidents of many tree falling, house collapse, injury of villagers, persons were hospitalised, etc
- The mobile network was not available Mirik area.
- There were heavy fog in Darjeeling hills area.

The Newspaper cutting and photos were attached.

3

Photos & Newspaper Cutting (1/9)



Cross arm
damage of 254

4

Photos & Newspaper Cutting (7/9)



Restoration works under progress at AP 254

5

Works involved in Restoration



DE-STRINGING

- Installation of de-stringing arrangements at Top & Middle phase of both the circuits at preceding tower location (AP 253) & succeeding tower location (AP 255), lowering of 24 conductors along with Earthwire from each tower & rough sag at AP 253 & AP 254 respectively.
- Installation of de-stringing arrangements at Bottom phase and earth wire of both the circuits at AP 253 & AP 255, lowering of 24 conductors & rough sag at AP 253 & AP 254 respectively and rough sag at AP 254 for both the spans (AP 253 to AP 254 & AP 254 to AP 255).

Dismantling & Erection

- Dismantling of tower upto Bottom cross arm level
- Re Erection of Tower from Bottom cross arm level

RE-STRINGING

- Makeup of Top & Middle phase Conductors of both circuits of AP 253 to AP 254 & AP 254 to AP 255 at AP 254 & fixing of cotter pin at AP 253 & AP 255.
- Makeup of Bottom phase Conductors of both circuits of AP 253 to AP 254 & AP 254 to AP 255 at AP 254 & fixing of cotter pin at AP 253 & AP 255 & putting jumpers on Mid. & Bot. phases.
- Make up of Earth wire at AP 254 and fixing of cotter pin at AP 253 & AP 255 along with fixing of Earthwire accessories.
- Fixing of spacer damper on Middle & Bottom phases.

6

Actions taken by TPTL to restore the line (1/2)



- For the restoration works, contractor M/s Tata Projects Ltd. and M/s Balaji Operation & Maintenance Services Pvt. Ltd. was advised to deploy maximum possible manpower for tower erection gang and stringing gang.
- M/s Tata Projects and M/s Balaji deployed 120 nos. manpower for tower erection gang & stringing gang with necessary T&P and other resources. TPTL also deployed 15 nos. fitters for restoration works who were already engaged in operation & maintenance of the transmission line in the States of Bihar & Sikkim
- Line Materials such as tower members of the tower above waist level including four cross - arms and hardware fittings & accessories were transported from the store to the tower location.
- It was planned to completed the works by 16.08.2019. Accordingly, the shut down were taken till 09.08.20 19 & 16.08.2019 .

7

Actions taken by TPTL to restore the line (2/2)



The restoration works were hampered due to the following constraints.

- Continuous excessive rainfall in the Darjeeling Hills.
- Dense fog in the Darjeeling Hills.
- Low visibility in Darjeeling Hills.
- Non availability of shut down of 11 kV distribution line of WBSEDCL, which passes below the 400 kV Teesta III – Kishanganj transmission line.
- Severe ROW issues at site.

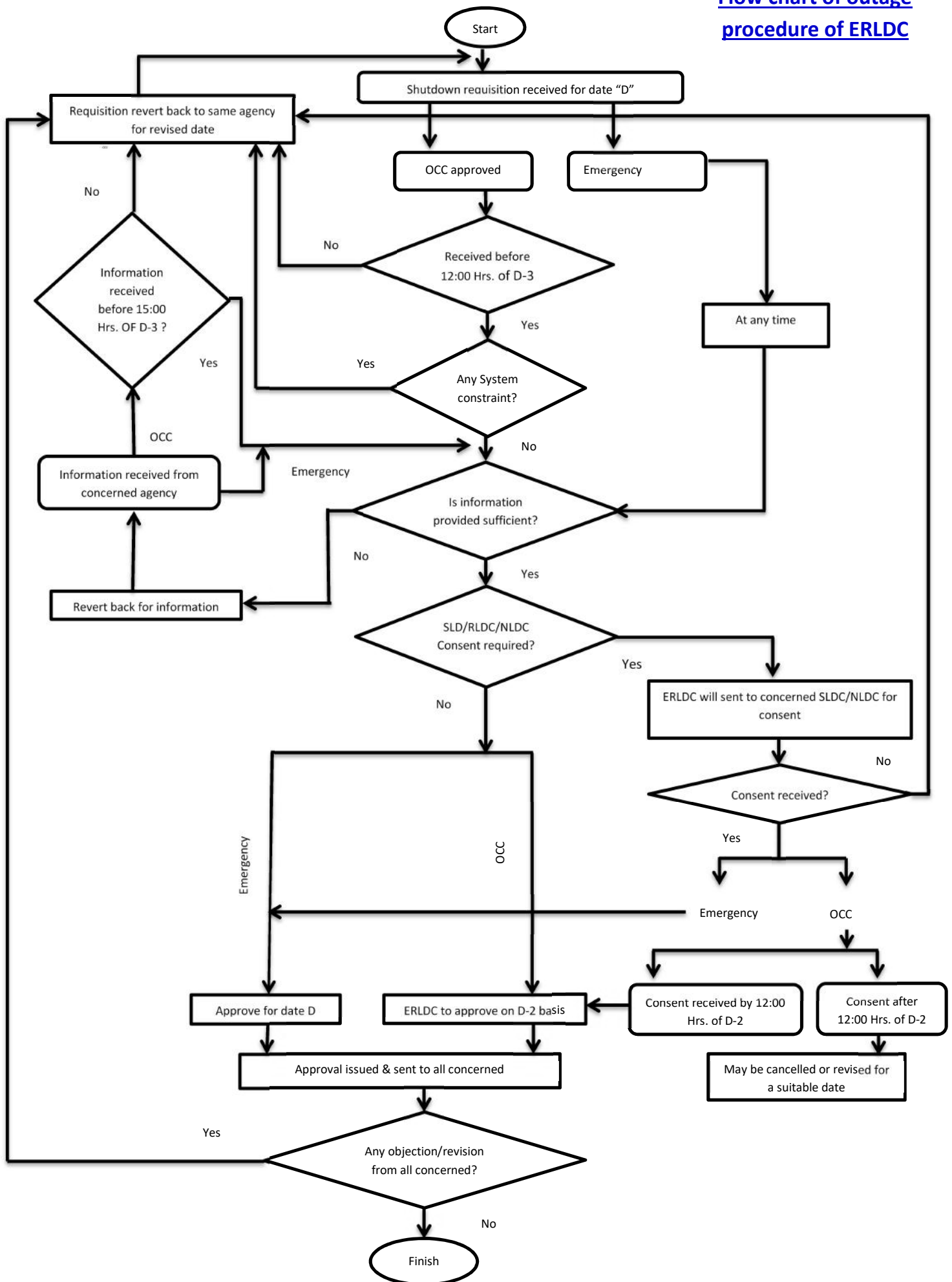
Therefore, the shut down of both 400 kV Rangpo – Kishanganj Line and 400 kV Teesta III – Kishanganj Line was extended initially upto 20.08.2019 and subsequently upto 22.08.2019.

In-spite of the above said hurdles, both the 400 kV Rangpo – Kishanganj Line and 400 kV Teesta III – Kishanganj Line was restored on 23.08.2019 and both the lines were charged on same day i.e. 23.08.2019.

8

Program for PSS Tuning for different units of DVC

Sl. No	Station	Units	Remarks
1	MTPS	Unit#4 (210 MW)	Dec, 2019
		Unit#5 (250 MW)	Dec, 2019
		Unit#6 (250 MW)	Dec, 2019
		Unit#7 (500 MW)	Dec, 2019
		Unit#8 (500 MW)	Dec, 2019
2	DTPS	Unit#4 (210 MW)	April 2020
3	DSTPS	Unit#1 (500 MW)	Nov 2019
		Unit#2 (500 MW)	Nov 2019
4	RTPS	Unit#1 (600 MW)	Feb, 2021 (after overhauling of unit)
		Unit#2 (600 MW)	June, 2021 (after overhauling of unit)
5	CTPS	Unit#7 (250 MW)	Dec 2019
		Unit#8 (250 MW)	Dec 2019
6	KTPS	Unit#1 (500 MW)	May, 2020
		Unit#2 (500 MW)	PSS Setting done in Feb 2019. (records attached)
7	BTPS-A	Unit#1 (500 MW)	June, 2020 (after overhauling of unit)
8	BTPS-B	Unit#3 (210 MW)	June, 2020



ERLDC Shutdown approval process flow and time line-reg.

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

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

To tackle all the above following suggestions may be considered:

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

Annexure-D.1

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

SL.NO	PARTICULARS	PEAK DEMAND MW	ENERGY MU
1	BIHAR		
i)	NET MAX DEMAND	4875	2350
ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	412	334
	- Central Sector	3948	1905
iii)	SURPLUS(+)/DEFICIT(-)	-515	-111
2	JHARKHAND		
i)	NET MAX DEMAND	1410	800
ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	405	160
	- Central Sector	860	412
iii)	SURPLUS(+)/DEFICIT(-)	-145	-228
3	DVC		
i)	NET MAX DEMAND (OWN)	2925	1870
ii)	NET POWER AVAILABILITY- Own Source	5311	2868
	- Central Sector	518	238
	Long term Bi-lateral (Export)	1446	1041
iii)	SURPLUS(+)/DEFICIT(-)	1457	195
4	ODISHA		
i)	NET MAX DEMAND	3900	2304
ii)	NET POWER AVAILABILITY- Own Source	3778	1651
	- Central Sector	1483	708
iii)	SURPLUS(+)/DEFICIT(-)	1361	55
5	WEST BENGAL		
5.1	WBSEDCL		
i)	NET MAX DEMAND (OWN)	5700	2744
ii)	CESC's DRAWAL	0	58
iii)	TOTAL WBSEDCL's DEMAND	5700	2802
iv)	NET POWER AVAILABILITY- Own Source	4076	1591
	- Import from DPL	465	0
	- Central Sector	2115	1130
v)	SURPLUS(+)/DEFICIT(-)	956	-80
vi)	EXPORT (TO B'DESH & SIKKIM)	325	-203
5.2	DPL		
i)	NET MAX DEMAND	0	190
ii)	NET POWER AVAILABILITY	465	218
iii)	SURPLUS(+)/DEFICIT(-)	465	28
5.3	CESC		
i)	NET MAX DEMAND	1800	775
ii)	NET POWER AVAILABILITY - OWN SOURCE	580	364
	FROM HEL	540	311
	Import Requirement	680	100
iii)	TOTAL AVAILABILITY	1800	775
iv)	SURPLUS(+)/DEFICIT(-)	0	0
6	WEST BENGAL (WBSEDCL+DPL+CESC) (excluding DVC's supply to WBSEDCL's command area)		
i)	NET MAX DEMAND	7500	3709
ii)	NET POWER AVAILABILITY- Own Source	5121	2174
	- Central Sector+Others	3335	1441
iii)	SURPLUS(+)/DEFICIT(-)	956	-94
7	SIKKIM		
i)	NET MAX DEMAND	125	61
ii)	NET POWER AVAILABILITY- Own Source	4	1
	- Central Sector+Others	168	72
iii)	SURPLUS(+)/DEFICIT(-)	47	13
8	EASTERN REGION		
	At 1.03 AS DIVERSITY FACTOR		
i)	NET MAX DEMAND	20132	11093
	Long term Bi-lateral by DVC	1446	1041
	EXPORT BY WBSEDCL	325	-203
ii)	NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)	25342	11964
iii)	PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)	3439	32

ERLDC, KOLKATA										
TRANSMISSION ELEMENTS OUTAGE APPROVED IN 162ND 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	400KV Malda-Purnea-II	25-10-19	8:00	25-10-19	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting. Old satic relay required to be replaced by Numerical relays.		after charging of 400kv farakka-new purnea
2	400KV Maithon-Right Bank #II	26-10-19	8:00	09-11-19	18:00	OCB	POWERGRID,ER-II	Re conducting work		
3	Main bay of 400kv Maithon-MPL Ckt#2,(Bay no 406) at MPL	26/10/19	8:00	09/11/19	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.	During the line shutdwon	
4	Tie bay of 400kv Maithon-MPL Ckt#2/ST-1,(Bay no 405) at MPL	26/10/19	9:00	09/11/19	19:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.	During the line shutdwon	
5	400 KV MUZAFFARPUR-GORKAHPUR-I	29-10-19	9:00	29-10-19	17:00	ODB	POWERGRID NR-III	AMP of Line Bay equipments & Relay Testing at PGCIL Gorakhpur S/s	May be after restoration of 400kv Barh-Motihari-DC	
6	400 KV MUZAFFARPUR-GORKAHPUR-II	30-10-19	9:00	30-10-19	17:00	ODB	POWERGRID NR-III	AMP of Line Bay equipments at PGCIL Gorakhpur S/s	May be after restoration of 400kv Barh-Motihari-DC	
7	400KV BUS -COUPLER Bay at Rangpo	01-11-19	8:00	01-11-19	18:00	ODB	POWERGRID,ER-II	For AMP Work		
8	400KV RANGPO-KISHANGANJ LINE	01-11-19	8:00	30-11-19	18:00	ODB	POWERGRID,ER-II	For stringing work of 400kv LOOP OUT OF Teesta-III-Kishengunj at Rangpo		to be allowed after return of 400kv Rangpo-Binaguri shutdown
9	400KV DIKCHU-RANGPO LINE	01-11-19	8:00	30-11-19	18:00	ODB	POWERGRID,ER-II	For stringing work of 400kv LOOP OUT OF Teesta-III-Kishengunj at Rangpo		
10	220KV BUS-1 at Rangpo	01-11-19	8:00	03-11-19	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) &liquidation of Line defeats		
11	400KV BINAGURI-RANGPO-1 line	01-11-19	9:00	31-05-19	18:00	OCB	POWERGRID,ER-II	Upgradation of Main & Tie bay of Rangpo Line#1 & Reconductoring		
12	400KV BINAGURI-RANGPO-2 line	01-11-19	9:00	31-05-19	18:00	OCB	POWERGRID,ER-II	Upgradation of Main & Tie bay of Rangpo Line#2 & reconductoring		
13	400kv D/C Binaguri - Bongaigaon (Twin) Line (POWERGRID)	01-11-19	6:00	04-11-19	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteeen loc no 273-274) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	NLDC	
14	400KV TBC at Malda	01-11-19	8:00	12-12-19	17:00	OCB	POWERGRID,ER-II	ERSS-XVII-B Constructional work	WB	
15	400/220 KV 315 MVA ICT-3 at Malda Substation(associated Bays 403 and 205)	01-11-19	8:00	20-12-19	17:00	OCB	POWERGRID,ER-II	ERSS-XVII-B Constructional work	WB	
16	400KV Malda-Purnea-I	01-11-19	8:00	01-11-19	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting. Old satic relay required to be replaced by Numerical relays.		after charging of 400kv farakka-new purnea
17	400KV BUS-I at Malda	01-11-19	8:00	01-11-19	17:00	ODB	POWERGRID,ER-II	ERSS-XX Constructional work(Disconnection of TBC Bus Isolator Jumper)	WB	
18	Futute bay of 500MVA ICT-3 (421) at Maithon	01-11-19	9:00	25-11-19	18:00	OCB	POWERGRID,ER-II	Retrofitting of 400KV BHEL CB under ERSS-XX project work by M/s TBEA		
19	220KV WBSETCL-Subhasgram Line#1 (Bay No.207)	01-11-19	9:00	01-11-19	17:00	ODB	POWERGRID,ER-II	For rectification of Abnormal sound Coming from Line Isolator	WB	
20	A/R in non-auto mode in 400KV Teestall-I-Kishanganj-I	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID,ER-II	For OPGW installation Work		
21	A/R in non-auto mode in 400KV Malda-Farakka - II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID,ER-II	For OPGW installation Work		
22	315 MVA ICT II at Baripada	01-11-19	9:00	01-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Relay retrofitting & AMP works	GRIDCO	
23	A/R OF 400KV Baripada-Kharagpur line	01-11-19	9:00	10-11-19	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		
24	400kv Bus Reactor-3	01-11-19	9:00	01-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work		after 15th november no reactor shutdown shall be entertained upto 15th Feb
25	400 kV Jeypore-Indravati S/C Line	01-11-19	8:00	01-11-19	18:00	ODB	ER-II/Odisha /Jeypore	For PID defect insulator replacement work and for attending S/D nature defects	NLDC	
26	50MVAR JEYPORE LINE REACTOR	01/11/19	9:00	01/11/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 50MVAR Jeypore L/R and 403R 52 CB		after 15th november no reactor shutdown shall be entertained upto 15th Feb

27	125MVAR Bus Reactor	01-11-19	9:00	01-11-19	18:00	ODB	ER-II/Odisha/Keonjhar	AMP work		after 15th november no reactor shutdown shall be entertained upto 15th Feb
28	220 KV ICT # 1 Main Bay (Bay No-201)	01-11-19	9:00	01-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP & MOM Box Retrofitting		
29	400 KV Rengali - Talcher # 1 Line (Non-Auto)	01-11-19	8:00	10-11-19	17:00	ODB	ER-II/Odisha/Rengali	For PID Measurement		
30	765KV Bus-I at Sundargarh	01-11-19	9:00	07-11-19	18:00	OCB	ER-II/Odisha/Sundergarh	HV & Impulse testing of 765KV GIS (Construction Head)	NLDC	
31	Main Bay 401 of 400KV Raigarh2 at Sundargarh SS	01-11-19	9:00	01-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
32	765KV Sundargarh-Angul Ckt #1	01-11-19	8:00	01-11-19	17:30	ODB	ER-II/Odisha/Sundergarh	TL Maint work	NLDC	
33	400KV Sundergarh-Raigarh Ckt #1	01-11-19	8:00	07-11-19	17:30	ODB	ER-II/Odisha/Sundergarh	For PID Testing of Porcelain Insulator. Only Auto reclose	NLDC	
34	400 kv (Quad) D/C Purnia-Biharshrif Line CKT-1 (NPRN-	01-11-19	8:00	30-11-19	18:00	ODB	ENICL	For OPGW rectification work. Line is Anti theft charged		
35	400 kv (Quad) D/C Purnia-Biharshrif Line CKT-2(NPRN-	01-11-19	8:00	30-11-19	18:00	ODB	ENICL	For OPGW rectification work. Line is Anti theft charged		
36	400 KV MAIN BUS-1, New Duburi	01-11-19	8:00	01-11-19	16:00	ODB	GRIDCO	Annual maintenance		
37	315 MVA 400/220 KV ICT-I, at New Duburi	01-11-19	8:00	02-11-19	16:00	ODB	GRIDCO	Annual maintenance		
38	220KV NPRN- PRN CKT-I	01-11-19	10:00	11-11-19	18:00	OCB	POWERGRID ER-I	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).		
39	220 KV NEW PURNEA BEGUSARAI - 1	01-11-19	10:00	01-11-19	18:00	ODB	POWERGRID ER-I	FOR POWER LINE CROSSING DURING RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	BSEB	
40	220 KV NEW PURNEA BEGUSARAI - 2	01-11-19	10:00	01-11-19	18:00	ODB	POWERGRID ER-I	FOR POWER LINE CROSSING DURING RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	BSEB	
41	400KV RANCHI-RAGUNATHPUR LINE-2	01-11-19	10:00	01-11-19	17:00	ODB	POWERGRID ER-I	FOR AUTO RECLOSE RELAY TEST OF TIE BAY AT RANCHI	DVC	
42	400KV Bus -I at Patna	01-11-19	9:30	01-10-19	17:30	ODB	POWERGRID ER-1	AMP, Jumper Tighting	BSEB	
43	80 MVAR Bus Reactor AT LAKHISARAI	01-11-19	9:30	01-11-19	17:30	ODB	POWERGRID ER-I	Fire Wall Construction of 315 MVA 400/132 kV ICT III		after 15th november no reactor shutdown shall be entertained upto 15th Feb
44	400 kV Bay No.- 411 TIE BAY OF 400 KV KAHLGAON-LAKHISARAI-I AT LAKHISARAI	01-11-19	9:30	15-11-19	17:30	ODB	POWERGRID ER-I	Construction works of 315 MVA 400/132 kV ICT III		
45	A/R OF 400 KV BIHARSHARIF-BANKA-II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID ER-I	OPGW WORK		
46	A/R OF 400 KV BIHARSHARIF-KODERMA-II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID ER-I	OPGW WORK	DVC	
47	A/R OF 400 KV RANCHI-MAITHON(RB)-II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID ER-I	OPGW WORK		
48	A/R OF 400 KV BARH-MOTIHARI-II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID ER-I	OPGW WORK		
49	A/R OF 400 KV MOTIHARI-GORKAHPUR-II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID ER-I	OPGW WORK		
50	A/R OF 400 KV PATNA-KISANGANJ-II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID ER-I	OPGW WORK		
51	400kV Baripada-Duburi Line	01-11-19	6:00	30-11-19	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)"		
52	400kV Duburi-Pandiabili Line	01-11-19	6:00	30-11-19	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)"		
53	400kV Baripada-Pandiabili Line	01-11-19	6:00	30-11-19	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)"		
54	80MVAR B/R-1 at Balangir	01/11/19	10:00	01/11/19	12:00	ODB	ER-II/Odisha/Balangir	Rectification of CSD and checking of its operational Signature		
55	50MVAR Angul L/R	01/11/19	12:00	01/11/19	14:00	ODB	ER-II/Odisha/Balangir	Rectification of CSD and checking of its operational Signature		
56	50MVAR Jeypore L/R	01/11/19	15:00	01/11/19	17:00	ODB	ER-II/Odisha/Balangir	Rectification of CSD and checking of its operational Signature		
57	A/R in non-auto mode in 400KV TeestaIII-Kishanganj-I	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID (ER-II)	For OPGW installation Work		
58	A/R in non-auto mode in 400KV Malda-Farakka - II	01-11-19	7:00	30-11-19	18:00	ODB	POWERGRID (ER-II)	For OPGW installation Work		after charging of 400kv farakka-new purnea
59	220KV RANGPO-NEW MELLI line	02-11-19	8:00	03-11-19	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) &liquidation of Line defeats		

60	400KV BUS-II at Malda	02-11-19	8:00	02-11-19	17:00	ODB	POWERGRID,ER-II	ERSS-XX Constructional work(Disconnection of TBC Bus isolator Jumper)	WB	
61	315 MVA ICT#1 at Subhasgram	02-11-19	9:00	02-11-19	17:00	ODB	POWERGRID,ER-II	For AMP Work	WB	
62	315 MVA ICT I at Baripada	02-11-19	9:00	02-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Relay retrofitting & AMP works	GRIDCO	
63	765KV JHARSUGUDA CKT 4 TIE BAY 719	02-11-19	9:00	02-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
64	220 KV BUS II at Rourkela	02-11-19	9:00	02-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	DISMANTLING JUMPERS OF FUTURE BAYS	GRIDCO	
65	50MVAR ANGUL LINE REACTOR	02/11/19	9:00	02/11/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 401R 52 CB		after 15th november no reactor shutdown shall be entertained upto 15th Feb
66	315 MVA, 400/220 KV ICT # 1	02-11-19	9:00	02-11-19	17:00	ODB	ER-II/Odisha/Rengali	For AMP & Retrofitting of O/C, E/F & REF Relay		
67	Tie bay 402 of 400KV Riaghar-2 & 400kV side of ICT1 at Sundargarh SS	02-11-19	9:00	02-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
68	765KV Sundargarh-Angul Ckt #2	02-11-19	8:00	02-11-19	17:30	ODB	ER-II/Odisha/Sundergarh	TL Maint work	NLDC	
69	400 KV MAIN BUS-2, New Duburi	02-11-19	8:00	02-11-19	16:00	ODB	GRIDCO	Annual maintenance		
70	50 MVAR Line Reactor-1 at Daltonganj	02-11-19	9:30	02-11-19	17:30	ODB	POWERGRID ER-I	LINE REACTOR-1 NEUTRAL EARTHING ARRANGEMENT MODIFICATION WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
71	400 kV Sasaram Daltonganj -I TL	02-11-19	9:30	02-11-19	9:45	ODB	POWERGRID ER-I	FOR ISOLATION of LINE REACTOR		
72	400 kV Sasaram Daltonganj -I TL	02-11-19	17:15	02-11-19	17:30	ODB	POWERGRID ER-I	FOR TAKING LINE REACTOR INTO SERVICE		
73	315MVA, ICT-2 at Balangir	02/11/19	8:00	13/11/19	18:00	OCB	ER-II/Odisha/Balangir	For internal inspection of ICT against sudden rise in fault gases due to regular fault in down stream OPTCL network.		
74	315MVA, ICT-2 at Balangir	02/11/19	8:00	13/11/19	18:00	OCB	ER-II/Odisha/Balangir	For internal inspection of ICT against sudden rise in fault gases due to regular fault in down stream OPTCL network.		
75	220 kV Bus-I at Malda	03-11-19	8:00	03-11-19	17:00	ODB	POWERGRID,ER-II	ERSS-XX Constructional work(Re-connection of Bus isolator Jumper)	WB	
76	400 KV 406 Main Bay of 315 MVA ICT-II	03-11-19	9:00	03-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
77	Main Bay of Bolangir Line (415)	03-11-19	8:00	03-11-19	18:00	ODB	ER-II/Odisha /Jeypore	AMP of 415 Main Bay		
78	400KV Bus 2 at Patna	03-11-19	9:30	08-11-19	17:30	ODB	POWERGRID ER-1	Jumper connection of Barh Line-1 Line reactor Bay. Changing of Bus isolator of bay 409 and 412	BSEB	
79	500 MVA ICT-1 at Patna	03-11-19	9:30	04-11-19	17:30	OCB		AMP and CSD comissioning	BSEB	after pusauli ICT shutdown
80	220 Kv Muzaffarpur (PG)-Hajipur ckt-1	03-11-19	10:00	03-11-19	16:00	ODB	BSPTCL	For line maintenance work	No Load Restriction	
81	HVDC Pole-1	03-11-19	8:00	03-11-19	17:00	OCB	ER-II/Odisha/HVDC Talcher	Replacement of Isolator arms of 10C05-Q9 convertor isolator as a preventive measure towards past misalignment. HVDC Pole-2 shall be in MR mode		
82	400/220KV ICT#1 at Binaguri	04-11-19	10:00	04-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
83	125MVAR BR- I at Alipurduar	04-11-19	7:00	07-11-19	18:00	OCB	POWERGRID,ER-II	Oil leakage (from PRD & Main tank joint) and Air Cell rectification		
84	220 kV Bus-II at Malda	04-11-19	8:00	04-11-19	17:00	ODB	POWERGRID,ER-II	ERSS-XX Constructional work(Reconnection of Bus isolator Jumper)	WB	
85	220 KV Maithon (PG) -Dhanbad D/C line (DVC, Line nos - 217,218)	04-11-19	8:00	05-11-19	18:00	OCB	POWERGRID,ER-II	PL Crossing during Re-conductoring work of Maithon - Right Bank Line	DVC	both CTPS-7&8 units shall remain in service,patratu assitance to dvc
86	400 KV Main Bus -I at Subhasgram SS	04-11-19	9:00	04-11-19	17:00	ODB	POWERGRID,ER-II	AMP of 400 KV Main Bus -I at Subhasgram SS	WB	
87	400 kV 407 main Bay of Baripada-Duburi line	04-11-19	9:00	05-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works & Gasket replacement		
88	765KV JHARSUGUDA CKT 3 MAIN BAY 723	04-11-19	9:00	04-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
89	400kV Main Bay (410) of Indravati Line	04-11-19	8:00	06-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Overhauling of 410 Bay CB Make CGL		
90	400/220 KV 315 MVA ICT#1	04-11-19	9:00	04-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS	GRIDCO	
91	220 KV ICT # 2 Main Bay (Bay No-202)	04-11-19	9:00	04-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP & MOM Box Retrofitting		
92	Main Bay 403 of 400kV side of ICT1 at Sundargarh SS	04-11-19	9:00	04-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
93	400KV D/C Kharagpur- Chaibasa line 1	04-11-19	9:00	04-11-19	14:00	ODB	PKTCL	Jumper & hardware fittings tightening	WB	
94	Tie bay of ICT-2 & BR-2 (402 Bay) AT JAMSHEDPUR	04-11-19	9:30	04-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
95	400 /220 kV ICT-I at Gaya ss	04-11-19	9:00	04-11-19	18:00	ODB	POWERGRID ER-I	For AMP work	BSEB	after pusauli ICT shutdown
96	400KV SASARAM-DALTONGANJ-1 LINE	04-11-19	9:00	06-11-19	18:00	ODB	POWERGRID ER-I	TO ATTEND PUNCH POINTS IN LINE		
97	500MVA ICT-2 MAIN BAY (403-52 BAY) at New Purnea	04-11-19	10:00	04-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		

98	TIE BAY OF MUZZAFARPUR ckt 1&2 at Biharshariff	04-11-19	10:00	04-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
99	400 KV MAITHON-RB-1 MAIN BAY (407) AT RANCHI	04-11-19	9:30	04-11-19	17:30	ODB	POWERGRID ER-I	AMP work		
100	50 MVAR Line Reactor-2 at Daltonganj	04-11-19	9:30	04-11-19	17:30	ODB	POWERGRID ER-I	LINE REACTOR-2 NEUTRAL EARTHING ARRANGEMENT MODIFICATION WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
101	400 kv Sasaram Daltonganj -II TL	04-11-19	9:30	04-11-19	9:45	ODB	POWERGRID ER-I	FOR ISOLATION of LINE REACTOR		
102	400 kv Sasaram Daltonganj -II TL	04-11-19	17:15	04-11-19	17:45	ODB	POWERGRID ER-I	FOR TAKING LINE REACTOR INTO SERVICE		
103	419 bay Ballia -3 Main bay at Patna	04-11-19	10:00	04-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK		
104	MAIN BAY OF 400 KV B/R-II AT NEW RANCHI	04-11-19	9:00	04-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
105	132 KV Main Bus AT LAKHISARAI	04-11-19	9:30	04-11-19	17:30	ODB	POWERGRID ER-I	Construction works of 315 MVA 400/132 kv ICT III	BSEB	
106	800 KV HVDC BNC AGRA LINE-I	04-11-19	6:00	08-11-19	18:00	OCB	POWERGRID NR-III	De-stringing of existing line & tapping of new diverted section at Tower No.-3451 & 3474 due to Diversion Work of 800 KV HVDC BNC-Agra TL infringing the corridor of 'Purvanchal Expressway' (UPEIDA). Line sketch enclosed NOTE:S/D of all 4 poles at Agra and related poles at BNC/APD is also required		
107	800 KV HVDC BNC AGRA LINE-II	04-11-19	6:00	08-11-19	18:00	OCB	POWERGRID NR-III	De-stringing of existing line & tapping of new diverted section at Tower No.-3451 & 3474 due to Diversion Work of 800 KV HVDC BNC-Agra TL infringing the corridor of 'Purvanchal Expressway' (UPEIDA). Line sketch enclosed NOTE:S/D of all 4 poles at Agra and related poles at BNC/APD is also required		
108	220 KV DMTCL(Darbhangha)-Motipur T/L	04-11-19	12:00	04-11-19	12:15	ODB	BSPTCL	ABT meter	No load restriction	
109	220 KV DMTCL(Darbhangha)-Samastipur(New) S/C T/L	04-11-19	9:00	05-11-19	17:00	ODB	BSPTCL	For line maintenance work	Samastipur (New) will avail power from alternate sources.	
110	220 Kv Muzaffarpur (PG)-Hajipur ckt-2	04-11-19	10:00	04-11-19	16:00	ODB	BSPTCL	For line maintenance work	No Load Restriction	
111	400kv BKTTP-Arambag line	04-11-19	7:00	04-11-19	16:00	ODB	WBSETCL	AMP WORK		
112	400/220kv 315MVA ICT-3 at Rangpo	05-11-19	8:00	05-11-19	18:00	ODB	POWERGRID,ER-II	For rectification of gas leakage and repair work		
113	400 KV FARAKKA-BERHAMPORE CKT-1	05-11-19	9:00	06-11-19	18:00	ODB	POWERGRID,ER-II	Rectification of shut down nature defects in various locations in Transmission line.		
114	500 MVA ICT #1 at Maithon	05-11-19	8:00	05-11-19	18:00	ODB	POWERGRID,ER-II	1. AMP work 2. On load testing of CSD & Replacement of MOG under ERSS-IX project work.	DVC	both CTPS-7&8 units shall remain in service,patratu assistance to dvc
115	400 KV BUS-I at Durgapur	05-11-19	9:30	05-11-19	18:00	ODB	POWERGRID,ER-II	Bus Bar relay checking & AMP	DVC	
116	220 KV Main Bus-I at Subhasgram SS	05-11-19	9:00	05-11-19	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-I at Subhasgram SS	WB	
117	765/400kv, 500MVA, ICT-4	05-11-19	9:00	05-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP work	NLDC	
118	125 MVAR BR at Indravati	05-11-19	9:00	05-11-19	18:00	ODB	ER-II/Odisha/Indravati	Local WTI Replacement and CT Ratio Shifting from Turret CT(200/1) to Bay CT(1000/1). During this Shut Down The Power flow in The UIHEP Line Will be Zero due to the Temporary Shut Down of UIHEP Main bay (412) at Indravati.	GRIDCO	
119	315MVA, ICT-1 at Balangir	05/11/19	9:00	05/11/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 315MVA, ICT-1	GRIDCO	
120	Replacement of DGA Violated CTs with new GE make CTs.	05-11-19	6:00	05-11-19	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of Bus Filter Bay (10C05C-T1) of ACF-2 on continuous basis for replacement of DGA violated CTs with new GE make CTs. The same Filter Bank ACF-2 shall be kept in service through 10C05C Bay . There shall be no interruption or any limitation of Powerflow & all the Filter Banks shall remain in Service during above conditions.		
121	315 MVA, 400/220 KV ICT # 2	05-11-19	9:00	05-11-19	17:00	ODB	ER-II/Odisha/Rengali	For AMP & Retrofitting of O/C, E/F & REF Relay		

122	Main Bay 413 of 400kV Bus Reactor -I at Sundargarh SS	05-11-19	9:00	05-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
123	400 kv Bus-I at Mendhasal sub-station.	05-11-19	9:00	05-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Servicing of bus isolator at Mendhasal.	GRIDCO	
124	220 kV Ara Khagaul Ckt 1	05-11-19	10:00	05-11-19	17:00	On Daily Basis	POWERGRID ER-I	Main 1 Distance Relay retrofitting work	BSEB	after pusauli ict shutdown
125	Tie bay of ICT-1 & BR-1 (411 Bay) AT JAMSHEDPUR	05-11-19	9:30	05-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
126	400 /220 kV ICT-II at Gaya ss	05-11-19	9:00	05-11-19	18:00	OCB	POWERGRID ER-I	For AMP work	BSEB	after pusauli ICT shutdown
127	400kV SILIGURI-2 TIE BAY (405-52) AT NEW PURNEA	05-11-19	10:00	05-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
128	Main bay Purnia 2 404 Bay	05-11-19	10:00	05-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
129	400 KV Pusauli Allahabd Line	05-11-19	9:00	10-11-19	18:00	ODB	POWERGRID ER-I	Replacement of insulators at Road/Rail/River/Power Line Crossings and Relay Retrofitting	NLDC	
130	400KV North Bus-2 at Pusauli	05-11-19	9:00	05-11-19	18:00	ODB	POWERGRID ER-I	AMP work	NLDC	
131	220 kV PUSAULI SAHUPURI	05-11-19	9:00	08-11-19	18:00	OCB	POWERGRID ER-I	FOR LOAD RESTRICTION DURING SD OF 500 MVA ICT-I AT PUSAULI	NLDC	
132	220 KV MAIN BUS-1 AT RANCHI	05-11-19	9:30	05-11-19	17:00	ODB	POWERGRID ER-I	AMP and R-ph CVT replacement	JSEB	
133	ICT2(315MVA) AT CHAIBASA	05-11-19	9:30	05-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
134	400/220 KV 315 MVA ICT-2 AT MUZAFFARPUR	05-11-19	9:30	07-11-19	17:30	OCB	POWERGRID ER-I	OLTC OVERHAULING	BSEB	post Chatt Puja, NLDC consent is required
135	420 Tie bay of Barh 3 and ballia 3 at Patna	05-11-19	13:00	05-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK		
136	416 bay Ballia -IV Main bay at Patna	05-11-19	9:30	07-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updation works under SS03 package		
137	400 KV PATNA-BALLIA-I	05-11-19	9:00	05-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	NLDC	
138	132 kv Ramnagar -Valmikinagar T/L	05-11-19	9:00	05-12-19	17:00	OCB	BSPTCL	Reconductoring work		1. Power Supply to Surajpura (Nepal) will be completely off during the Shutdown period. so concent from NEA is required. 2. arrangement of approx 05 MW power will be required to Valmikinagar Hydal from Nepal side for Valmikinagar PSS (Local Supply) and synchronisation of EGCHP Valmikinagar.
139	400 KV TSTPS- Rengali-2 (400 KV Bay – 16 & 17)	05-11-19	8:00	07-11-19	16:00	OCB	TALCHER NTPC	Isolator no 1789A arm change,Line LA replacement- 3nos and AMP JOB		
140	400/220KV ICT#2 at Binaguri	06-11-19	10:00	06-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
141	132 KV silliguri Melli Sc line	06-11-19	8:00	06-11-19	17:00	ODB	POWERGRID,ER-II	Replacement of flash insulator and defect liquidation & jumper rectification	Sikkim	
142	400kV D/C Alipurduar - Binaguri (QUAD) Line (STERLITE)	06-11-19	6:00	09-11-19	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteen loc no 292- 293) for under construction 400 KV D/C Jigmeling-Alipurduar TL .		
143	400kV Maithon-Durgapur-2 line	06/11/19	11:00	07/11/19	15:00	ODB	POWERGRID,ER-II	For crane movement required for dismantling and Re- erectionof interrupter of R&B ph of Main Bay CB for internal inspection.		
144	220 KV Main Bus-II at Subhasgram SS	06-11-19	9:00	06-11-19	17:00	ODB	POWERGRID,ER-II	AMP of 220 KV Main Bus-II at Subhasgram SS	WB	
145	400 kv 411 Tie Bay of Baripada-Pandiabili & Baripada-TISCO lin	06-11-19	9:00	07-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
146	400 KV ROURKELA-CHAIBASA LINE#1 & LR	06-11-19	9:00	06-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
147	315MVA, ICT-2 at Balangir	06/11/19	9:00	06/11/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 315MVA, ICT-2	GRIDCO	
148	Tie Bay 414 of 400kV B/R-I & Sterlite-I at Sundargarh SS	06-11-19	9:00	06-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
149	400 kv Bus-II at Mendhsal sub-station.	06-11-19	9:00	06-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Servicing of bus isolator at Mendhasal.	GRIDCO	
150	400kV RTPS-Ranchi PGCIL Ckt#3	06-11-19	9:00	07-11-19	18:00	ODB	DVC	for Bay maintenance work at RTPS end.		
151	315 MVA ICT-II at Mendhasal grid S/s	06-11-19	8:00	06-11-19	16:00	ODB	GRIDCO	Repair & alignment of Isolator	NLDC	
152	220kV Tarkera- Bisra PGCIL Ckt.I	06-11-19	8:00	06-11-19	16:00	ODB	GRIDCO	Annual maintenance		
153	220 kV Ara Khagaul Ckt 2	06-11-19	10:00	06-11-19	17:00	On Daily Basis	POWERGRID ER-I	Main 1 Distance Relay retrofitting work	BSEB	after pusauli ict shutdown

154	125 MVAR Bus Reactor-1 AT KISANGANJ	06-11-19	8:30	06-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
155	Main bay of ICT-1 (410 Bay) AT JAMSHEDPUR	06-11-19	9:30	06-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
156	400 /220 kV ICT-III at Gaya ss	06-11-19	9:00	06-11-19	18:00	ODB	POWERGRID ER-I	For AMP work	BSEB	
157	500MVA ICT-1 MAIN BAY (406-52 BAY) AT NEW PURNEA	06-11-19	10:00	06-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
158	TIE BAY OF BALIA 2 &SSRM- 2 at Biharshariff	06-11-19	10:00	06-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
159	400 KV MAITHON-RB-1 & FUT. TIE BAY (408) AT RANCHI	06-11-19	9:30	06-11-19	17:30	ODB	POWERGRID ER-I	AMP work		
160	201 bay (BUS COUPLER BAY) AT CHAIBASA	06-11-19	9:30	06-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
161	408 Bay(ICT-1 Tie Bay) at Daltonganj	06-11-19	9:30	06-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
162	TIE BAY OF B/R-I AND NRC-RNC-III CKT AT NEW RANCHI	06-11-19	9:00	06-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
163	400 kV Main Bus-2 AT LAKHISARAI	06-11-19	9:30	06-11-19	17:30	ODB	POWERGRID ER-I	Construction works of 315 MVA 400/132 kV ICT III		
164	400kv BKTTP-Jeerat	06-11-19	7:00	06-11-19	16:00	ODB	WBSETCL	AMP WORK		
165	400/220kV 315MVA ICT-1 at Rangpo	07-11-19	8:00	07-11-19	18:00	ODB	POWERGRID,ER-II	For rectification of gas leakage and repair work		
166	132kv Siliguri-kurseong SC line	07-11-19	8:00	07-11-19	17:00	ODB	POWERGRID,ER-II	Defect liquidation & Jumper rectification	WB	
167	220KV Birpara-Chukha Ckt-III(Malbase)	07-11-19	8:00	07-11-19	17:30	ODB	POWERGRID,ER-II	R-Phase CT Jumper replacement and to attend the hot-spot in CT Jumper	NLDC	
168	400 KV FARAKKA-BERHAMPORE CKT-2	07-11-19	9:00	08-11-19	18:00	ODB	POWERGRID,ER-II	Rectification of shut down nature defects in various locations in Transmission line.		
169	400 KV Subhasgram-Rajarhat Line	07-11-19	9:00	07-11-19	17:00	ODB	POWERGRID,ER-II	A/R Retrofitting & Testing	WB	
170	765kV Angul-Sundergarh-4 Line Reactor	07-11-19	9:00	07-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP work	NLDC	after 15th november no reactor shutdown shall be entertained upto 15th Feb
171	Tie Bay (411) of 400kV Indravati /Gazuwaka-I Line	07-11-19	8:00	09-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Overhauling of 411 Bay CB Make CGL		
172	Jeypore- Rengali Tie Bay (402)	07-11-19	9:00	07-11-19	18:00	ODB	ER-II/Odisha/Indravati	AMP works of Jeypore- Rengali Tie Bay (402). Power flow will be interrupted in 400KV Jeypore Line Due to temporary shutdown of UIHEP Main bay(412) at Indravati.	NLDC	
173	220 KV Bus Coupler Bay (Bay No-204)	07-11-19	9:00	07-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP & MOM Box Retrofitting		
174	Main Bay 416 of 400kV Bus Reactor -II at Sundargarh SS	07-11-19	9:00	07-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
175	401 KV Mendhasal-Pandiabili Ckt-1 at Mendhasal sub-station.	07-11-19	9:00	07-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Servicing of line isolator at Mendhasal.	GRIDCO	
176	220 kV Ara Nadokhar Ckt 1	07-11-19	10:00	07-11-19	17:00	On Daily Basis	POWERGRID ER-I	Main 1 Distance Relay retrofitting work	BSEB	
177	Main bay of ICT-2 (403 Bay) AT JAMSHEDPUR	07-11-19	9:30	07-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
178	400 KV 50 MVAR LR-I of 400 KV Gaya-maithon-I line	07-11-19	9:00	07-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
179	400KV SASARAM-DALTONGANJ-2 LINE	07-11-19	9:00	09-11-19	18:00	ODB	POWERGRID ER-I	TO ATTEND PUNCH POINTS IN LINE		
180	400kv KISHANGANJ-1 MAIN BAY (407-52) AT NEW PURNEA	07-11-19	10:00	07-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
181	MAIN BAY OF SASARAM ckt 2 at Biharshariff	07-11-19	10:00	07-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
182	BAY 408 - 400KV TIE BAY OF 400KV KHG-I & BR-I AT BANKA	07-11-19	10:00	07-11-19	16:00	ODB	POWERGRID ER-I	AMP WORK		
183	400 KV MAITHON-RB-2 MAIN BAY (410) AT RANCHI	07-11-19	9:30	07-11-19	17:30	ODB	POWERGRID ER-I	AMP work		
184	202 bay(220KV JUSNL 1 LINE BAY) AT CHAIBASA	07-11-19	9:30	07-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
185	421 Main bay Barh-3 at Patna	07-11-19	16:00	07-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK		
186	400 KV PATNA-BALLIA-II	07-11-19	9:00	07-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	NLDC	
187	765 KV BUS-I AT NEW RANCHI	07-11-19	9:00	07-11-19	18:00	ODB	POWERGRID ER-I	BUS EXTENSION WORK OF MEDNIPUR BAYS	NLDC	
188	400 kV Main Bus-I AT LAKHISARAI	07-11-19	9:30	07-11-19	17:30	ODB	POWERGRID ER-I	Construction works of 315 MVA 400/132 kV ICT III		
189	132 KV Lakhisarai(PG)-Lakhisarai D/C T/L	07-11-19	12:30	07-11-19	13:30	ODB	BSPTCL	for connection of DC change over switch to existing DCDB & battery charger.	Lakhisarai will avail power from alternate sources.	
190	400/220kV 500MVA ICT-I at Pusauli	08-11-19	9:00	11-11-19	18:00	OCB	POWERGRID ER-I	Shifting of transformer for Transformer Retrofitting Work	BSEB	after 7th nov,to reduce loading 220kv pusauli-sahupuri may be kept off,UP consent needed

191	132KV Rangpo-Gangtok-I	08-11-19	9:00	08-11-19	18:00	ODB	POWERGRID,ER-II	for installation of insulation tape at loc 167-168	Sikkim	
192	Bay 401 Tala #4 (main bay) at Binaguri	08-11-19	10:00	08-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
193	220 KV Alipurduar - Birpara Ckt I	08-11-19	6:00	09-11-19	18:00	ODB	POWERGRID,ER-II	Replacement of Insulator from Pocerain to Polymer for increasing reliability.		
194	400 KV Sagardighi-Jeerat S/C	08-11-19	9:00	08-11-19	17:00	ODB	POWERGRID,ER-II	Line Bay Maintenance	WB	
195	400 KV 408 Tie Bay of Baripada-Duburi & Baripada-Jamshedpur	08-11-19	9:00	09-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
196	400KV ICT 1 MAIN BAY 401	08-11-19	9:00	08-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP work		
197	400 KV ROURKEL-SUNDARGARH LINE#1 & LR	08-11-19	9:00	08-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
198	400KV Keonjhar-Rengali Line	08-11-19	7:00	08-11-19	18:00	ODB	ER-II/Odisha/Keonjhar	Replacement of Porcelain insulator by Polymer insulators in NH crossing and attending SD nature defects. Shutdown shall be taken if not availed in OCT'19.		
199	Replacement of DGA Violated CTs with new GE make CTs.	08-11-19	6:00	08-11-19	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of Tie Bay(10C0538-T11)of Pole-1 on continuous basis for replacement of DGA violated CTs with new GE make CTs. Pole-1 shall be kept in service through Main Bay (10C05A)There shall be no interruption or limitation of Powerflow & all the Filter Banks shall remain in Service during above conditions.		
200	Tie Bay 417 of 400kV B/R-II & Sterlite-II at Sundargarh SS	08-11-19	9:00	08-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
201	Main Bay 418 of 400kV Sterlite-II at Sundargarh SS	08-11-19	9:00	08-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		
202	765KV Bus-II at Sundargarh	08-11-19	9:00	15-11-19	18:00	OCB	ER-II/Odisha/Sundergarh	HV & Impulse testing of 765KV GIS (Construction Head)	NLDC	
203	400KV Sundergarh-Raigarh Ckt #3	08-11-19	8:00	15-11-19	17:30	ODB	ER-II/Odisha/Sundergarh	For PID Testing of Porcelain Insulator. Only Auto reclose	NLDC	
204	400 kv Mendhasal -Pandiabili ckt-2 at Mendhasal sub-station.	08-11-19	9:00	08-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Servcing of line isolator at Mendhasal.	GRIDCO	
205	400 kv Farakka-Behrapore line II	08/11/19	9:00	09/11/19	17:00	OCB	FARAKKA	CB & Relay Test		
206	220/33kV Grid S/S at Rengali	08-11-19	8:00	09-11-19	16:00	ODB	GRIDCO	Annual maintenance		
207	220 kV Ara Nadokhar Ckt 2	08-11-19	10:00	08-11-19	17:00	On Daily Basis	POWERGRID ER-I	Main 1 Distance Relay retrofitting work	BSEB	
208	Tie bay of Baripada & Andal-2 line (417 Bay) AT JAMSHEDPUR	08-11-19	9:30	08-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
209	400 KV 50 MVAR LR-II of 400 KV Gaya-Maithon-II Line	08-11-19	9:00	08-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
210	125MVAR BUS REACTOR-1 (415R) AT NEW PURNEA	08-11-19	10:00	08-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
211	TIE Bay of ICT3 and BR2 Bay at Biharsharif	08-11-19	10:00	08-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
212	BAY 411 - 400KV TIE BAY OF 400KV KHG-II & BR-II AT BANKA	08-11-19	10:00	08-11-19	16:00	ODB	POWERGRID ER-I	AMP WORK		
213	220KV ICT-2 Bay at Pusauli	08-11-19	9:00	08-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
214	400 KV MAITHON-RB-2 & RKL-2 TIE BAY (411) AT RANCHI	08-11-19	9:30	08-11-19	17:30	ODB	POWERGRID ER-I	AMP work		
215	203 bay (220KV JUSNL 2 LINE BAY) AT CHAIBASA	08-11-19	9:30	07-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
216	410 Bay(Main bay of 400 KV Dtg-Ssrm line-2) at Daltonganj	08-11-19	9:30	08-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
217	415 Main Bay Ballia 1 at Patna	08-11-19	9:30	11-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under SS03 package		
218	400 KV PATNA-BALLIA-III	08-11-19	9:00	08-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	NLDC	
219	MAIN BAY OF 400 KV NRNC-RNC-II AT NEW RANCHI	08-11-19	9:00	08-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
220	400 kV Main Bus-2 AT LAKHISARAI	08-11-19	9:30	08-11-19	17:30	ODB	POWERGRID ER-I	Construction works of 315 MVA 400/132 kV ICT III		
221	132 KV Lakhisari(PG)-Jamui D/C T/L	08-11-19	11:00	08-11-19	15:00	ODB	BSPTCL	For line maintenance work	Jamui will avail power from alternate sources	
222	132KV Ara(PG)-Dumraon S/C T/L	08-11-19	10:00	08-11-19	12:00	ODB	BSPTCL	For Railway crossing strigning work	Dumraon will avail power from alternate sources with restrcited load	
223	400KV Farakka Gokarna Ckt-I	09-11-19	8:00	10-11-19	17:00	OCB	POWERGRID ER-I	Termination of 400KV D/C Rajarhat- Purnea Line from Purnea End	WB	may be applied for 9th and 10th
224	400KV Farakka Gokarna Ckt-II	09-11-19	8:00	10-11-19	17:00	OCB	POWERGRID ER-I	Termination of 400KV D/C Rajarhat- Purnea Line from Purnea End	WB	may be applied for 9th and 10th
225	132KV Rangpo-Gangtok-II	09-11-19	9:00	09-11-19	18:00	ODB	POWERGRID,ER-II	for installation of insulation tape at loc 167-168	Sikkim	
226	400KV Bus#1 at Binaguri	09-11-19	9:00	10-11-19	17:00	ODB	POWERGRID,ER-II	Connection between SF6 to Air (GIS) Bushing		
227	220/ 132 KV 160 MVA ICT-I at Birpara	09-11-19	8:00	09-11-19	17:30	ODB	POWERGRID,ER-II	AMP work	WB	

228	80MVAR LINE REACTOR 1 & FARAKKA LINE at Rajarhat	09-11-19	9:00	09-11-19	17:00	ODB	POWERGRID,ER-II	PSD RELAY COMMISSIONING UNDER CONSTRUCTION HEAD AND TESTING WITH LIVE CONDITION. EQUIPMENT WILL ON-OFF DURING CHARGED CONDITION. 03NOS. CORNA RING OF HV BUSHING INSTALLATION. - PRESENTLY FARAKKA LINE IS ANTI THEFT CHARGE.		after 15th november no reactor shutdown shall be entertained upto 15th Feb
229	765kV Angul Sunderagr-1 Line reactor Bay	09-11-19	10:00	09-11-19	17:00	ODB	ER-II/Odisha/Angul SS	Circuit breaker Damper replacement Work	NLDC	after 15th november no reactor shutdown shall be entertained upto 15th Feb
230	220 KV OPTCL # 2 Main Bay (Bay No-207)	09-11-19	9:00	09-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP & MOM Box Retrofitting	NLDC	
231	Main Bay 415 of 400kV Sterlite-II at Sundargarh SS	09-11-19	9:00	09-11-19	18:00	ODB	ER-II/Odisha/Sundargarh	AMP works		
232	400KV GIS Main Bay-436 & Tie Bay-437 of ICT-3 at Sundergarh	09-11-19	9:00	10-11-19	18:00	ODB	ER-II/Odisha/Sundargarh	For 765kV ICT3 construction works.		
233	400 KV BUS-I at Gaya S/S	09-11-19	9:00	09-11-19	18:00	ODB	POWERGRID ER-I	For AMP work	BSEB	
234	BAY 403 - 400KV MAIN BAY OF ICT-I AT BANKA	09-11-19	10:00	09-11-19	16:00	ODB	POWERGRID ER-I	AMP WORK		
235	400/220kV 315MVA ICT-II at Pusauli	09-11-19	8:00	14-12-19	18:00	OCB	POWERGRID ER-I	For Transformer Retrofitting Work	BSEB	
236	422 Main bay Ballia 4 at Patna	09-11-19	10:00	09-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK		
237	417 Tie bay Ballia 2 & Barh 2 at Patna	09-11-19	9:30	12-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under SS03 package		
238	400 KV PATNA-BALLIA-IV	09-11-19	9:00	09-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	NLDC	
239	765 KV BUS-II AT NEW RANCHI	09-11-19	9:00	09-11-19	18:00	ODB	POWERGRID ER-I	BUS EXTENSION WORK OF MEDNIPUR BAYS	NLDC	
240	400 KV GAYA-CHANDWA-I	09-11-19	9:00	09-11-19	18:00	ODB	POWERGRID ER-I	CONSTRUCTION WORK OF NOTH KARNPURA BAY		
241	132KV Ara(PG)-Dumraon S/C T/L	09-11-19	10:00	09-11-19	13:00	ODB	BSPTCL	For Railway crossing strigning work	Dumraon will avail power from alternate sources with restrcited load	
242	Bay 402 Tala #3&4 (Tie bay) at Binaguri	10-11-19	10:00	10-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
243	400KV Maithon-Right Bank #I	10-11-19	8:00	24-11-19	18:00	OCB	POWERGRID,ER-II	Re conducting work		
244	Main bay of 400kv Maithon-MPL Ckt#1,(Bay no 403) at MPL	10/11/19	8:00	24/11/19	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.	During the line shutdwon	
245	Tie bay of GT#1/Maithon#1 (Bay No. 404) at MPL	10-11-19	8:00	24-11-19	18:00	OCB	POWERGRID,ER-II	Upgradation of Bay equipmenets under ERSS-XVII Project work. Shut down of Bays proposed in respect of line shut down for reconductoring work.	During the line shutdwon	
246	400 KV Malda-Purnea-I	10-11-19	8:00	20-11-19	17:00	ODB	POWERGRID,ER-II	For replacement of porcealin insulator by Polymer insulator for increasing reliability of the system. The replacement already notified earlier and includes in the attached list of the letter of March-19.		after charging of 400kv farakka-new purnea
247	400 kV 410 main Bay of Baripada-Pandiabili line	10-11-19	9:00	11-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Gasket replacement		
248	ICT-I Main Bay (407)	10-11-19	8:00	12-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Overhauling of 407 Bay CB Make CGL		
249	423 bay Tie bay of Barh 4 and Ballia 4 at Patna	10-11-19	13:00	10-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK		
250	413 Main Bay Ballia 1 at Patna	10-11-19	9:30	12-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under SS03 package		
251	125 MVAR Bus reactor-1 at Patna	10-11-19	9:30	10-11-19	17:30	OCB	POWERGRID ER-1	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
252	80 MVAR Bus Reactor AT LAKHISARAI	10-11-19	9:30	10-11-19	17:30	ODB	POWERGRID ER-I	Fire Wall Construction of 315 MVA 400/132 kV ICT III		after 15th november no reactor shutdown shall be entertained upto 15th Feb
253	400/220kV 315MVA ICT-2 at Rangpo	11-11-19	8:00	11-11-19	18:00	ODB	POWERGRID,ER-II	For AMP Work		
254	132KV Rangpo-Gangtok-I	11-11-19	9:00	11-11-19	18:00	ODB	POWERGRID,ER-II	For Balance Jumper tightning	Sikkim	
255	50 MVA ICT-I 132/66 KV at Gangtok	11-11-19	9:00	11-11-19	18:00	ODB	POWERGRID,ER-II	For Annual AMp Works	Sikkim	
256	400KV Bus#2 at Binaguri	11-11-19	9:00	12-11-19	17:00	ODB	POWERGRID,ER-II	Connection between SF6 to Air (GIS) Bushing		
257	132 KV Kuresoeng-Rangit line	11-11-19	8:00	11-11-19	17:00	ODB	POWERGRID,ER-II	Replacement of flash insulator and defect liquidation	WB	
258	400KV Maithon-Kahalgaoon I&II	11-11-19	8:00	12-11-19	18:00	OCB	POWERGRID,ER-II	PL Crossing during Re-conductoring work of Maithon - Right Bank Line	May be on ODB	
259	80MVAR LINE REACTOR 2 & GOKARNA LINE at Rajarhat	11-11-19	9:00	11-11-19	17:00	ODB	POWERGRID,ER-II	PSD RELAY COMMISSIONING UNDER CONSTRUCTION HEAD AND TESTING WITH LIVE CONDITION. EQUIPMENT WILL ON-OFF DURING CHARGED CONDITION. - PRESENTLY FARAKKA LINE IS ANTI THEFT CHARGE.		after 15th november no reactor shutdown shall be entertained upto 15th Feb

260	400 KV Jeerat-Sagardighi Line	11-11-19	9:00	13-11-19	17:00	ODB	POWERGRID,ER-II	A/R relay Testing in 400 KV Jeerat Sagardighi Line and Live line defects attending and defective isolator replacement in line...	WB	
261	400 KV ROURKELA-SUNDARGARH LINE#3 & LR	11-11-19	9:00	11-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
262	220KV TBC 201 Bay at Keonjhar	11-11-19	9:00	11-11-19	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 OCT'19.		
263	220 KV OPTCL # 1 Main Bay (Bay No-208)	11-11-19	9:00	11-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP & MOM Box Retrofitting	NLDC	
264	400 KV Rengali - Talcher # 2 Line(Non-Auto)	11-11-19	8:00	21-11-19	17:00	ODB	ER-II/Odisha/Rengali	For PID Measurement		
265	400kV ,125MVAR BusReactor-I at Sundargarh SS	11-11-19	9:00	11-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
266	765kV Sundergarh-Darlipalli Ckt 1	11-11-19	9:00	11-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	Quad to twin modification of jumper works and BPI erection works +TL Maint work	NLDC	
267	400KV Sundergarh-Raigarh Ckt #1	11-11-19	8:00	11-11-19	17:30	ODB	ER-II/Odisha/Sundergarh	TL Maintenance work	NLDC	
268	132 kV Main Bus	11-11-19	9:00	11-11-19	15:00	On Daily Basis	POWERGRID ER-I	132 kV Main Bus R phase CVT replacement due to secondary voltage violation and Bus Bar Stability Test for Ara Jagdishpur Ckt 2	BSEB	
269	MAIN BAY OF ICT-I AT KISANGANJ	11-11-19	8:30	11-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
270	Tie bay of Tata & Future (420 Bay) AT JAMSHEDPUR	11-11-19	9:30	11-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
271	400 KV BUS-II at Gaya S/S	11-11-19	9:00	11-11-19	18:00	ODB	POWERGRID ER-I	For AMP work	BSEB	
272	765KV GAYA-VARANASI-II	11-11-19	9:00	18-11-19	18:00	ODB	POWERGRID ER-I	For Strengthening of 765 kV line Suspension Delta Tower (wind zone -II) at 26 Nos Locations.	NLDC	
273	80MVAR FARAKKA LINE REACTOR (419R) AT NEW PURNEA	11-11-19	10:00	11-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
274	TIE Bay of ICT2 and BR3 Bay at Biharsharif	11-11-19	10:00	11-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
275	BAY 406 - 400KV MAIN BAY OF ICT-II AT BANKA	11-11-19	10:00	11-11-19	16:00	ODB	POWERGRID ER-I	AMP WORK		
276	400 KV Pusauli -Biharsharif Line-2	11-11-19	9:00	16-11-19	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road/Rail/River/Power Line Crossings and Relay Retrofitting		
277	132kV, 10MVA Transformer-1 Bay (Bay 102) at Pusauli	11-11-19	9:00	11-11-19	19:00	ODB	POWERGRID ER-I	AMP work		
278	315 MVA ICT-1 AT RANCHI	11-11-19	9:30	15-11-19	17:00	OCB	POWERGRID ER-I	Replacement of 01 No 220 KV (Y-Ph) & 3 Nos 33 KV (R,Y & BPh) Bushings	JSEB	Tenughat units should remain in service
279	400 Kv Bus-1 AT MUZAFFARPUR	11-11-19	9:30	12-11-19	17:30	ODB	POWERGRID ER-I	AMP Work	BSEB	
280	424 Main bay Barh 4 at Patna	11-11-19	16:00	11-11-19	17:30	ODB	POWERGRID ER-I	CB dew point measurement		
281	400 KV KAHALGAON-BARH-I	11-11-19	9:00	13-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	May be after restoration of 400kV Barh-Motihari-DC	
282	MAIN BAY OF 400 KV NEW RANCHI-PPSP-I AT NEW RANCHI	11-11-19	9:00	11-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
283	400 KV GAYA-CHANDWA-II	11-11-19	9:00	11-11-19	18:00	ODB	POWERGRID ER-I	CONSTRUCTION WORK OF NOTH KARNPURA BAY		
284	132 kV Main Bus AT LAKHISARAI	11-11-19	9:30	11-11-19	17:30	ODB	POWERGRID ER-I	Construction works of 315 MVA 400/132 kV ICT III		
285	220 KV DALKHOLA-1 LINE AND ASSOCIATED BAY EQUIPMENTS	11-11-19	9:00	11-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK		
286	132KV Rangpo-Gangtok-II	12-11-19	9:00	12-11-19	18:00	ODB	POWERGRID,ER-II	For Balance Jumper tightning	Sikkim	
287	Bay 404 ICT#2 (Main bay) at Binaguri	12-11-19	10:00	12-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
288	220 KV Siliguri-Kishanganj CKT-I	12-11-19	8:00	12-11-19	17:00	ODB	POWERGRID,ER-II	Defect liquidation & repairing of condutor cutting		
289	220 KV Birpara-Siliguri Ckt-I at Birpara	12-11-19	8:00	12-11-19	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
290	400/220/33kV ICT - I at Alipurduar	12-11-19	7:00	12-11-19	18:00	ODB	POWERGRID,ER-II	AMP work (400kV, 220kV, 33kV bay & ICT-I)		
291	220KV RAJARHAT-NEWTOWN 3 CKT-1(BAY-201) & CKT-2(BAY-202)	12-11-19	9:00	12-11-19	17:00	ODB	POWERGRID,ER-II	FOR CHECKING & COMPLETION OF MUTUAL COMPENSATION CIRCUIT. BOTH CIRCUIT SHUTDOWN REQUIRED AT A TIME.	WB	
292	400kV S/C Sagardighi Jeerat TL	12-11-19	8:00	12-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 10/0 to 11/0 of 400 KV D/C New Jeerat-Jeerat TL Over existing 400kV S/C Sagardighi Jeerat Transmission line	WB	
293	400kV S/C Sagardighi Subhashgram TL	12-11-19	8:00	12-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 11/0 to 12/0 of 400 KV D/C New Jeerat-Jeerat TL Over existing 400kV S/C Sagardighi Subhashgram Transmission line	WB	
294	403 bay- Main Bay of 315MVA ICT I	12-11-19	9:00	12-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		

295	765kV Angul Sunderagrh-2 Line reactor Bay	12-11-19	10:00	12-11-19	17:00	ODB	ER-II/Odisha/Angul SS	Circuit breaker Damper replacement Work	NLDC	after 15th november no reactor shutdown shall be entertained upto 15th Feb
296	400KV Balangir-Angul Line	12/11/19	8:00	14/11/19	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator	NLDC	
297	220KV ICT-I 203 Bay Keonjhar	12-11-19	9:00	12-11-19	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 OCT'19.		
298	400 KV Talcher # 2 Main Bay (Bay No-403)	12-11-19	9:00	12-11-19	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
299	400kV ,125MVAR BusReactor-II at Sundargarh SS	12-11-19	9:00	12-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
300	400kV GIS tie bay no. 434 & 435 of ICT4 & OPGC 1 at Sundargarh	12-11-19	9:00	13-11-19	17:00	ODB	ER-II/Odisha/Sundergarh	For 765kV ICT-4 construction works.		
301	765kV Sundergarh-Darlipalli Ckt 2	12-11-19	9:00	12-11-19	13:00	ODB	ER-II/Odisha/Sundergarh	Quad to twin modification of jumper works +TL Maint work	NLDC	
302	132 kV Ara Dumraon	12-11-19	10:00	12-11-19	17:00	On Daily Basis	POWERGRID ER-I	Distance Relay retrofitting work	BSEB	
303	TIE BAY OF ICT-I & B/R-I AT KISANGANJ	12-11-19	8:30	12-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
304	201 Bay (220 kV side ICT-I bay) at Gaya	12-11-19	9:00	12-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
305	220KV NPRN- PRN CKT-II	12-11-19	10:00	23-11-19	18:00	OCB	POWERGRID ER-I	FOR RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).		
306	220 KV NEW PURNEA BEGUSARAI -1	12-11-19	10:00	12-11-19	18:00	ODB	POWERGRID ER-I	FOR POWER LINE CROSSING DURING RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).	BSEB	
307	220 KV NEW PURNEA BEGUSARAI - 2	12-11-19	10:00	12-11-19	18:00	ODB	POWERGRID ER-I	FOR POWER LINE CROSSING DURING RE-CONDUCTORING WORK OF LINE (EXISTING COND. TO BE REPLACED WITH HTLS).		
308	400KV BUS-1 AT NEW PURNEA	12-11-19	10:00	12-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
309	Main Bay of Banka 1 at Biharsharif	12-11-19	10:00	12-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
310	BAY 409 - 400KV MAIN BAY OF BR-I AT BANKA	12-11-19	10:00	12-11-19	16:00	ODB	POWERGRID ER-I	AMP WORK		
311	132kV, 10MVA Transformer-1 Bay (Bay 104) at Pusauli	12-11-19	9:00	12-11-19	19:00	ODB	POWERGRID ER-I	AMP work		
312	407 BAY (400KV JSR 2 MAIN BAY) AT CHAIBASA	12-11-19	9:30	12-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
313	202(HV side bay of 160 MVA ATR-2) at Daltonganj	12-11-19	9:30	12-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
314	205 bay Bus coupler at Patna	12-11-19	9:30	12-11-19	17:30	OCB	POWERGRID ER-I	AMP WORK		
315	418 Main bay Barh 1 at Patna	12-11-19	9:30	15-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under SS03 package		
316	400 KV NEW RANCHI-CHANDWA-I	12-11-19	9:00	12-11-19	18:00	ODB	POWERGRID ER-I	CONSTRUCTION WORK OF NOTH KARNPURA BAY		
317	80 MVAR Bus Reactor AT LAKHISARAI	12-11-19	9:30	12-11-19	17:30	ODB	POWERGRID ER-I	Fire Wall Construction of 315 MVA 400/132 kV ICT III		after 15th november no reactor shutdown shall be entertained upto 15th Feb
318	132 kv Bettiah-Narkatiyaganj-Ramnagar T/L	12-11-19	9:00	13-11-19	18:00	ODB	BSPTCL	For line maintenance work	1. GSS Ramnagar will avail power from Nepal 2.GSS Narkatiyaganj will be powerless.	
319	400 KV TSTPS- Rourkela # 1(400 KV Bay – 5,6)	12-11-19	8:00	15-11-19	16:00	OCB	TALCHER NTPC	Line Reactor 400KV bushing TESTING,Line reactor AMP,Bay AMP jobs		
320	220 KV Siliguri-Kishanganj- CKT-II	13-11-19	8:00	13-11-19	17:00	ODB	POWERGRID,ER-II	Defect liquidation & repairing of condutor cutting		
321	±800kV HVDC Biswanathchariali - Alipurduar Line 1&2 (Aliprduar - Biswanath Chariali Section)	13-11-19	6:00	15-11-16	18:00	ODB	POWERGRID,ER-II	Stringing work of overhead crossing (in beteeen loc no 8-9 of Alipurduar BNC Section) for under construction 400 KV D/C Jigmeling-Alipurduar TL .	NLDC	To be taken along with BNC-AGRA shutdown
322	400KV Maithon-Durgapur I&II	13-11-19	8:00	14-11-19	18:00	OCB	POWERGRID,ER-II	PL Crossing during Re-conductoring work of Maithon - Right Bank Line	May be on ODB	
323	220KV RAJARHAT-JEERAT CKT-1(BAY-205) & CKT2 (BAY-204)	13-11-19	9:00	13-11-19	17:00	ODB	POWERGRID,ER-II	FOR CHECKING & COMPLETION OF MUTUAL COMPENSATION CIRCUIT. BOTH CIRCUIT SHUTDOWN REQUIRED AT A TIME.	WB	
324	400kV S/C Sagardighi Jeerat TL	13-11-19	8:00	13-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 10/0 to 11/0 of 400 KV D/C New Jeerat-Jeerat TL Over existing 400kV S/C Sagardighi Jeerat Transmission line	WB	

325	400kV S/C Sagardighi Subhashgram TL	13-11-19	8:00	13-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 11/0 to 12/0 of 400 KV D/C. New Jeerat-Jeerat TL Over existing 400kV S/C Sagardighi Subhashgram Transmission line	WB	
326	132kV D/C Ranaghat - Dharampur TL	13-11-19	8:00	13-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 133/0 to 134/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 132kV D/C Ranaghat - Dharampur TL (WBSETCL).	WB	
327	404 bay- 400KV Kharagpur Line Main Bay	13-11-19	9:00	13-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
328	765kV ICT 2MAIN BAY 707	13-11-19	9:00	13-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
329	Tie Bay (408) of ICT-I & 125 MVAR Bus Reactor	13-11-19	8:00	15-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Overhauling of 408 Bay CB Make CGL		after 15th november no reactor shutdown shall be entertained upto 15th Feb
330	400 KV RANCHI LINE#2 BAY (421L)	13-11-19	9:00	13-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
331	220KV 204 Bay (Future line bay)	13-11-19	9:00	13-11-19	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 OCT'19.		
332	125 MVAR BR # 2 Tie Bay (Bay No. 420)	13-11-19	9:00	13-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP Work		
333	765kV ICT-II at Sundargarh SS	13-11-19	9:30	13-11-19	12:30	ODB	ER-II/ODISHA/SUNDERGARH	For taking spare in to servie in place of ICT-II, B ph for attending oil leakage	NLDC	
334	400KV Sundergarh-Raigarh Ckt #2	13-11-19	8:00	14-11-19	17:30	ODB	ER-II/Odisha/Sundergarh	TL Maintenance work	NLDC	
335	400 kv Mendhasal -Pandiabili-1 main bay at Mendhasal sub-st	13-11-19	9:00	13-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	DCRM test of main bay CB	GRIDCO	
336	220kV Dhanbad-Maithon PG Ckt#1	13-11-19	9:00	13-11-19	14:00	ODB	DVC	for replacement of damaged and broken suspension insulator strings at T. no. 103 & 104 of the said line under the jurisdiction of Kalyaneswari Sub-Station		
337	400KV FKK-Kahalgaon Line-1	13/11/19	9:00	16/11/19	17:00	OCB	FARAKKA	line earth switch commissioning		
338	315 MVA 400/220 KV ICT-II at New Duburi	13-11-19	8:00	14-11-19	16:00	ODB	GRIDCO	Annual maintenance		
339	400KV Mendhasal- Meramundali line (upto Loc. 162 from Mendhasal end)	13-11-19	8:00	13-11-19	16:00	ODB	GRIDCO	Annual maintenance		
340	220kV Kaniha- TTPS DC line(Loc no.29 to 98)	13-11-19	8:00	14-11-19	16:00	ODB	GRIDCO	Annual maintenance		
341	400KV Mendhasal-Meramundali Line (upto Loc. 162 from Mermaundali end)	13-11-19	8:00	13-11-19	16:00	ODB	GRIDCO	Annual maintenance		
342	132 kV Ara Ara (BSPTCL)	13-11-19	10:00	13-11-19	17:00	On Daily Basis	POWERGRID ER-I	Distance Relay retrofitting work	BSEB	
343	400KV BUS-2 AT NEW PURNEA	13-11-19	10:00	13-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
344	New Purnia 1 Line Reactor at Biharhsraif	13-11-19	10:00	13-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
345	BAY 412 - 400KV MAIN BAY OF BR-II AT BANKA	13-11-19	10:00	13-11-19	16:00	ODB	POWERGRID ER-I	AMP WORK		
346	132KV Pusaui-Kudra Line Bay (Bay 105) at Pusaui	13-11-19	9:00	13-11-19	19:00	ODB	POWERGRID ER-I	AMP work	BSEB	
347	408 BAY (400KV JSR 2 TIE BAY) AT CHAIBASA	13-11-19	9:30	13-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
348	TIE BAY OF 765 KV NRNC-DMG-II AND FUTURE BAY AT NEW RANCHI	13-11-19	9:00	13-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK	NLDC	
349	400 KV NEW RANCHI-CHANDWA-II	13-11-19	9:00	13-11-19	18:00	ODB	POWERGRID ER-I	CONSTRUCTION WORK OF NOTH KARNPURA BAY		
350	220 KV DALKHOLA-2 LINE AND ASSOCIATED BAY EQUIPMENTS	13-11-19	9:00	13-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK		
351	50 MVA ICT-II 132/66KV at Gangtok	14-11-19	9:00	14-11-19	18:00	ODB	POWERGRID,ER-II	For Annual AMp Works	Sikkim	
352	Bay 405 ICT#2/Tala#2 Main bay at Binaguri	14-11-19	10:00	14-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
353	220/ 132 KV 160 MVA ICT-II at Birpara	14-11-19	8:00	14-11-19	17:30	ODB	POWERGRID,ER-II	AMP work and Bushing Jumber replacement work	WB	
354	400KV Main Bay of Bheramara-2 at Baharampore	14-11-19	9:00	15-11-19	17:00	OCB	POWERGRID,ER-II	CB Maintenance		
355	400KV Baharampore-Sagardighi-1 Line	14-11-19	9:00	14-11-19	17:00	ODB	POWERGRID,ER-II	For Line Construction work of Baharampore-Bheramara-3&4	WB	
356	400 KV Subhasgram-Sagardighi Line.	14-11-19	9:00	16-11-19	17:00	ODB	POWERGRID,ER-II	VT Selection work, A/R relay retrofitting & testing and Live line defects attending and defective isolator replacement in line.	WB	
357	132kV D/C Ranaghat - Dharampur TL	14-11-19	8:00	14-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 133/0 to 134/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 132kV D/C Ranaghat - Dharampur TL (WBSETCL).	WB	
358	132kV D/C Birsingha-CK Road TL	14-11-19	8:00	14-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP13/0 to 14/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 132kV D/C Birsingha-CK Road TL (WBSETCL).	WB	
359	201 bay 220KV Baripada-Balasore Line -1	14-11-19	9:00	14-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
360	765KV ICT 2 AND SUNDARGARH CKT 1 TIE BAY 708	14-11-19	9:00	14-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	

361	Rengali Main Bay (403)	14-11-19	9:00	14-11-19	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.	NLDC	
362	220KV ICT-II 205 Bay at Keonjhar	14-11-19	9:00	14-11-19	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 OCT'19.		
363	Replacement of DGA Violated CTs with new GE make CTs.	14-11-19	6:00	14-11-19	18:00	OCB	ER-II/Odisha/HVDC Talcher	Outage of Bus Sectionliser Bay (10CO4-T11) on continuous basis for replacement of DGA violated CTs with new GE make CTs. There shall be no interruption or any limitation of Powerflow		
364	400 KV Talcher # 1 Main Bay (Bay No-404)	14-11-19	9:00	14-11-19	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
365	765kV Raipur-I at Sundargarh	14-11-19	9:00	14-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
366	220 kV OPTCL Korba-III line	14-11-19	9:00	14-11-19	17:00	ODB	ER-II/ODISHA/SUNDERGARH	AMP works	NLDC	
367	400 kv Mendhasal -Pandiabili-2 main bay at Mendhasal sub-st	14-11-19	9:00	14-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	DCRM test of main bay CB	GRIDCO	
368	132 kV Ara Jagdishpur Ckt 1	14-11-19	10:00	14-11-19	17:00	On Daily Basis	POWERGRID ER-I	Distance Relay retrofitting work	BSEB	
369	205 Bay (220 kV side ICT-II bay) at Gaya	14-11-19	9:00	14-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
370	400KV BIHARSHARIF-1 TIE BAY (423-52 BAY) AT NEW PURNEA	14-11-19	10:00	14-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
371	Lakhisarai Line 1 bay at Biharsharif	14-11-19	10:00	14-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
372	125MVAR BUS REACTOR-II AT BANKA	14-11-19	9:00	17-11-19	18:00	ODB	POWERGRID ER-I	CONSTRUCTION OF FIRE WALL FOR ICT-III		after 15th november no reactor shutdown shall be entertained upto 15th Feb
373	132KV Pusauli-Mohaniya Line Bay (Bay 103) at Pusauli	14-11-19	9:00	14-11-19	19:00	ODB	POWERGRID ER-I	AMP work	BSEB	
374	410 BAY (400KV RKL 2 MAIN BAY) AT CHAIBASA	14-11-19	9:30	14-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
375	203(IV side of 315 MVA ICT-1) at Daltonganj	14-11-19	9:30	14-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
376	208 bay main bay sipara 1 at Patna	14-11-19	9:30	14-11-19	17:30	OCB	POWERGRID ER-1	AMP WORK		
377	400 KV KAHALGAON-BARH-II	14-11-19	9:00	16-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	May be after restoration of 400kV Barh-Motihari-DC	
378	765 KV L/R-II OF 765 KV NRC-DMG LINE AT NRNC	14-11-19	9:00	14-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK	NLDC	
379	132 KV Banka(PG)-Sabour D/C T/L line	14-11-19	9:00	14-11-19	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) 2.No load restriction	
380	220 KV Birpara-Siliguri Ckt-II	15-11-19	8:00	15-11-19	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay		
381	400KV Baharampore-Sagardighi-2 Line	15-11-19	9:00	15-11-19	17:00	ODB	POWERGRID,ER-II	For Line Construction work of Baharampore-Bheramara-3&4	WB	
382	132kV D/C Birsingha-CK Road TL	15-11-19	8:00	15-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP13/0 to 14/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 132kV D/C Birsingha-CK Road TL (WBSETCL).	WB	
383	A/R in non-auto mode in 220KV Binaguri-Siliguri-I & II	15-11-19	7:00	30-11-19	18:00	ODB	POWERGRID,ER-II	For OPGW installation Work		
384	202 bay 220KV Baripada-Balasore Line -2	15-11-19	9:00	15-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
385	A/R OF 400KV Baripada-Keonjhar line	15-11-19	9:00	25-11-19	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		
386	400 KV RANCHI LINE#1 BAY (428L)	15-11-19	9:00	15-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
387	400KV Balangir-Jeypore Line	15/11/19	8:00	16/11/19	18:00	ODB	ER-II/Odisha/Balangir	Replacement of defective insulator by Polymer long Rod Insulator and AMP of Bolangir L/R at Jeypore	NLDC	
388	220KV OPTCL-II 206 Bay	15-11-19	9:00	15-11-19	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 OCT'19.		
389	125 MVAR BR # 1 Main Bay (Bay No. 410)	15-11-19	9:00	15-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP Work		
390	220kV Korba-III bay 211 at OPTCL Budhipara SS	15-11-19	9:00	15-11-19	17:00	ODB	ER-II/ODISHA/SUNDERGARH	AMP works	NLDC	
391	400 KV tie bay of Mendhasal-Pandiabili -1 & Mendhasal Pandiabili -2 at Mendhasal sub-station.	15-11-19	9:00	15-11-19	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	DCRM test of main bay CB		
392	400kV RTPS-Maithon PGCL	15-11-19	10:30	16-11-19	17:00	ODB	DVC	for Annual Relay maintenance work at RTPS		
393	220KV Meramundali-Kaniha feeder -I	15-11-19	8:00	16-11-19	16:00	ODB	GRIDCO	Annual maintenance		
394	132 kV Ara Jagdishpur Ckt 2	15-11-19	10:00	15-11-19	17:00	On Daily Basis	POWERGRID ER-I	Distance Relay retrofitting work	BSEB	
395	410 Main Bay (400 kV side 765/400 kV ICT-IV) at Gaya	15-11-19	9:00	15-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
396	400KV BIHARSHARIF-2 TIE BAY (423-52 BAY) AT NEW PURNEA	15-11-19	10:00	15-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		

397	315MVA ICT 1 at Biharsharif	15-11-19	10:00	15-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK	BSEB	
398	400kV Main Bay of Biharsharif-I (CWD70Q51) at Pusaui	15-11-19	9:00	15-11-19	19:00	ODB	POWERGRID ER-I	AMP work	BSEB	
399	401BAY (400KV JSR 1 MAIN BAY) AT CHAIBASA	15-11-19	9:30	15-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
400	220 KV MUZ-NEPAL-1	15-11-19	9:30	15-11-19	17:30	ODB	POWERGRID ER-I	NTAMC ADAPTATION WORK AT MUZAFFARPUR	NLDC	
401	210 bay main bay sipara 2 at Patna	15-11-19	9:30	15-11-19	17:30	OCB	POWERGRID ER-1	AMP WORK		
402	414 bay Tie of Ballia 1 & Barh 2 at Patna	15-11-19	9:30	18-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updraton works under SS03 package		
403	220 KV NPRN-PRN #1 LINE AND ASSOCIATED BAY EQUIPMENTS	15-11-19	9:00	15-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK		
404	A/R in non-auto mode in 220KV Binaguri-Siliguri-I & II	15-11-19	7:00	30-11-19	18:00	ODB	POWERGRID (ER-II)	For OPGW installation Work		
405	132KV Gangtok-Rangpo-II Line BAY No.-104	16-11-19	9:00	16-11-19	14:00	ODB	POWERGRID,ER-II	For Annual AMp Works	Sikkim	
406	Bay 406 Tala#2 (Main Bay) at Binaguri	16-11-19	10:00	16-11-19	17:00	ODB	POWERGRID,ER-II	AMP works		
407	220KV BINAGURI-BIRPARA-1	16-11-19	9:00	16-11-19	17:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay.	NLDC	
408	20952- 160MVA ICT I Main Bay	16-11-19	9:00	16-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
409	765/400kV, 500MVA, ICT-2 at Angul	16-11-19	9:00	16-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
410	Main Bay of ICT-2 (418)	16-11-19	8:00	18-11-19	18:00	ODB	ER-II/Odisha /Jeyapore	Overhauling of 418 Bay CB Make CGL		
411	220KV Bus Coupler 207 Bay	16-11-19	9:00	16-11-19	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 OCT'19.		
412	400 KV Talcher # 1 Main Bay (Bay No-404)	16-11-19	9:00	16-11-19	17:00	ODB	ER-II/Odisha/Rengali	MOM Box Retrofitting		
413	765KV Bus-I at Sundargarh	16-11-19	9:00	23-11-19	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of SF6 to Air bushing of 765KV GIS bus sectionalizer, jumpering , HV & impulse testing for commissioning of 765KV GIS under construction head.	NLDC	
414	400KV Sundergarh-Raigarh Ckt #2	16-11-19	8:00	23-11-19	17:30	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose	NLDC	
415	220kV Kuchel- Balasore PGCIL line Ckt.I (loc. No. 1 to 308)	16-11-19	8:00	16-11-19	16:00	ODB	GRIDCO	Annual maintenance		
416	411 Tie Bay (400 kV side 765/400 kV ICT-IV & Gaya-Maithon Line-2) at Gaya	16-11-19	9:00	16-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
417	LINE BAY OF 400KV SILIGURI CKT-1(BAY NO.401L) AT NEW PURNEA	16-11-19	10:00	16-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OLD DISTANCE RELAY(EPAC) WITH NEW MICOMP44 RELAY.		
418	205(IV side of 315 MVA ICT-2) at Daltonganj	16-11-19	9:30	16-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
419	220 KV MUZ-NEPAL-2	16-11-19	9:30	16-11-19	17:30	ODB	POWERGRID ER-I	NTAMC ADAPTATION WORK AT MUZAFFARPUR	NLDC	
420	220 KV Ara khagaul line 1	16-11-19	9:30	16-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK	BSEB	after pusaui ict shutdown
421	400 KV Patna Barh 1 at Patna	16-11-19	9:30	19-11-19	17:30	OCB	POWERGRID ER-1	Commissioning of 80 MVAR Switchable line reactor in Patna Barh line 1 at Patna SS under SS03 package		
422	400KV Rangpo-Teesta-V Ckt-2	17-11-19	8:00	21-11-19	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work,	Teesta-V	
423	400KV BINAGURI-BONGAIGAON-2	17-11-19	9:00	17-11-19	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting oftravelling wave fault locator & Identified defect liquidation and flash insulator replacement	NLDC	
424	220KV BINAGURI-BIRPARA-2	17-11-19	9:00	17-11-19	17:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay.	NLDC	
425	21052- 160MVA ICT II Main Bay	17-11-19	9:00	17-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
426	412 Main Bay (400 kV Gaya-Maithon Line -2) at Gaya	17-11-19	9:00	17-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
427	220 KV Ara Khagaul line 2	17-11-19	9:30	17-11-19	17:30	ODB	POWERGRID ER-1	AMP WORK	BSEB	after pusaui ict shutdown
428	220/132KV 100MVA ICT-2 at Rangpo	18-11-19	8:00	18-11-19	18:00	ODB	POWERGRID,ER-II	For AMP Work		
429	132 KV Gangtok-Rangpo-I Line BAY No.-105	18-11-19	9:00	18-11-19	14:00	ODB	POWERGRID,ER-II	For Annual AMp Works	Sikkim	
430	220KV BINAGURI-SILIGURI-1	18-11-19	9:00	18-11-19	17:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
431	220KV Birpara-Chukha Ckt-I	18-11-19	8:00	18-11-19	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay	NLDC	
432	400 KV Rajarhat -Jeerat Line	18-11-19	9:00	19-11-19	17:00	ODB	POWERGRID,ER-II	A/R relay retrofitting & testing and Main-1 Distance Relay Replacement.	WB	
433	211 bay(220KV side of 500MVA ICT #3)	18-11-19	9:00	18-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
434	400kv Bus Reactor-2 at Angul	18-11-19	9:00	18-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work		after 15th november no reactor shutdown shall be entertained upto 15th Feb

435	UIHEP-Bus Reactor Tie Bay (411)	18-11-19	9:00	18-11-19	18:00	ODB	ER-II/Odisha/Indravati	AMP works of UIHEP- BR Tie Bay (411).Power flow will be Interrupted in 400KV Indravati-UIHEP Line Due to temporary shutdown of UIHEP Main bay(412) at Indravati.	GRIDCO	after 15th november no reactor shutdown shall be entertained upto 15th Feb
436	400 KV ROURKELA SUNDARGARH LINE#2	18-11-19	9:00	18-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS OF 430 L BAY		
437	400KV Sundargarh -Raigarh-3 line	18-11-19	9:00	18-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bays + TL maint work	NLDC	
438	400kV D/C New PPSP- New Ranchi line 1&2	18-11-19	9:00	18-11-19	16:00	ODB	PKTCL	Clearance issue in Electrified Railway crossing (S.E.R),132KV Line crossing	WB	
439	ICT-I at RTPS S/Y, DVC	18-11-19	10:30	19-11-19	17:00	ODB	DVC	for Annual Relay maintenance work at RTPS		
440	125 MVAR BR-3 & 50 MVAR BR-1 AT JAMSHEDPUR	18-11-19	9:30	18-11-19	17:30	ODB	POWERGRID ER-I	Differential relay retrofitting work. Both Reactor connected in parellel with common bay.		
441	419 Main Bay (400 kV side 125 MVAR BR-I) at Gaya	18-11-19	9:00	18-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
442	LINE BAY OF 400KV SILIGURI CKT-2(BAY NO.404L) AT NEW PURNEA	18-11-19	10:00	18-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OLD DISTANCE RELAY(EPAC) WITH NEW MICOMP44 RELAY.		
443	Main Bay ICT 1 bay at Biharsharif	18-11-19	10:00	18-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
444	400 KV Pusauli-Varanasi Line	18-11-19	9:00	23-11-19	19:00	ODB	POWERGRID ER-I	Replacement of insulators at Road/Rail/River/Power Line Crossings and Relay Retrofitting	NLDC	
445	400KV Main bay of 500MVA ICT-1 (CWD60Q52) at Pusauli	18-11-19	9:00	18-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
446	50MVAR MAITHAN RB-I LINE RAECTOR (SWITCHABLE) AT RANCHI	18-11-19	9:30	18-11-19	17:00	ODB	POWERGRID ER-I	AMP work		
447	400/220 KV 500 MVA ICT-3	18-11-19	9:30	18-11-19	17:30	ODB	POWERGRID ER-I	AMP Work	BSEB	
448	500 MVA ICT 3 at Patna	18-11-19	9:30	18-11-19	17:30	ODB	POWERGRID ER-1	Rectification of FO TEMPERATURE sensor	BSEB	after pusauli ICT shutdown
449	400 KV PATNA-BARH-I	18-11-19	9:00	19-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	May be after restoration of 400kV Barh-Motihari-DC	
450	50 MVAR L/R-II OF NEW RANCHI-PPSP-II AT NEW RANCHI	18-11-19	9:00	18-11-19	18:00	ODB	POWERGRID ER-I	AMP,AND CHRGING OF L/R-II		
451	400 kV NEW RANCHI-PPSP-II AT NEW RANCHI	18-11-19	9:00	18-11-19	9:15	ODB	POWERGRID ER-I	LINE S/D REQUIRED FOR ISOLATION OF LINE REACTOR	WB	
452	400 kV NEW RANCHI-PPSP-II AT NEW RANCHI	18-11-19	17:45	18-11-19	18:00	ODB	POWERGRID ER-I	LINE S/D REQUIRED FOR TAKING LINE REACTOR INTO SERVICE	WB	
453	400 KV KODERMA-BOKARO TL - 2	18-11-19	8:00	23-11-19	17:00	ODB	POWERGRID ER-1	Replacement of Insulators damaged by miscreants	DVC	
454	220 KV NPRN-PRN #2 LINE AND ASSOCIATED BAY EQUIPMENTS	18-11-19	9:00	18-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK		
455	220KV Birpara-Chukha Ckt-II	19-11-19	8:00	19-11-19	17:30	ODB	POWERGRID,ER-II	Retrofitting of Numerical Distance Relay & AMP work	NLDC	
456	400kV Main Bay of Sagardighi-1 at Bahrapore	19-11-19	9:00	19-11-19	17:00	ODB	POWERGRID,ER-II	Bay AMP		
457	400 KV BUS-II at Durgapur	19-11-19	9:30	19-11-19	18:00	ODB	POWERGRID,ER-II	One Bus CVT replace & AMP	DVC	
458	101 bay(main bay of 132Kv Baripada-Jaleswar line)	19-11-19	9:00	19-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	
459	765KV JHARSUGUDA CKT 4 MAIN BAY 720	19-11-19	9:00	19-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
460	765KV JHARSUGUDA CKT 3 TIE BAY 722	19-11-19	9:00	19-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
461	400kV Angul-Bolangir Line	19-11-19	9:00	19-11-19	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	NLDC	
462	220KV Bay of ICT-2 (208)	19-11-19	8:00	21-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Overhauling of 208 Bay CB Make CGL		
463	400 KV ROURKELA SUNDARGARH 4 LINE	19-11-19	9:00	19-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	TLM AMP WORKS		
464	125 MVAR BR # 1	19-11-19	9:00	19-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP Work		
465	400KV Sundargarh -Rourkela 3line	19-11-19	9:00	19-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bays + TL maint work		
466	400KV Sundargarh -Rourkela 4line	19-11-19	9:00	19-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bays + TL maint work		
467	400kV Alipurdwar-Siliguri ckt 1	19-11-19	7:30	19-11-19	17:30	ODB	ENCL	AMP Work		
468	220KV Meramundali-Kaniha feeder -II	19-11-19	8:00	20-11-19	16:00	ODB	GRIDCO	Annual maintenance		
469	125 MVAR BR-2 AT JAMSHEDPUR	19-11-19	9:30	19-11-19	17:30	ODB	POWERGRID ER-I	Differential relay retrofitting work.		
470	420 Tie Bay (400 kV side 125 MVAR BR-I & Gaya-Nabinagar Line-2) at Gaya	19-11-19	9:00	19-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
471	TIE BAY OF 400KV MUZ-2 & Kishanganj-1(408) AT NEW PURNEA	19-11-19	10:00	21-11-19	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB & AMP TESTING		
472	400KV LKS-KHG CKT-1	19-11-19	8:00	19-11-19	18:00	ODB	POWERGRID ER-I	Replacement of flashed insulator		
473	Sasaram 1 Main Bay at Biharsharif	19-11-19	10:00	19-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
474	400KV Main Bay of Biharsharif-II (CWD80Q51) at Pusauli	19-11-19	9:00	19-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
475	400KV RANCHI-MTN-I TL	19-11-19	9:00	19-11-19	17:00	ODB	POWERGRID ER-I	FOR STRENGTHENING OF TOWER PEAK AT LOCATION NO. 509, 510 & 511		
476	400KV RANCHI-RAGHUNATHPUR-I TL	19-11-19	9:00	19-11-19	17:00	ODB	POWERGRID ER-I	FOR STRENGTHENING OF TOWER PEAK AT LOCATION NO. 509, 510 & 511		
477	400 KV MAIN BUS-1 AT RANCHI	19-11-19	9:00	19-11-19	17:00	ODB	POWERGRID ER-I	STABILITY TEST FOR BUS BAR PROTECTION OF 426 BAY (TIE BAY OF RNC-RNC-1 AS COMMISSIONING TEST)	JSEB	
478	400 KV RANCHI-RANCHI-1 TL	19-11-19	9:00	19-11-19	17:00	ODB	POWERGRID ER-I	STABILITY TEST FOR BUS BAR PROTECTION OF 426 BAY (TIE BAY OF RNC-RNC-1 AS COMMISSIONING TEST)		

479	80 MVAR LINE REACTOR OF 400 KV RANCHI-SIPAT-1 LINE (NON SWITCHABLE) AT RANCHI	19-11-19	9:30	19-11-19	17:00	ODB	POWERGRID ER-I	AMP OF L/R	NLDC	after 15th november no reactor shutdown shall be entertained upto 15th Feb
480	400 KV RANCHI-SIPAT-1 LINE	19-11-19	9:30	19-11-19	9:45	ODB	POWERGRID ER-I	FOR ISOLATION of LINE REACTOR FOR AMP	NLDC	
481	400 KV RANCHI-SIPAT-1 LINE	19-11-19	16:45	19-11-19	17:00	ODB	POWERGRID ER-I	FOR TAKING LINE REACTOR INTO SERVICE	NLDC	
482	402BAY (400KV JSR 1 TIE BAY) AT CHAIBASA	19-11-19	9:30	19-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
483	211(Bus Coupler Bay) at Daltonganj	19-11-19	9:30	19-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
484	220 Kv Patna Sipara 3	19-11-19	9:30	19-11-19	17:30	ODB	POWERGRID ER-1	AMP	BSEB	
485	400 KV TSTPS- Rourkela # 2(400 KV Bay – 7,8)	19-11-19	8:00	22-11-19	16:00	OCB	TALCHER NTPC	Line Reactor 400KV bushing TESTING,Line reactor AMP,Bay AMP jobs		
486	220KV BINAGURI-SILIGURI-2	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID,ER-II	Replacement and retrofitting of distance relay		
487	400KV Tie Bay of Sagardighi-1 at Baharampore	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID,ER-II	Bay AMP		
488	208 Bay (220 KV Side of 315 MVA ICT#1) at Subhasgram	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID,ER-II	Bay AMP Work	WB	
489	10252- 132kv side of 160MVA ICT I Bay	20-11-19	9:00	20-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
490	400kV Angul-Meramunduli-1 Line	20-11-19	9:00	20-11-19	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	GRIDCO	
491	400/220KV ICT#2 at Indravati	20-11-19	9:00	20-11-19	18:00	ODB	ER-II/Odisha/Indravati	To the topup the oil in ICT#2 Y-ph. During this shutdown Power flow from ICT#2 will be Interrupted.	GRIDCO	
492	400 KV MAIN BAY OF SUNDARGARH#3 (419)	20-11-19	9:00	20-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
493	400KV Sundargarh -Raigarh-4 line	20-11-19	9:00	21-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bays + TL maint work	NLDC	
494	400KV Alipurduar-Siliguri ckt 2	20-11-19	7:30	20-11-19	17:30	ODB	ENICL	AMP WORK		
495	400kV RTPS-DSTPS Ckt#1	20-11-19	9:00	20-11-19	18:00	ODB	DVC	for Bay maintenance work at RTPS end.		
496	400KV CHANDWA-GAYA-I	20-11-19	9:00	20-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATOR DAMAGED BY MISCREANT.		
497	50MVar Sasaram 1 Line reactor at Biharsharif	20-11-19	10:00	20-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
498	200 MVA ICT-I AT BANKA	20-11-19	9:00	20-11-19	18:00	ODB	POWERGRID ER-I	ERECTION OF GANTRY TOWER FOR ICT-III	BSEB	
499	400kV Tie Bay of Biharsharif-II and Bus Reactor-I (CWD80Q50) at Pusauli	20-11-19	9:00	20-11-19	18:00	ODB	POWERGRID ER-I	AMP work		after 15th november no reactor shutdown shall be entertained upto 15th Feb
500	400 KV MAIN BUS-2	20-11-19	9:30	20-11-19	17:00	ODB	POWERGRID ER-I	Fixing of Stool in Yph Bus-II CVT & AMP	JSEB	
501	400KV RANCHI-MTN-I TL	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	FOR RECTIFICATION OF EARTH WIRE OF 400KV RANCHI-RGP-I LINE AT LOCATION NO. 510 & 511		
502	400KV RANCHI-RAGHUNATHPUR-I TL	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	FOR RECTIFICATION OF EARTH WIRE OF 400KV RANCHI-RGP-I LINE AT LOCATION NO. 510 & 511		
503	400KV RANCHI-NEW RANCH-1 TL	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	FOR RECTIFICATION OF EARTH WIRE OF 400KV RANCHI-RGP-I LINE AT LOCATION NO. 510 & 511		
504	400KV RANCHI-NEW RANCH-2 TL	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	FOR RECTIFICATION OF EARTH WIRE OF 400KV RANCHI-RGP-I LINE AT LOCATION NO. 510 & 511. LINE WILL BE OUT DUE TO UNAVAILABILITY OF ITS TIE BAY		
505	400KV RANCHI-NEW RANCH-3 TL	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	FOR RECTIFICATION OF EARTH WIRE OF 400KV RANCHI-RGP-I LINE AT LOCATION NO. 510 & 511		
506	400KV RANCHI-NEW RANCH-4 TL	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	FOR RECTIFICATION OF EARTH WIRE OF 400KV RANCHI-RGP-I LINE AT LOCATION NO. 510 & 511		
507	400 KV MAIN BUS-1 AT RANCHI	20-11-19	9:00	20-11-19	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	
508	80 MVAR LINE REACTOR OF 400 KV RANCHI-SIPAT-2 LINE (NON SWITCHABLE) AT RANCHI	20-11-19	9:30	20-11-19	17:00	ODB	POWERGRID ER-I	AMP OF L/R	NLDC	after 15th november no reactor shutdown shall be entertained upto 15th Feb
509	400 KV RANCHI-SIPAT-II LINE	20-11-19	9:30	20-11-19	9:45	ODB	POWERGRID ER-I	FOR ISOLATION of LINE REACTOR FOR AMP	NLDC	
510	400 KV RANCHI-SIPAT-II LINE	20-11-19	16:45	20-11-19	17:00	ODB	POWERGRID ER-I	FOR TAKING LINE REACTOR INTO SERVICE	NLDC	

511	403BAY (ICT1 MAIN BAY) AT CHAIBASA	20-11-19	9:30	20-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
512	400 KV PATNA-BARH-II	20-11-19	9:00	21-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	May be after restoration of 400kv Barh-Motihari-DC	
513	160 MVA ICT#1 AT PURNEA	20-11-19	9:00	20-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK	BSEB	
514	66 KV Gangtok-Lagvay(LLHP) Line	21-11-19	9:00	21-11-19	14:00	ODB	POWERGRID,ER-II	For Annual Amp Works	Sikkim	
515	220 KV Bus Coupler at Birpara	21-11-19	8:00	21-11-19	17:00	ODB	POWERGRID,ER-II	Conversion of Bus CVT from 1-Phase to 3- Phase	WB	
516	400kV Tie Bay of Farakka-2 at Baharampore	21-11-19	9:00	21-11-19	17:00	ODB	POWERGRID,ER-II	Bay AMP		
517	400 KV Durgapur-Maithon-I Line	21-11-19	9:30	21-11-19	18:00	ODB	POWERGRID,ER-II	Line side isolator dropper replacement		
518	220 KV Bus Coupler Bay (204 Bay) at Subhasgram	21-11-19	9:00	23-11-19	17:00	OCB	POWERGRID,ER-II	For CGL make CB Pole Overhauling	WB	
519	220 KV D/C Arambagh-Medinipur Transmission line	21-11-19	8:00	21-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 22/0 to 23/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 220 KV D/C Arambagh-Medinipur Transmission line (WBSETCL)	WB	
520	400 KV Malda-Purnea-II	21-11-19	8:00	30-11-19	18:00	ODB	POWERGRID,ER-II	For replacement of porcelain insulator by Polymer insulator for increasing reliability of the system. The replacement already notified earlier and includes in the attached list of the letter of March-19.		after charging of 400kv farakka-new purnea
521	10452-132kv side of 160MVA ICT II Bay	21-11-19	9:00	21-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
522	400kV Angul-Talcher Line	21-11-19	9:00	21-11-19	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator		
523	Bus bar-1 at Indravati	21-11-19	9:00	21-11-19	18:00	ODB	ER-II/Odisha/Indravati	AMP works of Bus-1	GRIDCO	
524	125MVAR BUS REACTOR-2 Main Bay(406 Bay)	21/11/19	9:00	21/11/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 406 52CB & 406 CT		after 15th november no reactor shutdown shall be entertained upto 15th Feb
525	125 MVAR BR # 2	21-11-19	9:00	21-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP Work		
526	400KV OPGC-I line	21-11-19	9:00	21-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bays		
527	ICT-II at RTPS S/Y, DVC	21-11-19	10:30	22-11-19	17:00	ODB	DVC	for Annual Relay maintenance work at RTPS		
528	400 kV Ranchi -Rourkela Ckt 1	21-11-19	9:30	21-11-19	17:30	ODB	POWERGRID ER-I	Flashed Insulator replacement to be carried out at Loc no 352.		
529	422 Main Bay (400 kV side 125 MVAR BR-II) at Gaya	21-11-19	9:00	21-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
530	400KV CHANDWA-GAYA-II	21-11-19	9:00	21-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATOR DAMAGED BY MISCREANT.		
531	Sasaram 1 Line reactor Bay at Biharsharif	21-11-19	10:00	21-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
532	400kV Main bay of AC filter North Side (CWD10Q52) at Pusauli	21-11-19	9:00	21-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
533	50MVAR MAITHAN RB-2 LINE RAECTOR(SWITCHABLE) AT RANCHI	21-11-19	9:30	21-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK		
534	220KV BUS BAR 1 AT CHAIBASA	21-11-19	9:30	21-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
535	106(Dtg-jusnl Line-1 bay) at Daltonganj	21-11-19	9:30	21-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
536	500MVA ICT 1 at Patna	21-11-19	9:30	25-11-19	17:30	OCB	POWERGRID ER-1	Construction of Firewall and equipment uprating & jumper connection	BSEB	after pusauli ICT shutdown
537	220/132KV 100MVA ICT-3 at Rangpo	22-11-19	8:00	22-11-19	18:00	ODB	POWERGRID,ER-II	For AMP Work		
538	220 KV D/C Arambagh-Medinipur Transmission line	22-11-19	8:00	22-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 22/0 to 23/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 220 KV D/C Arambagh-Medinipur Transmission line (WBSETCL)	WB	
539	10852- 132KV Bangriposi Line Main Bay	22-11-19	9:00	22-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
540	765KV SRIKAKULAM CKT 2 TIE BAY 725	22-11-19	9:00	22-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
541	400KV Angul-Meramundali-2 Line	22-11-19	9:00	22-11-19	18:00	ODB	ER-II/Odisha/Angul SS	Commissioning of LILO Isolator	GRIDCO	
542	400kV Jeypore-Gazuwaka-I Line	22-11-19	8:00	24-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
543	Bus bar-2 at Indravati	22-11-19	9:00	22-11-19	18:00	ODB	ER-II/Odisha/Indravati	AMP works of Bus-2	GRIDCO	
544	400 KV MAIN BAY OF RANCHI#1 (428)	22-11-19	9:00	22-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP WORKS		
545	125MVAR BUS REACTOR-2 Tie Bay(40506 Bay)	22/11/19	9:00	22/11/19	18:00	ODB	ER-II/Odisha/Balangir	AMP for 40506 52CB & 40506 CT		after 15th november no reactor shutdown shall be entertained upto 15th Feb
546	400kV OPGC-II line	22-11-19	9:00	22-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bays		
547	400KV Alipurduar-Bongaigaon ckt 1	22-11-19	7:30	22-11-19	17:30	ODB	ENICL	AMP Work	NLDC	
548	400/220/132KV grid s/s Meramundali	22-11-19	8:00	23-11-19	16:00	ODB	GRIDCO	Annual maintenance		
549	400/220/132 KV GSS Meramundali (400 KV Bus-I)	22-11-19	8:00	23-11-19	16:00	ODB	GRIDCO	Annual maintenance		
550	423 Tie Bay (400 kV side 125 MVAR BR-II & Gaya-Nabinagar Line-1) at Gaya	22-11-19	9:00	22-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		

551	MAIN BAY OF 400KV MUZ-2(409) AT NEW PURNEA	22-11-19	10:00	23-11-19	18:00	OCB	POWERGRID ER-I	MIDLIFE OVERHAULING OF ALSTOM MAKE CB & AMP TESTING		
552	400KV BSF-LKS CKT-I	22-11-19	8:00	22-11-19	18:00	ODB	POWERGRID ER-I	Replacement of flashed insulator		
553	TIE Bay of Sasaram 1 at Biharsharif	22-11-19	10:00	22-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
554	400KV Main bay of AC filter East Side (CWD50Q52) at Pusauli	22-11-19	9:00	22-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
555	400KV RANCHI-NEW RANCH-2 MAIN BAY	22-11-19	9:00	22-11-19	17:00	ODB	POWERGRID ER-I	BAY AMP, CB DCRM REPEAT TEST AS PER OS INSTRUCTION		
556	220KV BUS BAR 2 AT CHAIBASA	22-11-19	9:30	22-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
557	213 main bay 220KV Fatuha line at Patna	22-11-19	9:30	24-11-19	17:30	OCB	POWERGRID ER-I	CB Overhauling & BCU updraton works under SS03 package		
558	400 KV PATNA-BARH-III	22-11-19	9:00	23-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	May be after restoration of 400kV Barh-Mothihari-DC	
559	400 KV KAHALGAON-MAITHON-I	22-11-19	8:00	28-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATOR DEFECTED IN PID TESTING		
560	160 MVA ICT#2 AT PURNEA	22-11-19	9:00	22-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK	BSEB	
561	66 KV Gangtok-Bulbulay Line BAY No.-605	23-11-19	9:00	23-11-19	14:00	ODB	POWERGRID,ER-II	For Annual Amp Works	Sikkim	
562	400KV BINAGURI-BONGAIGAON-1	23-11-19	9:00	23-11-19	18:00	ODB	POWERGRID,ER-II	Replacement and retrofitting oftravelling wave fault locator & Identified defect liquidation and flash insulator replacement	NLDC	
563	10952- 132KV Baripada Line Main bay	23-11-19	9:00	23-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
564	765/400kV, 500MVA, ICT-3 at Angul	23-11-19	9:00	23-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work	NLDC	
565	400 KV 125 MVAR BUS REACTOR-1	23-11-19	9:00	23-11-19	18:00	ODB	ER-II/ODISHA/ROURKELA	CSD COMMISSIONING		after 15th november no reactor shutdown shall be entertained upto 15th Feb
566	400kv GIS BUS-3	23-11-19	9:00	23-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bus sectionalizer		
567	400KV Alipurduar-Bongaigaon ckt 2	23-11-19	7:30	23-11-19	17:30	ODB	ENICL	AMP Work	NLDC	
568	220kVJindal- Jamshedpur line(Odisha portion)	23-11-19	8:00	23-11-19	16:00	ODB	GRIDCO	Annual maintenance	DVC	45-50 mw power assistance required by DVC
569	428 Main Bay (400 kV side 400/220 KV ICT-III) at Gaya	23-11-19	9:00	23-11-19	18:00	ODB	POWERGRID ER-I	For AMP work		
570	132KV MAIN BUS AT BANKA	23-11-19	9:00	24-11-19	18:00	ODB	POWERGRID ER-I	132KV ICT-III BAY BUS CONNECTION & TESTING OF 132KV BUSBAR	BSEB	
571	400KV Pusauli- Daltonganj Line-1	23-11-19	9:00	14-12-19	18:00	OCB	POWERGRID ER-I	Rectification of Tower No:- 170 of Pusauli- Nabinagr D/C Line having critical leg bend.		TO BE DEFERRED TO DECEMBER
572	400KV Pusauli-Nabinagar Line-1	23-11-19	9:00	26-11-19	18:00	OCB	POWERGRID ER-I	Rectification of Tower No:- 170 of Pusauli- Nabinagr D/C Line having critical leg bend.		TO BE DEFERRED TO DECEMBER
573	107(Dtg-jusnl Line-2 bay) at Daltonganj	23-11-19	9:30	23-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
574	214 Main bay ICT 1 at Patna	23-11-19	9:30	25-11-19	17:30	OCB	POWERGRID ER-I	CB Overhauling & BCU updraton works under SS03 package		
575	400 KV KODERMA-BOKARO TL - 1	23-11-19	10:00	23-11-19	12:00	ODB	POWERGRID ER-I	Replacement of Insulators damaged by miscreants	DVC	
576	220 kV Bus-1 at Baripada	24-11-19	9:00	24-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Isolator alignment work	GRIDCO	
577	400kv GIS BUS-4	24-11-19	9:00	24-11-19	18:00	ODB	ER-II/Odisha/Sundergarh	FOR AMP works of GIS bus sectionalizer		
578	765KV Bus-II at Sundargarh	24-11-19	9:00	30-11-19	18:00	OCB	ER-II/Odisha/Sundergarh	Erection of SF6 to Air bushing of 765KV GIS bus sectionalizer, jumpering , HV & impulse testing for commissioning of 765KV GIS under construction head.	NLDC	
579	400KV Sundergarh-Raigarh Ckt # 4	24-11-19	8:00	30-11-19	17:30	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose	NLDC	
580	711 Tie Bay (765 kV side ICT-IV & Gaya-VNS Line-1) at Gaya	24-11-19	9:00	24-11-19	18:00	ODB	POWERGRID ER-I	For AMP work	NLDC	
581	400 KV Patna Barh line 1 at Patna	24-11-19	9:30	25-11-19	17:30	OCB	POWERGRID ER-I	Under SS03 package for commissioning of 80 MVAR Bus reactor as switchable line reactor		
582	400/220kv 315MVA ICT-4 at Rangpo	25-11-19	8:00	25-11-19	18:00	ODB	POWERGRID,ER-II	For AMP Work		
583	400KV Maithon-Right Bank #II	25-11-19	8:00	09-12-19	18:00	OCB	POWERGRID,ER-II	Re conductoring work		
584	401 Bay (400 KV Subhasgram-Sagardighi Line Main Bay) at Subhasgram	25-11-19	9:00	27-11-19	17:00	OCB	POWERGRID,ER-II	For CGL make CB Pole Overhauling	WB	
585	80 MVAR Bus Reactor at Duburi SS	25-11-19	9:00	25-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO	after 15th november no reactor shutdown shall be entertained upto 15th Feb
586	400KV Jeypore-Gazuwaka-II Line	25-11-19	8:00	27-11-19	18:00	ODB	ER-II/Odisha /Jeypore	Replacement of porcelain insulator with polymer insulator and for attending S/D nature defects	NLDC	
587	765kV Sundargarh-Dharamjaygarh Ckt#3 at Sundargarh	25-11-19	9:00	25-11-19	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	

588	400kV D/C New PPSP- New Ranchi line 1&2	25-11-19	9:00	25-11-19	16:00	ODB	PKTCL	Clearance issue in 220kV D/C CHANDIL-RANCHI T/L	WB	
589	765 KV GAYA-BALIA-S/C	25-11-19	9:00	30-11-19	18:00	ODB	POWERGRID ER-I	FOR STRENGTHENING OF 765 KV LINE TOWER OF (WZ-II) 50 LOCATIONS.	NLDC	
590	MAIN BAY OF 400KV SILIGURI CKT-1 (BAY NO.401) AT NEW PURNEA	25-11-19	9:30	25-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF POLE COLOUMN OF Y-PH TO ATTEND THE SF6 LEAKAGE.		
591	Bus Reactor 3 at Biharsharif	25-11-19	10:00	25-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		after 15th november no reactor shutdown shall be entertained upto 15th Feb
592	400KV BUS-I AT BANKA	25-11-19	9:00	26-11-19	18:00	ODB	POWERGRID ER-I	CONNECTION OF NEW BAY WITH BUS & BUSBAR TESTING		
593	400KV Main bay of 315MVA ICT-2 (CWD70Q52) at Pusaali	25-11-19	9:00	25-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
594	400 KV RANCHI- MAITHON-RB-1	25-11-19	9:00	25-11-19	17:00	ODB	POWERGRID ER-I	REPLACEMENT OF PILOT INSULATOR STRING AT LOCATION 516 DUE TO FLASHOVER		
595	409 Main bay ICT 2 at Patna	25-11-19	9:30	27-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updation works under SS03 package		
596	765 KV NEW RANCHI-DHARMAJAYGARH-II	25-11-19	8:00	26-11-19	18:00	ODB	POWERGRID ER-I	FOR POWER LINE CROSSING WORK OF 765 KV NEW RANCHI-MEDNIPUR LINE	NLDC	
597	400 KV KODERMA -BIHARSHARIF TL - 1	25-11-19	8:00	26-11-19	17:00	ODB	POWERGRID ER-1	Replacement of Insulators damaged by miscreants	DVC	
598	160 MVA ICT#3 AT PURNEA	25-11-19	9:00	25-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK	BSEB	
599	66 KV Gangtok-Tadong Line	26-11-19	9:00	26-11-19	14:00	ODB	POWERGRID,ER-II	For Annual Amp Works	Sikkim	
600	220 KV Alipurduar - Birpara Ckt II	26-11-19	6:00	27-11-19	18:00	ODB	POWERGRID,ER-II	Replacement of Insulator from Pocerlin to Polymer for increasing reliability.		
601	220KV Bus-I at Maithon	26-11-19	9:00	26-11-19	18:00	ODB	POWERGRID,ER-II	Isolation of Jumpers of 220kV Bus-1 in Dumka-1&II side for stringing work in 220kV side under ERSS-XX project work	DVC	
602	315 MVA ICT-III at Durgapur	26-11-19	9:30	26-11-19	18:00	ODB	POWERGRID,ER-II	Balance commissioning works to attend punch points	DVC	
603	404-main bay of 80MVAR Bus Reactor at Duburi SS	26-11-19	9:00	26-11-19	13:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
604	40304-Tie bay of Duburi-BPD line & Bus Reactor at Duburi SS	26-11-19	13:30	26-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
605	400KV ICT 1 & BOLANGIR TIE BAY 402	26-11-19	9:00	26-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work		
606	400 KV Bus # 1	26-11-19	9:00	26-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP Work		
607	765kV Sundargarh-Dharamjaygarh Ckt#4 at Sundargarh	26-11-19	9:00	26-11-19	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
608	MAIN BAY OF 400KV SILIGURI CKT-2 (BAY NO.404) AT NEW PURNEA	26-11-19	9:30	26-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF POLE COLOUMN OF R-PH TO ATTEND THE SF6 LEAKAGE.		
609	400KV BSF-VARANASI-1	26-11-19	10:00	26-11-19	14:00	ODB	POWERGRID ER-I	TWFL (TRAVELLING WAVE FAULT LOCATOR)) TESTING	NLDC	
610	400KV BSF-VARANASI-2	26-11-19	15:00	26-11-19	18:00	ODB	POWERGRID ER-I	TWFL (TRAVELLING WAVE FAULT LOCATOR)) TESTING	NLDC	
611	400KV Main Bay of Varanasi North (CWL30Q52 Bay) at Pusaali	26-11-19	9:00	26-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
612	400 KV RANCHI- MAITHON-RB-2	26-11-19	9:00	26-11-19	17:00	ODB	POWERGRID ER-I	REPLACEMENT OF PILOT INSULATOR STRING AT LOCATION 495 DUE TO FLASHOVER		
613	220KV TRANSFER BUS AT CHAIBASA	26-11-19	9:30	26-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
614	103(Chatarpur Line-1 bay) at Daltonganj	26-11-19	9:30	26-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
615	416 bay Balia Line-2 bay at Patna	26-11-19	9:30	29-11-19	17:30	OCB	POWERGRID ER-1	CB Overhauling & BCU updation works under SS03 package		
616	400 KV PATNA-BARH-IV	26-11-19	9:00	27-11-19	18:00	ODB	POWERGRID ER-I	REPLACEMENT OF PORCELAIN INSULATOR BY POL	May be after restoration of 400kV Barh-Motihari-DC	
617	765 KV ICT-II AT NEW RANCHI	26-11-19	9:00	26-11-19	18:00	ODB	POWERGRID ER-I	AMP & SPARE ICT SWITCHING	NLDC	
618	400KV Rangpo-Kishanganj line	27-11-19	8:00	30-11-19	17:00	OCB	POWERGRID,ER-II	For rectification of SF6 gas leakage repair work,		
619	220KV Bus-II at Maithon	27-11-19	9:00	28-11-19	18:00	ODB	POWERGRID,ER-II	Stringing of strung bus in 220kV side for ICT-3 incomer bays under ERSS-XX project work	DVC	
620	220kV Maithon-Dumka-1&2 line	27-11-19	9:00	28-11-19	18:00	ODB	POWERGRID,ER-II	Stringing of strung bus in 220kV side for ICT-3 incomer bays under ERSS-XX project work. Both the line will be under shut down for stringing work.	JSEB	

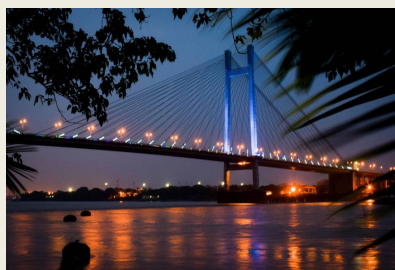
621	220KV Bus-II at Baripada	27-11-19	9:00	27-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Isolator allignment work	GRIDCO	
622	400KV BUS REACTOR 1 MAIN BAY 416	27-11-19	9:00	27-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work		after 15th november no reactor shutdown shall be entertained upto 15th Feb
623	400 KV Bus # 2	27-11-19	9:00	27-11-19	17:00	ODB	ER-II/Odisha/Rengali	AMP Work		
624	765KV GIS BUS-I along with AIS section of Darmajaygar-I & II Main Bays	27-11-19	9:00	28-11-19	17:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
625	MAIN BAY OF 400KV KISHANGANJ-1(410) AT NEW PURNEA	27-11-19	10:00	27-11-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF GASKET OF R-PHASE PIR TO ATTEND THE SF6 LEAKAGE.		
626	400KV BSF-BALIA-2	27-11-19	10:00	27-11-19	14:00	ODB	POWERGRID ER-I	TWFL (TRAVELLING WAVE FAULT LOCATOR)) TESTING	NLDC	
627	400KV Tie Bay of Nabinagar & Spare Bay (Bay 420) at Pusauli	27-11-19	9:00	27-11-19	18:00	ODB	POWERGRID ER-I	AMP work		
628	400KV RNC-RKL-2 MAIN BAY (BAY NO 412) RANCHI	27-11-19	9:30	27-11-19	17:00	ODB	POWERGRID ER-I	AMP WORK		
629	400 KV KODERMA -BIHARSHARIF TL - 2	27-11-19	8:00	28-11-19	17:00	ODB	POWERGRID ER-I	Replacement of Insulators damaged by miscreants	DVC	
630	220 KV Bus #1 with Siliguri #1, ICT#1, Birpara#1 & Bus Section-I at Binaguri	28-11-19	9:00	29-11-19	17:00	ODB	POWERGRID,ER-II	Commissioning of Bus #1 Bus bar protection for ICT#3 ER55-XVII	WB	
631	315 MVA ICT-II at Durgapur	28-11-19	9:30	28-11-19	18:00	ODB	POWERGRID,ER-II	FDS & tandelta testing	DVC	
632	100 MVAR Bus Reactor at WBSETCL Jeerat Substation	28-11-19	9:00	28-11-19	17:00	ODB	POWERGRID,ER-II	For Leakage Arresting of 100 MVAR Reactor	WB	after 15th november no reactor shutdown shall be entertained upto 15th Feb
633	132 KV D/C Arambag - Tarakeshwar TL	28-11-19	8:00	28-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 51/0 to 52/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 132 KV D/C Arambag – Tarakeshwar Transmission line (WBSETCL)	WB	
634	41352-500MVA ICT#3 GIS Bay	28-11-19	9:00	28-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
635	400KV BUS 2 at Angul	28-11-19	9:00	28-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work		
636	315MVA ICT # II at Jeypore	28-11-19	9:00	28-11-19	18:00	ODB	ER-II/Odisha /Jeypore	AMP of ICT # II and testing of Back up Impedance relay	GRIDCO	
637	400 KV Talcher # 1 Tie Bay (Bay No-406)	28-11-19	8:00	01-12-19	17:00	OCB	ER-II/Odisha/Rengali	CB Pole Overhauling & MOM Box Retrofitting		
638	765kV Sundargarh-Dharamjaygarh Ckt#1 at Sundargarh	28-11-19	9:00	28-11-19	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
639	220KV Budhipadar-Korba(Raygada) Ckt-I	28-11-19	8:00	29-11-19	16:00	ODB	GRIDCO	Annual maintenance		
640	220kV Tarkera- PGCIL Circuit-II	28-11-19	8:00	28-11-19	16:00	ODB	GRIDCO	Annual maintenance		
641	500MVA ICT-1 AT NEW PURNEA	28-11-19	10:00	28-11-19	18:00	ODB	POWERGRID ER-I	FOR RETROFITTING WORK OF BACK UP IMPEDANCE RELAY		
642	400KV BSF-BALIA-1	28-11-19	8:00	28-11-19	18:00	ODB	POWERGRID ER-I	TWFL TESTING , RELAY DISPLAY REPLACEMENT AND Replacement of flashed insulator	NLDC	
643	400KV BUS-II AT BANKA	28-11-19	9:00	29-11-19	18:00	ODB	POWERGRID ER-I	CONNECTION OF NEW BAY WITH BUS & BUSBAR TESTING		
644	400KV Pusauli-Nabinagar Line-2	28-11-19	9:00	11-12-19	18:00	OCB	POWERGRID ER-I	Rectification of Tower No:- 170 of Pusauli- Nabinagr D/C Line having critical leg bend.		TO BE DEFERRED TO DECEMBER
645	North Side Allahabad Bay Line Reactor (CWL 29 Bay) at Pusauli	28-11-19	9:00	28-11-19	18:00	ODB	POWERGRID ER-I	AMP work		after 15th november no reactor shutdown shall be entertained upto 15th Feb
646	101 Bay (ATR-2 IV side Bay) at Daltonganj	28-11-19	9:30	28-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		
647	412 Main bay Of ICT 1 at Patna	28-11-19	9:30	30-11-19	17:30	OCB	POWERGRID ER-I	CB Overhauling & BCU updraton works under SS03 package		
648	400 KV TSTPS- Rengali-1 (400 KV Bay –8,9)	28-11-19	8:00	30-11-19	16:00	OCB	TALCHER NTPC	Line LA replacement- 3nos and AMP JOB		
649	403 Bay (315 MVA ICT#1 Main Bay) at Subhasgram	29-11-19	9:00	29-11-19	17:00	ODB	POWERGRID,ER-II	Bay AMP Work	WB	
650	132 KV D/C Arambag - Tarakeshwar TL	29-11-19	8:00	29-11-19	17:00	ODB	POWERGRID,ER-II	Stringing b/w AP 51/0 to 52/0 of 765 KV D/C Medinipur-Jeerat TL Over existing 132 KV D/C Arambag – Tarakeshwar Transmission line (WBSETCL)	WB	

651	41452 - GIS Tie bay of ICT #3 & Bus Reactor-1	29-11-19	9:00	29-11-19	13:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
652	41652-Future Line Bay GIS	29-11-19	13:30	29-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		
653	400KV BUS 1 at Angul	29-11-19	9:00	29-11-19	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work		
654	ICT-I (3x 105 MVA) at Jeypore	29-11-19	10:00	29-11-19	13:00	ODB	ER-II/Odisha /Jeypore	For changing ICT-I combination form Unit-I,II, IV to Unit-I , III & IV for charging Unit-III & AMP of 220kV Side CT of ICT-I	GRIDCO	
655	765kV GIS BUS-II along with AIS section of Darlipalli -I & II Main Bays	29-11-19	9:00	30-11-19	17:00	OCB	ER-II/Odisha/Sundergarh	for 765KV GIS and 765KV ICT-3&4 commissioning work under construction head	NLDC	
656	765kV Sundargarh-Dharamjaygarh Ckt#2 at Sundargarh	29-11-19	9:00	29-11-19	14:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
657	500MVA ICT-2 AT NEW PURNEA	29-11-19	10:00	29-11-19	18:00	ODB	POWERGRID ER-I	FOR RETROFITTING WORK OF BACK UP IMPEDANCE RELAY		
658	400KV BSF - MUZ-2	29-11-19	10:00	29-11-19	14:00	ODB	POWERGRID ER-I	RELAY RETROFITTING AT BSF		
659	North Side Sarnath Bay Line Reactor (CWL 39 Bay) Pusauli	29-11-19	9:00	29-11-19	18:00	ODB	POWERGRID ER-I	AMP work		after 15th november no reactor shutdown shall be entertained upto 15th Feb
660	400 KV KAHALGAON-MAITHON-II	29-11-19	8:00	05-12-19	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF INSULATOR DEFECTED IN PID TESTING		
661	66 KV Gangtok-Sherathang Line	30-11-19	9:00	30-11-19	14:00	ODB	POWERGRID,ER-II	For Annual Amp Works	Sikkim	
662	220 KV Bus #2 with Siliguri #2, ICT#2, Birpara#2 & Bus Section-II at Binaguri	30-11-19	9:00	30-11-19	17:00	ODB	POWERGRID,ER-II	Commissioning of Bus #2 Bus bar protection for ICT#3 ERSS-XVII	WB	
663	50 MVAR Sagardighi Line Reactor at Subhasgram	30-11-19	9:00	30-11-19	17:00	ODB	POWERGRID,ER-II	Voltage Selection work	WB	after 15th november no reactor shutdown shall be entertained upto 15th Feb
664	41752-Tie bay of GIS Bus Reactor-2 & Future line	30-11-19	9:00	30-11-19	13:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
665	41852-125MVAR GIS Bus Reactor-2	30-11-19	13:30	30-11-19	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works		after 15th november no reactor shutdown shall be entertained upto 15th Feb
666	63 MVAR Bus Reactor at Jeypore	30-11-19	9:00	30-11-19	18:00	ODB	ER-II/Odisha /Jeypore	AMP of 63 MVAR Bus Reactor		after 15th november no reactor shutdown shall be entertained upto 15th Feb
667	765kV ANGUL-II at Sundargarh	30-11-19	9:00	30-11-19	11:00	ODB	ER-II/Odisha/Sundergarh	BPI erection works at T-point	NLDC	
668	ICT 2 Main Bay at Biharsharif	30-11-19	10:00	30-11-19	18:00	ODB	POWERGRID ER-I	AMP WORK		
669	102 Bay (ATR-1 IV side Bay) at Daltonganj	30-11-19	9:30	30-11-19	17:30	ODB	POWERGRID ER-I	AMP WORK		

Power System Operation Corporation Ltd.



162nd OCC Meeting



At ERPC, Kolkata

22nd October, 2019

ER Grid Performances

ERLDC POSOCO

Highlights for the month of September-19

Frequency Profile

Average Freq:- 50.01 Hz
Avg FVI:- - 0.033
Lowest FVI:- 0.021

Max- 50.27 Hz on 05th
September'19

Min- 49.62 Hz on 09th &
18th September'19

75.24% of the time freq
was with in IEGC Band

Peak Demand-

ER: 23337 MW on 06th
September 2019 at 20:22 hrs
% Growth in Average Demand
Met w.r.t. last year: 2.28%

BSPHCL : 5808 MW ; ON 03/09/19

JUVNL: 1253 MW; ON 21/09/19

DVC: 3018 MW; ON 23/09/19

GRIDCO: 5051 MW; ON 19/09/19

WB: 9016 MW; ON 06/09/19

SIKKIM: 104 MW; ON 07/09/19

*All data source are from SCADA

New Element
Generating Units-
NPGC #1 (660 MW)

Open Access
STOA transactions
approved -250 nos.

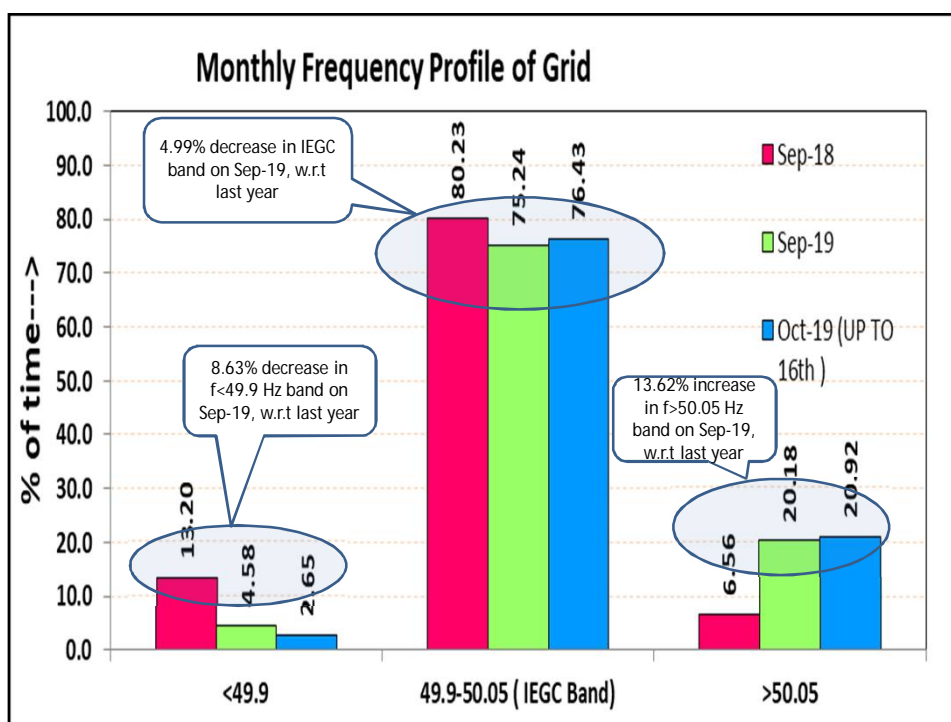
Energy Approved-
1395.39 MUs

Energy met

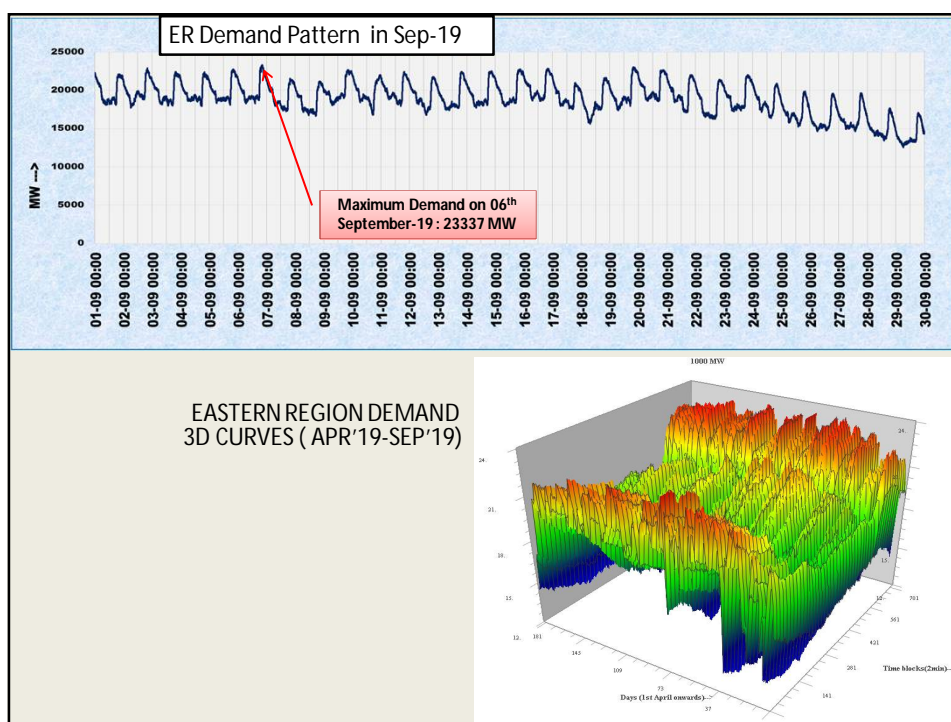
Max. 502 MU on 16th Sep 2019
%Growth w.r.t. last year on Max
energy : 2.3%
Avg. 462.5 MU in September 2019
%Growth w.r.t. last year on Avg.
energy : 1.3%

New Element addition during the month:

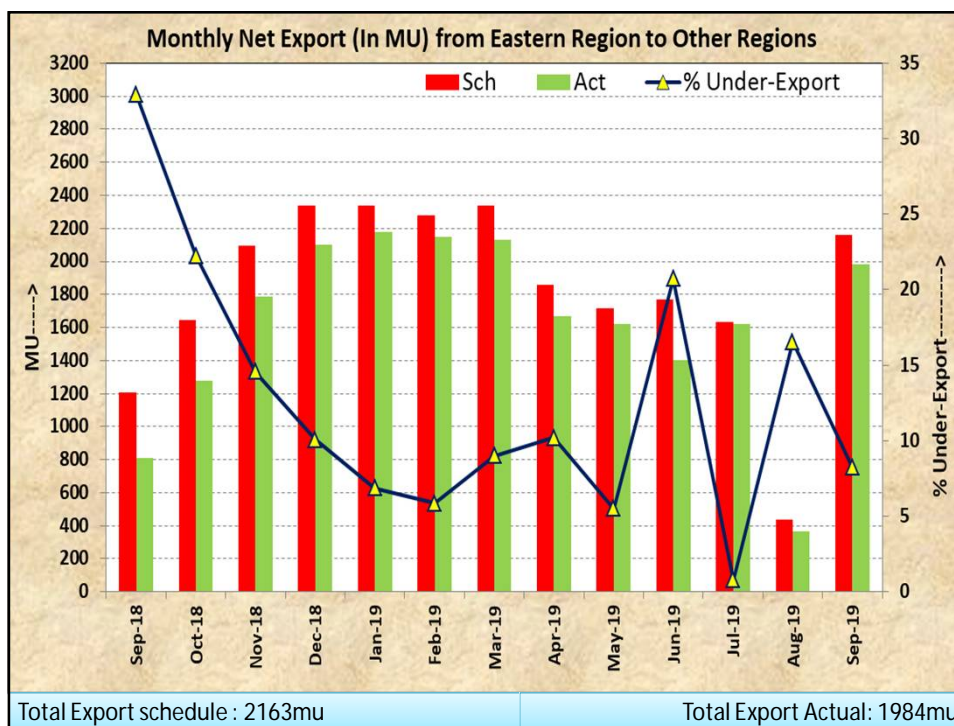
SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	400/220KV 500 MVA ICT - 4 at Biharshariff	PGCIL	04-09-2019	18:00	First time charged with no load at 17:30hrs of 03/09/19
2	NPGC #1 (660 MW)	NTPC	06-09-19	0:00	COD
3	LILO of 220kV Arah-Sasaram(PG)-1 at Nadokhar (Sasaram_new_BSPTCL)	BSPTCL	08-09-2019	11:52	Only LILO portion is owned by BSPTCL
4	220 KV Dumka-Govindpur-I	JUSNL	25-09-2019	17:35	
5	220 KV Dumka-Govindpur- II	JUSNL	25-09-2019	17:35	
6	160 MVA ICT IV at Malda	PGCIL	29-09-2019	11:14	

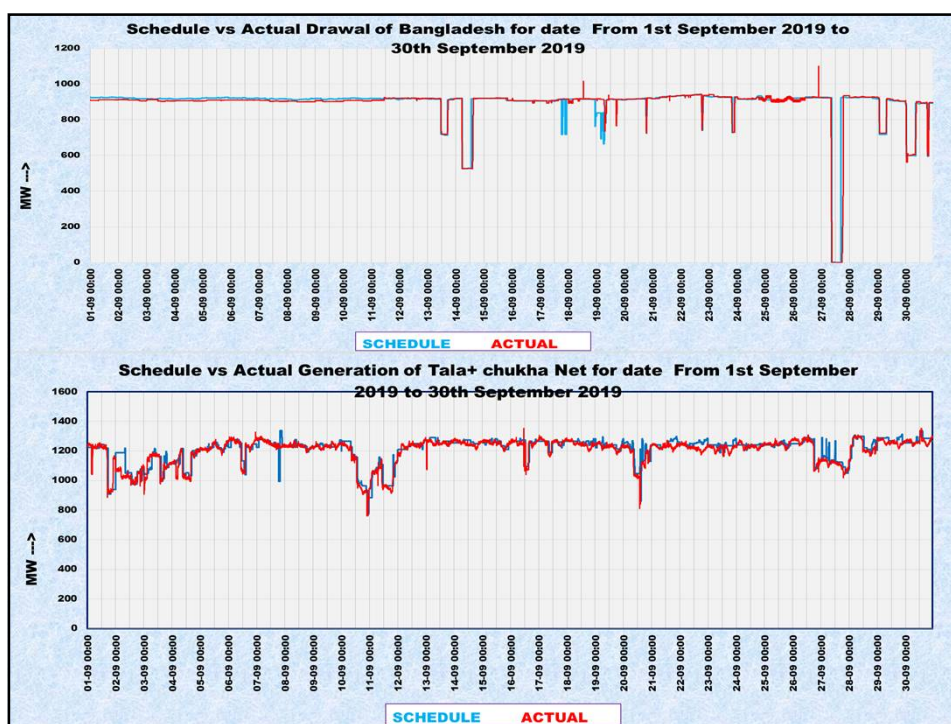


So Far Highest Demand					
Constitute	Demand (in MW)	Date	Time	Dmd met (MW) on 06 th Sep'19 (max dmd met day)	
				MW	Time
Bihar	5972	03-Sep-19	20:07	5763	20:46
DVC	3322	24-Jun-19	20:01	2774	18:27
Jharkhand	1348	21-May-19	20:45	1208	20:33
Odisha	5558	23-Aug-18	20:21	4266	19:20
W. Bengal	9362	28-May-19	14:27	9020	19:43
Sikkim	117	28-Oct-16	19:22	91	18:37
ER	23476	20-May-19	22:45	23337	20:22
So Far Highest Energy Consumption					
Constitute	Energy consumption (in MUs)	Date	Energy met on 06 th Sep'19 (max dmd met day)		
Bihar	121.4	02-Sep-19	115.1		
DVC	75.8	12-Jul-18	60.1		
Jharkhand	27.8	19-May-19	23.6		
Odisha	123.5	02-Oct-18	89		
West Bengal	199.9	28-May-19	181		
Sikkim	2.1	07-Dec-17	1.1		
ER	506.0	25-Jun-19	482		

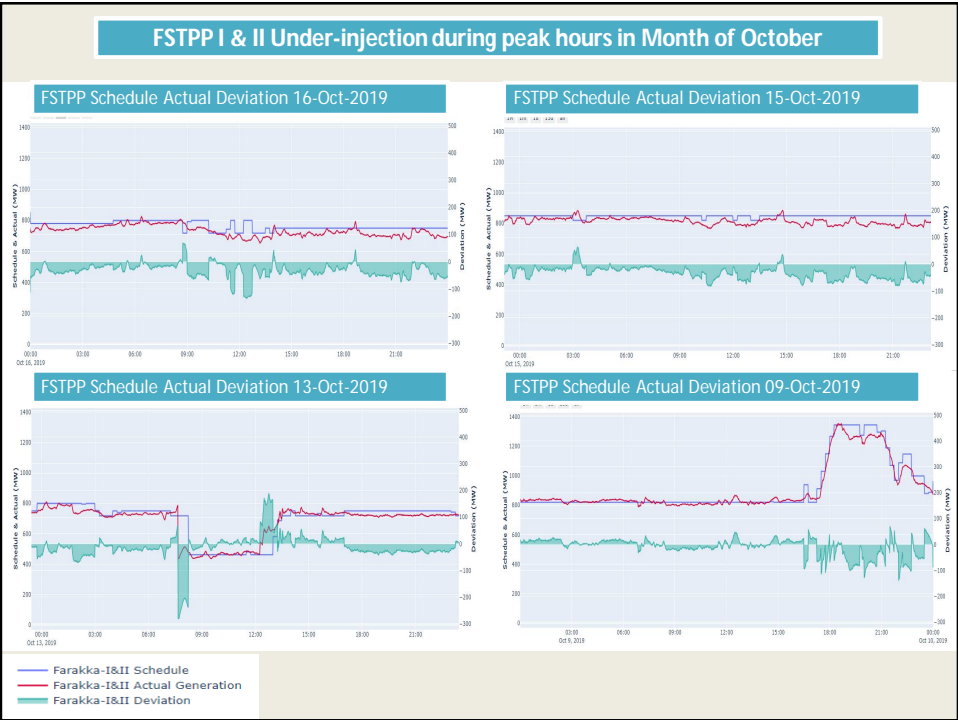
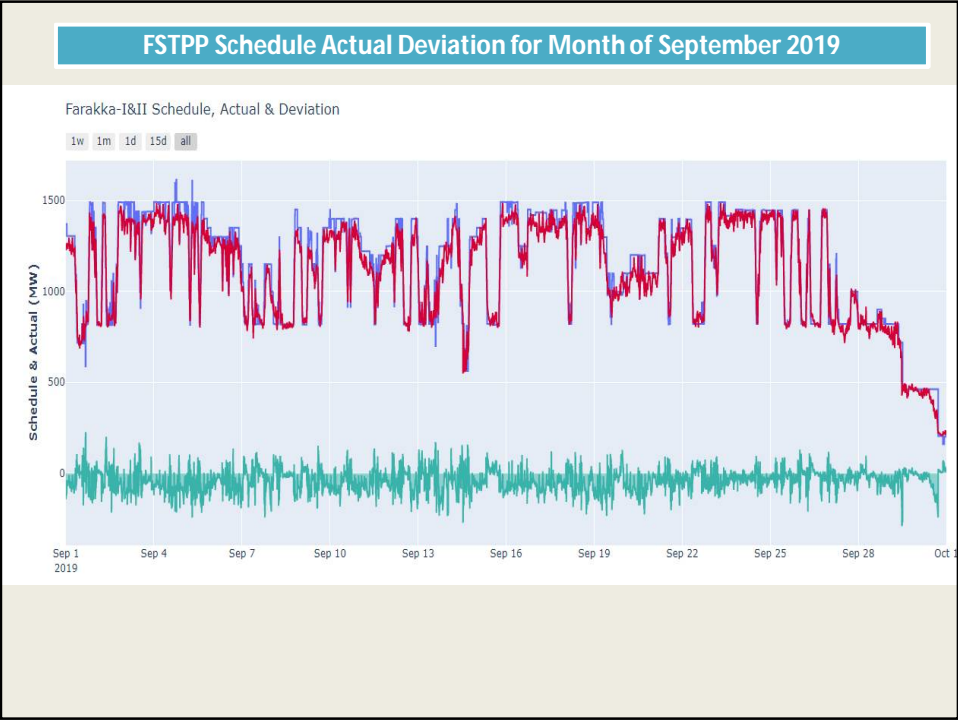


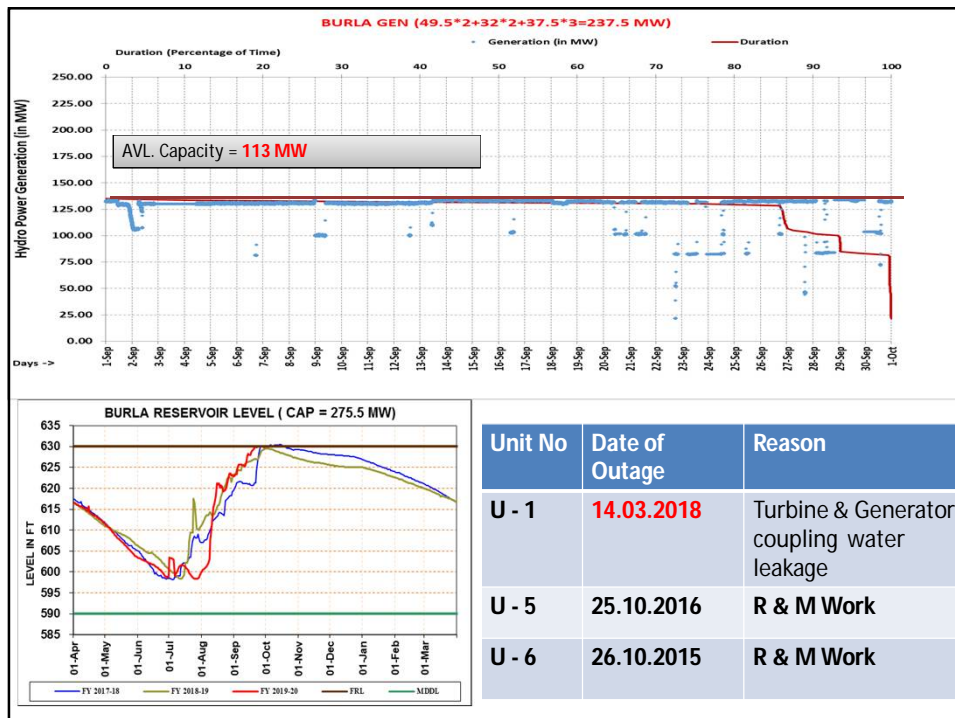
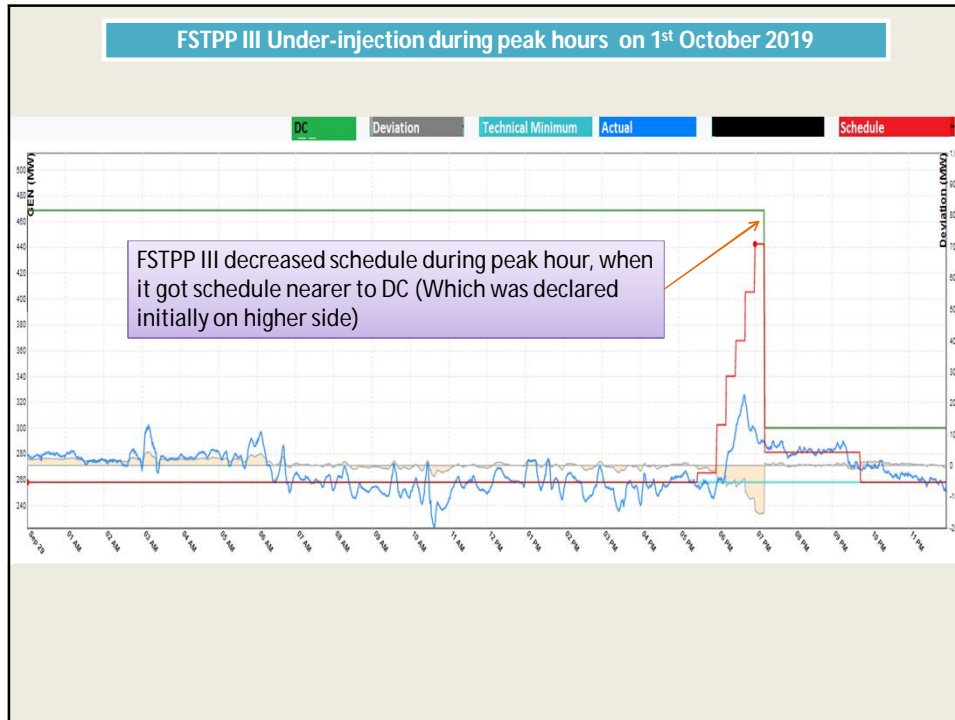
Over Drawl / Under Injection by ER
Entities
Non-compliance of direction issued by
SLDC

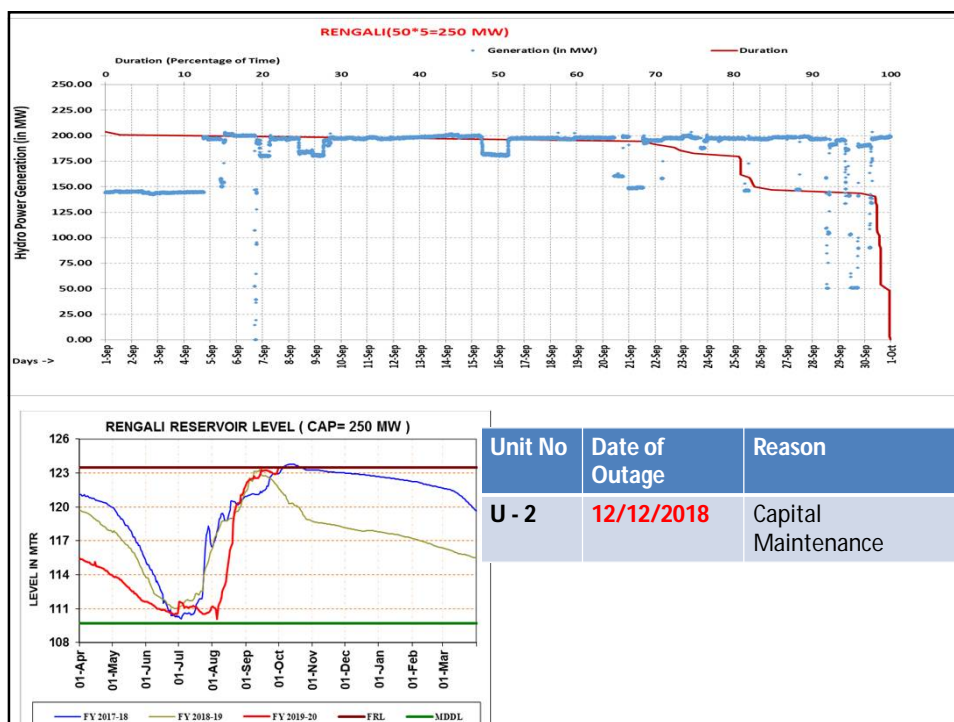
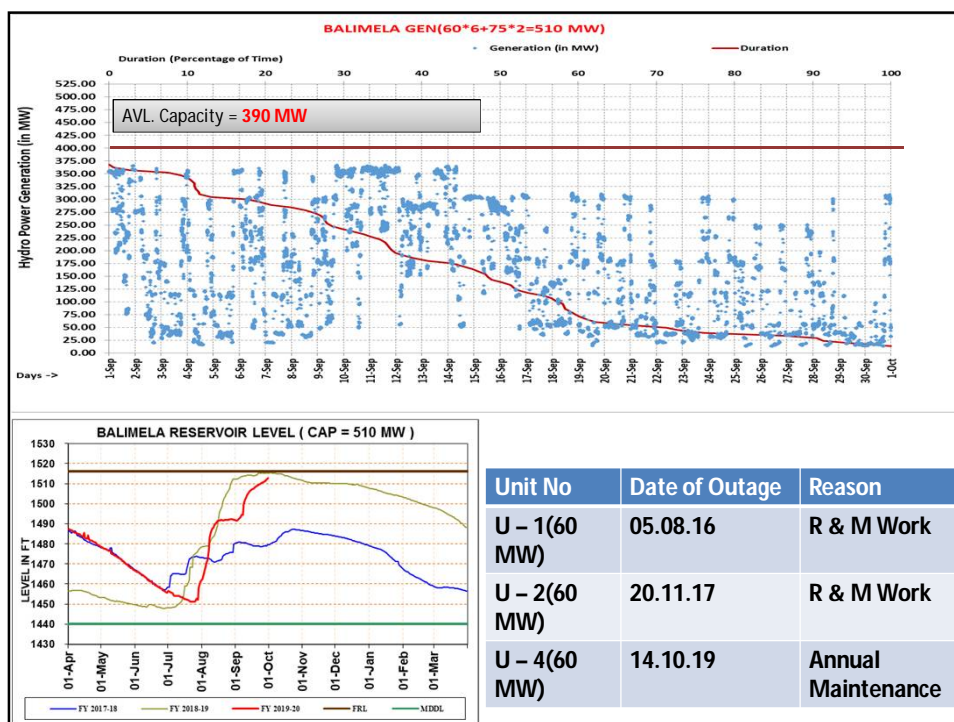


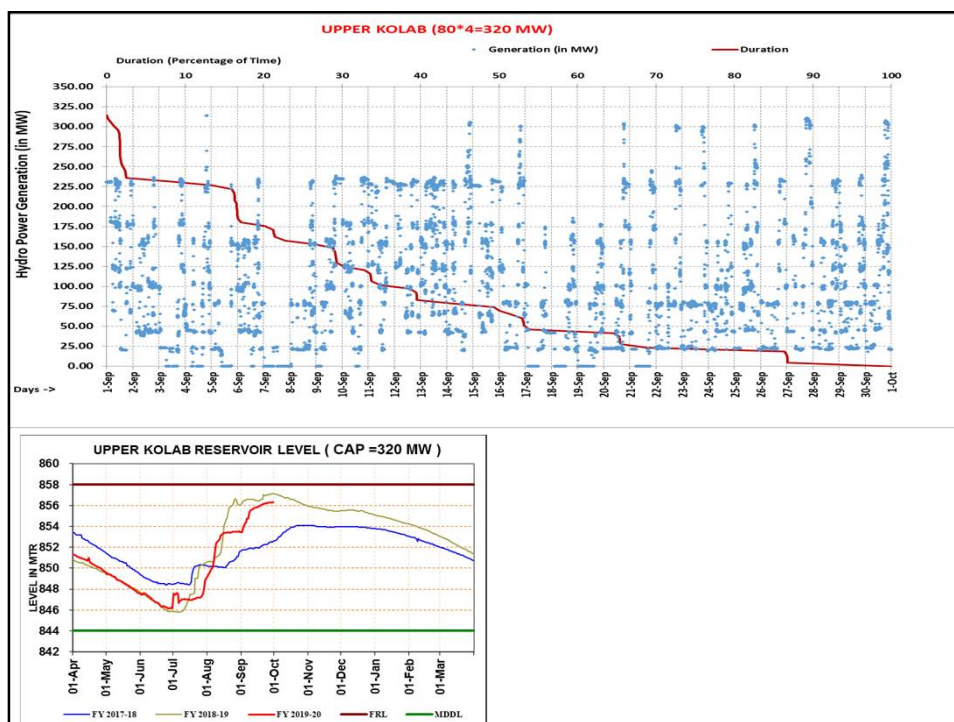
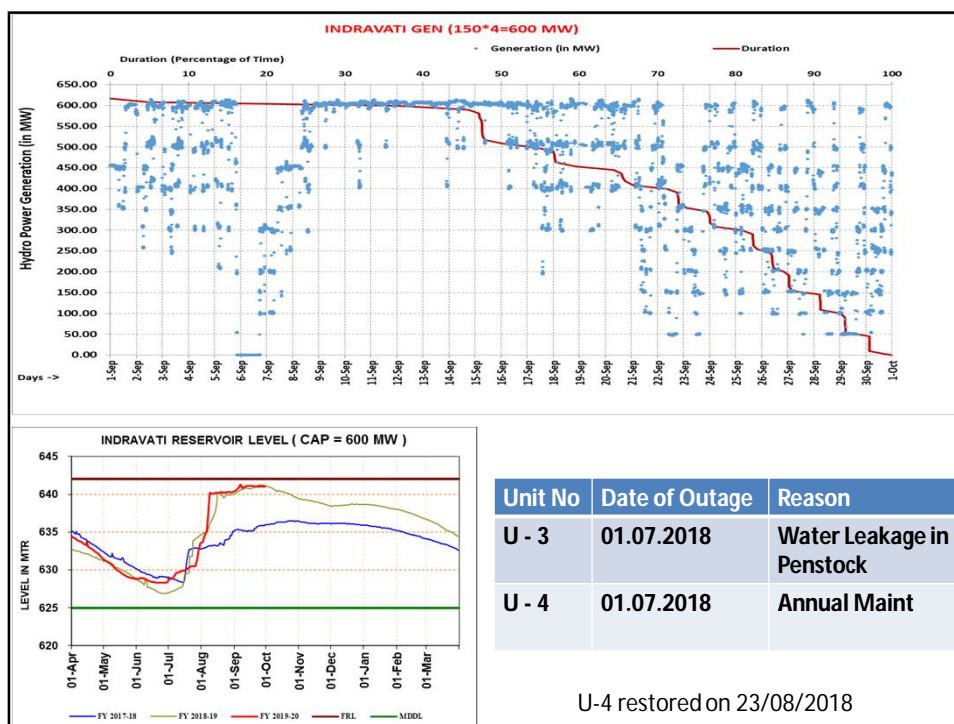


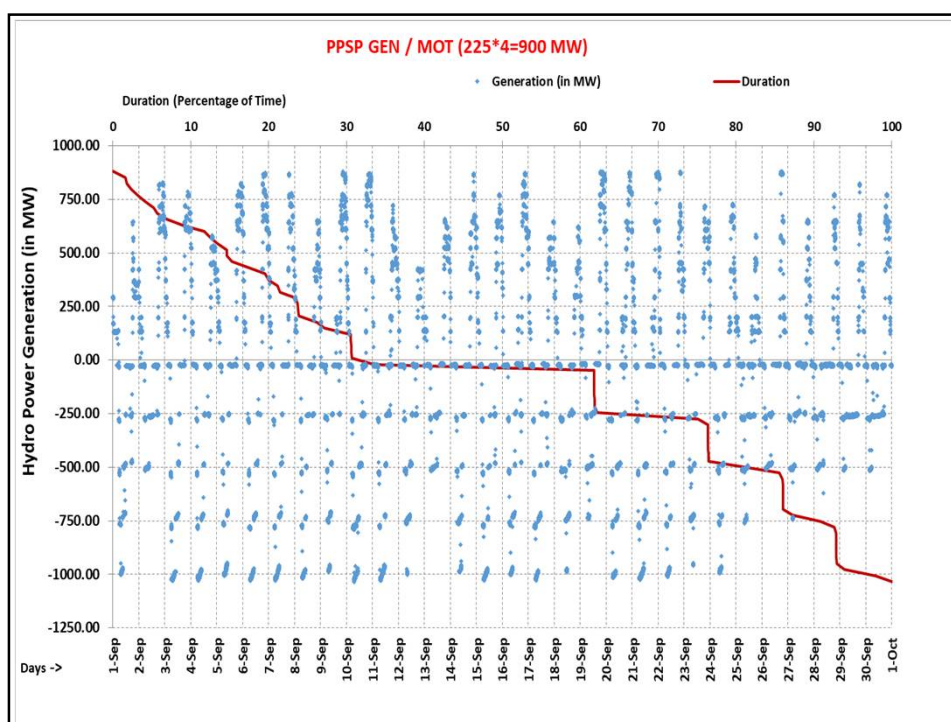
September 2019 Schedule vs Actual Status					
	Schedule (MU)	Actual (MU)	OD (MU)	Daily Avg OD (MU)	% Deviation
Bihar	2898	2845	-53	-1.7	-1.8
Jharkhand	501	500	-1	0.0	-0.1
DVC	-678	-662	16	0.5	2.4
Odisha	669	888	219	7.1	32.8
West Bengal	1928	1955	28	0.9	1.4
Sikkim	38	39	1	0.0	3.5
FSTPP I & II	833	805	-28	-0.9	-3.3
FSTPP III	297	290	-7	-0.2	0.0
KHSTPP I	463	465	2	0.1	0.5
KHSTPP II	873	863	-11	-0.3	-1.2
TSTPP I	295	298	2	0.1	0.8
BARH II	751	741	-9	-0.3	-1.3
GMR	186	174	-13	-0.4	-6.9
MPL	511	511	0	0.0	0.0
APRNL	248	236	-12	-0.4	-4.8
JITPL	312	315	3	0.1	0.8





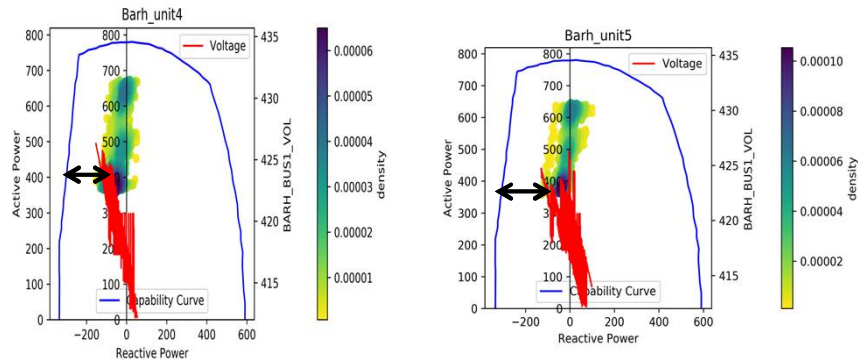






Elements long outages leading to transmission constraint

- 400KV tie bay(405) of (MAITHON RB-I AND DURGAPUR-I) at MAITHON out since 11-01-19 for upgradation of CT/ ISOLATORS /CONNECTORS from 2000 A TO 3150 A.
- 400KV FSTPP-KhSTPP-I out since 06-03-19 for taking up bay upgradation work at NTPC Farakka. Scope of work is under Powergrid ERTS-II. Line restored through tie bay on 31-07-2019.
- 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?
- 400 Kv Purnea – Biharsariff D/C were out since 10/08/18 on tower collapse at 47/0.
- 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 13/08/2019 on tower collapse at LOC 27/0.
- 400 KV Barh –Motihari (DMTCL) – D/C were out since 04/09/2019 on tower collapse at LOC 26/0.

Reactive power Performance of Barh unit 4 & 5 For the Period of 27th Sep to 14th Oct

Tap is at Nominal position 420/21 kV, So Margin available for absorbing more VAR is there by proper AVR voltage set point