Minutes

of

151st OCC Meeting

Date: 10.12.2018

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 151st OCC Meeting held on 27th November, 2018 at NTPC, Farakka

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

Item no. 1: Confirmation of minutes of 150th OCC meeting of ERPC held on 11.10.2018

The minutes of 150th OCC meeting were uploaded in ERPC website and circulated vide letter dated 30.10.2018 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 150th OCC meeting.

PART A : ER GRID PERFORMANCE

Item no. A1: ER Grid performance during October, 2018

The average consumption of Eastern Region for October- 2018 was 434 Mu. Eastern Region energy consumption reached an all-time high of 499Mu on 3rd October - 2018. Total Export schedule of Eastern Region for October - 2018 was 1645 Mu, whereas actual export was1279.2Mu. The under export of Eastern Region was mainly due to over drawl of DVC, West Bengal and Odisha.

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

1. **Frequency profile**
2. **Over drawal/under injection by ER Entities:**

Over drawl figure of West Bengal and Odisha from 01-11-2018 to 10-11-2018 are shown below:

Dates	DVC			GRIDCO			West Bengal		
	Schedule	Actual	Deviation	Schedule	Actual	Deviation	Schedule	Actual	Deviation
01-11-2018	-33.04	-33.05	-0.01	35.24	39.65	4.41	34.73	40.69	5.96
02-11-2018	-31.20	-29.09	2.11	32.53	36.42	3.90	42.53	44.15	1.62
03-11-2018	-28.63	-23.67	4.95	32.10	36.77	4.66	36.87	39.77	2.89
04-11-2018	-27.25	-20.70	6.54	36.63	40.75	4.12	28.03	33.24	5.21
05-11-2018	-23.20	-15.07	8.13	35.22	39.44	4.22	37.90	39.71	1.81
06-11-2018	-15.93	-8.66	7.27	38.68	43.64	4.96	31.09	33.25	2.16
07-11-2018	-16.92	-14.63	2.30	44.67	50.41	5.75	28.77	28.79	0.02
08-11-2018	-17.11	-15.88	1.23	47.30	50.30	3.00	32.15	31.62	-0.53
09-11-2018	-19.57	-16.42	3.15	46.40	47.57	1.17	26.63	26.67	0.04
10-11-2018	-12.74	-11.18	1.56	42.35	45.40	3.05	20.58	21.76	1.18

It may be seen that for the month of the November till date,

- West Bengal over drawl was in the range of 1 to 5MU on daily basis while maximum over drawl touched 5.96MUon 01-11-18 and 555MW maximum on 01-11-18.
- Odishaover drawl was in the range of 3 to 6MU while maximum over drawl touched 5.75MU on 07-11-18 and 675MW maximum on 01-11-18.
- DVC over drawl was in the range of 1 to 8MU while maximum over drawl touched 8.13MU on 05-11-18 and 814MW maximumon 05-11-18.

In various past OCC meetings, persistent overdraw matter of West Bengal, Odisha and DVC was discussed, where in all parties were fully apprised of the risks associated with such persistent deviations w.r.t schedule. During such meetings, including the recently concluded 39th TCC meeting held on 16-11-18, beneficiaries agreed to take necessary corrective measures to avoid their overdrawl. However, for the month of October and till date in the month of November-2018 as shown above, appreciable reduction in over drawal was not observed, so far as West Bengal, DVC and Odisha are concerned.

ERLDC will present the over-drawal pattern of DVC, West Bengal and Odisha for October and November- 2018 during OCC meeting.

West Bengal, DVC and Odisha may please deliberate the reason of continuous overdrawal and future action plan to mitigate such contingency situation. DVC may please furnish action plan taken for improvement of coal supply issues and schedule date for restoration of plants out on coal shortage.

Beneficiaries are also advised to maximize their internal generation and increase their power purchase quantum in STOA/Power Exchange or from any other source to maintain their drawl as per schedule.

In case of repetitive non-compliance of ERLDC instruction to curtail overdrawal during real time operation continues in future, ERLDC will have no other option but to approach appropriate commission with respect to erring 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**

On 30-10-18 at 19:23 hrs frequency dropped from 49.94 Hz to 49.75 Hz (0.19 Hz) due to tripping of 3 x 800 MW generation at Mundra UMPP. As per ERLDC SCADA data

1. Poor Governor and control response Frequency responsehas been observedin Eastern Region. FRC of Eastern region during this event was only 14.2% of the ideal response.
2. No generator except Talcher Stage II had provided a satisfactory response as per IEGC section 5.2 (f) and 5.2(i)

Details are enclosed at **Annexure-A1.6**.

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

1. Inadequate RGMO/FGMO response for such critical Contingency and Large Frequency Drop in the grid in line with IEGC5.2.f to 5.2.i.
2. Non-submission of data for RGMO Response in line with IEGC 5.2.r , IEGC 5.9.4.b, CEA Technical standards for connectivity to the Grid Regulation6.4.d, CEA Grid Standard 15.3.

3. Non-Receipt of Computed FRC from SLDC for their Control Areas as per the Approved FRC procedure by CERC (In line with CERC order 47/MP/2012 dated 03-05-2013)

Deliberation in the meeting

*ERLDC presented the performance of the Eastern Regional Grid during October 2018. Presentation is enclosed at **Annexure- A1**. ERLDC informed that maximum demand of 23030 MW was met in Eastern Region on 3rd October, 2018.*

ERLDC presented a detailed analysis of the drawal pattern of the Eastern Regional constituents during October, 2018 and November, 2018(till date). It emerged from the presentation that Odisha, West Bengal and DVC had overdrawn from the Grid for significant times during October, 2018 and November,2018.

DVC, West Bengal and Odisha informed that they could not avoid overdrawal from grid due to low availability arising out of coal shortage and outage of some generating units. They assured to adhere to the drawal schedule in future.

ED, ERLDC informed that new DSM regulation would be implemented w.e.f. 1st January 2019 wherein huge penalties would be levied for continuous overdrawal from Grid.

Member Secretary, ERPC advised DVC, Odisha and West Bengal to meticulously plan their generation availability to meet their respective system loads and strictly maintain the drawal within the schedule. Failure to adhere to the schedule would have huge commercial implication on utilities as per the new DSM regulation.

ERLDC highlighted that Adhunik and GMR were continuously under generating w.r.t. their schedule. It was observed that the Generators were getting benefit by selling power in exchange at higher cost and paying DSM charges at lower rate.

MS, ERPC informed that such generation pattern against schedule could be construed as gaming and is a gross violation of grid discipline and if the trend continues in future, ERLDC would file petition before CERC to highlight the issue.

OCC advised Adhunik TPS and GMR to adhere to the regulation.

ERLDC highlighted that Odisha hydro generators are giving 100% peak support. However, for Bhutan hydro generators, there is scope for improvement in terms of peak support. OCC advised Bhutan to bring one more machine into service during peak hours and reduce the generation during off peak hours.

ERLDC informed that reactive power performance of Adhunik units was found to be unsatisfactory. Budge-Budge, HEL and Kolaghat generators are also not absorbing VAR during high voltage condition as per their capability.

OCC advised Adhunik, CESC, HEL and WBPDCL to take necessary action to improve the performance.

Regarding RGMO performance, there had not been any significant improvement of Eastern Region Generating Stations. ERLDC informed that RGMO was not in service for unit-1,2,&3 of Farakka.

NTPC informed that this was due to malfunction of old cards. These would be replaced during R & M works.

After detailed deliberation, OCC decided to discuss the issues related RGMO in a special meeting at ERPC, Kolkata tentatively in January 2019.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Status of projects funded under PSDF schemes

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

A. Projects approved:

SN	Name of Constituent	Name of Project	Date of approval from PSDF	Target Date of Completion	PSDF grant approved (in Rs.)	Amount drawn till date (inRs.)	Latest status
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14	April 2018	108.6 Cr	37 Cr.	100 % Supply and Erection is Completed. Compilation of final bills is in progress.
2		Renovation & modernisation of transmission system for relieving congestion in Intra-State Transmission System.	22-05-17	25 months from date of release of 1st instalment	70.13	21.03 Cr	Order has been placed . Work is in progress.
3		Installation of switchable reactor at 400kV & shunt capacitors at 33kV	22-05-17	19 months from date of release of 1st instalment	43.37	6.59 Cr	Order has been placed and work is in progress.
4	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station	*10.04.17*	*March 2018*	1.39 Cr	1.25 Cr	*The implementation would be completed by July 2018.*
5		Upgradation of Protection and SAS		April 2020	23.48	2.348 Cr	Bid opened and order has been placed.
6	OPTCL	Renovation & Up-gradation of protection and control systems of Sub-stations in the State of Odisha in order to rectify protection related deficiencies.	10.05.15	30.11.18	162.5 Cr.	37.79 Cr	Total contract awarded for Rs. 51.35 Cr
7		Implementation of OPGW based reliable communication at 132kV and above substations	15.11.17		25.61 Cr.		Agreement signed on 03.01.2018
8		Installation of 125 MVAR Bus Reactor along with construction of associated bay each at 400kV Grid S/S of Mendhasal, Meramundali& New Duburi for VAR control &stabilisation of system voltage	27.07.18		27.23 Cr		
9	OHPC	Renovation and up-gradation of protection and control system of 4 nos.OHPC substations.		*U.Kolab-March 19 Balimela-Feb 2019 U.Indravati-Jan 19 Burla-Nov 2018, Chiplima Dec 2018*	*22.35 Cr.*	2.235 Cr	Placed work order for Balimela.
10	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharshariff, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone& 132/33 kV GSS Kataiya	11/5/15	31.07.2018	64.02 crore	56.04 crore	85% of work has been completed. Contract awarded for Rs.71.37 Cr till date. The work would be completed by October 2018.
11		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016	31st March 2019	18.88 crore	Nil	Work awarded for all GSS.
12		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.	02.01.17	31st March 2018	49.22 Cr.		75% work completed for seven no. GSS as part of R & M work. Revised DPR is to be submitted for rest 5 no. GSS.

13	JUSNL	Renovation and up-gradation of protection system	*September 2017*	*15 Months*	*138.13 crores*		LOA placed on 28th Sep 2018.
14	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation	02.01.17	01.06.2019	25.96 Cr	2.596 Crore on 01.06.2017	Work awarded for 28.07 Cr. Work would be completed by May 2019.
15		Renovation and upgradation of control & protection system including replacement of substation equipment at Parulia, Durgapur, Kalyaneshwari, Jamshedpur, Giridih, Barjora, Burnpur, Dhanbad and Burdwan Substation of DVC	27.11.17	24 Months from the date of release of fund.	140.5 Cr.	1st installment of 14.05 Cr. received on 21.12.2017	Work awarded for 6.45 Cr. Price bid opened for West Bengal portion and technical bid opened for Jharkhand portion.
16	POWERGRID	Installation of STATCOM in ER		June 2018	*160.28 Cr*	*16.028 Cr*	Work is in progress, expected to complete by June 2018. STATCOM at Rourkela has been commissioned.
17	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16	Project is alive from 30th October 2017	20 Cr.	4.94 Cr. + 9.88 Cr.	1) Protection Database Project has been declared 'Go live' w.e.f. 31.10.17. 2) Pending training on PDMS at Sikkim and 3rd training on PSCT has been also completed at ERPC Kolkata.
18a	ERPC	Training for Power System Engineers	*27.07.18*		0.61 Cr.	Nil	Approved
18b		Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents	*27.07.18*		5.46 Cr.	Nil	

B. Projects under process of approval:

SN	Name of Constituent	Name of Project	Date of Submission	Estimated cost (in Rs.)	Latest status
1	Sikkim	Renovation &Upgradation of Protection System of Energy and Power Department, Sikkim.	09-08-17	68.95 Cr	The proposal requires third party protection audit. Issue was discussed in the Monitoring Group meeting in Siliguri on 8.6.2018. Sikkim was asked to coordinate with ERPC.
2		Drawing of optical ground wire (OPGW) cables on existing 132kV & 66kV transmission lines and integration of leftover substations with State Load Despatch Centre, Sikkim	09-08-17	25.36 Cr	Scheme was approved by Appraisal Committee. It was sent to CERC for concurrence.
3	JUSNL	Reliable Communication & Data Acquisition System upto 132kV Substations.	23-08-17	102.31 Cr	Scheme was approved by Appraisal Committee. It was sent to CERC for concurrence.
4	OPTCL	Implementation of Automatic Demand Management System (ADMS) in SLDC, Odisha	22-12-17	3.26 Cr	Scheme was approved by Appraisal Committee. It was sent to CERC for concurrence.
5		Protection upgradation and installation of SAS for seven numbers of 220/132/33kV Grid substations (Balasore, Bidanasi, Budhipadar, Katapalli, Narendrapur, New-Bolangir&Paradeep).	12-03-18	41.1 Cr.	Scheme examined by TSEG on 20.03.2018. Inputs sought from the entity are awaited.
6	WBSETCL	Implementation of Integated system for Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) system in West Bengal	22-12-17	25.96 Cr	Proposal recommended by Appraisal committee as communicated on 16.11.2018.
7		Installation of Bus Reactors at	12-03-18	78.75 Cr.	Proposal recommended by Appraisal

		different 400kV Substation within the state of West Bengal for reactive power management of the Grid			committee as communicated on 16.11.2018.
8		Project for establishment of reliable communication and data acquisition at different substation at WBSETCL.	10-05-18	80.39 Cr.	Proposal recommended by Appraisal committee as communicated on 16.11.2018.
9	BSPTCL	Implementation of Schedulling, Accounting, Metering and settlement of Transcation in Electricity (SAMAST)in SLDC Bihar.	27-02-18	93.76 Cr.	Scheme examined by TSEG on 20.03.2018 & 31.05.2018. Further inputs furnished by BSPTCL on 1.8.2018. Shall be examined in the next meeting of TESG.

Respective constituents may update the status.

Deliberation in the meeting

Members updated the latest status as mentioned in above table.

Item No. B.2: Bypassing arrangement of LILO of 400kV Lines at Angul-OPTCL

LILO of Meramundali-Bolangir/Jeypore 400 kV S/C line and LILO of one Ckt of Talcher-Meramundali 400 kV D/C line has been done at Angul 765/400kV Sub-station.

In 18th Standing Committee it was decided that Power grid would establish a switching arrangement at Angul substation such that, the above 400 kV LILO may be operated either by-passing Angul substation or terminating at Angul substation as and when required depending upon the power flow condition.

In 19th Standing Committee, it was inferred that LILOs of the above two lines needs to be by-passed to maintain the fault level at Meramundali S/S under normal operating conditions.

The necessary arrangement to be done by Powergrid for by-pass arrangement is under implementation and will be commissioned shortly.

The fault level at Meramundali will further increase after the commissioning of Meramundali-Mendhasal 2nd ckt of D/C line.

Odisha wants for Normally closed arrangement at Angul so as to relieve the fault level problem at Meramundali. Odisha further agrees that as and when the situation demands the isolator may be put in open condition.

The following standard operating procedure may be approved by the OCC for implementation of bypass arrangement.

- The isolator will be normally closed so as to ensure the fault level at Meramundali stays within the permissible limits of 40 kA.
- Under severe contingencies like line outage or generator outage ERLDC in consultation with SLDC will open the isolator i.e. to restore the LILO of the above two lines.

In 150th OCC, Powergrid informed that bypass arrangement would be completed by December 2018.

ERLDC observed that every time line shutdown is required for changing the configuration.

OPTCL may explain. Members may discuss.

Deliberation in the meeting

In 150th OCC, Powergrid informed that bypass arrangement would be completed by January 2019.

ERLDC informed that the fault level at Meramundali 400kV would reduce below 40kA, provided LILO of both 400kV TSTPS-Meramundali and 400kV Meramundali-Bolangir lines at Angul are disconnected.

OCC opined that requirement of changing the configuration is not so frequent therefore taking line shutdown for changing configuration is not an issue.

OCC agreed to the following standard operating procedure:

- *The isolator will be normally closed so as to ensure the fault level at Meramundali stays within the permissible limits of 40 kA.*
- *Under severe contingencies like line outage or generator outage, ERLDC in consultation with SLDC, Odisha will open the isolator i.e. to restore the LILO of both 400kV TSTPS-Meramundali and 400kV Meramundali-Bolangir lines at Angul.*

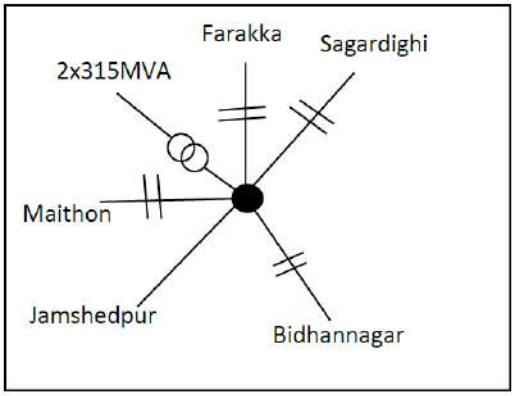
Item No. B.3: Review of Operationalization of 400 kV Bus Splitting Arrangement at Durgapur Substation.

As per the Minutes of 1st meeting of National Committee on Transmission (NCT) held on 27th July 2018 in CEA, New Delhi , CTU has stated the Farakka Bypass Arrangement is not giving substantial reduction of the fault level at Farakka substation and the scheme need to be reviewed which was agreed by the Committee members.

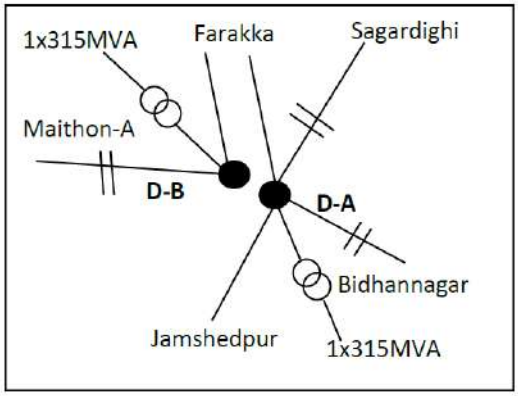
As per the available information from 138th OCC, the 400 kV Bus Splitting arrangement at Kahalgaon NTPC will be completed by Dec'2018. As the Bypass Araagnegemnt of 400 kV Lines at Farakka is presently under review as per the Decision in NCT, so there is a need to discuss whether to operationalize the Bus splitting of Durgapur substation or not.

Durgapur S/s

Before Splitting



After Splitting



In order to analyse the impact of operationalization of the existing 400 kV Durgapur Bus Split (Along with the existing 400 kV bus split of Maithon Substation), the study has been carried out by ERLDC and the summary of finding is presented below:

i. The Fault level of 400 kV Durgapur Bus is higher during high hydro season and crossing 40-43 kA while it is in the range of 40-35 kA during low hydro season.
ii. The Fault level of 400 kV Durgapur will significantly reduce from after the Bus Split Operation (37.6 kA to 26.9 kA and 18.6 kA).However it has no appreciable change in fault level of Farakka and Kahalgaon.

iii. Further, the 400 kV Bus Splitting at Kahalgaon NTPC and Bypass Arrangement at Farakka has no significant contribution in reducing the fault level of Durgapur.

iv. The 400 kV Durgapur Bus Split arrangement results in uneven loading of the 315 MVA 400/220 kV ICT 1 and 2. One ICT is loaded more than two times the other ICT. However, in the West Bengal and DVC, 220 kV network there is no significant impact except the increase in the loading of 220 kV Durgapur(PG) - Durgapur DVC D/C (Sensitivity is around 18 %). So, they may become N-1 non-compliant. Further, the sensitivity of one circuit outage of 220 kV Durgapur (PG) - Durgapur DVC is higher on the other circuit (Around 96 %). Therefore, this need to be further reviewed and there may be a need of SPS scheme to avoid damage to the 220 kV other circuit. The SPS may trip the higher loaded 315 MVA 400/220 kV ICT of Durgapur Substation.

v. For 400 kV Durgapur Bus Split, it was observed that during any tripping or prolonged outage tripping of 400 kV Durgapur-Maithon one circuit or 400/220 kV Durgapur ICT or 400 kV Farakka-Durgapur B ckt, the bus split may be closed for N-1 security.

vi. During the PPSP Pump Mode operation, N-1 contingency of higher loading 400/220 kV ICT at Durgapur,each circuit of 220 kV Kalyaneshwari –Maithon gets loaded to 200 MW from 164 MW (Sensitivity of around 12 % on each circuit) making it insecure for the next contingency and resulting in vulnerability in the DVC system. Therefore, this also may need a review from the DVC point of view.

vii. During the PPSP Pump Mode operation, the N-2 Contingency of 400 kV Durgapur(PG) A – Bidhanagar D/C leads to a full loading of the higher loaded 315 MVA ICT at Durgapur and 220 kV Durgapur-Durgapur D/C. So under such condition also the split bus operation has to be avoided.

So, in view of the above, OCC Members of Eastern Region may examine the 400 kV Bus Splitting at Durgapur so that a judicious decision may be taken for operating the 400 kV buses in split /joined mode.

Members may please discuss.

Deliberation in the meeting

ERLDC explained the outcome of study results.

DVC agreed to explore the implementation of SPS for 220 kV Durgapur (PG) - Durgapur DVC line.

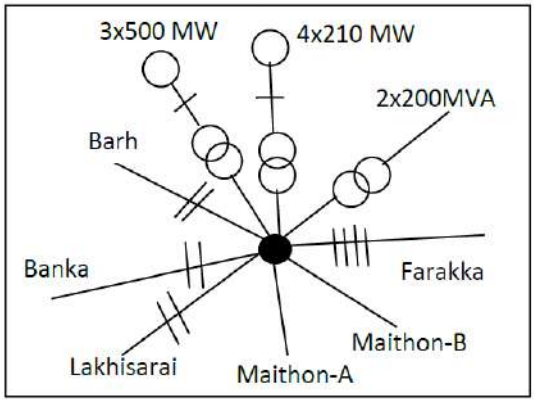
After detailed deliberation, OCC decided to discuss the issue in a separate meeting for detailed deliberation.

Item No. B.4: Operationalization of 400 kV Bus Splitting after Completion of Split Arrangement at Kahalgaon NTPC Substation.

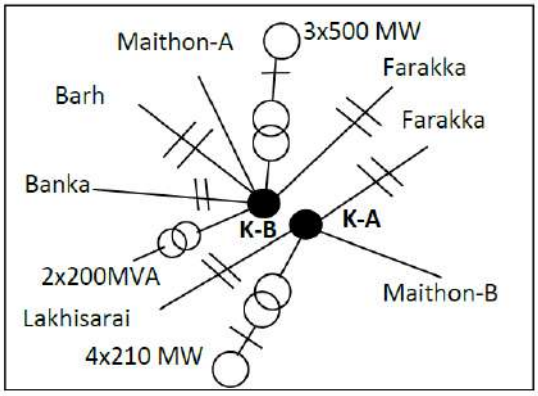
Pre and Post splitting bus arrangement at Kahalgaonis shown in below figure.

Kahalgaon Switchyard

Before Splitting



After Splitting



ERLDC has conducted the study on the Impact of 400 kV Bus Split of Kahalgaon NTPC on the Eastern regional power system. The observations from the study are as following:

i. The Fault level of 400 kV Kahalgaon substation significantly reduces after the Bus Split Operation. Fault level reduced from 50.9 kA to 25.5 kA and 35.5 kA.
ii. However, the bus splitting may also cause increase of 1-2 kA in fault level of 400 kV Farakka and Durgapur.
iii. The Bus Splitting operation at 400 kV Kahalgaon has no significant impact on the line loading from Split Buses of Durgapur as shown below:

Element	Loading Before Bus Split (MW)	Loading after Bus Split (MW)
400 kV Kahalgaon-Barh D/C	616	584.4
400 kV Kahalgoan-Banka D/C	806	764.4
400 kvKahalgaon-Lakhisarai D/C	700.6	755.4
400 kV Kahalgaon A-Maithon B	-209	-178
400 kV Kahalgaon B-Maithon A	0.8	21
400 kV Kahalgaon A-Farakka 1st D/C	21.4	138.2
400 kV Kahalgoan B-Farakka 2nd D/C	21.4	-81.4
2 X 315 MVA ICT Kahalgaon B	98.6	94
400 kV Kahalgaon A-Kahalgaon B Breaker	202	0

iv. With 400 kV Kahalgaon Bus Split and up to N-1 contingency, no issue has been observed in the system. For N-2 Outage of any two 400 kV Lines emanating from Kahalgaon (Especially 400 kV Kahalgaon-Lakhisarai D/ C, 400 kV Kahalgaon-Banka D/C, 400 kV Kahalgaon-Barh D/C, 400 kV Kahalgaon-Farakka D/C), it is desirable to close the Bus sectionaliser at Kahalgaon to ensure N-1 security of the system.
v. In case of complete outage of 3 X 500 MW or 4 X210 MW Units, it is desirable to close the bus sectionaliser to ensure N-1 security in the system.

In order to operationalize the Bus splitting arrangement following may be required :

i. Protection coordination of Kahalgaon and all remote end connected substation need to be reviewed.
ii. Further, based on study it is observed that during certain contingencies, there may be a requirement of closing bus sectionaliser so, two group setting for protection system also has to be kept wherever protection changes will be required on this arrangement.

Deliberation in the meeting

ERLDC explained the outcome of study results.

NTPC agreed to take necessary actions related to protection coordination and implementation of two group settings as per the configuration.

Item No. B.5: Enhancement of NOC to the extent not utilized by other generators while utilizing 400 kV D/C Rangpo – Siliguri Line –---TeestaUrja Ltd.

TUL vide mail dated 19th November 2018 informed that

"It was decided in the meeting held at ERPC on 21.06.2017 and under the CERC Order dated 22.06.2017 in Petition No. 114/MP/2017 that evacuation quantum of Teesta III HEP could be

enhanced if there is margin available in the transmission corridor due to less generation/ back down/ shutdown by any of the other generators utilizing 400 kV D/C Rangpo – Siliguri Line.

It is observed that since 01.11.2018, the line is loaded to a maximum of 1318 MW from 00.00 to 17:00 hrs.; 1586 MW from 17.00 hrs. to 21.00 hrs. and 1440 from 21.00 hrs. to 24.00 hrs.

It is therefore, requested to consider enhancement of the NOC of TUL by the left over capacity of the 400 kV D/C Rangpo – Siliguri line as below:

(a) 100 MW from 17.00 hrs to 21.00 hrs; and

(b) 200 MW from 00.00 hrs to 17.00 hrs and 21.00 hrs.24.00 hrs."

Members may discuss.

Deliberation in the meeting

ERLDC presented the generation pattern of Chujachen, Dikchu, Jorethang and Tashiding HEP for the month of November – 2018. From the plots, it emerged that only Jorethang and Tashiding HEP were scheduling one machine during the day for the whole November month and Chujachen and Dikchu HEP were scheduling two machines during peak hours for some days during November-2018 month. In view of this, OCC decided that margin, if any, created in 400kV Rangpo-Binaguri D/C might be utilized as follows:

- *Teesta-3 NOC may be enhanced by 100 MW from 17.00 hrs to 21.00 hrs and 200 MW from 00.00 hrs to 17.00 hrs and 21.00 hrs to 24.00 hrs.*
- *In case Jorethang and/or Tashiding HEP want to inject power equivalent to two machines schedule for the day ahead (D+1) then these stations have to intimate ERLDC of such plan by 10:00 AM of 'D' day so as to enable revise the additional NOC quantum released to Teesta – III.*
- *In case ERLDC does not receive any information from Jorethang and Tashiding HEP by 10:00 AM, scheduling of previous day would be considered as final.*
- *During planned outage of Teesta – V, 168 MW additional margins would be issued to Teesta –III for the planned maintenance period of Teesta – V as informed by NHPC. In case of any revision in plan for maintenance period or plan for early restoration of the unit after the maintenance, Teesta –V has to intimate ERLDC in advance (at least one day in advance, before 10:00 Hrs) so that Teesta – III NOC can be revised accordingly.*

OCC opined that Teesta-V HEP generation should not bein any way affected while following the above procedure. OCC advised Teesta-3 to coordinate with Teesta-V to ensure water availability to Teesta-V HEP to meet their schedule.

The decision of OCC shall be communicated to all concerned by ERLDC.

Item No. B.6: REDUNDANCY OF SPS SCHEME FOR 400 KV RANGPO-BINAGURI CIRCUIT--ERLDC

On 13th June 2018, the Non-operation of 400 kV Rangpo-Binaguri SPS on 13th June 2018 during tripping of one circuit has led to loading of other circuit beyond 1600 MW for duration of 15 minutes. The unsafe operation of the line above its thermal limit due to lack of SPS redundancy is not desirable for safer system operation and may result in the permanent damage to the transmission line causing bottleneck in Sikkim Hydro evacuation for longer duration. Thus, the issue of Redundancy of SPS scheme at Rangpo as well Binaguri was discussed in the 148th OCC held on 20th August 2018.

Further, in the CERC order 114/MP/2017 on 400 kV Rangpo-Binaguri it is quoted that "*While commissioning of full-fledged SPS in coordination with ERLDC, Powergrid would implement the agreed modification in the existing SPS as suggested by ERLDC for increasing the effectiveness of the SPS in case the Rango-Siliguri line is tripped from Siliguri end only*".

In the Indian Power System, Major SPS Scheme like 765 kV Gwalior-Agra, 765 kV Sholapur-Raichur are having redundant SPS Scheme i.e. SPS are implemented at both ends of the line and the operation of either of the SPS will cause the desired relief operation. This is in view to avoid any detrimental effect on the line loading and system security.

However, as on date the full-fledged redundant SPS has not been implemented for the 400 kV Rangpo-Binaguri circuits. The SPS presently operate based on the local information of CB/Isolator/Analog value at Rangpo end and presently the information from Binaguri end is not integrated.

In view of the above, OCC may discuss the following:

1. Implementation of Binaguri Circuit Breaker logic in the Existing SPS Scheme at Rangpo.
2. DTPC Based SPS Scheme in place of PLCC to improve the reliability of SPS signals extension to generating station.
3. Redundancy of SPS Scheme by implementation of SPS Scheme at Binaguri end for these circuits and their exchange of signal with Rangpo.

Deliberation in the meeting

Powergrid informed that they had already implemented the SPS scheme at Binaguri. Both the SPS at Rangpo and Binaguri would now work in parallel.

OCC opined that implementation of Binaguri Circuit Breaker logic at Rangpo end SPS is not required, as it is already taken care of in the Binaguri end SPS.

Powergrid added that DTPC based SPS scheme in place of PLCC is not possible as there is no OPGW link available for 400kV Rangpo-Bingari line and from Rangpo to private hydro generators in Sikkim.

Item No. B.7: Technical Minimum Schedule for MTPS stage-II (2x195 MW) of KBUNL--KBUNL

The control area of MTpS Stage-II (2x195 MW) of KBUNL has shifted to ERLDC w.e.f. 01.04.2018 vide. CERC Order dated 09.03.2018 in Petition no. 20/MP/20l7. In line with the above Order, LTA was operationalized by CTU and scheduling related activities are being done by ERLDC w.e.f. 01.04.2018.

KBUNL had requested for technical minimum schedule for MTPS Stage-II in line with other NTPC stations of Eastern Region.

However, the web-portal for scheduling by ERLDC, under the tab "Declaration" does not provide for technical minimum schedule, as it still reflects a zero value under the tab "Technical Minimum".

KBUNL may explain. ERLDC may respond.

Members may discuss.

Deliberation in the meeting

KBUNL explained that Bihar is the major beneficiary of MTPS Stage-II power. On few occasions, requisition from Bihar and other beneficiaries of KBUNL had been so low that KBUNL schedule

had been going below technical minimum. KBUNL requested for ensuring technical minimum schedule for MTPS Stage-II.

After detailed deliberation, OCC advised ERLDC to follow the same methodology as is adopted for scheduling in case of other NTPC Stations, for KBUNL also to ensure technical minimum schedule for MTPS Stage-II.

Item No. B.8: Accounting of state drawl from Substation of PGCIL/ISTS Licensee in ER--ERLDC

As per Clause 7(1) (C) of CEA (Installation and Operation of Meters) Regulations, 2006 &its subsequent amendments, Main Meters for drawl computation through ICT should be installed on HV side of ICT and meters installed on LV side of ICT should be considered as Standby meters .

In view of the above it is proposed that Sate drawl from PGCIL/ISTS Licensee S/S may be computed by using the meter installed on HV side of ICTs in line with CEA regulation.

In 146th OCC, Powergrid informed that the SEM installation in ER-I stations has been completed and the same at ER-II stations would be completed by June 2018. Powergrid(Odisha) informed they will complete the SEM installation by July,2018.

However locations in ER-I for ex, Purnea, Banka, Lakhisarai, and Ranchi are still pending.

A List of Time drifted Meters installed at ICTs at PGCIL S/station in ER was prepared by ERLDC from AMR system and vide letter dated 04.07.18, PGCIL was requested for replacement of the same.

In 150th OCC, Powergrid informed that total work would be completed by November 2018.

As on date, all HV and LV side Meters at PGCIL/ISTS Licencee substation in ER-I, ER-II &Odhisa Project are completed and SEM data is being received at ERLDC.

In view of the above Accounting of States drawl from PGCIL/ISTS Licensee using HV side meters may be approved from 03/12/18(Monday).

Members may discuss.

Deliberation in the meeting

OCC decided to implement the accounting of states drawl from PGCIL/ISTS Licensee using HV side meters from 03/12/18(Monday).

Item No. B.9: Review of Cyber Security Works/Activities- CEA

CEA vide letter informed that Secretary (Power) is going to review the cyber security related works /activities being carried out in Power Sector. In this regard, it is requested to provide the State wise status on following action points pertaining to cyber security at the earliest:

1. Appointment of organization-wise Chief Information Security Officers and its status
2. Identification of organization-wise Critical Infrastructure and its status
3. Preparation of organization-wise Crisis Management Plan and its status
4. Status of Cyber Security Mock Drill activity in coordination with CERT-In
5. Status of Training / Workshops on Cyber Security organized / participated by power sector entities
6. Status of action taken on CERT-In / NCIIPC advisories

In 148th OCC, all the constituents were advised to send the latest status to mserpc-power@nic.in within a week.

The same has been received from WBSETCL only.

Members may comply.

Deliberation in the meeting

OCC advised all the constituents to send the latest status to mserpc-power@nic.in by 12th December 2018.

Item No. B.10: Data for preparation Load Generation Balance Report (LGBR) of ER for the year 2019-20

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 **2019-20**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 2019-20 (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 2019-20 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 149th OCC, all the constituents were advised to submit the relevant information in the form of soft copy through email (mail ID: mserpc-power@nic.in / erpcjha@yahoo.co.in) by 31st October 2018.

Members may furnish the above data at the earliest.

Deliberation in the meeting

It was informed by Member Secretary, ERPC that LGBR Meeting had been scheduled to be held at ERPC, Kolkata on 18th December 2018 for preparation Load Generation Balance Report (LGBR) of ER for the year 2019-20.

OCC advised all the constituents to submit the relevant information in the form of soft copy through email (mail ID: mserpc-power@nic.in / erpcjha@yahoo.co.in) at the earliest.

Item No. B.11: Status of Emergency Restoration system (ERS) of respective Transmission Licencees

CEA vide mail dated 28-09-2018 has requested to provide Status of Emergency Restoration system (ERS) of respective Transmission Licencees in respective Regions as per the format given below:

State-wise Emergency Restoration system				
Transmission Licensee	**Requirement of Total no of ERS in State**	**Number of ERS available in state**	**No of ERS to Be Procured**	**Remark if Any .**

OCC advised all the transmission licensees to submit the requisite information as per the format in the form of soft copy through email (mail ID: mserpc-power@nic.in).

Transmission Licencees may submit the details as per the format.

Deliberation in the meeting

It was informed that the details have been received from WBSETCL only. The details received from WBSETCL are as follows:

State-wise Emergency Restoration system				
Transmission Licensee	**Requirement of Total no of ERS in State**	**Number of ERS available in state**	**No of ERS to Be Procured**	**Remark if Any .**
WBSETCL	10	10	Nil	-

OCC advised all the other transmission licensees to submit the requisite information as per the format in the form of soft copy through email (mail ID: mserpc-power@nic.in) within 7 days.

Item No. B.12: Submission of static data for preparation of a report on coal fired stations in the country--ERLDC

One internal committee has been formed by POSOCO to prepare a report on coal fired stations in the country, which will be submitted to the FOLD &FOR, at a later stage. Similar reports have already been prepared by POSOCO for hydro, gas and RES plants, which has been widely appreciated in different forums like FOLD & FOR.

To prepare this report, some static data (commercial, technical, environmental & general) in proper format for all coal fired stations (ISGS, IPP and State Generators) of capacity >= 200 MW need to be submitted to ERLDC so that the compilation and subsequent analysis of data of thermal generators on an all India basis could be made within stipulated time period.

The format for data submission was intimated to all generators and state SLDCs via email. Till date only GMR, Adhunik, MPL and Sagardighi have submitted their static data.

ISGS (NTPC), IPP and State Generators of Eastern Region are requested to kindly accord high priority for submitting the static data to ERLDC in erldcso@posoco.in for preparation of the report within stipulated period.

Nodal coordinators for this Process from ERLDC are:

1. Shri Biswajit Mondal, Sr. Engineer, Mob No: 9903329271
2. Shri Chandan Mallick, Sr. Engineer, Mob No: 9007059660

All Thermal Generators may comply.

Deliberation in the meeting

OCC advised all the thermal generators to submit the relevant information to ERLDC.

Item No. B.13: Delay in furnishing information to ERLDC/ERPC regarding of Commissioning of new Transmission Elements/ Generating Units within State

The above matter was deliberated in various OCC meetings and data submission format was also circulated. All states and transmission licensees agreed to submit the list of transmissions elements synchronized for the first timeduring last month within 7th day of the current month to ERLDC through mail.

For the Month of October-2018,states and transmission licenseesdid not submit their List of Transmission element and generators synchronised **in the previous Month** and List of Transmission element and generators expected to be synchronised during next Month.

Members may please note.

Deliberation in the meeting

Members noted.

Item No. B.14: Ratification of Demand and Generation for calculation of POC of Q-4 2018-19

The projected Demand and Generation of ER constituents to be considered in the base case for POC transmission charge and loss calculations for Q4 (Jan 19-March 19) was circulated to all the concerned via email dated 6th August 2018 for comments and verification. Same is attached in **Annexure-B14** for ratification.

Members may update.

Deliberation in the meeting

OCC advised all the constituents to verify the data and confirm.

Item No. B.15: Issues related to Integration of PMUs at NTPC Kaniha—Powergrid

Under URTDSM Projects 10nos of feeders are to be integrated at NTPC Kaniha with the PMU. Out of 10 feeders 7 feeders are already integrated except digital points. Out 3 feeders two feeders(400KV Talcher-Rengali Ckt#2 and 400KV Talcher-Meramundali ckt#1) are integrated with the PMU installed under Pilot projects by ERLDC. So NTPC did not permit to integrate those feeders with the PMU installed under URTDSM Project. The vendor has already visited the site NTPC Kaniha 3 times for integration of the feeders. Hence, necessary guidance may be issued regarding the left-out feeder for integration with the PMU.

Powergrid and NTPC may explain.

Deliberation in the meeting

NTPC informed that two feeders were already connected to PMU under the pilot project implemented by ERLDC. Additional connectivity with PMU which is being installed under URTDSM project might increase the burden on CT. NTPC requested to consider any one PMU.

Powergrid informed that more than one PMU could be connected simultaneously and it would not increase burden on CT. They are following the same procedure at rest of the substations in ER.

After detailed deliberation, NTPC agreed to verify and send the confirmation mail to Powergrid to complete rest of the work.

Item No. B.16: Additional agenda

1. **Provision of OPGW in Important ISTS Lines along with communication equipments (as part of Up gradation of RTU/SAS and strengthening of OPGW)-- Powergrid**

The following are the regional/inter-regional lines of Eastern Region:

Sl. No.	Name of Line	km
1	765 kV S/C Gaya- Varanasi Line-1	265
2	765 kV S/C Gaya- Varanasi Line-11	274
3	765 kV S/C Gaya-Ballia Line-1	240
4	765 kV *SIC* Sasaram- Fatehpur Line-1	356
5	765 kV S/C Ranchi- Dharamjaygarh Line-1	305
6	765 kV S/C Ranchi- Dharamjaygarh Line-11	305
7	400 kV D/C Patna- Ballia Line-1	195
8	400 kV D/C Patna- Ballia Line-11	183
9	400 kV D/C Biharsharif- Varanasi Line-1	322
10	400 kV D/C Nabinagar (BRBCL- Generating Station) - Sasaram	82
	Total	**2527**

The protection on these lines is presently based on PLCC- based technology. In past a number of times, the need was felt for providing Tele- protection over Digital Communication & DTPC Technology. As presently, these protections are based on PLCC, a higher reliability will be achieved with the implementation of OPGW for transfer of Data, DTPC based Tele- protection and Voice communication .

It is therefore proposed to implement OPGW along with communication equipment , to bring reliability in Power System operation as per requirement. This project is proposed to be implemented as a part of Up-gradation of RTU/SAS and strengthening of OPGW package. However, a separate DPR shall be prepared for the above identified works so that the earlier approved works are taken up smoothly without any hindrance.

Deliberation in the meeting

OCC enquired about the requirement of OPGW in both circuits for a double circuit line as implementation of OPGW for one circuit is sufficient to fulfill the requirement.

Powergrid agreed to submit the clarification.

OCC advised Powergrid to submit the proposal afresh along with the required clarification to ERLDC for detailed deliberation in the SCADA O&M Meeting.

2. **Shifting of Rajarhat- Purnea line in view of change in the course of River Ganga---Powergrid**

The likely completion of this transmission line is by Feb'2019 , subject to availability of ROW. However, it is noted that course of River Ganga has undergone a change necessitating construction of two nos. of Pile Foundation, which were not envisaged earlier. POWERGRID intends to commission the line as per above schedule and parallely undertake construction of the above two Pile foundations. Subsequent to readiness of Pile Locations, the transmission line shall be shifted to Pile locations for safe service, which will however be requiring Shutdown of the entire T/L at that stage.

As shifting of the said T/L on these Pile foundations shall be requiring shutdown, the said shutdown period may be treated as deemed available, as the requirement of the aforementioned Shutdown is resulting out of Change in River Course which may be treated as a Force Majeure condition .

Deliberation in the meeting

Powergrid informed that they would require approximately 7 days shutdown for completion of work.

OCC advised Powergrid to give a detailed presentation in next OCC Meeting.

3. **Advancement of Completion of 400 kV D/C Nabinagar II- Patna (Quad) Line--Powergrid**

The scheduled date of completion is June 2019. However, this line is proposed to be completed early i.e. by March'2019.

Deliberation in the meeting

OCC advised Powergrid to submit the agenda along with the details.

4. **Auto-reclose Switch-off of 400 kV Biharsharif- Koderma Ckt-2 (110 km)— Powergrid**

Installation of OPGW is required to be carried out in 400 kV Biharsharif- Koderma Ckt-2 under LIVE-LINE condition . Hence, Auto-reclose feature of the said circuit needs to be switched off from both ends to facilitate LIVE-LINE Installation of OPGW w .e.f 01.12.2018, on daily basis from 07:00 hrs to 18:00 hrs, till March 2019 .

Deliberation in the meeting

OCC agreed to switch off Auto reclose of 400 kV Biharsharif- Koderma Ckt-2 for installation of OPGW.

OCC advised Powergrid to take necessary safety precautions to avoid tripping of the line while installing the OPGW. Powergrid should restore the line immediately in case of any tripping.

OCC advised DVC to cooperate with Powergrid for early restoration of the line, in case of any tripping.

5. **Preponement of Commissioning of 765/400 kV 1500 MVA ICT #4 at Gaya S/s under Nabinagar-11 Project--Powergrid**

The scheduled date of completion is May 2019 . However , the transformer is expected to be commissioned by Dec'18.

Deliberation in the meeting

OCC noted.

6. **Requirement of 132kV bay at 400/220/132kV Baripada S/s---OPTCL**

Deliberation in the meeting

OCC advised OPTCL to give a presentation in next OCC Meeting for detailed discussion.

OCC advised Powergrid to check the feasibility of providing 132kV bay at 400/220/132kV Baripada S/s.

PART C: ITEMS FOR UPDATE

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

UFR Healthiness Certification for the month of October, 2018 has been received fromCESC, WBSETCL, DVC, BSPTCL and JUSNL.

OPTCL informed that all UFRs healthy except Sadepalli feeder which would be replaced by 15th November 2018.

OPTCL may update.

Deliberation in the meeting

Members noted.

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

At present, the following islanding schemes are in service:

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

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 October, 2018 has been received from CTPS, DVC,NTPC, West Bengal,JUSNL, WBPDCLand CESC.

Members may note.

Deliberation in the meeting

Members noted.

Item no. C.3: Status of Implementation of islanding schemes in ER

1. **Islanding scheme at Bandel TPS-WBPDCL**

WBPDCL vide mail dated 15th November 2018 informed that Bandel Islanding scheme has been put into service on 15/11/2018 at both BTPS & WBSETCL ends.

Members may note.

Deliberation in the meeting

Members noted.

OCC advised WBPDCL and WBSETCL to submit the healthiness certificate on monthly basis.

2. **Islanding scheme at IbTPS- OPGC**

The islanding scheme was discussed in 68th PCC Meeting held on 18-06-2018. PCC opined that the draft scheme submitted by Odisha was three years old and the draft scheme is needed to be reviewed with existing network configuration.

In 69th PCC Meeting, it was decided that ERLDC and ERPC would study and finalize the islanding scheme in next PCC Meeting.

Members may note.

Deliberation in the meeting

Members noted.

Item no. C.4: Healthiness of SPS existing in Eastern Region

The Status of healthiness certificate for August, 2018 is given below:

Sl. No.	Name of the SPS	Healthiness certificate received from	Healthiness certificate not received from
1.	*Talcher HVDC*	*Powergrid, NTPC, GMR, & JITPL*	*Nil*
2.	*Rangpo*	*Chuzachen, Powergrid, Teesta-III*	*Dikchu, Dansenergy,*
3.	SPS of 220 kV Muzaffarpur-Dhalkebar D/C	*Nil*	*Powergrid*
4.	SPS in CESC system	*CESC*	*Nil*
5.	SPS for Power Export to Bangladesh	*Nil*	*Powergrid*
6.	SPS at Chuzachen	*Chuzachen*	*Nil*

Members may update.

Deliberation in the meeting

Members updated the status as mentioned in above table.

Powergrid informed that SPS of 220 kV Muzaffarpur-Dhalkebar D/C and SPS for Power Export to Bangladesh would be modified as per new configuration.

Item no. C.5: Implementation of Automatic Demand Management Scheme (ADMS)-ERLDC

The latest status along with proposed logic as follows:

Sl No	State/Utility	Logic for ADMS operation	Implementation status/target	Proposed logic (if different from under implementation logic)
1	West Bengal	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 25.11.16	F <49.9 AND deviation > 12 % or 150 MW
2	DVC	F <49.7 AND deviation > 12 % or 150 MW	Implemented on 17.06.2016	
3	Bihar	F <49.7 AND deviation > 12 % or 150 MW	3 months Feeders identified. Implemented by June 2018	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	9 Months Tendering for RTU installation is in progress. Implemented by December 2018	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

		deviation > 12 % or 50 MW 3. System Frequency < 49.9 Hz AND deviation > 12 % or 75 MW		
5	Odisha	1. System Frequency < 49.9 Hz 2. Odisha over-drawl > 150 MW 3. DISCOM over-drawl > (40 MW)	10 Months Sent for PSDF approval.	Logic 2 and 3 is AND or OR, in case it is AND then ADMS may not operated when discom are in schedule but GRIDCO is overdrawing due to less generation at state embedded generators
6.	Sikkim			Sikkim informed that they have submitted a proposal to PSDF Committee for installation of OPGW cables which is under approval stage. Sikkim added that ADMS scheme would be implemented after installation of OPGW.

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

During the Month of October'18, ADMS criteria got satisfied for following cases:

A. West Bengal

Sl No	Date & Time	West Bengal O/D (MW)	Frequency (Hz)	ADMS Optd (Y/N)	Relief (MW)
1	20-10-2018 17:24	261	49.69		
2	22-10-2018 16:43	180	49.69		

B. DVC

Sl No	Date & Time	DVC O/D (MW)	Frequency (Hz)	ADMS Optd (Y/N)	Relief (MW)
1	20-10-2018 17:24	224	49.69		
2	22-10-2018 16:43	219	49.69		

In 39th TCC, Bihar informed that they are yet to receive the quotation from M/s Chemtrol for implementing the ADMS.

Jharkhand informed that 21 new RTUs are expected to be installed by December, 2018. They are in the process of getting the list of feeders from Discoms which would be disconnected through ADMS. They are collecting the quotation from Chemtrol. TCC advised Jharkhand for collecting the quotation from others also for speedy implementations.

Members may update.

Deliberation in the meeting

WBSETCL informed that, as per the logic, the over drawal should be sustained more than 1 min. WBSETCL added that, on both the occasions, this condition was not satisfied. Hence ADMS was not operated.

DVC informed that ADMS was not operated as per the logic in both the cases. DVC added that the issue was referred to Chemtrol for rectification.

Bihar informed that they had received the quotation from Chemtrol for implementation of ADMS.

Item no. C.6: Status of Installation of STATCOM in Eastern Region

In the 15th meeting of SCM it was agreed to install STATCOM in combination with mechanically switched Reactors (MSR) and Capacitors (MSC) and co-ordinated control mechanism of MSCs and MSRs at Ranchi, Rourkela, Jeypore and Kishanganj substations in Eastern Region.

The matter was again discussed in the 28th ERPC/TCC meeting held on 12th -13th September, 2014 at Goa, wherein, it was decided that POWERGRID may go ahead with implementation of the STATCOM project in Eastern Region with debt – equity ratio of 70:30 funding. The debt part should be refunded through PSDF and Equity Component (30%) to be funded by POWERGRID to be recovered through regulated tariff mechanism. CTU should initiate the process of availing fund from PSDF.

Powergrid updated the latest status as follows:

Sl No	Location /Sub-Station of POWERGRID in ER	STATCOM - Dynamic Shunt Controller (MVAr)	Mechanically Switched Compensation Sl. (MVAr)		Latest status
			Reactor (MSR)	Capacitor (MSC)	
1	Rourkela	±300	2x125		*In service from March 2018.*
2	Kishanganj	±200	2x125		*70% civil work completed. 30% switchyard equipment supplied. Expected to complete by December 2018*
3	Ranchi(New)	±300	2x125		*Commissioned on 12th July 2018*
4	Jeypore	±200	2x125	2x125	*Commissioned on 30th June 2018*

Powergrid may update.

Deliberation in the meeting

Powergrid informed that STATCOM at Kishanganj would be in service by January 2019.

Item no. C.7: 220 kV inter-connecting lines of OPTCL with 400/220 kV Bolangir (PG), Keonjhar&Pandiabil S/s

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

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

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA 400/220kV Bolangir S/s**	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	*Only 7 towers left (Severe ROW problem).**By March,2019.***
2.	**400/220kV Pandiabil Grid S/s:**	
a.	Pratapsasan(OPTCL)-Pandiabil(PG) 220 kV D/C line	***By March,2019.***
3.	**400/220 kV Keonjhar S/S**	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By end of Dec, 2018.
b.	Keonjhar (PG)-Turumunga(OPTCL) 220kV D/C line	By 2019. The work is yet to be started.

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status as mentioned in above table.

Item no. C.8: 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj&Dhanbad

In lastOCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj(POWERGRID)–Latehar220kVD/c	By April, 2019.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	The line expected to be completed by May, 2018 but – Garhwa 220kV is expected to be completed by Dec 2018.
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	The line charged as per original configuration on 26th July 2018.
D	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Tendering is in progress. Expected to be completed by October 2019
2	**Chaibasa400/220kVS/s**	
A	Chaibasa(POWERGRID)–Noamundi220kVD/c	Not yet started
3	**Dhanbad400/220kVS/s**	
A	LILO of Govindpur–Jainamore/TTPS 220kVD/c at Dhanbad	ROW issues.Target date November 2018.

JUSNL may update.

Deliberation in the meeting

JUSNL updated the status as mentioned in above table.

Item no. C.9: 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Subashgram& 2x500 MVA Rajarhat sub-stations

In lastOCC, *WBSETCL updated the latest status as follows:*

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x500MVA, 400/220kV Rajarhat---**	
a.	Rajarhat-N. Town-3 (WBSETCL) 220 kV D/C line	Matching, ROW problem
b.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	ROW problem, December 2019
c.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	ROW problem, February 2019
2	**Subashgram400/220kVS/s**	
a	Subashgram–Baraipur220kVD/cline	June 2019, 75% of work has been completed.

WBSETCL may update.

Deliberation in the meeting

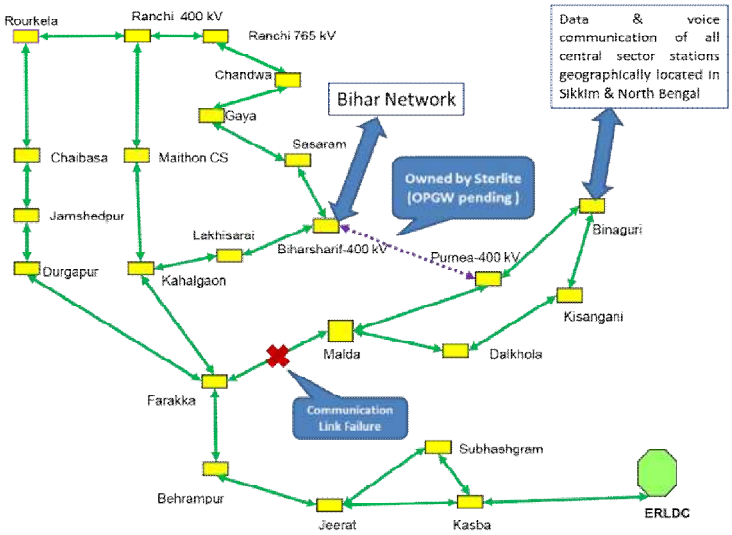
WBSETCL updated the status as mentioned in above table.

Item no. C.10: Update on status of telemetry

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

Major issues are given below:

i. Non-availability of real time SCADA data from New Farakka STPS (1 x 500 MW) to ERLDC
ii. Frequent intermittent of real time SCADA data from Talcher STPS Stage 1 & 2 (6 x 500 MW) to ERLDC: same gateway is being used at Talcher end for reporting SCADA data to SRLDC & ERLDC as well through switch. Broadcasting has been observed and data hampered at both RLDCs. It is suggested to provide two separate ports for reporting of SCADA data to ERLDC Main CC & Backup CC also.
iii. Alternate path for Malda–Farakka OPGW link



ERLDC may present. Members may update.

Deliberation in the meeting

*ERLDC presented the latest status which is enclosed at **Annexure-C10**.*

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

NTPC informed that GE representative was on site to resolve the issue of Non-availability of real time SCADA data from New Farakka STPS (1 x 500 MW) as well as LV side data of Farakkato ERLDC. The issue was expected to be resolved within 2 to 3 days.

NTPC informed that they would have to change the hardware to include communication port.

OCC advised NTPC to do the hardware modification as per ERLDC, SRLDC and NLDC requirement. OCC advised ERLDC to give the details of the requirement to NTPC.

Powergrid informed that they had not yet decided any alternative scheme for Malda-Farakka OPGW link.

Powergrid agreed to finalize and place the scheme in next OCC Meeting.

Item no. C.11: Non submission of SEM data to ERLDC from Gelephu and Malbase S/S in Bhutan--ERLDC

Malbase end meter data of 220 KV Malbase-Birpara(PG) and 400 KV Malbae-Binaguri(PG) D/C Line is not being received by ERLDC since last 2 months. Malbase informed ERLDC that due to non-working of DCD they are not sending the data to ERLDC.

In 38th CCM, it was emphasized that these two locations are very crucial and requested PGCIL to resolve the matter at the earliest by adjusting DCDs from any of the other locations which

remained unutilized. It was also advised to PGCIL to collect the unutilized DCD from Teesta –III (TUL) and to hand over to Malbase.

However the Malbase and Gelephu end meter data is not being sent to ERLDC.

PGCIL/Bhutan may please respond.

Deliberation in the meeting

Powergrid informed that they had handed over DCD, cable and supporting software to BPC on 14th November 2018.

DGPC representative informed that they would communicate the issue to BPC.

Item no. C.12: Non receipt of Laukahi (BSPTCL) Meter data--ERLDC

BSPTCL end meter data from Laukahi end of 220 KV DMTCL Darbhanga Line is not being sent by BSPTCL since charging of the Line. Due to non-availability of data from BSPTCL end on regular basis, validation of power through the line is being affected. The matter was informed to BSPTCL for sending the data. However there is no improvement in the status.

In 38th CCM, BSPHCL representative informed that due to some software related issues they were not able to send the data from Laukhi end. BSPHCL assured that the problems would be resolved within a week.

However, the meter data of Laukahi end has not received till now.

BSPTCL may please respond.

Deliberation in the meeting

ERLDC informed that the issue has been resolved.

Item no. C.13: Bay swapping of feeders/reactors position of POWERGRID S/S in ER--ERLDC

The following is noticed while validating the SLD at ERLDC:-

S No	Name of the S/S	Observation	SCADA Database & Display Modified	EMS Database Modified (Y/N)
1	Angul 765/400 kV	i. Bays of Jharsguda 3 & 4 was swapped several times. Presently, Jharsuguda-3 and Jharsuguda-4 bays are swapped.	Pending	Pending
2	Jeypore 400 kV	i. Bay number swapped in Bolangir and Gazuwaka Line. ii. Bay of Bolangir and Gazuwaka connected to different bus.	SCADA database updated, Display Modified	Pending
3	Keonjhar 400 kV	No Discrepancy Observed	N. A.	N. A.
4	Rourkela 400 kV	i. Bay number swapped in Jharsuguda-3 and Jharsuguda-4. ii. Jharsuguda-4 and associated B/R connected to wrong Bus. iii. ICT-3 not shown in S/S SLD. iv. L/R rating to be written in SCADA. v. Bay number to be corrected for whole SCADA SLD. vi. B/R & ICT number not written in S/S SLD.	Pending	Pending
5	Indravati 400 kV	i. Bay Number needs to changed for Jaypore and Rengali line. ii. Rengali line reactor is switchable one.	SCADA database updated, Display Modified	Pending
6	Jharsuguda 765/400 kV	i. Multiple discrepancies observed mostly due to bay swapping(Angul line 3 & 4), change of names etc.	Display Modified	N. A.
7	Bolangir 400 kV	i. No bay number shown in SCADA SLD. ii. Rating of Angul L/R to be written in SCADA SLD.	Pending	Pending
8	Baripada 400 kV	i. Bay number needs to change for 125 MVAR reactor 1 and ICT3. ii. Line reactor of Duburi is switchable for which CB has to be added in SCADA and EMS database.	SCADA database updated, Display Modified	Pending
9	Rengali 400 kV	i. Bay number needs to be changed for ICT-1 ,&2	Display Modified	N. A.

It has been observed several times that in some of the POWERGRID stations, bay swapping of feeders/reactors observed & due to such bay swapping, it is severely affecting the decisions taken by real time shift operator. The fault analysis in post-dispatch scenario would also be affected due to wrong SOE (sequence of event). This matter was just mentioned in the 22nd SCADA O&M meeting held at ERLDC, Kolkata on 30th October 2018 wherein ERLDC informed that a committee has been formed by competent authority to validate all the SLDs of POWERGRID stations with ERLDC SCADA display.

Member may deliberate

Deliberation in the meeting

OCC advised Powergrid to inform ERLDC first before doing any bay swapping and also advised to validate the SLD with ERLDC SCADA display.

Item no. C.14: Transfer capability determination by the states

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

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

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

Sl No	State/Utility	TTC import(MW)		RM(MW)		ATC (Import) MW		Remark
		Import	Export	Import	Export	Import	Export	
1	BSPTCL	4750	--	200	--	4550	--	Nov-18
2	JUSNL	1164	--	60	--	1104	--	
3	DVC	1359	3438	61	47	1298	3391	Jan-19
4	OPTCL	1835	--	82	--	1753	--	Nov-18
5	WBSETCL	3820	--	300	--	3520	--	Nov-18
6	Sikkim	--	--	--	--	--	--	

BSPTCL,OPTCL and WBSETCL are requested to calculate and submit the TTC for the month of December 2018, January and February 2019.

Deliberation in the meeting

BSPTCL, OPTCL and WBSETCL agreed to calculate and submit the TTC for the month of December 2018, January and February 2019.

Item no. C.15: Replacement of GPRS communication with Optical Fiber for AMR

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

connecting with PGCIL LAN. The proposed network will not only provide better communication but alsoreduce the cost of GSM.

In 150th OCC, POWERGRID informed that the replacement of GPRS communication of the Remaining 34 locations would be completed by December 2018.

POWERGRID may please update the progress.

Deliberation in the meeting

POWERGRID informed that the replacement of GPRS communication of the Remaining 34 locations would be completed by December 2018.

Item no. C.16: Mock Black start exercises in Eastern Region – ERLDC

Tentative Schedule for mock black start exercise for FY 2018-19 is given below:

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2018	*Completed on 8th June,2018*	Last Week of January2019	*In Sep 2018*
2	Maithon	1stweek of June 2018	*Completed on 6th June,2018*	1stWeek of February2019	
3	Rengali	2ndweek of June 2018	*Done on 18th August,2018.*	Last week of November 2018	
4	U. Indarvati	3rdweek ofJune 2018	*Planned in Oct,2018.*	2ndweek of February2019	
5	Subarnarekha	1stweek of October 2018	*Done on 10th August,2018.*	1stweek of January2019	
6	Balimela	3rdweek of October 2018		1stweek of March 2019	
7	Teesta-V	2ndweek of Nov 2018	Done on 3rd May 2018	Last week of February2019	
8	Chuzachen	Last Week of May2018	In May 2018	2nd week of January2019	
9	Burla	Last Week of June 2018	*Completed on 7th June,2018*	Last week of February2019	
10	TLDP-III	1st Week of June 2018	After Monsoon	2ndWeek of January2019	
11	TLDP-IV	Last Week of June 2018	After Monsoon	1st Week of February2019	
12	Teesta-III	Last week of Oct 2018		First Week of March 2019	
13	Jorthang	First Week of May 2018		First Week of Feb 2019	
14	Tasheding	2nd Week of May 2018		2nd Week of Feb 2019	
15	Dikchu	3rd Week of May 2018		3rd Week of Feb 2019	

Schedule for demonstration of black start exercise as follows:

i. Balimela HEP of OHPC:21st December 2018 in presence of ERPC and ERLDC engineers.
ii. Maithon HEP of DVC: January 2019
iii. Teesta-V of NHPC:February 2019.

Members may update.

Deliberation in the meeting

OHPC and DVC agreed to demonstrate black start exercise.

Teesta-III agreed to carry out black start exercise in February 2019.

Item no. C.17: Irregularity of data punching to web based PSP portal--ERLDC

ERLDC has successfully migrated to web based PSP reporting system since 9th September 2018 in which constituents have access to furnish their respective daily energy consumption/generation through web based portal using their own user ids. The report generated based on such punched data, is used by MOP, CEA, NLDC and other various organizations. The success of preparation and publication of error free Web PSP report in time is totally dependent on the active cooperation ofall the constituents filling the data during night hours. As per the recent practice for report preparation, data filled within 04:00 Hrs are considered for report preparation. In case data is not filled by the user for a particular field within 04:00 Hrs during night then SCADA data for that field is used for report preparation.

Some observations regarding submission of data in Web PSP are follows:

1. Users viz: Adhunik (APNRL), KBUNL. DMTCL, BRBCL, Tashiding, Barh and FSTPP are not filling data in Web PSP regularly.
2. Regular mismatch of 4 to 6 mu in 765kV Dharamjaigarh-Jharsuguda-Q/D energy data as declared by RTAMC ER – II and SCADA data of same link is observed. Same also verified from SEM data.

In this regard all the users are requested to kindly attach due seriousness to fill their own data in Web PSP portal by 04:00 Hrs. Powergrid RTAMC ER – II is requested to check the data of 765kV Dharamajaigarh-Jharsuguda-Q/Dbefore publishing during night hour.

Members may please note and comply.

Deliberation in the meeting

OCC advised SLDC-West Bengal, Adhunik (APNRL), KBUNL, DMTCL, BRBCL, Tashiding, Barh and FSTPP to submit the data in web portal on regular basis by 04:00 hrs.

Powergrid agreed to verify the data and agreed to submit correct data.

Item no. C.18: PSS tuning of Generators in Eastern region

Based on the submitted details it can be observed that

1. Many of the generators were tuned quite long back of during commission and there is a need to review their tuning in order to enhance the small signal stability of Eastern regional grid.
2. Few generators PSS are enabled even without tuning which can cause oscillation during transient which may not be desirable.
3. Several regional and State Sector IPPs, State Sector SSGSs and Central Sector ISGSs have still not submitted the details even after sending reminder messages.

In view of the above following may be discussed for ensuring the system security:

1. A concrete plan needs to be formed for the PSS tuning of Generators by the Eastern Region OCC forum in line with relevant IEGC and CEA standard to ensure the system security. A separate meeting on PSS tuning action plan may immediately be initiated.

2. A small group of members may be formed to analyse the PSS tuning reports received from the various generators.
3. Further, generators who have not submitted the details of PSS tuning to ERLDC may submit it within a week on erldcprotection@posoco.in and erpcprotection@gmail.com

Members may discuss.

Deliberation in the meeting

OCC decided to discuss the issue along with RGMO in a special meeting scheduled to be held at ERPC, Kolkata in January 2018.

Item no. C.19: Submission of Thermal Loading of Transmission line and associated terminal equipment by ISTS licensee

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

Conductor Type	Ampacity per conductor(A)*	Thermal loading limit of line (MVA)
765 kV Quad ACSR_Bersimis	732	3880
765 kV HexaACSR_Zebra	560	4452
400 kV Twin ACSR_Moose	631	874
400 kV Quad ACSR_Moose	631	1749
400 kV Quad ACSR_Bersimis	732	2029
400 kV Triple Snowbird	630	1309
400 kV Twin ACSR_Lapwing	773	1071
220 kV Single AAAC_Zebra	557	212
220 kV Single ACSR_Zebra	560	213
220 kV Twin ACSR_Moose	631	481
132 kV Single ACSR_Zebra	560	128
132 kV Single ACSR_Panther	366	84

*Ambient and Maximum conductor temperature are taken as 45°C and 75°C respectively.
Apart from above specifically mentioned in CEA transmission planning criteria following loading limit is considered for HTLS line while calculating ATC/TTC

Conductor Type	Ampacity per conductor(A)*	Thermal loading limit of line (MVA)
400 kV Twin HTLS	1262	1750

220 kV Single HTLS	1020	390
132 kV Single HTLS	732	168

In view of this, it is desired that all ISTS Licensee and STU(for 400 kV and important 220 kV lines) may kindly submit the following details to ERLDC for utilisation in ATC/TTC calculation:

a) Transmission line wise Ampacity and Thermal loading along with Maximum Conductor Temperature and conductor type.
b) End Equipment Rating and
c) Confirmation whether the relay setting has been adopted in line with the thermal rating of the line
d) Any constraint during thermal loading of line

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

Members may note and comply.

Deliberation in the meeting

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

Item no. C.20: Load Trimming Scheme on 400/132 kV Motihari ICTs.

400/132 kV Motihari substation is having a two ICTs each with 200 MVA capacity. It has been observed that due to higher load catering of Bihar along with Nepal, the ICTs are running without N-1 reliability. On 22nd August 2018 at 14:59 Hrs, the ICTs combined load increased to 280 MW and one ICT got tripped on mal-operation of OSR relay due to moisture ingress. This led to overloading of other ICT, which tripped in overcurrent protection. This led to the loss of 280 MW of Bihar and Nepal.

Such unreliable operation of ICTs due to higher load is not desirable and following action point may be desired:

1. Implementation of Load Trimming Scheme (LTS) on Motihari ICTs.
2. BSPTCL Long term plan to ensure the meeting such high demand in the areas.
3. Prevention of Tripping of Motihari ICT on OSR relay mis-operation during moisture ingress in rainy season.
4. Capacity augmentation for longterm measures may be planned.

In 149th OCC, it was informed that one more ICT of 315 MVA had been planned in 13thPlan which would be commissioned by May 2020.

OCC advised Bihar to plan a load-trimming scheme till the availability of 3rd ICT.

In 39th TCC, BSPTCL requested Powergrid to expedite the installation of 3rd ICT at Motihari S/s. BSPTCL would draw up a plan for load trimming at Motihari to take care of the eventualities arising out of tripping of any of the existing two ICTs. The plan will be finalized within a month and the same will be shared with ERPC and ERLDC.

BSPTCL and DMTCL may update.

Deliberation in the meeting

BSPTCL agreed to place the load trimming scheme in next OCC Meeting.

Item no. C.21: FLEXIBILITY IN GENERATION & SCHEDULING OF THERMAL POWER STATIONS TO REDUCE EMISSIONS-MOP, GOI ORDER

CEA vide letter dated 18th July 2018 informed that a committee has been constituted in CEA under Chief Engineer (TPRM) to develop a road map to enable flexible operation of thermal power stations for smooth integration of intermittent RES generation.

CEA requested for plant performance data as per the format enclosed at **Annexure-C21**. CEA requested to submit the hard copy and softcopy (in excel) to cetrmcea@yahoo.com.

OCC advised all the Generators to submit the plant performance data as per the format to CEA.

Members may note and comply.

Deliberation in the meeting

OCC advised all the Generators to submit the plant performance data as per the format to CEA.

Item no. C.22: Auto-Reclosure on Lines from PPSP Generating station.

It has been observed that, no transmissionlines from 400 kV PPSP Plant are having the auto-reclosure facility in enabled condition. Further, the auto-reclosure facilities arealso not enabled at remote end substation.

Element Name	Tripping Date	Tripping Time	Type of Fault
400KV PPSP-BIDHANNAGAR-I	05-08-16	21:43	R Phase to E/F
400KV PPSP-NEW PPSP-2	25-02-18	12:58	R Phase to E/F
400KV PPSP-BIDHANNAGAR-II	11-03-18	23:45	Y phase to E/F
400KV PPSP-BIDHANNAGAR-II	30-04-18	8:21	Y phase to E/F
400KV PPSP-BIDHANNAGAR-II	10-05-18	6:15	B phase to E/F
400KV PPSP-BIDHANNAGAR-II	20-05-18	16:39	R Phase to E/F
400KV PPSP-BIDHANNAGAR-I	01-06-18	11:37	Y phase to E/F
400KV PPSP-BIDHANNAGAR-II	08-06-18	2:32	B phase to E/F
400KV PPSP-BIDHANNAGAR-II	08-06-18	23:50	Y phase to E/F
400KV PPSP-BIDHANNAGAR-II	12-06-18	14:34	R Phase to E/F

Non-Implementation of Auto-reclosure results in the non-compliance of CEA Technical Standard for Construction of Electrical Plants and Electric Lines 43.4.C.

WBPDCL may kindly update on the status of healthiness and enabling of the auto-reclosure on the transmission lines from PPSP Power plant. It may kindly be noted that, most of the power plant (Thermal/Hydro/Gas) in the Indian Power Systemhave no issue in enabling single-phase auto-reclosure for the line emanating from their plant. This has indeed increased their reliability during bad weather conditions during which transient fault occur on the lines.

The agenda could not be discussed in 70th& 71st PCC meetingas WBSEDCL representative was not present in the meeting.

Members may discuss.

Deliberation in the meeting

WBSEDCL agreed to explore and place the details in next OCC Meeting.

PART D:: OPERATIONAL PLANNING

Item no. D.1: Anticipated power supply position during December 18

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of December18were prepared by ERPC Secretariat on the basis of Provisional LGBR for 2015-16 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-D.1**.

Members may confirm.

Deliberation in the meeting

Modified anticipated power supply position for the month of December 2018 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 December18

Members may finalize the Shutdown proposals of transmission lines andgenerating stations for the month of December18.

Shutdown proposals of generating stations:

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
ODISHA	TTPS	1	60	01.12.18	30.12.18	30	Capital Maintenance
	IB TPS	2	210	01.12.18	21.12.18	21	Minor AOH
WBPDCL	Sagarighi TPS	1	300	01.12.18	10.12.18	10	Boiler License
CESC	BUDGE-BUDGE	1	250	02.12.18	16.12.18	15	Not Specified
		2	250	19.12.18	23.12.18	5	Not Specified
	TITAGARH	3	60	14.12.18	17.12.18	5	Not Specified
		4	60	29.12.18	12.01.19	15	Not Specified
NTPC	Barh	4	660	12.12.18	15.01.19	35	Boiler Modification
IPP	APNRL	2	270	17.012.19	10.02.19	25	Not Specified

Annual maintenance of Teesta-V HEP Units:

i. Unit-2 from 01-12-2018 to 21-12-2018
ii. Unit-3 from 23-12-2018 to 12-01-2019

ERLDC may place the list transmission line shutdown. Members may confirm.

Deliberation in the meeting

Approved Shutdown proposals of generating stations:

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
WBPDCL	Bandel TPS	5	215	05.12.18	31.12.18	27	Boiler O/H
WBPDCL	Kolaghat TPS	5	210	11.12.18	11.02.19	60	ESP R & M
CESC	Budge-Budge	1	250	13.11.18	30.11.18	18	Under shutdown from 13.11.2018

	Budge-Budge	2	250	11.12.18	20.12.18	10	Not Specified
	Budge-Budge	3	250	01.12.18	07.12.18	7	Not Specified
	TITAGARH	3	60	14.12.18	17.12.18	5	Not Specified
		4	60	29.12.18	12.01.19	15	Not Specified
NTPC	TSTPS	2	500	15.12.18	14.01.19	30	Maint.
HEL	Haldia	2	300	31.12.18	14.01.19	15	Maint

OCC approved the line shutdown as per the list given in **Annexure-D.2.**

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

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

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

This OCC decision shall be conveyed to all concerned by ERLDC.

1. Shutdown of 400kV Main Bus Darbhanga

Alipurduar Transmission Limited vide mail informed that ATL/KPTL is executing the bay extension work at 400 KV GIS Darbhanga S/S. To integrate the new system with the existing system require shut down as mentioned below:

1. 400KV Main bus I (DMTCL): – 5th Dec '18 to 12th Dec'18 (1st day to 8th Day) 8 days , 192 Hrs. For integration of Main Bus –I. Substation will remain charged on Main Bus – II
2. 400KV Main bus II (DMTCL): – 14th Dec '18 to 21st Dec'18 (10th day to 18th day) 8 days, 192 Hrs. For integration of Main Bus –II. Substation will remain charged on Main Bus - I
3. 400KV Main bus I (DMTCL) & 400KV Main bus II (DMTCL) : - 22nd Dec'18 to 24th Dec'18 , 3 days , 10 Hrs on daily basis. For integration of Bus Bar protection.

Alipurduar Transmission Limited may explain. Members may approve.

Deliberation in the meeting

BSPTCL informed that Alipurduar Transmission Limited had requested for 400KV Main bus I (DMTCL) & 400KV Main bus II (DMTCL) for 2 days on continuous basis instead of daily basis.

OCC advised BSPTCL to allow the shutdown in this winter season.

BSPTCL agreed to give the shutdown in December 2018 after discussing with Alipurduar Transmission Limited.

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

(i) Thermal Generating units:

S.No	Station	Location	Owner	Unit No	Capacity	Reason(s)	Outage	
					(MW)		Date	Time
1	KOLAGHAT	WEST BENGAL	WBPDCL	1	210	POLLUTION CONTROL PROBLEM	10-May-18	23:05
2	KOLAGHAT	WEST BENGAL	WBPDCL	3	210	POLLUTION CONTROL PROBLEM	23-Feb-17	11:51
3	CTPS	JHARKHAND	DVC	3	130	TURBINE BLADE DAMAGE	30-Jul-17	00:00
4	KODARMA	JHARKHAND	DVC	2	500	ANNUAL OVERHAULING	9-Sep-18	19:47
5	*SAGARDIGHI*	*WEST BENGAL*	*WBPDCL*	*1*	*300*	*SHORT MAINTENANCE*	*3-Nov-18*	*23:25*
6	VEDANTA	ODISHA	GRIDCO	3	600	OVERHAULING	30-Oct-18	02:41
7	BUDGE BUDGE	WEST BENGAL	WBPDCL	1	250	ANNUAL SURVEY	13-Nov-18	00:07
8	JITPL	ODISHA	JITPL	2	600	COAL SHORTAGE	26-Jun-18	00:03
9	RAGHUNATHPUR	WEST BENGAL	DVC	2	600	COAL SHORTAGE	9-Nov-18	22:21
10	MEJIA	WEST BENGAL	DVC	4	210	COAL SHORTAGE	2-Nov-18	22:05
11	MEJIA	WEST BENGAL	DVC	1	210	COAL SHORTAGE	3-Nov-18	04:05
12	DPL	WEST BENGAL	WBPDCL	7	300	COAL SHORTAGE	20-Oct-18	23:58
13	SAGARDIGHI	WEST BENGAL	WBPDCL	4	500	COAL SHORTAGE	7-Nov-18	21:30
14	KOLAGHAT	WEST BENGAL	WBPDCL	4	210	COAL SHORTAGE	12-Nov-18	23:19
15	SANTALDIH	WEST BENGAL	WBPDCL	5	250	HIGH FURNACE PRESSURE	11-Nov-18	16:05

(ii) Hydro Generating units:

S.No	Station	Location	Owner	Unit No	Capacity	Reason(s)	Outage
1	BURLA	ODISHA	OHPC	1	37.5	R & M WORK	25.10.2016
2	BURLA	ODISHA	OHPC	5	37.5	R & M WORK	25.10.2016
3	BURLA	ODISHA	OHPC	6	37.5	R & M WORK	16.10.2015
4	BURLA	ODISHA	OHPC	4	37.5	Annual Maintenance	
5	RENGALI	ODISHA	OHPC	1	50	Annual Maintenance	
6	BALIMELA	ODISHA	OHPC	1	60	R & M WORK	05.08.2016
7	BALIMELA	ODISHA	OHPC	2	60	R & M WORK	20.11.2017

8	BALIMELA	ODISHA	OHPC	5	60	Annual Maintenance	
9	U.KOLAB	ODISHA	OHPC	2	80	Repair of MIV & Draft tube gate leakage	28.05.2017

It is therefore seen that about 460 MW hydro capacity in Odisha is under forced outage / planned outage and therefore not available for providing the much needed peaking support during evening peak. SLDC / OHPC may please indicate restoration plan of the units.

(iii) Transmission elements

SL NO	Transmission Element / ICT	Agency	Outage From		Reasons for Outage
1	220 KV BALIMELA - U' SILERU	OPTCL / APSEB	10-03-2018	22:45	LINE ANTITHEFT CHARGED FROM UPPER SILERU ON 17-04-18
2	400 KV IBEUL JHARSAGUDAD/C	IBEUL	29-04-2018	17:30	TOWER COLLAPSE AT LOC 44,45
3	400 KV DIKCHU-RANGPO	TVTPL	06-07-2018	08:11	INITIALLY S/D AVAILED BY TVTPL/LINE COULD NOT BE CLOSED AFTER S/D DUE TO LOCAL ISSUES.
4	400KV NEW PURNEA-BIHARSARIFF(PG)-D/C	ENICL	10-08-2018	10:28	TOWER COLLAPSE AT LOC 47/0
5	220 KV BUDHIPADAR - KORBA III	OPTCL/POWERGRID	10-11-2018	09:43	MGR DIVERSION WORK NEAR LARA NTPC
6	400 KV PATNA KISHANGANJ D/C	POWERGRID	01-09-2018	00:32	TOWER COLLAPSE AT LOC 129. PILING DAMAGED

(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: Restricted Governor /Free Governor Mode Operation of generators in ER

CERC vide their letter dated 05-06-2017 desired to know the present status of RGMO/FGMO response of all eligible thermal and hydro units. Accordingly ERLDC vide letter no.ERLDC/SS/FGMO/2017 dated 07-06-17 requested all concerned power stations and SLDCs to provide updated status of FGMO/ RGMO of units under their control.

The latest status of the RGMO/FGMO of ER generators is enclosed in **Annexure-E1**.

Generators may update.

Item No. E.2: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

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

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

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

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

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

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

As suggested by CEA, a format would be circulated among ER constituents for furnishing the information of the their respective systems for discussion in OCC Meeting. The format is enclosed at **Annexure-E2**.

OCC advised all the constituents to submit the information to ERPC as per Annexure-E2.

Item No. E.3: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

In 84th OCC meeting all constituents were requested to interact with BIS with intimation to ERPC and get certified as per CEA direction.

As per the information received from the constituents the following generators certified with IS 18001:

- All NTPC stations in Eastern Region
- Teesta, NHPC

- All OHPC generating units
- All CESC generating units
- All units of WBPDCL
- DGPC units

Item No. E.4: Status of Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipment.

The status of DR/EL and GPS as updated in previous OCCs is enclosed at **Annexure-E.4**.

Constituents are also requested to furnish their list of new DR/EL which are not included in the list.

TeestaUrja Limited vide letter dated 8th September 2017 informed that Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipments are available at Teesta III HEP.

Item No. E.5: Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents

CEA vide letter dated 21.07.2017 requested to send the status of state-wise availability of ERS towers and requirement of ERS towers.

In 136th OCC, MS, ERPC informed that CEA vide letter dated 21.07.2017 has sought the latest status on ERS. Therefore, OCC advised all constituents to send the updated status to ERPC secretariat vide mail (mserpc-power@nic.in).

Latest status is enclosed at **Annexure- E.5**.

In 138th OCC, WBSETCL informed that they are having total 10 ERS towers, 5 at Arambagh and 5 at Gokharno.

In 139th OCC, JUSNL informed that they are having eight 220/132kV ERS towers at following locations:

- Hatia – 3 nos
- Ranchi – 2 nos
- Dumka – 3 nos

Item No. E.6: Status of 1st Third Party Protection Audit:

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

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

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

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

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

Members may comply.

Item No. E.7: DATA FOR GEOSPATIAL ENERGY PORTAL OF NEETI AAYOG--CEA

NITI Aayog is developing a user friendly GIS based Energy Map of India, which would provide true locations of all energy resources in India including power plants, coal and oil reserves, transmission lines etc.

CEA sought the information of name, voltage level, capacity, longitude and latitude of 33kV and 66 kV substations and lines.

The information may be shared with CEA vide email: cedpd-cea@gov.in.

Members may comply.

Item No. E.8: Providing relevant data by Power Utilities I Stations in National Power Portal.

CEA vide letter dated 26th June 2018 informed that National Power Portal (NPP) (URL: npp.gov.in), has been launched by Hon'ble Minister of Power on 14th November, 2017. NPP is modified and more user-friendly data portal than the existing Information Management System (IMS) in CEA. Reports prepared from NPP are of vital importance for Power Sector data analytics in order to frame policies, regulations , future road-map for Power Sector etc. at Central as well as at State level. Accordingly, all power utilities have been issued user ID and password, either organisation-wise or station-wise, based on their request , for providing their data on NPP.

NPP has replaced IMS since 1st June, 2018. A Circular (which is available in Circular Section of CEA Website, i.e. cea.nic.in) has been issued by CEA to all power utilities/stations on 14.06.2018 for providing their data online in NPP only.

In this regard, letters/mails have been issued to Utilities to provide their data online through NPP. A letter dated 20.06.2018 was also issued to all SLDC, requesting them to direct the power utilities I stations under their purview for providing data on NPP.

Any issue/problem faced by utilities may kindly be communicated to itcea@nic.in, npp.support@gov.in, ceopm-cea@gov.in and if required, IT Division, CEA may be contacted on 011-26732368 or 011-26732303

CEA requested to pursue the power utilities *I* stations under their purview for providing data on NPP. Further, a workshop/presentation may be arranged if required in each region in which IT Division, CEA will provide a brief demonstration regarding data entering process and report generation into NPP.

Item No. E.9: Checklist for submission of updated data for Protection Database

The network data in Protection Database needs to be updated on regular basis on account of commissioning of new elements in the CTU as well as STU networks. Accordingly, a checklist has been prepared which is enclosed in **Annexure-E9**.

All the constituents are requested to submit the checklist on monthly bases in every OCC/PCC meetings.

In 139th OCC, all the constituents were advised to submit the data to ERPC vide mail (mserpc-power@nic.in) as per the checklist for last three months.

OCC advised all the constituents to submit the data to ERPC vide mail (mserpc-power@nic.in) as per the checklist for last three months.

Item No. E.10: Commissioning of new transmission elements in Eastern Region

The details of new units/transmission elements commissioned in the month of October - 2018 based on information furnished by the constituents are depicted below:

Monthly commissioning List of Transmission element and generators: October 2018					
SL NO	**Element Name**	**Owner**	**Charging Date**	**Charging Time**	**Remarks**
1	80 MVAR Line Reactor of 400kV New_Purnea-Frakka at Purnea end	PGCIL	26-10-2018	21:13	Line is under construction, only switchable L/R was charged as B/R.
2	80 MVAR Line Reactor of 400kV New_Purnea-Gokarna at Purnea end	PGCIL	30-10-2018	12:53	Line is under construction, only switchable L/R was charged as B/R.
3	125 MVAR Bus Reactor-II at Keonjhar	PGCIL	31-10-2018	17:17	
4	240MVAR line reactor of 765kV Angul-Jharsuguda-III at Angul end	PGCIL	31-10-2018	20:59	Only line reactor charged as B/R., Line is under construction now. Switable L/R
5	765Kv Jharguda-Dharamjaigarh-III	PGCIL	31-10-2018	23:35	Voltage before/after charging at Jharsuguda: 786/789Kv; 354MW power flow towards Jharsuguda at the time of charging.

The following schemes of OPTCL were charged:

1. Ib-Lapanga-400kV Ckt-I charged on 03.11.2018
2. Ib-Lapanga-400kV Ckt-II charged on 03.11.2018
3. Sterlite-Lapanga 400kV LILO Line on MCT Tower charged on 05.11.18
4. Lapanga 400kV Sub-station Bus charged on 03.11.18

Item No. E.11: UFR operation during the month of October'18

System frequency touched a maximum of 50.2 Hz at 13:03Hrs of 05/10/18 & 12:02hrs of 28/10/18 and a minimum of 49.69 Hz at 17:24Hrs of 20/10/18& 16:42hrs of 22/10/18. Hence, no report of operation of UFR has been received from any of the constituents.

Item No. E.12: Non-compliance of directions issued by SLDC

Vide clause no 5.5.1.(c)(h) of IEGC, non-compliance of SLDC directions by SEB/Distribution licenses/bulk consumers to curtail overdrawal are to be reported to ERLDC for incorporating the same in weekly report to be prepared and published by ERLDC.

All SLDCs are to inform ERLDC the instances of non–compliance of SLDC directions by SEB/Distribution licenses/bulk consumers to curtail overdrawal, within two days after the day of operation.

No report from any constituent has yet received. Hence, ERLDC would be considering 'Nil' report for all constituents for October18.

Item No. E.13: Grid incidences during the month of October, 2018

Sr No	GD/ GI	Date	Time	S/S involved	Summary	Load loss (MW)	Gen loss (MW)
1	GI-II	01-10-2018	15:41	Rangpo	At 15:41 hrs, 400 kV Binaguri - Rangpo - I tripped on R-N fault resulting generation loss at Teesta III, Jorethang, Dikchu, Chujachen and Tashiding due to operation of SPS - I at Rangpo.	0	856
2	GD-I	03-10-2018	17:23	Hatia	220 kV PTPS - Hatia D/C were under shutdown. 220 kV Hatia - Ranchi D/C tripped from Hatia end due to suspected bus fault at Hatia	200	52
3	GD-I	04-10-2018	00:18	Hatia	220 kV PTPS - Hatia D/C were under shutdown. 220 kV Hatia - Ranchi D/C tripped from Hatia end due to suspected bus fault at Hatia	130	52
4	GD-I	07-10-2018	16:56	Purnea	220 kV Purnea - Purnea D/C and 220 kV Purnea - Dalkhola D/C tripped due to Y phase CVT failure of 220 KV Purnea - I at Purnea Old end	160	0
5	GD-I	20-10-2018	09:48	Madhepura	220 KV New Purnea-Madhepura I was kept open due to high voltage condition. At 09:48 hrs 220 kVPurnea - Madhepura - II tripped on R-N fault resulting total power failure at Madhepura.	62	0
6	GD-I	27-10-2018	10:24	TLDP	At 10:24 Hrs, 220 KV TLDP-III – NJP tripped due to Y-B-N fault leading to tripping of all 4 units at TLDP III due to loss of evacuation path	0	134
7	GI-II	31-10-2018	23:52	Jharsuguda	During PLCC testing of new 765kV Sundargarh-Dharamjaygarh Ckt-4, 765KV Bus-2 along with following 765KV elements connected with the Bus were tripped at 23:52 hrs of 31.10.2018 due to mal-function of Tie LBB relay of 765KV Angul Ckt-1. 1. 765KV 240MVAR Bus reactor-1 2.765KV 240MVAR Bus reactor-2 3.765KV Sundargarh-Angul Ckt-1 4. 765KV Sundargarh-darlipali(NTPC) Ckt-1 5. 765KV Sundargarh-darlipali(NTPC) Ckt-2	0	0

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Annexure-A

Participants in 151st OCC Meeting of ERPC

PC, Farakka CGM Conference Hall | Time : 10.30 hrs. | Date : 27.11.2018

Sl No	Name (S/Shri)	Designation & Organisation	Contact Phone Number	Email	Signature
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		DGM	9650994778	VPSrivastava	

Participants in 151st OCC Meeting of ERPC

PC, Farakka CGM Conference Hall — Time : 10.30 hrs. — Date : 27.11.2018

Sl No	Name (S/Shri)	Designation & Organisation	Contact Phone Number	Email	Signature
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36	P. Banerjee	SE/WBSEDCL	9432140761	preeban72@gmail.com	[signature]

Participants in 151st OCC Meeting of ERPC

PC, Farakka CGM Conference Hall | Time : 10.30 hrs. | Date : 27.11.2018

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53	B. D. [illegible]	TUL	9800940836	bdlmm1967	
54	J. G. Rao	EE, ERPC	9547891353	[illegible]	

Participants in 151st OCC Meeting of ERPC

TPC, Farakka CGM Conference Hall | Time : 10.30 hrs. | Date : 27.11.2018

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59	C. Ghosh Dastidar	AGM (EM)	9433403257	cgdastidar@NTPC.co.in	
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Power System Operation Corporation Ltd.

151st OCC Meeting

At NTPC, Farakka

27th November, 2018

ER Grid Performances

ERLDC POSOCO

Highlights for the month of Oct-18

Frequency Profile
Average Freq:- 49.97 Hz
Avg FVI: - 0.046
Lowest FVI:- 0.024

Max- 50.20Hz on 05th and 28th Oct' 18
Min- 49.69 Hz on 20th and 22nd Oct' 18

78.95% of the time freq was with in IEGC Band

Peak Demand
ER: 23030 MW on 03rd Oct 2018 at 20:43 hrs
% Growth in Average Demand Met w.r.t. last year: 5.04%

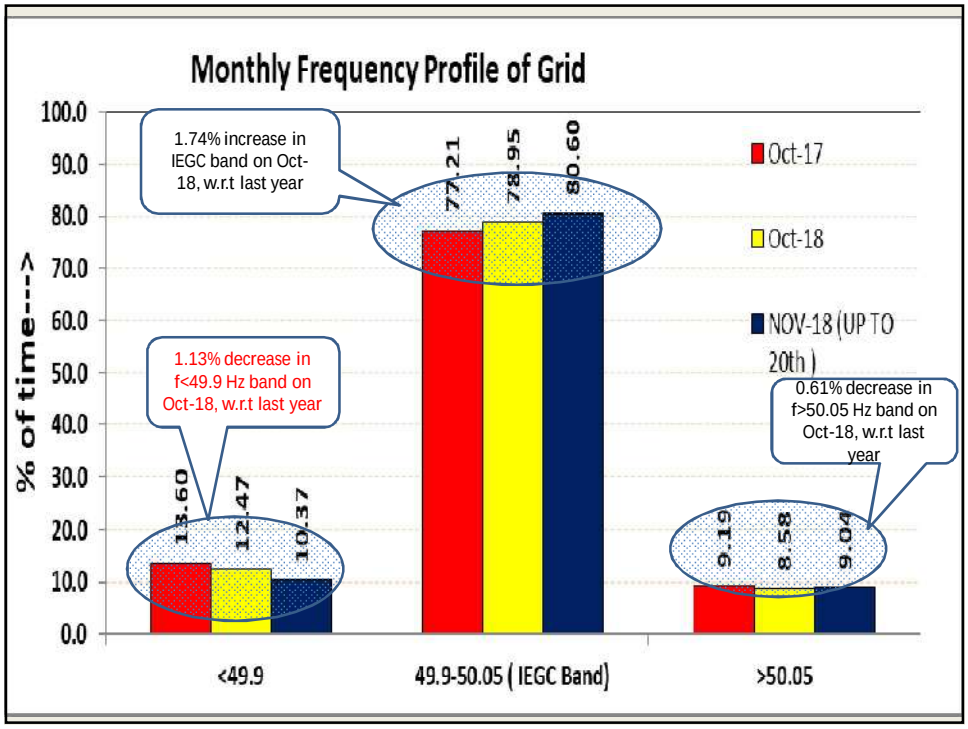
BSPHCL : 5000 MW ; ON 03/10/18
JUVNL: 1147 MW; ON 03/10/18
DVC: 2988 MW; ON 30/10/18
GRIDCO: 5332 MW; ON 03/10/18
WB: 8677 MW; ON 03/10/18
SIKKIM: 99.2 MW; ON 24/10/18

Energy met
Max. 499 MU on 03rd Oct *2018*
%Growth w.r.t. last year on Max energy 11.97%
Avg. 434 MU in Oct *2018*
%Growth w.r.t. last year on Avg. energy : 6.9%

New Element
Generating Units-NIL

Open Access
STOA transactions approved -188 nos.

Energy Approved- 1002.87 MUs



New Element addition during the month:

SL NO	Element Name	Owner	Charging Date	Charging Time	Remarks
1	80 MVAR Line Reactor of 400kV Purnea(New)-Frakka at Purnea end	PGCIL	26-10-2018	21:13	Line is under construction, only L/R was charged.
2	80 MVAR Line Reactor of 400kV Purnea(New)-Gokarna at Purnea end	PGCIL	30-10-2018	12:53	Line is under construction, only L/R was charged.
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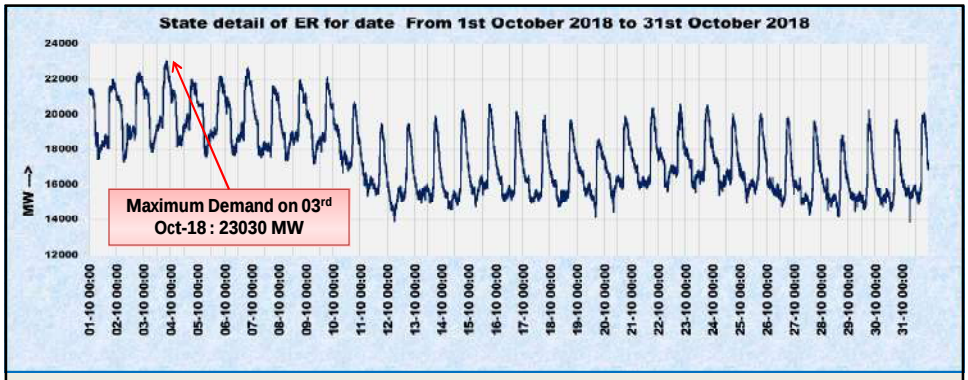
5	765kV Jharsuguda-Dharamjaigarh-III	PGCIL	31-10-2018	23:35	786/789kV; 354MW power flow to Jharsuguda

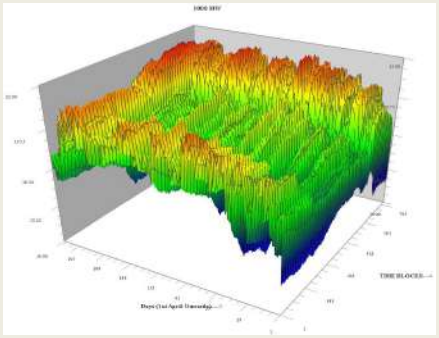
So Far Highest Demand					
Constitute	Demand (in MW)	Date	Time	Dmd met (MW) on 03rd Oct'18 (max dmd met day)	
				MW	Time
Bihar	5011	12-July-18	0:05	5003	21:08
DVC	3536	12-July-18	8:55	2652	23:13
Jharkhand	1319	19-May-18	21:02	1152	19:39
Odisha	5558	23-Aug-18	20:21	5332	20:43
W. Bengal	8896	18-June-18	19:51	8726	19:02
Sikkim	117	28-Oct-16	19:22	89	18:10
ER	23030	03-Oct-18	20:43	23030	20:43

So Far Highest Energy Consumption			
Constitute	Energy consumption (in MUs)	Date	Energy met on 03rd Oct'18 (max dmd met day)
Bihar	104.0	02-Oct-18	100.1
DVC	75.8	12-July-18	63.2
Jharkhand	27.8	19-May-18	25.7
Odisha	123.5	02-Oct-18	114.4
West Bengal	192.6	05-Oct-18	188.4
Sikkim	2.1	07-Dec-17	1.3
ER	499.8	18-Aug-18	499

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

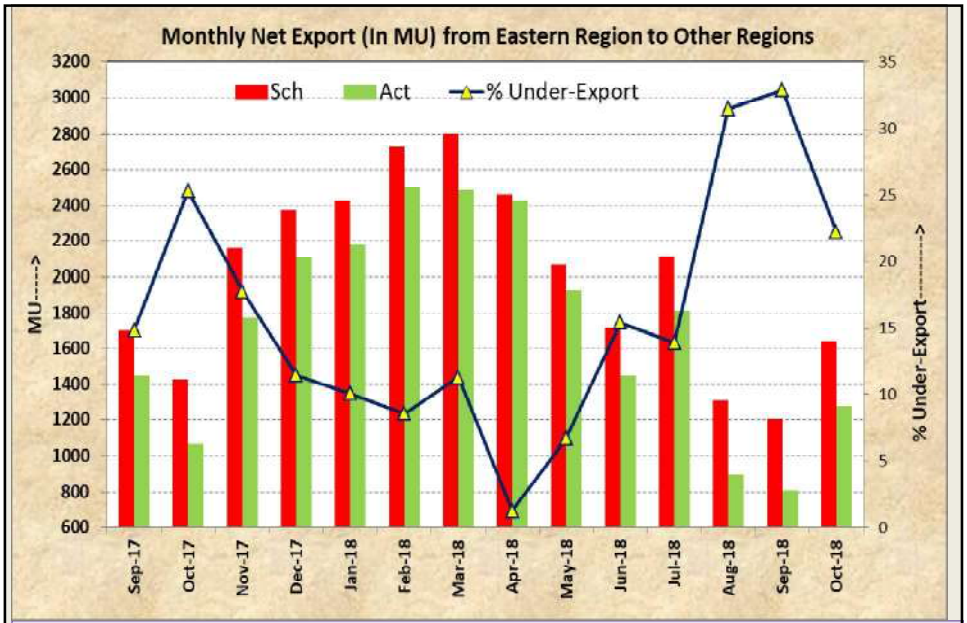


EASTERN REGION DEMAND
3D CURVES (APRIL-OCT'18)



Over Drawl / Under Injection by ER Entities

Non-compliance of direction issued by SLDC



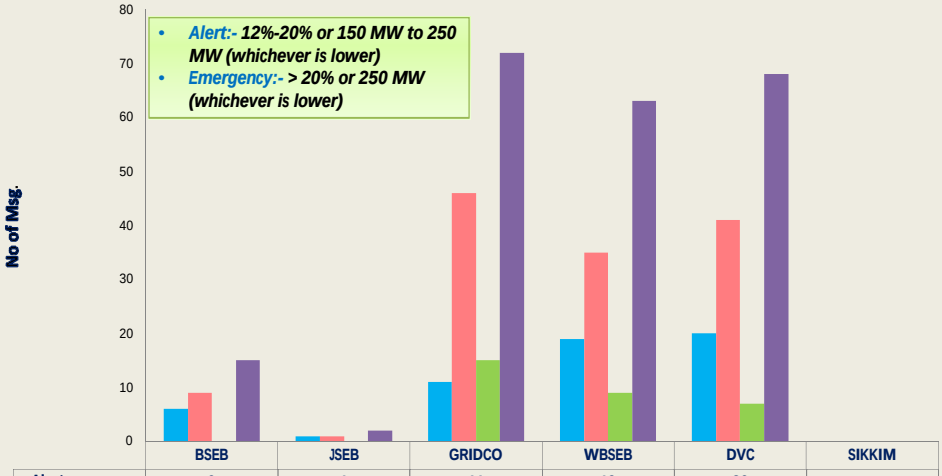
Actual Export schedule for Oct-18 was 1645 Mu, whereas actual export was 1279 Mu

Total Under export was 366 **Mu** for the month mainly due to overdrawl of DVC, Odisha and West Bengal

October - 2018 Schedule Vs Actual Drawl

	Schedule (MU)	Actual (MU)	OD (MU)	Daily Avg Deviation (MU)	% Deviation
Bihar	2589	2567	-21	-0.7	-0.8
Jharkhand	472	501	29	0.9	6.2
DVC	-695	-575	120	3.9	**17.2**
Odisha	1186	1285	99	3.2	**8.3**
West Bengal	1121	1185	65	2.1	**5.8**
Sikkim	38	40	2	0.1	**6.2**
FSTPP I & II	888	876	-12	-0.4	-1.3
FSTPP III	313	303	-10	-0.3	-3.2
KHSTPP I	489	488	-1	0.0	-0.2
KHSTPP II	854	852	-3	-0.1	-0.3
TSTPP I	559	561	2	0.1	0.3
BARH II	830	825	-5	-0.2	-0.6
GMR	333	321	-12	-0.4	**-3.5**
APRNL	230	227	-3	-0.1	-1.3

Deviation Msg. issued to states during month of Oct 2018

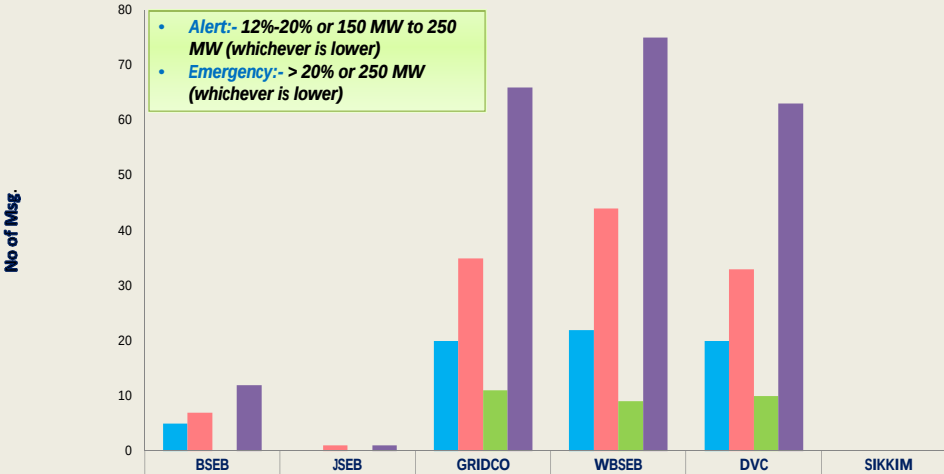


	BSEB	JSEB	GRIDCO	WBSEB	DVC	SIKKIM
Alert	6	1	11	19	20	
Emergency	9	1	46	35	41	
Non-Compliance			15	9	7	
Total	15	2	72	63	68	

Total Number of Deviation violation and zero crossing violation messages issued during October -2018 :- 203

Deviation Violation Messages :- 140 & Zero Crossing Violation :- 63

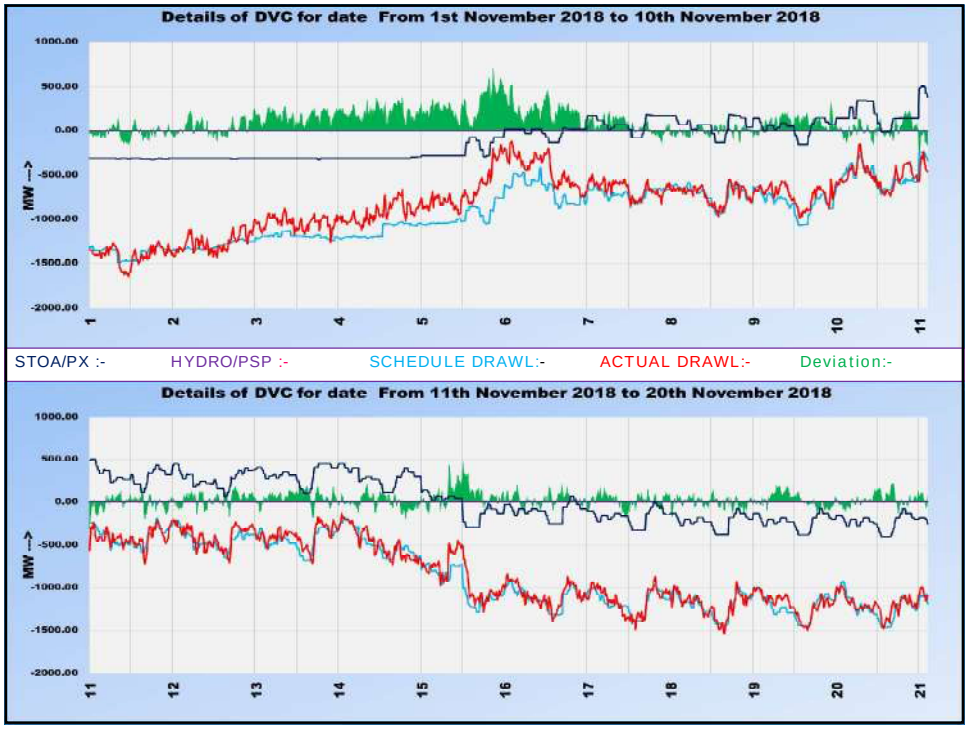
Deviation Msg. issued to states during month of Nov 2018

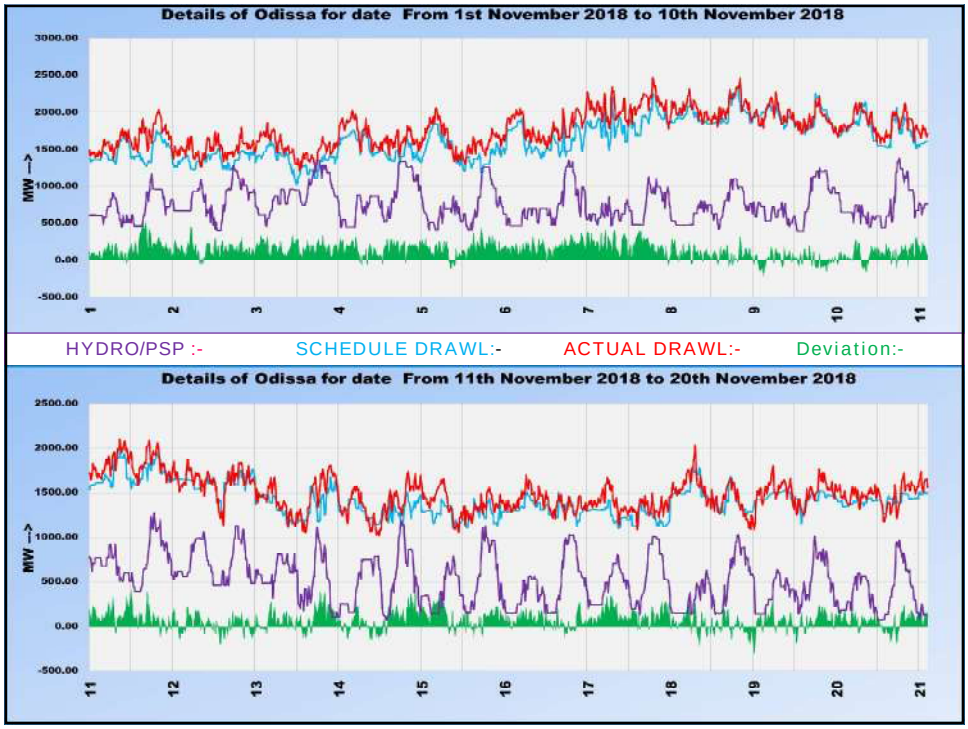


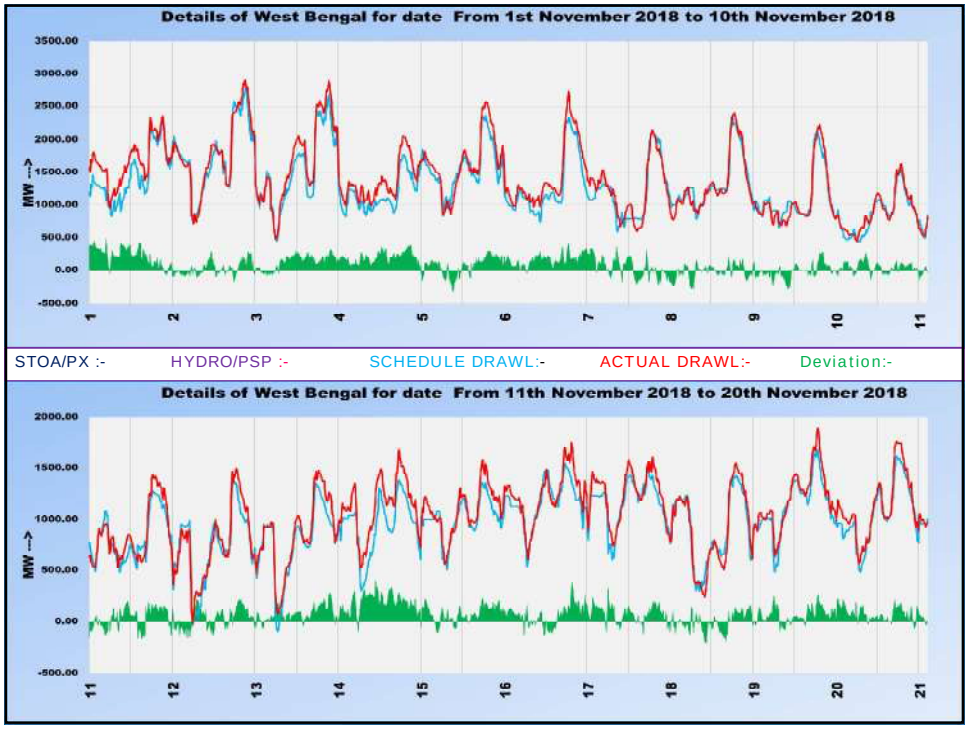
	BSEB	JSEB	GRIDCO	WBSEB	DVC	SIKKIM
Alert	5		20	22	20	
Emergency	7	1	35	44	33	
Non-Compliance			11	9	10	
Total	12	1	66	75	63	

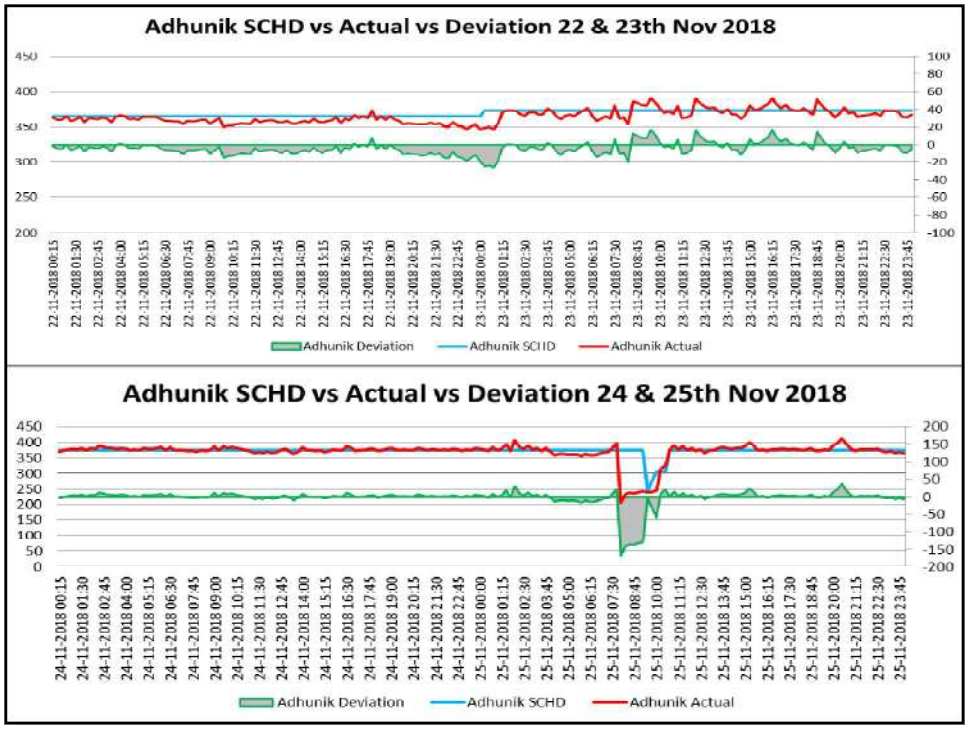
Total Number of Deviation violation and zero crossing violation messages issued during November-2018 :- 127

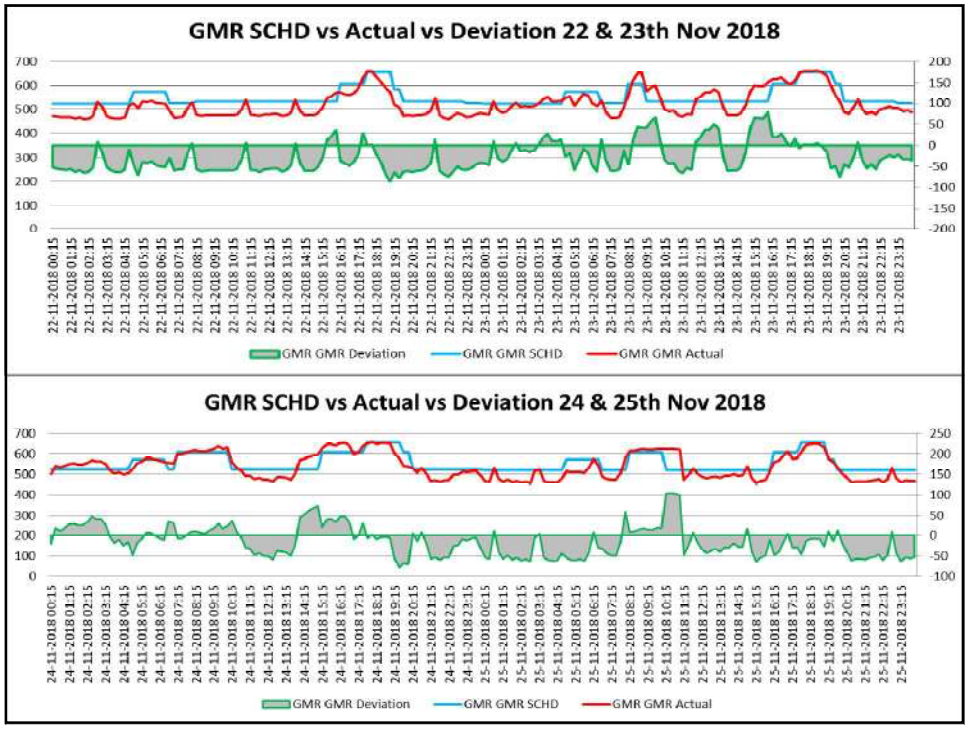
Deviation Violation Messages :- 83 & Zero Crossing Violation :- 44

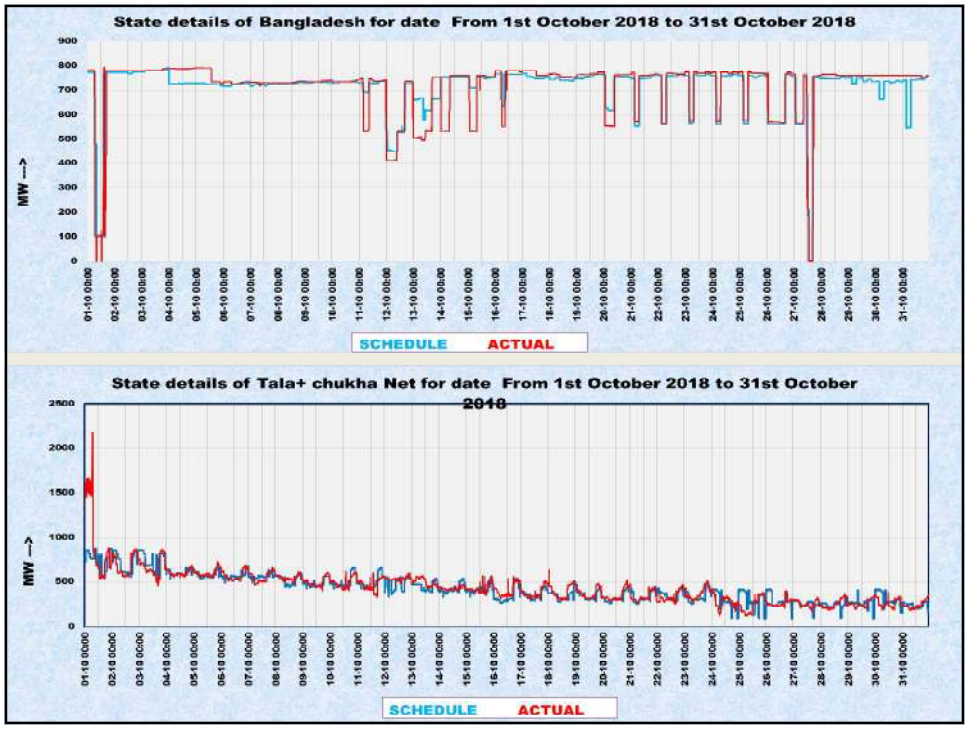

Details of DVC for date From 1st November 2018 to 10th November 2018
MW
STOA/PX :-
HYDRO/PSP :-
SCHEDULE DRAWL:-
ACTUAL DRAWL:-
Deviation:-
Details of DVC for date From 11th November 2018 to 20th November 2018
MW

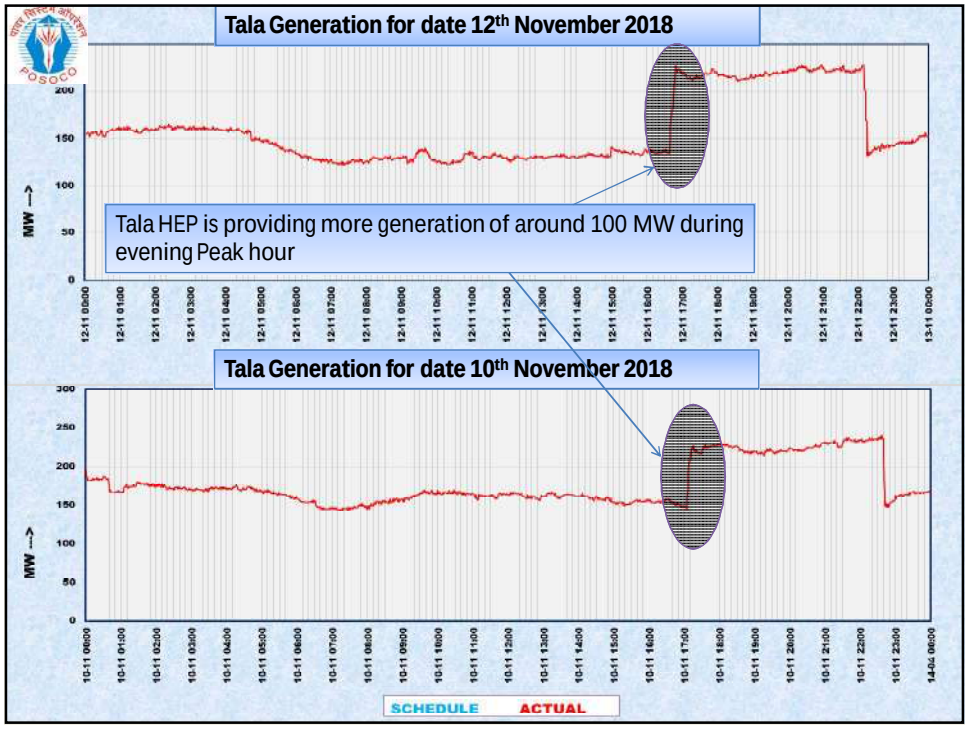

Details of Odissa for date From 1st November 2018 to 10th November 2018
MW
HYDRO/PSP :-
SCHEDULE DRAWL:-
ACTUAL DRAWL:-
Deviation:-
Details of Odissa for date From 11th November 2018 to 20th November 2018
MW

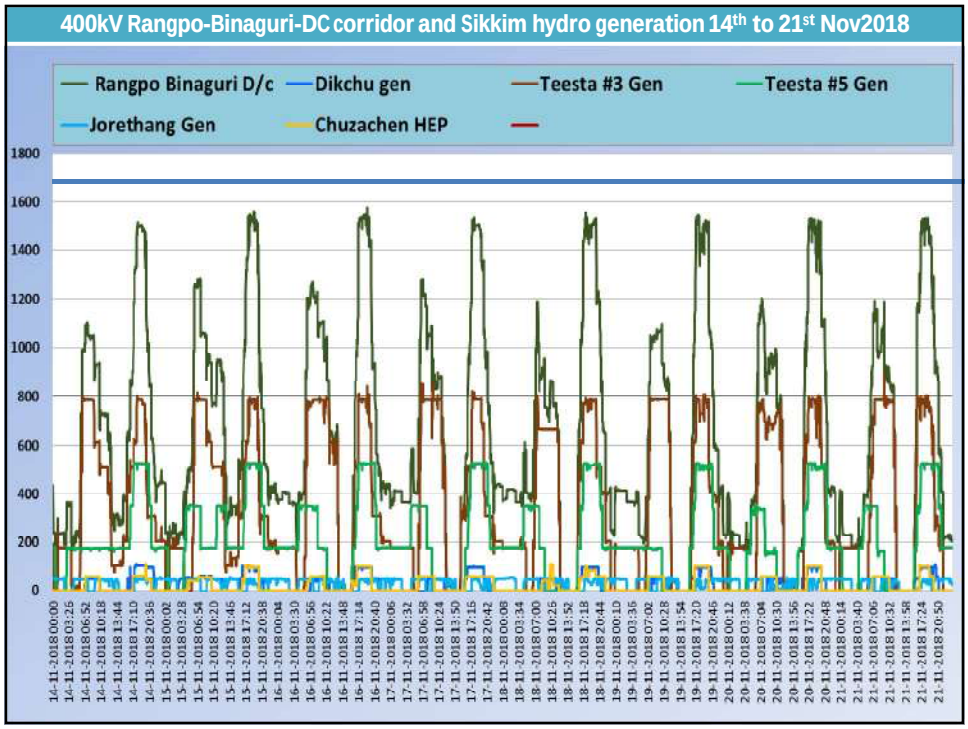

Details of West Bengal for date From 1st November 2018 to 10th November 2018
MW --->
STOA/PX :-
HYDRO/PSP :-
SCHEDULE DRAWL:-
ACTUAL DRAWL:-
Deviation:-
Details of West Bengal for date From 11th November 2018 to 20th November 2018
MW --->

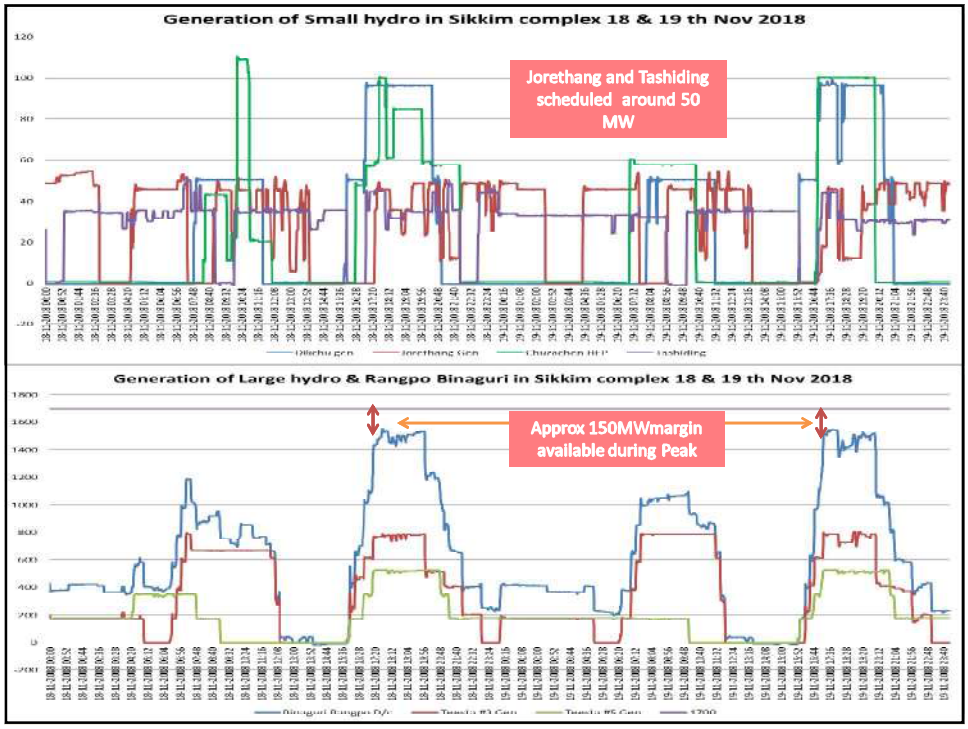

Adhunik SCHD vs Actual vs Deviation 22 & 23th Nov 2018
Adhunik Deviation
Adhunik SCHD
Adhunik Actual
Adhunik SCHD vs Actual vs Deviation 24 & 25th Nov 2018
Adhunik Deviation
Adhunik SCHD
Adhunik Actual

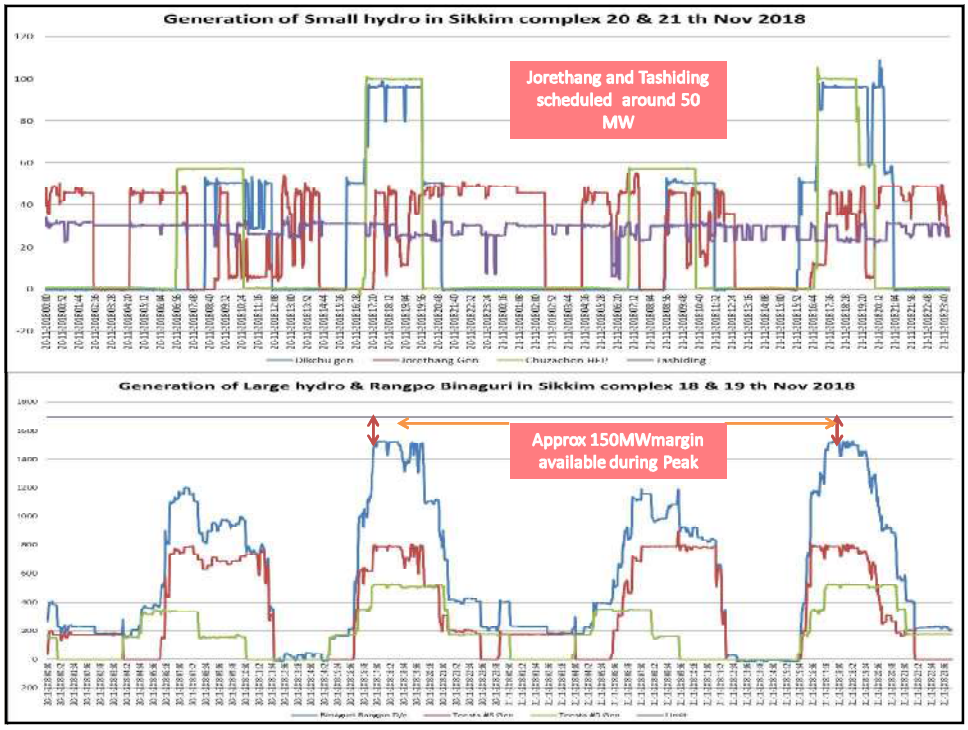

GMR SCHD vs Actual vs Deviation 22 & 23th Nov 2018
GMR GMR Deviation
GMR GMR SCHD
GMR GMR Actual
GMR SCHD vs Actual vs Deviation 24 & 25th Nov 2018
GMR GMR Deviation
GMR GMR SCHD
GMR GMR Actual


State details of Bangladesh for date From 1st October 2018 to 31st October 2018
MW --->
SCHEDULE
ACTUAL
State details of Tala+ chukha Net for date From 1st October 2018 to 31st October 2018
MW --->
SCHEDULE
ACTUAL

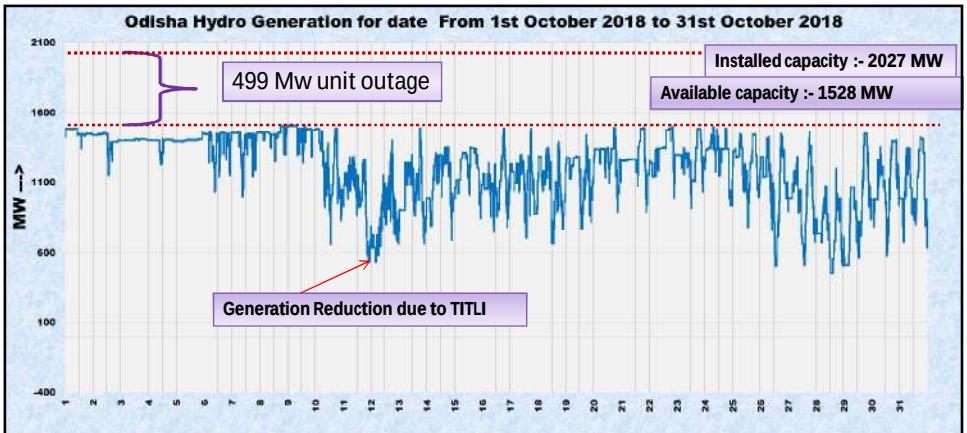

Tala Generation for date 12th November 2018
MW --->
Tala HEP is providing more generation of around 100 MW during evening Peak hour
Tala Generation for date 10th November 2018
MW --->
SCHEDULE
ACTUAL


400kV Rangpo-Binaguri-DC corridor and Sikkim hydro generation 14th to 21st Nov2018
Rangpo Binaguri D/c
Dikchu gen
Teesta #3 Gen
Teesta #5 Gen
Jorethang Gen
Chuzachen HEP

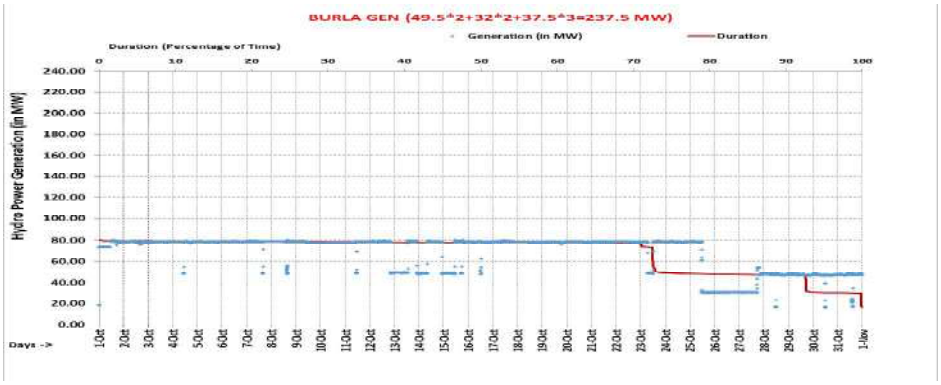

Generation of Small hydro in Sikkim complex 18 & 19 th Nov 2018
Jorethang and Tashiding scheduled around 50 MW
Generation of Large hydro & Rangpo Binaguri in Sikkim complex 18 & 19 th Nov 2018
Approx 150MWmargin available during Peak

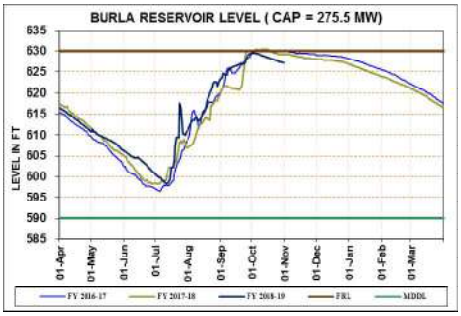

Generation of Small hydro in Sikkim complex 20 & 21 th Nov 2018
Jorethang and Tashiding scheduled around 50 MW
Generation of Large hydro & Rangpo Binaguri in Sikkim complex 18 & 19 th Nov 2018
Approx 150MWmargin available during Peak

State Hydro Generators Performance

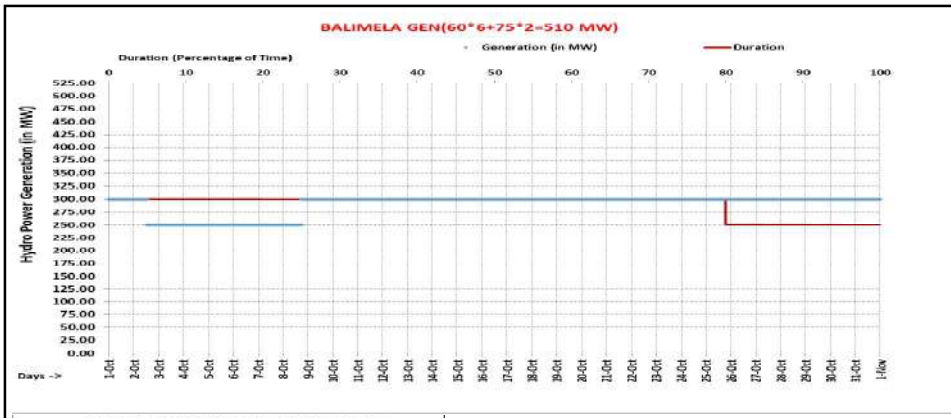


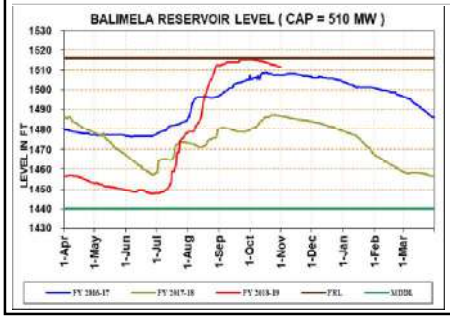
	Long Outage	Forced Outage
Burla	75 : U-5(37.5 mw), U-6(37.5 mw)	90: U-1(49.5 mw), U-2(49.5 mw)
Chipilima	24 :U-3 (24mW)	
Balimela	180 : U-1(60 mw) U-2(60Mw) U-5 (60mW)	
Rengali	50: U1(50 Mw)	
Up Kolab	80 : U-2(80 Mw)	
	409	90



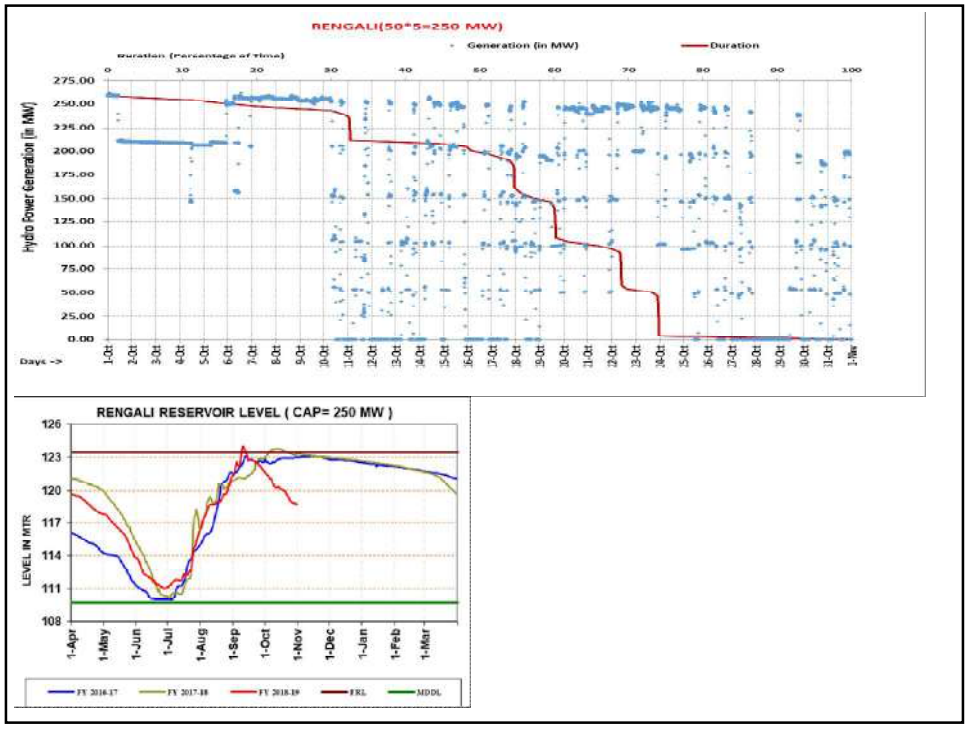


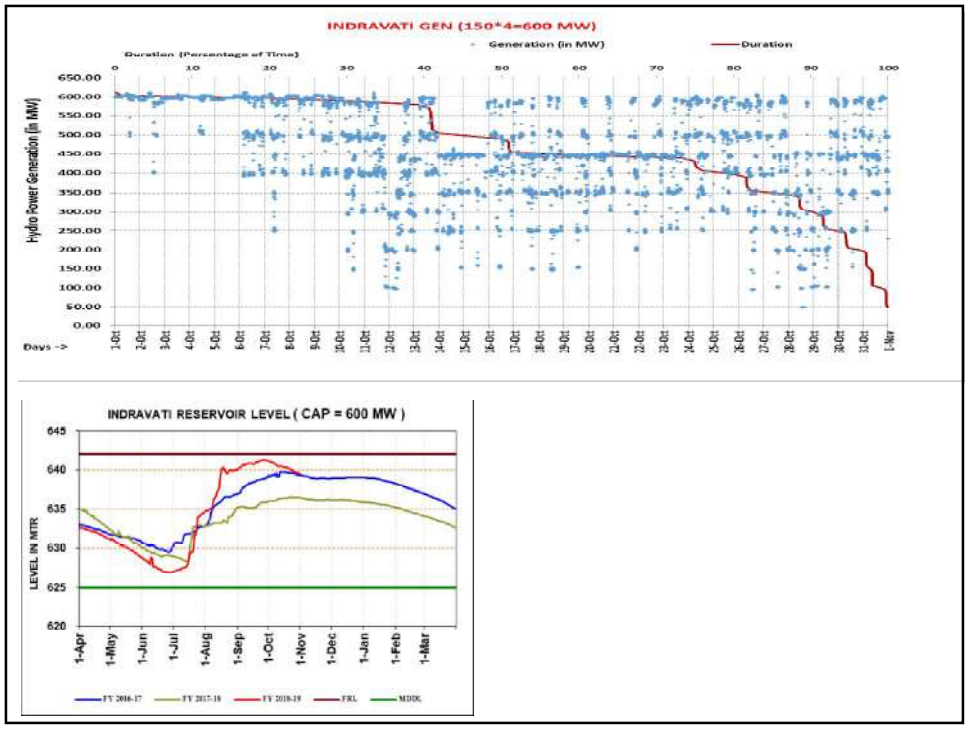
Unit No	Date of Outage	Reason
U - 1	19.11.17(19:00)	Gen. UGB oil temp high
U - 2	01.12.17(08:30)	Annual Maint.
U - 5	25.10.2016	R & M Work
U - 4	25.10.2018	Intake gate Prob
U - 6	16.10.2015	R & M Work

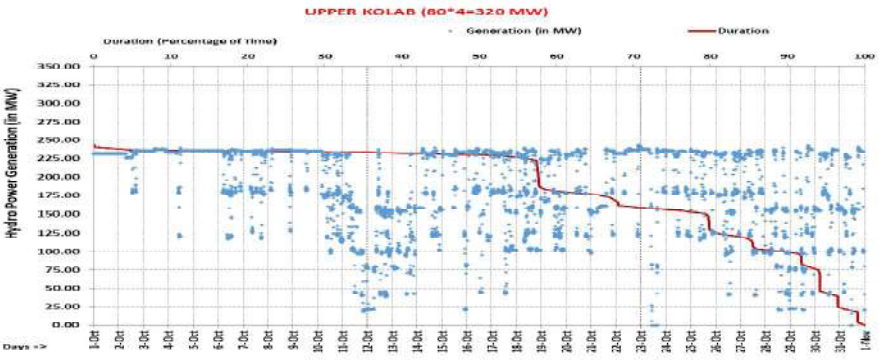


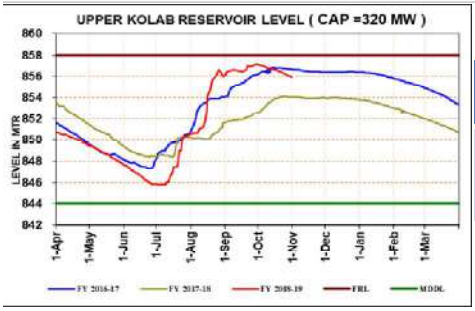


Unit No	Date of Outage	Reason
U – 1(60 MW)	05.08.16	R & M Work
U – 5 (60 MW)	12.10.17(17:30)	Vibration problem
U – 2(60 MW)	20.11.17	R & M Work

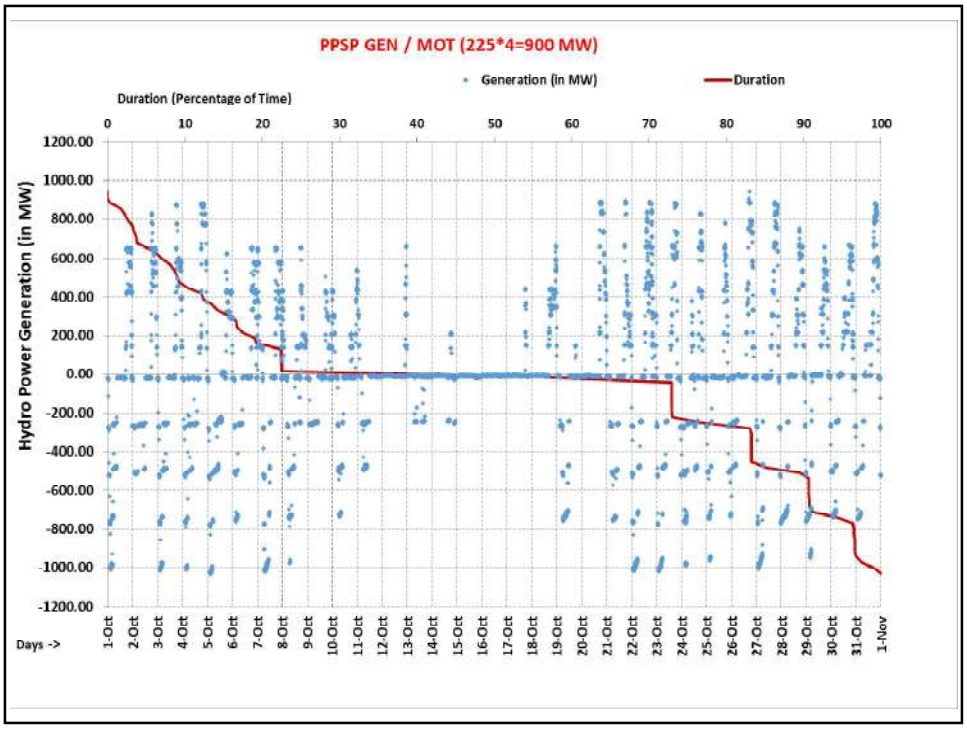

RENGALI(50*5=250 MW)
Generation (in MW)
Duration
Duration (Percentage of Time)
Hydro Power Generation (in MW)
Days ->
RENGALI RESERVOIR LEVEL (CAP= 250 MW)
LEVEL IN MTR
FY 2016-17
FY 2017-18
FY 2018-19
FRL
MDDL


INDRAVATI GEN (150*4=600 MW)
Generation (in MW)
Duration
Duration (Percentage of Time)
Hydro Power Generation (in MW)
Days ->
INDRAVATI RESERVOIR LEVEL (CAP = 600 MW)
LEVEL IN MTR
FY 2016-17
FY 2017-18
FY 2018-19
FRL
MDDL





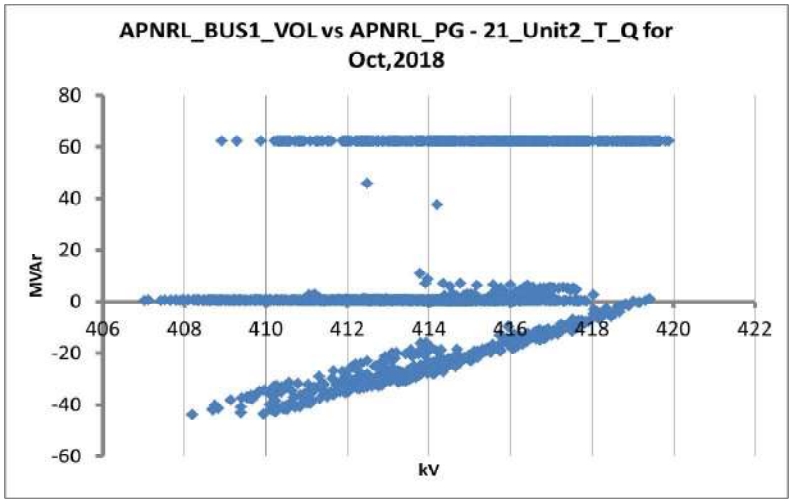
Unit No	Date of Outage	Reason
U – 2(80 MW)	28.05.2017	Repair of MIV & Draft Tube Gate leakage



Reactive power performances of various units in the month of October, 2018

Reactive power injection and terminal bus voltage are compared for various generating units in ER.

- Scatter plot is plotted with taking
  - Terminal voltage across x axis
  - Reactive power injection across y axis
  - (Nominal terminal voltage (kV), 0 MVAr) as origin
- MVAr injection should reduce with increase in terminal voltage

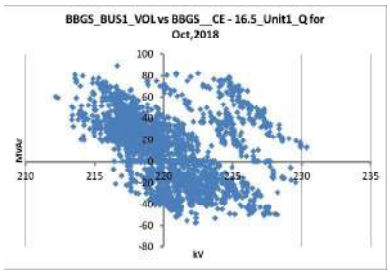


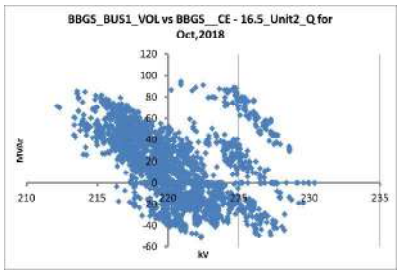
MVAr injection increases with increase in voltage. It is flagged from 149th OCC meeting. But remedial action is yet to be taken.

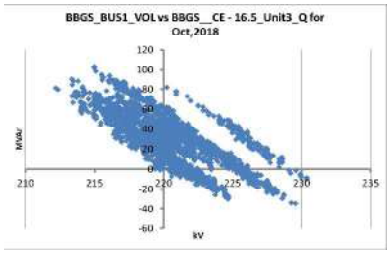
Performance of units in South Bengal in the month of October 2018

- In the month of October 2018, voltage at Jeerat and Subhasgram was lower than nominal value (400 kV) for considerable amount of time. MVAr injection by nearby units is plotted along with their bus voltage
  - **Almost all generating units injects MVAr during low voltage condition**
- Bus voltage at Farakka and Sagardighi was more than 400 kV for most of the time in October 2018.

Budge Budge units (3 x 250 MW) MVAr injection along with 220 kV bus voltage at Budge Budge

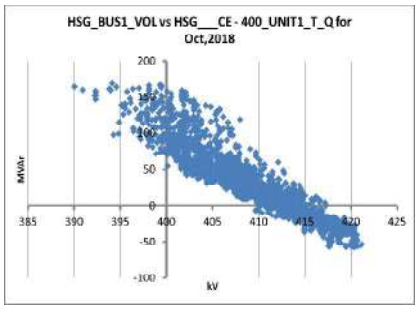


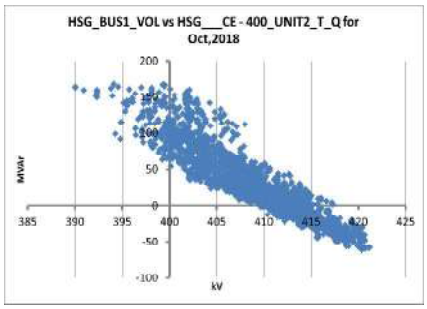




MVAr injection was around 80 MVAr (per unit) when 220 kV bus voltage was 212 kV.

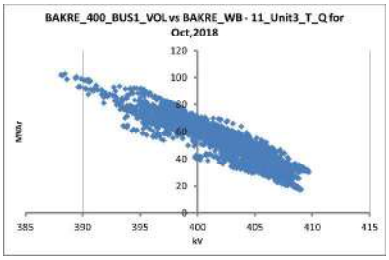
HEL units (2 x 300 MW) MVAr injection along with 400 kV bus voltage at HEL

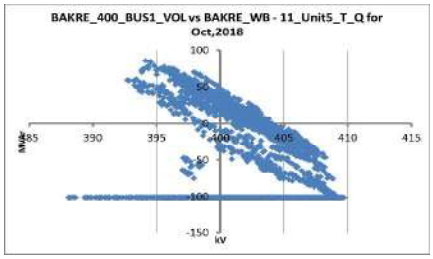


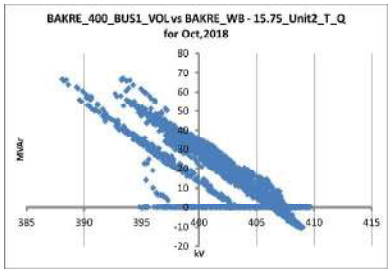


MVAr injection was around 175 MVAr(per unit) when 400 kV bus voltage was 390 kV.

Bakreswar units (5 x 210 MW) MVAr injection along with 400 kV bus voltage at Bakreswar

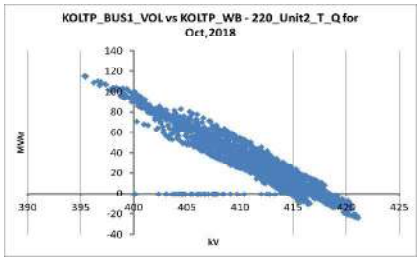


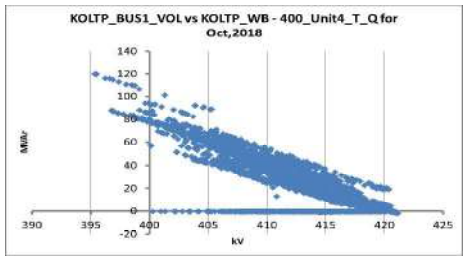




MVAr injection was around 100 MVAr (per unit) for unit 3 and 5 and around 70 MVAr (per unit) for unit 2 when 400kV bus voltage was 388 kV

KTPP units (6 x 210 MW) MVAr injection along with 400 kV bus voltage at KTPP





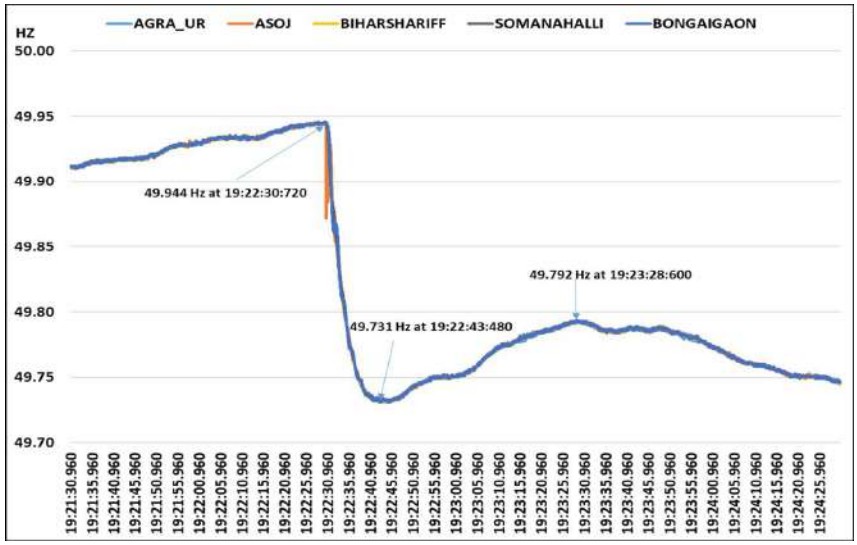
MVAr injection was around 120 MVAr (per unit) for unit 2 & 3 when 400kV bus voltage was 395 kV

Presentation on governor responses for the events in the month of October 2018

Summary

- On 30-10-18 at 19:23 hrs frequency dropped from 49.94 Hz to 49.75 Hz due to tripping of 3 x 800 MW generation at Mundra UMPP
  - Very poor response has been observed throughout the Eastern Region. FRC was only 14.2% of the ideal response
  - Even after so many discussions over Governor Response in the OCC and ERPC board meeting, there has not been any significant improvement of performance of Eastern Region Generating Station.

Frequency change during the event



Frequency Drop until Nadir Point during 0.21 Hz

Generating Station*	Responses observed (Based on analysis of data received from Generators)
Farakka STPS	RGMO **was not in service for unit I, II & III**. Unit V was not in service. Response was **not satisfactory for unit IV and VI**.
Talcher STPS	Response was **satisfactory for unit IV, V and VI**. Unit I & III were not in service. Response from **unit II was not satisfactory**.
GMR	Response was **not satisfactory for unit I & II**. 8 MW generation increase observed for 0.13 Hz frequency change (ideal response 0.13/2.5*700 = 36MW). Increased generation did not last for more than 1 second.
MPL	Response was **not satisfactory for unit I**. Unit II was not in service. Around 10 MW generation increased in 1 min for frequency drop of 0.18 Hz. Ideal response is around 27 MW
Teesta V	**Not satisfactory (11%)**
WBPDCL	Response was **not satisfactory for Bakreswar, Kolaghat, Sagardighi, Santaldih and Bandel**
DPL	Response was **not satisfactory**. Around 2 MW generation increment observed; Increased generation lasted for 4 seconds only.
CESC	**Satisfactory response not observed for BBGS units; Response from HEL was less than satisfactory level.**
DVC generating stations	Response **was not satisfactory for Mejia, CTPS B, Koderma, DSTPS and Mejia B. In RTPS, RGMO was not in service.**

***Rest of other generating stations and SLDC have not submitted the details to ERLDC**

Responses observed as in ERLDC SCADA data

Generating Station	Percentage of ideal response (Assuming 5% droop setting)	Remarks
Kahalgaon STPS I	-6.70%	Non Satisfactory
Kahalgaon STPS II	0.00%	Non Satisfactory
BARH	2.90%	Non Satisfactory
Adhunik	4.50%	Non Satisfactory
Teesta III	2.20%	Non Satisfactory
JITPL	2.80%	Non Satisfactory
BRBCL	17.60%	Non Satisfactory
DIKCHU	46.20%	Below Satisfactory
Bihar	-27.70%	Non Satisfactory
Jharkhand	-116.00%	Non Satisfactory
DVC	5.00%	Non Satisfactory
OPTCL	-29.90%	Non Satisfactory
WB	10.90%	Non Satisfactory

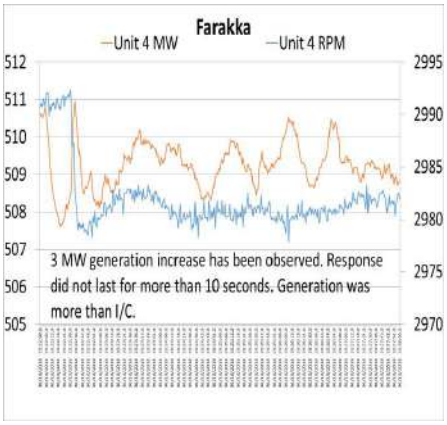
Observation & Clarification required

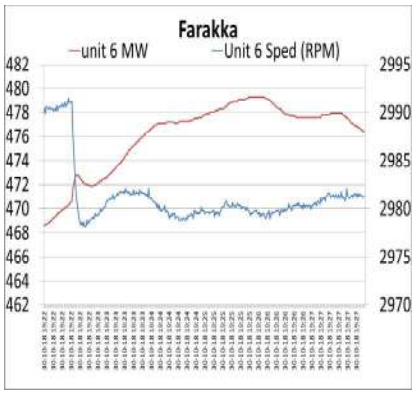
1. **Inadequate RGMO/FGMO response** for such critical Contingency and Large Frequency Drop in the grid in line with IEGC5.2.f to 5.2.i.
2. **Non-submission of data for RGMO Response** in line with IEGC 5.2.r , IEGC 5.9.4.b, CEA Technical standards for connectivity to the Grid Regulation 6.4.d, CEA Grid Standard 15.3.
3. **Non-Receipt of Computed FRC from SLDC for their Control Areas as per the Approved FRC procedure by CERC** (In line with CERC order 47/MP/2012 dated 03-05-2013)

Annexure

Responses received from ISGS for the event of loss of generation at Mundra UMPP

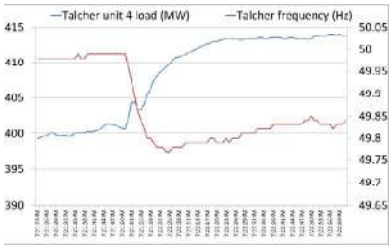
Response received from Farakka

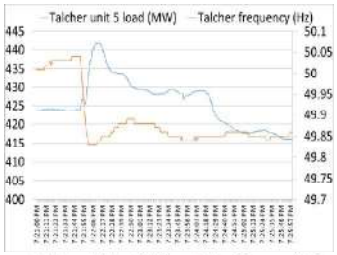


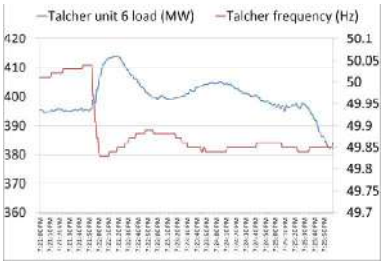


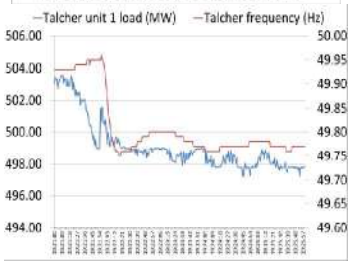
RGMO was out of service for unit 1, 2 & 3 and unit 5 was out of service

Response received from Talcher



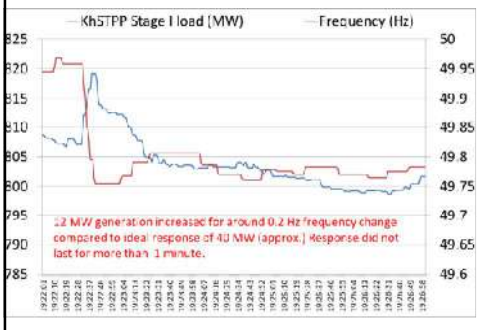


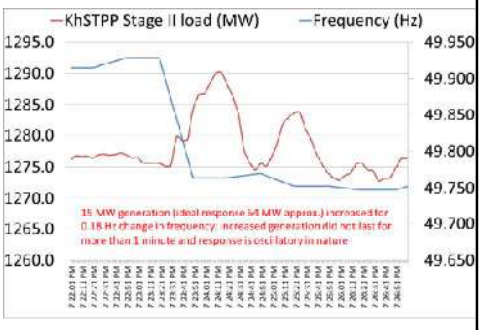




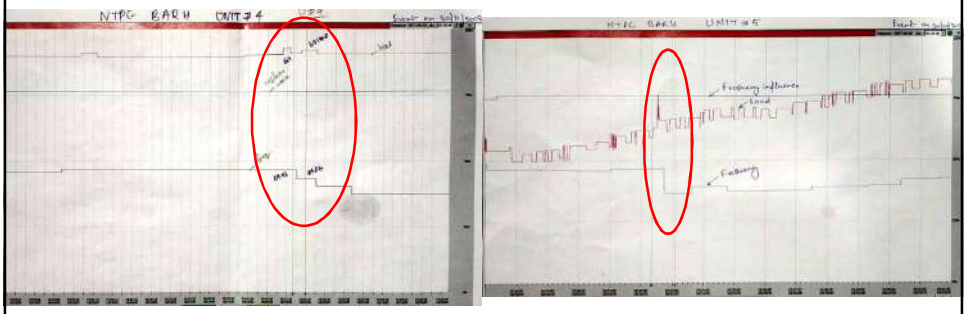
Unit 2 & 3 were out of service

Response received from Kahagaon

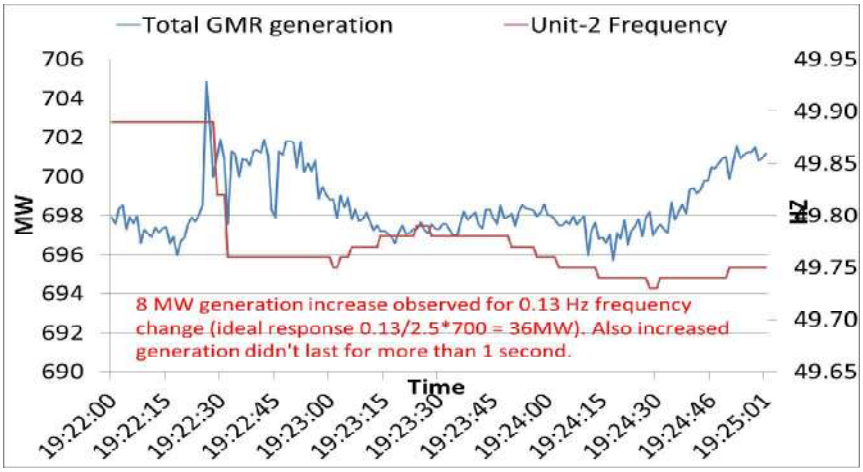




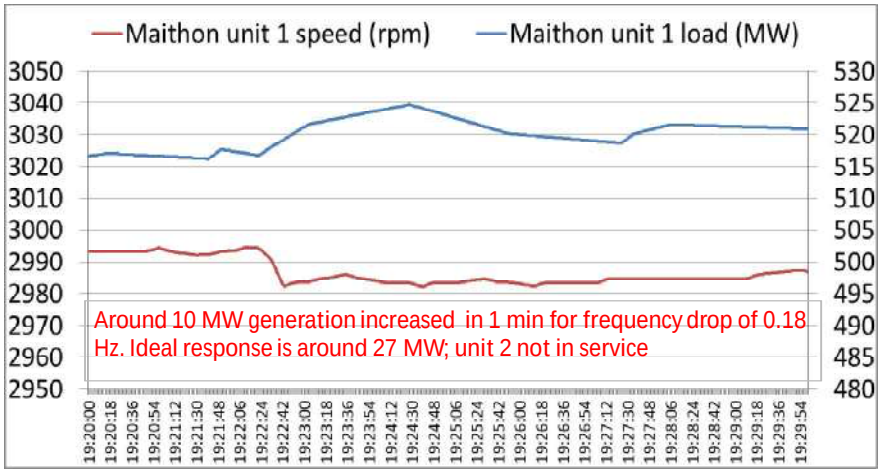
Response Received from Barh-II



Response received from GMR



Response received from MPL



Response received from Teesta V

Frequency Response Characteristic Calculation in R/o Teesta-V Power Station

On 30.10.18,at 19:22:30 Hrs, Generation loss at Mundra, UMPP

S No	Particulars	Dimension	Teesta V
1	Actual Net Interchange before the Event (19:21:07)	MW	534.67
2	Actual Net Interchange after the Event (19:22:34)	MW	538.71
3	Change in Net Interchange (2 - 1)	MW	3.8
4	Generation Loss (+) / Load Throw off (-) during the Event	MW	0.0
5	Generator Response (3 - 4)	MW	-3.8
6	Frequency before the Event	HZ	49.87
7	Frequency after the Event	HZ	49.71
8a	Change in Frequency (7 - 6)	HZ	-0.16
8	Effective change in Frequency considering RGMO *	HZ	-0.16
9	Frequency Response Characteristic (5 / 8)	MW/HZ	24
10	Net System Demand met before the Event	MW	0
11	Internal Generation before the Event (10 - 1)	MW	534.87
12	Ideal load response assuming 5% per Hz (0.05*Row 10)	MW/Hz	0.0
13	Ideal generator response assuming 5% droop.....40% per Hz (40% of Row 11)	MW/Hz	213.9
14	Composite ideal response (12 + 13)	MW/Hz	213.9
15	Percentage of ideal response {(9/14)x100}	%	11.2%

Annexure-A1.6

Response Based on SCADA Data:

Generating Station	Percentage of ideal response (Assuming 5% droop setting)	Remarks
Kahalgaon STPS I	-6.70%	Non Satisfactory
Kahalgaon STPS II	0.00%	Non Satisfactory
BARH	2.90%	Non Satisfactory
Adhunik	4.50%	Non Satisfactory
Teesta III	2.20%	Non Satisfactory
JITPL	2.80%	Non Satisfactory
BRBCL	17.60%	Non Satisfactory
DIKCHU	46.20%	Non Satisfactory
Bihar	-27.70%	Non Satisfactory
Jharkhand	-116.00%	Non Satisfactory
DVC	5.00%	Non Satisfactory
OPTCL	-29.90%	Non Satisfactory
WB	10.90%	Non Satisfactory
SIKKIM	50.70%	Non Satisfactory

(*Based on ERLDC SCADA Data)

Response from High-Resolution Data:

Generating Station	Responses observed
Farakka STPS	RGMO was **not in service for unit I, II & III**. Unit V was not in service. Response was **not satisfactory for unit IV and VI**.
Talcher STPS	Response was **satisfactory for unit IV, V and VI**. Unit I & III were not in service. Response from **unit II was not satisfactory**.
GMR	Response was **not satisfactory for unit I & II**. 8 MW generation increase observed for 0.13 Hz frequency change (ideal response 0.13/2.5*700 = 36MW). Increased generation did not last for more than 1 second.
MPL	Response was **not satisfactory for unit I**. Unit II was not in service. Around 10 MW generation increased in 1 min for frequency drop of 0.18 Hz. Ideal response is around 38 MW
Teesta V	**Data received not in proper format**; could not be analysed

WBPDCL	Response was **not satisfactory for Bakreswar, Kolaghat, Sagardighi, Santaldih and Bandel**
DPL	Response was **not satisfactory**. Around 2 MW generation increment observed; Increased generation lasted for 4 seconds only.
CESC	**Satisfactory response not observed for BBGS units; Response from HEL was less than satisfactory level.**
DVC generating stations	Response **was not satisfactory for Mejia, CTPS B, Koderma, DSTPS and Mejia B. In RTPS, RGMO was not in service.**

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

Generation Projection (Jan 2019 - Mar 2019)

				Generation declared Commercial from 1st Apr'18 to 30th Sep'18					Generation declared/expected to be declared Commercial from 1st Oct'18 to 31st Dec'18								
Sl. No.	Entities	Region	Projections based on 3 Years Data	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Sub Total	TOTAL	Comments From DICs /Others (if any)	Figure as per Comments/ PoC Data	Projected Generation before normalization w.r.t projected All India Peak Demand
			(MW)			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)	(MW)			(MW)
1	West Bengal	ER	5628											5628			5628
2	Odisha	ER	3173											3173	As per data givrn by Odisha	3107	3107
3	Bihar	ER	374						Brauni Extn	8	250	164	164	537			537
4	Jharkhand	ER	422											422			422
5	Sikkim	ER	0											0			0
6	Chujachan	ER	87											87	As per CERC order dated: 22.06.2017	99	99
7	DVC	ER	4259											4259	As per data given by DVC	4087	4087
8	Durgapur Steel	ER															
9	Koderma TPP	ER															
10	Bokaro TPS	ER															
11	Raghunathpur	ER															
12	MPL	ER	1017											1017			1017
13	Teesta V	ER	536											536	As per data givrn by NHPC		536
14	Kahalgaon	ER	2196											2196	As per NTPC		2196
15	Farakka	ER	1936											1936			1936
16	Talcher	ER	967											967	Restricted to the generation(Installed Capacity-NAC)	942	942
17	Rangit	ER	63											63	As per data givrn by NHPC		63
18	Adhunik Power	ER	415											415			415
19	Barh	ER	1294											1294			1294
20	Kamalanga TPP (GMR)	ER	591											591			591
21	JITPL	ER	918											918			918
22	Jorethang	ER	62											62			62

Generation Projection (Jan 2019 - Mar 2019)

				Generation declared Commercial from 1st Apr'18 to 30th Sep'18					Generation declared/expected to be declared Commercial from 1st Oct'18 to 31st Dec'18								
Sl. No.	**Entities**	**Region**	**Projections based on 3 Years Data**	**Bus Name**	**Unit No.**	**Installed Capacity**	**Gen. considered**	**Sub Total**	**Bus Name**	**Unit No.**	**Installed Capacity**	**Gen. considered**	**Sub Total**	**TOTAL**	**Comments From DICs /Others (if any)**	**Figure as per Comments/ PoC Data**	**Projected Generation before normalization w.r.t projected All India Peak Demand**
			(MW)			**(MW)**	**(MW)**	**(MW)**			**(MW)**	**(MW)**	**(MW)**	**(MW)**			**(MW)**
23	**Bhutan**	**ER**	287											287			287
24	**Teesta-III**	**ER**	975											975	As per CERC order dated: 22.06.2017	782	782
		ER															
		ER															
		ER															
		ER															
		ER															
25	**Dikchu HEP**	**ER**	70											70			70
26	**Nabinagar BRBCL**	**ER**	271	Nabinagar BRBCL	2	250	164	164						434			434
27	**Tashiding HEP**	**ER**	66											66			66
28	**Kanti Bijlee Stg-2 (KBUNL)**	**ER**															0
	TOTAL		**25608**					**164**					**164**	**25935**			**25491**

Note:

1. Projections are based on monthly maximum injection in the last 3 years from actual metered data.
2. Generation forecast has been done based on the following criteria
(i) If there is an increasing trend then last year average generation has been considered
(ii) Otherwise average of past three year average generation has been considered
3. In case of new generators where past data was not available following has been assumed
(i) 0.7 plf for hydro generators
(ii) 0.7 plf for thermal generators.
(iii) 0.3 plf for gas stations

DEMAND FORECAST USING PAST 3 YEARS DATA (Jan 2019 - Mar 2019)

										1	2	3	4		
	2015-16			2016-17			2017-18								
	Jan-16	Feb-16	Mar-16	Jan-17	Feb-17	Mar-17	Jan-18	Feb-18	Mar-18	2015-16 Average	2016-17Average	2017-18 Average	Projected Demand for (Jan 2019 - Mar 2019) before normalization	Data given by DICs	Comments
Bihar	3,484	3,278	3,419	3,535	3,543	3,715	4,343	4,346	4,469	3,394	3,598	4,386	4,785		
DVC	2,421	2,381	2,473	2,457	2,570	2,663	2,886	2,758	2,896	2,425	2,563	2,847	3,033	2979	As per data given by DVC
Jharkhand	1,117	1,102	1,153	1,121	1,165	1,148	1,192	1,175	1,162	1,124	1,145	1,176	1,201		
Odisha	3,739	3,931	4,091	3,896	3,847	3,989	3,931	4,109	4,402	3,920	3,911	4,147	4,220	4114	As per data given by Odisha
West Bengal	6,240	6,858	7,443	6,078	7,036	7,840	6,357	6,879	8,083	6,847	6,985	7,106	7,239		
Sikkim	109	109	109	91	91	91	94	96	88	109	91	93	81		

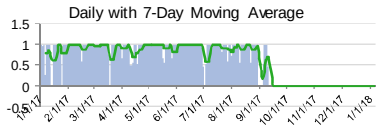
Notes

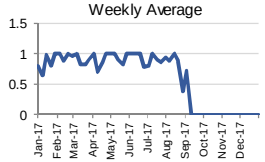
1. Projections are based on the past 3 years' monthly Peak Demand Met data available on the website of CEA
2. The above projections are being done for financial year 2018-2019 (Q4) i.e Jan 2019- Mar 2019
3. Projections are being done based on the forecast function available in MS Office Excel
4. CEA Reports can be accessed from the following links:

http://www.cea.nic.in/reports/monthly/powersupply/2018/psp_peak-01.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2018/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2018/psp_peak-03.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2017/psp_peak-01.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2017/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2017/psp_peak-03.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-01.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2016/psp_peak-03.pdf

Percentage data availability of New Farakka SAS for the year 2017 & 2018

From 01-01-17
To 06-01-18



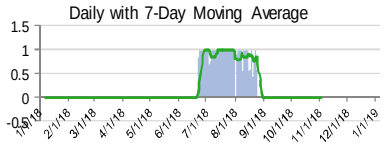


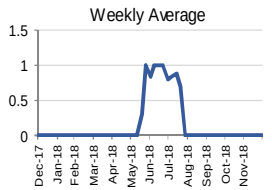
2017

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Weekly Average
Jan	100%	100%	58%	96%	100%	26%	70%	79%
	100%	100%	100%	100%	48%	0%	0%	64%
	81%	100%	100%	100%	100%	100%	100%	97%
	100%	100%	53%	2%	100%	100%	100%	79%
Feb	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	52%	59%	100%	100%	87%
	100%	91%	100%	100%	100%	100%	100%	99%
Mar	100%	100%	100%	100%	66%	100%	100%	95%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	75%	0%	82%
	0%	67%	100%	100%	100%	100%	100%	81%
Apr	100%	100%	100%	100%	100%	58%	66%	89%
	100%	100%	100%	100%	100%	94%	100%	99%
	100%	48%	42%	50%	55%	100%	100%	71%
	100%	100%	51%	53%	100%	100%	100%	86%
May	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	68%	56%	100%	100%	89%
	100%	100%	100%	100%	99%	67%	11%	82%
Jun	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
Jul	100%	100%	100%	100%	100%	47%	0%	78%
	0%	53%	100%	100%	100%	100%	100%	79%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	82%	100%	90%
Aug	100%	100%	100%	100%	100%	44%	100%	86%
	100%	72%	88%	100%	100%	100%	100%	94%
	100%	100%	100%	100%	100%	100%	100%	87%
	100%	100%	100%	100%	100%	100%	100%	100%
Sep	100%	62%	33%	100%	100%	100%	100%	88%
	100%	100%	67%	0%	0%	0%	0%	38%
	0%	51%	100%	100%	100%	100%	45%	71%
	0%	0%	0%	0%	0%	0%	0%	0%
Oct	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
Nov	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
Dec	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%

Stopped reporting since 10-9-2017

From 01-01-18
To 05-01-19





2018

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Weekly Average
Dec	-	0%	0%	0%	0%	0%	0%	0%
Jan	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
Feb	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
Mar	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
Apr	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
May	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%
Jun	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	31%	100%	100%	31%
	100%	92%	100%	100%	100%	100%	100%	99%
	100%	100%	100%	69%	76%	100%	100%	84%
Jul	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	100%	100%	100%	100%	100%	100%
	100%	100%	76%	0%	91%	89%	100%	79%
Aug	100%	100%	100%	63%	56%	61%	100%	84%
	100%	100%	100%	100%	55%	58%	100%	87%
	100%	44%	81%	100%	100%	58%	0%	69%
	0%	0%	0%	0%	0%	0%	0%	0%

Restored on 21-06-2018

Again Stopped reporting since 24-08-2018

Unit 6 (Stage #3) , LV side MW and MVAr data yet to be integrated with SAS for reporting to ERLDC.

Talcher STPS related matter

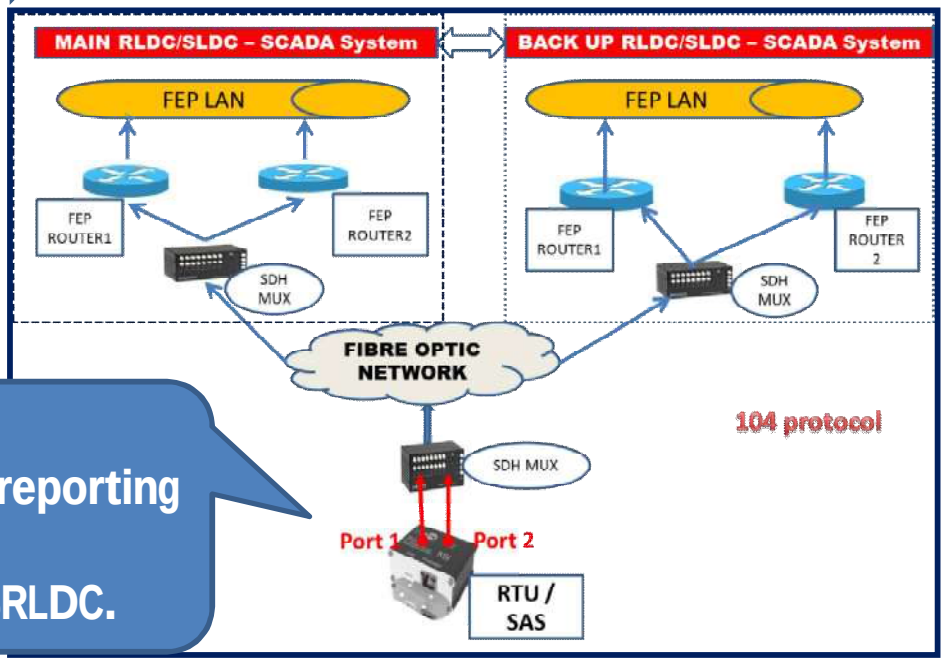
1. Non availability of elementary SCADA data

Sl No.	Feeder Name	Measurement
1	400kv Rourkela -1	MVAr
2	400/11 kV Station transformer #3	MVAr
3	400/11 kV Station transformer #4	MVAr
4	400kvV Bus Sectionalizer of Bus 2 of stage 1 and Bus 2 of stage 2	MW & MVAr
5	GT - 6 (UNIT-6)	MVAr

These elements are not updating due to transducer failure at Talcher STPS site.

2. Frequent failure of Talcher SCADA data

Talcher STPS real time SCADA data to ERLDC is inconsistent. Same port is being used at Talcher end for reporting SCADA data to SRLDC & ERLDC as well through switch. Broadcasting has been observed and data hampered at both RLDCs.



Resolution:

1. **Port 1 & Port 2 should be dedicated for reporting to ERLDC Main CC and ERLDC Back up CC**
2. **Separate port for reporting of SCADA to SRLDC.**

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

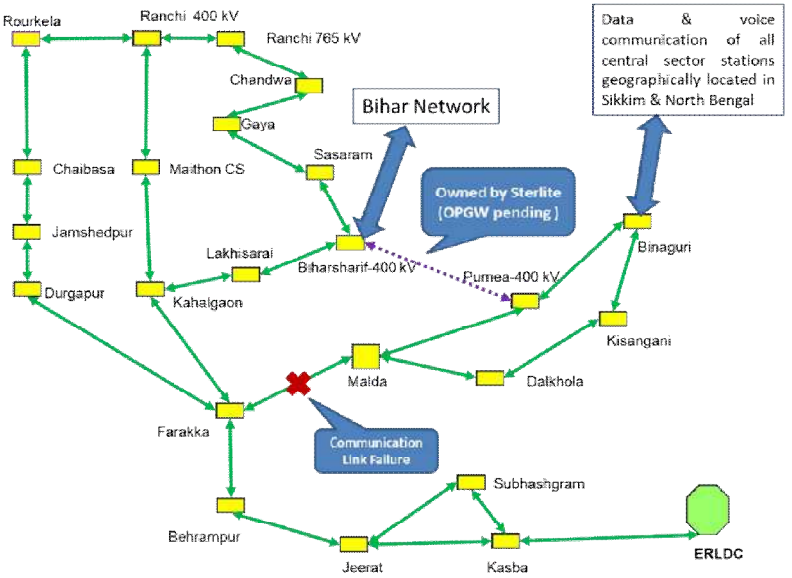
141st OCC: Event was reported by ERLDC.

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

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

Pending work to be done by ENICL: Laying of approach cable inside the POWERGRID sub stations & termination at both end to communication Mux.

Event



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

ENICL & POWERGRID may update.

Bay swapping of feeders/reactors position of POWERGRID S/S in ER

S No	Name of the S/S	Observation	SCADA Database & Display Modified	EMS Database Modified (Y/N)
1	Angul 765/400 kV	i. Bays of Jharsguda 3 & 4 was swapped several times. Presently, Jharsuguda-3 and Jharsuguda-4 bays are swapped.	Pending	Pending
2	Jeypore 400 kV	i. Bay number swapped in Bolangir and Gazuwaka Line. ii. Bay of Bolangir and Gazuwaka connected to different bus.	SCADA database updated, Display Modified	Pending
3	Keonjhar 400 kV	No Discrepancy Observed	N. A.	N. A.
4	Rourkela 400 kV	i. Bay number swapped in Jharsuguda-3 and Jharsuguda-4. ii. Jharsuguda-4 and associated B/R connected to wrong Bus. iii. ICT-3 not shown in S/S SLD. iv. L/R rating to be written in SCADA. v. Bay number to be corrected for whole SCADA SLD. vi. B/R & ICT number not written in S/S SLD.	Pending	Pending
5	Indravati 400 kV	i. Bay Number needs to changed for Jaypore and Rengali line. ii. Rengali line reactor is switchable one.	SCADA database updated, Display Modified	Pending
6	Jharsuguda 765/400 kV	i. Multiple discrepancies observed mostly due to bay swapping(Angul line 3 & 4), change of names etc.	Display Modified	N. A.
7	Bolangir 400 kV	i. No bay number shown in SCADA SLD. ii. Rating of Angul L/R to be written in SCADA SLD.	Pending	Pending
8	Baripada 400 kV	i. Bay number needs to change for 125 MVAR reactor 1 and ICT3. ii. Line reactor of Duburi is switchable for which CB has to be added in SCADA and EMS database.	SCADA database updated, Display Modified	Pending
9	Rengali 400 kV	i. Bay number needs to be changed for ICT-1 ,&2	Display Modified	N. A.

Non availability of SCADA data above 220 kV Level

WBSETCL

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

Non availability of SCADA data above 220 kV Level

- **BIHAR**
  - Kishanganj 220kV : (OPGW termination issue)
  - Sonenagar 220kV : (Communication issue. Target data given as 30-09-2018)
- **Odisha**
  - Narsingpur 220kV Station commissioned on 24-08-2018. SCADA data yet to be integrated at Odissa SLDC end.
  - Nalco 220kV : Most of CB and Isolator data are not available
  - Jindal Steel and Power Limited (JSPL): Most of CB and Isolator data are not available
- **JHARKHAND**
  - Hatia New 220 : RTU not reporting to SLDC.
  - Dumka 220 : RTU not yet integrated at Jharkhand SLDC.
- **DVC**
  - TISCO 400kV : Not reporting to DVC SLDC/ERLDC since 14-07-2018.

S.No.	Name of Utility	Location	Name of Station	Unit No.	Capacity (MW)	COD Date (DD/MM/YYYY)	Boiler Make	Turbine Make	Mills Type	Coal Source (s)	Grade of Coal	ECR (Rs./kWh)	Average PLF of last one year	Average Heat Rate (kcal/kWh)	Average APC (%)	Minimum Load (MW) capability	Minimum Load (%) capability	Maximum Ramp Rate (MW/min) capability
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Annexure-D.1

Anticipated Power Supply Position for the month of
Dec-18

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	3800	2189
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	380	251
		- Central Sector	2763	1627
	iii)	SURPLUS(+)/DEFICIT(-)	-657	-311
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1250	800
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	341	167
		- Central Sector	758	423
	iii)	SURPLUS(+)/DEFICIT(-)	-151	-210
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2800	1760
	ii)	NET POWER AVAILABILITY- Own Source	4500	2864
		- Central Sector	298	170
		Long term Bi-lateral (Export)	1384	1030
	iii)	SURPLUS(+)/DEFICIT(-)	614	244
4		**ODISHA**		
	i)	NET MAX DEMAND	4000	2344
	ii)	NET POWER AVAILABILITY- Own Source	2981	1286
		- Central Sector	1123	638
	iii)	SURPLUS(+)/DEFICIT(-)	104	-420
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	4600	2612
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	4600	2612
	iv)	NET POWER AVAILABILITY- Own Source	3610	2105
		- Import from DPL	123	0
		- Central Sector	1858	1005
	v)	SURPLUS(+)/DEFICIT(-)	990	498
	vi)	EXPORT (TO B'DESH & SIKKIM)	210	7
5.2		**DPL**		
	i)	NET MAX DEMAND	240	156
	ii)	NET POWER AVAILABILITY	363	187
	iii)	SURPLUS(+)/DEFICIT(-)	123	31
5.3		**CESC**		
	i)	NET MAX DEMAND	1480	694
	ii)	NET POWER AVAILABILITY - OWN SOURCE	460	400
		FROM HEL	540	348
		FROM CPL/PCBL	45	0
		Import Requirement	435	0
	iii)	TOTAL AVAILABILITY	1480	748
	iv)	SURPLUS(+)/DEFICIT(-)	0	54
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	6320	3462
	ii)	NET POWER AVAILABILITY- Own Source	4433	2693
		- Central Sector+Others	2878	1353
	iii)	SURPLUS(+)/DEFICIT(-)	990	584
7		**SIKKIM**		
	i)	NET MAX DEMAND	90	38
	ii)	NET POWER AVAILABILITY- Own Source	1	0
		- Central Sector+Others	123	58
	iii)	SURPLUS(+)/DEFICIT(-)	34	20
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	17728	10593
		Long term Bi-lateral by DVC	1384	1030
		EXPORT BY WBSEDCL	210	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	20578	11529
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1256	-101

KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED IN 151TH OCC MEETING OF ERPC

		FROM		TO					
SL. No	**NAME OF THE ELEMENTS**	**DATE**	**TIME**	**DATE**	**TIME**	**REMARKS**	**S.D availed BY**	**Reason**	**SUBJECT TO CONSENT FROM AGENCY**
1	400KV Sagardighi Farakka-2	01-12-2018	09:00	01-12-2018	17:00	ODB	Powergrid, ER-II	Additional SAS configuration as per WBPDCL requirement.	**WB**
2	400KV Sagardighi Jeerat Line S/C	06-12-2018	09:00	06-12-2018	17:00	ODB	Powergrid, ER-II	A/R Relay retrofitting at WBSETCL Jeerat End	**WB**
3	125MVAR BUS REACTOR at Baharampore	12-12-2018	09:00	12-12-2018	17:00	ODB	Powergrid, ER-II	CSD FINAL TUNING OF 125 MVAR B/R.	
4	400 KV Sagardighi-Berhmpore Ckt-2	13-12-2018	09:00	13-12-2018	17:00	ODB	Powergrid, ER-II	AMP at Baharampore & Sagardighi	**WB**
5	400kV Bus-1 at Baharampore	20-12-2018	09:00	20-12-2018	17:00	ODB	Powergrid, ER-II	AMP	**NLDC**
6	400 KV BUS-I of NTPC Farakka	01-12-2018	09:00	01-12-2018	18:00	ODB	Powergrid, ER-II	For disconnecting BUS isolator of bay no-22 from BUS-I (For augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	
7	400 KV Farakka- Kahalgaon-I line	03-12-2018	10:00	03-12-2018	18:00	ODB	Powergrid, ER-II	For disconnecting bay-22 (Main Bay of 400 KV Farakka-Kahalgaon-I) from line side for augmentation of Isolator & CT from 2000A to 3150 A rating under ERSS-XV	
8	400 KV BUS-I of NTPC Farakka	28-12-2018	09:00	28-12-2018	18:00	ODB	Powergrid, ER-II	For connecting BUS isolator of bay no-22 to BUS-I (After augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XV projects).	
9	315 MVA ICT#1 at Subhasgram S/s	01-12-2018	09:00	01-12-2018	15:00	ODB	Powergrid, ER-II	Retrofitting of Numerical REF Relay.	**WB**
10	315 MVA ICT#2 at Subhasgram S/s	03-12-2018	09:00	04-12-2018	15:00	ODB	Powergrid, ER-II	Retrofitting of Numerical REF Relay.	**WB**
11	315 MVA ICT#3 at Subhasgram S/s	05-12-2018	09:00	06-12-2018	15:00	ODB	Powergrid, ER-II	Painting of ICT (Asset belongs to CESC).	**WB**
12	315 MVA ICT#4 at Subhasgram S/s	07-12-2018	09:00	08-12-2018	15:00	ODB	Powergrid, ER-II	Painting of ICT (Asset belongs to CESC).	**WB**
13	500 MVA ICT#5 at Subhasgram S/s	10-12-2018	09:00	11-12-2018	15:00	ODB	Powergrid, ER-II	CSD Fine Tuning.	**WB**
14	50 MVAR Line Reactor at Subhasgram S/s	12-12-2018	09:00	13-12-2018	15:00	ODB	Powergrid, ER-II	Retrofitting of Numerical REF Relay and CSD fine tuning.	
15	400 KV Subhasgram Jeerat Line	14-12-2018	09:00	14-12-2018	17:30	ODB	Powergrid, ER-II	A/R Relay retrofitting at Subhasgram end	**WB**
16	400 KV Subhasgram Sagardighi Line	15-12-2018	09:00	15-12-2018	17:30	ODB	Powergrid, ER-II	A/R Relay retrofitting at Subhasgram end	**WB**
17	400 KV Jeerat Subhasgram Line	17-12-2018	09:00	17-12-2018	17:30	ODB	Powergrid, ER-II	A/R Relay retrofitting at WBSETCL Jeerat End	**WB**
18	220KV Bus Coupler Bay (Bay No.204) at Powergrid,Subhasgram	19-12-2018	09:00	19-12-2018	17:30	OCB	Powergrid, ER-II	CGL make CB Overhauling	**WB**
19	400 KV Bus -1 at Binaguri	01-12-2018	08:00	07-12-2018	18:00	ODB	Powergrid, ER-II	SS03 construction works, 400 KV Busbar relay Replacement	
20	400 KV Bus -2 at Binaguri	08-12-2018	08:00	14-12-2018	18:00	ODB	Powergrid, ER-II	SS03 construction works, 400 KV Busbar relay Replacement	
21	220 KV Siliguri Kishanganj ckt 1	12-05-18	08:00	06-12-2018	18:00	ODB	Powergrid, ER-II	Line defect rectification	
22	220 KV Siliguri Kishanganj ckt 2	12-07-18	08:00	08-12-2018	18:00	ODB	Powergrid, ER-II	Line defect rectification	
23	132 KV Siliguri-Melli	12-01-18	09:00	02-12-2018	18:00	ODB	Powergrid, ER-II	Line defect rectification for hill sinking issue.	**SIKKIM**
24	132 KV Siliguri-Kurseong	12-04-18	09:00	05-12-2018	18:00	ODB	Powergrid, ER-II	Line defect rectification for hill sinking issue.	**WB**
25	400 KV Binaguri Bongaigaon Ckt-1	12-10-18	09:00	10-12-2018	18:00	ODB	Powergrid, ER-II	Line AMP works, SIR compliance	**NLDC**
26	400 KV Binaguri Bongaigaon Ckt-2	12-11-18	09:00	11-12-2018	18:00	ODB	Powergrid, ER-II	Line AMP works , SIR compliance	**NLDC**
27	400 KV Binaguri Purnea Ckt-1	12-15-18	08:00	20-12-2018	18:00	ODB	Powergrid, ER-II	CLR insulator replacement work	
28	400 KV Binaguri Purnea Ckt-2	12-21-18	08:00	26-12-2018	18:00	ODB	Powergrid, ER-II	CLR insulator replacement work	

29	400KV Binaguri Kishanganj Ckt-1	12-13-18	10:00	12-12-2018	16:00	ODB	Powergrid, ER-II	Auto reclosure relay retrofitting	**ON LINE RETROFITTING MAY BE EXPLORED**
30	400KV Binaguri Kishanganj Ckt-2	12-13-18	10:00	13-12-2018	16:00	ODB	Powergrid, ER-II	Auto reclosure relay retrofitting	**ON LINE RETROFITTING MAY BE EXPLORED**
31	220 KV S/C Birpara-Malbase Feeder	26-12-2018	08:00	26-12-2018	17:30	ODB	Powergrid, ER-II	Plcement of New A/H at all Tension Tower	**NLDC**
32	220KV D/C BIRPARA -Chukha D/C	27-12-2018	08:00	28-12-2018	17:30	ODB	Powergrid, ER-II	Plcement of New A/H at all Tension Tower	**NLDC**
33	400KV TALA-NSLG -FEEDER -I	19-12-2018	08:00	20-12-2018	17:30	ODB	Powergrid, ER-II	Balance Insulator replacement at loc-71, 128, 131 by CLR Insulator inplace of Polymer Insulator.	**NLDC**
34	400KV TALA-NSLG -FEEDER -II	21-12-2018	08:00	22-12-2018	17:30	ODB	Powergrid, ER-II	Balance Insulator replacement at loc-128 & 149 by CLR Insulator inplace of Polymer Insulator.	**NLDC**
35	400KV TALA-NSLG -FEEDER -III	23-12-2018	08:00	24-12-2018	17:30	ODB	Powergrid, ER-II	Balance Insulator replacement at loc-117 & 163 by CLR Insulator inplace of Polymer Insulator.	**NLDC**
36	400Kv TALA-NSLG -FEEDER -IV	29-12-2018	08:00	30-12-2018	17:30	ODB	Powergrid, ER-II	Balance Insulator replacement at loc-118 by CLR Insulator inplace of Polymer Insulator.	**NLDC**
37	220 KV Bus Coupler at Birpara	24-12-2018	08:00	24-12-2018	17:30	ODB	Powergrid, ER-II	Bay AMP work	
38	132 KV Bus Coupler at Birpara	28-12-2018	08:00	28-12-2018	17:30	ODB	Powergrid, ER-II	Bay AMP work	**WB**
39	400KV ALIPURDUAR BINAGURI-II BAY at Alipurduar	20/12/18	08:00	20-12-2018	17:00	ODB	Powergrid, ER-II	Bay AMP work	
40	220KV Main Bus-I at Dalkhola	04/12/18	08:00	04-12-2018	17:00	ODB	Powergrid, ER-II	S/D required for replacement of Bus CVT at Dalkhola	**WB**
41	400KV Malda -New Purnea # I	11/12/18	08:00	18-12-2018	17:00	ODB	Powergrid, ER-II	CLR insulator replacement work	
42	400KV Malda -New Purnea # II	19/12/18	08:00	24-12-2018	17:00	ODB	Powergrid, ER-II	CLR insulator replacement work	
43	220KV DLK-MLD # I	18/12/18	08:00	18-12-2018	17:00	ODB	Powergrid, ER-II	S/D required for A/R Relay retrofitting.	**ON LINE RETROFITTING MAY BE EXPLORED**
44	220KV DLK-MLD # II	19/12/18	08:00	19-12-2018	17:00	ODB	Powergrid, ER-II	S/D required for A/R Relay retrofitting.	**ON LINE RETROFITTING MAY BE EXPLORED**
45	50 MVAR B/R-I & 125 MVAR-BR-II at Durgapur	03-12-2018	09:00	03-12-2018	17:00	ODB	Powergrid, ER-II	CSD FINE TUNING.	
46	315 MVA ICT-I at Durgapur	06-12-2018	09:00	06-12-2018	17:00	ODB	Powergrid, ER-II	Retrofitting of Numerical REF Relay.	**ON LINE RETROFITTING MAY BE EXPLORED**
47	315 MVA ICT-II at Durgapur	12-12-2018	09:00	12-12-2018	17:00	ODB	Powergrid, ER-II	RESIDUAL LIFE ANALYSIS TESTING FOR FINALISATION OF REPLACEMENT PLAN UNDER ADDCAP.	**ON LINE RETROFITTING MAY BE EXPLORED**
48	408 bay(B'Nagar-I & ICT-I Tie bay) at Durgapur	14-12-2018	09:00	14-12-2018	17:00	ODB	Powergrid, ER-II	DGA violated CT replacement.	
49	411 bay (FD-1 & S, dighi-1 tie bay) at Durgapur	01-12-2018	09:00	01-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
50	412 bay (FD-I main Bay at Durgapur	07-12-2018	09:00	07-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
51	413 bay (FD-2 main bay) at Durgapur	08-12-2018	09:00	08-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
52	414 bay (FD-2 & MTN-I Tie bay) at Durgapur	10-12-2018	09:00	10-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
53	415 bay (MTN-I Main bay)at Durgapur	13-12-2018	09:00	13-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
54	417 bay (315 MVA ICT-II Tie bay) at Durgapur	14-12-2018	09:00	14-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
55	418 bay (315 MVA ICT-II Main bay) at Durgapur	15-12-2018	09:00	15-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
56	419 bay (MTN-II Main bay) at Durgapur	17-12-2018	09:00	17-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
57	420 bay (MTN-II Tie bay) at Durgapur	18-12-2018	09:00	18-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
58	422 bay (125 MVA BR-III Future bay) at Durgapur	19-12-2018	09:00	19-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
59	423 bay (125 MVA BR-III Tie bay) at Durgapur	20-12-2018	09:00	20-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
60	424 bay (125 MVA BR-III Main bay) at Durgapur	21-12-2018	09:00	21-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
61	429 bay (JSR-I Tie bay) at Durgapur	22-12-2018	09:00	22-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	

62	430 bay (JSR-I Main bay) at Durgapur	24-12-2018	09:00	24-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
63	202 bay (220 KV TBC-I) at Durgapur	27-12-2018	09:00	27-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
64	210 bay (220 KV TBC-II) at Durgapur	28-12-2018	09:00	28-12-2018	17:00	ODB	Powergrid, ER-II	AMP works	
65	50 MVA ICT 132/66 KV at Gangtok	04-12-2018	09:00	04-12-2018	18:00	ODB	Powergrid, ER-II	For REF Relay Retrofit work	**SIKKIM**
66	50 MVA ICT 132/66KV at Gangtok	06-12-2018	09:00	06-12-2018	18:00	ODB	Powergrid, ER-II	For REF Relay Retrofit work	**SIKKIM**
67	132KV Gangtok-Rangpo Line	08-12-2018	09:00	08-12-2018	12:00	ODB	Powergrid, ER-II	For Implementation of 3-Ph A/R.	**SIKKIM**
68	132 KV Gangtok-Chuzachen Line	10-12-2018	09:00	10-12-2018	12:00	ODB	Powergrid, ER-II	For AnnualAMp Works	**SIKKIM**
69	66 KV Gangtok-Tadong Line	12-12-2018	09:00	12-12-2018	12:00	ODB	Powergrid, ER-II	For AnnualAMp Works	**SIKKIM**
70	66 KV Gangtok-Bulbulay Line	14-12-2018	09:00	14-12-2018	12:00	ODB	Powergrid, ER-II	For AnnualAMp Works	SIKKIM
71	66 KV Gangtok-LLHP Line	18-12-2018	09:00	18-12-2018	12:00	ODB	Powergrid, ER-II	For AnnualAMp Works	**SIKKIM**
72	220 KV New Melli- Tashiding Line	10/12/18	10:00	10/12/18	17:30	ODB	Powergrid, ER-II	For Gas filling in Y-ph compartment	
73	400KV Rangpo-Teesta 3	04-12-2018	08:00	08-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work, & Line AMP work	**AFTER COMMISIONING OF 400KV DIKCHU-RANGPO LINE. MAY BE TAKEN ON ODB**
74	220KV BUS-1 at Rangpo	09-12-2018	08:00	11-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) and AMP	
75	220KV Rangpo NEW MELLI line	09-12-2018	08:00	11-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work(both Shutdown needed on same dates) and AMP	
76	400\220kV 315 MVA ICT-2 at Rangpo	12-12-2018	08:00	15-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work,	
77	220\132 Kv 100 MVA ICT-2 at Rangpo	16-12-2018	08:00	19-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work, & Scheduled AMP	
78	400\220kV 315 MVAICT -1 at Rangpo	20-12-2018	08:00	24-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work,	
79	400\220kV 315 MVAICT -4 at Rangpo	25-12-2018	08:00	29-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work,	
80	400\220kV 315 MVAICT -3 at Rangpo	04-12-2018	08:00	08-12-2018	17:00	OCB	Powergrid, ER-II	For rectification of SF6 gas leakage repair work, & AMP work	
81	132KV Rangpo-Chuzachen line	13-12-2018	09:00	13-12-2018	18:00	ODB	Powergrid, ER-II	Line A/R implementation	**SIKKIM**
82	400\220kV 315 MVA ICT-5 at Rangpo	17-12-2018	09:00	12-12-2018	18:00	ODB	Powergrid, ER-II	Scheduled AMP	
83	400KV Rangpo Binaguri-2	18-12-2018	09:00	18-12-2018	18:00	ODB	Powergrid, ER-II	Scheduled AMP	
84	400KV Rangpo TeestaV-1	19-12-2018	09:00	19-12-2018	18:00	ODB	Powergrid, ER-II	Scheduled AMP	
85	400KV Rangpo -Teesta-V-2	20-12-2018	09:00	20-12-2018	18:00	ODB	Powergrid, ER-II	Scheduled AMP	
86	400KV Rangpo-Binaguri-1	21-12-2018	09:00	21-12-2018	18:00	ODB	Powergrid, ER-II	Scheduled AMP	
87	220 KV Rangpo Tashiding	22-12-2018	09:00	22-12-2018	18:00	ODB	Powergrid, ER-II	Line Maintenace AMP	
88	220\132kV 100 MVAICT -1 at Rangpo	26-12-2018	09:00	26-12-2018	18:00	ODB	Powergrid, ER-II	Scheduled AMP	
89	ICT-I at Siliguri	06-12-2018	10:00	06-12-2018	17:00	ODB	Powergrid, ER-II	Modification in NIFS system of ICT.	**WB**
90	ICT-II at Siliguri	08-12-2018	10:00	08-12-2018	17:00	ODB	Powergrid, ER-II	Modification in NIFS system of ICT.	**WB**
91	220KV Buscoupler at Siliguri	11-12-2018	10:00	11-12-2018	17:00	ODB	Powergrid, ER-II	AMPof Bus Coupler Bay & Compliance of CC SIR Points	
92	132KV Siliguri - NBU	13-12-2018	10:00	13-12-2018	17:00	ODB	Powergrid, ER-II	Compliance of CC SIR Points	**WB**
93	132KV Siliguri - NJP	15-12-2018	10:00	15-12-2018	17:00	ODB	Powergrid, ER-II	Compliance of CC SIR Points	**WB**
94	315MVA ICT-III at Malda	04-12-2018	08:00	04-12-2018	17:00	ODB	Powergrid, ER-II	Completion of AMP	**WB**

95	132KV Malda-WBSETCL Malda-I	12-12-2018	08:00	14-12-2018	17:00	ODB	Powergrid, ER-II	OC/EF relay retrofitting	**WB**
96	132KV Malda-WBSETCL Malda-II	13-12-2018	08:00	15-12-2018	17:00	ODB	Powergrid, ER-II	OC/EF relay retrofitting	**WB**
97	220KV Bus-2 (with BC CB) at Malda	07-12-2018	08:00	07-12-2018	17:00	ODB	Powergrid, ER-II	Rectification and Maintanance to attend Hotspot in Bus and DCRM in CB	**WB**
98	400KV Bus-1 (with BC CB) at Malda	20-12-2018	08:00	21-12-2018	17:00	ODB	Powergrid, ER-II	For CVT installation in Y phase in Bus-1	
99	160MVA ICT-1 at Malda	22-12-2018	08:00	22-12-2018	17:00	ODB	Powergrid, ER-II	Completion of AMP	**WB**
100	160MVA ICT-2 at Malda	23-12-2018	08:00	23-12-2018	17:00	ODB	Powergrid, ER-II	Completion of AMP	**WB**
101	220 KV Bus -1 at Maithan	01-12-2018	09:00	01-12-2018	17:00	ODB	Powergrid, ER-II	To change the Bus isolator of Dhanbad #2 line	**DVC**
102	220 KV Bus -2 at Maithan	03-12-2018	09:00	03-12-2018	17:00	ODB	Powergrid, ER-II	To change the Bus isolator of ICT#2 220KV side Incomer	**DVC**
103	220 kV Maithon-Dhanbad 2 line	03-12-2018	09:00	03-12-2018	18:00	ODB	Powergrid, ER-II	Replacement of LINE CVT	**DVC**
104	400KV Maithon-DGP #1 line	07-12-2018	09:00	07-12-2018	18:00	ODB	Powergrid, ER-II	Construction work under ERSS-XVII	
105	500MVA ICT #1 at Maithan	10-12-2018	09:00	10-12-2018	18:00	ODB	Powergrid, ER-II	On load testing of CSD.	**DVC**
106	400 KV Bus #1 at Maithan	11-12-2018	09:00	11-12-2018	18:00	ODB	Powergrid, ER-II	To change the bus isolator of 400KV Mejia#2 Line	
107	400KV Bus #3 at Maithan	12-12-2018	09:00	12-12-2018	18:00	ODB	Powergrid, ER-II	To change the bus isolator of 400KV RTPS Line	
108	400 KV Mejia#2- ICT#1 Tie bay at Maithan	13-12-2018	09:00	15-12-2018	18:00	ODB	Powergrid, ER-II	For replacement of CT under ERSS-XVII.	
109	400KV Maithon-Right Bank #2	01-12-2018	08:00	14-12-2018	18:00	OCB	Powergrid, ER-II	Re conductoring work under ERSS-XVII.	
110	400KV Maithon-Right Bank #1	15-12-2018	08:00	31-12-2018	18:00	OCB	Powergrid, ER-II	Re conductoring work under ERSS-XVII.	
111	400KV Mejia- Jamshedpur Line .	18-12-2018	09:00	18-12-2018	18:00	ODB	Powergrid, ER-II	Defect liquidation of tower accessories.	
112	400KV Mejia- Jamshedpur Line .	19-12-2018	09:00	19-12-2018	18:00	ODB	Powergrid, ER-II	Defect liquidation of tower accessories.	
113	400/132KV 200MVA ICT-I AT BANKA	03-12-2018	09:30	03-12-2018	17:30	ODB	POWERGRID ER 1	AMP	BIHAR
114	400/132KV 200MVA ICT-II AT BANKA	04-12-2018	09:30	04-12-2018	17:30	ODB	POWERGRID ER 1	AMP	BIHAR
115	400/220KV 315MVA ICT-I AT RANCHI	03-12-2018	10:00	05-12-2018	17:00	OCB	POWERGRID ER 1	OVERHAULING OF OLTC	JSEB
116	400KV Ranchi-Maithan-I	05-12-2018	10:00	05-12-2018	17:00	ODB	POWERGRID ER 1	Changing of falshover insulator string & Misc work	
117	MAIN BAY OF 220KV RANCHI - HATIA-1 AT RANCHI (206)	10-12-2018	10:00	10-12-2018	17:00	ODB	POWERGRID ER 1	AMP	
118	400KV BUS-I AT RANCHI	11-12-2018	10:00	11-12-2018	17:00	ODB	POWERGRID ER 1	Errection & Commisssioning of Jack bus for Tie Bay of Ranchi-New Ranchi-I & II)	
119	MAIN BAY OF 220KV RANCHI - CHANDIL-1 AT RANCHI (202)	12-12-2018	10:00	12-12-2018	17:00	ODB	POWERGRID ER 1	AMP	
120	400KV RANCHI - RAGHUNATHPUR -1	12-12-2018	10:00	12-12-2018	17:00	ODB	POWERGRID ER 1	Changing of falshover insulator string	DVC
121	400/220KV 315MVA ICT-II AT RANCHI	17-12-2018	10:00	19-12-2018	17:00	OCB	POWERGRID ER 1	OVERHAULING OF OLTC	JSEB
122	400KV BUS-II AT RANCHI	20-12-2018	10:00	20-12-2018	17:00	ODB	POWERGRID ER 1	Fixing of stool on Bus CVT Yph	
123	400 kv RNC- NRNC-1	20-12-2018	10:00	20-12-2018	17:00	ODB	POWERGRID ER 1	TO FACILITATE S/D OF 400 KV BUS -2 AT RANCHI	
124	400 kv RNC- NRNC-2	20-12-2018	10:00	20-12-2018	17:00	ODB	POWERGRID ER 1	TO FACILITATE S/D OF 400 KV BUS -2 AT RANCHI	
125	765 /400 kV ICT-I at Gaya ss	01-12-2018	09:00	01-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC
126	765 /400 kV ICT-II at Gaya ss	03-12-2018	09:00	03-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC
127	765 /400 kV ICT-III at Gaya ss	05-12-2018	09:00	05-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC

128	765 KV Tie Bay of Gaya-VNS Ckt-I Line & Future AT GAYA	10-12-2018	09:00	11-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC
129	765 KV Tie Bay of Gaya-VNS Ckt-II Line & Future AT GAYA	14-12-2018	09:00	15-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC
130	765 KV BUS-I at Gaya S/S	17-12-2018	09:00	17-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC
131	765 KV BUS-II at Gaya S/S	19-12-2018	09:00	19-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 765/400 kV ICT- IV under GE package	NLDC
132	400 /220 kV ICT-I at Gaya ss	17-12-2018	09:00	17-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 400/220 kV ICT- III under Techno package	BIHAR
133	400 /220 kV ICT-II at Gaya ss	19-12-2018	09:00	19-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 400/220 kV ICT- III under Techno package	BIHAR
134	400 KV 125 MVAR BR-I AT GAYA	27-12-2018	09:00	27-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , CT erection work for 765/400 kV ICT- IV under GE package	
135	400 KV 125 MVAR BR-II AT GAYA	28-12-2018	09:00	28-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , CT erection work for 765/400 kV ICT- IV under GE package	
136	400 KV GAYA-NABINAGAR -1 line	19-12-2018	09:00	21-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , CT erection work for 765/400 kV ICT- IV under GE package	
137	400 KV GAYA-NABINAGAR -2 line	24-12-2018	09:00	27-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , CT erection work for 765/400 kV ICT- IV under GE package	
138	400 KV BUS-I at Gaya S/S	26-12-2018	09:00	26-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 400/220 kV ICT- III under Techno package	
139	400 KV BUS-II at Gaya S/S	19-12-2018	09:00	24-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , CT erection work for 765/400 kV ICT- IV under GE package	
140	220 KV BUS-I at Gaya S/S	29-12-2018	09:00	29-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 400/220 kV ICT- III under Techno package	BIHAR
141	220 KV BUS-II at Gaya S/S	31-12-2018	09:00	31-12-2018	18:00	ODB	POWERGRID ER 1	for Stringing & Isolator , BPI erection work for 400/220 kV ICT- III under Techno package	BIHAR
142	400kV Maithon-Gaya-1 line	01-12-2018	09:00	25-12-2018	18:00	OCB	POWERGRID ER 1	for shifting of critical tower location 80 which has bulzed due to severe cyclone.	NLDC
143	400kV Maithon-Gaya-2 line	01-12-2018	09:00	25-12-2018	18:00	OCB	POWERGRID ER 1	for shifting of critical tower location 80 which has bulzed due to severe cyclone.	NLDC
144	400kV Koderma-Gaya-1 line	01-12-2018	09:00	25-12-2018	18:00	OCB	POWERGRID ER 1	for shifting of critical tower location 80 which has bulzed due to severe cyclone.	NLDC
145	400kV Koderma-Gaya-2 line	01-12-2018	09:00	25-12-2018	18:00	OCB	POWERGRID ER 1	for shifting of critical tower location 80 which has bulzed due to severe cyclone.	NLDC
146	765 kV Gaya-Varanasi-I	05-12-2018	09:00	06-12-2018	17:00	ODB	POWERGRID ER 1	cleaning of insulators	NLDC
147	765 kV Gaya-Varanasi-2	12-12-2018	09:00	13-12-2018	17:00	ODB	POWERGRID ER 1	cleaning of insulators	NLDC
148	220 KV PURNEA - DALKHOLA-1	03-12-2018	09:00	03-12-2018	16:00	ODB	POWERGRID ER 1	AMP	
149	220 KV PURNEA - DALKHOLA-2	04-12-2018	09:00	04-12-2018	16:00	ODB	POWERGRID ER 1	AMP	
150	220/132 KV 160 MVA ICT-1 AT PURNEA	05-12-2018	09:00	05-12-2018	16:00	ODB	POWERGRID ER 1	AMP	BIHAR
151	220/132 KV 160 MVA ICT-2 AT PURNEA	06-12-2018	09:00	06-12-2018	16:00	ODB	POWERGRID ER 1	AMP	BIHAR
152	220/132 KV 160 MVA ICT-3 AT PURNEA	07-12-2018	09:00	07-12-2018	16:00	ODB	POWERGRID ER 1	AMP	BIHAR
153	765 kV New Ranchi - Dharamjaygarh CKT-I	13-12-2018	09:00	14-12-2018	18:00	ODB	POWERGRID ER 1	Fo r replacement of insulators damaged by miscreants	NLDC
154	766 kV New Ranchi - Dharamjaygarh CKT-II	18-12-2018	09:00	22-12-2018	18:00	ODB	POWERGRID ER 1	For replacement of broken Glass insulators by miscreants	NLDC
155	400 kV New Ranchi-Ranchi CKT-I.	04-12-2018	09:00	04-12-2018	18:00	ODB	POWERGRID ER 1	For balance work of Insulation sleeve installation work at Loc 510-511 and Loc 540-541 of Ranchi-Maithan (RGH) line.	
156	400 kV New Ranchi-Ranchi CKT-II.	04-12-2018	09:00	04-12-2018	18:00	ODB	POWERGRID ER 1	For balance work of Insulation sleeve installation work at Loc 510-511 and Loc 540-541 of Ranchi-Maithan (RGH) line.	
157	400 Ranchi-Maithan ckt-I	04-12-2018	09:00	04-12-2018	18:00	ODB	POWERGRID ER 1	For balance work of Insulation sleeve installation work at Loc 510-511 and Loc 540-541 of Ranchi-Maithan (RGH) line.	
158	400 kv Ranchi-Raghunathpur CKT-I	04-12-2018	09:00	04-12-2018	18:00	ODB	POWERGRID ER 1	For balance work of Insulation sleeve installation work at Loc 510-511 and Loc 540-541 of Ranchi-Maithan (RGH) line.	DVC
159	400 kV Chandwa-Gaya CKT-I.	06-12-2018	09:00	06-12-2018	18:00	ODB	POWERGRID ER 1	Fo r replacement of insulators damaged by miscreants	
160	400 kV Chandwa-Gaya CKT-II	08-12-2018	09:00	08-12-2018	18:00	ODB	POWERGRID ER 1	Fo r replacement of insulators damaged by miscreants	

161	400 KV Main Bus-I AT 765/400 KV NEW RANCHI	05-12-2018	09:00	06-12-2018	18:00	ODB	POWERGRID ER 1	AMP WORKS	
162	STATCOM Coupling Transformer AT 765/400 KV NEW RANCHI	07-12-2018	09:00	08-12-2018	18:00	ODB	POWERGRID ER 1	CONSTN. WORK RELATED TO FOURTH COUPLING TRANSFORMER. STATCOM WILL REMAIN OUT OF SERVICE DURING THE SAID S/D.	
163	400 KV PPSP-New Ranchi-Ckt-I (419 Line Bay and Reactor bay)	03-12-2018	09:00	03-12-2018	18:00	ODB	POWERGRID ER 1	AMP OF Non-Switchable Line Reactor	WB
164	765 KV Tie bay of Bus Reactor-I and future AT NRNC	10-12-2018	09:00	11-12-2018	18:00	ODB	POWERGRID ER 1	AMP	NLDC
165	766 KV Tie bay of Bus Reactor-II and future AT NRNC	12-12-2018	09:00	12-12-2018	18:00	ODB	POWERGRID ER 1	AMP	NLDC
166	766 KV Tie bay of Bus Reactor-II and future AT NRNC	15-12-2018	09:00	15-12-2018	18:00	ODB	POWERGRID ER 1	AMP	NLDC
167	765 KV Main Bay of New Ranchi - Dharamjaygarh-I AT NRNC	17-12-2018	09:00	17-12-2018	18:00	ODB	POWERGRID ER 1	AMP of Main Bay	NLDC
168	765 KV L/R OF New Ranchi - Dharamjaygarh-I AT NRNC (SWITCHABLE)	13-12-2018	09:00	14-12-2018	18:00	ODB	POWERGRID ER 1	AMP of Reactor Bay and Line Reactor	NLDC
169	765 KV MAIN BAY OF New Ranchi - Dharamjaygarh-II AT NRNC	20-12-2018	09:00	21-12-2018	18:00	ODB	POWERGRID ER 1	AMP of Main Bay	NLDC
170	765 KV New Ranchi - Dharamjaygarh-II Tie Bay (714) NRNC	18-12-2018	09:00	19-12-2018	18:00	ODB	POWERGRID ER 1	AMP of Tie Bay	NN
171	400 KV MAIN BAY OF New Ranchi-Ranchi Ckt-II AT NRNC	04-12-2018	09:00	04-12-2018	18:00	ODB	POWERGRID ER 1	AMP of Main Bay	
172	765/400 KV 1500MVA ICT-II AT NRNC	27-12-2018	09:00	28-12-2018	18:00	ODB	POWERGRID ER 1	AMP	N
173	400kV JSR -TISCO	03-12-2018	09:30	03-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	DVC
174	315 MVA ICT 1 AT JAMSHEDPUR S/S	05-12-2018	08:00	05-12-2018	18:00	ODB	POWERGRID ER 1	RLA test as recomended by CC	JSEB
175	315 MVA ICT 2 AT JAMSHEDPUR S/S	06-12-2018	08:00	06-12-2018	18:00	ODB	POWERGRID ER 1	RLA test as recomended by CC	JSEB
176	400kV JSR -Chaibasa 1 line	08-12-2018	09:30	08-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
177	400kV JSR -Chaibasa 2 line	11-12-2018	09:30	11-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
178	400kV JSR -Maithon line	13-12-2018	09:30	13-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
179	400kV JSR - Durgapur line	18-12-2018	09:30	18-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
180	400KV Tie bay of TISCO AND FUTURE AT JAMSHEDPUR	20-12-2018	09:30	20-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
181	400KV Tie bay of APNRL-2 AND FUTURE AT JAMSHEPUR	22-12-2018	09:30	22-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
182	400KV Tie bay of Durgapur- Mejia AT JAMSHEDPUR	24-12-2018	09:30	24-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
183	400KV Tie bay of maithon -Chaibasa 1 AT JAMSHEDPUR	27-12-2018	09:30	27-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK TO BE CARRIED OUT	
184	400 kV Tie Bay of 125 MVAR Bus Reactor-2 and Future Bay) AT LAKHISARAI	01-12-2018	10:00	01-12-2018	11:00	ODB	POWERGRID ER 1	CT oil Sampling within 01 month of commissioning.	
185	400 kV Main Bay of 125 MVAR Bus Reactor-2 AT LAKHISARAI	01-12-2018	12:00	01-12-2018	13:00	ODB	POWERGRID ER 1	CT oil Sampling within 01 month of commissioning.	
186	200 MVA ICT-1 AT LAKHISARAI	05-12-2018	09:00	06-12-2018	17:00	ODB	POWERGRID ER 1	Checking of Air Cell	BIHAR
187	80 MVAR Bus Reactor AT LAKHISARAI	15-12-2018	09:00	16-12-2018	17:00	ODB	POWERGRID ER 1	For checking/rectification of alignment of Bus Reactor Isolator	
188	200 MVA ICT-2 & 80 MVAR Bus Reactor AT LAKHISARAI	20-12-2018	09:00	23-12-2018	17:00	ODB	POWERGRID ER 1	Fire wall Construction, Checking of Aircel of ICT-2	BIHAR
189	400KV MUZ-NEW PURNEA CKT-2	14-12-2018	09:30	14-12-2018	17:30	ODB	POWERGRID ER 1	AMP WORK	AFTER RESTORATON OF 400KV NEW PURNEA-BIHARSARIFF-DC
190	400kV Main Bay of Biharsarif-1(424) at New Purnea.	10-12-2018	10:00	10-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
191	400kV Tie Bay of Biharsarif-1 & Farakka(423) at New Purnea.	11-12-2018	10:00	11-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
192	400kV Main Bay of Biharsarif-1(421) at New Purnea.	12-12-2018	10:00	12-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
193	400kV Tie Bay of Biharsarif-2 & Gokarna(420) at New Purnea.	13-12-2018	10:00	13-12-2018	18:00	ODB	POWERGRID ER 1	AMP	

194	400kV Main bay of Kishanganj-1(407) at New Purnea.	17-12-2018	10:00	17-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
195	400kV Tie bay of Kishanganj-1& Muzaffarpur-2(408) at New Purnea.	18-12-2018	10:00	18-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
196	400kV Main bay of Kishanganj-2(410) at New Purnea.	19-12-2018	10:00	19-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
197	400kV Tie bay of Kishanganj-1& Muzaffarpur-2(411) at New Purnea.	20-12-2018	10:00	20-12-2018	18:00	ODB	POWERGRID ER 1	AMP	
198	400 KV FARAKKA - GOKARNA -1 AND 2	09-12-2018	09:00	10-12-2018	17:00	OCB	POWERGRID ER 1	FOR TERMINATION WITH FARAKKA AND GOKARNA LINE OF 400 KV D/C RAJARHAT - PURNEA LINE(BIHAR SECTION)	WB
199	400 kV BIHARSHARIF-BALIA CKT 1	04-12-2018	09:00	05-12-2018	17:00	ODB	POWERGRID ER 1	Replacement of porcelene insulators by polymer	NLDC
200	400 kV BIHARSHARIF-BALIA CKT 2	06-12-2018	09:00	07-12-2018	17:00	ODB	POWERGRID ER 1	Replacement of porcelene insulators by polymer	NLDC
201	400 kV PTN-BALIA CKT -1	04-12-2018	09:00	05-12-2018	17:00	ODB	POWERGRID ER 1	for cleaning of polluted porcelain insulators	NLDC
202	400 kV PTN-BALIA CKT- 2	06-12-2018	09:00	07-12-2018	17:00	ODB	POWERGRID ER 1	for cleaning of polluted porcelain insulators	NLDC
203	400 kV PTN-BALIA CKT 3	11-12-2018	09:00	11-12-2018	17:00	ODB	POWERGRID ER 1	Replacement of porcelene insulators by polymer	NLDC
204	400 kV PTN-BALIA CKT 4	12-12-2018	09:00	12-12-2018	17:00	ODB	POWERGRID ER 1	Replacement of porcelene insulators by polymer	NLDC
205	400KV MAIN BAY OF SASARAM LINE-1 AT DALTANGANJ	17-12-2018	09:30	17-12-2018	17:30	8 hrs	POWERGRID ER 1	AMP	
206	400KV TIE BY OF ICT-1 AND ICT-I AT DALTANGANJ	19-12-2018	09:30	19-12-2018	17:30	8 hrs	POWERGRID ER 1	AMP	
207	400KV MAIN BAY OF ICT -I AT DALTANGANJ	21-12-2018	09:30	21-12-2018	17:30	8 hrs	POWERGRID ER 1	AMP	
208	400KV MAIN BAY OF SASARAM LINE-2 AT DALTANGANJ	24-12-2018	09:30	24-12-2018	17:30	8 hrs	POWERGRID ER 1	AMP	
209	400KV TIE OF SASARAM LINE-2 AND B/R AT DALDANGANJ	26-12-2018	09:30	26-12-2018	17:30	8 hrs	POWERGRID ER 1	AMP	
210	400KV MAIN BAY OF BR AT DALTANAGNJ.	28-12-2018	09:30	28-12-2018	17:30	8 hrs	POWERGRID ER 1	AMP	
211	400 KV BIHARSHARIF-MUZAFFARPUR-Ckt.-1	13-12-2018	08:30	13-12-2018	17:30	ODB	POWERGRID ER 1	Wraping Insulation Sleev on Bottom Conductor of Patna Kishanganj Ckt.1&2	
212	401 KV BIHARSHARIF-MUZAFFARPUR-Ckt.-2	14-12-2018	08:30	14-12-2018	17:30	ODB	POWERGRID ER 1	Wraping Insulation Sleev on Bottom Conductor of Patna Kishanganj Ckt.1&2	
213	400KV BARH PTN CKT-1	18-12-2018	08:30	18-12-2018	17:30	ODB	POWERGRID ER 1	for cleaning of insulators to avoid unwanted tripping during fog	
214	400KV BARH PTN CKT-2	19-12-2018	08:30	19-12-2018	17:30	ODB	POWERGRID ER 1	for cleaning of insulators to avoid unwanted tripping during fog	
215	400KV BARH PTN CKT-3	20-12-2018	08:30	20-12-2018	17:30	ODB	POWERGRID ER 1	for cleaning of insulators to avoid unwanted tripping during fog	
216	400KV BARH PTN CKT-4	21-12-2018	08:30	21-12-2018	17:30	ODB	POWERGRID ER 1	for cleaning of insulators to avoid unwanted tripping during fog	
217	400KV KHL BARH CKT 1	27-12-2018	09:00	27-12-2018	17:30	ODB	POWERGRID ER 1	for cleaning of insulators to avoid unwanted tripping during fog	
218	400KV KHL BARH CKT 2	28-12-2018	09:00	28-12-2018	17:30	ODB	POWERGRID ER 1	for cleaning of insulators to avoid unwanted tripping during fog	
219	ICT-2 315 MVA AT PATNA	01-12-2018	09:00	31-12-2018	17:30	OCB	POWERGRID ER 1	Replacement of 315 MVA by 500 MVA	IT IS ALLOWED UPTO 25.12.18 BY BIHAR
220	80 MVAR Bus Reactor AT PATNA	01-12-2018	09:00	31-12-2018	17:30	OCB	POWERGRID ER 1	For Nabinagar bay construction at Patna SS	
221	400 Bus -I AT PATNA	03-12-2018	09:00	05-12-2018	17:30	ODB	POWERGRID ER 1	For Nabi Nagar bay const & AMP	BIHAR
222	400 Bus -II AT PATNA	06-12-2018	09:00	07-12-2018	17:30	ODB	POWERGRID ER 1	AMP	BIHAR
223	Patna Barh -I 418 Main bay AT PATNA	10-12-2018	09:30	10-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
224	Patna Barh -II 415 Main bay AT PATNA	11-12-2018	09:30	11-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
225	Patna Barh -III 421 Main bay AT PATNA	12-12-2018	09:30	12-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
226	Patna Barh -IV 424 Main bay AT PATNA	13-12-2018	09:30	13-12-2018	17:30	ODB	POWERGRID ER 1	AMP	

227	Patna Ballia -1 416 Main bay AT PATNA	14-12-2018	09:30	14-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
228	Patna Ballia -II 419 Main bay AT PATNA	15-12-2018	09:30	15-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
229	Patna Ballia -III 421 Main bay AT PATNA	17-12-2018	09:30	17-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
230	Patna Ballia -IV 424 Main bay AT PATNA	18-12-2018	09:30	18-12-2018	17:30	ODB	POWERGRID ER 1	AMP	
231	220 KV Bus 2 AT PATNA	20-12-2018	09:30	22-12-2018	17:30	ODB	POWERGRID ER 1	AMP	BIHAR
232	220 KV Bus 1 AT PATNA	27-12-2018	09:30	29-12-2018	17:30	ODB	POWERGRID ER 1	AMP	BIHAR
233	50Mvar Lakhisarai-2 Line Reactor AT BSF	01-12-2018	09:00	10-12-2018	18:00	OCB	POWERGRID ER 1	New Reactor CB erection testing and commissioning to make the Reactor Switchable (Lakhisara-2 line shutdown required for 10 minute for	
234	400KV BSF - LKS-II	03-12-2018	09:00	04-12-2018	18:00	ODB	POWERGRID ER 1	CB erection and existing protection scheme modifiaction to make 50Mvar Lakhisara-2 Line Reactor Switchable under construction head.	
235	400KV BSF - LKS-II	10-12-2018	09:00	10-12-2018	18:00	ODB	POWERGRID ER 1	Jumper connection among Isolator to CB to Reactor to make 50Mvar Lakhisara-2 Line Reactor Switchable construction head.	
236	50Mvar Lakhisara-2 Line Reactor	12-12-2018	09:00	12-12-2018	18:00	ODB	POWERGRID ER 1	For CSD commissioning	
237	50Mvar Sasaram-1 Line Reactor	13-12-2018	09:00	13-12-2018	18:00	ODB	POWERGRID ER 1	For CSD commissioning	
238	400kV BSF-Banka-1 Line	17-12-2018	10:00	17-12-2018	14:00	ODB	POWERGRID ER 1	Line Bay AMP	
239	400kV BSF-Banka-2 Line	19-12-2018	09:00	19-12-2018	17:00	ODB	POWERGRID ER 1	Replacement of Y-ph CVT due secondary voltage violation and line bay AMP	
240	400kV BSF-Muzaffarpur-2 Line	21-12-2018	10:00	21-12-2018	14:00	ODB	POWERGRID ER 1	Line Bay AMP	
241	Muz-2 Main Bay No.-401 AT BSF	18-12-2018	10:00	18-12-2018	18:00	ODB	POWERGRID ER 1	Bay AMP	
242	Muz-1 main bay No.-403 AT BSF	20-12-2018	10:00	20-12-2018	19:00	ODB	POWERGRID ER 1	Bay AMP	
243	Balia-I & Purnea-2 Tie Bay No.-405 AT BSF	24-12-2018	10:00	24-12-2018	20:00	ODB	POWERGRID ER 1	Bay AMP	
244	Bus Reactor-I main Bay No.-421 AT BSF	26-12-2018	10:00	26-12-2018	21:00	ODB	POWERGRID ER 1	Bay AMP	
245	Baka-I & 2 Tie Bay No.-429 AT BSF	27-12-2018	10:00	27-12-2018	22:00	ODB	POWERGRID ER 1	Bay AMP	
246	Banka-2 main Bay no.-430 AT BSF	28-12-2018	10:00	28-12-2018	23:00	ODB	POWERGRID ER 1	Bay AMP	
247	ICT-3 main Bay no.-410 AT BSF	29-12-2018	10:00	29-12-2018	00:00	ODB	POWERGRID ER 1	Bay AMP	
248	400 KV BSF - VNS CKT- I	08-12-2018	08:00	17-12-2018	18:00	Continous basis	POWERGRID ER 1	Realingmnet works of 400KV Biharsharif - Varanasi & 400KV Biharsharif - Sasaram Line.	NLDC
249	400 KV BSF - VNS CKT- II	08-12-2018	08:00	17-12-2018	18:00	Continous basis	POWERGRID ER 1	Realingmnet works of 400KV Biharsharif - Varanasi & 400KV Biharsharif - Sasaram Line.	NLDC
250	400KV BSF - SASA CKT -I	01-12-2018	08:00	07-12-2018	18:00	Continous basis	POWERGRID ER 1	Realingmnet works of 400KV Biharsharif - Varanasi & 400KV Biharsharif - Sasaram Line.	DETAIL PLAN REQUIRED
251	400KV BSF - SASA CKT -I	01-12-2018	08:00	07-12-2018	18:00	Continous basis	POWERGRID ER 1	Realingmnet works of 400KV Biharsharif - Varanasi & 400KV Biharsharif - Sasaram Line.	DETAIL PLAN REQUIRED
252	400KV BSF - KODERMA CKT -I	01-12-2018	08:00	17-12-2018	18:00	ODB	POWERGRID ER 1	Auto recloser Put in Non Auto Mode for PID testing .	DVC
253	400KV BSF - KODERMA CKT -II	01-12-2018	08:00	17-12-2018	18:00	ODB	POWERGRID ER 1	Auto recloser Put in Non Auto Mode for PID testing .	DVC
254	400KV BSF - KODERMA CKT -I	08-12-2018	08:00	09-12-2018	18:00	ODB	POWERGRID ER 1	INSULATOR WASHING	DVC
255	400KV BSF - KODERMA CKT -II	10-12-2018	08:00	12-12-2018	18:00	ODB	POWERGRID ER 1	INSULATOR WASHING	DVC
256	400KV BSF - BANKA -I	02-12-2018	08:00	03-12-2018	18:00	ODB	POWERGRID ER 1	INSULATOR WASHING	
257	400KV BSF - BANKA -II	04-12-2018	08:00	05-12-2018	18:00	ODB	POWERGRID ER 1	INSULATOR WASHING	
258	3*110MVAR 765kV Bus Reactor Bay at Pusauli	01-12-2018	08:00	01-12-2018	18:00	ODB	POWERGRID ER 1	AMP work	NLDC

259	400kV Biharsharif-I L/R Bay at Pusauli	03-12-2018	08:00	03-12-2018	18:00	ODB	POWERGRID ER 1	AMP work	NO REACTOR SD WILL BE ALLOWED TILL FEB 19
260	330MVAR 765kV Bus-Reactor at Pusauli	05-12-2018	08:00	05-12-2018	18:00	ODB	POWERGRID ER 1	AMP work	NO REACTOR SD WILL BE ALLOWED TILL FEB 19
261	125MVAR Bus Reactor-II Main Bay at Pusauli	07-12-2018	09:00	07-12-2018	18:00	ODB	POWERGRID ER 1	AMP work	
262	220kV Bus-I at Pusauli	04-12-2018	09:00	04-12-2018	17:00	ODB	POWERGRID ER 1	For CVT Replacement Work	BIHAR
263	220kV Pusauli-Nadokhar	06-12-2018	09:00	06-12-2018	09:00	ODB	POWERGRID ER 1	For CVT Replacement Work	BIHAR
264	220kV Pusauli-Sahapuri	03-12-2018	08:00	03-12-2018	13:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	BIHAR
265	220kV Pusauli-Ara	03-12-2018	13:00	03-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	BIHAR
266	220kV Main Bus-II at Pusauli	04-12-2018	08:00	04-12-2018	20:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	BIHAR
267	400kV 500MVA ICT-II at Pusauli	04-12-2018	08:00	04-12-2018	13:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	BIHAR
268	220kV Pusauli-Dehri	04-12-2018	13:00	04-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	BIHAR
269	400kV East Side Bus-I at Pusauli	05-12-2018	08:00	05-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	NLDC
270	400kV East Side Bus-II at Pusauli	06-12-2018	08:00	06-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	NLDC
271	400kV North Side Bus-I at Pusauli	07-12-2018	08:00	07-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	NLDC
272	400kV North Side Bus-II at Pusauli	08-12-2018	08:00	08-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	NLDC
273	HVDC along with AC Bypass at Pusauli	10-12-2018	08:00	10-12-2018	18:00	ODB	POWERGRID ER 1	To attend Isolator Misalignment Problem	NLDC
274	765/400kV, 1500MVA, ICT at Pusauli	10-12-2018	09:00	12-12-2018	18:00	765/400kV, 1500MVA ICT will be out	POWERGRID ER 1	for regular changeover in 06 month .02 days for stability test and changing of Delta connection in LV side and 01 day for idle charging (without load) for 24	NLDC
275	132kV Pusauli-Dehri	11-12-2018	09:00	11-12-2018	18:00	Transfer Bus at Dehri shall be out during the	POWERGRID ER 1	To attend Isolator Problem .	BIHAR
276	132kV Pusauli-Karmanasha	12-12-2018	09:00	12-12-2018	18:00	Transfer Bus at Karmnasha shall be out	POWERGRID ER 1	To attend Isolator Problem .	BIHAR
277	400kV Varanasi Main Bay (East Side) at Pusauli	14-12-2018	09:00	14-12-2018	18:00	ODB	POWERGRID ER 1	AMP work	
278	400/220kV 315MVA ICT-II at Pusauli	01-12-2018	00:00	29-12-2018	18:00	OCB	POWERGRID ER 1	For Transformer Retrofitting Work	BIHAR
279	63MVAR Saranath L/R Bay at Pusauli	17-12-2018	10:00	23-12-2018	19:00	OCB	POWERGRID ER 1	Pole Overhauling of Breaker	
280	63MVAR Biharsharif-II L/R at Pusauli	19-12-2018	09:00	19-12-2018	18:00	ODB	POWERGRID ER 1	AMP work	NO REACTOR SD WILL BE ALLOWED TILL FEB 19
281	63MVAR Allahabad L/R Bay at Pusauli	24-12-2018	10:00	30-12-2018	19:00	OCB	POWERGRID ER 1	Pole Overhauling of Breaker	
282	220 KV Pusauli-Dehri Line	01-12-2018	10:00	01-12-2018	18:00	ODB	POWERGRID ER 1	Line Isolator overhauling/NTAMC relay retrofitting works.	BIHAR
283	220 KV Pusauli-Sahupuri Line	02-12-2018	10:00	02-12-2018	18:00	ODB	POWERGRID ER 1	Line Isolator overhauling/NTAMC relay retrofitting works.	NLDC
284	220 KV Pusauli-Ara Line	03-12-2018	10:00	03-12-2018	18:00	ODB	POWERGRID ER 1	Line Isolator overhauling/NTAMC relay retrofitting works.	BIHAR
285	220 KV Pusauli-Nadhokar Line	04-12-2018	10:00	04-12-2018	18:00	ODB	POWERGRID ER 1	Line Isolator overhauling/NTAMC relay retrofitting works.	BIHAR
286	132 KV Pusauli-Dehri Line	05-12-2018	10:00	05-12-2018	18:00	ODB	POWERGRID ER 1	Line Isolator overhauling/NTAMC relay retrofitting works.	BIHAR
287	132 KV Pusauli-Karamnasa Line	06-12-2018	10:00	06-12-2018	18:00	ODB	POWERGRID ER 1	Line Isolator overhauling/NTAMC relay retrofitting works.	BIHAR
288	765 KV Gaya - Varanasi -2	02-12-2018	09:00	03-12-2018	18:00	ODB	POWERGRID ER 1	washing of insulator strings in bird dropping pollution prone area (at 15 locations in scattered way)	NLDC
289	765 KV Gaya - Varanasi -1	05-12-2018	07:00	13-12-2018	18:00	ODB	POWERGRID ER 1	for balance tower strengthening works	NLDC
290	765 kv Sasaram - Fatehpur	24-12-2018	09:00	25-12-2018	18:00	ODB	POWERGRID ER 1	washing of insulator strings in bird dropping pollution prone area (at 12 locations in scattered way)	NLDC
291	400 kv Biharsharif - Varanasi -1	19-12-2018	09:00	20-12-2018	18:00	ODB	POWERGRID ER 1	washing of insulator strings in bird dropping pollution prone area from loc.280-312 and 462-515.	NLDC

292	400 kv Biharsharif - Varanasi -2	21-12-2018	09:00	22-12-2018	18:00	ODB	POWERGRID ER 1	washing of insulator strings in bird dropping pollution prone area from loc.280-312 and 462-515.	NLDC
293	400 kv Sasaram- Allahabad	27-12-2018	09:00	27-12-2018	18:00	ODB	POWERGRID ER 1	washing of insulator strings in bird dropping pollution prone area From loc.34 to 74	NLDC
294	400 kv Sasaram - Varanasi	28-12-2018	09:00	28-12-2018	18:00	ODB	POWERGRID ER 1	washing of insulator strings in bird dropping pollution prone area From loc.34 to 74	NLDC
295	402 TIE BAY OF ICT-I & JSR-1 AT CHAIBASA	12-12-2018	10:00	12-12-2018	17:00	ODB	POWERGRID ER 1	AMP work	
296	400kV ICT-1 Main Bay (401) at Angul	02-12-2018	09:00	02-12-2018	17:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
297	400kV ICT-1 and Bolangil Line Tie Bay (402) at Angul	03-12-2018	09:00	03-12-2018	17:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
298	400kV Bolangir Line Main Bay (403) at Angul	04-12-2018	09:00	04-12-2018	17:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
299	765/400kV, 3*500MVA ICT-3 at Angul	05-12-2018	09:00	05-12-2018	17:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NLDC**
300	400kV Bus Reactor-1 Main Bay (416) at Angul	08-12-2018	09:00	08-12-2018	17:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
301	400kV B/R-1 and Future Tie Bay (417) at Angul	09-12-2018	09:00	09-12-2018	17:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
302	765kV Srikakulam Line-1 Main Bay (726) at Angul	10-12-2018	08:00	10-12-2018	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NLDC**
303	765kV Srikakulam Line-1 & Future Tie Bay (727) at Angul	11-12-2018	08:00	11-12-2018	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NLDC**
304	765kV, 3*110MVAR Bus Reactor-2 at Angul	12-12-2018	10:00	12-12-2018	13:00	ODB	ER-II/Odisha/Angul SS	To take out spare rector & take in Y-phase Reactor after attending oil leakage by full gasket replacement by M/s TBEA.	**NLDC**
305	765kV, 3*110MVAR Bus Reactor-1 at Angul	13-12-2018	10:00	13-12-2018	13:00	ODB	ER-II/Odisha/Angul SS	R-Phase Reactor to be taken out of service for attending oil leakage problem by full gasket replacement by M/s TBEA.	**NLDC**
306	765kV ICT-1 Main Bay (704) at Angul	15-12-2018	08:00	15-12-2018	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NLDC**
307	765kV ICT-1 & Sundargarh Line-2 Tie Bay (705) at Angul	16-12-2018	08:00	16-12-2018	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NLDC**
308	765kV Sundargarh Line-2 main Bay (706) at Angul	17-12-2018	08:00	17-12-2018	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NLDC**
309	765kV, 3*110MVAR Bus Reactor-1 at Angul	18-12-2018	09:00	18-12-2018	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
310	400 KV 401 keonjhar line main bay	01-12-2018	09:00	01-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
311	400 KV 406 Main Bay of 315 MVA ICT-II	03-12-2018	09:00	03-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
312	220KV 203 Bus Coupler Bay	04-12-2018	09:00	04-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
313	220KV 204 Bay of 315MVA ICT II	05-12-2018	09:00	05-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
314	220KV 208 Bay of 315MVA ICT I	06-12-2018	09:00	06-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
315	220 kV 211 Bay of 500 MVA ICT#3	07-12-2018	09:00	07-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
316	132KV 109 Main Bay of Baripada Line	10-12-2018	09:00	10-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
317	132 KV Main Bus	11-12-2018	09:00	11-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CVT Junction Box Replacement	**GRIDCO**
318	500 MVA ICT	12-12-2018	09:00	12-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	**GRIDCO**
319	132KV Bangriposi Line	13-12-2018	09:00	13-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT Junction Box Replacement	**GRIDCO**
320	315MVA ICT #1	14-12-2018	09:00	14-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT Junction Box Replacement	**GRIDCO**
321	400 KV 413 Main Bay of 500 MVA ICT	15-12-2018	09:00	15-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
322	400 KV 414 Tie bay of 500 MVA ICT& 125 MVAR BUS REACTOR	17-12-2018	09:00	17-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
323	400 KV 415 Main bay of 125 MVAR	18-12-2018	09:00	18-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
324	160MVA ICT#1	19-12-2018	09:00	19-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	**GRIDCO**

325	160 MVA ICT#2	20-12-2018	09:00	20-12-2018	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	**GRIDCO**
326	220 KV ICT#1 INCOMER BAY (BAY NO.- 211)	01-12-2018	09:00	01-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF TIE BAY (BAY NO.-211)	
327	315 MVA ICT#2	04-12-2018	09:00	04-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF TRANSFROMER & ITS ASSOCIATED BAYS.	**GRIDCO**
328	400KV ROURKELA-CHAIBASA#2	06-12-2018	09:00	06-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF LINE BAY	
329	400KV ROURKELA-SUNDARGARH#1 MAIN BAY (BAY NO.- 418)	07-12-2018	09:00	07-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF MAIN BAY (BAY NO.-418)	
330	400KV ROURKELA-RANCHI#2 MAIN BAY (BAY NO.- 421)	08-12-2018	09:00	08-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF MAIN BAY (BAY NO.-421)	
331	125 MVAR BUS REACTOR#1 MAIN BAY (BAY NO.-422)	10-12-2018	09:00	10-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF MAIN BAY (BAY NO.- 422)	
332	315 MVA ICT#1	11-12-2018	09:00	14-12-2018	18:00	OCB	ER-II/ODISHA/ROURKELA	AMP & ARRESTING OF OIL LEAKAGE FROM TAN DELTA POINT OF Y-PH HV BUSHING.	**GRIDCO**
333	400KV ROURKELA-SUNDARGARH#4 MAIN BAY (BAY NO.- 427)	17-12-2018	09:00	17-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF MAIN BAY (BAY NO.- 427)	
334	400KV RANCHI#2 & SUNDARGARH#3 TIE BAY (BAY NO.-420)	18-12-2018	09:00	18-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF TIE BAY CONVENTIONAL A/R RELAY (VARM) BY NUMERICAL A/R RELAY.	
335	400KV ROURKELA-SUNDARGARH#3	18-12-2018	16:00	18-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	TESTING OF A/R CIRCUIT AFTER A/R RELAY RETROFITTING IN ITS TIE BAY.	
336	400KV RANCHI#1 & SUNDARGARH#2 TIE BAY (BAY NO.-429)	19-12-2018	09:00	19-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF TIE BAY CONVENTIONAL A/R RELAY (VARM) BY NUMERICAL A/R RELAY.	
337	400KV ROURKELA-SUNDARGARH#2	19-12-2018	16:00	19-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	TESTING OF A/R CIRCUIT AFTER A/R RELAY RETROFITTING IN ITS TIE BAY.	
338	400KV SUNDARGARH#4 & 125MVAR BUS REACTOR#2 TIE BAY (BAY NO.-426) AT ROURKELA	20-12-2018	09:00	20-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	RETROFITTING OF TIE BAY CONVENTIONAL A/R RELAY (VARM) BY NUMERICAL A/R RELAY.	
339	400KV ROURKELA-SUNDARGARH#4	20-12-2018	16:00	20-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	TESTING OF A/R CIRCUIT AFTER A/R RELAY RETROFITTING IN ITS TIE BAY.	
340	125 MVAR BUS REACTOR#1	22-12-2018	09:00	22-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF BUS REACTOR & COMMISSIOINING OF CSD IN ITS TIE BAY CB (42352 CB).	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
341	400KV ROURKELA-SUNDARGARH#2 MAIN BAY (BAY NO.- 430)	24-12-2018	09:00	24-12-2018	18:00	OCB	ER-II/ODISHA/ROURKELA	AMP OF MAIN BAY (BAY NO.- 430)	
342	400KV ROURKELA-TALCHER#1 TIE BAY (BAY NO.- 405)	26-12-2018	09:00	26-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF TIE BAY (BAY NO.- 405)	
343	400KV SUNDARGARH#1-CHAIBASA#1 TIE BAY (BAY NO.- 417)	27-12-2018	09:00	27-12-2018	18:00	ODB	ER-II/ODISHA/ROURKELA	AMP OF TIE BAY (BAY NO.- 417)	
344	Talcher - Rourkela CTK # 1 Line	21-12-2018	09:00	21-12-2018	17:00	ODB	ER-II/Odisha/Rengali	PID Defective Insulator Replacement	
345	400KV FSC BAY(BAY NO-412FSC)	04-12-2018	09:00	04-12-2018	17:00	ODB	ER-II/Odisha/Rengali	AMP Work	
346	220KV TBC BAY(BAY NO-203)	06-12-2018	09:00	06-12-2018	17:00	ODB	ER-II/Odisha/Rengali	AMP Work	
347	220KV BUS COUPLER(Bay No-204)	20-12-2018	09:00	20-12-2018	17:00	ODB	ER-II/Odisha/Rengali	AMP Work	
348	400kV Sundargarh-Raigarh Ckt#1	01-12-2018	08:00	15-12-2018	17:00	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose relay will be off. Line will be in service	**NLDC**
349	400kV Sundargarh-Raigarh Ckt#2&4	21-12-2018	07:00	31-12-2018	18:00	ODB	ER-II/ODISHA/SUNDERGARH	1) Lara Railway Diversion work 2) OPGC Line diversion Clearance rectification work.	**NLDC**
350	400kV Sundargarh-Rourkela Ckt#1	18-12-2018	08:00	18-12-2018	17:00	ODB	ER-II/ODISHA/SUNDERGARH	TL Maintenance works	
351	400kV Sundargarh-Rourkela Ckt#1	16-12-2018	08:00	31-12-2018	17:00	ODB	ER-II/ODISHA/SUNDERGARH	For PID Testing of Porcelain Insulator. Only Auto reclose relay will be off. Line will be in service	
353	765KV Bus-I at Sundargarh	12-12-2018	08:00	17-12-2018	18:00	OCB	ER-II/Odisha/Sundergarh	1) Stringing of jack bus of 765KV Raipur Ckt-1&2 i.e. Bay 709 & 712 for commissioning of the lines under construction head	**NLDC**
354	765KV BUS-II at Sundargarh	06-12-2018	09:00	11-12-2018	18:00	OCB	ER-II/Odisha/Sundergarh	1) Erection of structure & busduct of 765KV GIS bus sectionalizer under construction head	**NLDC**
355	765KV 240MVAR B/R-I at Sundargarh	03-12-2018	09:00	03-12-2018	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of RPh of Bus Reactor-I to spare to attend oil leakage activities and spare Reactor will be in service in place of RPh	**NLDC**
356	Main Bay-701 of 765KV 240MVAR B/R-I at Sundargarh	04-12-2018	09:00	04-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
357	Tie Bay-702 of 765KV 240MVAR B/R-I & 765/400KV ICT-I at Sundargarh	05-12-2018	09:00	05-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
358	Main Bay-703 of 765/400KV ICT-I at Sundargarh	07-12-2018	08:00	07-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**

359	Main Bay-704 of 765KV 240MVAR B/R-II at Sundargarh	10-12-2018	08:00	10-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
360	Tie Bay-705 of 765KV 240MVAR B/R-II & 765/400KV ICT-II at Sundargarh	12-12-2018	08:00	12-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
361	Main Bay-706 of 765/400KV ICT-II at Sundargarh	14-12-2018	08:00	14-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
362	Main Bay-707 of 765KV Angul L/R-III at Sundargarh	17-12-2018	08:00	17-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
363	Tie Bay-708 of 765KV Angul L/R-III at Sundargarh	18-12-2018	08:00	18-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
364	Main Bay-710 of 765KV Angul L/R-IV at Sundargarh	19-12-2018	08:00	19-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
365	Tie Bay-711 of 765KV Angul L/R-IV at Sundargarh	20-12-2018	08:00	20-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
366	Main Bay-713 of 765KV Angul CKT-II with LR at Sundargarh	27-12-2018	08:00	27-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
367	TIE Bay-714 of 765KV Angul CKT-II with LR at Sundargarh	29-12-2018	08:00	29-12-2018	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP work	**NLDC**
368	220 kV Bus -II at Jeypore	01-12-2018	09:00	01-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For AMP Works of 220kV Bus II at Jeypore	**GRIDCO**
369	220 kV Bus -I at Jeypore	03-12-2018	09:00	03-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For AMP Works of 220kV Bus I at Jeypore	**GRIDCO**
370	408 BAY (ICT I - 125MVAR B/R TIE BAY)	05-12-2018	09:00	05-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For AMP Works of 408 BAY	
371	407 BAY (ICT I - MAIN BAY)	06-12-2018	09:00	06-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	407 BAY (ICT I - MAIN BAY)	
372	3X166.67MVA coupling transformer	10-12-2018	09:00	10-12-2018	12:00	ODB	ER-II/Odisha /Jeypore	For unit change over from Unit-II,III, IV to Unit-I , III & IV for charging Unit-I (outage to be booked under Jeypore head)	
373	ICT-I (3x 105 MVA) at Jeypore	11-12-2018	10:30	11-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	For changing ICT-I combination form Unit-I,III, IV to Unit-I , II & IV for charging Unit-II	**GRIDCO**
374	400 kV Jeypore-Indravati S/C Line	12-12-2018	08:00	12-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For testin New A/R relayof Jeypore - Indravati Line & For PID defect insulator replacement work	**NLDC**
375	ICT-I (3x 105 MVA) at Jeypore	13-12-2018	10:30	13-12-2018	12:30	ODB	ER-II/Odisha /Jeypore	To carry Insulation sleeves work Teritiry side of ICT 1	**GRIDCO**
376	400 kV Jeypore-Indravati S/C Line	13-12-2018	08:00	13-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For PID defect insulator replacement work	**NLDC**
377	220KV JEYNAGAR-I Line	14-12-2018	09:30	14-12-2018	17:30	ODB	ER-II/Odisha /Jeypore	For Isolator Retrofitting works (220KV Jeynagar-I TBC Isolator)	**GRIDCO**
378	400 kV Jeypore-Bolangir Line	14-12-2018	08:00	14-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For attending shutdown nature defects	**NLDC**
379	400 kV Jeypore-Bolangir Line	15-12-2018	08:00	15-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For attending shutdown nature defects	**NLDC**
380	220KV JEYNAGAR-II Line	16-12-2018	09:30	16-12-2018	17:30	ODB	ER-II/Odisha /Jeypore	For Isolator Retrofitting works (220KV Jeynagar-II TBC Isolator)	**GRIDCO**
381	ICT-I (3x 105 MVA) at Jeypore	17-12-2018	09:30	17-12-2018	17:30	ODB	ER-II/Odisha /Jeypore	For Isolator Retrofitting works (220KV ICT I TBC Isolator)	**GRIDCO**
382	220 kV Bus -II at Jeypore	18-12-2018	09:30	18-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of Jeynagar I	**GRIDCO**
383	220 kV Bus -II at Jeypore	19-12-2018	09:30	19-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of Jeynagar II	**GRIDCO**
384	220 kV Bus -II at Jeypore	20-12-2018	09:30	20-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of ICT-I	**GRIDCO**
385	220 kV Bus -II at Jeypore	21-12-2018	09:30	21-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-II side Isolators of Bus Coupler	**GRIDCO**
386	220 kV Bus -I at Jeypore	22-12-2018	09:30	22-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of Jeynagar I	**GRIDCO**
387	220 kV Bus -I at Jeypore	24-12-2018	09:30	24-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of Jeynagar II	**GRIDCO**
388	220 kV Bus -I at Jeypore	23-12-2018	09:30	23-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of ICT-I	**GRIDCO**
389	220 kV Bus -I at Jeypore	24-12-2018	09:30	24-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	Isolator Retrofitting Works of Bus-I side Isolators of Bus Coupler	**GRIDCO**
390	220KV JEYNAGAR-I Line	26-12-2018	09:30	26-12-2018	17:00	ODB	ER-II/Odisha /Jeypore	For Isolator Retrofitting works (220KV Jeynagar-I 89C Isolator) & R-ph CVT replacement work	**GRIDCO**
391	417 BAY (ICT II - 63MVAR TIE BAY)	27-12-2018	09:00	27-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For AMP Works 417 BAY (ICT II - 63MVAR TIE BAY)	

392	220KV JEYNAGAR-II Line	27-12-2018	09:30	27-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	For Isolator Retrofitting works (220KV Jeynagar-II 89C Isolator)	**GRIDCO**
393	ICT-I (3x 105 MVA) at Jeypore	28-12-2018	09:30	28-12-2018	13:30	ODB	ER-II/Odisha /Jeypore	For Isolator Retrofitting works (220KV ICT I 89C Isolator)	**GRIDCO**
394	ICT-I (3x 105 MVA) at Jeypore	07-12-2018	09:30	07-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For Testing of 315 MVA ICT-I - Unit-II for conditioning assessment	**GRIDCO**
395	63 MVAr Bus Reactor at Jeypore	08-12-2018	09:30	08-12-2018	18:00	ODB	ER-II/Odisha /Jeypore	For Testing of 63 MVAr Bus Reactor for conditioning assessment	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
396	Auto reclose of 400KV Rengali-Idrawati Line in non -auto mode	01-12-2018	08:00	31-12-2018	18:00	ODB	ER-II/Odisha/Balangir	For PID Scaning	**NLDC**
397	315 MVA, ICT-2	04-12-2018	09:00	04-12-2018	18:00	ODB	ER-II/Odisha/Balangir	AMP For 315 MVA, ICT-2.	**GRIDCO**
398	400KV, 125 MVAR BUS REACTOR -2	05-12-2018	09:00	07-12-2018	18:00	ODB	ER-II/Odisha/Balangir	Attending Aircell problem, Fine Tuning of CSD, CT Oil Sampling, Rectification of SF6 gas leakage in R-ph CB of 406 bay and Validation of SCADA points	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
399	50 MVAR, Angul Line Reactor	11-12-2018	09:00	11-12-2018	18:00	ODB	ER-II/Odisha/Balangir	AMP for 50 MVAR Angul L/R and 401R 52 CB	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
400	315 MVA, ICT-1 Main BAY(402 BAY)	18-12-2018	09:00	18-12-2018	18:00	ODB	ER-II/Odisha/Balangir	AMP for 402 52 CB and 402 CT	
401	400KV BARIPADA - DUBURI LINE	05-12-2018	06:00	06-12-2018	18:00	ODB	ER-II/Odisha/Bhadrak TL	To attend accumulated defects under Bhadrak Sec.	**GRIDCO**
402	Mendhasal-Pandiabili CKT-1 at Mendhasal along with Main bay & Tie Bay NB: DIA WILL BE IN OPENED CONDITION DURING THE S/D	03-12-2018	08:30	03-12-2018	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Maintenance of ISOLATORs at Mendhasal	**GRIDCO**
403	Mendhasal-Pandiabili CKT-2 at Mendhasal along with Main bay & Tie Bay NB: DIA WILL BE IN OPENED CONDITION DURING THE S/D	04-12-2018	08:30	04-12-2018	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Maintenance of ISOLATOR at Mendhasal	**GRIDCO**
404	Bus-I along with Main bay of Mendhsal- Pandiabili CKT-1at Mendhsal	05-12-2018	08:30	05-12-2018	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Maintenance of ISOLATOR at Mendhasal	**GRIDCO**
405	BUS-II along with Main bay of Mendhsal-Pandiabili CKT-II at Mendhsal	06-12-2018	08:30	06-12-2018	18:00	ODB	ER-II/Odisha/ Pandiabili GIS	Maintenance of Line ISOLATOR at Mendhasal	**GRIDCO**
406	500 MVA ICT- 2 main bay 400 Kv (407)	08-12-2018	10:00	08-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	
407	Tie bay of 500 MVA ICT-1 & Duburi Line Reactor 400 kv (405)	10-12-2018	10:00	09-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	
408	Future ICT main bay 400 kv (410)	11-12-2018	10:00	12-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	
409	220 kv Pandiabili-Samagra ckt-1(204)	12-12-2018	10:00	15-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	**GRIDCO**
410	220 kv Pandiabili-Samagra ckt-2 (205)	13-12-2018	10:00	16-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	**GRIDCO**
411	220 Kv Pandiabili-Atri ckt-2 (208)	17-12-2018	10:00	17-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	**GRIDCO**
412	500 MVA ICT-2 CB in 220 kv(202) ,CB of 220 kv Side only	20-12-2018	10:00	20-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	
413	220 KVBus Coupler (206)	21-12-2018	10:00	21-12-2018	17:00	ODB	ER-II/Odisha/ Pandiabili GIS	Timing & CRM of Breaker	
414	125MVAR Bus reactor-2	04-12-2018	10:00	04-12-2018	16:00	ODB	ER-II/Odisha/ Keonjhar	Online fine tuning of CSD.During this tuning multiple times reactor will be switched ON and OFF.	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
415	315 MVA ICT-I	06-12-2018	09.00	06-12-2018	18.00	ODB	ER-II/Odisha/ Keonjhar	AMP of ICT	
416	315 MVA ICT-II	11-12-2018	09.00	11-12-2018	18.00	ODB	ER-II/Odisha/ Keonjhar	AMP of ICT	
417	125 MVAR Bus Reactor-2 AT LAKHISARAI	01-12-2018	08:00	01-12-2018	20:00	ODB	POWERGRID ER-1	for CSD Commissioning work	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
418	400KV Baripada - Pandiabili Line	10-12-2018	06:00	10-12-2018	18:00	ODB	ER-II/Odisha/Cuttack TL	To attend accumulated defects under Cuttack TL Sec.	
419	400KV Dubri-Pandiabili line	11-12-2018	06:00	11-12-2018	18:00	ODB	ER-II/Odisha/Cuttack TL	To attend accumulated defects under Cuttack TL Sec.	**GRIDCO**
420	400kV Main Bus#1 BkTPP	12-12-2018	08:00	13/12/18	17:00	ODB	WBSETCL	Winter maintenance of 400kV side 29A Isolator of IBT-1, IBT-2 & Main Bus-1 Bays.	
421	400kV Main Bus#2 BkTPP	15-12-2018	08:00	16/12/18	17:00	ODB	WBSETCL	Winter maintenance of 400kV side 29B Isolator of IBT-1, IBT-2 & Main Bus-2 Bays.	
422	315MVA 400/220/33kV IBT#1 BkTPP	10/12/18	08:00	12/12/18	17:00	ODB	WBSETCL	Winter maintenance	
423	315MVA 400/220/33kV IBT#1 BkTPP	16/12/18	08:00	18/12/18	17:00	ODB	WBSETCL	Winter maintenance	
424	315MVA 400/220/33kV IBT#2 BkTPP	13/12/18	08:00	15/12/18	17:00	ODB	WBSETCL	Winter maintenance	

425	315MVA 400/220/33kV IBT#2 BkTPP	20/12/18	08:00	22/12/18	17:00	ODB	WBSETCL	Winter maintenance	
426	400KV FKK-Sagardighi Line-2	17/12/18	07:00	22/12/18	17:00	OCB	FSTPP	OCB (New CTs are of different model. Needs modification of CT support structures, foundations and bus pipes. So, OCB S/D is required)	**WB**
427	400KV FKK-Malda Line-2	27/12/18	09:00	28/12/18	17:00	ODB	FSTPP	ODB	
428	400KV FKK-Kahalgaon Line-2	29/12/18	09:00	29/12/18	17:00	ODB	FSTPP	ODB	
429	400KV MEJIA TPS-Maithon L#1	03-12-2018	09:00	03-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
430	400KV MEJIA TPS-Maithon L#1	04-12-2018	09:00	04-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
431	400KV MEJIA TPS-Maithon L#2	05-12-2018	09:00	05-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
432	400KV MEJIA TPS-Maithon L#2	06-12-2018	09:00	06-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
433	400KV MEJIA TPS-Maithon L#3	07-12-2018	09:00	07-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
434	400KV MEJIA TPS-Maithon L#3	08-12-2018	09:00	08-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
435	400kV MEJIA TPS-Jamshedpur	10-12-2018	09:00	10-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
436	400kV MEJIA TPS-Jamshedpur	11-12-2018	09:00	11-12-2018	17:00	ODB	DVC	Preventive maintenance of Bay and Tan Delta Test of CT	
437	400kvSgtpp-Parulia#1,Parulia#1Bay&TieBayatSgtpp	01-12-2018	07:00	01-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
438	400kv Sgtpp-Parulia#2,Parulia#2Bay&TieBayatSgtpp	03-12-2018	07:00	03-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
439	315 MVA ICT at SGTPP	04-12-2018	07:00	04-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
440	400kv Tie-Bay of 315MVA ICTatSGTPP	05-12-2018	07:00	05-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
441	315 MVA ICT#1 at JRT	05-12-2018	08:00	07-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
442	400kvSgtpp-Berhampur#1& Tie-BayatSgtpp	06-12-2018	07:00	06-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
443	400kvSgtpp-Berhampur#2& Tie-BayatSgtpp	07-12-2018	07:00	07-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
444	400kvSgtpp-FSTPP#2 & Tie-Bay at Sgtpp	08-12-2018	07:00	08-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
445	315 MVA ICT #2 at JRT	09-12-2018	08:00	11-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
446	315 Mva ICT#1 at BKTPP	10-12-2018	08:00	10-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
447	400 kv Sgtpp-JRT # &TieBayatSGTPP	10-12-2018	07:00	10-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
448	400 kv Main Bus#2 at JRT	11-12-2018	06:00	12-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
449	315 Mva ICT#2 at BKTPP	13-12-2018	08:00	15-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
450	400 kv Main Bus#1 at BKTPP	12-12-2018	08:00	13-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
451	315 MVA ICT #3 AT JRT	13-12-2018	08:00	15-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
452	400 kv Main Bus#1 at JRT	14-12-2018	06:00	15-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
453	400 Kv Main Bus#2 at BKTPP	15-12-2018	08:00	16-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
454	315 MVA ICT#4 at JRT	17-12-2018	08:00	19-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
455	315 Mva ICT#1 at BKTPP	16-12-2018	08:00	18-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
456	315 Mva ICT#2 at BKTPP	20-12-2018	08:00	22-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
457	400 kv New-Chanditala-JRT#	21-12-2018	08:00	22-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	

458	400 kv BKTPP-JRT#	24-12-2018	08:00	25-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
459	400 kv SGTPP-JRT#	27-12-2018	08:00	28-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
460	400 kv Subhasgram-JRT#	30-12-2018	08:00	31-12-2018	15:00	ODB	WBSETCL	MAINTANANCE WORK	
461	220kV Budhipadar- Korba Ckt.II	07-12-2018	07:00	08-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	**NLDC**
462	220kV Jayanagar- Jeypore(PG) Ckt.I	16-12-2018	07:00	16-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
463	220kv Jayanagar - Jeypore(PG) Ckt.II	29-12-2018	07:00	30-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
464	220KV TTPS-JODA Ckt-II(from loc-235 to loc no-508)	06-12-2018	07:00	07-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
465	220KV TTPS-JODA Ckt-I(from loc-235 to loc no-508)	19-12-2018	07:00	21-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
466	132 KV Baripada - Baripada(PG) line	23-12-2018	07:00	23-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
467	132/33kV Rairangpur- Baripada PG line	28-12-2018	07:00	28-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
468	220KV S/Y at Grid S/S,Atri	09-12-2018	07:00	09-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
469	400/220KV Grid S/S,Mendhasal (400KV S/Y)	10-12-2018	07:00	10-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
470	220kV Rengali- Rengali (PG) Ckt.I	05-12-2018	07:00	05-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
471	220KV TTPS-JODA Ckt-II(up to loc-235)	06-12-2018	07:00	07-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
472	220kV Rengali- Rengali (PG) Ckt.II	07-12-2018	07:00	07-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
473	220kV Rengali- Kaniha Ckt. (Loc. 98 to Loc. 187)	13-12-2018	07:00	14-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
474	400/220/132KV grid s/s Meramundali	14-12-2018	07:00	14-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
475	220KV TTPS-JODA Ckt-I(up to loc-235)	19-12-2018	07:00	21-12-2018	16:00	ODB	GRIDCO	MAINTANANCE WORK	
476	400KV Baripada - Pandiabili Line	10-12-2018	06:00	10-12-2018	18:00	ODB	ER-II/Odisha/Cuttack TL	To attend accumulated defects under Cuttack TL Sec.	
477	400KV Dubri-Pandiabili line	11-12-2018	06:00	11-12-2018	18:00	ODB	ER-II/Odisha/Cuttack TL	To attend accumulated defects under Cuttack TL Sec.	**GRIDCO**
478	400KV TSTP-RENGALI-I	01-12-2018	08:00	01-12-2018	18:00	OCB	TSTPP	ARM CHANGING OF ISOALTOR	
479	400KV TSTP-ROURKELLA-I	11-12-2018	08:00	15-12-2018	18:00	OCB	TSTPP	ANNUAL MAINTANANCE WORK	
480	400KV TSTP-ROURKELLA-II	03-12-2018	08:00	05-12-2018	18:00	OCB	TSTPP	ANNUAL MAINTANANCE WORK	
481	ICT-II AT TALCHER	19-12-2018	08:00	21-12-2018	18:00	OCB	TSTPP	ANNUAL MAINTANANCE WORK	**GRIDCO**
482	400KV MAIN BUS-2 SGTPP	10-12-2018	08:00	10-12-2018	16:00	ODB	WBSETCL	for commissioning of 400kv Gokarna#2 bay at SgTPP	
483	400KV MAIN BUS-2 SGTPP	17-12-2018	08:00	18-12-2018	16:00	ODB	WBSETCL	for commissioning of 400kv Gokarna#2 bay at SgTPP	
484	400KV SGTPP-PARULIA -I	14-12-2018	08:00	16-12-2018	16:00	ODB	WBSETCL	for commissioning of 400kv Gokarna#2 bay at SgTPP	
485	125 MVAR Bus Reactor-2 AT LAKHISARAI	01-12-2018	08:00	01-12-2018	20:00	ODB	POWERGRID ER-1	for CSD Commissioning work	**NO REACTOR SD WILL BE ALLOWED TILL FEB 19**
486	BUS REACTOR & BAY BARH	10-12-2018	09:30	15-12-2018	18:00	OCB	BARH	ANNUAL MAINTANANCE WORK	
487	400 kv barh-khstpp-i	04-12-2018	09:30	04-12-2018	18:00	ODB	BARH	FOR LEVELLING OF LAND	
488	401 kv barh-khstpp-ii	03-12-2018	09:30	03-12-2018	18:00	ODB	BARH	FOR LEVELLING OF LAND	
489	402 kv barh-motihari-i	12-12-2018	09:30	12-12-2018	18:00	ODB	BARH	FOR LEVELLING OF LAND	
490	403 kv barh-motihari-ii	13-12-2018	09:30	13-12-2018	18:00	ODB	BARH	FOR LEVELLING OF LAND	

491	404 kv barh-patna-i	05/12/18	09:30	05/12/18	18:00	ODB	BARH	FOR LEVELLING OF LAND	
492	405 kv barh-patna-ii	06/12/18	09:30	06/12/18	18:00	ODB	BARH	FOR LEVELLING OF LAND	
493	400kv angul-bolangir	14/12/18	07:00	17/12/20`18	18:00	ODB	ER-II/Odisha/Jeypore	or PID deect insulatorinsulator replacement work	
494	400KV Jeypore-Bolangir	18/12/18	07:00	19/12/18	18:00	ODB	ER-II/Odisha/Jeypore	or PID deect insulatorinsulator replacement work	
495	765KV Angul-Srikakulam line-1	22/12/18	07:00	23/12/18	18:00:00 PM	ODB	ER-II/Odisha/Kaniha	AMP work o line	
496	765KV Angul-Srikakulam line-2	24/12/18	07:00	25/12/18	18:00:00 PM	ODB	ER-II/Odisha/Kaniha	AMP work o line	
497	400KV baripada-Keonjhar line reactor at Baripada	08/12/18	09:00	08/12/18	17:30:00 PM	ODB	ER-II/Odisha/BARIPADA S/S	AMP work and Aircel repair	
498	400/220kv ICT-2 at rengali	10/12/18	09:00	11/12/18	17:00	ODB	ER-II/Odisha/Rengali S/S	Health assessment and AMP work	
499	400KV Baripada- Pandiabili line	10/12/18	06:00	10/12/18	18:00	ODB	ER-II/Odisha/cuttack TL	shut down nature work	
500	400KV Dubri- Pandiabili line	11/12/18	06:00	11/12/18	18:00	ODB	ER-II/Odisha/cuttack TL	shut down nature work	
501	400 KV Chaibasa-Kharagpur-1	13/12/18	10:00	13/11/18	17:00	ODB	ER-I/POWERGRID/	Rectiication o auto reclose scheme and NGR Single phasing Scheme	
502	400 KV Chaibasa-Kharagpur-2	14/12/18	10:00	14/11/18	17:00	ODB	ER-I/POWERGRID/	Rectiication o auto reclose scheme and NGR Single phasing Scheme	
503	400KV KOLAGHAT -KHARAGPUR-II	04/12/18	10:00	05/12/18	17:00	ODB	WBSETCL	CT & CB TEST	
504	400KV NEW CHANDITALA-KHARAGPUR	07/12/18	10:00	08/12/18	17:00	ODB	WBSETCL	CT & CB TEST	
505	400KV KOLAGHAT -ARAMBAGH	11/12/18	10:00	12/12/18	17:00	ODB	WBSETCL	CT & CB TEST	
506	400KV BUS SECTIONALIZER AT KOLAGHAT	18/12/18	10:00	19/12/18	17:00	OCB	WBSETCL	CT & CB TEST	
507	400KV BUS COUPLER AT KOLAGHAT	21/12/18	10:00	22/12/18	17:00	OCB	WBSETCL	CT & CB TEST	
508	400KV KOLAGHAT -KHARAGPUR-I	13/12/18	10:00	14/12/18	17:00	ODB	WBSETCL	CT & CB TEST	
509	400KV TSTPS-ANGUL	26/12/18	08:00	28/12/18	17:30	OCB	NTPC/TALCHER	AMP	

* **Detail paln of insulator replacement must be submitted**

Outages approved in other RPCs requiring ERPC approval

Sl No	Name of Elements	From		To		Basis	outages proposed in	Reason	Remarks
		Date	Time	Date	Time				
1	400KV Bongaigaon -NSLG Ckt#2 along with LR	29-Nov-18	07:00	29-Nov-18	15:00	Daily	NERPC	Existing System Normal Maintenance Related Shut Down	400KV NSLG Ckt#2 Line & Line Reactor shall be out of service
2	765kV D'JAIGARH-RANCHI II	4-Dec-18	09:00	5-Dec-18	18:00	Cont.	WRPC	To facilitate Gantry & Equipment erection of under construction 765KV Bus Reactor bank#3 at Dharamjaigarh PS & Other ckt A/R in Non-auto mode required.	
3	220kV KORBA(EAST)-BUDDHIPADAR III	12-Dec-18	09:00	12-Dec-18	18:00	Daily	WRPC	For Broken insulator replacement at Loc.No. 523-02 (R-Ph), Installation of Missing Conductor VD at Loc. No. 447,555, & EVD at Loc. No. 516, 561, & CC Ring at Loc. No. 476	

4	400KV RANCHI-SIPAT I	17-Dec-18	09:00	17-Dec-18	16:00	Daily	WRPC	Rectification of hanging CC ring at loc. No. 171, dislocated EVD 378. Other circuit in non auto mode for same duration. i.e. CKT-2	
5	400KV RANCHI-SIPAT II	18-Dec-18	09:00	18-Dec-18	18:00	Daily	WRPC	Clipping of pilot string with Jumper Conductor, Rectification of dislocated Conductor VD at Loc. no. 225, Installation of Missing Arcing horn at Loc. No. at Loc. No. 176. Other circuit in non auto mode for same duration. i.e. CKT-1	
6	220kV KORBA(EAST)-BUDDHIPADAR III	21-Dec-18	08:30	30-Dec-18	18:00	Daily	WRPC	A/R in Non-auto mode for PID works.	
7	FATEHPUR-PG (765 KV)-SASARAM-ER (765KV)	1-Dec-18	08:00	10-Dec-18	18:00	DAILY	NRPC	For Strengthening work of Suspension Towers .	
8	BALIA(400KV)-BIHARSHARIF-ER (400KV)I	6-Dec-18	09:00	7-Dec-18	18:00	DAILY	NRPC	For repalcement of 03 nos(R,Y,B) Bushing with RIP Bushing of 400KV 63MVAR Line Reactor of Ballia-Biharsarif-1 line	
9	**MUZAFFARPUR-ER (400KV)-GORAKHPUR-PG (400KV)I**	17-Dec-18	09:30	17-Dec-18	16:30	DAILY	NRPC	**For testing of Autoreclose Protection Relay after Retrofitment of Obselete Siemens make AR relay with new numerical AR Relay**	
10	MUZAFFARPUR-ER (400KV)-GORAKHPUR-PG (400KV)2	18-Dec-18	09:00	18-Dec-18	16:00	DAILY	NRPC	For testing of Autoreclose Protection Relay after Retrofitment of Obselete Siemens make AR relay with new numerical AR Relay	

Annexure-E1

Details of stations/Units required to operate under RGMO/FGMO as per IEGC							Whether operating under RGMO	indicate in case of status is not available
Name of State	Type	Name of Uitlity	Sector (CS/SS/Private)	Name of Station	Name of Stage/ Unit	Installed capacity (MW)		
JHARKHAND	Thermal	TVNL	SS	Tenughat	1	210	No	Difficulties in implementing RGMO & exemption not
			SS		2	210	No	
	Hydro	JSEB	SS	Subarnrekha	1	65	Yes	
			SS		2	65	Yes	
WEST BENGAL	Termal	WBPDCL	SS	Bandel TPS	1	82.5	No	
			SS		2	82.5	No	
			SS		3	82.5	No	
			SS		4	82.5	No	
			SS		5	210	No	
			SS	Santaldih	5	250	No	Unit#6 could not be implemented because of some technical problem
			SS		6	250	No	
			SS	Kolaghat	1	210	No	Nil
			SS		2	210	No	Nil
			SS		3	210	No	Nil
			SS		4	210	No	Nil
			SS		5	210	No	Nil
			SS		6	210	No	Nil
			SS	Bakreshwar	1	210	Yes	
			SS		2	210	Yes	
			SS		3	210	Yes	
			SS		4	210	Yes	
			SS		5	210	Yes	
			SS	Sagardighi	1	300	No	Without OEM support it is not possible to put in FGMO/RGMO. At present OEM support is not
			SS		2	300	No	
	Hydro		SS	PPSP	1	225	Yes	In 134th OCC WBPDCL informed that the units are in RGMO/FGMO mode
			SS		2	225	Yes	
			SS		3	225	Yes	
			SS		4	225	Yes	
	Thermal	CESC	SS	Budge-Budge	1	250	Yes	
			SS		2	250	Yes	
			SS		3	250	Yes	
			SS	Haldia	1	300	Yes	
			SS		2	300	Yes	
	Thermal	DPL	SS	DPL	7	300	Yes	
Orissa		OPGC	SS	IB TPS	1	210	No	Not adequate response in RGMO
			SS		2	210	No	
	Hydro	OHPC	SS	Burla	1	49.5	No	
			SS		2	49.5	No	
			SS		3	32	No	
			SS		4	32	No	
			SS		5	37.5	No	
			SS		6	37.5	No	
			SS		7	37.5	No	
			SS	Balimela	1	60	No	
			SS		2	60	No	
			SS		3	60	No	
			SS		4	60	No	
			SS		5	60	No	
			SS		6	60	No	
			SS		7	75	No	
			SS		8	75	No	
			SS	Rengali	1	50	No	
			SS		2	50	No	
			SS		3	50	No	
			SS		4	50	No	
			SS		5	50	No	
			SS	Upper Kolab	1	80	No	
			SS		2	80	No	
			SS		3	80	No	
			SS		4	80	No	
			SS	Indravati	1	150	No	
			SS		2	150	No	

			SS	Indravati	3	150	No	
			SS		4	150	No	
			64					
Central Sector	Thermal	DVC	CS	Bokaro-A	1	500	Yes	
			CS	Bokaro-B	3	210	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS	CTPS	3	130	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS		7	250	Yes	
			CS		8	250	Yes	
			CS	DTPS	4	210	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS	Mejia	1	210	No	Not possible due to non availability of Electro
			CS		2	210	No	
			CS		3	210	No	Action has been initiated to put in RGMO, but testing is not yet completed.
			CS		4	210	Yes	
			CS		5	250	Yes	
			CS		6	250	Yes	
			CS	Mejia - B	7	500	Yes	
			CS		8	500	Yes	
			CS	DSTPS	1	500	Yes	
			CS		2	500	Yes	
			CS	KODERMA	1	500	Yes	
			CS		2	500	Yes	
			CS	RTPS	1	600	Yes	
			CS		2	600	Yes	
	Hydro		CS	Panchet	1	40	No	RGMO mode of operation would not be possible for
			CS		2	40	No	
	Thermal	NTPC	CS	Farakka STPP-I	1	200	Yes	
			CS		2	200	Yes	
			CS		3	200	Yes	
			CS	Farakka STPP-II	1	500	Yes	
			CS		2	500	Yes	
			CS	Farakka-U#6		500	Yes	Kept in RGMO mode from April, 2014
			CS	Kahalgoan STPP	1	210	Yes	
			CS		2	210	Yes	
			CS		3	210	Yes	
			CS		4	210	Yes	
			CS		5	500	Yes	
			CS		6	500	Yes	
			CS		7	500	Yes	
			CS	Talcher STPP Stg-I	1	500	Yes	
			CS		2	500	Yes	
			CS	Barh	5	660	Yes	
			CS	Barh	6	660	Yes	
	Hydro	NHPC	CS	Teesta HEP	1	170	Yes	
			CS		2	170	Yes	
			CS		3	170	Yes	
			42					
IPP	Thermal	IPP	PS	Maithon RB TPP	1	525	Yes	
			PS		2	525	Yes	
			PS	Sterlite	1	600	Yes	
			PS		2	600	Yes	
			PS		3	600	Yes	
			PS		4	600	Yes	
			PS	Adhunik Power	1	270	Yes	
			PS		2	270	Yes	
			PS	JLHEP	1	48	No	(RoR project with 3 hours pondage)
			PS		2	48	No	
			PS	Chujachen HEP	1	49.5	No	(RoR project with 3 hours pondage)
			PS		2	49.5	No	
			PS		1	200	No	could be put in RGMO

	Hydro	IPP	PS	Teesta Urja	2	200	No	could be put in RGMO mode but because of transmission evacuation constraint RGMO/FGMO is disabled
			PS		3	200	No	
			PS		4	200	No	
			PS		5	200	No	
			PS		6	200	No	
			PS	Dikchu	1	48	No	(RoR project with 3 hours pondage)
			PS		2	48	No	

Quarterly Preparedness Monitoring -AGENDA

(Status as on :)

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

Annexure – E.4

AVAILABILITY STATUS OF EVENT LOGGER, DISTURBANCE RECORDER & GPS

Sl. NO	Substation	Protection & Control System						Remarks
		Availability			Time Synchronization			
		EL	DR	GPS	Relay	DR	EL	
1	Subhasgram	Yes	Yes	Yes	Yes	Yes	Yes	
2	Maithon	Yes	Yes	Yes	Yes	Yes	Yes	
3	Durgapur	Yes	Yes	Yes	Yes	Yes	Yes	
4	Malda	Yes	Yes	Yes	Yes	Yes	Yes	
5	Dalkhola	Yes	Yes	Yes	Yes	Yes	Yes	
6	Siliguri	Yes	Yes	Yes	Yes	Yes	Yes	
7	Binaguri	Yes	Yes	Yes	Yes	Yes	Yes	
8	Birpara	Yes	Yes	Yes	Yes	Yes	Yes	
9	Gangtok	Yes	Yes	Yes	Yes	Yes	Yes	
10	Baripada	Yes	Yes	Yes	Yes	Yes	Yes	
11	Rengali	Yes	Yes	Yes	Yes	Yes	No	New EL would be implemented in BCU under NTAMC project by March'2015
12	Indravati (PGCIL)	Yes	Yes	Yes	Yes	Yes	No	EL is old one(model-PERM 200), provision for time synchronisation is not available. New EL would be implemented in BCU under NTAMC project by March'2015
13	Jeypore	Yes	Yes	Yes	Yes	Yes	Yes	EL is old and not working satisfactorily. New EL would be implemented in BCU under NTAMC project by March, 2015
14	Talcher	Yes	Yes	Yes	Yes	Yes	Yes	
15	Rourkela	Yes	Yes	Yes	Yes	Yes	Yes	
16	Bolangir	Yes	Yes	Yes	Yes	Yes	Yes	
17	Patna	Yes	Yes	Yes	Yes	Yes	Yes	
18	Ranchi	Yes	Yes	Yes	Yes	Yes	Yes	
19	Muzaffarpur	Yes	Yes	Yes	Yes	Yes	Yes	
20	Jamshedpur	Yes	Yes	Yes	Yes	Yes	Yes	
21	New Purnea	Yes	Yes	Yes	Yes	Yes	Yes	
22	Gaya	Yes	Yes	Yes	Yes	Yes	Yes	
23	Banka	Yes	Yes	Yes	Yes	Yes	Yes	
24	Biharsariif	Yes	Yes	Yes	Yes	Yes	Yes	
25	Barh	Yes	Yes	Yes	Yes	Yes	Yes	
26	Sagardighi	No	Yes	Yes	Yes	Yes	No	EL is under process of restoration with help from OEM, China
27	Kahalgaon	Yes	Yes	Yes	Yes	Yes	Yes	
28	Farakka	Yes	Yes	No	No	No	No	Time synchronization available for Farakka-Kahalgaon line-III & IV. The same will be implemented in rest of the lines by December, 2014.
29	Meramundali	Defunct	Yes	Yes	Yes	Yes	Yes	
30	Tisco	Yes	Yes	Yes	Yes	Yes	Yes	
31	Bidhannagar	No	Yes	Yes	No	No	No	Using DR & EL available in Numerical

								relays. GPS will be put in service by January, 2015.
32	Indravati (OHPC)	Yes	Faulty	No	No	No	No	Time synchronization will be done by Feb, 2015. ICT-I feeders using DR & EL available in Numerical relays. 400 kV ICT-II feeder is being maintained by PGCIL, Mukhiguda.Status may confirm from PGCIL
33	Kharagpur	No	Yes	Yes	No	No	No	Using DR & EL available in Numerical relays.
34	DSTPS	Yes	Yes	Yes	Yes	Yes	Yes	
35	Sterlite	Yes	Yes	Yes	Yes	Yes	Yes	
36	Mejia 'B'	Yes	Yes	Yes	Yes	Yes	Yes	
37	Mendhasal	Defunct	Yes	Yes	Yes	Yes	No	EL will be restored by March, 2015.
38	Arambagh	No	Yes	Yes	No	No	No	Using DR & EL available in Numerical relays
39	Jeerat	No	Yes	No	No	No	No	Using DR & EL available in Numerical relays. Procurement of new GPS is in progress.
40	Bakreswar	Yes	Yes	Yes	Yes	Yes	Yes	
41	GMR	Yes	Yes	Yes	Yes	Yes	Yes	
42	Maithon RB	Yes	Yes	Yes	Yes	Yes	Yes	
43	Raghunathpur	Yes	Yes	Yes	Yes	Yes	Yes	
44	Kolaghat	Yes	Yes	Yes	Yes	Yes	Yes	
45	Teesta V	Yes	Yes	Yes	Yes	Yes	Yes	
46	Koderma	Yes	Yes	Yes	Yes	Yes	Yes	
47	Sasaram	Yes	Yes	Yes	Yes	Yes	Yes	
48	Rangpo	Yes	Yes	Yes	Yes	Yes	Yes	
49	Adhunik	Yes	Yes	Yes	Yes	Yes	Yes	
50	JITPL	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***	
51	765kV Angul	Yes	Yes	Yes	Yes	Yes	Yes	
52	Chuzachen	Yes	Yes	Yes	No	Yes	Yes	
53	New Ranchi 765kV	Yes	Yes	Yes	Yes	Yes	Yes	
54	Lakhisarai	Yes	Yes	Yes	Yes	Yes	Yes	
55	Chaibasa							
56	765kV Jharsuguda	Yes	Yes	Yes	Yes	Yes	Yes	All are in working condition. However a dedicated DR for 765KV Lines; make TESLA is not working. M/s Siemens has assured to commission the same by 31.01.15
57	Beharampur	Yes	Yes	Yes	Yes	Yes	Yes	
58	Keonjhar	Yes	Yes	Yes	Yes	Yes	Yes	

Eastern Regional Power Committee

The status of ERS towers in Eastern Region as updated in OCC meetings is given below:

1) ERS towers available in Powergrid S/s is as given below:

Sl. No.	Name of S/S	No. of ERS towers available
1	Durgapur, ER-II	1 Set (8 towers)
2	Rourkela, ER-II	3 towers incomplete shape
3	Jamshedpur, ER-I	15 towers (10 nos Tension tower and 5 nos suspension tower)

2) The present status of ERS towers in OPTCL system is as follows:

Sl. No.	Name of S/S	No. of ERS towers available
1	Mancheswar	2 nos, 400 kV ERS towers
2	Mancheswar, Chatrapur & Budhipadar	42 nos, 220 kV ERS towers

- 12 nos. of new 400 kV ERS towers have been recieved.
- Another, 16 nos of 400 kV towers accompanied with 6 sets of T&P are required which is under process

3) The present status of ERS towers in WBSETCL system is as follows:

Sl. No.	Name of S/S	No. of ERS towers available
1	Gokarna	2 sets
2	Arambag	2 sets

4) The present status of ERS towers in BSPTCL system is as follows:

Sl. No.	Type	Quantity	Remarks
1	Tension ERS Tower	12	New
2	Suspension ERS Tower	20	New
3	Old ERS Tower	10	1 no. is defective
Total		**42**	

- As informed in ERS meeting held on 10-11-2014 taken by Member (Power System), CEA; 2 sets (12 tension & 20 suspension) of ERS towers had been procured and currently available in BSPTCL system (as mentioned in above table with remarks “New”).
- Same ERS tower is used in both 220 kV and 132 kV circuits.

5) In 25th ERPC meeting held on 21.09.2014, E R P C concurred to the proposal of procurement of four sets of ERS and it was also informed that, the proposed four sets of ERS will be kept at Sikkim, Siliguri, Ranchi and Gaya and will be used by all constituents of ER during emergencies.

   Powergrid informed that four sets of ERS for Eastern Region will be procured.

5) DVC informed that they are in process of procuring two (2) sets of 400 kV ERS towers.

Checklist for Submission of new transmission elements for updation in Protection Database

NAME OF ORGANISATION:
FOR THE MONTH OF:

SUBSTATION DETAIL:

Sl No	DETAILS OF ELEMENTS	DATA TYPE	Status of Submission (Y/N)	Remarks
1	TRANSMISSION LINE	LINE LENGTH, CONDUCTOR TYPE, VOLTAGE GRADE		
2	POWER TRANSFORMER	NAMEPLATE DETAILS		
3	GENERATOR	TECHNICAL PARAMETERS		
4	CURRENT TRANSFORMER	NAMEPLATE DETAILS		
5	VOLTAGE TRANSFORMER	NAMEPLATE DETAILS		
6	RELAY DATA	MAKE, MODEL and FEEDER NAME		
7	RELAY SETTINGS	NUMERICAL RELAYS: CSV or XML file extracted from Relay ELECTROMECHANICAL RELAYS: SNAPSHOT of RELAY		
8	REACTOR	NAMEPLATE DETAILS		
9	CAPACITOR	NAMEPLATE DETAILS		
9	UPDATED SLD			

SIGNATURE:
NAME OF REPRESENTATIVE:
DESIGNATION:
CONTACT:
E-MAIL ID: