Minutes

of

139th OCC Meeting

Date: 12.12.2017

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 139th OCC Meeting held on 27th November, 2017 at ERPC, Kolkata

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

Member Secretary, EPRC chaired the meeting. He welcomed ED, ERLDC and all the other participants in the meeting.

Thereafter, he requested EE (PS), ERPC to take up the agenda points in seriatim.

Item no. 1: Confirmation of minutes of 138th OCC meeting of ERPC held on 30.10.2017

The minutes of 138th OCC meeting were uploaded in ERPC website and circulated vide letter dated 08.11.2017 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 138th OCC meeting.

PART A : ER GRID PERFORMANCE

Item no. A1: ER Grid performance during October, 2017

The average consumption of Eastern Region for October - 2017 was 401 Mu. Eastern Region has achieved record maximum energy consumption of 440 Mu on 18th October-17. Total Export schedule of Eastern region for October - 2017 was 1425 Mu, whereas actual export was 1064 Mu.

ERLDC may present.

Deliberation in the meeting

*ERLDC presented the performance of the Eastern Region grid during October 2017 and up to 20th November 2017. Presentation is enclosed at **Annexure- A1**.*

ERLDC informed that Bangladesh is importing less power during off peak hours (200 MW approx) because of less demand.

ERLDC informed that three days was required in restoration of the direct circuit of 400kV Rourkela-Raigarh line due to involvement and mis-co-ordination within multiple agencies (Powergrid, Vedanta Ltd of Odisha). ERLDC placed the details as follows:

- *400kv Jhasuguda_Sterlite-I & II charged for the first time at 18:27hrs and 18:53 hrs of 6/11/17respectively.*
- *Interim LILO connection of 400 kV Rourkela – Raigarh - IV at Vedanta removed at 00:01 hrs on 07/11/17.*
- *400 kV Rourkela – Raigarh # IV (Direct Ckt) charged and synchronised at 19:01 hrs of 10/11/17.*

OCC advised ERLDC to include the frequency duration curve in the presentation from next month onwards for better understanding of the frequency profile.

ERLDC agreed.

Item no. A2: Persistent over drawl by West Bengal and Odisha

It has been observed since few days, West Bengal is over drawing continuously to the tune of 4 to 5 mu per day with maximum deviation respect to schedule was in tune of 500 to 600 MW and Odisha is over drawing continuously to the tune of 3 to 4 mu per day with maximum deviation respect to schedule was in tune of 400 to 500 MW. Numbers of instructions/ violation messages/ Feeder opening intimations and warning messages for controlling over drawl were also issued to SLDC control room during real time operation to maintain their drawl within schedule. However, the response of West Bengal and Odisha were not commensurate with criticality of the situation. Further some instances have also been observed, where WBSEDCL operated PPSP under PUMP mode during overdrawl situation.

In 138th OCC, West Bengal overdrawl pattern for the October month was deliberated and opening of second level feeder for demand disconnection in case of continuous overdrawl was also discussed. West Bengal also informed that corrective measures and also arrangement of extra power will be done to mitigate such overdrawl. However, there was no substantial improvement noticed in real time operation.

ERLDC may present. WBSETCL and Odisha may explain.

Deliberation in the meeting

ERLDC presented the overdrawl pattern of Odisha and West Bengal during October, 2017 and up to 20th November 2017. ERLDC informed that WBSEDCL operated PPSP under pump mode even during overdrawl situation.

WBSEDCL representative was not available for discussion.

Odisha informed that one unit of Vedanta, OPGC and TTPS were under maintenance during October 2017. Some of the hydro generating units of Burla HEP and Balimela were also not available for service. In view of above, they were compelled to overdraw from Grid.

OCC advised Odisha and West Bengal to plan the availability and demand properly and maintain the drawl within the schedule. OCC suggested to purchase power through exchange if required.

OCC advised SLDC, West Bengal to avoid Pump mode operation of PPSP during overdrawl situation.

Item no. A3: OPERATION OF HYDRO POWER PROJECTS IN PEAKING MODE

CEA vide letter dated 18.07.17 informed that POSOCO has carried out operational analysis of various hydro stations in the country and observed that despite 40.6 GW of peaking hydro capacity only about 33 GW peak generation is carried out on all India basis. According to POSOCO, this is on account of a number of hydro stations, particularly in state sector, which are not being operated in peaking mode. In order to examine the above observation, a Sub-committee has been constituted by the MoP under Chiarperson, CEA with heads of POSOCO, NHPC, SJVN & THDC as members and Director (H), MoP as the Member Convenor. The Sub-Committee has held three meetings with the concerned hydro generating stations and concluded that there is scope for about 2000 MW additional power generation from hydro stations during peak hours.

It has been desired by the Chairperson that the matter of utilization of hydro stations in peaking mode be made a regular agenda item for discussion at the monthly OCC meetings while

discussing operational planning for the month ahead and analyzing the operation in the previous month.

In 135th OCC, ERLDC presented the performance in peaking mode for hydro generations in Eastern Region.

OCC decided to review the performance of hydro generators in peaking mode in monthly OCC meetings

ERLDC received daily hydro outage status report from SLDC, Odisha regularly. Daily outage reports from SLDC, WBSETCL & SLDC, JUSNL on daily basis to ERLDC is still pending. IPPs are also advised to send daily outage status report (Forced Outages) to ERLDC in case of outage of units at their respective stations.

ERLDC may present. SLDC, WBSETCL & JUSNL and IPPs may comply.

Deliberation in the meeting

*ERLDC has presented the performance of the hydro generators. Presentation is enclosed at **Annexure-A3.1**.*

ERLDC informed that Tasheding HEP was not able to maintain the generation as per the schedule during evening peak hours.

OCC advised Tasheding to plan the generation schedule properly to avoid deviation.

OCC advised ERLDC to segregate the performance of hydro generators during peak (16:00 hrs to 22:00 hrs) and off peak hours to identify how much peak support is obtained from the Hydro generators.

ERLDC agreed.

*ERLDC presented the generation schedule and dispatch of water of Teesta-III and Teesta V generators. Presentation is enclosed at **Annexure-A3.2**.*

ERLDC informed that there is a need for coordination between the Teesta III and Teesta V generators for optimum utilization of water during Peak Hours without effecting the long term beneficiaries of Teesta-V.

OCC felt that Teesta III generation schedule should be adjusted as per the generation schedule of Teesta V.

It was informed that one of their units are going for maintenance during December 2017 as given below:

- Teesta V Unit #1 shutdown from 1st December 2017 to 21st December 2017 for Annual Maint.
- Teesta V Unit #2 shutdown from 23rd December 2017 to 12th January 2018 for Annual Maint.

*ED, ERLDC requested to differ the shutdown for 2 days to check feasibility of the proposal given in **Annexure-A3.2**.*

NHPC agreed to differ the shutdown for one day.

Further, on request of Teesta III, ERLDC informed that the enhancement of NOC from 782 MW to 1050 MW will be considered keeping in view the shutdown schedule of Teesta-V.

PART B: ITEMS FOR DISCUSSION

Item No. B.1: Commissioning of new transmission elements in Eastern Region

In 118th OCC, it was informed that the network diagram of eastern region needs to be updated on regular basis on account of commissioning of new elements in the CTU as well as STU networks.

OCC advised all the constituents to update the list of newly commissioned power system elements to OCC on monthly basis so that ERLDC/ERPC can update the network diagram on regular basis.

New Generators/Transmission Elements commissioned/charged during **October, 2017** as follows:

1) 220 KV New Melli-Tashiding ckt charged for the first time at 17:34 hrs of 12.10.17.
2) 500MVA ICT-II at Maithon (old 315MVA Replacement) charged for the first time at 18:42 hrs. of 13.10.17.
3) 132kV Motihari-Raxual-DC Charged for first time as follows:
    a. Ckt-2 at 12:44 hrs. of 18.10.17
    b. Ckt-1 at 12:31 hrs. of 20.10.17
4) 132kV GIS elements charged at Birpara (PG) SS as follows:
    a. 160MVA ICT-I 132kV side Bay: 11:17 hrs. of 28.10.17
    b. 160MVA ICT-II 132kV side Bay: 17:38 hrs. of 28.10.17
    c. 132kV Birpara(PG)-Birpara(WB)-1 bay at Birpara(PG): 17:47 hrs. of 28.10.17
    d. 132kV Birpara(PG)-Birpara(WB)-2 bay at Birpara(PG): 11:28 hrs. of 28.10.17
    e. 132kV Bus coupler Bay: 15:09 hrs. of 29.10.17.
5) 220kV Tashiding-Rangpo charged for first time at 18:22 Hrs. of 30.10.17.

Constituents may update.

Deliberation in the meeting

Odisha submitted the list of elements commissioned during October 2017 as follows:

- *220/132kV, 160 MVA Auto transformer at Balasore charged for the first time on 03.10.17*
- *220/33kV, 20 MVA 2nd Transformer at Bonei charged for the first time on 16.10.17*
- *132kV Rairakhol Traction feeder charged on 26.10.17.*

New generating units synchronized during October 2017 as follows:

1) Tashiding Unit I & II (2 X 48.5 MW) (Shiga Energy, Sikkim IPP) has been declared under COD at 0:00 hrs of 18/10/17.

Item No. B.2: 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-B2**.

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

Constituents may update.

Deliberation in the meeting

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. B.3: 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.

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 (in Rs.)	Status as updated in 135th OCC
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14		120.67 Cr	11.04 Cr.	95 % Supply Completed
2		Transmission System improvement of WBSETCL	22-05-17				
3		Renovation & modernisation of transmission system for relieving congestion in Intra-State Transmission System.	22-05-17				
4		Installation of switchable reactor & shunt capacitors					
5	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	10.05.17	162.5 Cr.	16.25 Cr + 8.91 Cr	***Total contract awarded for Rs. 51.35 Cr***
6	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16		20 Cr.	4.94 Cr. + 9.88 Cr.	1) Hardware supplied and installed. 2) SAT completed for pilot state 3) **Protection database management software (PDMS) put in live w.e.f. 30.03.17.** 4) ***Training on PDMS organised at ERPC, Odisha, Bihar, WBSETCL, Jharkhand and DVC.***
7	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharsharif, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone & 132/33 kV GSS Kataiya	11/5/2015	Feb'2017	64.22 crore	23.68 crore	Project is on going. ***Contract awarded for Rs.71.37 Cr till date.***
8		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016		18.88 crore		Approved (triparty agreement among NLDC, Govt. of Bihar & BSPTCL is in under process)
9		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.					Recommendation of appraisal committee is awaited. Estimated cost 54.69 crore.
10	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation			25.96		Tendering in process.

11		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			140		Appraisal committee has recommended. It will be placed in next monitoring Committee meeting.
12	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station			1.39 Cr		***Award placed to ABB. Material delivery by Dec, 17.***
13		Upgradation of Protection and SAS			26.09		Approved by Ministry of Power
14	OHPC	Renovation and up-gradation of protection and control system of 4 nos OHPC substations.			***22.35 Cr***		**Tendering unde progress.**
15	Powergrid	Installation of STATCOM in ER			***160.28 Cr***	*63.028 Cr*	**work is in progress, e*expected to complete by June 2018***
16a	ERPC	Training for Power System Engineers					***The proposal was approved by Appraisal Committee. The approval from MoP, GOI is awaited.***
16b		Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents					

Respective constituents may update.

Deliberation in the meeting

OCC advised all the constituents to send the update on work progress and completion target dates to ERPC within 3 days.

Item No. B.4: Status of UFRs healthiness installed in Eastern Region

UFR Healthiness Certification for the month of October, 2017 has been received from CESC, JUSNL, WBSETCL, DVC, and BSPTCL.

OPTCL may submit.

Deliberation in the meeting

OPTCL submitted the healthiness certificate.

Item No. B.5: Healthiness of SPS existing in Eastern Region

GMR, JITPL, CESC, & NTPC (TSTPS) have submitted the healthiness certificate for the month of September, 2017.

In 136th OCC, members felt that healthiness certificate for SPS of 132 kV Muzaffarpur-Dhalkebar D/C line may also be submitted on monthly basis and advised Powergrid to submit the healthiness certificate in every OCC meeting.

In 138th OCC, ERLDC informed that Tashiding HEP is also included under Rangpo SPS, two units of Tashiding HEP will trip on actuation of SPS. However, it will be reviewed in coordination with other generators covered in the SPS.

Vedanta, Chuzachen and Powergrid may submit the healthiness certificate for October 2017.

Teesta-III, Jorethang & Dikchu may submit the healthiness certificate for Rangpo SPS as decided in special meeting of 21.06.2017.

Deliberation in the meeting

Powergrid informed that Rangpo SPS will be tested on 2nd December 2017.

Teesta requested that one date may be fixed for Rangpo SPS testing on monthly basis.

OCC decided that testing of Rangpo SPS will be done on 15th day of every month.

Powergrid-Odisha has submitted the healthiness certificate.

OCC advised Vedanta and Chuzachen to submit the healthiness certificate.

Item No. B.6: Electricity Generation Targets for the year 2018-19 – CEA

The annual exercise of assessment and finalization of the generation targets and the planned maintenance schedules of the generating units for the year 2018-19 is being initiated by CEA. Although the generation performance of the various stations and their planned & unscheduled outages are regularly monitored in CEA but it is felt that a more realistic projection of month-wise generation in the coming year could be made by the respective Station Authorities.

While monitoring the generation performance during the current financial year, it has been observed that power utilities are facing the problem of loss of generation due to no / low schedules, high fuel costs and other technical and commercial and transmission etc. issues. Accordingly, it is requested that the following inputs may kindly be submitted to this office as per the enclosed **formats (given at Annexure-B.6)**:

i) The unit wise yearly generation (with unit -wise monthly breakup) proposed during 2018-19 as per the format given along with the fuel availability, the anticipated loss of generation on account of various reasons such as grid constraint, low schedule/ reserve shut down due to high cost, poor quality coal/lignite etc, if any, may also be furnished (**Annex-I (1 to 5))**

ii) Utilities who have their Power Purchase Agreement (PPA) with various Discoms, Trader, States etc, details may be furnished in MW for Long, Medium and Short term to enable us to assess the expected generation for next year (**Annex –I (point no 6)**).

iii) The details of coal linkage from coal agencies and availability of secondary fuel oil/gas/ liq fuel may also please be furnished (**Annex- I (point no 7 (a) and (b)**).

iv) Production cost, Unit wise cost of generation and rate of sale of power may also be furnished. **(Annex – I (point 8))**

v) Details of unit-wise schedule of Planned Maintenance as approved by the respective RPCs (Regional Power Committees), unit-wise R&M planned to be carried out during 2018-19, may also be considered for deciding the generation targets (**Annex- II**).

The information may please be furnished electronically at the email address **targetopmcea@gmail.com, prathamkumar@gmail.com** with a copy to ERPC (e-mail: **mserpc-power@nic.in**).

For the convenience of the generating utilities, the input formats are also being made available at CEA website **http://www.cea.nic.in**. For any other query/ clarification any of the following officer may be approached.

1. Mr Pratham Kumar, Assistant Director, 011-26732666, Mob- 08252697842

CEA vide letter dated 25th October 2017 informed that desired information from many generating stations have not been received till now. The list of such stations is enclosed at **Annexure-B6A**.

MoP vide letter no. 5/1/2017-OM informed that Annual generation targets for 2018-19 is to be finalized by 15th December, 2017 and to avert any coal supply crisis during 2018-19, plant wise detailed plan needs to be prepared.

In view of this, it is requested to furnish unit wise outage schedule of generating stations of your region for 2018-19 and month wise, state wise energy requirement for 2018-19 to this division by 15th November, 2017.

Members may furnish the above data at the earliest.

Deliberation in the meeting

*OCC advised all the constituents to refer the annexure and send the relevant information at the earliest to CEA electronically at the email address **targetopmcea@gmail.com, prathamkumar@gmail.com** with a copy to ERPC (e-mail: **mserpc-power@nic.in**).*

Item No. B.7: Data for preparation Load Generation Balance Report (LGBR) of ER for the year 2018-19

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 **2018-19** 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 2018-19 (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 2018-19 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 / pkderpc@gmail.com**).

Members may furnish the above data at the earliest.

Deliberation in the meeting

OCC advised all the constituents to submit the relevant data through email (mail ID: mserpc-power@nic.in / pkderpc@gmail.com) by first week of December 2017.

Item No. B.8: Status of Islanding Schemes of Eastern Region

B.8.1. Status of commissioned Islanding Schemes 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.

In 134th OCC, JUSNL was advised to submit the healthiness certificate of the UFR and PLCC system related to Farakka islanding scheme at their end.

The healthiness certificate for Islanding Scheme for September, 2017 has been received from CTPS, DVC, NTPC, JUSNL, BkTPS, Tata Power and CESC.

In 60th PCC NTPC was informed that protection equipment and CBs are very old at Lalmatia S/s which are the property of ECL. NTPC added that they are facing difficulty to maintain the Lalmatia S/s and 220kV Farakka-Lalmatia line with such old equipment.

OCC felt that Lalmatia S/s is covered under Farakka islanding scheme and ineffective protection/communication system at Lalmatia will be a concern for successful operation of Farakka islanding scheme.

OCC advised NTPC to submit the healthiness status of protection/communication equipment to ERPC and ERLDC. OCC also advised NTPC to pursue with ECL for further necessary action.

NTPC may place the details.

Deliberation in the meeting

NTPC vide letter dated 24.11.2017 informed the following

- *Bay equipment, Auto transformers and protection system at both FSTPS and Lalmatia are healthy. However, bay equipment (CT, CVT, CB, isolators), Auto transformer and protection system are very old. Spares and service support from the OEM are not available due to obsolescence. In case of any equipment failure, defect and relay malfunction, the situation will be difficult to manage.*
- *NTPC, Farakka has already communicated the issue to ECL for urgent hand over of O&M of Farakka-Lalmatia transmission system.*

WBPDCL informed that they need two days shutdown of islanding scheme at Bakreswar for up gradation work.

OCC approved.

OCC advised JUSNL to submit the healthiness certificate for UFR and PLCC system at Dumka & Pakur on monthly basis.

B.8.2. Bandel Islanding Scheme, WBPDCL

As per the latest status available in PSDF web site the scheme was approved for an amount of Rs.1.39 crore by the Monitoring Committee on 10.04.2017.

In 134th OCC, WBPDCL informed that MoP has issued the sanction letter for grant of PSDF.

In 135th OCC, WBPDCL informed that order has been placed to ABB for implementation of Bandel islanding scheme.

In 137th OCC, WBPDCL informed that the order has to be revised as per new GST guidelines.

WBPDCL may update the latest status.

Deliberation in the meeting

WBPDCL informed that the material would reach by December 2017.

Item No. B.9: Controlling overdrawal of states by disconnection of radial feeders - ERLDC

In accordance with IEGC sections 5.4.2 (c) and 5.4.2 (f), feeders for disconnecting demand of every state in the order of their priority for switching off, were identified in the past. List of these feeders is given in **Annexure-B9**. However, with growth of network interconnection and load as well as change of load distribution (if any) during the intervening period, it is felt that the list needs reviewing.

All constituents are requested to furnish views regarding their respective identified feeders and indicate the expected load (average and peak) that would be disconnected by switching off the feeders, so that the list can be finalized at the earliest.

In 138th OCC, ERLDC informed that the feeders list needs to be reviewed in view of growth of network interconnection and change of load distribution.

SLDC, Bihar updated the feeders list as follows:

- 132kV Banka(PG)-Banka D/C line (60 MW)
- 132kV Banka(PG)-Sultanganj D/C line (80 MW)
- 132kV Ara(PG)-Jagdishpur S/C line (45 MW)

OCC advised all the other SLDCs to identify the suitable feeders to be disconnected during overdrawal of states and submit the details to ERLDC and ERPC.

Members may update.

Deliberation in the meeting

Jharkhand updated the feeders list as follows:

- *132kV Manique-Chandil line (35 MW)*
- *132kV Patratu-Basal (32MW)*

West Bengal updated the feeders list as follows:

- *220kV Dalkhola(PG)-Dalkhola(WB)*
- *220kV Birpara(PG)-Birpara(WB)*
- *132kV Malda(PG)-Malda(WB)*

OCC advised OPTCL to update the list of feeders at the earliest.

Item No. B.10: Implementation of Automatic Demand Management Scheme (ADMS)- ERLDC

West Bengal SLDC vide letter dated 13-10-17 has informed that the scheme of automatic demand management within the control area, has been completed.

In 138th OCC, Jharkhand informed that they are interacting with M/s Chemtrol for implementation of the scheme.

Odisha informed that that they are at tendering stage.

Bihar informed that they have identified the feeders and they will submit the list by next OCC.

Members may update.

Deliberation in the meeting

Bihar informed that the identified feeders have been approved by their highest authority and they will submit the scheme in next OCC.

Item No. B.11: Concerned members may update the latest status.

B.11.1. Commissioning of 220 kV Patna-Sipara third ckt.

Major load of Capital city Patna is fed from 220 kV Sipara Substation, Further Sipara is conneted with Khagaul as well as well as Fatuah at 220 kV level. These are also major load centers normally fed in radial mode from Patna (except Fatuah, which is usually supplied radially from Biharshariff). This causes very high loading of 220 kV Patna-Sipara D/C and it did not satisfy N-1 Contingeny criteria for most of the time in last quarter.

The third circuit of 220kV Patna-Sipara line is expected to be commissioned soon, which will help in relieving the loading on other two lines. Further with commissioning of 220 kV Patna-Sipara T/C 220 kV Khagul-Arrah-Pusauli loop may be kept close, which will help in improving system reliability and maintaining better voltage regulation in and around that area.

In view of above BSPTCL may expedite commissioning of 220 kV Patna-Sipara third ckt.

In 138th OCC, BSPTCL informed that the line will be commissioned within 15 days.

BSPTCL may update the latest status.

Deliberation in the meeting

BSPTCL informed that the line will be commissioned by 30th November 2017.

B.11.2. Repeated tripping of 220kV Chuka-Birpara D/c line

In 60th PCC, meeting Powergrid explained that the line is in lightning prone area. The line is getting tripped due to Insulator failures. Powergrid added that line insulators of part of the line which is belongs to Powergrid have been replaced with polymer insulators. The insulator failures during lightning have been reduced. However, the line is getting tripped due to failure of porcelain insulators in 39.8 km stretch which is belongs to Bhutan.

In 138th OCC, DGPC informed that BPC is the owner of part of the line which is belongs to Bhutan. They have already replaced porcelain insulators of 7 to 8 towers with polymer insulators.

DGPC added that they will discuss the issue with BPC in their coordination meeting scheduled to be held in November 2017 and update the action plan in next OCC meeting.

DGPC may place their action plan.

Deliberation in the meeting

DGPC informed that the insulator replacement work is in progress.

OCC advised DGPC to place the completion schedule in next OCC meeting.

B.11.3. 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.

In 137th OCC, Powergrid updated the 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		*Expected to complete by Mar 2018*
2	Kishanganj	±200	2x125		*Expected to complete by June 2018*
3	Ranchi(New)	±300	2x125		*Expected to complete by April 2018*
4	Jeypore	±200	2x125	2x125	*Expected to complete by June 2018*

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the work would be completed as per the given schedule.

B.11.4. Bus Splitting of Powergrid Sub-stations

As per decision of Standing Committee of ER CTU was entrusted to do Bus splitting at Maithon, Durgapur & Biharsariff S/Ss or ER. The latest status on the same are:

- 400 kV Maithon ---Completed
- 400 kV Durgapur--Completed
- 400 kV Biharshariff— Completed

OCC advised ERLDC to operationalize the bus splitting scheme at Maithon in coordination with NLDC and Powergrid.

ERLDC may update.

Deliberation in the meeting

ERLDC informed that NLDC has given the concurrence to operationalize the bus splitting scheme at Maithon. Now 400kV Maithon-Raghunathpur line is under shutdown. The bus splitting scheme at Maithon will be put in service once all the lines available at Maithon by December 2017.

B.11.5. Bus Splitting of Kahalgaon STPS Stage I&II, NTPC

In 24th ERPC meeting held on 27.04.2013, ERPC advised NTPC to go ahead with the bus-splitting scheme as it is a technical requirement for safe, secure operation of the grid.

In 32nd TCC, NTPC informed that they are going ahead with the implementation of Bus Splitting of Kahalgaon STPS Stage I&II and the implementation is expected to be completed by December, 2018.

In 126th OCC, NTPC has given the present status as follows:

- 400/132kV Switchyard package - bid opened on 14.03.16. Awarded on 04.05.2016.
- Site levelling – Site levelling work has been completed.
- Transformer package and Shunt reactor– have been awarded.

In 35th TCC, NTPC informed that the work is in progress as per the schedule and the bus splitting will be completed by December, 2018.

In 138th OCC, NTPC informed that the bus splitting will be implemented by December, 2018.

NTPC may update.

Deliberation in the meeting

NTPC informed that the work will be completed as per the schedule given earlier.

B.11.6. 220 kV inter-connecting lines of OPTCL with 400/220 kV Bolangir (PG), Keonjhar & Pandiabil S/s

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

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

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

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status as mentioned in above table.

B.11.7. 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj & Dhanbad

In last OCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Chaibasa 400/220kV S/s**	
a.	Chaibasa (JUSNL) – Ramchandrapur (JUSNL) 220kV D/c	*By Dec, 2017* *Bays at Ramchandrapur switchyard are not yet ready and the line is idle-charged from Chaibasa(JUSNL).*
2.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	By Dec, 2017.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	May, 2018
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	Dec, 2018
d	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Matching with S/s
3.	**Dhanbad 400/220 kV S/s: Awarded under TBCB**	
a.	Dhanbad – Dhanbad (Govindpur) (JUSNL) 220kV D/c	Matching with S/s

JUSNL may update.

Deliberation in the meeting

JUSNL updated the status as mentioned in above table.

B.11.8. 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In last OCC, *WBSETCL updated the latest status as follows:*

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA, 400/220kV Alipurduar sub-station**	
a.	Alipurduar (POWERGRID) – Alipurduar (WBSETCL) 220kV D/c (***Twin moose***)	***Dec, 2017***
2.	**2x500MVA, 400/220kV Rajarhat ---**	
a.	Rajarhat-N. Town-3 (WBSETCL) 220 kV D/C line	Matching
b.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	June, 2018
c.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	June, 2018

WBSETCL may update.

Deliberation in the meeting

WBSETCL updated the status as mentioned in above table.

Item No. B.12: BSPTCL Agenda

1. Erection and commissioning of 02 nos. of 220 kV line bays at KBUNL

Despite of several requests and reminders, KBUNL is not taking up this work seriously and it appears that the initiatives of KBUNL for construction of bay, which is essential for making available second circuit with Samastipur(New) and Motipur are far from satisfactory and the work is yet to start. Presently 220 KV KBUNL- Samastipur (new) (D/C) & 220 KV KBUNL - Motipur (D/C) tr. lines have only one 220 KV bays each at KBUNL end since long & due to this one circuit each from KBUNL to Samastipur (new) & KBUNL to Motipur remain unutilised. Due to unavailability of these bays at KBUNL end, BSPTCL is facing difficulties for synchronising 220 KV line at KBUNL and also unable to shift loading of Biharsharif(PG)-Begusarai D/C T/L on MTPS for off loading of Biharsharif(PG) ICTs and in case of any contingency occurs at DMTCL(D)-Motipur D/C T/L, MTPS-Motipur S/C T/L also tripped at overloading. It is evident that

the transmission infrastructure developed by BSPTCL in North Bihar could not be fully utilized causing limitations in power flow as well as power interruption.

The unavailability of bays at KBUNL is affecting the evacuation of power from KBUNL (Generating Station 2*110 MW+2*195MW). So, keeping these lines in loop at KBUNL will enhance the quality, reliability and stability of system.

KBUNL may begin the construction and complete commissioning of 2nd bay in minimum possible time in order to avoid crisis arisen due to unforeseen outage of Biharsharif(PG) and DMTCL(Darbhanga).

As such target dates for the start and completion of the above works may kindly be got ensured from KBUNL.

In 138th OCC, KBUNL informed that tender has been floated and the work will be awarded in November 2017. The work will be completed by March 2018.

KBUNL may update.

Deliberation in the meeting

KBUNL informed that the work is not yet awarded.

2. Loading of 220 kV Sasaram (PG)-Sahupuri (UP,NR) line

220 kV Sasaram (PG)-Sahupuri (NR,UP) line (completely owned by BSPTCL) is about 40 years old and its loading remains continuously more than 240 MW during peak hours and about 200 MW during off peak hours. Such loading may damage the line and also it causes low voltage problem in GSS connected to Sasaram (PG), hence causing load restriction in BSPTCL system.

SLDC, Patna daily requests RLDC to restrict the drawl maximum upto 180 MW only through the said transmission line. Also this agenda item was discussed In 133rd OCC meeting, OCC is hereby again requested to restrict the drawal upto 180 MW only in order to avoid overloading of ICTs at Gaya (PG) end by improving the sharing of 220 KV power to Dehri from Sasaram(PG) (especially during peak hours).

The issue has been communicated to NRPC vide letter dated 7th November 2017.

BSPTCL may update.

Deliberation in the meeting

BSPTCL informed that power flow through the line is within 180 MW.

Item No. B.13: Third Party Protection Audit & Inspection of Under Frequency Relays (UFR)

1. 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	37	68.52
NTPC	16	14	87.50
NHPC	1	1	100.00

DVC	40	26	65.00
WB	68	27	39.71
Odisha	59	38	64.41
JUSNL	34	21	61.76
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

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.

OCC advised all specially JUSNL and BSPTCL to send the revised DPRs at the earliest after clarifying the queries if any.

Members may comply.

Deliberation in the meeting

BSPTCL has submitted the updated status.

OCC advised all the constituents to comply the observations at the earliest.

2. Schedule for 2nd Third Party Protection Audit:

Sl No	Proposed Date	Substation
1	Dec, 2017	400kV Baripada (PG)
2		400kV Jaypore(PG)
3		220kV Jeynagar (OPTCL)
4		400kV Indravati (PG)
5		400kV Indravati (OHPC)
6	Jan, 2018	400kV Bolangir (PG)
7		400kV Rengali (PG)
8		220kV Theruvali (OPTCL)

The 2nd third party protection audit observations of competed substations are available in the ERPC website in important documents.

PCC advised all the constituents to comply the observations at the earliest.

Members may decide the dates.

Deliberation in the meeting

OCC referred the issue to PCC meeting scheduled to be held on 28th November 2017.

Item No. B.14: Furnishing of data for Merit Order Web Portal – CEA

During the Power Minister's Conference held on 3rd and 4th May 2017, at New Delhi, it was decided to develop a web portal/mobile app in about a month's time with a view to having transparency in Merit order scheduling & dispatch and ensuring most economic system operation.

In the conference Hon'ble Union Minister for Power requested all the States/UTs to submit the requisite data to CEA immediately.

On this regard, it is to inform that POSOCO has developed the facility for online uploading of monthly & daily data related to Merit Order Dispatch Portal, by the SLDCs. NLDC (POSOCO) has already communicated via email to all the SLDCs, their respective User IDs & Passwords and the procedure for online filling & uploading of data. All the SLDCs to start submitting the above data to NLDC online immediately.

In case of any doubt / clarification, Shri Harish Kr Rathour (NLDC) may be contacted at his Mobile No.9873918443. The procedure for online uploading of data for the portal is available in ERPC website.

Subsequently, CEA vide mail dated 4th July 2017 informed that for the ease of user, import from excel (in a predefined format) facility have also been implemented. Users are requested to follow following steps to upload data through excel:

1) Login to MERIT web portal (www.meritindia.in/login).
2) Select any date and click on "GO" button. After this, list of all station will be visible for that date with other information's, if already filled.
3) Click on "Export Data in Excel" to export the file in excel***. This would be a template file which is to be used for uploading the data***.
    a. Once you do not have any changes in the list of plants, this file can be used for data uploading and on daily basis user need not to download excel format again.
    b. In case updation in list of station is required (State owned stations), same can be modified through monthly page. At present this feature is disabled and very shortly it will be enabled.
    c. Initial two row has station ID and name of station, which should not be disturbed and data will be uploaded based on these only. Any changes in it may lead to wrong data uploading.
    d. User can select any file name to save and upload the data.
    e. Once you filled data click on "If you have data ready in Excel, CICK HERE to upload", select date for which you want to upload data, browse for the desired file and click on UPLOAD.
    f. If entire file has not been uploaded, you will get the file which will show list of stations not uploaded.
4) If new station to be added for state, user can add through monthly data upload pages. Once, it has added new EXCEL template to be downloaded again in order to fill data for new station.
5) User who wants to fill data directly through web-portal, would now have option to sort based on the various fields, which will help in filling data. Users who wants to fill on-line need not to click on "If you have data ready in Excel, CICK HERE to upload", they only select the date and simply click on "GO" button.

After submission of data, user can check directly on www.meritindia.in. It is once again requested to all to fill the monthly data (variable and fixed cost) because all visualization in first page is based on variable costs of the plants. In case of any doubt / clarification, Shri Harish Kr Rathour (NLDC) may be contacted at his Mobile No.9873918443.

Members may comply.

Deliberation in the meeting

Members noted for compliance.

Item No. B.15: 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.

NTPC communicated their activity of the preparation of Crisis Management Plan for countering the cyber attacks vide letter dated 2nd August, 2013.

In 113th OCC, Member Secretary informed that during interaction with consultants of Grid Study Committee, NLDC agreed that they will plan for conducting workshops on crisis management plan for Cyber Security and few workshops will also be held in Eastern Region.

CESC vide letter dated 22.08.15 had furnished their status of the preparation of Crisis Management Plan (CMP) for Cyber attacks in their system.

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. B.16: 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

Members may note and update the status.

Deliberation in the meeting

Members noted for compliance.

Item No. B.17: Data of Peak Demand – Submission of hourly power cut data

The peak demand met figure calculated by CEA is a part of the monthly Power Supply Postion Report prepared by CEA, based on the data provided by five Regional Power committee (RPCs), who in turn collect the data from State / UTs and RLDCs. As per the present methodology being adopted for calculation of States /Regional peak demand met, the figure of peak demand met at any time in the month is taken as peak demand met for the month. For all India monthly peak demand met, the sum of five regional peaks met, which may occur at different points of time is taken.

The above methodology has been reviewed and it has been decided with the approval of Chairperson, CEA that Peak demand Met and Peak Demand in the country should be based on hourly all India demand data. The matter was taken up with POSOCO for getting the hourly data of peak demand met for each month in respect of all the regions in the country in the first week of following month and they have assured to furnish the same. To calculate the demand, data of hourly scheduled and unscheduled power-cuts / load shedding is also required, which is not available with POSOCO.

It is, therefore, requested that hourly figures of scheduled/ unscheduled power cuts/load shedding data may be collected from States / UTs and the same may be sent to CEA every month as per above schedule in the enclosed format, in spread sheet, so that hourly figures of peak demand can be calculated and incorporated in Power Supply Position report.

This data for a month may kindly be sent in the first week of each month, along with PSP data, starting from the data for the month of February, 2015. The format for sending the data of hourly scheduled and unscheduled power-cuts / load shedding has already been circulated.

In 110th OCC meeting, OCC advised all the concerned utilities (BSPTCL, JUSNL, OPTCL, WBSETCL & Sikkim) to send the data of hourly scheduled and unscheduled power-cuts / load shedding by mail to mserpc-power@nic.in latest by first week of each month.

OCC advised all constituents to submit the data also to ERLDC (erldcprotection@gmail.com).

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. B.18: Long outage of important transmission elements

a) 400 kv Barh – Motihari D/C

400 kV Barh – Motihari – D/C were out since 14th Aug, 2017 as 24 numbers of towers were submerged in Gandak River due to flood like situation. Right Now Motihari is drawing radial power from Gorakhpur S/S of Northern region through 400 kV Gorakhpur – Motihari D/C. Due to outage of 400 kV Barh - Motihari D/C, one inter regional link between Eastern and Northern region was out, which need to be restored with utmost priority to maintain all India reliable and safe power system operation.

In 138th OCC, It was informed that work for dismantling of bulged towers and establishment of ERSS tower of Barh-Motihari 400kV Line has just been started . As the location is not easily approachable, it would take 2 to 3 weeks to restore power flow through the line.

DMTCL vide letter dated 7th November 2017 informed that the line will be restored using ERS tower and submitted the schedule as follows:

400 kV Barh – Motihari line 1	by 7th December 2017
400 kV Barh – Motihari line 2	by 24th December 2017

DMTCL requested to consider the outage as deemed available as the lines were taken under shutdown due to Natural Calamity.

DMTCL may update. Members may discuss.

Deliberation in the meeting

DMTCL representative was not available in the meeting.

OCC felt that deemed availability cannot be discussed without DMTCL representative in the meeting.

b) Bus Reactor at Jamshedpur

50 MVAR Bus Reactor at Jamshepur was out since 05th June, 2017 for commissioning and replacement of new 125 MVAR Bus Reactor-II. As per earlier communication expected date of commissioning of the 125 MVAR Bus Reactor-II was 30th Aug, 2017. In addition to this one more

125 MVAR Bus Reactor – III was also expected to commission during the month of September. Till date the status of the progress of commissioning work of new reactors is not updated from ER – I Power Grid side. Considering the voltage pattern at Jamshedpur S/s, which was on higher side most of the time during the day and would be deteriorate more with the onset of winter season, priority for the restoration of the Bus Reactors at Jamshedpur is utmost important.

In 138th OCC, Powergrid informed that both the reactors will be commissioned within 15 days.

Power Grid may update.

Deliberation in the meeting

Powergrid informed that one reactor has been installed on 15th November 2017 and the other reactor will be installed by end of November 2017.

Item No. B.19: Shifting of communication links for PMUs reporting to ERLDC--ERLDC

Presently, PMUs locations at Farakka, Talcher, Jamshedpur, Ranchi, Binaguri, Durgapur, Rourkela & Jeypore are reporting through Alcatel Mux using E1 – Ethernet convertor at both end. In case of fibre cut between Kasba to ERLDC, all the 8 nos PMUs data stopped reporting to ERLDC (happened on 16/May/2017 from 04:25 Hrs to 12:49 Hrs). There is no redundant path provided for these communication links. So, it is requested POWERGRID to shift these PMUs' communication path / equipment so that the protection path of ULDC network would be used and this type of outage could be avoided. Communication link for Patna PMU is taken from PowerTel. It is also requested to POWERGRID that communication path may also be shifted for Patna PMU so that PowerTel communication could be removed.

In 134th OCC, ERLDC informed that work is not yet completed.

Powergrid informed that 8 PMUs communication system have been shifted to ULDC network.

OCC advised ERLDC to send the details of requirement to Powergrid.

Accordingly, ERLDC has sent the detailed requirement for shifting of communication link to POWERGRID ULDC on 14-07-2017.

In 135th OCC, Powergrid agreed to complete the work within a month.

In 137th OCC, ERLDC placed the updated status as follows:

S/N	Location	Station type	Commmunicatio channel
1	**Binaguri**	400/220KV Substation	Shifted to POWERGRID ULDC wideband on 16 June,2017
2	**Biharshariff**	400/220KV Substation	Shifted to POWERGRID ULDC wideband on 24th November ,2015
3	**Patna (ER1)**	400/220KV Substation	**2 MBPS PDT link from Patna to ERLDC , Kolkata**
4	**Farakka (NTPC)**	400 kV Generating Station.	**E1 link**
5	**Ranchi (ER1)**	400/220KV Substation	**E1 link**
6	**Rourkela**	400/220KV Substation	**Shifted on 01-09-2017 (was in progress on 136th OCC meeting).**
7	**Talcher (NTPC)**	400 kV Generating Station.	**E1 link**
8	**Jeypore (Odissa pj.)**	400/220KV Substation	**E1 link**

9	**Durgapur**	400/220KV Substation	**Shifted on 30-08-2017 (was in progress on 136th OCC meeting).**
10	**Jamshedpur (ER1)**	400/220KV Substation	**E1 link**
11	**Sasaram**	765/400/220 kV SubStation	Shifted to POWERGRID ULDC wideband on 24th November ,2015
12	**Rengali**	400/220KV Substation	Shifted to POWERGRID ULDC wideband on 17 April,2017

Powergrid agreed to complete the work at the earliest.

It was informed that Farrakka PMU (SEL Make) is now reporting to ERLDC over newly commissioned ULDC communication network.

PGCIL may update.

Deliberation in the meeting

ERLDC updated the latest status as follows:

S/N	Location	Station type	Commmunicatio channel
1	Binaguri	400/220KV Substation	Shifted to POWERGRID ULDC wideband on 16 June,2017
2	Biharshariff	400/220KV Substation	Shifted to POWERGRID ULDC wideband on 24th November ,2015
3	Patna (ER1)	400/220KV Substation	2 MBPS PDT link from Patna to ERLDC , Kolkata
4	Farakka (NTPC)	400 kV Generating Station.	Shifted on 13-11-2017.
5	Ranchi (ER1)	400/220KV Substation	E1 link
6	Rourkela	400/220KV Substation	Shifted on 01-09-2017.
7	Talcher (NTPC)	400 kV Generating Station.	E1 link
8	Jeypore (Odissa pj.)	400/220KV Substation	E1 link
9	Durgapur	400/220KV Substation	Shifted on 30-08-2017.
10	Jamshedpur (ER1)	400/220KV Substation	Shifted on 15-11-2017.
11	Sasaram	765/400/220 kV SubStation	Shifted to POWERGRID ULDC wideband on 24th November ,2015
12	Rengali	400/220KV Substation	Shifted to POWERGRID ULDC wideband on 17 April,2017

Powergrid informed that communication has been shifted to Powergrid ULDC for Talcher(NTPC) and Jeypore PMUs but shifting of communication link for Patna and Ranchi PMUs is not possible because of long distance between the PMUs and communication link.

Item No. B.20: 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.

In 120th OCC, ERLDC informed that every month they were updating the status and posting at ERLDC website.

138th OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC.

ERLDC may present.

Deliberation in the meeting

*ERLDC presented the status of telemetry. Presentation is enclosed at **Annexure-B20**.*

OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC.

a) Frequent failure of JITPL data to ERLDC:

Real time SCADA data from JITPL is frequently failing (*May-17: 24% & June-17 (up to 18th): 62%*). It was observed that

- Microwave terminal equipment at Talcher HVDC end is getting hanged quite frequently causing failure of real time data to ERLDC.
- The direct line from JITPL to Angul 765/400 kV pooling station is available but real time SCADA data is yet to be diverted through this path.
- The voice connectivity from JITPL to ERLDC is yet to be provided / integrated with Hot Line Voice Communication installed by M/s Orange.

In 136th OCC, JITPL informed that presently they are communicating ERLDC with a radio link, which is an interim arrangement and is not reliable and they are trying hard to maintain it. However, they had planned to make PLCC system operational for uninterruptable communication to ERLDC. But Powergrid is not allowing them to shift NSK modem of PLCC system from Bolangir(PG) S/s which is the property of JITPL.

JITPL added that they were in process of settling the commercial issues with Powergrid and requested Powergrid to cooperate.

OCC took serious note of the issue and felt Powergrid should not interrupt in establishing the proper communication system for SCADA/telemetry data to ERLDC. OCC felt that Powergrid should not take up commercial issue by staking the grid security and advised Powergrid to take up the commercial issue separately.

In 36th TCC, Powergrid agreed to allow JITPL to shift their PLCC modem from Bolangir S/s within a week.

JITPL informed that they will shift the modem within a week and they will commission the communication system in another 10 days subject to availability of OEM (ABB) engineers.

TCC advised JITPL to shift the modem as decided and update the status in forthcoming OCC meeting scheduled to be held on 21st September 2017.

In 137th OCC, JITPL informed that they have shifted the PLCC modem from Bolangir to Angul and they will commission the communication system by 15th October 2017.

In 138th OCC, ERLDC informed that JITPL data through PLCC is not yet restored.

JITPL may update.

Deliberation in the meeting

ERLDC informed that JITPL data through PLCC is not yet restored.

JITPL representative was not available in the meeting.

Item No. B.21: Sustain Under-injection by ISGS generators during RRAS—ERLDC

During July and August 2017, NLDC triggered RRAS UP for ISGSs generators of Easter Region on several occasions. However it is observed that some of the ISGS failed to maintain their generation as per schedule and continuous under-injection was observed during the above mentioned period.

As per section 5.4 of Detailed Operating procedure of RRAS, "The continuity of the RRAS shall be ensured by the RRAS provider over the period of the despatch". However, this was continuously violated by ISGS stations of ER.

As per clause 9.13 of Detailed Operating procedure of RRAS

Quote -
Sustained failure, i.e. failure to provide the RRAS (barring unit tripping) by RRAS Provider(s) more than three (3) times during a month shall be brought to the notice of the CERC
- **Unquote**

Detailed performance of ER ISGS from RRAS point of view would be presented during the meeting.
ISGSs are therefore requested to exercise due care while declaring their respective DCs, so that actual generation as per the total schedule issued, can be maintained by them.

In 136th OCC, ERLDC presented the performance of the RRAS provider generators during July & August 2017 and informed that in real time Barh, FSTPP stage I & II and KhSTPP stage I & II generators were failed to maintain their generation as per schedule.

OCC advised NTPC to follow the RRAS schedule strictly.

OCC advised ERLDC to monitor the status for one week and even if there is no improvement, the acion may be initiated as per the provisions of IEGC. Further, OCC advised ERLDC to place the status in next OCC meeting.

In 137th OCC, ERLDC informed that in real time FSTPP stage I & II are not maintaining their generation as per schedule and continuously under generating. KhSTPP stage II generators need improvement.

NTPC informed that they are implementing alarm system to alert the operator during RRAS initiation and it will improve the performance.

In 138th OCC, ERLDC informed that in real time FSTPP stage I & II are not maintaining their generation as per schedule and continuously under generating. KhSTPP stage II generators need improvement.

ERLDC may update.

Deliberation in the meeting

ERLDC informed that the performance of the NTPC generators during RRAS has improved.

ERLDC added that Farakka generation was not maintained as per the schedule on 10th November 2017.

NTPC informed that they are not able to maintain the generation as per schedule due to severe coal shortage. They are arranging imported coal and the coal shortage problem will be resolved within a week.

Item No. B.22: Need for expediting reactors at Subhashgram, Jamshedpur and Behrampur 400KV substations and adequate absorption of reactive power by power stations

Voltage of the following substations was above the allowable upper limit of 420kV for significant duration during October and November 2017:

Sub-station	% Duration >420kV October-17	% Duration >420kV November-17 (upto 19-11-17)
Jamshedpur	99	100
Baharampur	32	49
Subhasgram	25	37
Arambag	92	100
Farakka STPS	27	57
Barh STPS	100	76
Sagardighi TPS	20	21
PPSP	26	44
HEL	20	33

Further, one circuit of the following D/C lines is being frequently switched off to control high voltage during off-peak:

- 400kV Kharagpur – N. Chanditala
- 400kV Kharagpur – Kolaghat
- 400kV N. PPSP – Arambag
- 400kv Alipurduar - Bongaigaon
- 220kV Madhepura – N. Purnea

Therefore, Farakka, SgTPS, PPSP, Barh, HEL are requested to maximize reactive power absorption by their respective generating units. PGCIL may endeavour to commission the 50 MVAR line reactor at Subhasgram end of 400kV SgTPS – Subhasgram line, 2nd 125 MVAR bus reactor along with 50 MVAR old bus reactor which was out for commissioning work at Jamshedpur and new 125MVAR bus reactor at Baharampur at the earliest.

In 138th OCC, Powergrid informed that work order for Reactor at Subashgram is yet to be awarded. Two reactors at Jamshedpur will be commissioned within 15 days. Reactor of Behrampur will be delivered by January 2018.

Members may discuss.

Deliberation in the meeting

ERLDC informed that KTPS units are absorbing 20 MVAR during high voltage but there is a scope for absorbing 80 MVAR as per the capability curve. Sagardhigi units are not giving reactive power support during high voltage. ERLDC advised WBPDCL to provide GT tap position of Sagardhigi units.

OCC advised WBPDCL to take appropriate actions to absorb the reactive power during high voltages as per the capability curve.

OCC felt that in view of high voltage condition at 400kV Subashgram during the winter the over voltage settings of 400kV HEL-Subashgram D/C line need to be reviewed to avoid cascaded tripping of both the lines. OCC referred the issue to PCC meeting.

Powergrid informed that in view of high voltage at Behrampur they have diverted one 125MVAR reactor to Behrampur and the reactor will be installed by end of December 2017.

Powergrid informed that at Jamshedpur one reactor has been installed on 15th November 2017 and the other reactor will be installed by end of November 2017.

Item No. B.23: Status of state owned units under long outage --ERLDC

Numbers of units of state sector were decommissioned during recent days/months. As per the letter received from DVC on date 08th August, 2017, CTPC U#2, BTPS U#1&2 are under the process of de-commissioning as they have crossed their useful life and compliance of prevailing pollution norms is not feasible and CTPS U#1 is already de-commissioned.

Members may update.

Deliberation in the meeting

Members noted for compliance.

Item No. B.24: Delineation of O&M responsibilities of various assets of the ISTS--ERLDC

With opening up of transmission sector for private participation and rapid addition of new ISTS elements through TBCB route, multiple transmission licensees are now involved, in so far as ownership and maintenance of the regional ISTS is concerned. A single transmission line may be partly owned by one licensee and partly by the other, while the bay equipment, panels etc. at each of the ends may be owned / maintained by two different transmission licensees. In the above backdrop, as the apex body to ensure integrated operation of the regional power system, it becomes essential for RLDCs to be accurately aware of the scope of responsibilities of each of the licensees, in order to discharge its responsibilities in a smooth and efficient manner.

A list of transmission elements in Eastern Region together with their ownerships as per information available with ERLDC is enclosed at **Annexure-B24.** It is requested to kindly go through the list and indicate the agencies responsible for maintenance of line, ensuring real time data, furnishing relay indication, DR etc. in respect of each of the elements and inform ERLDC wherever necessary updating / correction is required to be incorporated.

In 137th OCC, all the constituents were advised to update the status as given in the annexure and send it to ERPC and ERLDC within a week.

Powergrid ER-I & ER-II have submitted the details.

Members may update.

Deliberation in the meeting

Members noted for compliance.

Item No. B.25: Transfer capability determination by the states -- Agenda by NPC

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.

ATC/TTC declared by states for the month of November-2017 is given below:

Sl No	State/Utility	TTC import(MW)	RM(MW)	ATC (Import) MW
1	BSPTCL	4665	145	4520
2	JUSNL	980	60	920
3	DVC	377	52	325
4	OPTCL	1822	81	1741
5	WBSETCL	4100	300	3800
6	Sikkim			

In 138th OCC, ERLDC informed that the network data should be updated regularly on monthly for realistic calculation of ATC, TTC figures. A procedure has been made as follows:

- *Updated Base case of Previous month both for peak and off peak case to be circulated by ERLDC by 2nd day of every month*
- *States have to update their network changes in the same case circulated by ERLDC till date and then load the LGBR of the upcoming month*
- *Updated case and calculated TTC of the upcoming month to be sent to the ERLDC by 10th of the current month*

OCC advised all the SLDCs to update the network as per the above procedure.

Members may update.

Deliberation in the meeting

OCC felt that one base case should be circulated among the constituents in sequence so that whole ER network will be updated in same file.

ERLDC agreed.

Item No. B.26: Installation of PMUs in Eastern Region under URTDSM project

LOA for installation of PMUs in Eastern Region under URTDSM project was awarded to M/s Alstom on 15th January 2014. The contract has to be completed in all respect within 24 months from the award. The status of implementation may be informed since PMU data is very much important to real time shift operator for analyzing the security of the grid.

OCC advised Powergrid to submit a report on latest status of implementation and advised to update the status on every OCC.

In 131st OCC, Powergrid submitted the latest status of PMU installation.

The updated status as furnished in 132nd OCC by Powergrid is given at **Annexure-B.26**.

POWERGRID may update the status.

Deliberation in the meeting

OCC advised Powergrid to update the status.

Item No. B.27: 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-B.27**.

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

Teesta Urja 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.

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.28: 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- B.28**.

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

Members may update the latest status.

Deliberation in the meeting

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. B.29: Time correction of SEMs in Eastern Region – Replacement of heavily drifted SEMs

The issue was discussed in 35th TCC/ERPC meetings and it was felt that the meters with severe drift greater than 10 min need to be replaced first and if replacement is done with Genus then readings are to be collected manually using Laptop till interfacing with AMR is completed.

35th ERPC advised Powergrid to replace the 10% of the heavily drifted SEMs with new Genus make meters and monitor the performance of the Genus meters. Powergrid should present this performance before constituents and subsequently the decision on replacement of the other time drifted meters will be taken up.

In 133rd OCC, Powergrid informed that 22 meters were replaced except Purnea. ERLDC informed that the performance of 22 newly installed meters are satisfactory and suggested that all other meters can be replaced.

OCC advised Powergrid to replace next 10% of heavily drifted meters as per the list.

In 137th OCC, Powergrid informed that out of 23 meters time correction has been done for 6 meters and 8 SEMS have been replaced. Rest will be replaced subjected to availability of shutdown.

In 138th OCC, Powergrid informed that 09 SEMs are yet to be replaced.

Further OCC decided to hold the replacement of SEMs till interfacing of Genus meters with AMR is resolved.

So far in Phase-II, 12 Meters has been replaced and Time Correction for 06 meters has been done. Details of meter to be replaced is as follows:

List of drifted meters to be replaced in Phase-II

SNO	LOCATION	METER SNO	FEEDER NAME	Region
1	MUZAFFARPUR(PG)	NP-5074-A	400 KV MUZAFARPUR (PG)-GORAKHPUR(NR)-1	ER-I
2	MUZAFFARPUR(PG)	NP-9981-A	400 KV MUZAFARPUR (PG)-GORAKHPUR(NR)-2	ER-I
3	RANCHI(PG)	NP-5835-A	400 KV RANCHI-SIPAT-1 (WR)	ER-I
4	RANCHI(PG)	NP-5836-A	400 KV RANCHI-SIPAT-2 (WR)	ER-I
5	RANCHI NEW(PG)	NP-7847-A	765 KV RANCHI NEW -DHARAMJAYGARH-1	ER-I
6	RANCHI NEW(PG)	NP-8753-A	765 KV RANCHI NEW -DHARAMJAYGARH-2	ER-I
7	MEJIA(DVC)	NP-5226-A	MEJIA END OF MAITHON(PG)-1	ER-II
8	MEJIA(DVC)	NP-5227-A	MEJIA END OF MAITHON(PG)-2	ER-II
9	BINAGURI(PG)	NP-5884-A	BINAGURI END OF BONGAIGAON (NER)-1	ER-II
10	BINAGURI(PG)	NP-5885-A	BINAGURI END OF BONGAIGAON (NER)-2	ER-II
11	ROURKELLA(PG)	NP-5933-A	ROURKELA END OF TARKERA (GRIDCO)-2	ER-II
12	KHARAGPUR(PG)	NP-7563-A	400 KV KHARAGPUR -BARIPADA(PG)	ER-II
13	MPL	NP-7970-A	MAITHON RB END OF RANCHI (PG)-1 (MAIN)	ER-II
14	MPL	NP-7971-A	MAITHON RB END OF RANCHI (PG)-2 (MAIN)	ER-II
15	MPL	NP-7564-A	MAITHON RB END OF MAITHON (PG)-1 (MAIN)	ER-II
16	MPL	NP-6518-A	MAITHON RB END OF MAITHON (PG)-2 (MAIN)	ER-II
17	STERLITE	NP-7572-A	400 KV STERLITE - RAIGARH(WR)-II(MAIN)	ER-II
18	STERLITE	NP-7372-A	400 KV STERLITE - ROURKELLA(PG)-II(MAIN)	ER-II
19	ROURKELLA(PG)	NP-5928-A	400 KV ROURKELLA(PG)-RAIGARH(WR)	ER-II
20	MIRAMUNDALI(OPTCL)	NP-5977-A	400 KV MIRAMUNDALI-ANGUL-1	ER-II
21	MIRAMUNDALI(OPTCL)	NP-5976-A	400 KV MIRAMUNDALI-ANGUL-2	ER-II
22	SUNDERGARH(PG)	NP-7634-A	765 KV SUNDERGARH-DHARAMJAYGARH-1	ER-II
23	SUNDERGARH(PG)	NP-7638-A	765 KV SUNDERGARH-DHARAMJAYGARH-2	ER-II

Powergrid/ ERLDC may update.

Deliberation in the meeting

It was informed that in view of removal of LILO of 400kV Rourkela-Raigarh line 1 at Vedanta, SEMs at Vendanta end are not required to change. Three numbers of SEMs are required to be changed in Phase-II.

OCC decided to change the pending three numbers of SEMs in Phase-II.

OCC decided to hold next phase SEM replacement till interfacing of Genus meters with AMR is resolved.

Item No. B.30: Meter related Issues-ERLDC

Due to the meter related issues of following locations energy accounting and its validation is being affected.

Issue	Location	Meter No	Line	Responsibility	Problem Since	Present Status
Non receipt of Data	1. NPGC	NP-1282-A NP-1287-A	132 KV Rihand & Sonnagar	BSPTCL	More than 3 month	Not Received. Status is same
	2. Raxaul, Betia, Motihari	ER-1227-A, ER-1173-A, ER-1250-A ER-1245-A ER-1248-A ER-1249-A	132 KV Motihari DMTCL	BSPTCL	Charging of Line	Status is same
Installation of Check/S	1.Subhashgram(WB)		220 KV Subhasgram(PG) D/C	WBSETCL/PGCIL	Charging of Line	As informed by PGCIL, Meter is available at
	2. New		220 KV	WBSETCL/PG	Charging of	

tandby meter	Town(CESC)		Subhasgram(PG) S/C	CIL	Line	Subashgram and the same to be collected by WBSETCL and to be put into service.
	3. Bantala(CESC)		220 KV Subhasgram(PG) S/C	WBSETCL/PG CIL	Charging of Line	
	4. EM Bypass(CESC)		220 KV Subhasgram(PG) D/C	WBSETCL/PG CIL	Charging of Line	Meter already connected but time synchronisation yet to be done. SEM data is not received by ERLDC

In 138th OCC , BSPTCL agreed to take appropriate action for sending the data of NPGC, However NPGC end data is not received by ERLDC.

Meter at WBSETCL/CESC end for New Town, Bantala and Subhasgram is yet to be installed.

PGCIL/BSPTCL/WBSETCL/may please further update the status.

Deliberation in the meeting

BSPTCL informed that SEM issues have been resolved at Betia and Motihari. NPGC SEM issue is pending due to integration problem.

Powergrid informed that SEM is available at Subashgram (PG), the meter is to be collected by WBSETCL and to be put in service.

WBSETCL representative informed that their testing team is having some reservations on installation of SEM at 220kV Subashgram (WB) and he advised to discuss the issue in PCC meeting. OCC referred the issue to PCC meeting scheduled to be held on 28th November 2017.

Item No. B.31: Integration of Genus Make meter in AMR-- ERLDC

In Eastern Region, order for procurement of 965 no of SEM's was placed with M/s Genus Power. First Lot of the meters have already been delivered by Genus and 24 meters of Genus make meter has been installed in different substation in ER. Issue of Integration of Genus make meters in AMR system was discussed in different fora of ERPC since March,17.In 36th ERPC meeting Powergrid informed that a meeting will be held on 20th September 2017 wherein the interfacing issues would be resolved by M/s TCS and M/s Genus.

In 137th OCC, Powergrid informed that a meeting will be held at RHQ Kolkata on 25th September 2017 wherein the interfacing issues would be discussed and resolved by M/s TCS and M/s Genus.

In 25th September 2017 meeting, it was agreed by all concerned that GENUS will implement the required changes at meter level within 15th October 2017 to resolve the pending issues related to Integration of Genus meter with AMR.

In 138th OCC, Powergrid informed that integration of Genus meters with AMR is pending because time block identification problem. This problem will be resolved through software by TCS on payment basis within 15 days.

Powergrid may please update the status.

Deliberation in the meeting

Powergrid informed that integration of Genus meters with AMR will be completed within 20 days. Powergrid added that additional financial implication of 10 Lakhs (approx) has been taken into consideration as per LOA.

Item No. B.32: Accounting of Tertiary Loading Arrangement at PGCIL s/station in ER

Auxiliary consumption of PGCIL EHV AC sub stations are usually met from HT feeders of the state Discom. In few substations of PGCIL, auxiliary consumption is met through tertiary winding (as alternate supply for reliability).

In 35th CCM, It was decided that the drawal of auxiliary power from tertiary winding by Powergrid substations would be treated as state drawl for inter-regional accounting. Powergrid and the states would make back to back commercial arrangements for this power. ERLDC requested Powergrid to submit the requisite information such as meter no, CTR, PTR, etc in respect of those meters and also make meter readings available ontime.

In 138th OCC, ERLDC informed that they are not getting the data of Biharshariff and Rengali.

Powergrid informed that SEMs are to be replaced at Biharshariff and Rengali. They will replace the SEMs and send the data.

It was also decided that the energy through Tertiary as state drawal and the meter reading will be sent to ERPC with immediate effect.
Accordingly Tertiary drawl of PGCIL S/s has been added to the respective state drawl wef 23.10.17.

Status of meter details and receipt of their data at ERLDC from Powergrid ER-I, ER-II and Odisha project is as below:

	List of PGCIL substation with Tertiary Loading in ER & Odhisa Project							
ER-I								
S. No	**S/Station**	**Loc ID**	**Meter No**	**Make**	**CTR**	**PTR**	**Remarks**	**Data Receipt**
1	Banka	ES-88	NP-7458-A	L&T	50	33000/110		Yes
2	Lakhisarai	ES-94	NP-8870-A	L&T	50	33000/110		Yes
3	New Ranchi(765)	ES-87	NP-8752-A	L&T	50	33000/110		Yes
4	New Purnea	ES-98	NP-5249-A	L&T	50	33000/110		Yes
5	Patna	ES-89	ER-1285-A	Genus	50	33000/110		Yes
6	Pusauli	ET-06	NP-8646-A	L&T	50	33000/110		Yes
7	Muzaffarpur	ET-02	NP-5231-A	L&T	1000	415/110		Yes
9	Kishanganj	ES-90	NP-8876-A	L&T	50	33000/110		Yes
11	Ara(220)	ES-99	NP-8893-A	L&T	50	33000/110		Yes
12	Chaibasa	ET-15	ER-1254-A	Genus	50	33000/110		Yes
13	Ranchi(400/220)	ET-14	ER-1251-A	Genus	50	33000/110		Yes
14	Jamshedpur	ET-20	ER-1259-A	Genus	50	33000/110		Yes
15	Gaya(765)	EM-99	ER-1263-A	Genus	50	33000/110		Yes
16	Biharshariff	ET-01	NP-2355-A	SECURE	1000	415/110		No
ER-II & Odhisa Project								
1	Angul	ES-95	NP-5942-A	L&T	1000	415/110		Yes
2	Pandiabili	ES-39	NP-7462-A	L&T	1000	415/110		Yes
3	Rangpo (33 kv TRF)	ES-96	NP-7940-A	L&T	1000	415/110		Yes
4	Rangpo (11 KV AUX TRF)	ES-97	NP-7941-A	L&T	1000	415/110		Yes
5	Sundergarh	ES-93	ER-1019-A	Genus	50	33000/110		Yes
6	Maithon	ET-07	NP-7934-A	L&T	1000	415/110		Yes
7	Baripada	EM-69	NP-5909-A	L&T	1200	400/110		Yes
8	Durgapur	ET-04	NP-6024-B	L&T	200	400/110		Yes
9	Keonjhar	ET-11	NP-7921-A	L&T	50	33000/110		Yes
10	Subhashgram	ET-12	ER-1105-A	Genus	1000	415/110		Yes
13	Jeypore	ET-10	NP-5965-A	L&T	20	430/110		Yes
11	Bolangir	ET-03	NP-7951-A	L&T	1000	415/110		Yes
12	Rengali	ET-05	ER-1020-A	Genus	1000	415/110		Yes

Since Darbhanga and Motihari DMTCL S/S Tertiary is also loaded, Meters at Tertiary Tr/f of above s/s is required to be installed and Drawl should be accounted in BSPHCL net drawl.

ERLDC and Powergrid/DMTCL may update.

Deliberation in the meeting

OCC advised BSPTCL to pursue with Darbhanga and Motihari DMTCL S/S for installation of SEM.

Item No. B.33: Requirement of data from AMR for SEM Vs SCADA Comparison -- ERLDC

In Eastern Region, AMR is already implemented and successfully running. Provision of getting various reports like Load Curve, NPC report, time drift report, maximum & minimum flow reports etc already exist.

However, report of 15 minute tie line data from AMR is also required to be made available so that the same could be utilised for developing comparison / error checking for SCADA. ERLDC is planning to develop SCADA Vs SEM comparison report which can identify the error in SCADA or time drift in SEM. The same is planned to develop considering the view for improvement of the system. Accordingly, the concern will take necessary action to validate the SCADA / SEM.

In view of the above, it is requested to POWERGRID to take up the matter with TCS for implementation of the same.

In 137th OCC, Powergrid requested ERLDC to share the format and they will interact with TCS for implementation.

In 138th OCC, Powergrid informed that they have interacted with TCS and TCS is asking about the details of lines for which the data is required.

ERLDC informed that they required all tie line SEM data to be available at ERLDC.

Powergrid may update.

Deliberation in the meeting

ERLDC and Powergrid informed that TCS has implemented the scheme as per the requirement.

Item No. B.34: Mock Black start exercises in Eastern Region – ERLDC

i) The status of black start exercises

The tentative schedule of black-start exercises for F.Y 2017-18 is as follows :

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2017	*30th May 2017*	Last Week of January2018	
2	Maithon	1stweek of June 2017	Completed on 04.04.17	1stWeek of February2018	
3	Rengali	2ndweek of June 2017	Done on 29.06.2017	Last week of November 2017	30th November 2017
4	U. Indarvati	3rdweek ofJune 2017	November 2017	2ndweek of February2018	December 2017
5	Subarnarekha	1stweek of October 2017	Done on 14th October 2017	1stweek of January2018	
6	Balimela	3rdweek of October 2017	November 2017	1stweek of March 2018	December 2017

7	Teesta-V	2ndweek of Nov 2017		Last week of February2018	
8	Chuzachen	Last Week of May2017	May, 2017	January2018	
9	Burla	Last Week of June 2017	Dec, 2017	Last week of February2018	December 2017
10	TLDP-III	1stWeek of June 2017	After 12the Dec, 2017.	2ndWeek of January2018	
11	TLDP-IV	Last Week of June 2017	After Mansoon	1stWeek of February2018	
12	Teesta-III		December 2017		

Members may update.

Deliberation in the meeting

Members updated the schedule as mentioned in above table.

Testing of DG sets meant for Black start

Test run report of DG sets for blackstart has been received only from Odisha hydro units. The test run reports of other machines may be sent to erldc.cal@gmail.com and erldcoutage@gmail.com.

Constituents may kindly ensure compliance.

Deliberation in the meeting

Members noted for compliance.

Item No. B.35: 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-B35**.*

Analysis of governor response for the following events:

(1) On 25th October 2017, at 19:33 hrs, due to loss of evacuation lines, Unit-I & II at TPCIL(660 MW each) in southern region got tripped.
(2) On 30.10.17,at 21:37 Hrs, 400 KV TPCIL-Nellore PS ckt-1 tripped due to failure of Station transformer LA, Ckt-2 was under maintenance. Due to Loss of evacuation path generation loss of 1260 MW occurred.

Members may update. ERLDC my present.

Deliberation in the meeting

*ERLDC presented the performance of the generators. Presentation is enclosed at **Annexure-B35A**. ERLDC informed that the performance of the generators is not satisfactory except KhSTPP unit#2.*

ERLDC added that generator response calculated by individual generators was received from MPL, DVC and CESC.

OCC advised all the generators to go through the details in Annexure-B35A and take appropriate action to improve the performance. OCC also advised to calculate the response and send the results to ERLDC with all the details.

Item No. B.36: Ratification of projected Demand and generation for POC transmission charges and loss calculations for Q4(2017-18)

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 18-March 18) are attached at **Annexure-B36** for ratification by the constituents.

Members may kindly go through and confirm.

Deliberation in the meeting

Members noted for compliance.

Item No. B.37: Reactive Power performance of Generators and optimisation of Transformer tap

Generating stations have been monitored for certain sample dates in the month of October,17.

Power Plant	Max and Min Voltage observed for Oct 17 (KV)	Date for monitoring (Oct 17)
Farakka STPS	424, 410	21,22
Khalgaon STPS	433, 408	30,31
Talcher STPS	413, 402	20,21
Teesta	413,398	27,29
Bakreshwar TPS	411, 391	10, 21
Kolaghat TPS	429, 400	21,22
Sagardighi TPS	424, 406	21,22
MPL	422, 409	1,20
Mejia-B	425, 412	1,20
DSTPS	428, 415	1,20
Adhunik TPS	427, 410	20,21
Barh	434, 420	1,21
JITPL	419, 408	2,7
GMR	417, 406	2,7
HEL	428,392	9,21
Kodarma	423, 408	1,14

ERLDC may present the reactive performance.

Deliberation in the meeting

ERLDC presented the performance of the generators.

OCC advised generators to absorb reactive power during high voltage condition as per their capability curve.

a) Schedule for reactive capability tests

The following was status of regarding reactive capability testing:

a. Adhunik TPS(both units) –Yet to be confirmed by Adhunik
b. JITPL(both units) – After the emergent inspection of OEM(BHEL)
c. Barh TPS – November 2017
d. Raghunatpur – by December 2017
e. GMR (Three units)
f. Haldia TPS –Done in October 2017

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.38: Non Payment of dues--Powergrid-Odisha

A. **JITPL**: Rs. 1.67 Crore from M/s JITPL (Rs. 1.12 Crore towards bay maintenance + Rs. 52.38 Lakh towards interest charges + Rs. 2.36 Lakh towards project consultancy)
B. **GMR**:Rs.37.99 Lakh is due from M/s GMR towards Bay maintenance charges

C. **Ind-Bharath Energy(Utkal) Ltd(IBEUL):** Rs.74.16746 Lakh is due from M/s Ind-Bharath (Utkal) Energy Limited towards Bay maintenance and Interest charges.

Deliberation in the meeting

OCC advised JITPL, GMR and IBEUL to clear the dues.

Item No. B.39: Recovery of loss due to schedule revision during flodding of Kishanganj S/S of PGCIL-Teesta Urja Ltd.

Due to flooding at Kishanganj S/S of PGCIL, the IEX schedule of Teesta-III HEP and other Projects was directed to be revised from 10:00 hours to 24:00, hours on 13.08.2017. However, vide subsequent communications, the curtailment of schedule was initially directed to start from 10.00 hrs , which got changed to 10.30 hrs and again to 10.00 a.m. However, the IEX schedule which had got curtailed from 10.30 hrs could not get revised to 10.00 hrs leading to the Teesta-III (and other Projects) being penalized under DSM for two time blocks from 10.00 hrs to 10.30 hrs.

It is requested to deliberate the matter so as to facilitate recovery of such loss to the Generators."

Members may discuss.

Deliberation in the meeting

It was informed that ERPC and ERLDC will study and place the details in next OCC meeting.

Item No. B.40: Revision of final schedule of Dikchu HEP and revocation of UI penalty inflicted on 13.08.2017- Dikchu

On 13.08.2017, Dikchu was advised by ERLDC through mail and phone to back down the generation to Zero w.e.f 10:00 hrs, 13.08.2017, as all STOA & collective transactions were cancelled due to flooded condition at Kishanganj S/s. Dikchu plant was shut down promptly within 10:01 hrs.

The final schedule of Dikchu HEP was revised to Zero w.e.f 10:30 hrs by NLDC. The consequence was that as per final generation schedule data, although Dikchu was able to generate 96 MW in between 10:00 hrs to 10:30 hrs, Dikchu generation was Zero in real time incurring heavy UI penalization.

It is requested to consider the merit of the incidence and accord consent in revision of the final schedule of 13.08.2017 from 10:00hrs to 10:30 hrs to Zero in respect of Dikchu HEP.

Members may discuss.

Deliberation in the meeting

It was informed that ERPC and ERLDC will study and place the details in next OCC meeting.

PART C:: OPERATIONAL PLANNING

Item no. C.1: Anticipated power supply position during December'17

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of December'17 were prepared by ERPC Secretariat on the basis of Provisional LGBR for 2015-16 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-C.1**.

Members may confirm.

Deliberation in the meeting

*Modified anticipated power supply position for the month of December, 2017 after incorporating constituents' observations is given at **Annexure-C.1**.*

Item no. C.2: Shutdown proposal of transmission lines and generating units for the month of December'17

Members may finalize the Shutdown proposals of transmission lines and generating stations for the month of December 17 as placed at **Annexure-C.2**.

- Teesta V Unit #1 shutdown from 1st December 2017 to 21st December 2017 for Annual Maint.
- Teesta V Unit #2 shutdown from 23rd December 2017 to 12th January 2018 for Annual Maint.
- *TSTPS stage-I unit #1 shutdown from 24th November 2017 for 30days.*

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

Deliberation in the meeting

*Approved maintenance programme of generators and transmission elements for the month of December, 2017 is given at **Annexure-C.2**.*

OCC approved the maintenance programme of following generators:

- Teesta V Unit #1 shutdown from 2nd December 2017 to 22nd December 2017 for Annual Maint.
- Teesta V Unit #2 shutdown from 24th December 2017 to 13th January 2018 for Annual Maint.
- *TSTPS stage-I unit #1 shutdown from 1st December 2017 for 30days.*
- *Unit #2 (110MW) of MTPS stage-1 overhauling is scheduled from 27th November 2017 to 26th December 2017.*

NTPC informed that they have not taken shutdown of Farakka unit #1 & Khahalgaon unit #2 as mentioned in the minutes of 138th OCC meeting. They have taken shutdown of Khahalgaon unit #1 (210MW) from 15.11.2017 to 19.12.2017 for 35 days.

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

(i) Thermal Generating units:

Sr. No	Generating Station	Unit Number	Capacity (MW)	Reasons For Ouatge	Outage Date
1	MPL	1	525	OVER HAULING	27-Oct-17

2	KAHALGAON	1	210	OVER HAULING	15-Nov-17
3	VEDANTA	2	600	MAINTENANCE	28-Jun-17
4	ADHUNIK	2	270	GENERATOR VIBRATION	7-Sep-17
5	JITPL	2	600	HEAVY BONNET LEAKAGE FROM EMERGENCY BOILER DRAIN VALVE	9-Nov-17
6	KOLAGHAT	6	210	STATOR EARTH FAULT	11-Jun-17
7	MEJIA	5	250	PRESENT PROBLEM IS IN BARRING GEAR	22-Sep-17
8	MEJIA B	8	500	VIBRATION PROBLEM IN BEARING ,turbine blade damage	7-Aug-17
9	SANTALDIH	5	210	ROTOR EARTH FAULT	30-Apr-17
10	BAKRESWAR	3	210	BOILER TUBE LEAKAGE	20-Nov-17
11	DPL	7	300	MAINTENANCE WORK	20-Oct-17
12	KBUNL STG II	2	195	COOLING WATER PROBLEM	3-Nov-17
13	KBUNL STG II	1	195	COOLING WATER PROBLEM	17-Nov-17
14	RAGHUNATHPUR	1	600	COAL SHORTAGE	14-Nov-17
15	MEJIA	1	210	COAL SHORTAGE	31-Oct-17
16	BAKRESWAR	4	210	COAL SHORTAGE	13-Nov-17
17	SAGARDIGHI	4	500	COAL SHORTAGE	9-Nov-17
18	SAGARDIGHI	2	300	BOILER TUBE LEAKAGE	16-Nov-17
19	BOKARO B	3	210	COAL SHORTAGE	2-Oct-17
20	GMR	3	350	COAL SHORTAGE	21-Nov-17

(ii) Hydro Generating units:

Sr. No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	BURLA	5	37.5	R & M WORK	25.10.2016
2	BURLA	6	37.5	R & M WORK	16.10.2015
3	CHIPLIMA	3	24	R & M WORK	15.10.2015
4	BALIMELA	1	60	R & M WORK	05.08.2016
5	U.KOLAB	2	80	Repair of MIV & Draft tube gate leakage	28.05.2017
6	RENGALI	5	50	Hoist gate problem	21.03.2017
7	RENGALI	1	50	Stator Earth fault	08.09.2017

(iii) Transmission elements

Transmission Element / ICT	Agency	Outage Date	Reasons for Outage
220 KV BALIMELA - U' SILERU	OPTCL / APSEB	27.04.15	LINE IDLE CHARGED FROM UPPER SILERU END AT 12:42 HRS OF 25.01.17
400KV MOTIHARI-BARH-I & II	DMTCL	14.08.17	24 NO OF TOWERS IN GANDAK RIVER WHERE WATER LEVEL IS HIGH
220 ALIPURDUAR SALAKATI D/C	POWERGRID	17.11.17	TOWER BENDING IN LOCATION 196
220 KV BUDHIPADAR KORBA- I	POWERGRID	1.11.17	MULTI CKT TOWER ERECTION AND DIVERSION WORK FROM LOC 29 to 40

(Reported as per Clause 5.2(e) of IEGC)

Members may update.

Deliberation in the meeting

Members noted.

Item no. C.4: Status of commissioning of generating station and transmission elements

New generating units:

S.No.	Power Plant	Plant Size	Expected date

New transmission elements:

Sl No.	Name of Element	Expected date
1	400kV Rajarhat-Purnea D/C (with LILO of one circuit each at Farakka and Gokarno)	
2	Augmentation of 400kV Farakka-Malda D/C with HTLS conductor	
3	400kV Ind-Bharath-Jharsuguda D/C	
4	400kV Talcher-Bramhapur-Gazuwaka D/C	
5	400kv Talcher-Rourkella(2nd D/C-Quad)	
6	400kV Sterlite-Jharsuguda D/C	
7	765kv Anugul-Srikakulum D/C	
8	400kV Sasaram-Daltonganj D/C &Daltonganj S/Stn	
9	400 kV Ranchi-Raghunathpur D/C	
10	220 kV TLDP-IV – NJP ckt-2	
11	220 kV Bidhansai-Cuttack D/C	
12	220kV Gola- Ranchi	

Members may update.

Deliberation in the meeting

Members noted.

PART D:: OTHER ISSUES

Item no. D.1: UFR operation during the month of October'17

System frequency touched a maximum of 50.20 Hz at 13:02 Hrs of 10/10/17 and a minimum of 49.65 Hz at 18:10 Hrs of 13/10/17. Hence, no report of operation of UFR has been received from any of the constituents.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.2: 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 October'17.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.3: Grid incidences during the month of October, 2017

Sr No	GD/ GI	Date	Time	S/S involved	Summary	Load loss (MW)	Gen loss (MW)
1	GD-I	12/10/2017	12:55	Teesta V	At 12:55 hrs, Y-N fault occurred at 400 kv Teesta - Rangpo - II. The line tripped from Rangpo. B/C at Teesta tripped due to E/F protection resulting tripping of unit III due to loss of evacuation path. (Relay Indication at Teesta: Y-N , Z-1 , F/D- 18 KM , F/C - 4.5 KA)	0	170
2	GD-I	13/10/2017	14:39	Teesta III	400 kV Teesta III - Rangpo S/C tripped due to Y-B fault resulting tripping of unit I, III, IV, V & VI at Teesta III and running unit at Dikchu. Relay indication: Y-B, Z-I, 29.4 km from Teesta III, F/C 4.16 kA, 3.22 kA. (Loss of generation at Teesta III: 0.1299 MU)	0	750

3	GD-I	17/10/2017	10:23	Chandaka	220 kV Mendasal - Chandaka Q/C tripped due to fault in 220 kV Mendasal - Chandaka - I resulting power failure at Chandaka end. Power was extended to Chandaka by charging circuit II	230	0
4	GD-I	18/10/2017	18:19	Purnea	At 18:19 hrs, 132 KV Purnea(PG) - Purnea(BSPTCL) T/C tripped (from PG end only) due to failure of B phase jumper of line isolator at Bihar end. Total power failure occurred at 132 /33KV Purnea S/S (BSPTCL).	200	0
5	GD-I	19/10/2017	11:55	Dikchu	At 11:55 hrs , 400 KV Teesta III Dikchu S/C tripped on Y-B-N fault resulting loss of unit II at Dikchu	0	58
6	GD-I	20/10/2017	23:53	Madhepura	Total power failure occurred at Madhepura, Saharsa, Sonebarsa and Udaikishanganj after tripping of 220 kV Purnea - Madhepura D/C due to Y-N fault.	124	0
7	GD-I	26/10/2017	09:22	Sultanganj	Total power failure occurred at Sultanganj, Tarapur and Part of Munger after tripping of 132 kV Banka – Sultanganj D/C in R-N fault (Relay Indication: Ckt II: R-N, F/C 2.19 kA, 41.27 km from Banka, Ckt I: R-N, 2.8 kA, 31.62 km from Banka).	32	0
8	GD-I	26/10/2017	12:02	Teesta III	At 12:02 hrs, 400 kV Teesta III – Dikchu S/C along with all running units at Teesta III tripped on O/V (as reported by Teesta III) at Teesta III end. Running unit (U#1) at Dikchu tripped due to loss of evacuation path.	0	460
9	GD-I	27/10/2017	13:17	Teesta III	At 13:17 hrs, 400 kV Teesta III – Dikchu S/C along with all running units at Teesta III tripped due to DC earth fault (as reported by Teesta III) at Teesta III end. Running unit (U#1) at Dikchu tripped due to loss of evacuation path.	0	850

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.4: Reporting of voltage deviation indices (VDI) for select S/Stns in ER

ERLDC submitted the Voltage Deviation Index (VDI) of selected 400 kV Sub-stations for October, 2017 of Eastern Region which is enclosed at **Annexure- D.4**.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.5: Additional agenda

1. Option for handling intra-day load/generation variation due to RE or otherwise.

Sub-Group under FOR Technical Committee on Grid Integration of Renewable Energy (RE), with reference to regional cooperation had a meeting on 18.8.2017 in CERC office, New Delhi. Record of proceedings is placed in Annexure-D5.1.

As decided in the meeting various options for handling intra-day load / generation variation due to RE or otherwise, as discussed in the meeting be circulated and discussed with Members of Regional Power Committees and **feedback on the same may be provided to us to facilitate further deliberations and suitable recommendations by the FOR Technical Committee on Grid Integration of RE.**

Members may discuss and decide.

Deliberation in the meeting

*OCC advised all the members to go through **Annexure D5.1** and submit their comments to ERPC vide mail (mserpc-power@nic.in) within five working days.*

2. Repair/Rectification of tower at location 79 of 132kV Rangpo-Melli D/c line and Chuzachen(Rangpo)-Gangtok transmission lines - Powergrid

Powergrid informed that their patrolling team has observed bent in part of tower no. 79 of 132kV Rangpo-Melli D/c line and Chuzachen(Rangpo)-Gangtok transmission lines which may further degrade the condition of tower.

In 137th OCC, Powergrid informed that tower no. 79 of 132kV Rangpo-Melli D/c line and Chuzachen(Rangpo)-Gangtok transmission lines falls under the jurisdiction of Energy & Power Department, Govt. of Sikkim.

Powergrid added that the issue has been informed to Sikkim vide letter dated 20th September 2017.

Deliberation in the meeting

Powergrid presented the condition of tower and placed the details of towers along with jurisdiction as follows:

Sl No.	**Name of Lines**	**Total Line Length (in KM)**	**Total Towers**	**Under PGCIL Rangpo TL**		**Total Towers (PGCIL)**	**Under Sikkim Govt.**		**Total Towers (SIKKIM Govt.)**
				From	To		From	To	
1	132kV Rangpo-Melli	16.65	71	3,4,1 (M/C) Melli Gantry	(96-59) & (M15-M1) Rangpo Gantry	55	77 (LILO)	92 (LILO)	16

2	132kV Chuzachen-Gangtok	48.416	177	3,4,1 (M/C) Melli Gantry	96-176	84	77 (LILO)	92 (LILO)	16

Sikkim representative was not available for discussion.

It was decided that the issue will be communicated to Sikkim for tower rectification work on priority.

3. Shutdown requisition for Repair/Rectification of tower location No.-1 (Multi-Ckt D-Type Tower with Strengthened X-arm) of 220kV D/C Rangpo-New Melli TL-Powergrid

Powergrid informed that location No.-1(Multi-Ckt D-Type Tower with Strengthened X-arm) of 220kV D/C Rangpo-New Melli TL is situated just outside the boundary of POWERGRID Rangpo SS. Due to sudden landslide during 1st week of Nov-17, boulders & trees from top of the hills have fallen on the tower resulting severe damage to 2 legs of the tower. Several members of the tower has got bend and in 2 legs bend has been noticed from Stub portion.
Presently, the tower has been strengthened through several Guyed Arrangement but since the tower is situated in the slope of hills, permanent restoration of the tower has to be carried out on emergency basis.

Powergrid informed that they are planning for permanent rectification of the tower through replacement of all bend members including bend stub. For replacing the bend stub, the whole tower has to be dismantled and upon replacement of damaged stub, the tower has to be erected again. In order to carry-out the whole work, continuous S/D of both ckts of 220kV D/C Rangpo-Melli TL is required for around One & Half Months tentatively wef 15th January 18 to end of Feb-18.

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

Deliberation in the meeting

OCC felt that outage of 220kV Rangpo-New Melli D/C line will create problems for power evacuation of all connected generating stations.

OCC decided to discuss the issue with Powergrid and all the concern generators in a separate meeting on 11th December 2017 at ERPC, Kolkata.

It was informed that deemed availability will be considered as per the provisions of CERC regulations.

4. Requisition of S/D of 400kV D/C Binaguri-Bongaigaon line for Conductor repairing work --Powergrid

400kV Binaguri-Bongagigaon D/c lines were kept under S/D time to time due to over-voltage constraints as per ERLDC instructions. During this S/D periods, at several locations, outer-layer of conductor has been theft by miscreants. Presently we are planning to rectify all those locations through replacement with fresh conductors where damage is severe and through conductor lapping where few strands have been cut.

In order to carry-out the above work, S/D is required for 10 days each ckt at a time wef 15th Jan-2018.

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

Deliberation in the meeting

Shutdown will be available subjected to NLDC approval.

It was informed that deemed availability will be considered as per the provisions of CERC regulations.

5. 220kV D/C Birpara-Chukha line & 220kV S/C Birpara-Malbase line for Shifting of Line due to change in course of river Torsa--Powergrid

Powergrid requested for following shut down for taking up erection and stringing work.

1)220KV Birpara Chukha-D/C (Ckt-I&II) from 08:00Hrs of 01.12.2017 to 17:00 hrs of 10.12.2017 on continuous basis.
2)220KV Birpara Chukha-Malbase S/C from 08:00Hrs of 11.12.2017 to 17:00 hrs of 14.12.2017 on continuous basis.

The above shutdown is required for rerouting of the above line for river course change which is to be completed before onset of rainy season.

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

Deliberation in the meeting

Shutdown will be available subjected to NLDC approval.

It was informed that deemed availability will be considered as per the provisions of CERC regulations.

6. Up gradation of old protection system for Transformer/Reactors in Different SS of ER-II--Powergrid

As per latest protection guidelines and standards Relay replacement work has been undertaken by ER-II in phased manner. All the Transformer/Reactor having static type relays will be retrofitted with Numerical Relays for better accessibility. Even some of the first generation numerical relays not having features of **IEC-61850** also considered for replacement for reliability purpose. Already S/D list covers such items for following S/s:

1. Maithon, 2. Binaguri, 3. Malda, 4. Subhasgram, **5. Gangtok**

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

Deliberation in the meeting

It was informed that deemed availability will be considered as per the provisions of CERC regulations.

7. Installation of 2nd Bus Reactor at Berhampur--Powergrid

Under ERSS-XV, 01 NO 125 MVAR Bus Reactor to be commissioned at Berhampur. To address the need of the system, 01 no 125 MVAR has been arranged. As per original scheme, existing

400 KV Farakka-Berhmapur Bay will be shifted to its new place and in old bays of Farakka-Berhmapur upcoming Reactor will be commissioned.

Accordingly, for shifting to new bay existing Farakka - Berhampur Ckt require S/D of 10 Days on continuous basis. Tentatively the programme for S/D given from 20.12.17 to 30.12.17. After that another 15 Days require for commissioning of new Reactor.

As all above outages will be related to ERSS-XV pacakage, it may be considered under Deemed category as per CERC regulations.

Deliberation in the meeting

It was informed that deemed availability will be considered as per the provisions of CERC regulations.

8. Shutdown for insulator replacement--Powergrid

The following lines has been proposed for approval in 139th OCC meeting for either replacement of Porcelain insulator with Polymer insulator or Insulator washing in Polluted stretches of Transmission lines:

Name of Line	Date	From	Date	To	Nature	S/D availed by	Reason
400 KV PTN - BALIA -1	04.12.17	9:00	05.12.17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 7, 70 to 90, 101 to 111, 135 to 145 etc.
400 KV PTN - BALIA -2	06.12.17	9:00	07.12.17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 7, 70 to 90, 101 to 111, 135 to 145 etc.
400 KV KOD. -BSF -1	08.12.17	9:00	09.12.17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 5,6,12,13,15,21,21,25,26,27 etc.
400 KV KOD. -BSF -2	10.12.17	9:00	11.12.17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 5,6,12,13,15,21,21,25,26,27 etc.
400 KV BSF - VNS-1	12.12.17	9:00	13.12.17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 116, 18, 29-30, 113, 152-153 etc5,6,12,13,15,21,21,25,26,27 etc.
400 KV BSF - VNS-1	14.12.17	9:00	15.12.17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 116, 18, 29-30, 113, 152-153 etc5,6,12,13,15,21,21,25,26,27 etc.
400 kV Patna-Barh CKT - I AND 400 kV Kahalgaon-Barh CKT - II	04.12.17	8:00	09.12.17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion & insulator washing at Loc no 545 to 550 and 654 to 657.
400 kV Patna-Barh CKT - II AND 400 kV Kahalgaon-Barh CKT - I	11.12.17	8:00	16.12.17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion & insulator washing at Loc no 545 to 550 and 654 to 657.
400 kV Patna-Barh CKT - III AND 400 kV Barh-Gorakhpur CKT - I	18.12.17	8:00	23.12.17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion

400 kV Patna-Barh CKT - IV AND 400 kV Barh-Gorakhpur CKT - II	26.12.17	8:00	31.12.17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion

The above outage period during proposed shutdown may kindly be treated as available for the purpose of Availability calculation.

Deliberation in the meeting

OCC agreed to consider the shutdown period as deemed availability as per the decision of 30th TCC/ERPC meetings and provisions of CERC regulations.

9. Washing of insulators of transmission lines in stubble burning area.--Powergrid

During patrolling of some lines listed below of ERTS-I , it has been observed that a layer of stubble burning residue has been deposited over the surface of insulators in many locations due to burning of stubble of paddy crop for make the way for Rabi crops by farmers. Last year we had witnessed numbers of tripping of various transmission lines of ERTS-I during winter season due to heavy fog and upon analysis of tripping , it had been found that the tripping of lines had happened due to deposition of stubble burning residue over insulators surface causing flash over/decapping of insulators.

In view of above ,washing of insulators need to be carried out on urgent basis before onset of winter season to avoid unwanted tripping of transmission lines due to flash over of insulator/ de-capping during heavy fog condition . The insulators washing work of some lines has already been carried out with due permission of ERLDC and for some lines works to be done on priority basis. It is pertinent to be mentioned here that the insulators washing works is very much important for Grid security and stability.

The shutdown detail of below mentioned lines has been listed in 139th OCC shutdown list.

1) 400KV PTN -BARH CKT-1&2.
2) 400KV PTN-BALIA CKT-1&2.
3) 400KV KODERMA-BIHARSARIF CKT-1&2.
4) 400KV SASARAM-ALAHABAD.
5) 400KV SASARAM-VARANASI.

Deliberation in the meeting

*OCC agreed for shutdown as per the approved shutdown in **Annexure-C2**.*

Meeting ended with vote of thanks to the chair

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Annexure -A

Participants in 139th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata   Time: 11:00 hrs   Date: 27.11.2017 (Monday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
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4	S. R. Singh	DGM POWERGRID ER-I	8544401030	Singhsr@powergridindia.com	[signature]
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16	Leela Sharma	SO(E)/DGPC	+975 17504296	Sharmalalit4637@gmail.com	[signature]
17	Abish Sarbi	SO(E)/DGPC	+97517777880	abomsb@gmail.com	[signature]
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"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Participants in 139th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 27.11.2017 (Monday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
21	S. K. SAHU	CM/POWERGRID odisha projects.	9078883643	SKsahu@powergridindia.com	
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24	C. Mallick	Engr., ERLDC	9007059660	chandan.mallick@posoco.in	
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26	Ishan Singh Baghel	APNRL	9303544699	ishan.singh.baghel@adhunikgroup.co.in	
27	B. B. Rai	Dy Mgr/ERLDC	9432357830	bibhu.cet@gmail.com	
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31	NADIM AHMAD	MGR. ERLDC	9432357831	nadim@posoco.in	
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34	Pramjeet Kum	ESE/BSPTCL	7763817717	pramjeet75@gmail.com	
35	Bibha Kumari	AEE/BSPTCL	7091097885	k2010bibha@gmail.com	
36	Pritee Mishra	AEE/BSPTCL	9691623774	pritiiitns@gmail.com	
37	Tushar Ranjan	AEE/SLDC/Ranchi	9326374226	ranjtushar@gmail.com	
38	Rajesh Kumar Pandey	EEE JUSNL/SLDC Ranchi	9934138298	K.rajeshp@gmail.com	
39	C. K. Haldar	ACE WB SLDC	9434910379	ckhaldar@yahoo.co.in	
40	A. Bardhan Roy	ACE, WBSLDC WBSETCL	9434910302	abardhan.roy.84@rediffmail.com	

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

Participants in 139th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 27.11.2017 (Monday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
41	N. G. Sah.	DGM / WBPDCL	8336903700	ngsaha@wbpdcl.co.in	[signature]
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44	P. K. DAS	DGM (El.) SLDC, Odisha Bhubaneswar	9438907408	prasanta_das@yahoo.com	[signature]
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48	NEELESH GUPTA	Maintenance Head Teesta III	9816805252	neelesh.gupta@[illegible]	[signature]
49	Jitendra Pr. Mallik	Manager, GMR	9777456737	jitendra.malik@gmrgroup.in	[signature]
50	P. K. DAS	AGM(OS), NTPC, ERHQ-1, Kolkata	9438233216	pkdas01@ntpc.co.in	[signature]
51	SUMIT DASGUPTA	Sr. Mgr. (PS) WBPDCL	8336903911	s.dasgupta@wbpdcl.co.in	[signature]
52	S. K. HAZRA	DGM / [illegible]	9433041809	[illegible]	[signature]
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54	DPBhargava	TUL	9958833995	dpbhargava@teestaurja.com	[signature]
55	S. K. MISHRA	DGM (OS) NTPC ER-II	9438233207	skmishra05@ntpc.co.in	[signature]
56					
57					
58					
59					
60					

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

Annexure-A1

Power System Operation Corporation Ltd.

139th OCC Meeting

At ERPC, Kolkata

27th November, 2017

ER Grid Performances

Highlights for the month of October-17

Frequency Profile

Average Freq:- 49.97 Hz

Avg FVI: - 0.048

Lowest FVI:- 0.02

Max- 50.20Hz on 10th October' 17

Min- 49.65 Hz on 13th October' 17

77.21% of the time freq was with in IEGC Band

Peak Demand

ER: 21116 MW on 18th October 2017 at 19:43 hrs

% Growth in Average Demand Met w.r.t. last year- 6.01%

BSPHCL : 4488 MW ; ON 09/10/17

JUVNL: 1192 MW; ON 15/10/17

DVC: 2978 MW; ON 28/10/17

GRIDCO: 4656 MW; ON 10/10/17

WB: 8376 MW; ON 16/10/17

SIKKIM: 101 MW; ON 10/10/17

Energy met

Max. 440 MU on 18th *Oct 2017*

%Growth w.r.t. last year on Max energy – 6.33%

Avg. 401 MU in October *2017*

%Growth w.r.t. last year on Avg. energy – 6.93%

New Element

Generating Units-97 MW

Transmission Lines-64 CKM

Open Access

STOA transactions approved -350 nos.

Energy Approved- 854.89 MUs

1. Achievements during the month

a. New generating units synchronized:

1) Tashiding Unit I & II (2 X 48.5 MW) (Shiga Energy, Sikkim IPP) has been declared under COD at 0:00 hrs of 18/10/17.

b. New transmission elements charged:

1) 220 KV New Melli-Tashiding ckt (SIKKIM) charged for the first time at 17:34 hrs of 12/10/17.

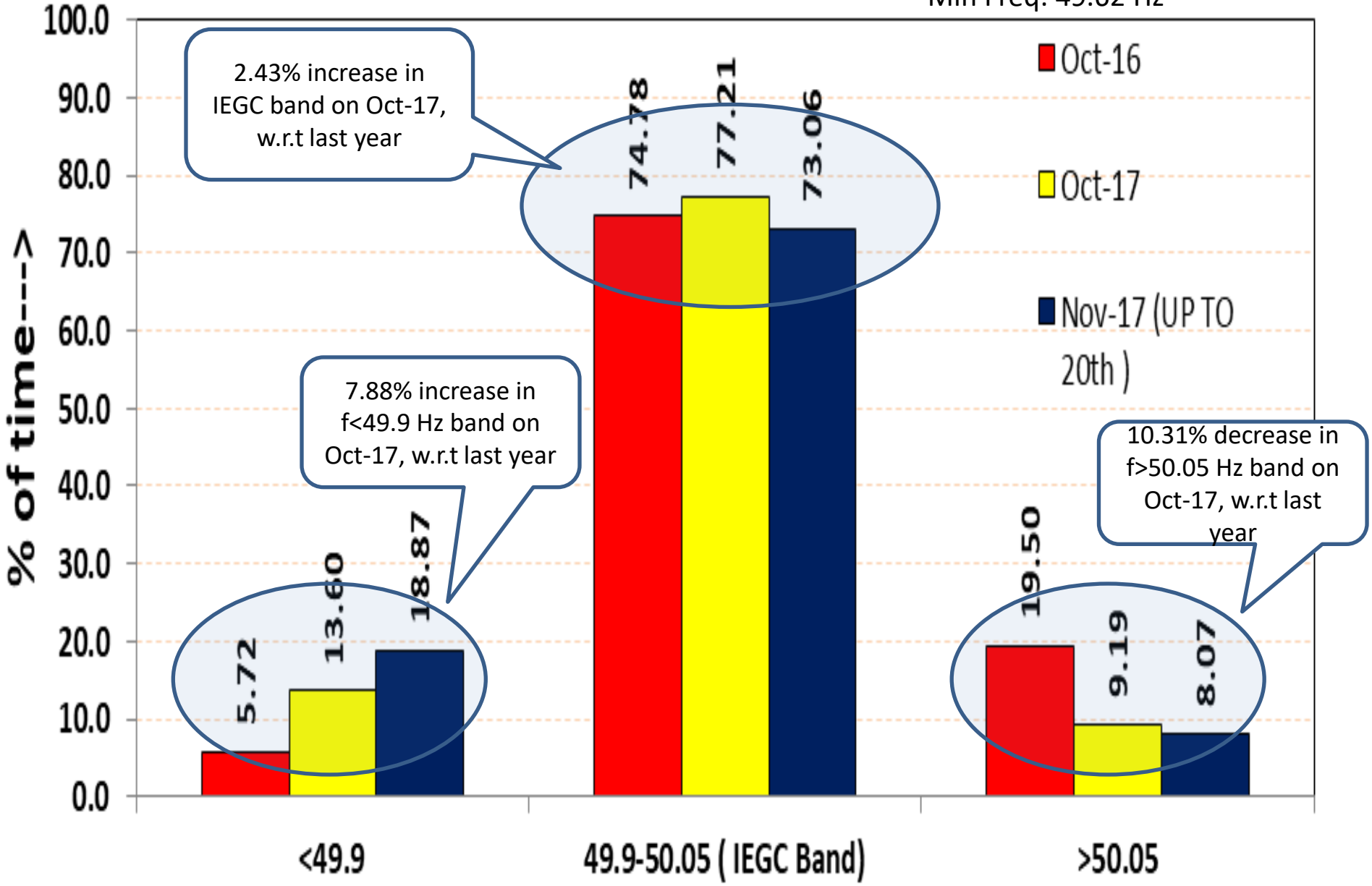
2) 500MVA ICT-II at Maithon (old 315MVA Replacement) charged for the first time at 18:42 hrs of 13/10/17.

3) 132kV Motihari-Raxual-I & II Charged for first time at 12:31 hrs of 20/10/17 and at 12:44 hrs of 18/10/17 respectively.

4) 220kV Tashiding-Rangpo (SIKKIM) charged for first time at 18:22 hrs of 30/10/17.

Monthly Frequency Profile of Grid

In Nov-17 (Up to 20th):
Max Freq: 50.27 Hz
Min Freq: 49.62 Hz



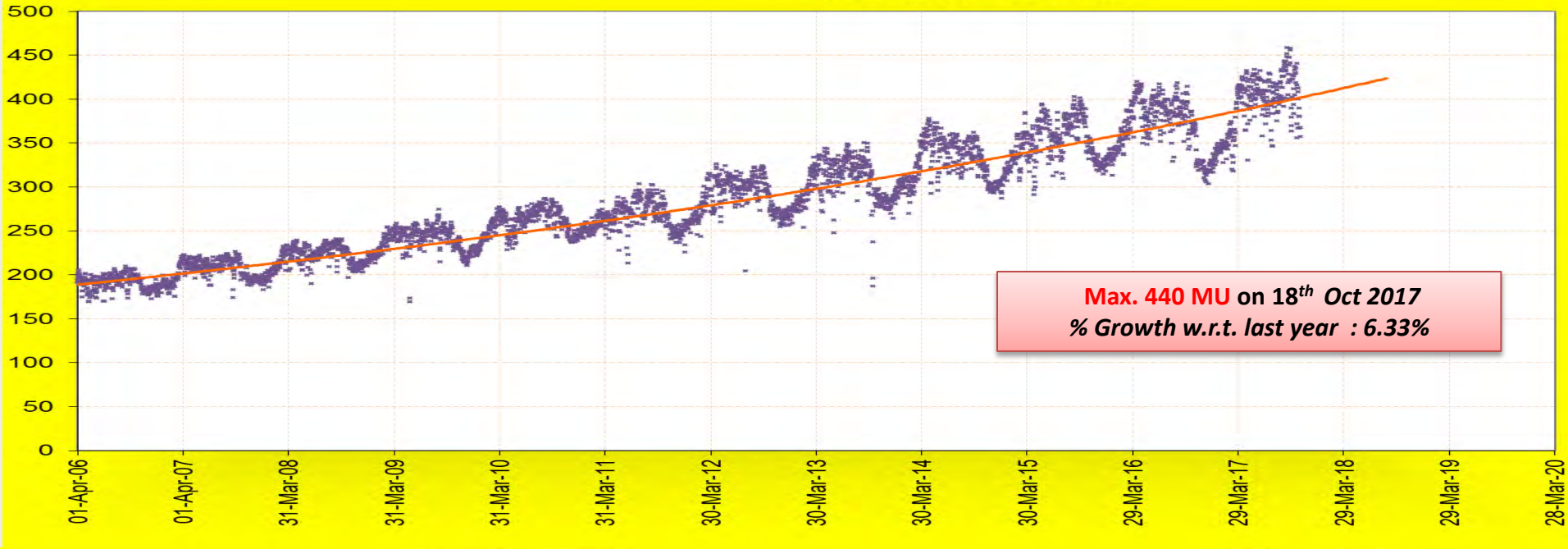
So Far Highest Demand

Constitute	Demand (in MW)	Date	Time	Dmd met on 07th Nov'17(max dmd met day)
Bihar	4488	09-Oct-17	20:38	3541
DVC	3333	10-Apr-16	20:57	3171
Jharkhand	1262	10-Jun-17	19:54	969
Odisha	4656	10-Oct-17	19:37	3762
W. Bengal	8605	12-Apr-17	19:56	6938
Sikkim	117	28-Oct-16	18:59	101
ER	21116	18-Oct-17	19:43	18471

So Far Highest Energy Consumption

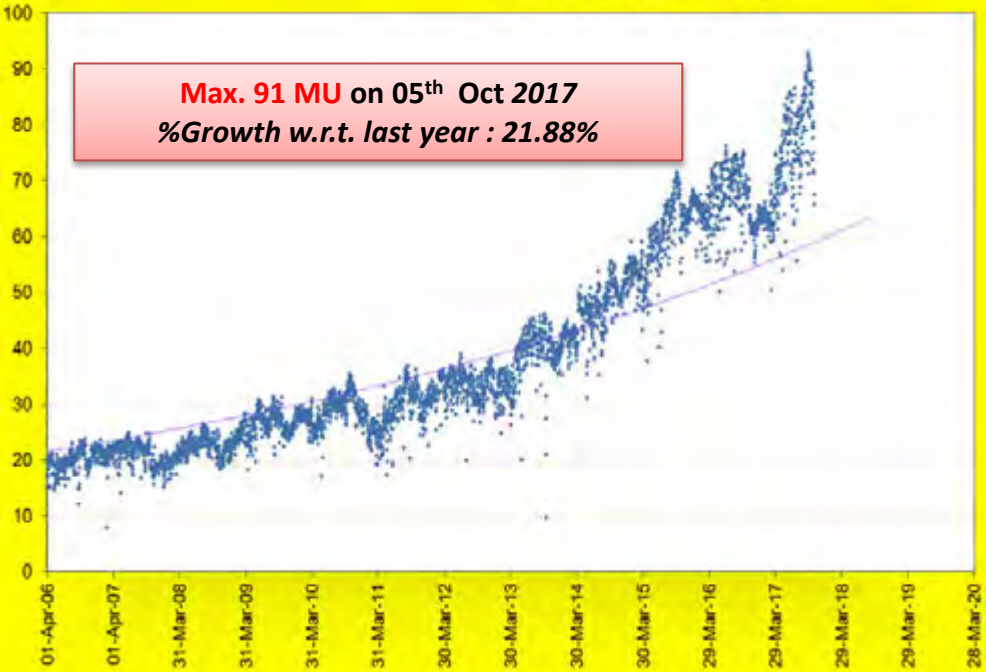
Constitute	Energy consumption (in MUs)	Date	Dmd met on 07th Nov'17(max dmd met day)
Bihar	90.3	26-Sep-17	62.2
DVC	75	23-Mar-17	68.4
Jharkhand	26	20-Apr-16	19.4
Odisha	91.5	16-Sep-17	71.9
West Bengal	181	27-Apr-16	119.2
Sikkim	2	24-Mar-17	1.6
ER	451	26-Sep-17	355

ER Energy met in MU



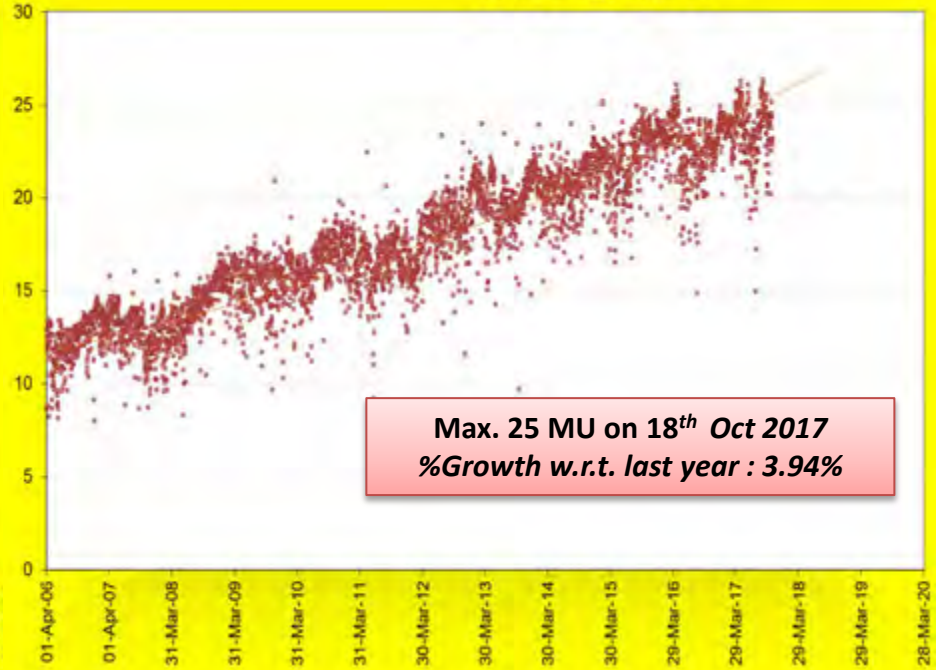
Max. 440 MU on 18th *Oct 2017*
% Growth w.r.t. last year : 6.33%

BSPHCL Energy met in MU



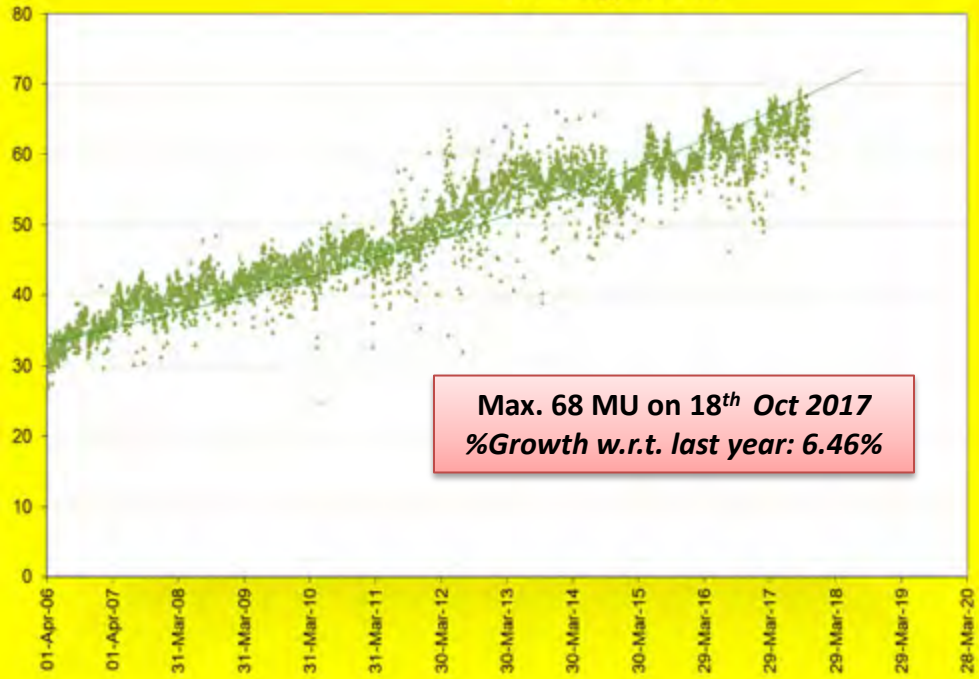
Max. 91 MU on 05th Oct *2017*
%Growth w.r.t. last year : 21.88%

JUVNL Energy met in MU



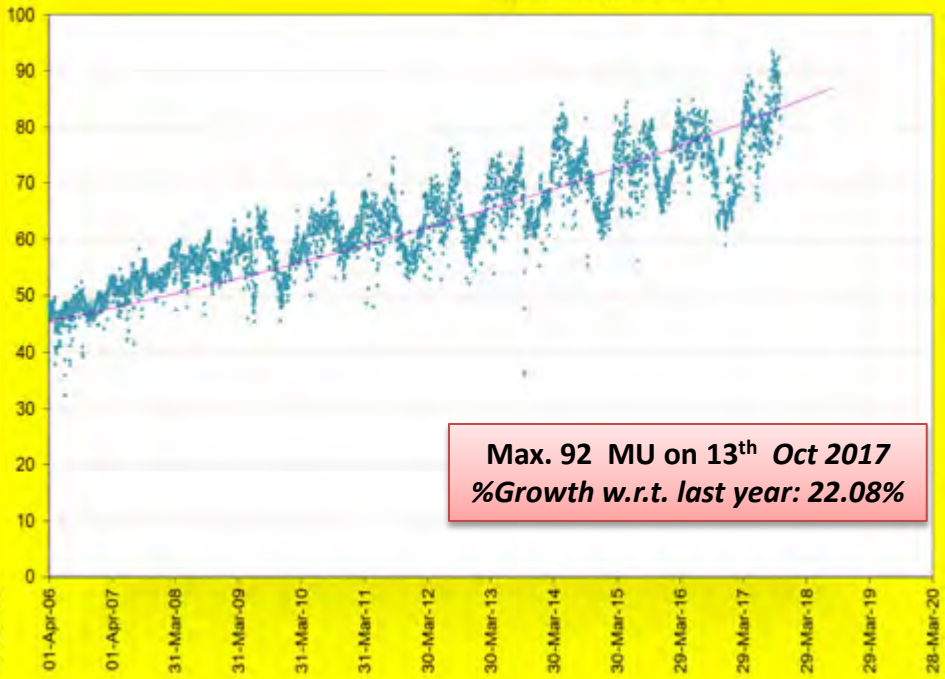
Max. 25 MU on 18th *Oct 2017*
%Growth w.r.t. last year : 3.94%

DVC Energy met in MU



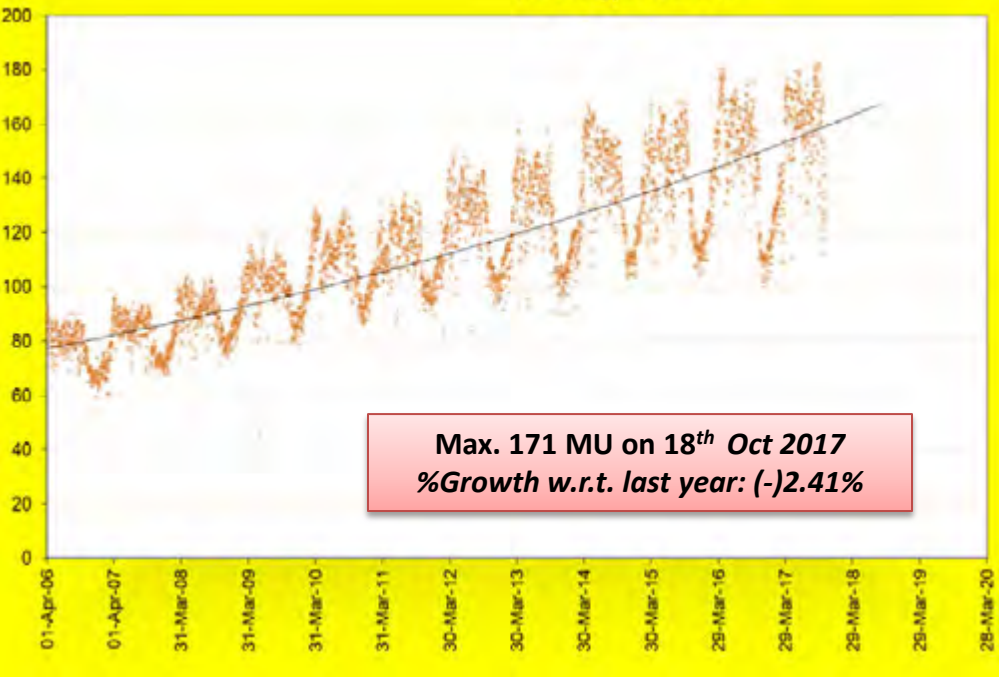
Max. 68 MU on 18th *Oct 2017*
%Growth w.r.t. last year: 6.46%

Odisha Energy met in MU



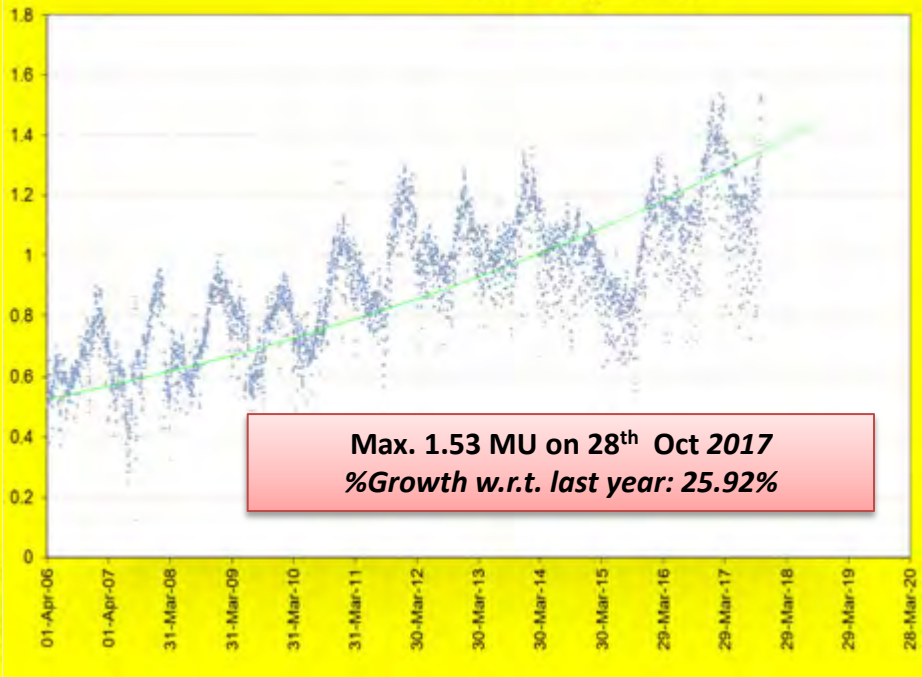
Max. 92 MU on 13th *Oct 2017*
%Growth w.r.t. last year: 22.08%

WB Energy met in MU



Max. 171 MU on 18th *Oct 2017*
%Growth w.r.t. last year: (-)2.41%

Sikkim Energy met in MU

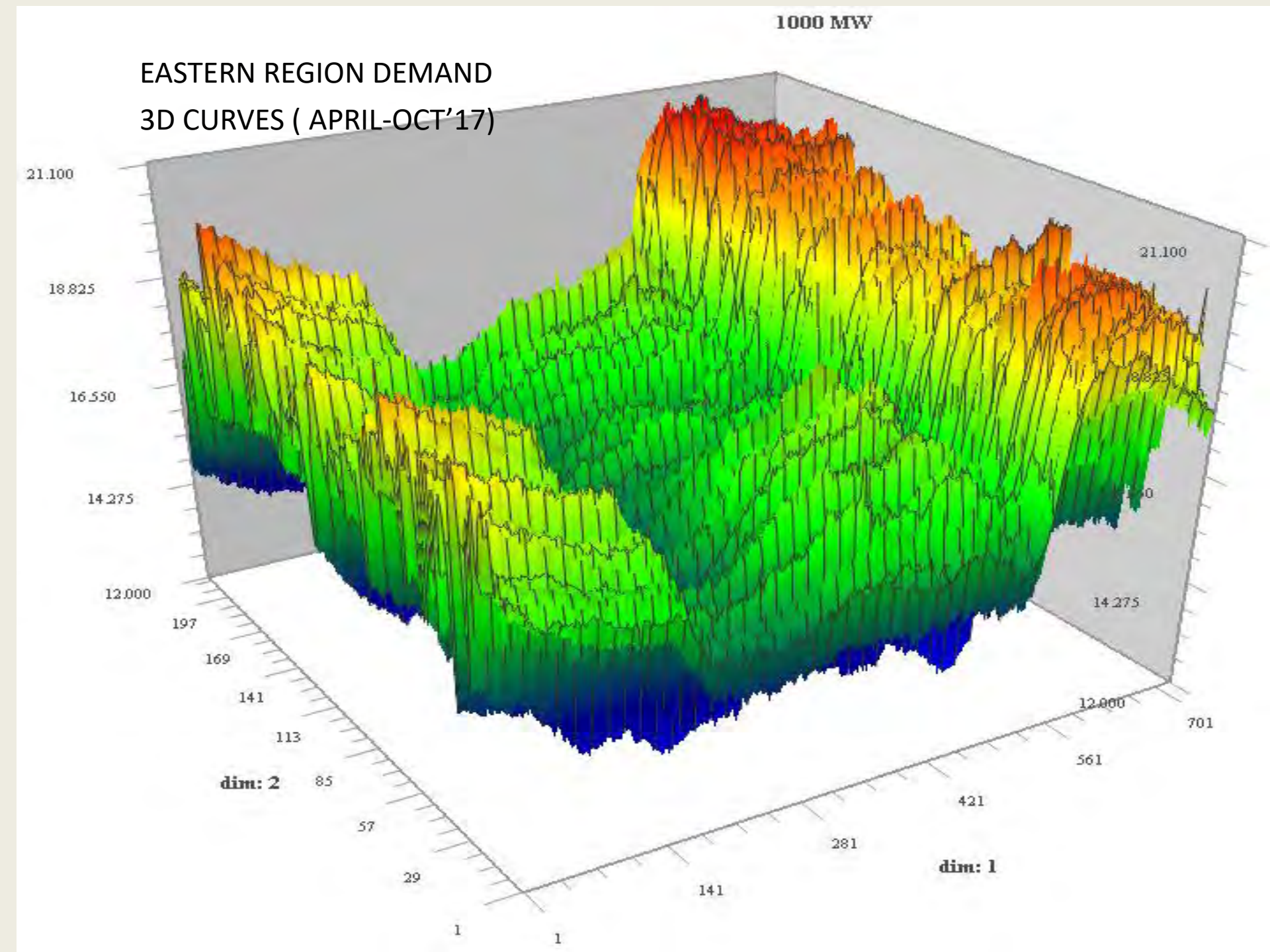


Max. 1.53 MU on 28th Oct *2017*
%Growth w.r.t. last year: 25.92%

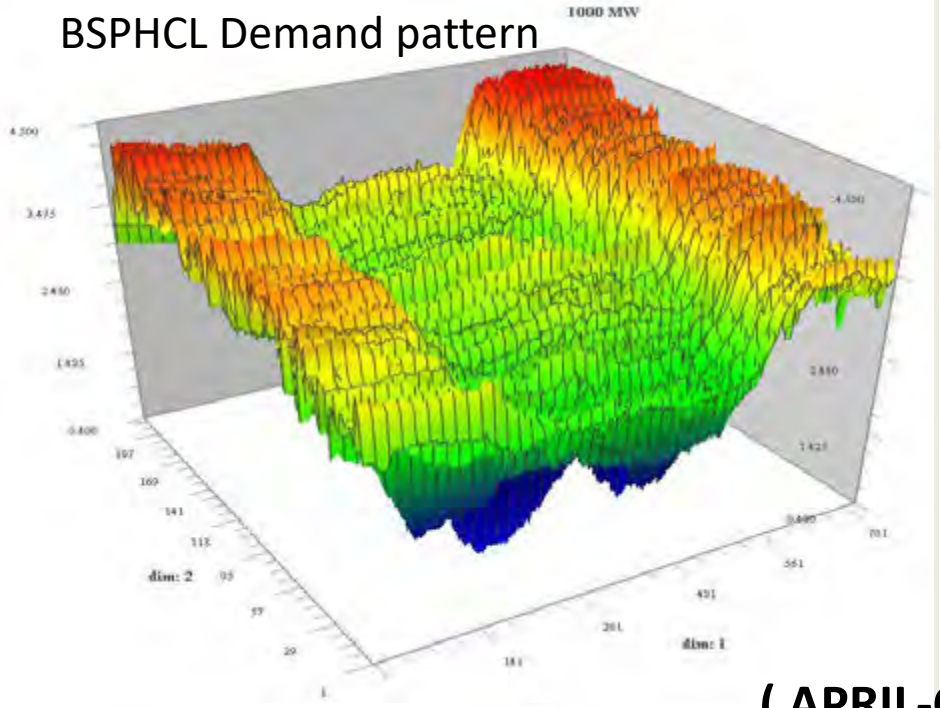
3D VIEW OF ER DEMAND PATTERN (APR-17 TO OCT-17)

EASTERN REGION DEMAND

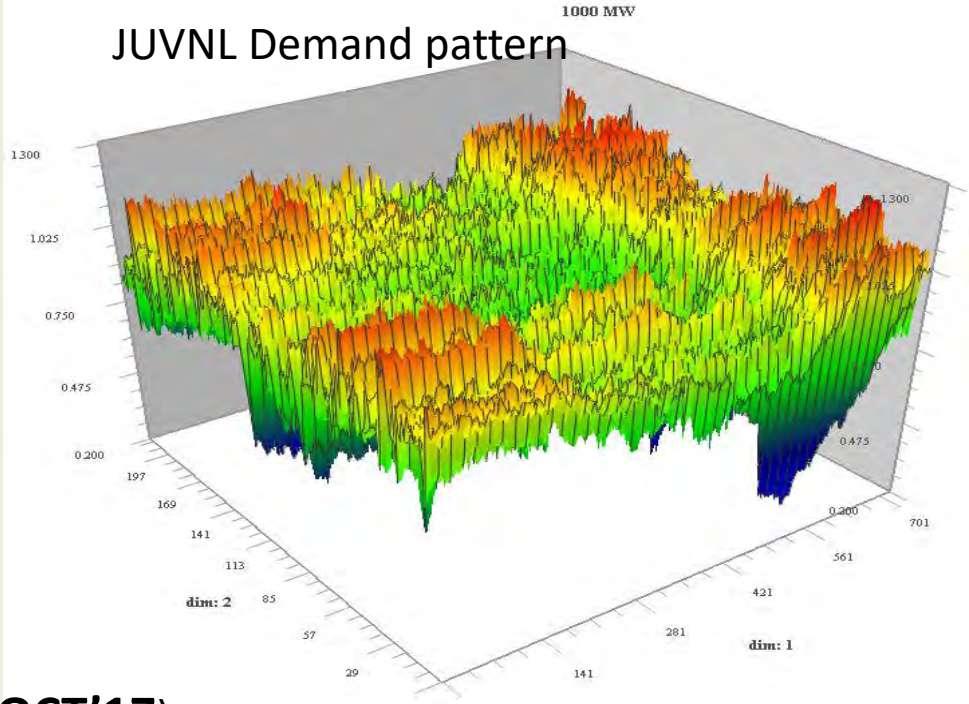
3D CURVES (APRIL-OCT'17)



BSPHCL Demand pattern

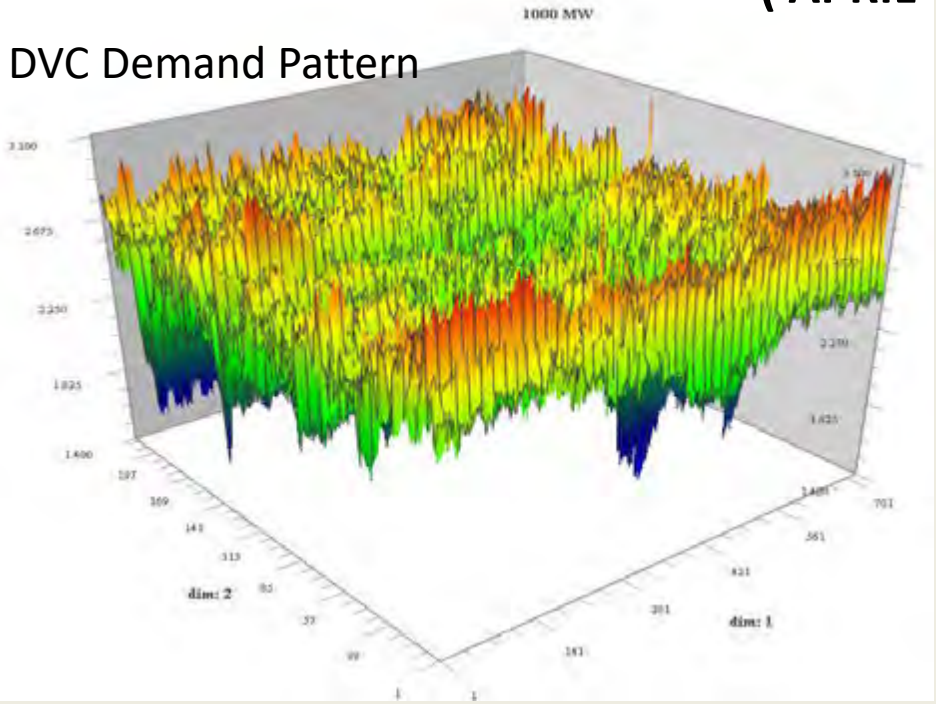


JUVNL Demand pattern

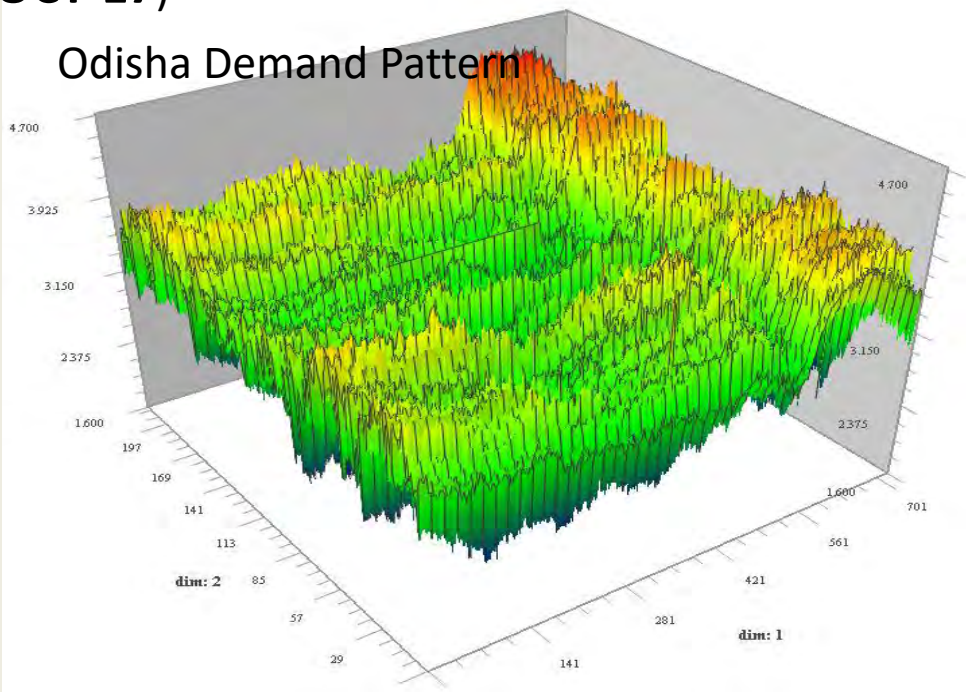


(APRIL-OCT'17)

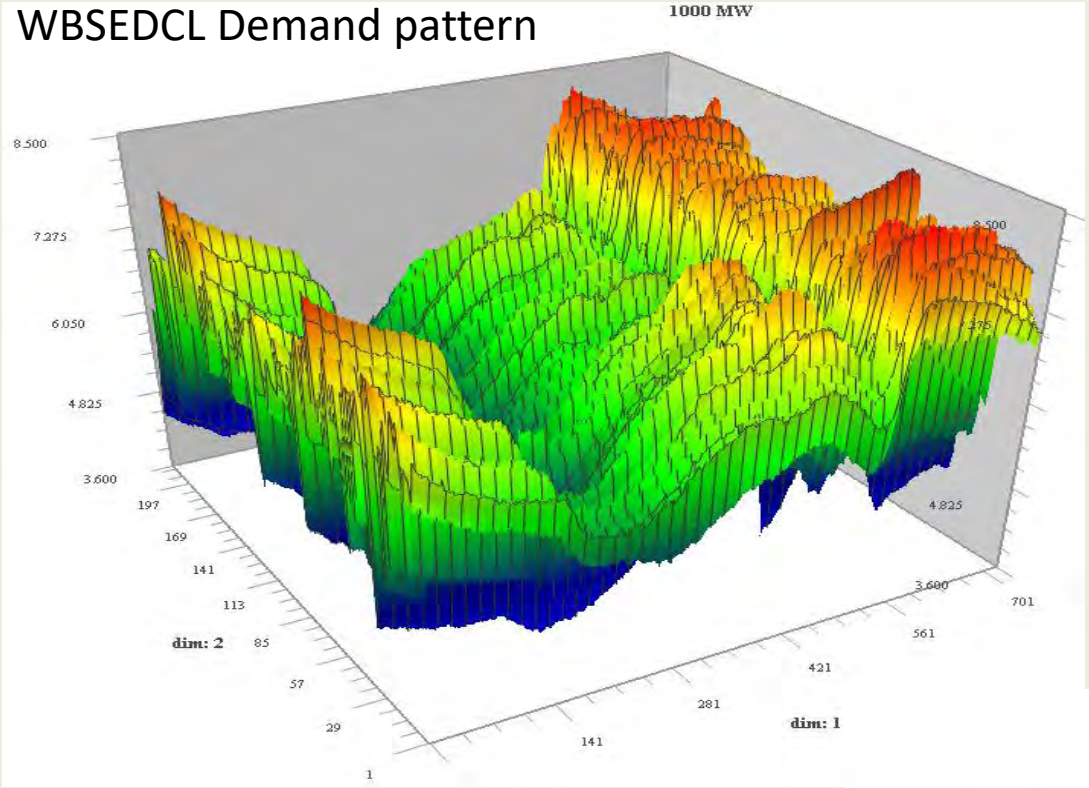
DVC Demand Pattern



Odisha Demand Pattern

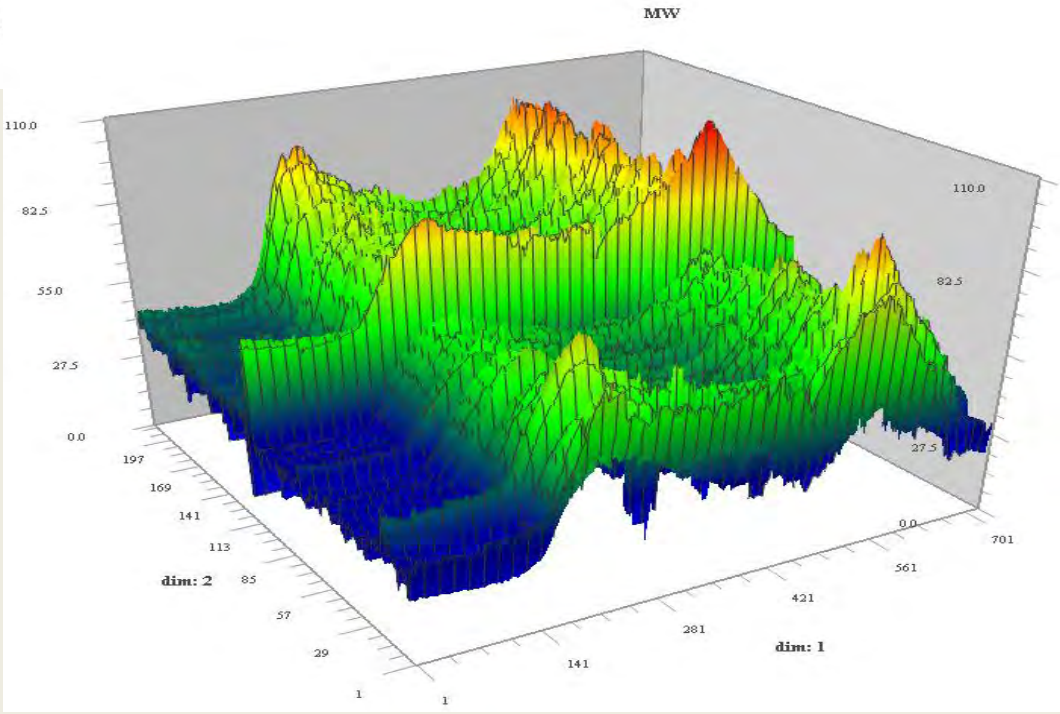


WBSEDCL Demand pattern



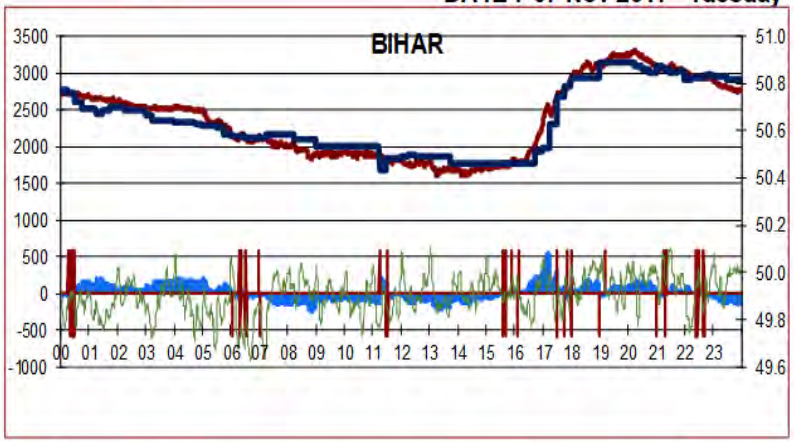
(APRIL-OCT'17)

Sikkim Demand pattern

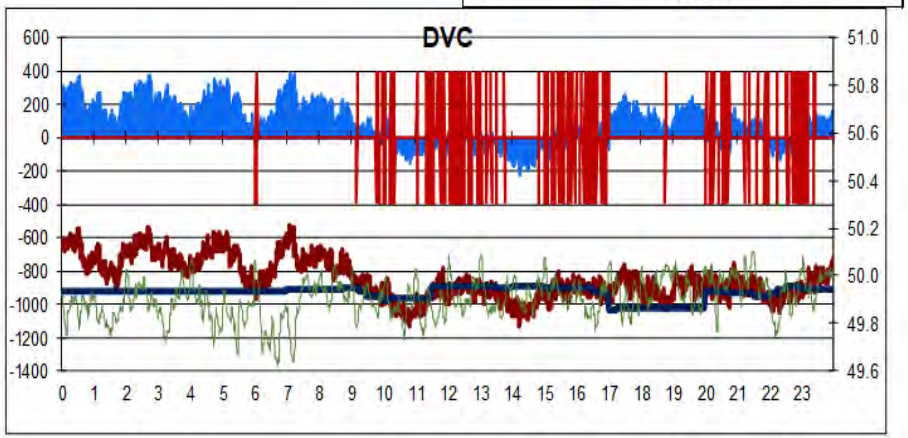


CONSTITUENTWISE SCHEDULE & ACTUAL EXCHANGE

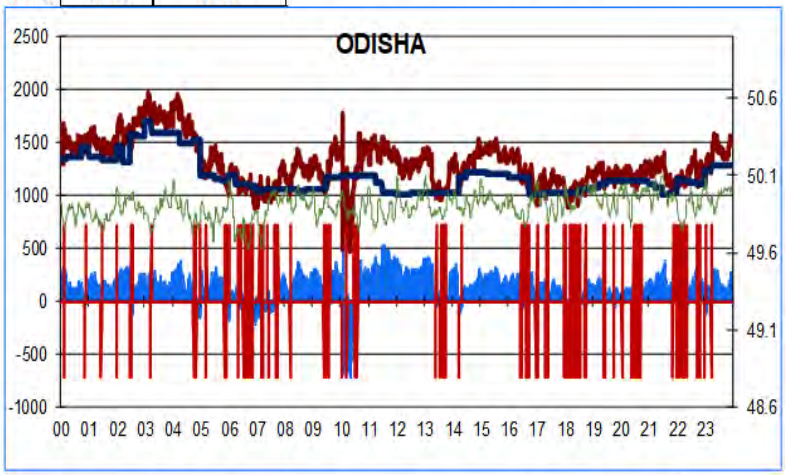
DATE : 07 Nov 2017 Tuesday



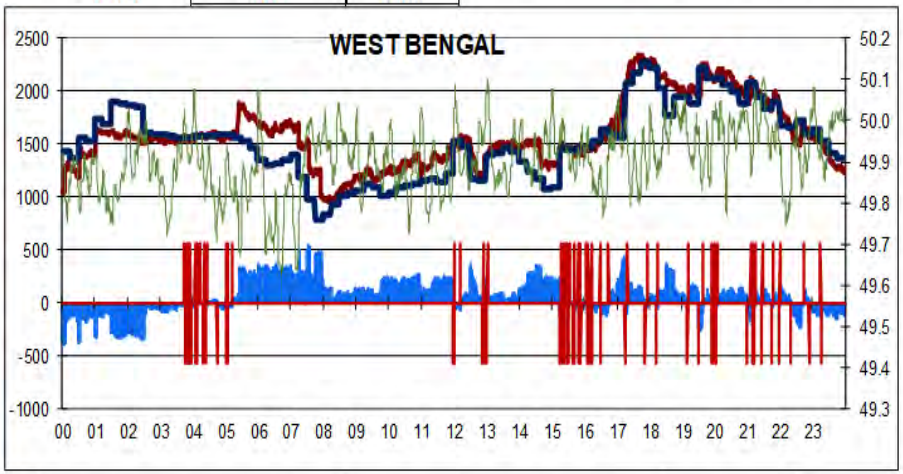
Act MU	MAX	MIN	Min/Max	UI	SCHEDULE
56.7	3305	1607	0.49	0.36	56.37
Time:	20:16	14:24			



Act MU	MAX	MIN	Min/Max	UI	SCHEDULE
-20.3	-523	-1126	0.46	1.98	-22.30
Time:	7:05	14:14			



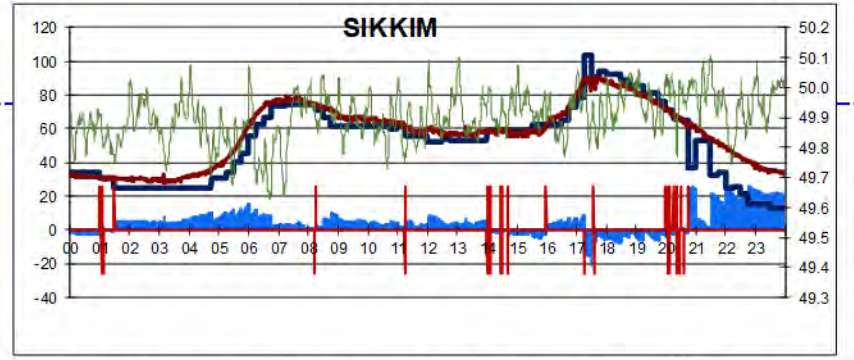
Act MU	MAX	MIN	Min/Max	UI	SCHEDULE
31.4	1963	475	0.24	2.92	28.48
Time:	3:09	10:19			



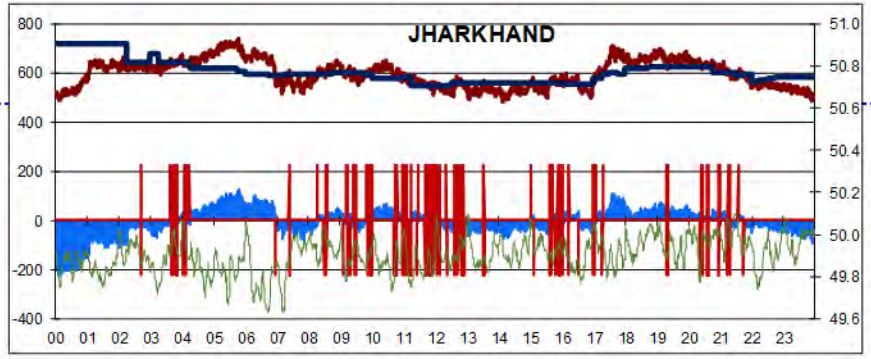
Act MU	MAX	MIN	Min/Max	UI	SCHEDULE
38.0	2343	950	0.41	1.55	36.45
Time:	17:40	8:10			

CONSTITUENTWISE SCHEDULE & ACTUAL EXCHANGE

DATE : 07 Nov 2017 Tuesday



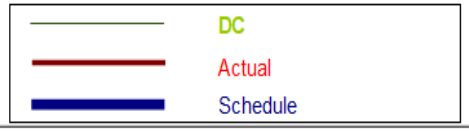
MU	MAX	MIN	Min/Max	UI	SCHEDULE
1.4	91	28	0.31	0.11	1.26
Time:	17:34	3:10			



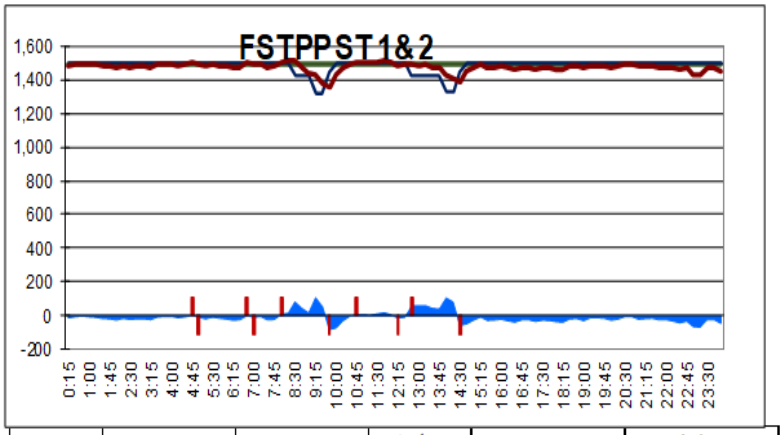
Act MU	MAX	MIN	Min/Max	UI	schd MU
14.31	737	486	0.66	-0.19	14.50
Time:	5:46	14:08			

ISGS (THERMAL) DC, SCHEDULE & ACTUAL GENERATION

DATE : 07 Nov 2017 **Tuesday**

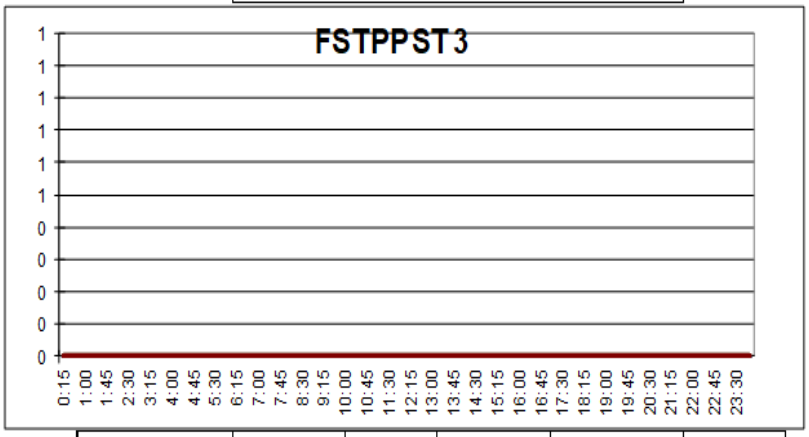


FSTPP ST 1&2



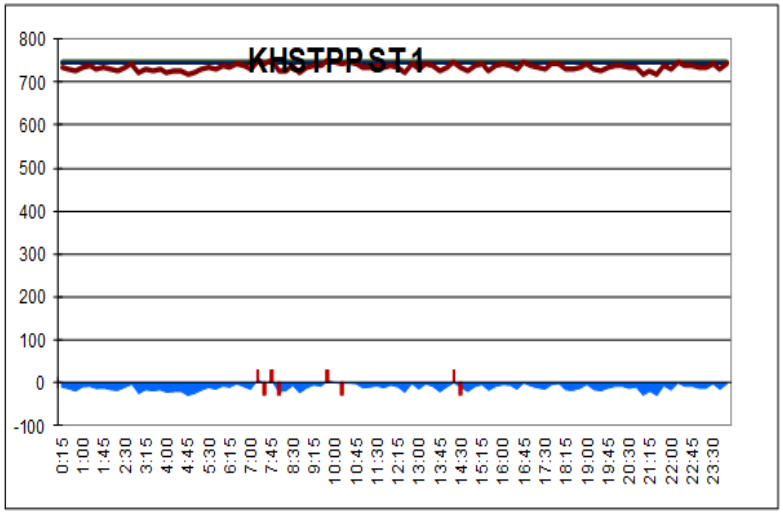
Act MU	MAX	MIN	Min/Max	UI	schd MU
35.38	1514	1357	0.90	-0.20	35.58
Time:	11:45	9:45			

FSTPP ST 3



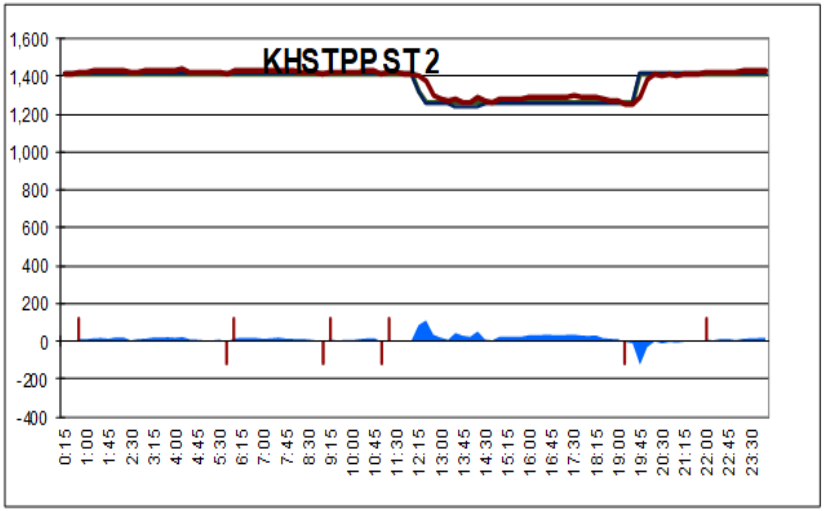
Act MU	MAX	MIN	Min/Max	UI	schd MU
0.0	0	0	0.00	0.00	0.00
Time:	0:15	0:15			

KHSTPP ST 1



Act MU	MAX	MIN	Min/Max	UI	schd MU
17.6	751	716	0.95	-0.26	17.88
Time:	7:15	4:45			

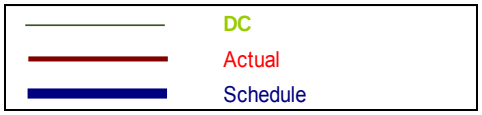
KHSTPP ST 2

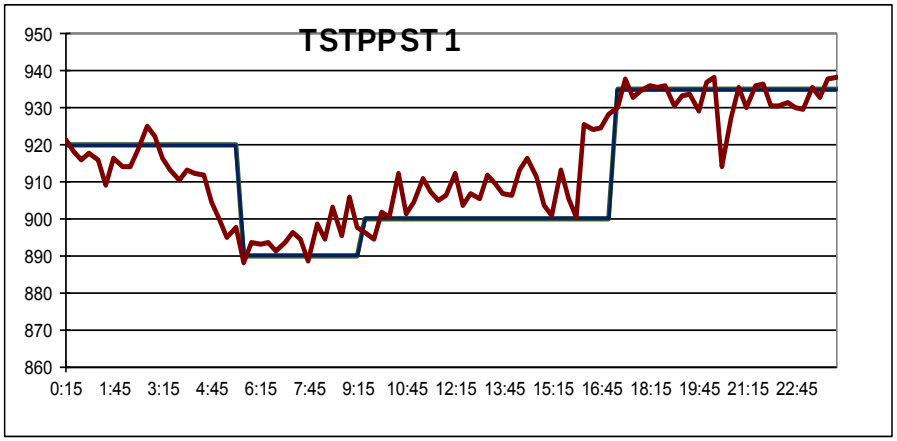


Act MU	MAX	MIN	Min/Max	UI	schd MU
33.1	1437	1249	0.87	0.33	32.77
Time:	4:15	19:30			

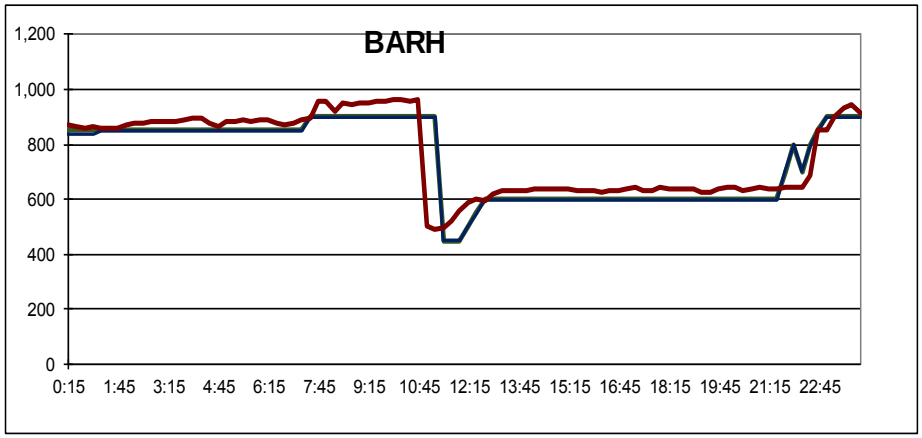
ISGS (THERMAL) DC, SCHEDULE & ACTUAL GENERATION

DATE : 07 Nov 2017 Tuesday



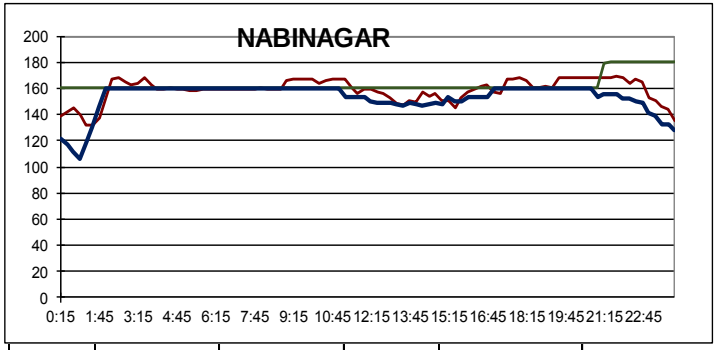


Act MU	MAX	MIN	STD	LF	schd MU
22.0	938	888	15	0.97	21.92
Time:	20:15	5:45			

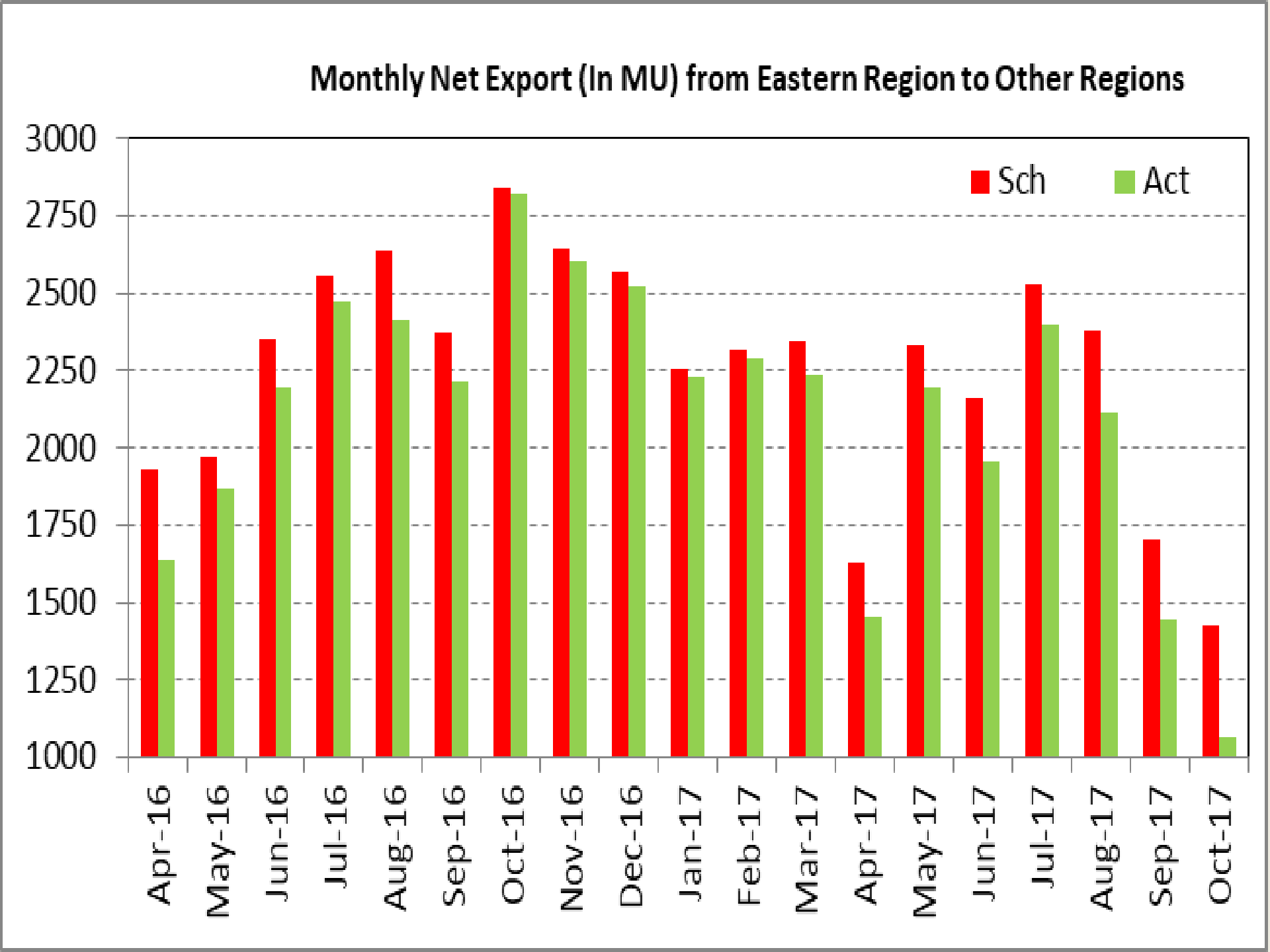


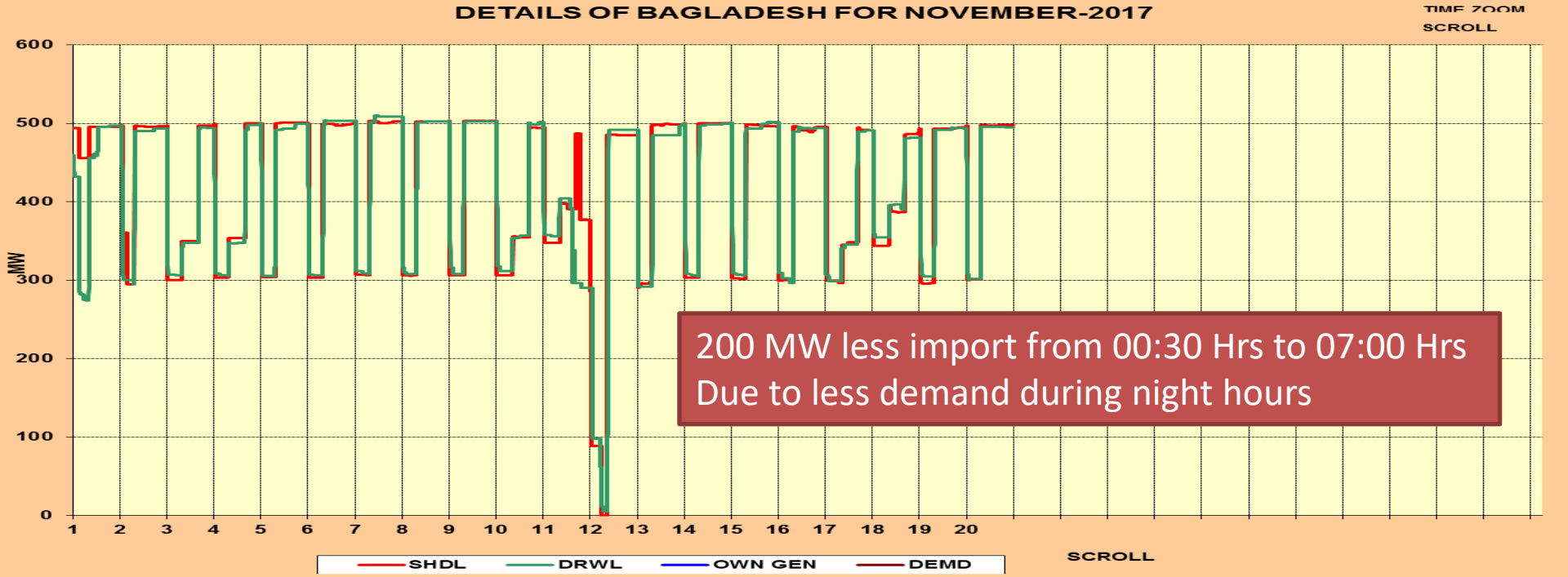
Act MU	MAX	MIN	STD	LF	schd MU
18.3	962	494	145	0.79	17.84
Time:	10:15	11:15			

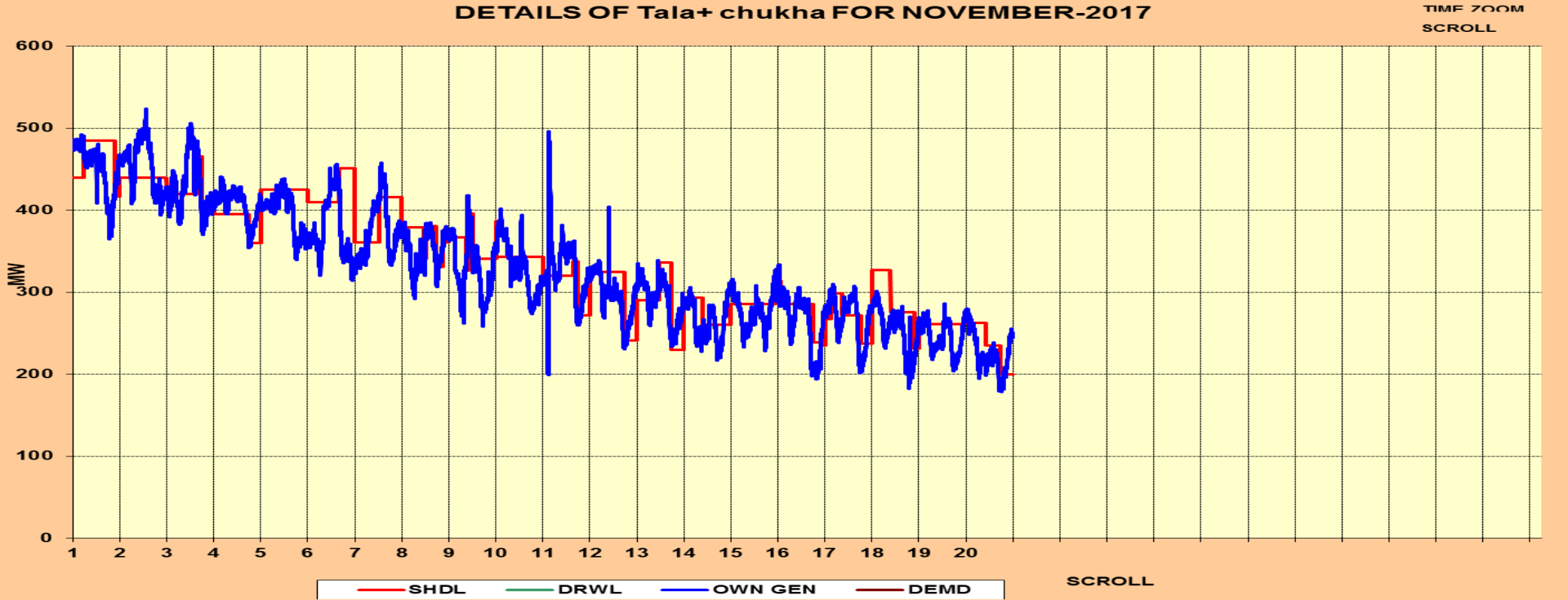
DATE : 07 Nov 2017 Tuesday



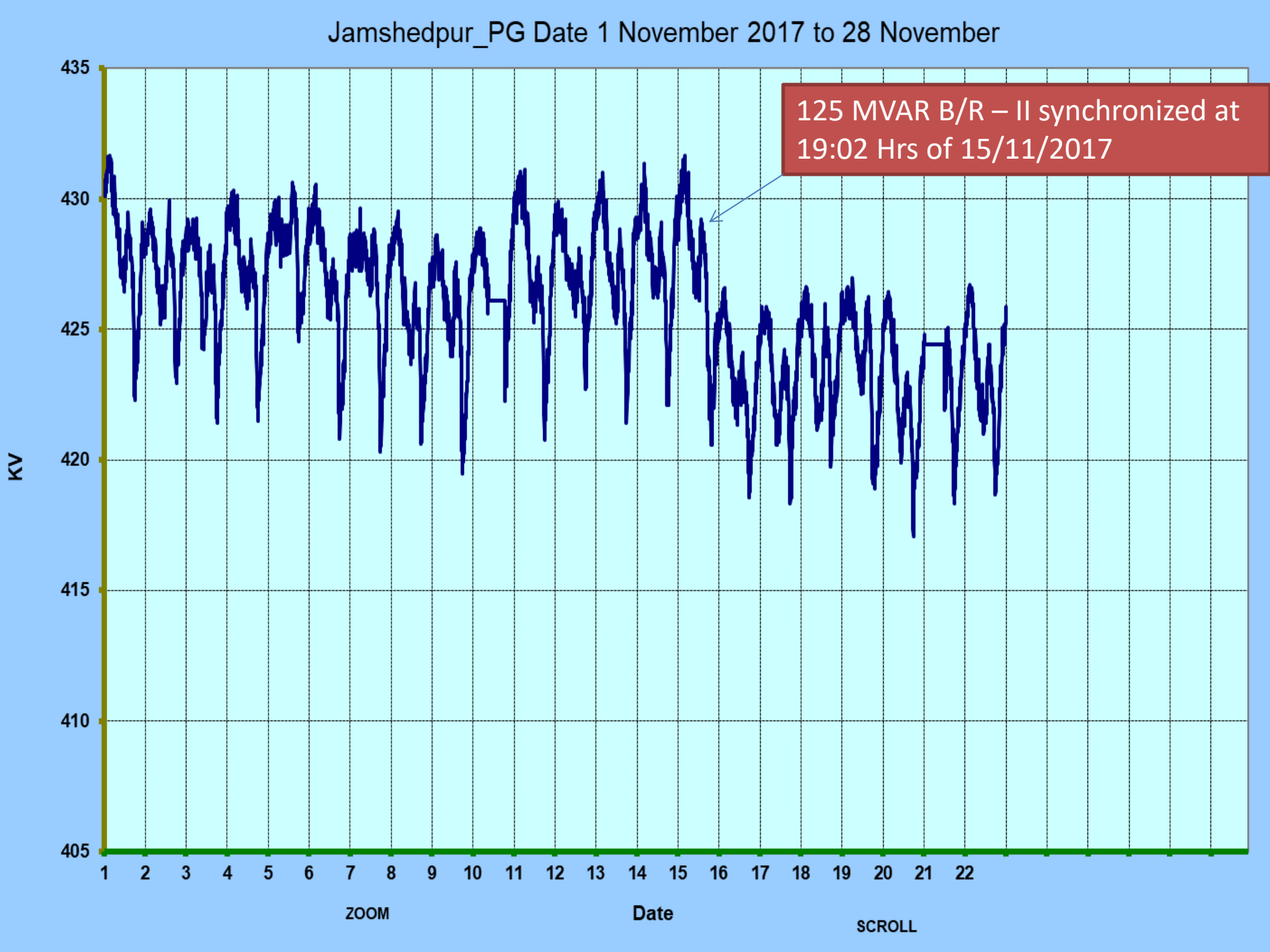
Act MU	MAX	MIN	STD	LF
3.8	169	132	9	0.94
Time:	21:45	1:30		

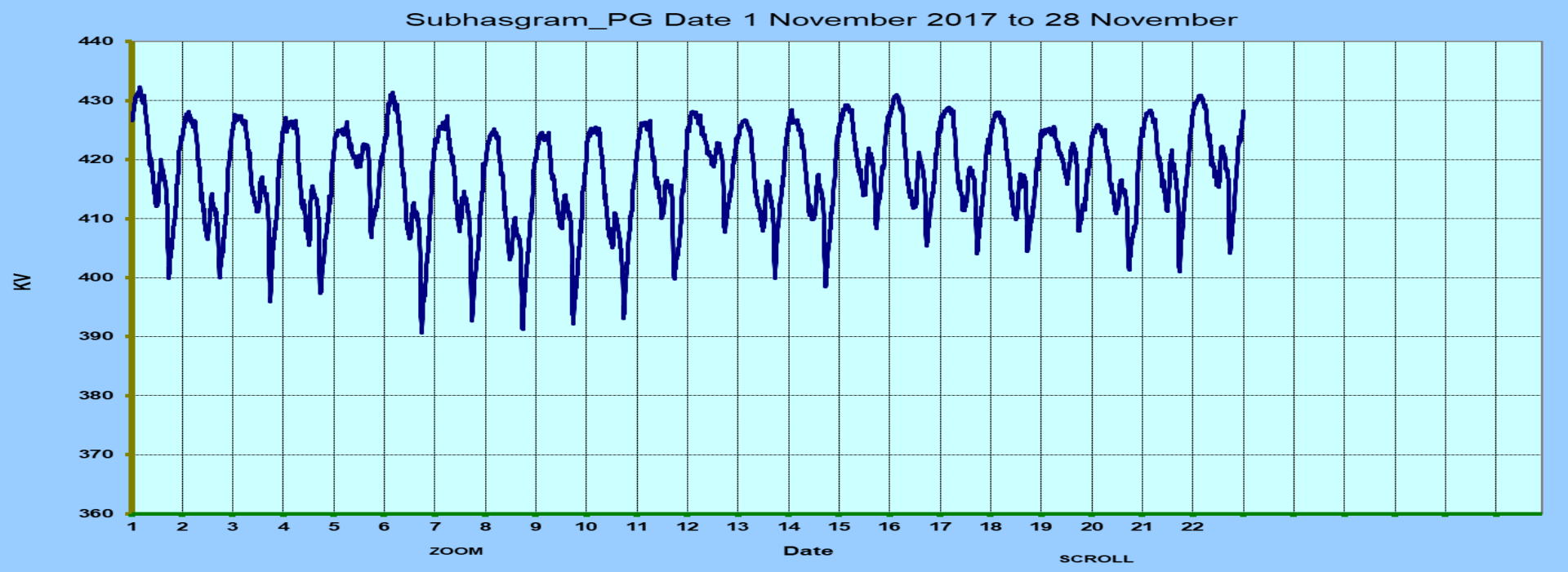

Monthly Net Export (In MU) from Eastern Region to Other Regions
Sch
Act
3000
2750
2500
2250
2000
1750
1500
1250
1000
Apr-16
May-16
Jun-16
Jul-16
Aug-16
Sep-16
Oct-16
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17

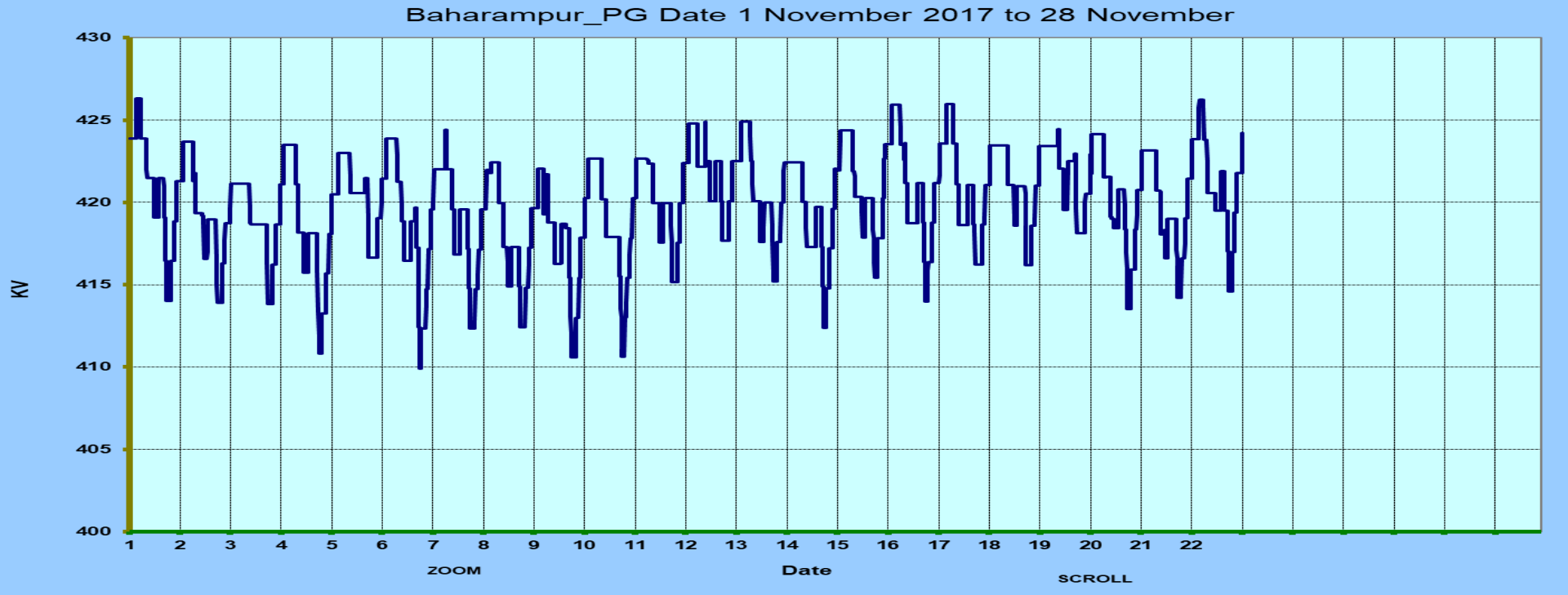

DETAILS OF BAGLADESH FOR NOVEMBER-2017
TIME ZOOM
SCROLL
MW
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
SCROLL
SHDL
DRWL
OWN GEN
DEMD
200 MW less import from 00:30 Hrs to 07:00 Hrs
Due to less demand during night hours


DETAILS OF Tala+ chukha FOR NOVEMBER-2017
TIME ZOOM
SCROLL
MW
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
SCROLL
SHDL
DRWL
OWN GEN
DEMD

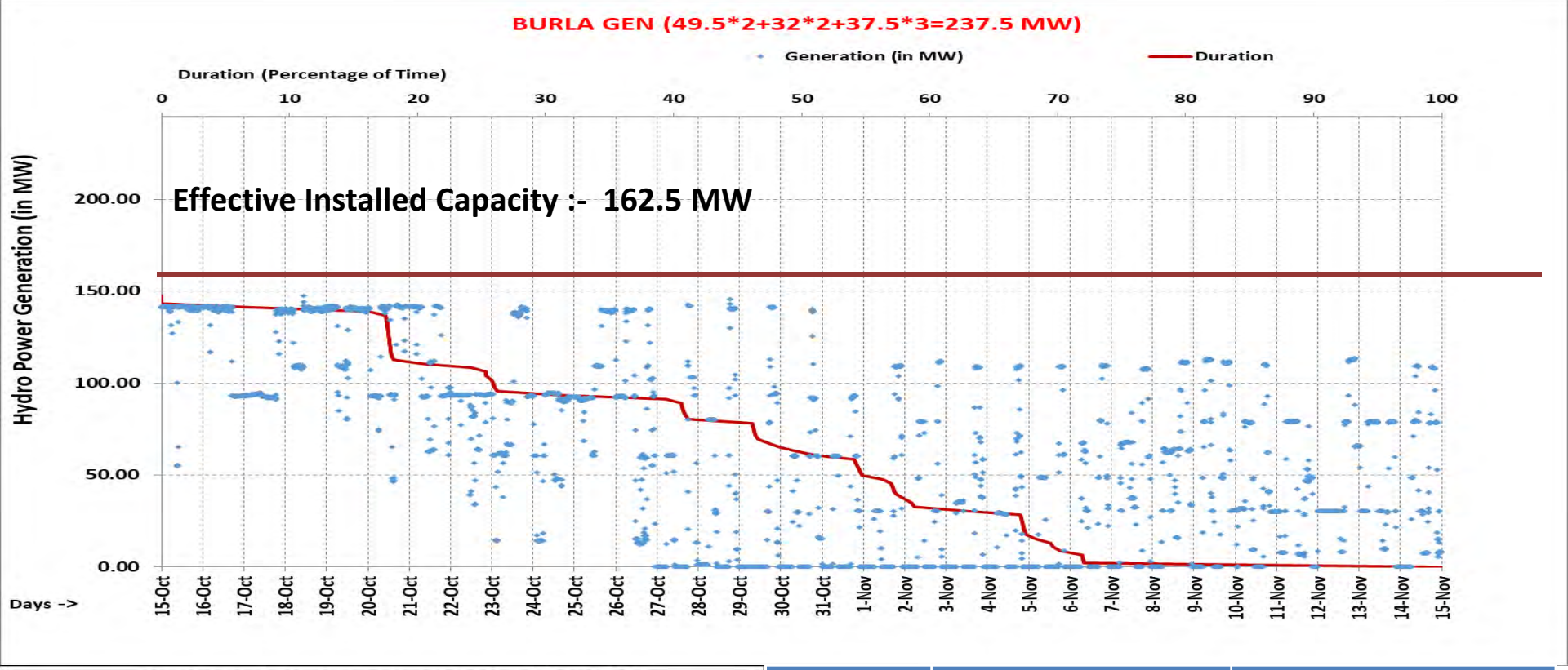
Voltage Performance

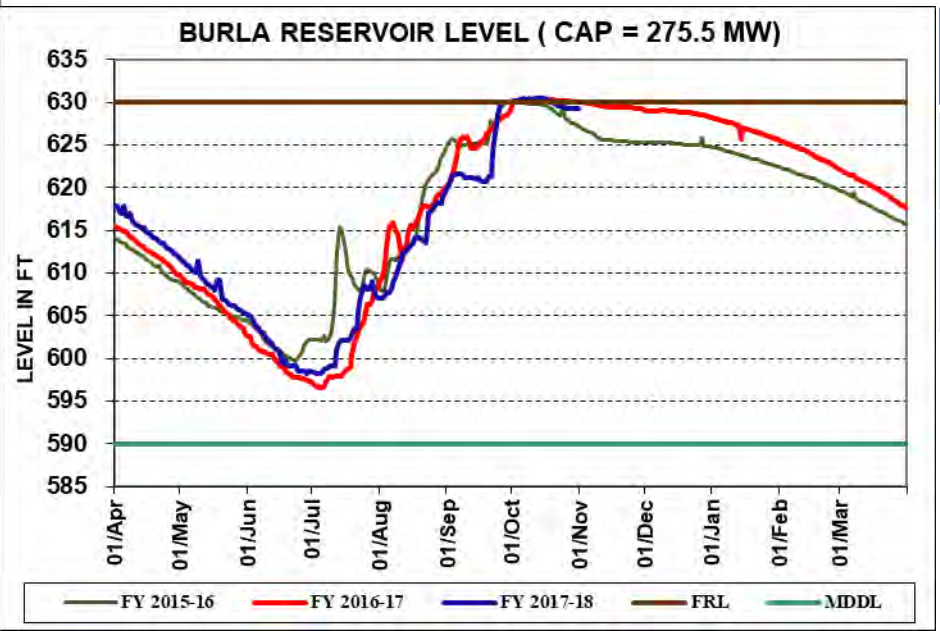

Jamshedpur_PG Date 1 November 2017 to 28 November
125 MVAR B/R – II synchronized at 19:02 Hrs of 15/11/2017
KV
435
430
425
420
415
410
405
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
ZOOM
Date
SCROLL


Subhasgram_PG Date 1 November 2017 to 28 November
KV
440
430
420
410
400
390
380
370
360
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ZOOM
Date
SCROLL

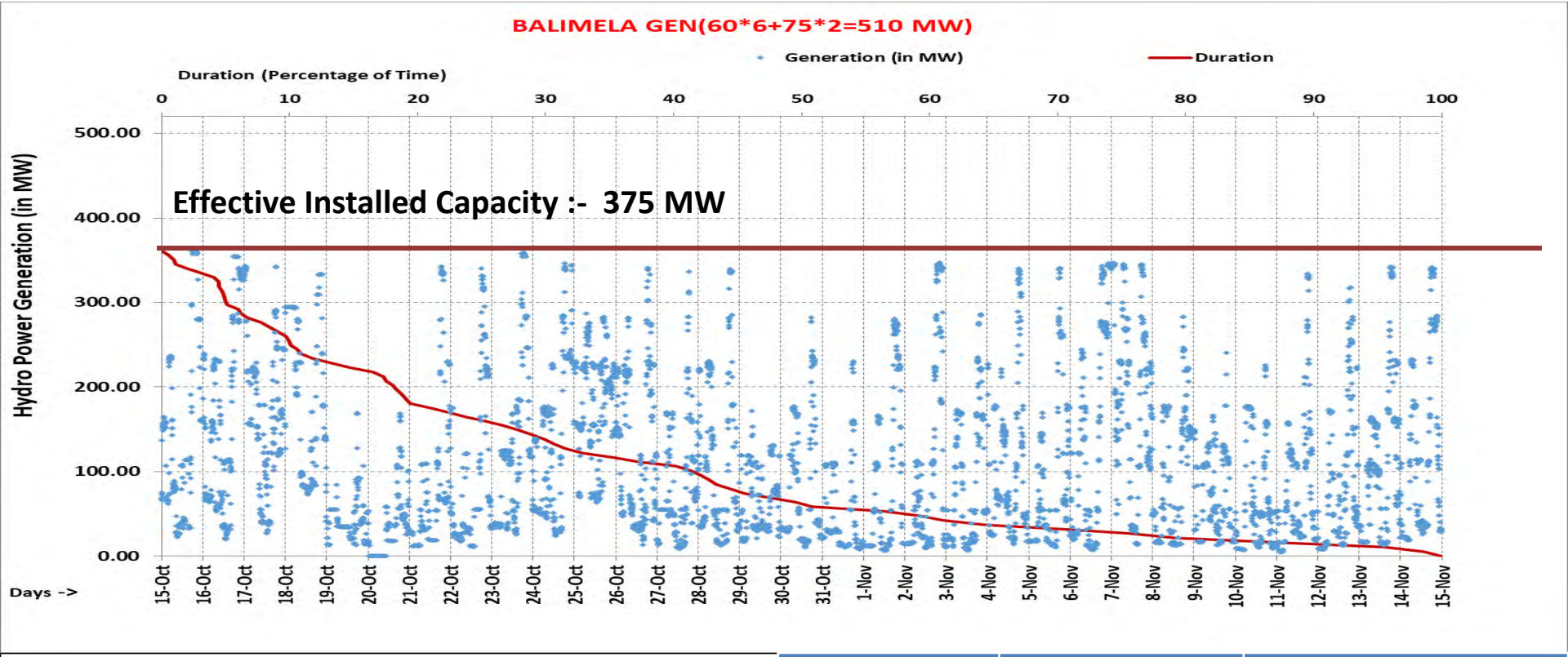

Baharampur_PG Date 1 November 2017 to 28 November
KV
430
425
420
415
410
405
400
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ZOOM
Date
SCROLL

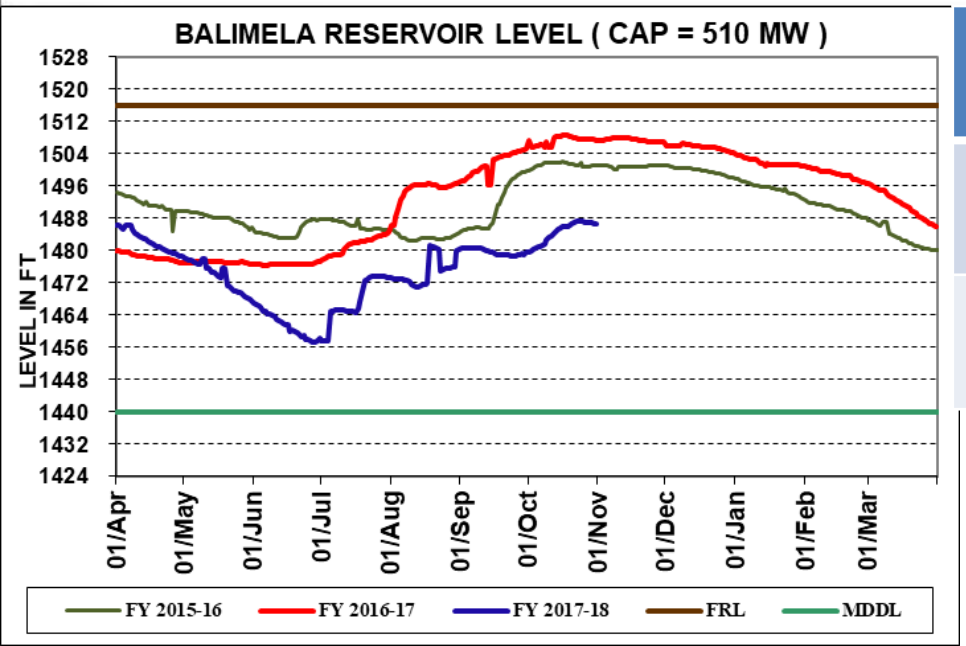
State Hydro Generators Performance



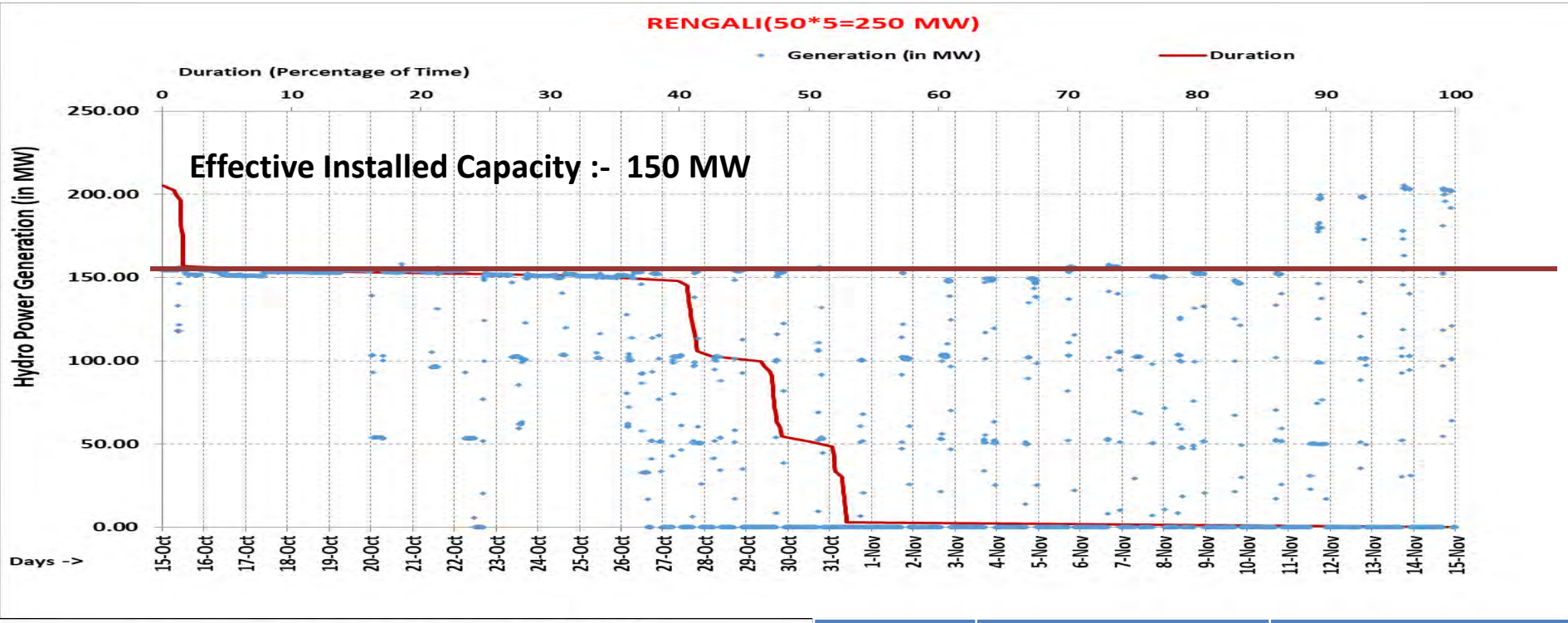


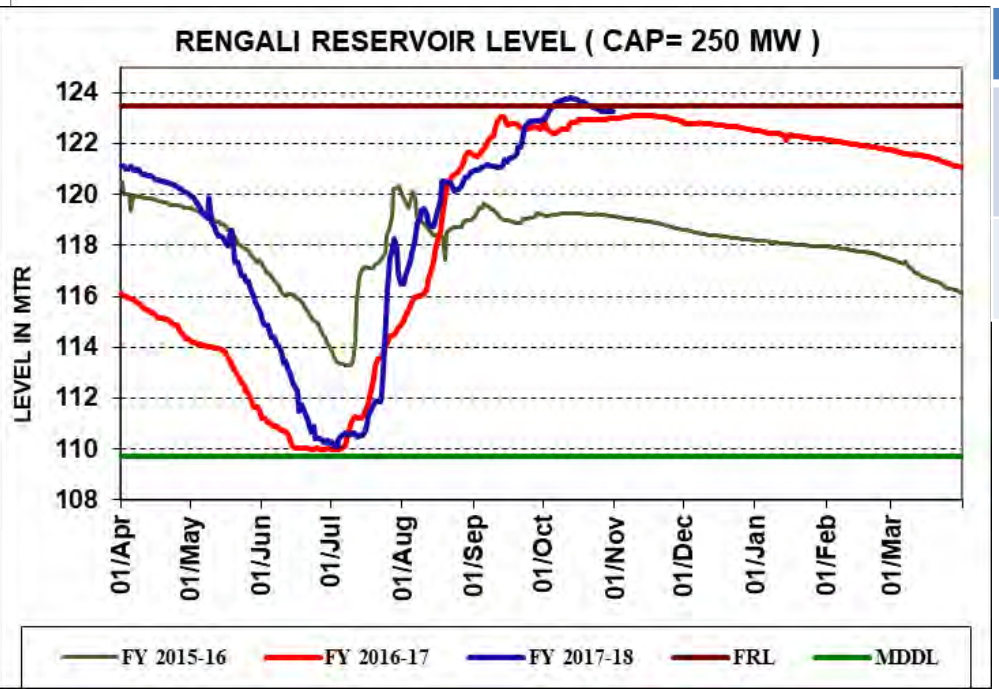
Unit No	Date of Outage	Reason
U - 5	25.10.2016	R & M Work
U - 6	16.10.2015	R & M Work



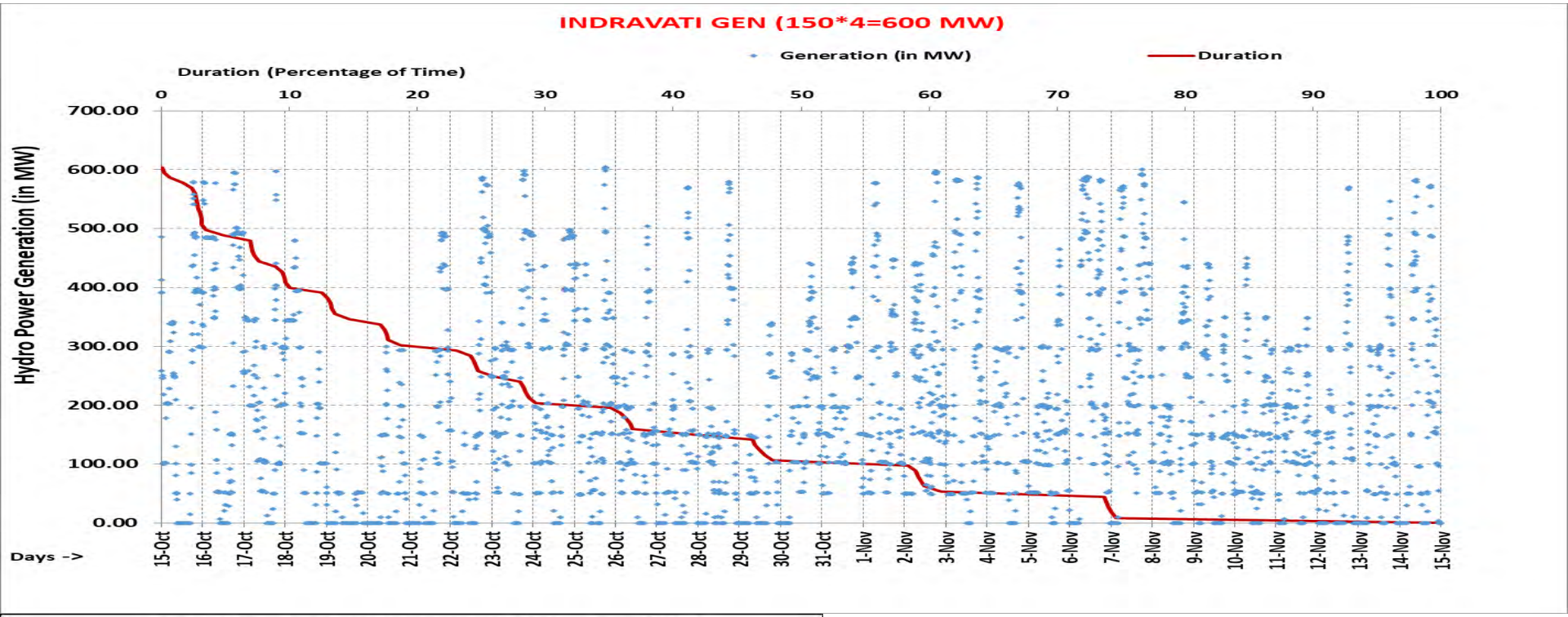


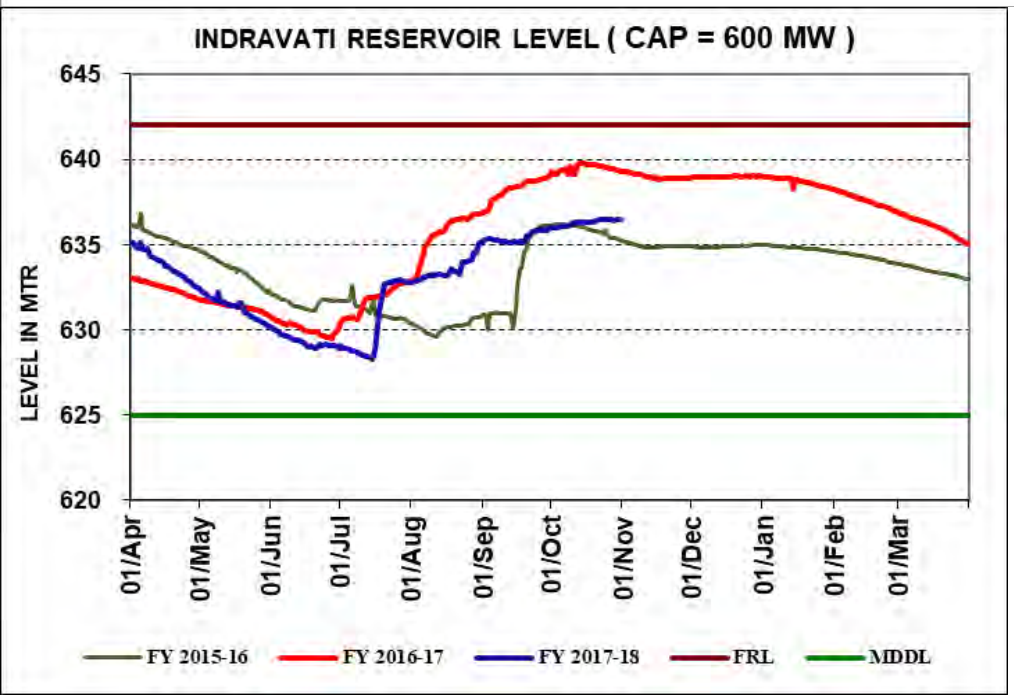
Unit No	Date of Outage	Reason
U – 1(60 MW)	05.08.2016	R & M Work
U – 7 (75 mw)	12.10.2017	Generator problem

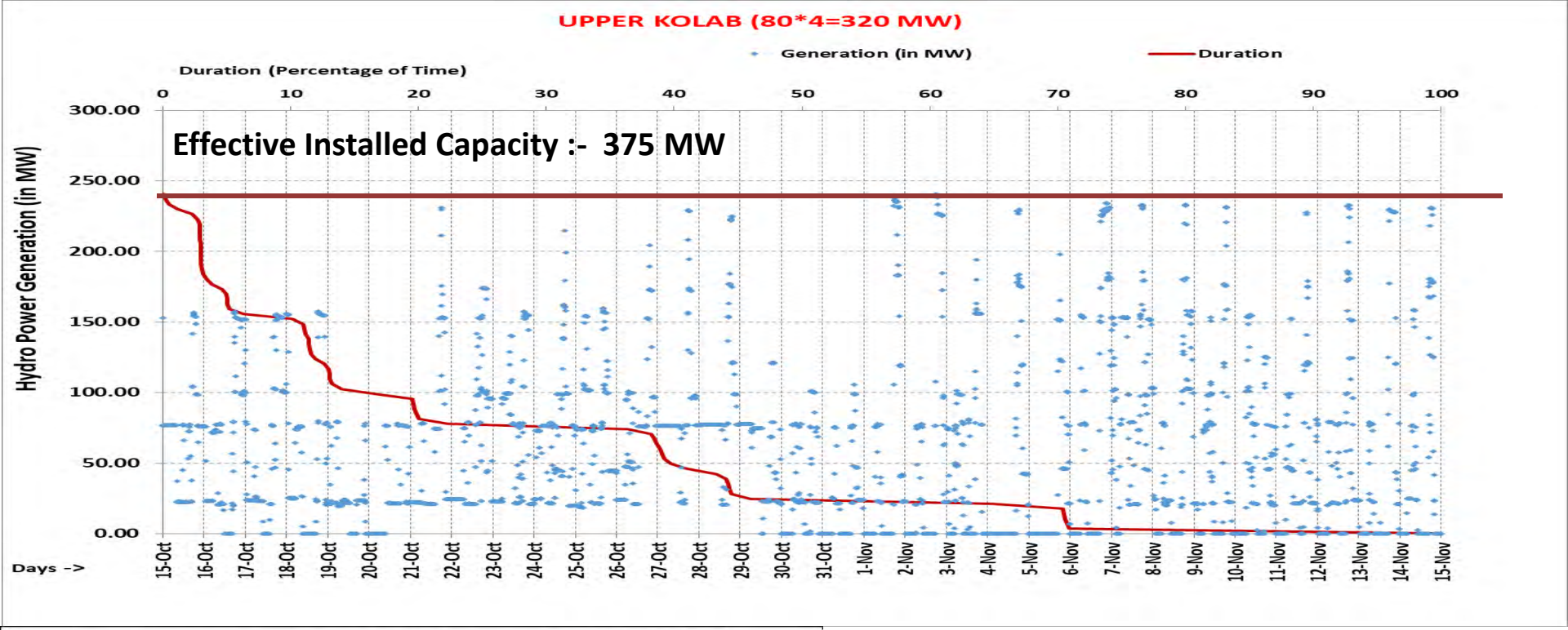


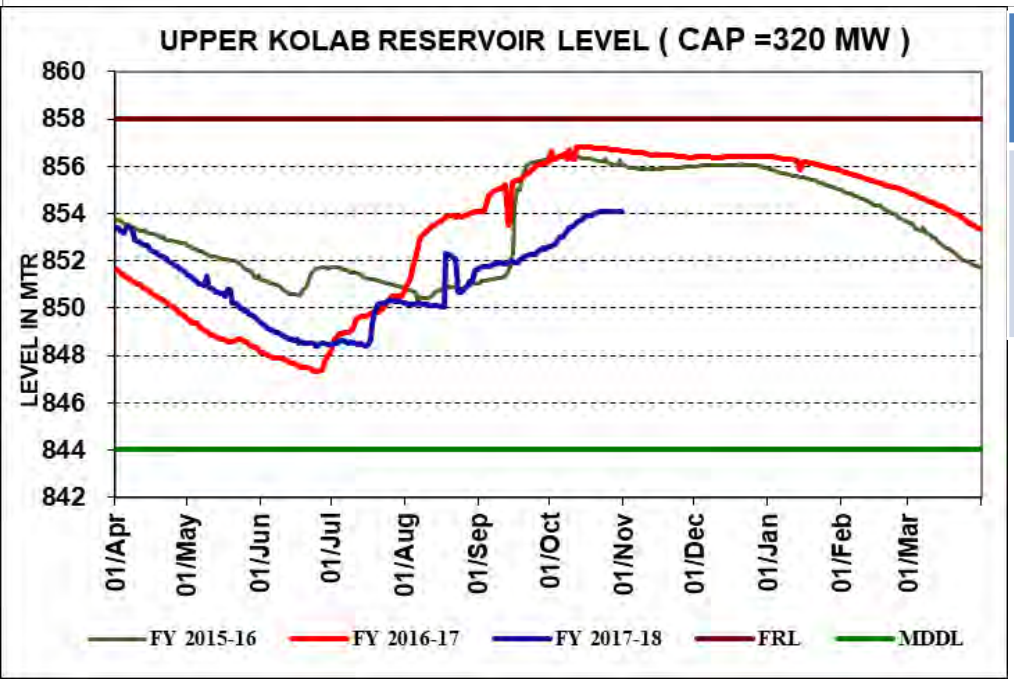


Unit No	Date of Outage	Reason
U - 5	21.03.2017	Hoist Gate Problem
U - 1	25.08.2017	Stator problem

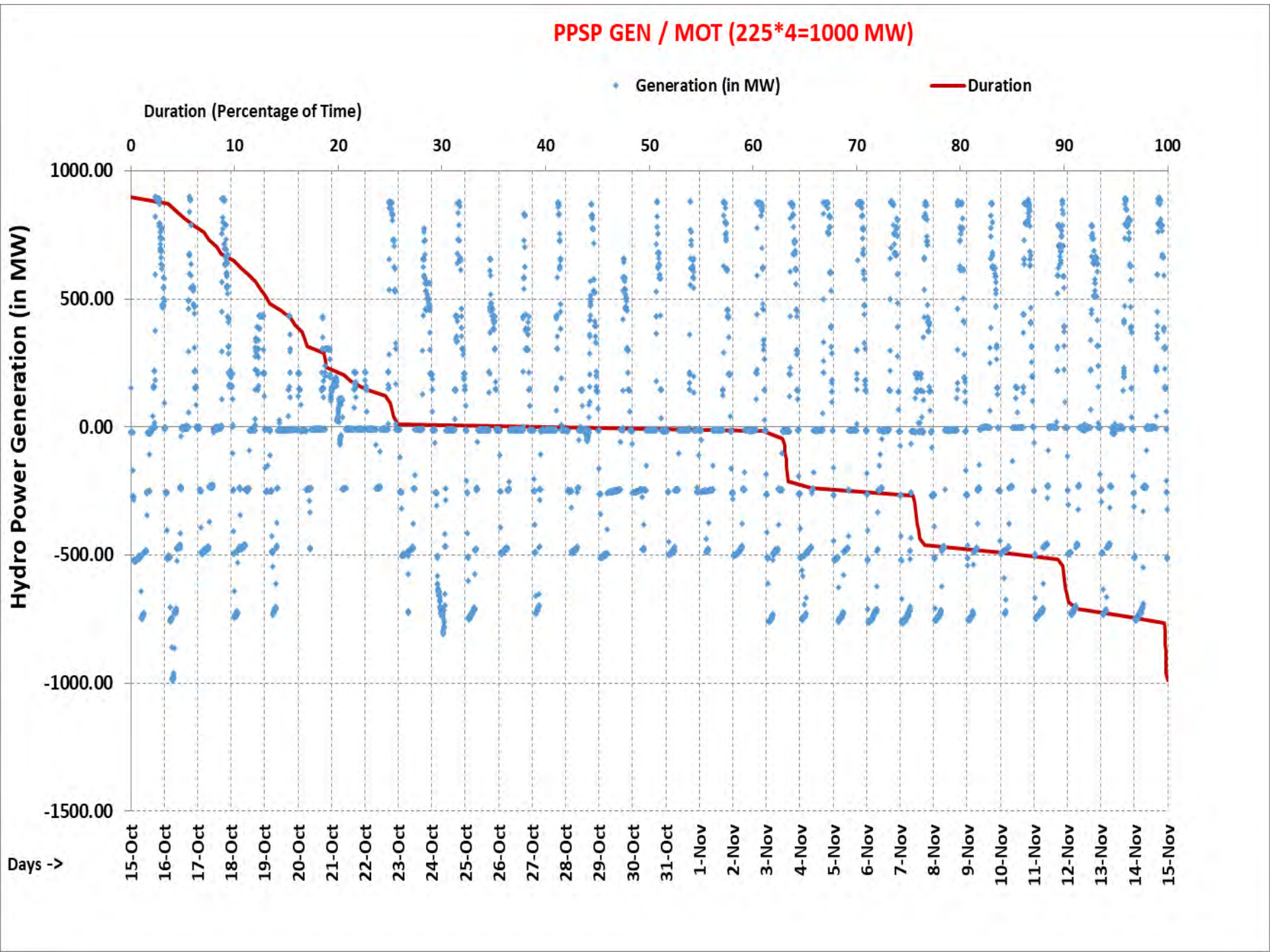

INDRAVATI GEN (150*4=600 MW)
Generation (in MW)
Duration
Duration (Percentage of Time)
0
10
20
30
40
50
60
70
80
90
100
Hydro Power Generation (in MW)
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
Days ->
15-Oct
16-Oct
17-Oct
18-Oct
19-Oct
20-Oct
21-Oct
22-Oct
23-Oct
24-Oct
25-Oct
26-Oct
27-Oct
28-Oct
29-Oct
30-Oct
31-Oct
1-Nov
2-Nov
3-Nov
4-Nov
5-Nov
6-Nov
7-Nov
8-Nov
9-Nov
10-Nov
11-Nov
12-Nov
13-Nov
14-Nov
15-Nov

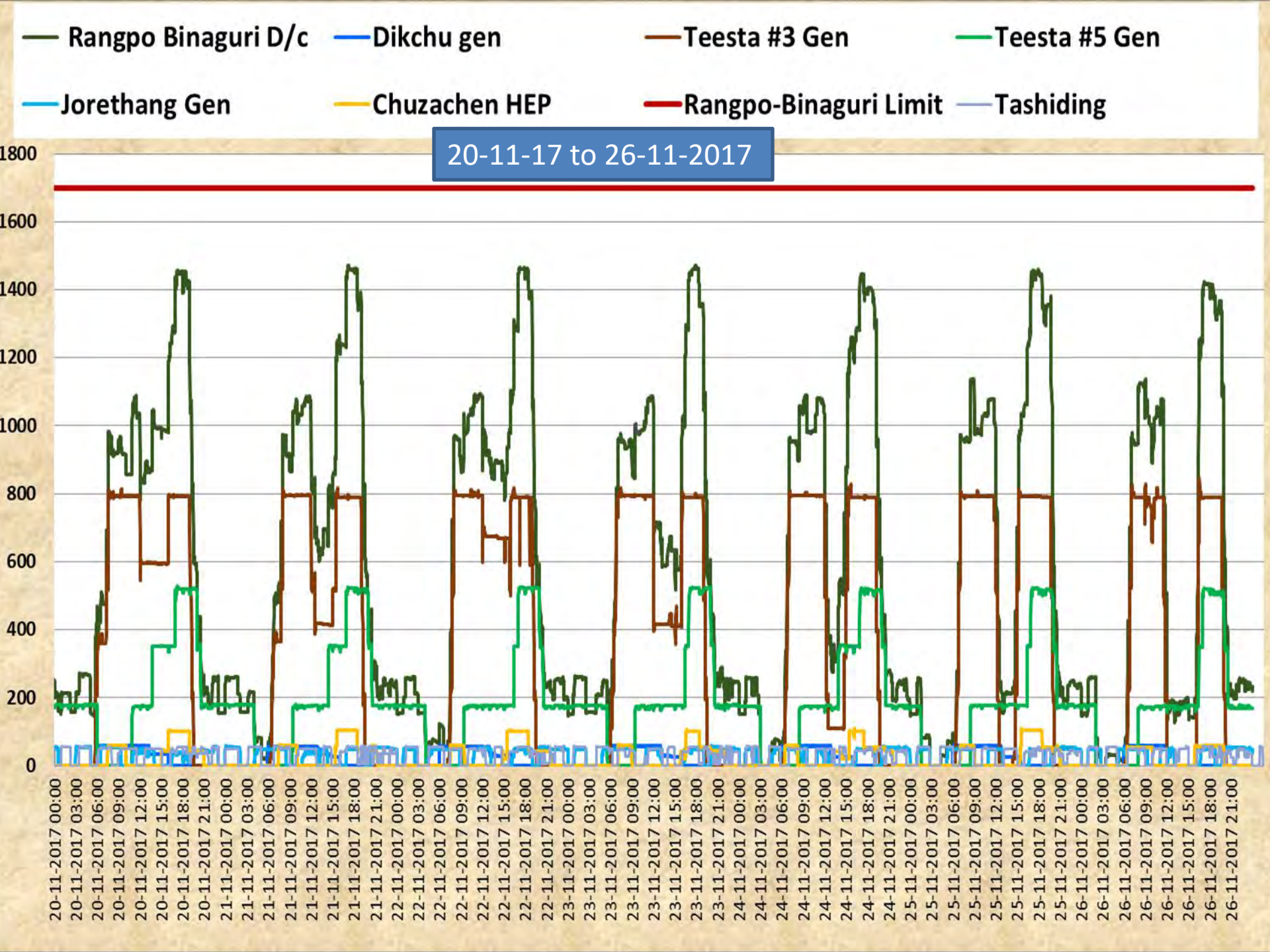

INDRAVATI RESERVOIR LEVEL (CAP = 600 MW)
LEVEL IN MTR
645
640
635
630
625
620
01/Apr
01/May
01/Jun
01/Jul
01/Aug
01/Sep
01/Oct
01/Nov
01/Dec
01/Jan
01/Feb
01/Mar
FY 2015-16
FY 2016-17
FY 2017-18
FRL
MDDL



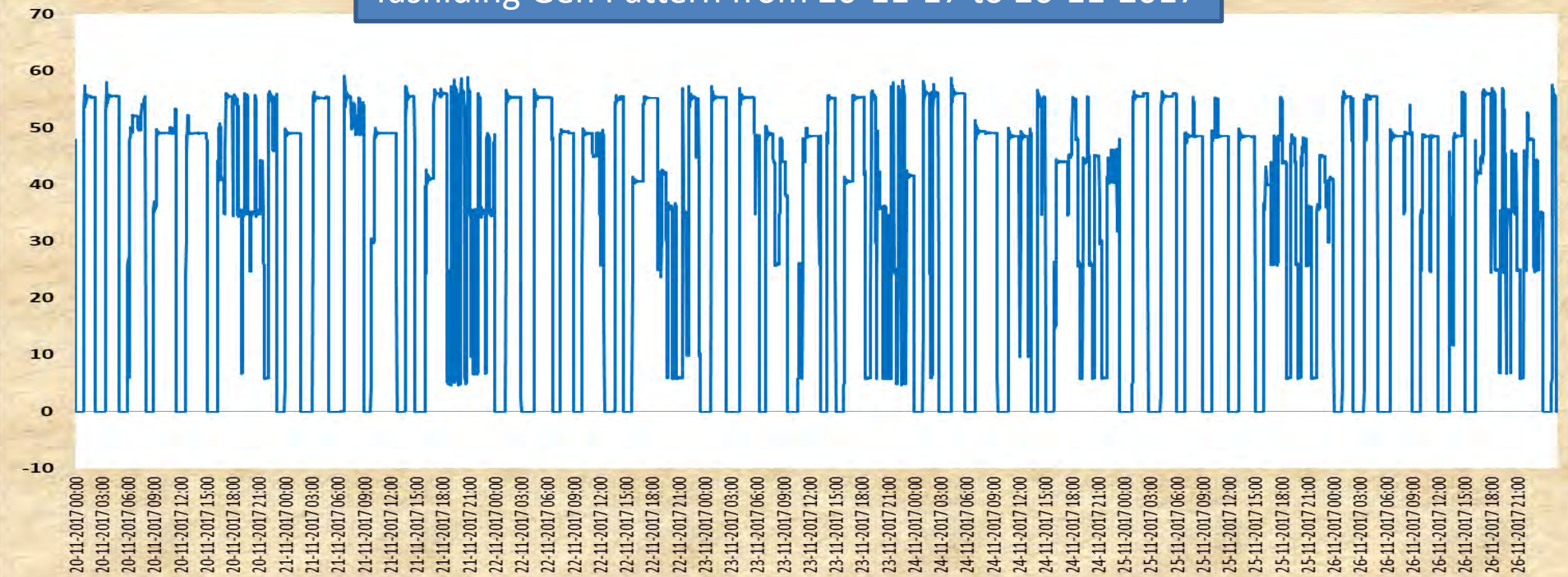


Unit No	Date of Outage	Reason
U – 2(80 MW)	28.05.2017	Repair of MIV & Draft Tube Gate leakage


PPSP GEN / MOT (225*4=1000 MW)
Generation (in MW)
Duration
Duration (Percentage of Time)
0
10
20
30
40
50
60
70
80
90
100
Hydro Power Generation (in MW)
1000.00
500.00
0.00
-500.00
-1000.00
-1500.00
Days -v
15-Oct
16-Oct
17-Oct
18-Oct
19-Oct
20-Oct
21-Oct
22-Oct
23-Oct
24-Oct
25-Oct
26-Oct
27-Oct
28-Oct
29-Oct
30-Oct
31-Oct
1-Nov
2-Nov
3-Nov
4-Nov
5-Nov
6-Nov
7-Nov
8-Nov
9-Nov
10-Nov
11-Nov
12-Nov
13-Nov
14-Nov
15-Nov

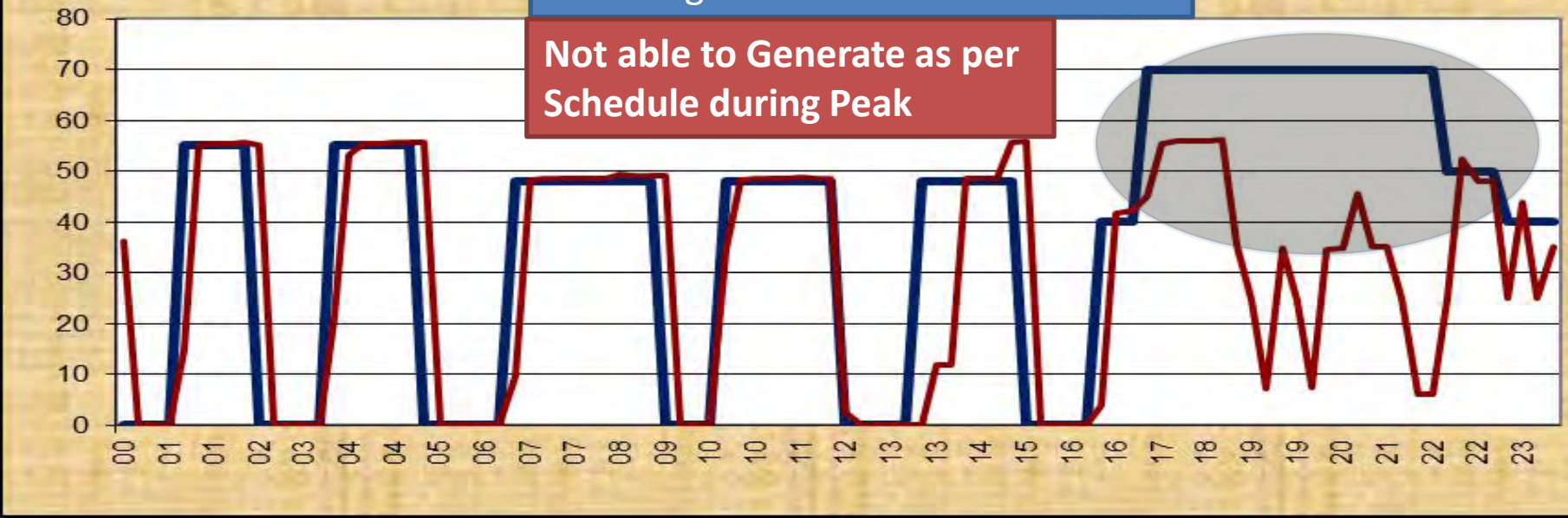

Rangpo Binaguri D/c
Dikchu gen
Teesta #3 Gen
Teesta #5 Gen
Jorethang Gen
Chuzachen HEP
Rangpo-Binaguri Limit
Tashiding
20-11-17 to 26-11-2017
1800
1600
1400
1200
1000
800
600
400
200
0
20-11-2017 00:00
20-11-2017 03:00
20-11-2017 06:00
20-11-2017 09:00
20-11-2017 12:00
20-11-2017 15:00
20-11-2017 18:00
20-11-2017 21:00
21-11-2017 00:00
21-11-2017 03:00
21-11-2017 06:00
21-11-2017 09:00
21-11-2017 12:00
21-11-2017 15:00
21-11-2017 18:00
21-11-2017 21:00
22-11-2017 00:00
22-11-2017 03:00
22-11-2017 06:00
22-11-2017 09:00
22-11-2017 12:00
22-11-2017 15:00
22-11-2017 18:00
22-11-2017 21:00
23-11-2017 00:00
23-11-2017 03:00
23-11-2017 06:00
23-11-2017 09:00
23-11-2017 12:00
23-11-2017 15:00
23-11-2017 18:00
23-11-2017 21:00
24-11-2017 00:00
24-11-2017 03:00
24-11-2017 06:00
24-11-2017 09:00
24-11-2017 12:00
24-11-2017 15:00
24-11-2017 18:00
24-11-2017 21:00
25-11-2017 00:00
25-11-2017 03:00
25-11-2017 06:00
25-11-2017 09:00
25-11-2017 12:00
25-11-2017 15:00
25-11-2017 18:00
25-11-2017 21:00
26-11-2017 00:00
26-11-2017 03:00
26-11-2017 06:00
26-11-2017 09:00
26-11-2017 12:00
26-11-2017 15:00
26-11-2017 18:00
26-11-2017 21:00

Tashiding Gen Pattern from 20-11-17 to 26-11-2017

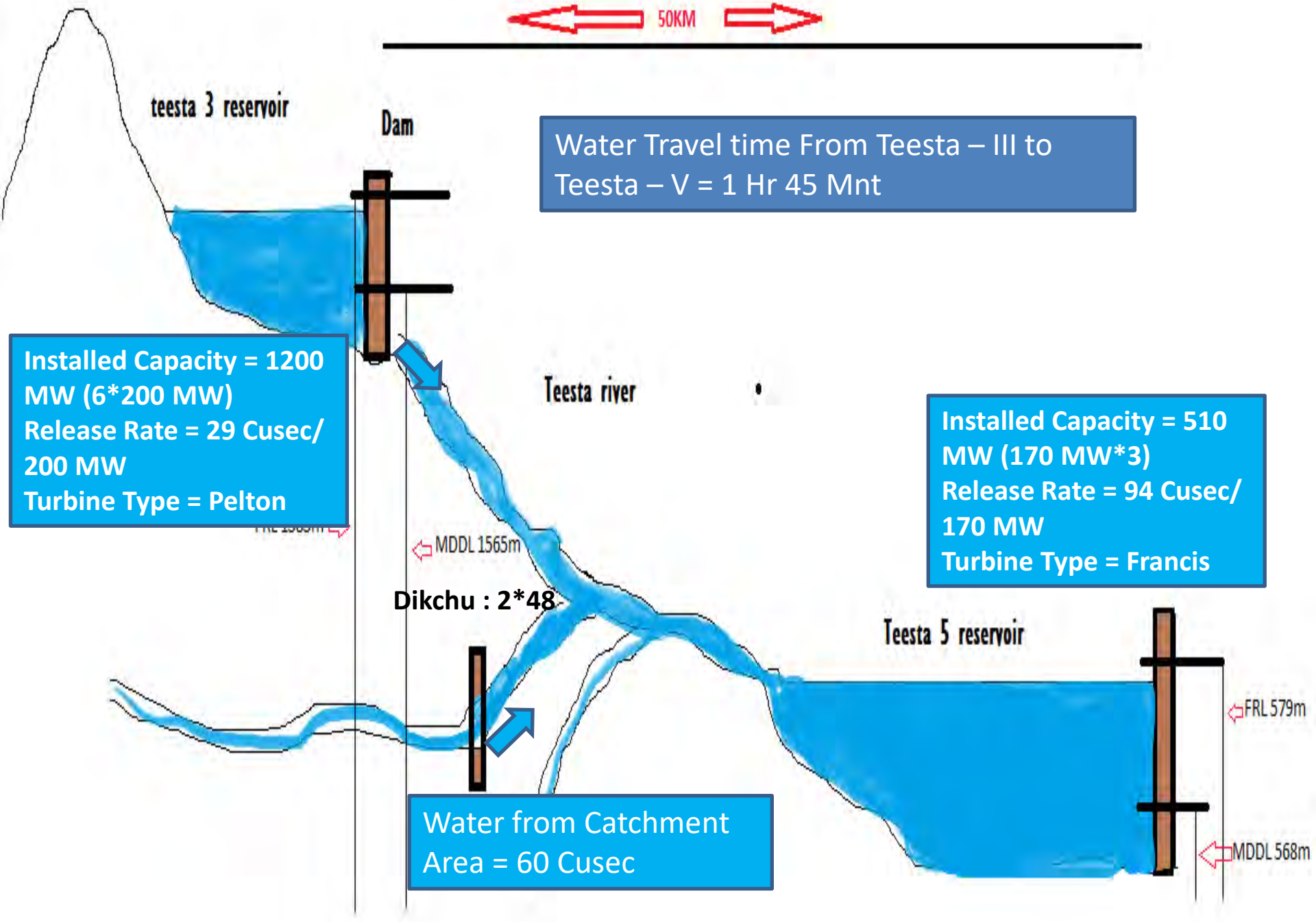


Tashiding Gen Pattern from 26-11-17

Not able to Generate as per Schedule during Peak

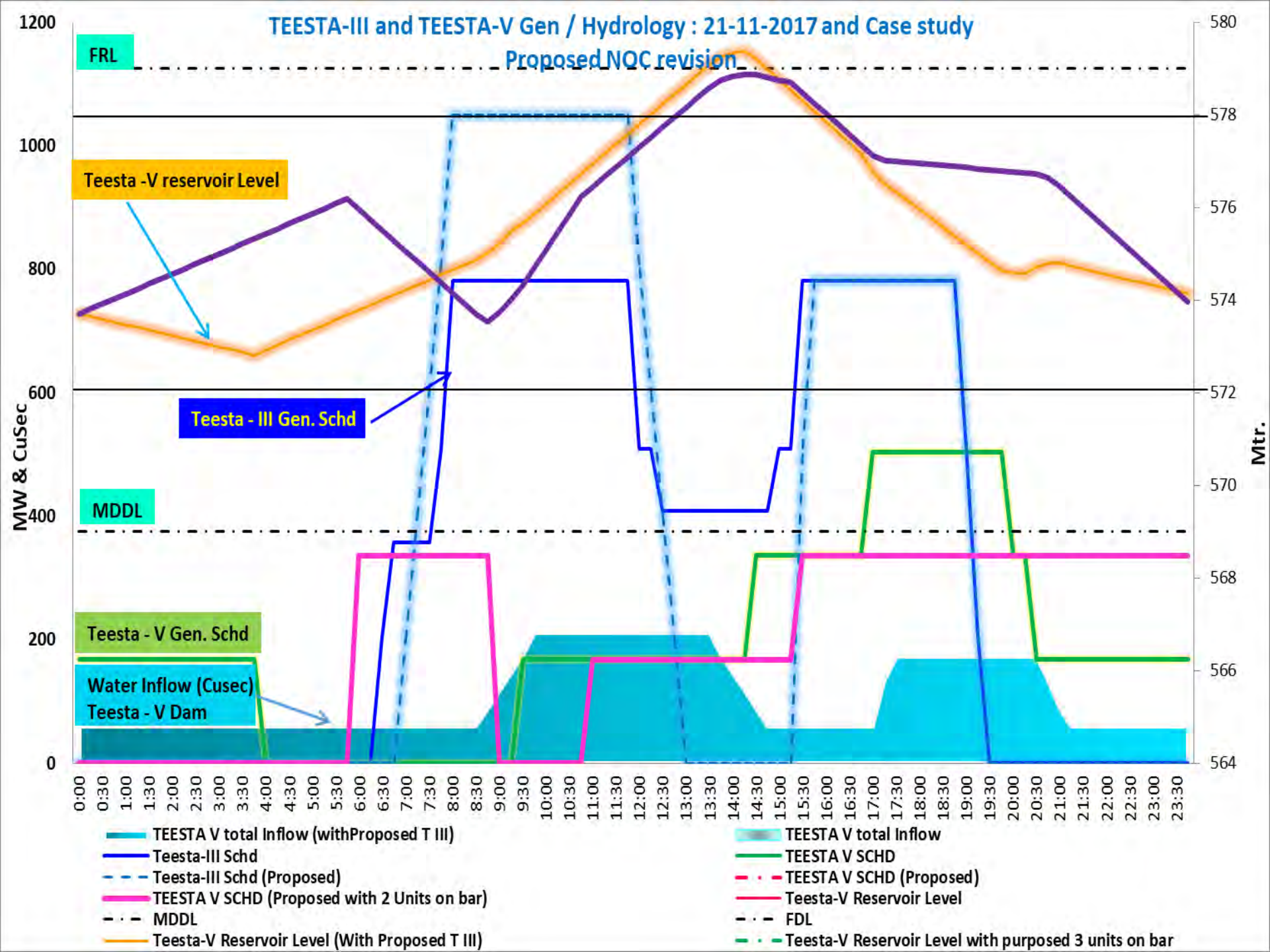


Teesta – III & Teesta – V Dispatch Pattern during lean hydro inflow


50KM
teesta 3 reservoir
Dam
Water Travel time From Teesta – III to Teesta – V = 1 Hr 45 Mnt
Installed Capacity = 1200 MW (6*200 MW)
Release Rate = 29 Cusec/ 200 MW
Turbine Type = Pelton
Teesta river
MDDL 1565m
Dikchu : 2*48
Installed Capacity = 510 MW (170 MW*3)
Release Rate = 94 Cusec/ 170 MW
Turbine Type = Francis
Teesta 5 reservoir
FRL 579m
MDDL 568m
Water from Catchment Area = 60 Cusec

	TEESTA -III	TEESTA - V
OWNER	Teesta Urja Limited	NHPC
CAPACITY	6*200 = 1200 MW	3*170= 510 MW
TURBINE USED	**PELTON** ***High Head Low Discharge***	**FRANSIS** ***Medium Head High Discharge***
FRL/MDDL	1585/1565 MTR	579/568 MTR
LIVE STORAGE	Height = **20 Mtr** Volume = **3.33 MCM** Energy Content = **6.34 mu** 5 Hr full gen. of 1200 MW	Height = **11 Mtr** Volume = **5.4 MCM** Energy Content = **2.62 mu** 5 Hr full generation of 510 MW
WATER Required for 1 Mu Generation	**0.525** MCM	**2.056** MCM

- ***MCM = Million Cubic Meter***
- ***1 mu Generation at Teesta – III contribute .254 mu generation at Teesta - V***


TEESTA-III and TEESTA-V Gen / Hydrology : 21-11-2017 and Case study
Proposed NOC revision
FRL
Teesta -V reservoir Level
Teesta - III Gen. Schd
MDDL
Teesta - V Gen. Schd
Water Inflow (Cusec)
Teesta - V Dam
MW & CuSec
Mtr.
1200
1000
800
600
400
200
0
580
578
576
574
572
570
568
566
564
0:00 0:30 1:00 1:30 2:00 2:30 3:00 3:30 4:00 4:30 5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00 11:30 12:00 12:30 13:00 13:30 14:00 14:30 15:00 15:30 16:00 16:30 17:00 17:30 18:00 18:30 19:00 19:30 20:00 20:30 21:00 21:30 22:00 22:30 23:00 23:30
TEESTA V total Inflow (withProposed T III)
Teesta-III Schd
Teesta-III Schd (Proposed)
TEESTA V SCHD (Proposed with 2 Units on bar)
MDDL
Teesta-V Reservoir Level (With Proposed T III)
TEESTA V total Inflow
TEESTA V SCHD
TEESTA V SCHD (Proposed)
Teesta-V Reservoir Level
FDL
Teesta-V Reservoir Level with purposed 3 units on bar

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:

Station name

Organisation

Annex-I (1 of 2)

Unit wise yearly generation Program for the year 2018-19

1. Contact Details

Sr. no	Name	Designation	email	Phone no.	Fax. no.
1					
2					

2. Units existing on 31.03.2017

Unit No.	Capacity (MW)	Date of commissioning	2017-18 generation details (MU)				2018-19 generation details (MU)			Remarks
			Program for 2017-18	Total Anticipated Gen for Sept 17 to March 18 (MU)	Total Anticipated Gen for 2017-18 (MU)	Reason for low generation (if any)	Anticipated maximum Generation capability (MU)	Anticipated Generation (MU)	Reason for variation from Maximum Capability	

3. Units Commissioned during 2017-18

Unit No.	Capacity (MW)	Date of commissioning	2017-18 generation details (MU)				2018-19 generation details (MU)			Remarks
			Program for 2017-18	Total Anticipated Gen for Sept 17 to March 18 (MU)	Total Anticipated Gen for 2017-18 (MU)	Reason for low generation (if any)	Anticipated maximum Generation capability (MU)	Anticipated Generation (MU)	Reason for variation from Maximum Capability	

4. Units likely to be commisioned during 2018-19

Unit No.	Capacity (MW)	Expected date of commissioning	Expected Generation 2018-19 (MU)	Remarks

Note: Please furnish the month-wise break-up of yearly generation in a separate Sheet keeping the similar format.

5. Loss of Generation due to Grid Constraints/ Low schedules /fuel related issues during 2017-18

Transmission Constraints/ power evacuation problems/ low schedule/high fuel c

S No.	Details of the Constraint	Loss so far (Apr'17-Aug'17)		during 2017-18	
				Anticipated Period of constraint	Anticipated loss of generation (MU)

6. PPA details

Capacity (MW)	With DISCOM			With State Trading Cos.				With PTC / other trading cos.				Untied (MW)
	State of Discom	Quantum (MW)	Duration (Yrs)	Quantum (MW)	b/b PPA with Discom (name of Discom)	quantum of b/b PPA in MW	Duration of b/b PPA (Years)	Quantum (MW)	b/b PPA with Discom (name of Discom)	quantum of b/b PPA in MW	Duration of b/b PPA (Years)	

7(a)Coal Linkage for coal based plants

Unit No	Domestic linkage (MT)	Source	PLF from this coal linkage during the year (%)

7(b)Gas availibility for gas based stations

Varoius sources	Figures in MMSCMD	PLF from this gas availibility during the year (%)

8. Cost of Generation:

Unit No	Cost of Gen. (Paise/kwh)	Rate of Sale of Power (Paise/kwh)

Planned maintenance Schedules including R&M activities

A) R&M of Units likely to be completed during 2017-18 & 2018-19

Station name	Unit No.	Capacity (MW)	R&M Schedule	
			From date	To date

B) Annual Overhaul/ Boiler overhaul

Station name	Unit No.	Capacity (MW)	AOH Schedule	
			From date	To date

C) Capital Overhaul

Station name	Unit No.	Capacity (MW)	COH Schedule	
			From date	To date

D) Other maintenance if not included above such as PG tests (new units) and Boiler inspection

Station name	Unit No.	Capacity (MW)	Schedule		Reason
			From date	To date	

Annexure-B6.A

Generation Target 2018-19

Region	State	SECTOR	Fuel	Name of Utiity	NAME OF THE STATION	Monitored Capacity as on 31.07.2017 MW
ER	BIHAR	CENTRAL	COAL	BRBCL	NABI NAGAR TPP	500
ER	BIHAR	CENTRAL	COAL	K.B.U.N.L	MUZAFFARPUR TPS	610
ER	BIHAR	CENTRAL	COAL	NPGCPL	NEW NABI NAGAR TPP	0
ER	BIHAR	STATE	COAL	BSEB	BARAUNI TPS	210
ER	JHARKHAND	CENTRAL	COAL	PVUNL	PATRATU TPS	455
ER	JHARKHAND	PVT	COAL	ADHUNIK	MAHADEV PRASAD STPP	540
ER	ORISSA	PVT	COAL	IBPIL	UTKAL TPP(IND BARATH)	350
ER	ORISSA	PVT	COAL	ICCL	ICCL (IMFA) IMP	0
ER	ORISSA	PVT	COAL	JITPL	DERANG TPP	1200
ER	ORISSA	PVT	COAL	NALCO	NALCO IMP	0
ER	ORISSA	PVT	COAL	SEL	STERLITE TPP	600
ER	WEST BENGAL	PVT	COAL	IEL	INDIA POWER TPP (HALDIA)	150
ER	ANDAMAN NICOBAR	STATE	DIESEL	A&N ADM	AND. NICOBAR DG	40.05
ER	WEST BENGAL	STATE	HIGH SPEED DIESEL	WBPDC	KASBA GT (Liq.)	40

Annexure-B9

Bihar

Priority	Feeders/ICTs	Point of Disconnection
1	400/220 kV 315 MVA ICT at Biharsariff	400 kV Biharsariff PG
2	132 kV Arrah (PG)- Arrah (BSPHCL)	132 kV Arrah PG
3	132 kV Purnea(PG)-Purnea(BSPHCL)	132 kV Purnea PG

Jharkhand

Priority	Feeders/ICTs	Point of Disconnection
1	One 400/220 kV 315 MVA ICT Jamsedpur	400 kV Jamsedpur
2	220 kV Ranchi(PG)-Chandil(JUVNL)	220 kV Ranchi-PG

DVC

Priority	Feeders/ICTs	Point of Disconnection
1	220 kV Maithon (PG)-Kalyaneswari	220 kV Maithon-PG
2	220 kV Parulia (PG)-Parulia (DVC)	220 kV Parulia PG
3	220 kV Maithon (PG)-Dhanbad (DVC)	220 kV Maithon-PG

Odisha

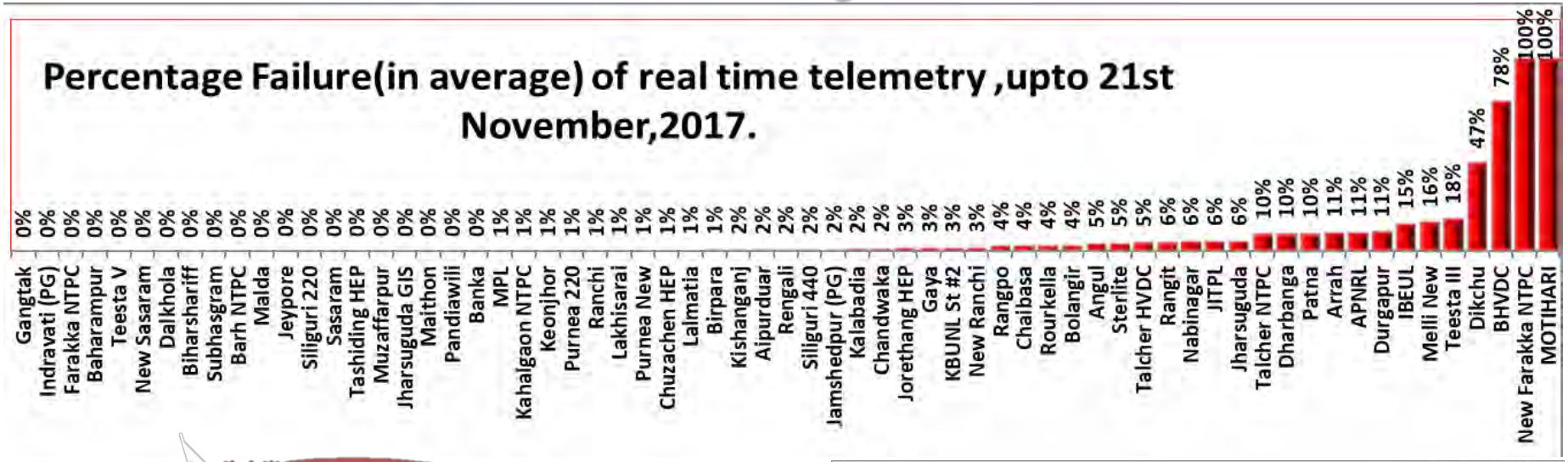
Priority	Feeders/ICTs	Point of Disconnection
1	220 kV Rengali(PG)-Rengali(OPTCL)	220 kV Rengali-PG
2	220/132 kV Baripada 160 MVA ICT	220 kV Baripada-PG
3	220 kV Baripada(PG)-Balsore (Odisha)	220 kV Baripada-PG

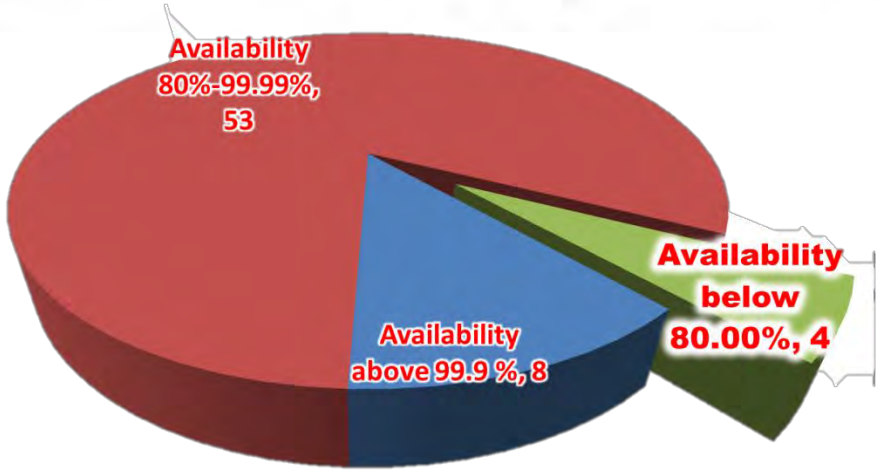
West Bengal

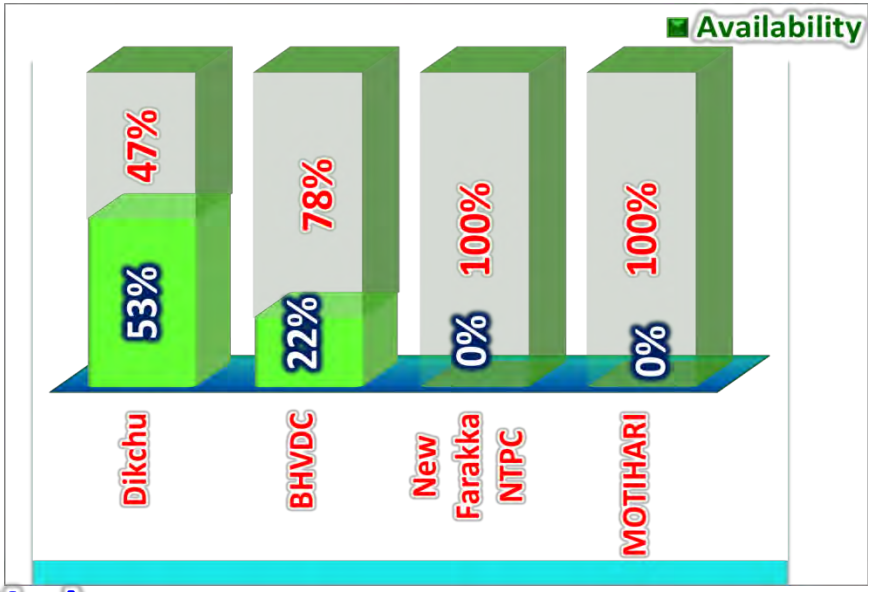
Priority	Feeders/ICTs	Point of Disconnection
1	220 kV Dalkohla (PG)-Dalkohla(WB)	220 kV Dalkohla-PG
2	132 kV Malda (PG)-Malda(WB)	132 kV Malda-PG
3	220 kV Subhasgram(PG)-Subhashgram(WB)	220 kV Subhasgram PG

Overview of real time telemetry of Eastern region for month November, 2017

Annexure-B20



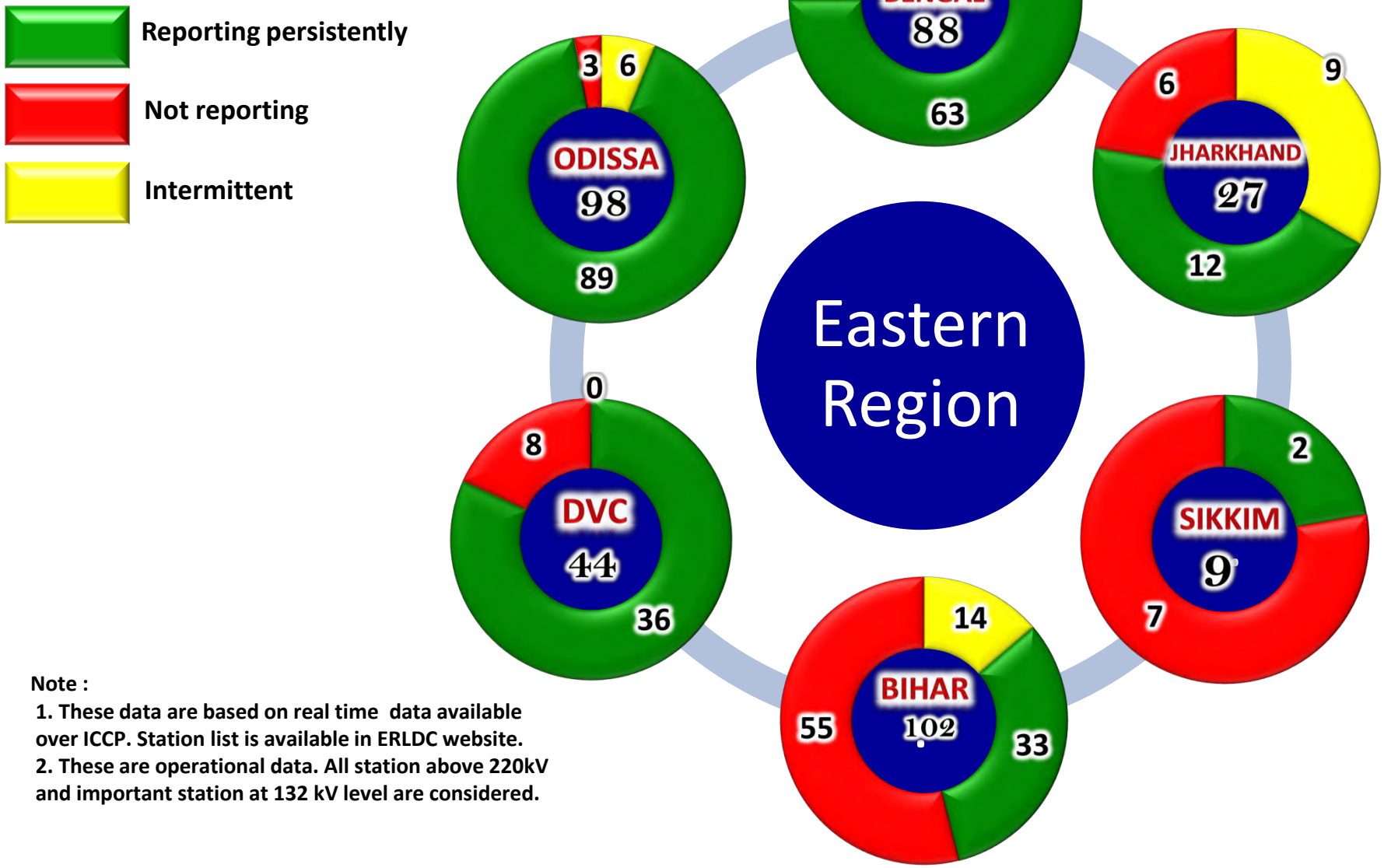




Major Concern:

Farakka St #3 SAS data (for 2 months)

State sector telemetry status as on 22-11-2017

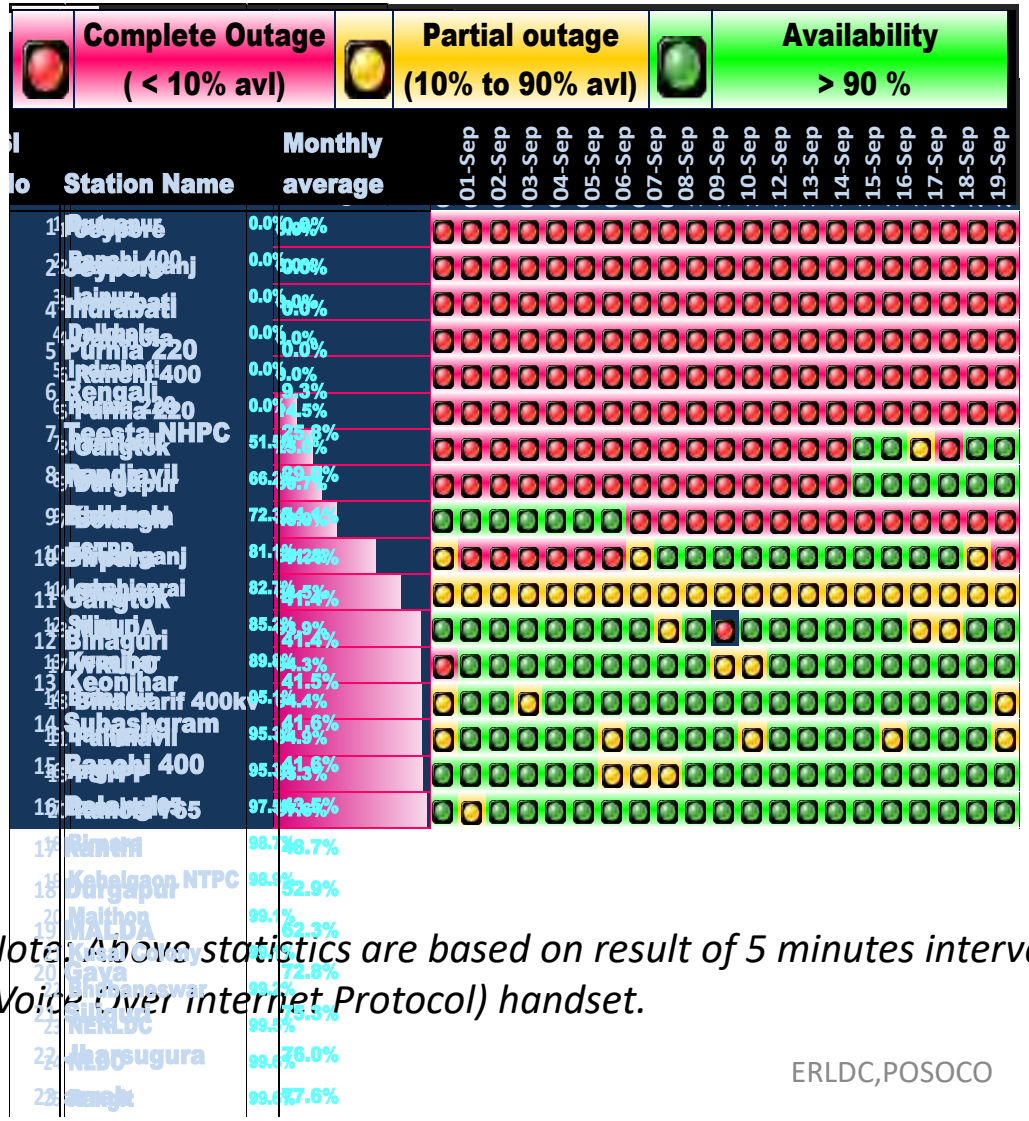


Note :

1. These data are based on real time data available over ICCP. Station list is available in ERLDC website.
2. These are operational data. All station above 220kV and important station at 132 kV level are considered.

VOIP

(Voice over Internet Protocol)



Concerns

1. VOIP for Durgapur, Jeypore, Indravati (PG) , Purnea 220, Dalkhola and Ranchi are out since long.
2. Malda out since 22-10-2017
3. Kishanganj out since 19-10-2017
4. At present for almost 8 nos of station VOIP is not working, which is quite alarming for real time system operator.

Its our humble request to all concerned utility to provide reliable data and Voice communication to ERLDC , to ensure integrated operation of the power system in the Eastern Region.

Note: Above statistics are based on result of 5 minutes interval ping response of VOIP (Voice Over Internet Protocol) handset.

Major Improvements

- Shifting of Farakka PMU and Jamshedpur PMU to ULDC wideband (Alkatel to Corriant)

- Unit side data of Teesta V made available to ERLDC.

Major concerns

- **Long outage of New Farakka SCADA data.**
- **Long outage of VOIP**.
- **VOIP for JITPL yet to be provided, Commissioning PLCC for data communication via 765 kV Angul Station.**
- **No redundancy** or stand by in communication channel
- **Non availability of Unit side data**→
  - **Farakka STPS (Unit #6).**
  - **IBEUL (Unit #1 and Unit #2).**
  - **Non availability of Unit side data is affecting the FRC and MVAr response calculation. We are again requesting concerned utility to make these real time data available to real time operator at the earliest.**

OWNERSHIP DETAILS

Annexure-B24

SL. NO	TIE-LINE	LINE OWNED BY	FROM END				TO END			
			Bay equip Ownership	Responsibility of maintaining bay eqp.	Responsibility of ensuring Real Time data	Responsibility of sending RI/DR/EL	Bay equip Ownership	Responsibility of maintaining bay eqp.	Responsibility of ensuring Real Time data	Responsibility of sending RI/DR/EL
A) 765 KV LINES										
1	GAYA-VARANASI	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
2	GAYA-BALIA	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
3	PUSAULI-FATEHPUR	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
4	RANCHI(NEW)-DHARAMJAYGARH	POWERGRID	POWERGRID(ER)				POWERGRID(WR)			
5	JHARSUGUDA-DHRAMJAYGARH	POWERGRID	POWERGRID(ER)				POWERGRID(WR)			
6	ANGUL-SRIKAKULAM	POWERGRID	POWERGRID(ER)				POWERGRID(SR)			
7	ANGUL-JHARSUGUDA	POWERGRID	POWERGRID				POWERGRID			
B) 400 KV LINES										
7	MUZZFARPUR-GOROKHPUR	POWERLINKS	POWERGRID(ER)				POWERGRID(NR)			
8	PATNA-BALIA	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
9	BIHARSHARIFF-BALIA	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
10	BIHARSHARIFF-VARANASI	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
	BARH-MOTIHARI	L(LILO)	POWERGRID(ER)				DMTCL			
	MOTIHARI-GOROKHPUR	L(LILO)	DMTCL				POWERGRID(NR)			
12	SASARAM(N) -SARNATH	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
14	SASARAM(N) -ALLAHABAD	POWERGRID	POWERGRID(ER)				POWERGRID(NR)			
15	BINAGURI-BONGAIGAON-I, II	POWERGRID	POWERGRID(ER)				POWERGRID(NER)			
16	AILPURDUAR-BONGAIGAON-I, II	**PGCIL(LILO)**	POWERGRID(ER)				POWERGRID(NER)			
20	TEESTA V-RANGPO	POWERGRID	NHPC				POWERGRID			
21	SEL-RAIGARH	POWERGRID & SEL	SEL				POWERGRID(WR)			
22	JHRASUGUDA-IBEUL	IBEUL	POWERGRID				IBEUL			
23	JHRASUGUDA-RAIGARH	IBEUL	POWERGRID(ER)				POWERGRID(WR)			
24	ROURKELA-RAIGARH	POWERGRID	POWERGRID(ER)				POWERGRID(WR)			
25	ROURKELA-SEL	POWERGRID & SEL	POWERGRID				SEL			
26	RANCHI -SIPAT	POWERGRID	POWERGRID(ER)				POWERGRID(WR)			
28	FARAKKA-BEHRAMPUR	POWERGRID	NTPC				POWERGRID			
29	FARAKKA-SAGARDIGHI	POWERGRID	NTPC				WBPDCL			
30	FARAKKA - MALDA	POWERGRID	NTPC				POWERGRID			
31	FARAKKA - PARULIA	POWERGRID	NTPC				POWERGRID			
32	KAHALGAON -BANKA	POWERGRID	NTPC				POWERGRID			
34	SAGARDIGHI-BEHRAMPUR	POWERGRID	WBPDCL				POWERGRID			
35	SAGARDIGHI-SUBHASGRAM	POWERGRID	WBPDCL				POWERGRID			
36	SAGARDIGHI-PARULIA	WBSETCL	WBPDCL				POWERGRID(ER)			
38	JEERAT-SUBHASGRAM	POWERGRID	WBSETCL				POWERGRID			
39	SUBHASGRAM(PG)-HALDIA	HEL	POWERGRID				HEL			
40	PARULIA-BIDHANAGAR	WBSETCL	POWERGRID				WBSETCL			
41	KHARAGPUR-BARIPADA	WBSETCL & OPTCL	WBSETCL				POWERGRID(ER)			
45	DSTPS - JAMSHEDPUR	POWERGRID	DVC				POWERGRID			
46	KODERMA-BIHARSARIFF	POWERGRID	DVC				POWERGRID			
51	RAGUNATHPUR-MAITHON	POWERGRID	DVC				POWERGRID			
52	JAMSEDPUR-AHUNIK	APNRL	POWERGRID				APNRL			
53	JAMSHEDPUR-TISCO	POWERGRID	DVC				POWERGRID			
55	JEYPORE-GAZUWAKA	POWERGRID	POWERGRID(ER)				POWERGRID(SR)			

58	INDRAVATI-INDRAVATI	OPTCL	POWERGRID(ER)				OPTCL				
59	TSTPP-MERAMUNDALI	POWERGRID	NTPC				OPTCL				
61	BARIPADA-NEW DUBURI	POWERGRID	POWERGRID(ER)				OPTCL				
62	MENDHASAL-NEW DUBURI	OPTCL	POWERGRID(ER)				OPTCL				
64	TSTPP - RENGALI	POWERGRID	NTPC				POWERGRID				
65	KHARAGPUR-CHAIBASA	PKTCL	WBSETCL				POWERGRID				
66	MENDHASAL-PANDIABILI	POWERGRID	OPTCL				POWERGRID				
67	BARIPADA – PANDIABILI	POWERGRID	WBSETCL				POWERGRID				
	NEW RANCHI-NEW PPSP	PKTCL	POWERGRID				WBSETCL				
71	FARAKKA-GOKARNO	POWERGRID	NTPC				WBSETCL				
72	DIKCHU-TEESTA-III	SKPPL+TPTL	DIKCHU				TEESTA-III				
73	RANGPO-TEESTA-III	POWERGRID+TPTL	POWERGRID				TEESTA-III				
2	BANKA-BIHARSARIFF	POWERGRID	POWERGRID				POWERGRID				
3	LAKHISARAI-BIHARSARIFF	POWERGRID	POWERGRID				POWERGRID				
4	KAHALGAON -LAKHISARAI	POWERGRID	NTPC				POWERGRID				
5	BIHARSHARIFF-PURNEA	ENICL	POWERGRID				POWERGRID				
6	MAITHON-GAYA	POWERGRID	POWERGRID				POWERGRID				
7	KAHALGAON -BARH	POWERGRID	NTPC				NTPC				
8	BARH -PATNA	POWERGRID	NTPC				POWERGRID				
9	PATNA- KISHANGANJ	POWERGRID	POWERGRID				POWERGRID				
10	PURNEA - BINAGURI I & II	POWERGRID	POWERGRID				POWERGRID				
11	PURNEA-KISHANGANJ	POWERGRID	POWERGRID				POWERGRID				
12	BINAGURI-KISHANGANJ	POWERGRID	POWERGRID				POWERGRID				
13	PURNEA - MUZAFFARPUR	POWERLINKS	POWERGRID				POWERGRID				
14	BIHARSHARIFF-MUZAFFARPUR	POWERGRID	POWERGRID				POWERGRID				
15	BIHARSHARIFF- PUSAULI	POWERGRID	POWERGRID				POWERGRID				
16	FARAKKA - KAHALGAON I & II	POWERGRID	NTPC				NTPC				
17	FARAKKA-KAHALGAON III & IV	POWERGRID	NTPC				NTPC				
18	BOKARO-KODERMA	POWERGRID	DVC				DVC				
19	MALDA - PURNEA	POWERGRID	POWERGRID				POWERGRID				
20	MERAMUNDALI - MENDASAL	OPTCL	OPTCL				OPTCL				
21	RENGALI-KEONJHAR	OPTCL	POWERGRID				OPTCL				
22	KEONJHAR- BARIPADA	OPTCL	POWERGRID				POWERGRID				
23	JEYPORE - INDRAVATI	POWERGRID	POWERGRID				POWERGRID				
24	INDRAVATI - RENGALI	POWERGRID	POWERGRID				POWERGRID				
25	TSTPP - ROURKELA	POWERGRID	NTPC				POWERGRID				
26	ROURKELA- JHARSIGUDA	POWERGRID	POWERGRID				POWERGRID				
27	JAMSHEDPUR - CHAIBASA	POWERGRID	POWERGRID				POWERGRID				
28	CHAIBASA- ROURKELA	POWERGRID	POWERGRID				POWERGRID				
29	KTPS - CHANDITALA	WBSETCL	WBPDCL				WBSETCL				
29	CHANDITALA - JEERAT	WBSETCL	WBSETCL				WBSETCL				
30	BAKRESWAR - JEERAT	WBSETCL	WBPDCL				WBSETCL				
31	BAKRESWAR - ARAMBAGH	WBSETCL	WBPDCL				WBSETCL				
	NEW PPSP - ARAMBAGH	WBSETCL	WBSETCL				WBSETCL				
	NEW PPSP - PPSP	WBSETCL	WBSETCL				WBSEDCL				
33	PPSP - BIDHANAGAR	WBSEDCL	WBPDCL				WBSETCL				
34	KTPS - ARAMBAGH	WBSETCL	WBPDCL				WBSETCL				
35	KTPS-KHARGPUR	WBSETCL	WBPDCL				WBSETCL				
36	KTPS-KHARGPUR	WBSETCL	WBPDCL				WBSETCL				
37	PARULIA - JAMSHEDPUR	POWERGRID	POWERGRID				POWERGRID				
38	MAITHON - JAMSHEDPUR	POWERGRID	POWERGRID				POWERGRID				
39	MAITHON - RANCHI	POWERGRID	POWERGRID				POWERGRID				
40	DSTPS-RAGHUNATHPUR I & II	DVC	DVC				DVC				
41	JAMSHEDPUR-BARIPADA	POWERGRID	POWERGRID				POWERGRID				
42	RANCHI-RANCHI NEW	POWERGRID	POWERGRID				POWERGRID				
43	RANCHI-ROURKELA-I&II	POWERGRID	POWERGRID				POWERGRID				
44	BINAGURI-RANGPO	POWERGRID	POWERGRID				POWERGRID				

45	NEW RANCHI-CHANDWA	POWERGRID	POWERGRID				POWERGRID			
46	GAYA- CHANDWA	POWERGRID	POWERGRID				POWERGRID			
47	AILPURDUAR-BINAGURI-I,II	**PGCIL(LILO)**	POWERGRID(ER)				POWERGRID(ER)			
48	MUZAFFARPUR-DARBHANGA	DMTCL	POWERGRID(ER)				DMTCL			
49	SEL- MEERAMANDALI	POWERLINKS	SEL				OPTCL			
50	BARIPADA-PANDIABILI	POWERGRID	POWERGRID				POWERGRID			
51	MEERAMUNDALI- NEW DUBURI	POWERGRID	OPTCL				POWERGRID			
	C) 220 KV LINES									
74	PATNA-SIPARA	BSPHCL	POWEGRID				BSPHCL			
76	PUSUALI-SAHUPURI	BSPHCL & UPPCL	POWERGRID				UPPCL			
78	PATNA-KHAGUAL	BSPHCL	POWERGRID				BSPHCL			
80	NEW SASARAM- ARRAH	POWERGRID	BSPHCL				POWERGRID			
81	BODHGAYA-GAYA(PG)	BSPHCL & PG	BSPHCL				POWERGRID			
82	DEHRI-GAYA(PG)	BSPHCL & PG	BSPHCL				POWERGRID			
83	MUZZFARPUR-KANTI	POWERLINKS	POWERGRID				BSPHCL			
84	MUZZAFFARPUR-HAZIPUR-I & II	BSPTCL	POWERGRID				BSPTCL			
87	BALIMELA-U.SILLERU	APTRANSCO	OPTCL				APTRASCO			
88	JINDAL-JAMSHEDPUR	OPTCL & DVC	OPTCL				DVC			
89	JODA-RAMCHANDRAPUR	OPTCL & JUSNL	OPTCL				JUSNL			
90	BUDHIPADAR-KORBA II & III	OPTCL & CSEB	OPTCL				CHATTISGARH			
91	BUDHIPADAR-RAIGARH I	POWERGRID	OPTCL				CHATTISGARH			
92	TSTPP-MERAMUNDALI	OPTCL	NTPC				OPTCL			
93	TSTPP-RENGALI HPS	OPTCL	NTPC				OPTCL			
94	BISRA(PG)-TARKERA(OPTCL)	OPTCL	POWERGRID				OPTCL			
95	JEYPORE(PG)-JAYNAGAR(OPTCL)	OPTCL	POWERGRID				OPTCL			
96	TSTPP-TALCHER	OPTCL	NTPC				OPTCL			
97	FARAKKA-LALMATIA	ECL	NTPC				NTPC			
98	RENGALI-RENGALI	OPTCL	POWERGRID				OPTCL			
99	BARIPADA-BALASORE	OPTCL	POWERGRID				OPTCL			
100	MAITHON(PG)-K'SWARI(DVC)	DVC	POWERGRID				DVC			
102	CHANDIL-SANTALDIH	WBSETCL & JUSNL	JUSNL				WBSETCL			
103	RANCHI-HATIA	JUSNL	POWERGRID				JUSNL			
105	TENUGHAT-BIHARSHARIF	BSPHCL & JUSNL	JUSNL				BSPHCL			
106	JAMSHEDPUR-RAMCHANDRAPUR	-POWERGRID	POWERGRID				JUSNL			
107	MAITHON(PG)-DHANBAD(DVC)	DVC	POWERGRID				DVC			
108	PARULIA(PG)-PARULIA(DVC)	DVC	POWERGRID				DVC			
109	WARIA-BIDHANNAGAR	DVC & WBSETCL	DVC				WBSETCL			
112	SUBH'GRM(PG) - NEWTOWN	WBSETCL	POWERGRID				WBSETCL			
113	SUBH'GRM(PG) - SUBH'GRM (WB)	WBSETCL	POWERGRID				WBSETCL			
114	SUBH'GRM(PG) - EMSS(CESC)	CESC	POWERGRID				CESC			
115	SUBH'GRM(PG) - BANTALA	WBSETCL	POWERGRID				WBSETCL			
118	BIRPARA- CHUKHA	POWERGRID	POWERGRID				POWERGRID			
119	BIRPARA-MALBASE	POWERGRID	POWERGRID				POWERGRID			
120	ALIPURDUAR-SALAKATI	POWERGRID	POWERGRID(ER)				POWERGRID(NER)			
122	NEW MELLI- JLHEP	DANS	POWERGRID				DANS			
124	DARBHANGA-MOTIPUR	BSPTCL	DMTCL				BSPTCL			
125	DARBHANGA-SAMASTIPUR(UJIYARPUR)	BSPTCL	DMTCL				BSPTCL			
127	BOLANGIR-KATAPALLI	OPTCL	POWERGRID				OPTCL			
128	BOLANGIR-SADHEPALLI	OPTCL	POWERGRID				OPTCL			
129	PANDIABILI-ATRI	OPTCL	POWERGRID				OPTCL			
130	PANDIABILI-SAMANGARA	OPTCL	POWERGRID				OPTCL			
52	BIHARSHARIFF-FATUAH	BSPHCL	BSPHCL				BSPHCL			
53	BIHARSHARIFF-BODHAGYA	BSPHCL	BSPHCL				BSPHCL			
54	BIHARSHARIFF-BEGUSARAI	BSPHCL	BSPHCL				BSPHCL			
55	MTPS-BEGUSARAI	BSPHCL	BSPHCL				BSPHCL			
56	MTPS-DARBHANGA	BSPHCL	BSPHCL				BSPHCL			
57	MTPS-GOPALGANJ	BSPHCL	BSPHCL				BSPHCL			

58	SASARAM-ARRAH	POWERGRID	POWERGRID				POWERGRID				
60	WARIA-PARULIA	DVC	DVC				DVC				
61	WARIA-MEJIA	DVC	DVC				DVC				
62	CTPS A-DHANBAD	DVC	DVC				DVC				
63	CTPS B-DHANBAD	DVC	DVC				DVC				
64	DHANBAD-GIRIDIH	DVC	DVC				DVC				
65	BOKARO-JAMSHEDPUR	DVC	DVC				DVC				
66	KASBA-EMBYPASS	CESC	WBSETCL				CESC				
67	KASBA-SUBHASGRAM(WB)	WBSETCL	WBSETCL				WBSETCL				
69	BOKARO-CTPS B	DVC	DVC				DVC				
70	KALYANESHWARI-MEJIA	DVC	DVC				DVC				
71	KALYANESHWARI-BURNPUR	DVC	DVC				DVC				
72	BURNPUR-MEJIA	DVC	DVC				DVC				
73	MEJIA-MUCHIPARA	DVC	DVC				DVC				
74	MEJIA-BARJORA	DVC	DVC				DVC				
75	PARULIA-MUCHIPARA	DVC	DVC				DVC				
76	BOKARO-RAMGARH	DVC	DVC				DVC				
77	PTPS -TENUGHAT	JUSNL	JUSNL				TVNL				
78	PATRATU-HATIA	JUSNL	JUSNL				JUSNL				
79	CHANDIL-RAMCHANDRAPUR	JUSNL	JUSNL				JUSNL				
80	JEYANAGAR-U.KOLAB	OPTCL	OPTCL				OHPC				
81	MERAMANDALI-NALCO	OPTCL	NTPC				NALCO				
82	MERAMUNDALI - BIDANASI	OPTCL	OPTCL				OPTCL				
83	MERAMUNDALI - DUBURI(OLD)	OPTCL	OPTCL				OPTCL				
84	KATAPALLI-BUDHIPADAR	OPTCL	OPTCL				OPTCL				
85	IBTPS - BUDHIPADAR	OPTCL	OPGC				OPTCL				
86	TARKERA-BUDHIPADAR	OPTCL	OPTCL				OPTCL				
87	TARKERA-CHANDIPOSH	OPTCL	OPTCL				OPTCL				
88	TARKERA-BARKOT	OPTCL	OPTCL				OPTCL				
89	RENGALI-CHANDIPOSH	OPTCL	OPTCL				OPTCL				
90	RENGALI-BARKOT	OPTCL	OPTCL				OPTCL				
91	U. KOLAB-THERUVALI	OPTCL	OHPC				OPTCL				
92	U. KOLAB-JAYANAGAR	OPTCL	OHPC				OPTCL				
93	BALIMELA-JEYNAGAR	OPTCL	OHPC				OPTCL				
94	TALCHER-MERAMUNDALI	OPTCL	NTPC				OPTCL				
95	MERAMUNDALI - BHANJNAGAR	OPTCL	OPTCL				OPTCL				
96	MENDHASAL -BHANJNAGAR	OPTCL	OPTCL				OPTCL				
97	MENDHASAL - NAYAGARH	OPTCL	OPTCL				OPTCL				
98	NAYAGARH - BHANJNAGAR	OPTCL	OPTCL				OPTCL				
99	THERUVALLI - BHANJNAGAR	OPTCL	OPTCL				OPTCL				
100	THERUVALLI - LAXMIPUR	OPTCL	OPTCL				OPTCL				
101	THERUVALLI - NARENDRAPUR	OPTCL	OPTCL				OPTCL				
102	MENDHASAL - NARENDRAPUR	OPTCL	OPTCL				OPTCL				
103	MENDHASAL - CHANDAKA	OPTCL	OPTCL				OPTCL				
104	JAYANAGAR - LAXMIPUR	OPTCL	OPTCL				OPTCL				
105	UIHEP-THERUVALI	OPTCL	OHPC				OPTCL				
106	KTPS-HOWRAH	WBSETCL	WBPDCL				WBSETCL				
107	BISHNUPUR-SANTALDIH	WBSETCL	WBSETCL				WBPDCL				
108	SANTALDIH-BIDHANNAGR	WBSETCL	WBDPCL				WBSETCL				
109	BIDHANNAGAR-DPL	WBSETCL	WBSETCL				DPL				
110	BIDHANNAGAR-BAKRESWAR	WBSETCL	WBSETCL				WBPDCL				
111	SATGACHIA-BAKRESWAR	WBSETCL	WBSETCL				WBPDCL				
112	KHARAGPUR- MIDNAPORE I&II	WBSETCL	WBSETCL				WBSETCL				
113	ARAMBAGH- MIDNAPORE	WBSETCL	WBSETCL				WBSETCL				
114	ARAMBAGH-N.BISHNUPUR	WBSETCL	WBSETCL				WBSETCL				
115	ARAMBAGH- DOMJUR	WBSETCL	WBSETCL				WBSETCL				
116	ARAMBAGH- RISHRA	WBSETCL	WBPDCL				WBSETCL				
117	JEERAT-NEWTOWN	WBSETCL	WBSETCL				WBSETCL				
118	JEERAT-SATGACHIA	WBSETCL	WBPDCL				WBSETCL				
119	SATGACHIA-KRISHNANAGAR	WBSETCL	WBPDCL				WBSETCL				
120	BAKRESWAR-SADAIPUR	WBSETCL	WBPDCL				WBSETCL				
120	SADAIPUR-GOKARNO	WBSETCL	WBPDCL				WBSETCL				

121	GOKARNO-SAGARDIGHI	WBSETCL	WBSETCL				WBPDCL			
122	GOKARNO-KRISHNANAGAR	WBSETCL	WBSETCL				WBPDCL			
123	SUBHASGRAM (WB)- LAKHIKANTPUR	WBSETCL	WBSETCL				WBSETCL			
124	DALKHOLA-PURNEA	POWERGRID	WBSETCL				WBSETCL			
125	BIRPARA-BINAGURI	POWERGRID	POWERGRID				POWERGRID			
	BINAGURI-SILIGURI	POWERGRID	POWERGRID				POWERGRID			
126	JEERAT-KASBA	WBSETCL	WBPDCL				WBSETCL			
127	JEERAT- DHARAMPUR	WBSETCL	WBPDCL				WBSETCL			
128	DHARAMPUR- RISHRA	WBSETCL	WBPDCL				WBSETCL			
	SILIGURI-KISHANGANJ	POWERGRID	POWERGRID				POWERGRID			
129	DALKHOLA-KISHANGANJ	POWERGRID	POWERGRID				POWERGRID			
130	DALKHOLA-MALDA	POWERGRID	POWERGRID				POWERGRID			
131	RANGPOO- NEW MELLI	POWERGRID	POWERGRID				POWERGRID			
132	ALIPURDUAR-BIRPARA	POWERGRID	POWERGRID(ER)				POWERGRID(ER)			
	C) 132 KV LINES									
131	MUZZAFARPUR- DHALKEBAR	Cross Border Power Trans. Ltd.	POWERGRID				NEPAL			
132	BARHI - B'SHARIFF	BSPHCL & DVC	DVC				BSPHCL			
133	BARHI-RAJGIR	BSPHCL & DVC	DVC				BSPHCL			
134	DEOGHAR-SULTANGANJ	BSPTCL & JUSNL	JUSNL				BSPHCL			
135	KAHALGAON-KAHALGAON	POWERGRID	BSPHCL				NTPC			
136	ARRAH-ARRAH	POWERGRID	BSPHCL				POWERGRID			
137	DUMRAON-ARRAH	POWERGRID	BSPHCL				POWERGRID			
138	PURNEA(PG)-PURNEA(BS)	BSPHCL	BSPHCL				POWERGRID			
139	PURNEA(PG)-KISANGANJ	BSPHCL	BSPHCL				POWERGRID			
140	DEHRI--PUSUALI	POWERGRID	BSPHCL				POWERGRID			
141	KARMANASA--PUSUALI	POWERGRID	BSPHCL				POWERGRID			
142	KARMANASA-SAHUPURI	BSPHCL & UPPCL	BSPHCL				UPPCL			
143	KARMANASA-CHANDAULI	BSPHCL & UPPCL	BSPHCL				UPPCL			
144	SONENAGAR - RIHAND	BSPHCL & UPPCL	BSPHCL				UPPCL			
145	MAITHON-JAMTARA	DVC & JUSNL	DVC				JUSNL			
146	KHARAGPUR-KHARAGPUR	DVC	DVC				WBSETCL			
147	KOLAGHAT-KOLAGHAT	DVC	DVC				WBSETCL			
148	MACHKUND-VIZAG	APTRANSCO	OPTCL				APTRANSCO			
149	JODA-KENDPOSI	OPTCL & JUSNL	OPTCL				JUSNL			
150	BARIPADA-BANGIRIPOSI	OPTCL	POWERGRID				OPTCL			
151	BARIPADA-BARIPADA	OPTCL	POWERGRID				OPTCL			
152	GARWA-SONENAGAR	BSPHCL & JUSNL	JUSNL				BSPHCL			
153	LALMATIA-SABOUR	BSPHCL & JUSNL	JUSNL				BSPHCL			
154	CHANDIL-MANIQUE	JUSNL & DVC	JUSNL				DVC			
155	PATRATU-PATRATU	JUSNL & DVC	JUSNL				DVC			
156	GARWA-RIHAND	JUSNL & UPPCL	JUSNL				UPPCL			
157	RANGIT-RAMMAM	POWERGRID	NHPC				WBSETCL			
158	KAHALGAON-SABOUR	POWERGRID	NTPC				BSPHCL			
159	KAHALGAON-LALMATIA	POWERGRID	NTPC				JUSNL			
160	BIRPARA-BIRPARA	WBSETCL	POWERGRID				WBSETCL			
161	MALDA-MALDA	WBSETCL	POWERGRID				WBSETCL			
162	SILIGURI-NBU	WBSETCL	POWERGRID				WBSETCL			
	SILIGURI - NJP	WBSETCL	POWERGRID				WBSETCL			
163	RANGIT -SAGBARI	SIKKIM	NHPC				SIKKIM			
164	ARHA-JAGDISHPUR	BSPHCL	POWERGRID				BSPHCL			
165	RANGIT-RANGPO	POWERGRID	NHPC				POWERGRID			
166	RANGIT-KURSEONG	POWERGRID	NHPC				WBSETCL			
167	RANGIT-SAGBARI	SIKKIM	NHPC				SIKKIM			
168	CHUJACHEN-GANGTOK	POWERGRID & GATI	GATI INFRA				POWERGRID			
169	BANKA-SABOUR	BSPTCL	POWERGRID				BSPTCL			
170	BANKA-BANKA	BSPTCL	POWERGRID				BSPTCL			

171	RANGPO-CHUJACHEN	GATI INFRA	POWERGRID				GATI INFRA			
172	NJP-MELLI	POWERGRID	POWERGRID				SIKKIM			
173	RANGPO- MELLI	POWERGRID+GATI INFRA	POWERGRID				SIKKIM			
174	NJP-MELLI	POWERGRID	POWERGRID				SIKKIM			
175	LAKHISARAI - JAMAUI	BSPHCL	POWERGRID				BSPHCL			
176	RANGIT - RABANGLA	POWERGRID	NHPC				SIKKIM			
177	KALINGPONG-MELLI	WBSETCL & SIKKIM	WBSETCL				SIKKIM			
178	BANKA-SULTANGUNJ	BSPTCL	POWERGRID				BSPTCL			

PMU Installation and commissioning status of ER as on 20.04.2017

Annexure- B.26

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
			78			286	175	73	61	51	45	40	40	24	37	
1	ER-II	West Bengal	Arambagh	WBSETCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	CT/ PT/ DI interfacing pending due to permission issue.
2	ER-II	West Bengal	BAKRESHWAR TPS	WBSETCL	CR	4	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Panel erected. Cable laying pending due to permission issue.
3	ER-II	West Bengal	Bidhannagar	WBSETCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	Panel erected. Cable laying and termination at PMU panel completed. CT/ PT/ DI interfacing pending due to permission issue.
4	ER-II	West Bengal	JEERAT	WBSETCL	CR	2	1	Yes	Yes	done	done	done	done	done	pending	SAT pending as customer didn't agree to witness SAT.
5	ER-II	West Bengal	Kolaghat TPS	WBSETCL	CR	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
6	ER-II	West Bengal	KASBA	WBSETCL	CR	3	1	Yes	Yes	done	done	done	done	done	pending	SAT pending as customer didn't agree to witness SAT.
7	ER-II	DVC	DSTPS	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
8	ER-II	DVC	Kodarma TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	Communication panel does not exist.
9	ER-II	DVC	MEJIA-B	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	Integrated on 07.12.2016
10	ER-II	DVC	Maithon RB TPS	DVC	CR	2	1	Yes	Yes	pending	pending	pending	pending	Pending	pending	Work started on 04.07.2016. Panel shifted. Team demobilised due to access issue and panel location issue.
11	ER-II	DVC	Raghunathpur TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	Communication link was not available during work.
12	ER-II	DVC	MEJIA	DVC	CR	5	2	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
13	ER-II	DVC	Bokaro	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.06.2016
14	ER-II	DVC	CTPS(Chanderpura)	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
15	Odisha	Orissa	Budhipadar	OPTCL	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
16	Odisha	Orissa	MENDHASAL	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	OPTCL is not providing CT/ PT connection for Meeramundali-2 feeder.
17	Odisha	Orissa	MERAMANDALI	OPTCL	CR	6	2	Yes	Yes	done	under progress	pending	pending	Pending	pending	
18	Odisha	Orissa	RENGALI	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Integration delayed because CAT-6 cable is faulty.
19	Odisha	Orissa	U.KOLAB	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	
20	Odisha	Orissa	BALIMELA(H)	OPTCL	CR	3	1	Yes	Yes	done	done	partially done	pending	Pending	done	OPTCL denied to provide DC connection. CT/PT/DI interfacing pending due to permission issue.
21	ER-II	West Bengal	Durgapur	Powergrid	CR	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.05.2016.
22	ER-II	West Bengal	FARRAKA	NTPC	CR	5	2	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
23	Odisha	Orissa	Indrawati	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
24	Odisha	Orissa	Indrawati HPS	OPTCL	CR	1	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	OPTCL denied to provide DC connection.
25	Odisha	Orissa	JEYPORE	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
26	ER-II	West Bengal	MAITHON	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.06.2016.
27	ER-II	West Bengal	MALDA	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.06.2016
28	Odisha	Orissa	Rengali	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 04.05.2016
29	Odisha	Orissa	ROURKELA	Powergrid	Kiosk	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.04.2016
30	ER-II	West Bengal	Binaguri	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 28.07.2016
31	ER-II	West Bengal	SUBHASHGRAM	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 22.06.2016
32	Odisha	Orissa	Baripada	Powergrid	CR	3	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.01.2017.
33	Odisha	Orissa	Bolangir	Powergrid	CR+Kiosk	2	3	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
34	Odisha	Orissa	ANGUL	Powergrid	Kiosk	10	11	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.03.2017.

PMU Installation and commissioning status of ER as on 20.04.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
35	Odisha	Orissa	Keonjhar	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	done	done	PMU integrated on 18.01.2017.
36	Odisha	Orissa	Jharsuguda	Powergrid	Kiosk	8	9	Yes	Yes	done	done	done	done	done	done	PMU integrated on 29.07.2016
37	Odisha	Orissa	GMR	GMR	Kiosk	3	4	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
38	ER-II	Sikkim	RANGPO	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
39	ER-II	West Bengal	Baharampur	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	done	done	PMU integrated on 10.05.2016
40	ER-II	West Bengal	Birpara	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 15.07.2016.
41	ER-II	DVC	CTPS B	DVC	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
42	ER-II	DVC	KALYANESWARI	DVC	CR	4	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 02.01.2017.
43	ER-II	DVC	PARULIA	DVC	CR	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.02.2017.
44	ER-II	West Bengal	Purulia PSP	WBSETCL	CR	2	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
45	ER-II	Jharkhand	Bokaro TPS	DVC	CR	1	1	Yes	Yes	done	pending	pending	pending	Pending	pending	
46	ER-II	West Bengal	Durgapur TPS	DVC	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
47	Odisha	Orissa	TTPS(Talcher)	OPTCL	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
48	Odisha	Orissa	TALCHER	NTPC	CR	5	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	NTPC is not allowing to deliver mterial.
49	ER-II	Sikkim	TEESTA	Powergrid	CR	1	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
50	Odisha	Orissa	Uttara	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	pending	Communication link from s/s to ERLDC and NTAMC to be provided by PGCIL.
51	Odisha	Orissa	Jindal	JITPL	CR	2	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
52	Odisha	Orissa	Monnet	Monnet	CR	1	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
53	Odisha	Orissa	Strelite	Strelite	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
54	Odisha	Orissa	Ind barath	Ind barath	Kiosk	1	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
55	ER-II	Sikkim	New Melli	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
56	ER-II	Sikkim	TT Pool	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
57	ER-II	West Bengal	Alipurduar	Powergrid	CR	6	7	Yes	Yes	partially done	partially done	pending	pending	Pending	pending	Work started on 22.12.2016. 4 PMU panels and network panel installed. Rest 2 PMU panels could not be erected because location not finalised. Cable laying and termination at PMU panel completed for 6 feeders. CT/PT interfacing pending due to unavailability of shutdown. PGCIL is asking to take DI points from field, which is not in scope. Work is held up. Team demobilised.
58	ER-II	West Bengal	Rajarhat	Powergrid	CR	2	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Work withheld due to localite agitation issue.
59	ER-I	Jharkhand	JAMSHEDPUR	Powergrid	CR	6	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 14.02.2017
60	ER-I	BIHAR	Kahalgaon(KHSTPP)	NTPC	CR	6	2	Yes	Yes	done	done	pending	pending	Pending	pending	Work withheld due to gate pass issue.
61	ER-I	BIHAR	Purnea	Powergrid	CR	6	2	Yes	Yes	done	done	pending	pending	done	pending	PMU integrated on 13.04.2017
62	ER-I	BIHAR	PATNA	Powergrid	Kiosk	6	7	Yes	Yes	done	done	done	done	done	done	PMU integrated on 11.04.2017
63	ER-I	Jharkhand	RANCHI	Powergrid	Kiosk	12	13	Yes	Yes	done	under progress	pending	pending	Pending	pending	
64	ER-I	BIHAR	SASARAM(Pusauli)	Powergrid	CR+Kiosk	9	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
65	ER-I	BIHAR	BARH	NTPC	CR	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
66	ER-I	BIHAR	LakhiSarai	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	done	SAT completed. PMU not integrated because FO cable was not delivered due to road permit issue.
67	ER-I	BIHAR	BANKA	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	pending	SAT pending. PMU not integrated because switch was not delivered to site. Switch in transit.

PMU Installation and commissioning status of ER as on 20.04.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
68	ER-I	Jharkhand	Chaibasa	Powergrid	Kiosk	4	5	Yes	Yes	done	under progress	pending	pending	Pending	pending	
69	ER-I	BIHAR	765kv Gaya	Powergrid	Kiosk	11	12	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.02.2017
70	ER-I	Jharkhand	765/400kV Ranchi (N)	Powergrid	Kiosk	8	9	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.02.2017
71	ER-I	Bihar	Biharshariff	Powergrid	CR	9	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
72	ER-I	Bihar	MUZAFFAPUR	Powergrid	CR	5	2	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
73	ER-I	Jharkhand	Daltonganj	Powergrid	Kiosk	2	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Road permit for Switch is pending.
74	ER-I	Bihar	Kishanganj (karandegh	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mts.
75	ER-I	Jharkhand	Jharkhand Pool (Chan	Powergrid	Kiosk	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mts.
76	ER-I	Jharkhand	Patratu	Jharkhand	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
77	ER-I	Jharkhand	Tenughat	Jharkhand	CR	2	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
78	ER-I	Bihar	Barauni PP	Bihar	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.

ER PMU site activity Summary:

Sl. No.	Region	Utility	As per approved BOQ		Supplied		Installed		Commissioned		Integrated to ERLDC/ SLD	
			No. of Substations	No. of PMU	S/S	PMU	S/S	PMU	S/S	PMU	S/S	PMU
1	ER-I	Powergrid	15	94	15	94	11	69	8	47	5	37
2	ER-I	NTPC	2	10	2	10	1	6	0	0	0	0
3	ER-I	Jharkhand	2	5	2	5	0	0	0	0	0	0
4	ER-I	Bihar	1	0	0	0	0	0	0	0	0	0
	ER-I	**Total**	**20**	**109**	**19**	**109**	**12**	**75**	**8**	**47**	**5**	**37**
1	ER-II	Powergrid	13	42	11	42	10	39	8	33	7	29
2	ER-II	NTPC	1	5	1	5	0	0	0	0	0	0
3	ER-II	DVC	13	37	13	37	10	29	9	28	4	13
4	ER-II	WBSETCL	7	21	7	21	5	15	2	5	2	5
	ER-II	**Total**	**34**	**105**	**32**	**105**	**25**	**83**	**19**	**66**	**13**	**47**
1	Odisha	Powergrid	10	38	10	38	10	38	10	38	6	30
2	Odisha	OPTCL	8	19	6	16	5	15	3	6	0	0
3	Odisha	NTPC	1	5	1	5	0	0	0	0	0	0
4	Odisha	IPP	5	10	5	10	0	0	0	0	0	0
	Odisha	**Total**	**24**	**72**	**22**	**69**	**15**	**53**	**13**	**44**	**6**	**30**
	ER	**Total**	**78**	**286**	**73**	**283**	**52**	**211**	**40**	**157**	**24**	**114**

Status of PDS system Installation and commissioning at ER as on 20.04.2017

Sl. No.	Site Name	Work Progress
1	ERLDC	Installed, powered up, functioning and integrated with DVC, WBSETCL and OPTCL PDS system.
2	Backup-NLDC	POSOCO did not provide space for PDS system installation.
3	SLDC, Maithon	Installed, powered up, functioning and integrated with ERLDC PDS system.
4	SLDC, Bhubaneswar	Installed, powered up, functioning and integrated with ERLDC PDS system.
5	SLDC, Howrah (WBSETCL)	Installed, powered up, functioning and integrated with ERLDC PDS system.

Annexure – B.27

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	

Annexure- B.28

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	ERS towers in use
1	Durgapur, ER-II	1 Set (8 towers)	
2	Rourkela, ER-II	3 towers incomplete shape	
3	ER-I (located at Jamshedpur)	15 towers (10 nos Tension tower and 5 nos suspension tower)	

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

- 220 kV ERS towers: 42 nos located at Mancheswar, Chatrapur & Budhipadar
- 400 kV ERS towers: 2 nos located at Mancheswar.
- 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) WBSETCL informed that they have placed order for 2 sets of ERS towers on 31.10.2014 and expected by June, 2015.

4) The 25th ERPC meeting held on 21.09.2014, the board 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.

Availability of Emergency Restoration System in BSPTCL system

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**	

Note:-

- 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 is currently available in our system** (as mentioned in above table with remarks "New").
- Same ERS tower is used in both 220 Kv and 132 kV circuits.

Annexure-B35

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		1	150	No	

			SS	Indravati	2	150	No	
			SS		3	150	No	
			SS		4	150	No	
			64					
Central Sector	Thermal	DVC	CS	Bokaro-A	1	500	No	RGMO will be service once the unit comes in CMC mode of operation. It will be done shortly in presence of BHEL experts.
			CS	Bokaro-B	1	210	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS		2	210	No	
			CS		3	210	No	
			CS	CTPS	2	140	No	Not possible due to non availability of Electro hydraulic governing. The units will be decommissioned shortly.
			CS		3	140	No	
			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
			CS		2	40	No	would not be possible for
	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	
			45					
	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	

IPP	Hydro	IPP	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	Teesta Urja	1	200	No	could be put in RGMO mode but because of transmission evacuation constraint RGMO/FGMO is disabled
			PS		2	200	No	
			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	
		20						

Annexure-B35A

Governor response observed in ER generating units

Generation loss at TPCIL at 19:33 hrs on 25-10-17

Generation loss at TPCIL at 21:36 hrs on 30-10-17

Generation loss at TPCIL at 19:33 hrs on 25-10-17
Frequency changed to 49.92 Hz from 50.05 Hz

Name	Initial generation	Final generation	Change in generation	Ideal response **	% of Ideal response	Remarks
KhSTPP #2	205.9	210.9	5.0	10.3	48%	Below Satisfactory
FSTPP #4	375.1	379.2	4.1	18.8	22%	Unsatisfactory
KhSTPP #7	484.8	489.5	4.7	24.2	19%	Unsatisfactory
JITPL #2	527.0	530.0	3.0	26.4	11%	Unsatisfactory
KhSTPP #6	489.5	491.8	2.3	24.5	10%	Unsatisfactory
KhSTPP #1	201.1	202.1	1.0	10.1	10%	Unsatisfactory
Barh Unit-5	650.2	652.9	2.7	32.5	8%	Unsatisfactory
FSTPP #5	393.4	394.8	1.5	19.7	7%	Unsatisfactory

Generation loss at TPCIL at 19:33 hrs on 25-10-17
Frequency changed to 49.92 Hz from 50.05 Hz

Name	Initial generation	Final generation	Change in generation	Ideal response **	% of Ideal response	Remarks
MPL #2	508.0	507.0	-1.0	25.4	-4%	Unsatisfactory
FSTPP #2	175.6	175.1	-0.5	8.8	-6%	Unsatisfactory
MPL #1	517.0	514.0	-3.0	25.9	-12%	Unsatisfactory
FSTPP #3	174.3	171.5	-2.8	8.7	-32%	Unsatisfactory

Generation loss at TPCIL at 21:36 hrs on 30-10-17
Frequency changed to 49.96 Hz from 50.10 Hz

Name	Initial generation	Final generation	Change in generation	Ideal response **	% of Ideal response	Remarks
KhSTPP #2	203.5	208.3	4.8	10.2	47%	Below Satisfactory
FSTPP #1	166.0	166.5	0.5	8.3	6%	Unsatisfactory
Barh Unit-5	366.6	367.6	1.0	18.3	5%	Unsatisfactory
KhSTPP #6	479.8	479.2	-0.6	24.0	-2%	Unsatisfactory
FSTPP #3	161.5	161.2	-0.2	8.1	-3%	Unsatisfactory
Barh Unit-4	361.5	360.7	-0.8	18.1	-4%	Unsatisfactory
KhSTPP #7	493.9	492.4	-1.5	24.7	-6%	Unsatisfactory
KhSTPP #5	496.5	494.5	-2.1	24.8	-8%	Unsatisfactory
FSTPP #2	167.2	166.1	-1.1	8.4	-13%	Unsatisfactory

Annexure-B36

Generation Projection (Jan 2018 - Mar 2018)

				Generation declared Commercial from 1st Apr '17 to 30th Sep'17					Generation declared/expected to be declared Commercial from 1st Oct'17 to 31st Dec'17								
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	5065											5065			5065
2	Odisha	ER	2884											2884	As per data given by GRIDCO	3144	3144
3	Bihar	ER	153											153			153
4	Jharkhand	ER	444											444			444
5	Sikkim	ER	0											0			0
6	Chujachan	ER	94											94	As per data given by Chuzachen	110	110
7	DVC	ER	3975											3975	As per data given by DVC	4087	4087
	Durgapur Steel	ER															
	Koderma TPP	ER															
	Bokaro TPS	ER															
	Raghunathpur	ER															
8	MPL	ER	1022											1022	As per last quarter	990	990
9	Teesta V	ER	541											541	As per NHPC	510	510
10	Kahalgaon	ER	2196											2196	As per NTPC	2178	2178
11	Farakka	ER	1928											1928	As per NTPC	1968	1968
12	Talcher	ER	976											976			976
13	Rangit	ER	64											64	As per NHPC	60	60
14	Adhunik Power	ER	506											506			506
15	Barh	ER	1274											1274	As per NTPC	1057	1057
16	Kamalanga TPP (GMR)	ER	678											678			678
17	JITPL	ER	839											839			839
18	Jorethang	ER	63											63			63
19	Bhutan	ER	327											327			327

Generation Projection (Jan 2018 - Mar 2018)

				Generation declared Commercial from 1st Apr '17 to 30th Sep'17					Generation declared/expected to be declared Commercial from 1st Oct'17 to 31st Dec'17								
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)
20	**Teesta-III**	**ER**		Teesta-III	1	200	158	950						950			950
		ER		Teesta-III	2	200	158										
		ER		Teesta-III	3	200	158										
		ER		Teesta-III	4	200	158										
		ER		Teesta-III	5	200	158										
		ER		Teesta-III	6	200	158										
21	**Dikchu HEP**	**ER**							Dikchu	1	48	38	76	76			76
		ER							Dikchu	2	48	38					
22	**Nabinagar BRBCL**	**ER**		Nabinagar BRBCL	1	230	151	151	Nabinagar BRBCL	2	230	151	151	301			301
	TOTAL		**23028**					**1101**					**227**	**24356**			**24483**

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) 0.80 plf for hydro generators
(ii) 0.7 plf for thermal generators.
(iii) 0.3 plf for gas stations

DEMAND FORECASTUSING PAST3 YEARS DATA (Jan 2018 - Mar 2018)

	2014-15			2015-16			2016-17			1	2	3	4		
	Jan-15	Feb-15	Mar-15	Jan-16	Feb-16	Mar-16	Jan-17	Feb-17	Mar-17	2014-15 Average	2015-16 Average	2016-17 Average	Projected Demand for (Jan 2018 - Mar 2018) before normalization	Data given by DICs	Comments
Bihar	2,602	2,830	2,874	3,484	3,278	3,419	3,535	3,543	3,715	2,769	3,394	3,598	4,082		
DVC	2,467	2,320	2,393	2,421	2,381	2,473	2,457	2,570	2,663	2,393	2,425	2,563	2,631	2960	As per data given by DVC
Jharkhand	1,018	1,016	1,007	1,117	1,102	1,153	1,121	1,165	1,148	1,014	1,124	1,145	1,225		
Odisha	3,364	3,525	3,892	3,739	3,931	4,091	3,896	3,847	3,989	3,594	3,920	3,911	4,125	4002	As per data given by GRIDCO
West Bengal	6,317	6,721	7,332	6,240	6,858	7,443	6,078	7,036	7,840	6,790	6,847	6,985	7,069		
Sikkim	83	83	77	109	109	109	91	91	91	81	109	91	104		

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 2017-2018 (Q4) i.e January 2018 to March 2018
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/2017/psp_peak-03.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-01.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
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-03.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-02.pdf
http://www.cea.nic.in/reports/monthly/powersupply/2015/psp_peak-01.pdf

Annexure-C.1

Anticipated Power Supply Position for the month of
Dec-17

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	3900	2200
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	341	163
		- Central Sector	2647	1537
	iii)	SURPLUS(+)/DEFICIT(-)	-912	-500
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1200	800
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	450	269
		- Central Sector	700	285
	iii)	SURPLUS(+)/DEFICIT(-)	-50	-246
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2760	1712
	ii)	NET POWER AVAILABILITY- Own Source	4774	2689
		- Central Sector	439	300
		Long term Bi-lateral (Export)	1300	967
	iii)	SURPLUS(+)/DEFICIT(-)	1153	310
4		**ORISSA**		
	i)	NET MAX DEMAND	3900	2418
	ii)	NET POWER AVAILABILITY- Own Source	3117	1676
		- Central Sector	1037	644
	iii)	SURPLUS(+)/DEFICIT(-)	254	-98
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	5200	2649
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	5200	2649
	iv)	NET POWER AVAILABILITY- Own Source	3663	1813
		- Import from DPL	10	0
		- Central Sector	1739	1046
	v)	SURPLUS(+)/DEFICIT(-)	212	210
	vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
5.2		**DPL**		
	i)	NET MAX DEMAND	230	181
	ii)	NET POWER AVAILABILITY	240	132
	iii)	SURPLUS(+)/DEFICIT(-)	10	-49
5.3		**CESC**		
	i)	NET MAX DEMAND	1480	733
	ii)	NET POWER AVAILABILITY - OWN SOURCE	460	384
		FROM HEL	540	339
		FROM CPL/PCBL	40	0
		Import Requirement	440	30
	iii)	TOTAL AVAILABILITY	1480	753
	iv)	SURPLUS(+)/DEFICIT(-)	0	20
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	6910	3563
	ii)	NET POWER AVAILABILITY- Own Source	4363	2330
		- Central Sector+Others	2759	1385
	iii)	SURPLUS(+)/DEFICIT(-)	212	151
7		**SIKKIM**		
	i)	NET MAX DEMAND	90	38
	ii)	NET POWER AVAILABILITY- Own Source	3	2
		- Central Sector+Others	82	51
	iii)	SURPLUS(+)/DEFICIT(-)	-5	14
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	18214	10731
		Long term Bi-lateral by DVC	1300	967
		EXPORT BY WBSEDCL	10	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	20712	11330
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1188	-375

Annexure- C.2

Proposed Maintenance Schedule of Thermal Generating Units of ER during December, 2017

(as finalised in LGBR meeting)

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
WBPDCL	KTPS	5	210	end of Dec 17		7	Boiler License
	Bandel TPS	5**	210	01.12.17	30.12.17	30	Boiler Overhauling

EASTERN REGIONAL LOAD DESPATCH CENTRE
KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED IN 139TH 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 Rourkela-Raigarh Fdr -IV (Direct)	22/11/17	08:00	10/12/17	17:30	OCB	ER-II/Odisha/Sundergarh	Erection & stringing of M/C tower of Diversion Works. (Dismantling of Loc 375 and Erection of New Tower loc 375 and stringing for M/C portion) . Also other Diversion works of loc 366 to 368 of 400kv Rourkela-Raigarh line IV (direct) and 400kv Sundargarh-Raigarh-fdr-II on behalf on OPGC	NLDC
2	400kv Sundargarh-Raigarh-Fdr-II	22/11/17	08:00	10/12/17	17:30	OCB	ER-II/Odisha/Sundergarh	Erection & stringing of M/C tower of Diversion Works. (Dismantling of Loc 375 and Erection of New Tower loc 375 and stringing for M/C portion) . Also other Diversion works of loc 366 to 368 of 400kv Rourkela-Raigarh line IV (direct) and 400kv Sundargarh-Raigarh-fdr-II on behalf on OPGC	NLDC
3	FSC-I of 400kv Ranchi-Sipat-I at Ranchi	27/11/17	10:00	27/11/17	17:00	ODB	POWERGRID ER-I	AMP WORK of FSC Bay	NLDC
4	220KV BUS-II at Ranchi	28/11/17	10:00	28/11/17	17:00	ODB	POWERGRID ER-I	AMP WORK	JSEB
5	416 (Ragunathpur-III Main Bay) at Ranchi	29/11/17	10:00	29/08/17	17:00	ODB	POWERGRID ER-I	AMP	
6	50MVAR RB LR-II at Ranchi	30/11/17	10:00	30/08/17	17:00	ODB	POWERGRID ER-I	AMP	
7	220 KV MAIN BAY CB OF 160 MVA ICT#1 AT PRN	01/12/17	09:00	02/12/17	17:00	OCB	POWERGRID ER-I	DEW POINT MEASUREMENT DONE OF Y & B POLE. RESULT IS BELOW EXPECTED LEVEL, POLE RECONDITIONING TO BE DONE. AND CB TESTING.	
8	132 KV PURNEA - PURNEA BSPTCL#3 LINE	01/12/17	09:00	23/12/17	17:00	OCB	POWERGRID ER-I	GIS WORK	Bihar
9	50 MVAR BR - 1 AT JSR	01/12/17	09:30	02/12/17	17:30	OCB	POWERGRID ER-I	BR 3 bay construction work	
10	Bay - 410 (Main bay of RKL-II) AT CHAIBASA	01/12/17	10:00	01/12/17	17:00	ODB	POWERGRID ER-I	AMP	
11	765 KV Bus-I at New Ranchi	01/12/17	08:00	02/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
12	400/132KV 200 MVA ICT-I AT BANKA SS	01/12/17	09:00	01/12/17	17:00	ODB	POWERGRID ER-I	AMP work	BIHAR
13	50 MVAR Line Reactor of 400KV Sagradighi Line AT SUBHASGRAM	01/12/17	08:00	30/12/17	17:30	OCB	ER-II	Construction work under ERSS-XV to make the reactor switchable	WB
14	100 MVAR Bus Reactor at Jeerat	01/12/17	08:00	01/12/17	17:30	ODB	ER-II	FDS MEASURMENT	WB
15	40752 BAY AT BINAGURI	01/12/17	09:00	05/12/17	17:00	ODB	ER-II	BHEL CB Hydraulic perating mechanism overhauling	
16	400 kV Bus -I at Jeypore	01/12/17	09:00	01/12/17	18:00	ODB	ER-II/Odisha/Jeypore	For Bay Equipment Erection under ongoing STATCOM Project Works (Outage to be booked under Construction Head)	
17	400KV BUS-I at Rourkela	01/12/17	09:00	01/12/17	14:00	ODB	ER-II/Odisha/ROURKELA	Erection, Installation & Alignment of 41089 Isolator & E/S in Bay No.- 410 (STATCOM MAIN BAY).	
18	80 MVAR BUS REACTOR at Bolangir	01/12/17	08:00	01/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP work for 80 MVAR Bus Reactor	
19	Non auto mode of A/R in 400 KV Rengali-Indravati Line	01/12/17	08:00	31/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	For Carrying out PID of line , No Power Interuption will be there.	
20	132 kV 101 BAY (Jaleswar Line main Bay) at Baripada	01/12/17	09:00	01/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT junction Box Replacement	
21	220kv Budhipadar-Korba S/C Fdr-III	01/12/17	00:00	10/12/17	17:30	OCB	ER-II/Odisha/Sundergarh	For Diversion/ modification of multi curcuit line in between 220kv Budhipadhar -Korba S/C from Loc 29 to 39 and 400Kv D/C Rourkela-Raigarh line IV (direct) and 400kv Sundargarh-Raigarh-fdr-II from 385 to 375 for construction of dedicated MGR (Rail Line) at Village Belpahar,Amdhara & Chualiberna (Depositary works on behalf of OPGC)	NLDC
22	At Jerat: 400 kv MB 2 with Bus Coupler & 315 MVA Transformer 4	01/12/17	07:00	01/12/17	15:00	ODB	WB	Winter Maintenance	
23	400kV East Side Main Bus-I at Pusauli	02/12/17	08:00	02/12/17	18:00	ODB	POWERGRID ER-I	To Carry out erection and stringing work of 400kV Daltonganj -I Bay at Pusauli.	NLDC
24	400kV Tie bay of ICT-I & Daltangonj -I at Pusauli	02/12/17	08:00	03/12/17	18:00	OCB	POWERGRID ER-I	To Carry out erection and stringing work of 400kV Daltonganj -I Bay at Pusauli.	
25	400/132KV 200 MVA ICT-II AT BANKA SS	02/12/17	09:00	02/12/17	17:00	ODB	POWERGRID ER-I	AMP work	BIHAR
26	132 kV 103 BAY (BhograiLine main Bay) at Baripada	02/12/17	09:00	02/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	CT junction Box Replacement	
27	400KV BUS-II at Rourkela	02/12/17	09:00	02/12/17	14:00	ODB	ER-II/Odisha/ROURKELA	Erection, Installation & Alignment of 41289 Isolator & E/S in Bay No.- 412 (STATCOM FUTURE BAY).	
28	400 kV Bus -II at Jeypore	02/12/17	09:00	02/12/17	13:00	ODB	ER-II/Odisha/Jeypore	For Bay Equipment Erection under ongoing STATCOM Project Works (Outage to be booked under Construction Head)	
29	125 MVAR Bus Reactor - I AT Alipurduar	03/12/17	08:00	05/12/17	18:00	OCB	ER-II	Oil leakage from Rediator, Radiator (1 no) to be replaced	
30	400 kV Bus-II at Baripada	03/12/17	08:30	03/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for isolation of GIS Bus-II)	
31	400 kV Bay 415 CB(GIS) at Baripada	03/12/17	08:30	12/12/17	17:30	OCB	ER-II/Odisha/BARIPADA S/S	For GIS Bus-II ext. works	
32	500MVA ICT #3 at Baripada	03/12/17	09:30	03/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	PRD replacement & Insulation sleeves work on 52 kV buhsings	
33	Tie Bay of 400 kV KHG-1 & 80 MVAR Bus Reactor AT LAKHISARAI	04/12/17	10:00	04/12/17	14:00	ODB	POWERGRID ER-I	Cable replacement of CB Spring Charging Motor.	
34	220kV JUSNL BUS -1 AT RAMCHANDRAPUR	04/12/17	09:30	04/12/17	17:30	ODB	POWERGRID ER-I	ICT 3 Bay construction work.	JSEB
35	400/220kV, 315MVA ICT-1 AT JSR	04/12/17	09:30	04/12/17	17:30	ODB	POWERGRID ER-I	ICT3 Bay construction work.	JSEB
36	BAY-407(Main Bay of JSR-2) at Chaibasa	04/12/17	10:00	04/12/17	17:00	ODB	POWERGRID ER-I	AMP	
37	418 (Main bay Barh-1) at Patna	04/12/17	09:00	04/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
38	400 kV Patna-Barh CKT - I AND 400 kV Kahalgaon-Barh CKT - II	04/12/17	08:00	09/12/17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion & insulator washing at Loc no 545 to 550 and 654 to 657.	
39	Tie bay of 765 KV Dharmjaygarh line -2 & Future bay (bay 714)at New Ranchi	04/12/17	08:00	04/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
40	FSC-II of 400kv Ranchi-Sipat-II at Ranchi	04/12/17	10:00	04/12/17	17:00	ODB	POWERGRID ER-I	AMP WORK of FSC Bay	NLDC
41	400kV East Side Main Bus-II at Pusauli	04/12/17	10:00	05/12/17	13:00	ODB	POWERGRID ER-I	To Carry out erection and stringing work of 400kV Daltonganj -II Bay at Pusauli	NLDC
42	400 KV PTN - BALIA -1	04/12/17	09:00	05/12/17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 7, 70 to 90, 101 to 111, 135 to 145 etc.	NLDC
43	400 KV BUS-I at Gaya S/S	04/12/17	08:00	04/12/17	18:00	ODB	POWERGRID ER-I	Bay extension work for Gaya Navinagar Line	
44	132KV Bus of Gangtok S/s with all elements connected to 132 KV system	04/12/17	09:00	04/12/17	17:30	ODB	ER-II	All bus isolator AMP and 132KV Bus AMP, proper alignment checking of all Bus isolator is required very urgently otherwise during operation crticality may be occurred	SIKKIM
45	400KV Berhampore Sagardighi Ckt-I	04/12/17	10:00	05/12/17	17:00	ODB	ER-II	TL AMP AND BAY AMP	WB
46	63MVAr Dubri Line reactor(407R) at Baripada	04/12/17	09:30	04/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
47	400KV ICT-1 MAIN BAY(401) AT ANGUL	04/12/17	10:00	04/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
48	400 KV Indravati-Rengali line	04/12/17	09:00	04/12/17	16:00	ODB	ER-II/Odisha/Indravati	To attend the hotspot observed in connector at the top of Wave Trap	NLDC
49	400kV Rengali-Indravati Main Bay-412 at Rengali	04/12/17	09:00	07/12/17	17:00	OCB	ER-II/Odisha/Rengali	For CB Mechanism overhaulling work and AMP.	
50	400KV ROURKELA-TALCHER#2	04/12/17	09:00	06/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	For replacement of disc insulators with polymer insulators by M/s Selim Construction.	
51	400KV 80 MVAR Bus Reactor at Keonjhar	04/12/17	09:00	04/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	AMP Activity	
52	400 KV Main Bus-I at Balangir	04/12/17	08:00	09/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	for Stringing work of newly constructed 125 MVAR bus reactor at Balangir	
53	BKTPP 400 kv bus reactor	04/12/17	07:00	05/12/17	16:00	ODB	WB	O.D.B.	
54	220 KV Ara Sasaram	05/12/17	10:00	05/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
55	220 KV PRN-NPRN-1	05/12/17	09:00	05/12/17	16:00	ODB	POWERGRID ER-I	FOR LINE AND BAY AMP WORK	
56	400 Kv Muz - Bsf Ckt-2	05/12/17	09:00	05/12/17	18:00	ODB	MUZAFFARPUR	AMP WORK	
57	220kV JUSNL BUS-2 AT RAMCHANDRAPUR	05/12/17	09:30	05/12/17	17:30	ODB	POWERGRID ER-I	ICT3 Bay construction work.	JSEB
58	400/220kV, 315MVA ICT-2 AT JSR	05/12/17	09:30	05/12/17	17:30	ODB	POWERGRID ER-I	ICT3 Bay construction work.	JSEB
59	402 bay (Tie Kisanganj-I & BR-2) at Patna	05/12/17	09:00	05/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
60	315MVA ICT-II at Ranchi	05/12/17	10:00	05/12/17	17:00	ODB	POWERGRID ER-I	AMP	JSEB
61	400 KV BUS-II at Gaya S/S	05/12/17	08:00	05/12/17	18:00	ODB	POWERGRID ER-I	Bay extension work for Gaya Navinagar Line	
62	400KV Jeerat-Subhasgram Line	05/12/17	08:00	05/12/17	17:30	ODB	ER-II	Replacement of Y Ph LA at Subhasgram end and AMP	WB
63	400KV MAITHON-MEJIA 1	05/12/17	09:00	05/12/17	17:00	ODB	ER-II	Line AMP work	DVC
64	765kV Angul-Srikakulam Line -1 Reactor at Angul	05/12/17	10:00	05/12/17	16:00	ODB	ER-II/Odisha/Angul SS	Shutdown required fr collecting Oil sample from M/s ABB kake bushings for oil sample testing purpose as per the instruction received from the CC/AM and RHQ/BBSR	NLDC

65	765kV Angul-Sundargarh Line-2	05/12/17	08:00	05/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability.	NLDC
66	400kV 125MVAR Bus Reactor#1 at Sundargarh	05/12/17	08:00	05/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Arresting of oil Leakage and AMP	
67	400 KV Rourkela-Raigarh -I (Old cofiguration : RKL-RGH # CKT-II)	05/12/17	10:00	05/12/17	17:00	ODB	ER-II/Odisha/Sundargarh TLC	Connection of LILO point with Sundargarh Pooling station	NLDC
68	400KV Sundargarh-Raigarh Line-I	05/12/17	11:00	05/12/17	15:00	ODB	ER-II/Odisha/Sundargarh TLAM	Replacement of Insulator string at location 638(DA+3)	NLDC
69	160 MVA ICT#1 at Baripada	05/12/17	09:00	05/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work and CT junction Box Replacement	GRIDCO
70	400kV Barh Patna line -3	05/12/17	09:30	06/12/17	18:00	OCB	BARH	Attending defect of isolator & annual testing of bay equipments.	NLDC
71	NEW CHANDITALA: 400 kv MB-1 with bus coupler & 400 KGPR#1 Bay	05/12/17	07:00	05/12/17	15:00	ODB	WB	Winter Maintenance	
72	At Jerat: 400 kv MB 1 with Bus Coupler & 315 MVA Transformer 4	05/12/17	07:00	05/12/17	15:00	ODB	WB	Winter Maintenance	
73	220 KV Ara Nadokhar	06/12/17	10:00	06/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
74	220 KV PRN-NPRN-2	06/12/17	09:00	06/12/17	16:00	ODB	POWERGRID ER-I	FOR LINE AND BAY AMP WORK	
75	400 KV BSF -LKS Ckt. I	06/12/17	08:00	06/12/17	18:00	ODB	POWERGRID ER-I	FOR Rectification of Spacer Cap, CC Ring, Jumper N/B/ Arcing horn, Repairing of Conductor Cut etc.	
76	Bay-408 (Tie bay of JSR-II and future bay) at	06/12/17	10:00	06/12/17	17:00	ODB	POWERGRID ER-I	AMP	
77	403 bay (Main bay BR-2) at Patna	06/12/17	09:00	06/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
78	Main bay of 765 KV Dharmjaygarh line -2 (bay 715) at New Ranchi	06/12/17	08:00	06/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
79	400KV Bus Bar-I at Ranchi	06/12/17	10:00	06/12/17	17:00	ODB	POWERGRID ER-I	AMP	
80	400kV Pusauli-Nabinagar-II	06/12/17	08:00	06/12/17	18:00	ODB	POWERGRID ER-I	To Carry out erection and stringing work of 400kV Daltonganj -II Bay at Pusauli	
81	400 KV PTN - BALIA -2	06/12/17	09:00	07/12/17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 7, 70 to 90, 101 to 111, 135 to 145 etc.	NLDC
82	220kV Gaya-Dehri-1 line	06/12/17	09:00	06/12/17	17:00	ODB	POWERGRID ER-I	For BGCIL package extension work.	BIHAR
83	40852 BAY AT BINAGURI	06/12/17	09:00	12/12/17	17:00	ODB	ER-II	BHEL CB Hydraulic perating mechanism overhauling	
84	160 MVA ICT#2 at Baripada	06/12/17	09:30	06/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO
85	400 KV Rourkela-Sterlite-II (Old cofiguration : RKL-RGH # CKT-IV)	06/12/17	10:00	06/12/17	17:00	ODB	ER-II/Odisha/Sundargarh TLC	Connection of LILO point with Sundargarh Pooling station	NLDC
86	400kV 125MVAR Bus Reactor#2 at Sundargarh	06/12/17	08:00	06/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Arresting of oil Leakage and AMP	
87	ICT-I (3x 105 MVA) at Jeypore	06/12/17	09:00	06/12/17	18:00	ODB	ER-II/Odisha/Jeypore	For Extending Tertiary of Existing ICT-I (3x105MVA) for STATCOM Projects for Back-up Auxiliary supply, AMP Works & Isolator Retrofitting work (Outage to be booked under Construction Head)	GRIDCO
88	765kV Angul-Srikakulam Line -2 Reactor at Angul	06/12/17	10:00	06/12/17	16:00	ODB	ER-II/Odisha/Angul SS	Shutdown required fr collecting Oil sample from M/s ABB kake bushings for oil sample testing purpose as per the instruction received from the CC/AM and RHQ/BBSR	NLDC
89	3x105MVA ICT#2 at Indravati	06/12/17	08:00	09/12/17	18:00	OCB	ER-II/Odisha/Indravati	For changing of R-Ph LV2 Bushing of ICT#2 at OHPC S/Y	GRIDCO
90	400KV 315 MVA ICT-I at Keonjhar	06/12/17	09:00	06/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	AMP Activity	
91	400KV Indravati(PG)-Indravati(OHPC) S/C Line	06/12/17	08:00	10/12/17	17:00	ODB	ER-II/Odisha/Indravati	For laying of OPGW	GRIDCO
92	Main bay of Mendhsal - Pandiabili CKT-1 at Mendhasal	06/12/17	09:00	06/12/17	17:00	ODB	ER-II/Odisha/Pandiabili	Tan delta of CT and grading Capacitor of CB	GRIDCO
93	SgTPP: 400kv Tie Bay(41752) of Parulia#2 (41852)	06/12/17	07:00	08/12/17	15:00	OCB	WB	O.C.B.	
94	New Chanditala: 400kv MB-1 with Bus Coupler & 400kv Jeerat Bay	06/12/17	07:00	06/12/17	15:00	ODB	WB	Winter Maintenance	
95	220 KV Bus Couple Bay Ara	07/12/17	10:00	07/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
96	220 KV DLK-PRN-1	07/12/17	09:00	07/12/17	16:00	ODB	POWERGRID ER-I	FOR LINE AND BAY AMP WORK	
97	220KV BUS-I AT NPRN	07/12/17	10:00	07/12/17	18:00	ODB	POWERGRID ER-I	BUS AMP & TIGHTINING	BIHAR
98	200 MVA ICT-1 AT LAKHISARAI	07/12/17	08:00	08/12/17	18:00	ODB	POWERGRID ER-I	Checking of Air Cell.	BIHAR
99	400kV Ranchi -Rkl Ckt-2	07/12/17	09:00	07/12/17	17:30	ODB	POWERGRID ER-I	Damage insulator replacement work to be carried out. Insulators damaged by miscreants.	
100	400kV BUS - 1 AT JSR	07/12/17	09:30	07/12/17	17:30	ODB	POWERGRID ER-I	Bay construction work.	
101	765 KV BUS -2 at New Ranchi	07/12/17	08:00	08/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
102	400KV MAITHON-MEJIA 2	07/12/17	09:00	07/12/17	17:00	ODB	ER-II	Line AMP work	DVC
103	66 KV Bus of Gangtok S/s with all elements connected to 132 KV system	07/12/17	09:00	07/12/17	17:30	ODB	ER-II	All bus isolator AMP and 66 KV Bus AMP, proper alignment checking of all Bus isolator is required very urgently otherwise during operation crticality may be occurred	SIKKIM
104	125 MVAR Bus Reactor - 2 AT Alipurduar	07/12/17	08:00	08/12/17	18:00	OCB	ER-II	Air Cell defective, Air cell to be replaced.	
105	Main bay of Mendhsal - Pandiabili CKT-1 at Mendhasal	07/12/17	09:00	07/12/17	17:00	ODB	ER-II/Odisha/Pandiabili	CRM, TIMING AND DCRM OF CB	GRIDCO
106	400KV BUS REACTOR-1 MAIN BAY (416) AT ANGUL	07/12/17	10:00	07/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
107	400KV ROURKELA-SUNDARGARH#2	07/12/17	09:00	07/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	Refixing of VD/Spacers/Copper Bond & Jumper Tightening.	
108	Jeypore line reactor 50MVAr (Switchable) BAY (403R) at Bolangir	07/12/17	08:00	07/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP work of Jeypore-line reactor	
109	Dubri Bus reactor at Dubri end	07/12/17	09:30	07/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	GRIDCO
110	400KV Kahalgaon-Lakhisarai Line-1	07/12/17	09:30	07/12/17	17:30	ODB	KAHALGAON	PM works & relay testing	
111	400kV Fkk-Berhampur	07/12/17	09:00	08/12/17	17:00	OCB	FARAKKA	CVT Replacement	May be taken alog with Powergrid
112	BKTPP 400 kv MB 1	07/12/17	07:00	07/12/17	16:00	ODB	WB	Winter Maintenance	
113	Jerat 400 kv s/stn: 315 MVA Transformer 3	07/12/17	07:00	07/12/17	15:00	ODB	WB	Winter Maintenance	
114	100 MVA ICT 1	08/12/17	10:00	08/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	
115	220 KV DLK-PRN-2	08/12/17	09:00	08/12/17	16:00	ODB	POWERGRID ER-I	FOR LINE AND BAY AMP WORK	
116	220KV BUS-II AT NPRN	08/12/17	10:00	08/12/17	18:00	ODB	POWERGRID ER-I	BUS AMP & TIGHTINING	BIHAR
117	400kV BUS -2 AT JSR	08/12/17	09:30	08/12/17	17:30	ODB	POWERGRID ER-I	Bay construction work.	
118	404 bay (Main bay Kisanganj-II) at Patna	08/12/17	09:00	08/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
119	125MVAR Bus Reactor-I Main bay at Pusauli	08/12/17	09:00	08/12/17	18:00	ODB	POWERGRID ER-I	AMP	
120	400 KV KOD. -BSF -1	08/12/17	09:00	09/12/17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 5,6,12,13,15,21,21,25,26,27 etc.	DVC
121	765kV Gaya-Balia line	08/12/17	09:00	08/12/17	17:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreant	NLDC
122	400KV Berhampore Sagardighi Ckt-II	08/12/17	10:00	09/12/17	17:00	ODB	ER-II	TL AMP AND BAY AMP	WB
123	315MVA Ict-II at Baripada	08/12/17	09:30	08/12/17	23:30	ODB	ER-II/Odisha/BARIPADA S/S	Insulation sleeves work on 52 kV buhsings	
124	400KV ROURKELA-SUNDARGARH#1	08/12/17	09:00	08/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	Refixing of VD/Spacers, Jumper Tightening and Retrofitting & Commissioning of its Main CB A/R Relay.	
125	400KV BUS REACTOR-1 & FUTURE LINE TIE BAY (417) AT ANGUL	08/12/17	10:00	08/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
126	400kV Rengali-Indravati Tie Bay-411 at Rengali	08/12/17	09:00	12/12/17	17:00	OCB	ER-II/Odisha/Rengali	For CB Mechanism overhaulling work and AMP.	
127	765KV 240 MVAr Bus reactor-I at Sundargarh	08/12/17	09:00	08/12/17	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of spare Reactor to Y-Ph reactor of 765KV B/R-I after attending oil leakage in Y-Ph Reactor.	NLDC
128	Main bay of Mendhsal - Pandiabili CKT-2 at Mendhasal	08/12/17	09:00	08/12/17	17:00	ODB	ER-II/Odisha/Pandiabili	Tan delta of CT and grading Capacitor of CB	GRIDCO
129	400kV Bus-1 at Barh	08/12/17	09:30	08/12/17	18:00	ODB	BARH	Attending defect of isolator connected to Bus	
130	400 KV MB-1 with Bus Coupler & 315 MVA TR 1	08/12/17	07:00	08/12/17	15:00	ODB	WB	Winter Maintenance	
131	220 KV TBC BAY AT PRN	09/12/17	09:00	09/12/17	16:00	ODB	POWERGRID ER-I	FOR AMP WORK	
132	400 KV Main Bus-1 AT LAKHISARAI	09/12/17	10:00	09/12/17	14:00	ODB	POWERGRID ER-I	AMP	
133	405 bay (Tie Kisanganj-II & BR-I) at Patna	09/12/17	09:00	09/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
134	400KV QUAD RNC-NRNC Ckt -3	09/12/17	09:00	09/12/17	18:00	ODB	POWERGRID ER-I	for replacement of insualtors damged by micreants at loc 31, 45, 71	
135	765 kV GAYA - VNS-2	09/12/17	09:00	30/12/17	18:00	OCB	POWERGRID ER-I	For Replacement of Tower No 338 & 339.	NLDC
136	765kV Gaya-VNS-I line	09/12/17	09:00	09/12/17	17:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreant & HV bushing replacement	NLDC
137	400 KV Subhasgram- Jeerat Line	09/12/17	08:00	09/12/17	17:30	ODB	ER-II	Replacement of CVTs at Jeerat End and AMP of bay equipments	WB
138	Main bay of Mendhsal - Pandiabili CKT-2 at Mendhasal	09/12/17	09:00	09/12/17	17:00	ODB	ER-II/Odisha/Pandiabili	CRM, TIMING AND DCRM OF CB	GRIDCO
139	765KV 240 MVAr Bus reactor-II at Sundargarh	09/12/17	09:00	09/12/17	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of R-Ph Reactor of 765KV B/R-II to Spare Reactor to attend oil leakage in R-Ph Reactor.	NLDC
140	765KV ICT-1 MAIN BAY (704) AT ANGUL	09/12/17	10:00	09/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC

141	400KV ROURKELA-RAIGARH#2	09/12/17	09:00	09/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	Retrofitting & Commissioning of its Main CB A/R Relay.	NLDC
142	315MVA ICT-I at Baripada	09/12/17	09:30	09/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
143	BKTPP 400 KV MB 2	09/12/17	07:00	09/12/17	16:00	ODB	WB	Winter Maintenance	
144	NEW CHANDITALA: 400 MB-2 & B/Coupler & 400 kv KGPR# 2 bay	09/12/17	07:00	09/12/17	15:00	ODB	WB	Winter Maintenance	
145	132 KV PURNEA - KISHANGANJ LINE	10/12/17	09:00	23/12/17	16:00	OCB	POWERGRID ER-I	GIS WORK	Bihar
146	400KV QUAD RNC-NRNC Ckt -4	10/12/17	09:00	10/12/17	18:00	ODB	POWERGRID ER-I	for replacement of insualtors damged by micreants at loc 69;74	
147	400 KV KOD. -BSF -2	10/12/17	09:00	11/12/17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 5,6,12,13,15,21,21,25,26,27 etc.	DVC
148	80 MVAR BUS REACTOR#1 AT RANGPO	10/12/17	08:00	10/12/17	17:30	ODB	ER-II	CSD RETUNING WORKS	
149	210 BAY(220kv side 160MVA ICT#1) at Baripada	10/12/17	09:00	10/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/	AMP work	
150	765 KV D/C Jharsuguda- Dharamjaygarh Transmission line (Ckt-I & II)	10/12/17	08:00	12/12/17	17:00	OCB	ER-II/Odisha/Sundargarh TLC	Swapping arrangement : Stringing work of 765KV Jharsuguda - Dharamjaygarh TL, Ckt-III & IV with Ckt-I & II	NLDC
151	765KV S/C Angul-Sundargarh Line-II	10/12/17	09:00	10/12/17	17:00	ODB	ER-II/Odisha/Sundargarh TLAM	Replacement of broken Glass Insulators at Loc. 485, B phase of 765KV S/C Angul-Sundargarh-II	NLDC
152	Tie bay of Pandiabili-1&2 at Mendhasal	10/12/17	09:00	10/12/17	17:00	ODB	ER-II/Odisha/Pandiabili	Tan delta of CT and grading Capacitor of CB	
153	400 KV Rengali Indravati Line	10/12/17	07:00	16/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	Replacement of Porcelain insulators with Polymer insulators in major crossings at Locations Bolangir-538,539,564,565,590,591,676,677,681,682,741,742,743,747,748,749,750,751,752,753	NLDC
154	400kv Baharampur-Farakka & Baharampur-Jeerat (LILO section of old FRK-JRT line to Baharampur)	10/12/17	06:00	11/12/17	16:00	ODB	WB	O.D.B.-Crossing of 400kv SgTPP-Gokarna D/C	
155	NEW CHANDITALA :400 kv MB 2 & B/Coupler & 400 kv KTPS BAY	10/12/17	07:00	10/12/17	15:00	ODB	WB	Winter Maintenance	
156	220 KV BUS COUPLER BAY AT PRN	11/12/17	09:00	11/12/17	16:00	ODB	POWERGRID ER-I	FOR AMP WORK	
157	500MVA ICT-I AT NPRN	11/12/17	10:00	11/12/17	18:00	ODB	POWERGRID ER-I	AMP & IR MEASUREMENT OF LA	BIHAR/NLDC
158	400 kV Patna-Barh CKT - II AND 400 kV Kahalgaon-Barh CKT - I	11/12/17	08:00	16/12/17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion & insulator washing at Loc no 545 to 550 and 654 to 657.	
159	765 KV B/R-II at New Ranchi	11/12/17	08:00	11/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
160	400KV Bus Bar-II at Ranchi	11/12/17	10:00	11/12/17	17:00	ODB	POWERGRID ER-I	AMP	
161	765/400kV, 1500MVA, ICT AT SASARAM	11/12/17	09:00	13/12/17	18:00	OCB	POWERGRID ER-I	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 hrs due to first time charging of 500MVA, B-Phase ICT	NLDC
162	400KV Berhampore Farakka Tie Bay (405) AT BERHAMPUR	11/12/17	10:00	11/12/17	17:00	ODB	ER-II	Fixing of Isolator alingment	
163	220 kV Binaguri-Siliguri 1	11/12/17	09:00	11/12/17	17:00	ODB	ER-II	NEW VERSION NUMERICAL RELAY REPLACEMENT AT BINAGURI (FROM REL 521 TO REL 670)	
164	40952 BAY AT BINAGURI	11/12/17	09:00	15/12/17	17:00	ODB	ER-II	BHEL CB Hydraulic perating mechanism overhauling	
165	80 MVAR BUS REACTOR#2 AT RANGPO	11/12/17	08:00	11/12/17	17:30	ODB	ER-II	CSD RETUNING WORKS	
166	Tie bay of Pandiabili-1&2 at Mendhasal	11/12/17	09:00	11/12/17	17:00	ODB	ER-II/Odisha/Pandiabili	CRM, TIMING AND DCRM OF CB	GRIDCO
167	765KV ICT-1 & SUNDERGARH LINE-2 TIE BAY (705) AT ANGUL	11/12/17	10:00	11/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
168	400 KV Indravati-Jeypore (401) Main Bay at Indravati	11/12/17	08:00	14/12/17	18:00	OCB	ER-II/Odisha/Indravati	Overhauling of Main Bay (401) CB Mechanism	
169	220KV JEYNAGAR-II Main BAY (205) at Jeypore	11/12/17	09:30	11/12/17	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works (205)	
170	400KV ROURKELA-CHAIBASA#1	11/12/17	09:00	12/12/17	18:00	OCB	ER-II/Odisha/ROURKELA	Retrofitting & Commissioning of its Main & Tie CB A/R Relays.	
171	Tie Bay-702 of 765KV B/R-I & 765/400KV ICT-I at Sundargarh	11/12/17	09:00	11/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	To rectification of CSD in 705 CB	NLDC
172	400KV Bus-I at Keonjhar	11/12/17	09:00	17/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	Erection of G2 Beam over Bus-I for 125 MVAR Reactor	
173	400KV Main Bus-II at Balangir	11/12/17	08:00	16/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	for Stringing work of newly constructed 125 MVAR bus reactor at Balangir	
174	104 BAY(132kv side 160MVA ICT#1) at Baripada	11/12/17	09:00	11/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work	
175	BKTPP-JEERAT 400 KV FDR	11/12/17	07:00	13/12/17	15:00	ODB	WB	O.D.B.	
176	100 MVA ICT 2	12/12/17	10:00	12/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	
177	400KV NPRN - KISHANGANJ-I	12/12/17	10:00	12/12/17	18:00	ODB	POWERGRID ER-I	LINE BAY AMP & TIGHTING	
178	400 kV Main Bus-2 AT LAKHISARAI	12/12/17	10:00	12/12/17	14:00	ODB	POWERGRID ER-I	AMP	
179	40252CB (Tie Bay of ICT2 & BR2)	12/12/17	09:30	13/12/17	17:30	OCB	POWERGRID ER-I	Pnumatic Drive unit overhauling work	
180	Bay - 413 (Main bay of KGP-I) AT Chaibasa	12/12/17	10:00	12/12/17	17:00	ODB	POWERGRID ER-I	AMP	
181	408 bay (Tie ICT-2 & Future) at Patna	12/12/17	09:00	12/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
182	765/400kv 3X500 MVA ICT-I at New Ranchi	12/12/17	08:00	13/12/17	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Tower Erection)	NLDC
183	400KV Ranch- Rourkela-I	12/12/17	10:00	12/12/17	17:00	ODB	POWERGRID ER-I	For Changing of punchred insulator in Transmission Line at Lcc no 147, 89	
184	400kV Allahabad Main Bay at Pusauli	12/12/17	09:00	12/12/17	18:00	ODB	POWERGRID ER-I	AMP	
185	400 KV BSF - VNS-1	12/12/17	09:00	13/12/17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 116, 18, 29-30, 113, 152-153 etc5,6,12,13,15,21,21,25,26,27 etc.	NLDC
186	400kV Maithon-Gaya-1 line	12/12/17	09:00	12/12/17	17:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreant	
187	400 KV Jeerat- Baharampur Line	12/12/17	08:00	12/12/17	17:30	ODB	ER-II	AMP of Bay Equipments	WB
188	66KV Bulbulay (Line#1) Feeder	12/12/17	09:00	12/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	SIKKIM
189	315 MVA ICT - I & 220kV Main Bus 2 AT Alipurduar	12/12/17	08:00	13/12/17	18:00	OCB	ER-II	R ph CB alignment not proper to be adjusted (Pole to be dismantled and structure alignment to be adjusted)	
190	400 kv S/C Sagardighi-Subhasgram line	12/12/17	10:00	12/12/17	17:00	ODB	ER-II	TL AMP	WB
191	400 KV FARAKKA-GOKARNA-I & ASSOCIATED LR	12/12/17	08:00	13/12/17	17:30	ODB	ER-II	FOR RETUNING OF CSD	WB
192	400 kV Bus-II at Baripada	12/12/17	08:30	12/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for recoonecting jumpers to GIS Bus-II)	
193	Tie Bay-705 of 765KV B/R-II & 765/400KV ICT-II at Sundargarh	12/12/17	09:00	12/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	To rectification of CSD in 702 CB	NLDC
194	315MVA ICT #2 at Jeypore	12/12/17	09:30	12/12/17	18:00	ODB	ER-II/Odisha/Jeypore	For AMP Works of 315MVA ICT#2	GRIDCO
195	765KV SUNDERGARH LINE-2 MAIN BAY (706) AT ANGUL	12/12/17	10:00	12/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
196	400kV Rengali-Indravathi Line.	12/12/17	08:00	12/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability	NLDC
197	400KV S/C Indravati-Rengali line	12/12/17	08:00	16/12/17	18:00	ODB	ER-II/Odisha/Angul/ Rairakhol	Stringing of 765KV Angul-Sundargarh#3&4 Line at crossing of Ind-Rengali line (under Construction) (Shutdown shall be taken if not availed in Nov'2017)	NLDC
198	400kV Bus Reactor-2	12/12/17	10:00	13/12/17	17:00	ODB	FARAKKA	Reactor & Relay Testing	
199	NEW CHANDITALA: 400 kv MB-2 with Bus coupler & 315 MVA TR#2	12/12/17	07:00	12/12/17	15:00	ODB	WB	Winter Maintenance	
200	400 KV Kharagpur-Chaibasa ckt 1	12/12/17	07:00	12/12/17	15:00	ODB	WB	Winter Maintenance	
201	160 MVA ICT 3	13/12/17	09:30	13/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	
202	400KV NPRN - MUZ-II	13/12/17	10:00	13/12/17	18:00	ODB	POWERGRID ER-I	BAY AMP	
203	Bay - 414 (Tie bay of KGP-I and Future) at chaibasa	13/12/17	10:00	13/12/17	17:00	ODB	POWERGRID ER-I	AMP	
204	416 (Main bay Ballia-2) at Patna	13/12/17	09:00	13/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
205	400KV Ranch- Rourkela-II	13/12/17	10:00	13/12/17	17:00	ODB	POWERGRID ER-I	For Changing of punchred insulator in Transmission Line at Lcc no 147, 89	
206	400kV Maithon-Gaya-2 line	13/12/17	09:00	13/12/17	17:00	ODB	POWERGRID ER-I	For replacement of insulators damaged by miscreant	
207	80 MVAR BUS REACTOR AT BANKA SS	13/12/17	10:00	13/12/17	16:00	ODB	POWERGRID ER-I	AMP work	
208	66KV Tadong (Line#2) Feeder	13/12/17	09:00	13/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	SIKKIM
209	220 KV Binaguri-Siliguri 2	13/12/17	09:00	13/12/17	17:00	ODB	ER-II		
210	400 KV MALDA-PURNEA-I	13/12/17	08:00	13/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	
211	765KV SRIKAKULAM LINE-1 & FUTURE TIE BAY (729) AT ANGUL	13/12/17	10:00	13/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
212	400KV Rengali-Keonjhar Main Bay-401 at Rengali	13/12/17	09:00	16/12/17	17:00	OCB	ER-II/Odisha/Rengali	For CB Mechanism overhaulling work and AMP.	
213	315MVA ICT#1 at Rourkela	13/12/17	09:00	16/12/17	18:00	OCB	ER-II/Odisha/ROURKELA	For attending the oil mix up problem of OLTC in 315 MVA ICT#1 and to arrest oil leakage problem from tan delta test tap assemblies of its bushings.	GRIDCO
214	Tie Bay-705 of 765KV ICT-II & BR-II at Sundargarh	13/12/17	09:00	13/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Retest of capacitance violated GC under construction punch point	NLDC
215	400KV Keonjhar-Baripada Line	13/12/17	09:00	13/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	Tightening of Vibration Damper & AMP work	

216	400 kV Bus-I at Baripada	13/12/17	08:30	13/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for isolation of GIS Bus-I)	
217	400 kV Bay 413CB(GIS) at Baripada	13/12/17	08:30	22/12/17	17:30	OCB	ER-II/Odisha/BARIPADA S/S	For GIS Bus-I ext. works	
218	NEW CHANDITALA: 400kv MB-1 & B/Coupler & 80 MVAR Bus Reactor	13/12/17	07:00	13/12/17	15:00	ODB	WB	Winter Maintenance	
219	220 KV Ara Khagaul 1	14/12/17	10:00	14/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
220	400KV NPRN - KISHANGANJ-II	14/12/17	10:00	14/12/17	18:00	ODB	POWERGRID ER-I	LINE BAY AMP & TIGHTING	
221	80 MVAR Bus Reactor AT LAKHISARAI	14/12/17	08:00	15/12/17	18:00	ODB	POWERGRID ER-I	For checking/rectification of alignment of Bus Reactor Isolator	
222	40152CB (Tie Bay of ICT2 & BR2)	14/12/17	09:30	15/12/17	17:30	OCB	POWERGRID ER-I	Pnumatic Drive unit overhauling work	
223	Bay - 416 (Tie bay of KGP-I and Future) at Chaibasa	14/12/17	10:00	14/12/17	17:00	ODB	POWERGRID ER-I	AMP	
224	Tie bay 765KV ICT-2 & Dharmjaygarh line-I (bay 705) at New Ranchi	14/12/17	08:00	14/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
225	80MVAR Bus Reactor at Ranchi	14/12/17	10:00	14/12/17	17:00	ODB	POWERGRID ER-I	AMP	
226	400kV Tie bay of Nabinagar-II and Daltonganj-II @	14/12/17	09:00	14/12/17	21:00	ODB	POWERGRID ER-I	AMP	
227	400 KV BSF - VNS-1	14/12/17	09:00	15/12/17	18:00	ODB	POWERGRID ER-I	INSULATOR WASHING at loc no 116, 18, 29-30, 113, 152-153 etc5,6,12,13,15,21,21,25,26,27 etc.	NLDC
228	50 MVAR L/R OF 400KV BSF-I AT BANKA SS	14/12/17	10:00	14/12/17	16:00	ODB	POWERGRID ER-I	AMP work	
229	220KV New Town-SUBHASGRAM Line	14/12/17	08:00	14/12/17	17:30	ODB	ER-II	AMP of bay equipments	WB
230	500MVA, ICT-1 at Maithon SS	14/12/17	10:00	14/12/17	17:30	ODB	ER-II	Onload testing of CSD and validation of OFS	DVC
231	66KV Lagyap (Line#3) Feeder	14/12/17	09:00	14/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	SIKKIM
232	400 KV FARAKKA-GOKARNA-II	14/12/17	08:00	14/12/17	17:30	ODB	ER-II	FOR LINE AMP	WB
233	404BAY (Kharagpur main Bay) at Baripada	14/12/17	09:00	14/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/	CT junction Box Replacement	
234	Main Bay-707 of 765KV Sundargarh-Angul Line-II at Sundargarh	14/12/17	09:00	14/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Retest of capacitance violated GC under construction punch point	NLDC
235	765KV SRIKAKULAM LINE-1 MAIN BAY (730) AT ANGUL	14/12/17	10:00	14/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
236	765kV Angul-Srikakulam Line-2	14/12/17	08:00	14/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability	NLDC
237	400 kV Jeypore-Indravati S/C Line	14/12/17	06:00	14/12/17	18:00	ODB	ER-II/Odisha/Jeypore	For Replacement of PID Defective Insulators in Jey-Ivt Line	NLDC
238	765KV S/C Angul-Sundargarh Line-I	14/12/17	09:00	14/12/17	17:00	ODB	ER-II/Odisha/Sundargarh TLAM	Replacement of broken Glass Insulators at Loc. 271, Y phase of 765KV S/C Angul-Sundargarh-I	NLDC
239	400kV Barh Patna line -4	14/12/17	09:30	15/12/17	18:00	OCB	BARH	Attending defect of isolator & annual testing of bay equipments.	NLDC
240	400KV Kahalgaon-Farakka Line-4	14/12/17	09:30	14/12/17	17:30	ODB	KAHALGAON	PM works & relay testing	
241	400KV Fkk-Malda Line-1	14/12/17	09:00	15/12/17	17:00	ODB	FARAKKA	Relay & CT testing	
242	400 KV Kharagpur-Chaibasa ckt 2	14/12/17	07:00	14/12/17	15:00	ODB	WB	Winter Maintenance	
243	220 KV Ara Khagaul 2	15/12/17	10:00	15/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
244	160 MVA ICT#2 AT PRN	15/12/17	09:00	23/12/17	16:00	OCB	POWERGRID ER-I	GIS WORK AND AMP WORK AS PER SCHEDULE	Bihar
245	MAIN BAY OF 125 MVAR BUS REACTOR-II AT NPRN	15/12/17	10:00	15/12/17	18:00	ODB	POWERGRID ER-I	BAY AMP	
246	Bay - 417 (Tie bay of KGP-II and Future) at Chaibasa	15/12/17	10:00	15/12/17	17:00	ODB	POWERGRID ER-I	AMP	
247	417 (Tie of Barh-I & Ballia-2) at Patna	15/12/17	09:00	15/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
248	Main bay 765 KV B/R-2 (bay 707) at New Ranchi	15/12/17	08:00	15/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
249	50 MVAr Biharsharif -IV L/R Bay at Pusauli	15/12/17	09:00	15/12/17	18:00	ODB	POWERGRID ER-I	AMP	
250	220 KV BUS-I at Gaya S/S	15/12/17	08:00	16/12/17	18:00	ODB	POWERGRID ER-I	For isolator rectification work under S/S extn. Package	BIHAR
251	50 MVAR L/R OF 400KV BSF-II AT BANKA SS	15/12/17	10:00	15/12/17	16:00	ODB	POWERGRID ER-I	AMP work	
252	500MVA, ICT-2 at Maithon SS	15/12/17	10:00	15/12/17	17:30	ODB	ER-II	Onload testing of CSD and validation of OFS	DVC
253	220 KV Binaguri-Birpara -2	15/12/17	09:00	15/12/17	17:00	ODB	ER-II		
254	160 MVA ICT-I AT SILIGURI	15/12/17	08:00	15/12/17	17:30	ODB	ER-II	VARIABLE FREQUENCY TAN DELTA	WB
255	400 KV MALDA-PURNEA-II ALONG WITH LINE REACTOR	15/12/17	08:00	15/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	
256	765KV SRIKAKULAM LINE REACTOR-1 BAY (730R) AT	15/12/17	10:00	15/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
257	Main Bay-401 of 400KV Raigarh Line-II at Sundargarh	15/12/17	09:00	15/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
258	Tie Bay-402 of 400KV Raigarh Line-II & 765/400KV ICT-I at Sundargarh	15/12/17	02:00	15/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
259	765 KV D/C Angul - Jharsuguda Transmission line (Ckt-I & II)	15/12/17	08:00	24/12/17	17:00	OCB	ER-II/Odisha/Sundargarh TLC	Swapping arrangement : Stringing work of 765KV Angul - Jharsuguda Ckt-III & IV with Ckt-I & II	NLDC
260	765KV Dharamjoygarh Line-I	15/12/17	09:00	15/12/17	17:00	ODB	ER-II/Odisha/Sundargarh TLAM	Replacement of broken Glass Insulators at Loc. 119 and rigid spacer to be orderly placed in the span of 87-88 of 765KV S/C Sundargarh-Dharamjoygarh line-I	NLDC
261	400KV Keonjhar-Rengali Line	15/12/17	09:00	15/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	Tightening of Vibration Damper, replacement of Bundle spacer & AMP work	
262	405BAY (Tie Bay of Kharagpur Line-ICT II) at Baripada	15/12/17	09:00	15/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/	CT junction Box Replacement	
263	400kV Bus-2 at Barh	15/12/17	09:30	15/12/17	18:00	ODB	BARH	Attending defect of isolator connected to Bus	
264	401 bay (Main bay Kisanganj-I) at Patna	16/12/17	09:00	16/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
265	220KV KLC Bantala-SUBHASGRAM Line	16/12/17	08:00	16/12/17	17:30	ODB	ER-II	AMP of bay equipments & repalcement of R&Y Ph LA	WB
266	400KV Maithon-Gaya Line 1	16/12/17	10:00	16/12/17	13:00	ODB	ER-II	Implementation of NGR bypass scheme at LR	
267	132KV Chuzachen Gangtok Feeder	16/12/17	09:00	16/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	SIKKIM
268	41252 BAY AT BINAGURI	16/12/17	09:00	20/12/17	17:00	ODB	ER-II	BHEL CB Hydraulic perating mechanism overhauling	
269	220KV BIRPARA-ALIPURDUAR -1	16/12/17	08:00	16/12/17	17:30	ODB	ER-II	FOR BAY AMP & CHECKING OF AUTO-RECLOSE OPERATION	
270	400 KV TALA-Binnaguri FDR.-4	16/12/17	08:00	18/12/17	17:30	ODB	ER-II	The Bottom phase is supported on Roller at 151 ,152,153 and it will be normalysed and Dislocated spacers connected propoerly	NLDC
271	160 MVA ICT-II AT SILIGURI	16/12/17	08:00	16/12/17	17:30	ODB	ER-II	VARIABLE FREQUENCY TAN DELTA	WB
272	401BAY (Keonjhar main Bay) at Baripada	16/12/17	09:00	16/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/	CT junction Box Replacement	
273	400KV ICT-II Tie Bay(40304 Bay) at Keonjhar	16/12/17	09:00	16/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	AMP Activity	
274	400KV Main Bay-403 of 765/400KV ICT-I at Sundargarh	16/12/17	09:00	16/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
275	Main Bay-404 of 400KV Rourkela Line-II at Sundargarh	16/12/17	02:00	16/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
276	765KV BUS-I AT ANGUL	16/12/17	08:00	16/12/17	20:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
277	765kV Angul-Srikakulam Line-1	16/12/17	08:00	16/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability	NLDC
278	GAJUWAKA-I MAIN BAY (412) at Jeypore	16/12/17	09:30	16/12/17	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works (412)	
279	NEW CHANDITALA :400 kv MB-1 with Bus Coupler & 400kv bays of KGPR#2, KTPS, ICT# 2 one by one	16/12/17	07:00	16/12/17	15:00	ODB	WB	Winter Maintenance	
280	400KV Maithon-Gaya Line 2	17/12/17	10:00	17/12/17	13:00	ODB	ER-II	Implementation of NGR bypass scheme at LR	
281	132 KV MALDA-MALDA-I	17/12/17	08:00	17/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	WB
282	400kV Rengali-Keonjhar Tie Bay-401 at Rengali	17/12/17	09:00	20/12/17	17:00	OCB	ER-II/Odisha/Rengali	For CB Mechanism overhaulling work and AMP.	
283	132 kV 109 BAY (Baripada Line main Bay) at Baripada	17/12/17	09:00	17/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/	CT junction Box Replacement	
284	NEW CHANDITALA: 400 kv MB- 2 with Bus Coupler & 400kv bays of KGPR #1, JRT, ICT# 1 one by one	17/12/17	07:00	17/12/17	15:00	ODB	WB	Winter Maintenance	
285	132 KV Ara Dumraon	18/12/17	10:00	18/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar (Re conductoring work is in progress)
286	400KV BUS-I AT NPRN	18/12/17	10:00	18/12/17	18:00	ODB	POWERGRID ER-I	BUS AMP & TIGHTINING	
287	200 MVA ICT-2 & 80 MVAR Bus Reactor at Lakhisarai	18/12/17	08:00	21/12/17	18:00	ODB	POWERGRID ER-I	Fire wall Construction and Checking of Aircel of ICT-2	
288	400kV JSR-ANDAL 1 LINE	18/12/17	09:30	18/12/17	22:30	ODB	POWERGRID ER-I	CT oil sampling work.	DVC
289	400 kV Patna-Barh CKT - III AND 400 kV Barh-Gorakhpur CKT - I	18/12/17	08:00	23/12/17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion	NLDC
290	765/400kv 3X500 MVA ICT-II at New Ranchi	18/12/17	08:00	19/12/17	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (foundation for Tertiary loading)	NLDC
291	206 (Hatia-I Main Bay) at Ranchi	18/12/17	10:00	18/12/17	17:00	ODB	POWERGRID ER-I		
292	50 MVAR Pusauli-Varanasi-I L/R Bay at Pusauli	18/12/17	09:00	18/12/17	18:00	ODB	POWERGRID ER-I	AMP	
293	220 KV BUS-II at Gaya S/S	18/12/17	08:00	19/12/17	18:00	ODB	POWERGRID ER-I	For isolator rectification work under S/S extn. Package	BIHAR
294	132KV Rangpo Gangtok Feeder	18/12/17	09:00	18/12/17	17:00	ODB	ER-II	FOR IMPLEMENTATION OF A/R SCHEME FOR SYSTEM IMPROVEMENT	SIKKIM
295	63 MVAR Tala#1 LR AT BINAGURI	18/12/17	09:00	22/12/17	17:00	ODB	ER-II	HV & NEUTRAL Bushing Replacement AS A PRECAUTIONARY MEASURE FOR SYSTEM IMPROVEMENT	NLDC
296	220KV BIRPARA-ALIPURDUAR -2	18/12/17	08:00	18/12/17	17:30	ODB	ER-II	FOR BAY AMP & CHECKING OF AUTO-RECLOSE OPERATION	
297	132 KV MALDA-MALDA-II	18/12/17	08:00	18/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	WB
298	403 BAY(315MVA ICT#1 main bay) at Baripada	18/12/17	09:00	18/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work and CT junction Box Replacement	
299	765KV BUS-II AT ANGUL	18/12/17	08:00	18/12/17	20:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
300	400 KV Rengali-Jeypore (402) Tie Bay at Indravati	18/12/17	08:00	21/12/17	18:00	OCB	ER-II/Odisha/Indravati	Overhauling of Tie Bay (402) CB Mechanism	

301	400KV TALCHER#2-CHAIBASA#2 TIE BAY (BAY NO.-408) at Rourkela	18/12/17	09:00	18/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK.	
302	Tie Bay-405 of 400KV Rourkela Line-II & 765/400KV ICT-II at Sundargarh	18/12/17	09:00	18/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
303	400KV Main Bay-406 of 765/400KV ICT-II at Sundargarh	18/12/17	02:00	18/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
304	765KV Dharamjoygarh Line-II	18/12/17	09:00	18/12/17	17:00	ODB	ER-II/Odisha/Sundargarh TLAM	Replacement of broken Glass Insulators at Loc. 110 of 765KV S/C Sundargarh-Dharamjoygarh line-II	NLDC
305	400KV Bus-II at Keonjhar	18/12/17	09:00	24/12/17	18:00	ODB	ER-II/Odisha/Keonjhar	Erection of G2 Beam over Bus-II for 125 MVAR Reactor	
306	Angul line TIE BAY(40102) at Bolangir	18/12/17	08:00	23/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	for roof tiling of newly constructed ACP at Balangir.	
307	400KV BUS-II AT NPRN	19/12/17	10:00	19/12/17	18:00	ODB	POWERGRID ER-I	BUS AMP & TIGHTINING	
308	125 MVAR BR-2 AT JSR	19/12/17	09:30	19/12/17	17:30	ODB	POWERGRID ER-I	CSD TESTING	
309	400 kV Main Bus-I at Patna	19/12/17	09:00	19/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
310	Sipat-II LR-II at Ranchi	19/12/17	10:00	19/12/17	17:00	ODB	POWERGRID ER-I	AMP	NLDC
311	220KV WBSETCL Subhasgram CKT#2	19/12/17	08:00	19/12/17	17:30	ODB	ER-II	AMP of bay equipments.	WB
312	400KV MAITHON-MEJIA3	19/12/17	09:00	20/12/17	17:00	ODB	ER-II	Line AMP work	DVC
313	400 kV TALA-Binnaguri FDR.-1	19/12/17	08:00	20/12/17	17:30	ODB	ER-II	Dislocated and missing Spacers will be connected propoperly at location no in between loc No 143 &144 and 144 & 145	NLDC
314	220KV SADAIPALI LINE BAY CB(205 BAY) at Bolangir	19/12/17	08:00	19/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP (Timing and DCRM of 205 CB), there will be no powerflow interruption duringabove S/D.	
315	Main Bay-407 of 400KV Raigarh Line-I at Sundargarh	19/12/17	09:00	19/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
316	Tie Bay-408 of 400KV Raigarh Line-I & Future at Sundargarh	19/12/17	02:00	19/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
317	400KV CHAIBASA#2 MAIN BAY (BAY NO.-409) at Rourkela	19/12/17	09:00	19/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK.	
318	765 KV 3* 110 MVAR BUS REACTOR-1 AT ANGUL	19/12/17	08:00	19/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
319	408 BAY(Duburi &jamshedpur line tie bay) at Baripada	19/12/17	09:00	19/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work	
320	400kV Fkk-Kahalgaon line-1	19/12/17	09:00	20/12/17	17:00	OCB	FARAKKA	CVT Replacement	
321	BKTPP-JEERAT 400 KV FDR	19/12/17	07:00	22/12/17	15:00	ODB	WB	O.D.B.	
322	400 kv Arambag-New PPSP 1	19/12/17	06:00	19/12/17	15:00	ODB	WB	Winter Maintenance	
323	400kv Kharagpur-Chanditala ckt 1	19/12/17	07:00	19/12/17	15:00	ODB	WB	Winter Maintenance	
324	132 KV MAIN BUS AT 220/132 KV PURNEA SS	20/12/17	09:00	20/12/17	22:00	ODB	POWERGRID ER-I	GIS WORK	BIHAR
325	160 MVA ICT#1 AT PRN	20/12/17	09:00	23/12/17	16:00	OCB	POWERGRID ER-I	GIS WORK	Bihar
326	MAIN BAY OF 400KV NSLG- I AT NPRN	20/12/17	10:00	20/12/17	18:00	ODB	POWERGRID ER-I	BAY AMP	
327	Tie bay of 765 KV B/R-2 & Future bay (bay 708) at New Ranchi	20/12/17	08:00	20/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
328	202 (Chandil-I Main Bay) at Ranchi	20/12/17	10:00	20/12/17	17:00	ODB	POWERGRID ER-I	AMP	
329	132kV Pusauli-Karmnasha	20/12/17	09:00	20/12/17	18:00	ODB	POWERGRID ER-I	To carry out AMP work of Line Bay Equipments at Pusauli	BIHAR
330	220KV WBSETCL Subhasgram CKT#1	20/12/17	08:00	20/12/17	17:30	ODB	ER-II	AMP of bay equipments.	WB
331	132KV / 66KV 50 MVA ICT#2 Gangtok	20/12/17	09:00	20/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	SIKKIM
332	315 MVA ICT-I AT BINAGURI	20/12/17	08:00	20/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	
333	400 KV FARAKKA-BERHAMPUR LINE	20/12/17	08:00	30/12/17	17:30	OCB	ER-II	FOR SHIFTING OF BAYS AT BERHAMPUR SS TO ACCOMMODATE COMMISSIONING OF 125 MVAR BUS REACTOR (NEW)	
334	765/400 KV,3* 500 MVA ICT-3 AT ANGUL	20/12/17	08:00	20/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
335	220 kV Bus -I at Jeypore	20/12/17	09:00	21/12/17	18:00	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-I side Isolators	GRIDCO
336	400KV RAIGARH#2 MAIN BAY (BAY NO.-419) at Rourkela	20/12/17	09:00	20/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK	
337	Main Bay-410 of 400KV Rourkela Line-I at Sundargarh	20/12/17	09:00	20/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
338	Tie Bay-411 of 400KV Rourkela Line-I & Future at Sundargarh	20/12/17	02:00	20/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
339	NEW CHANDITALA: 400 kv TR. BUS	20/12/17	07:00	20/12/17	15:00	ODB	WB	Winter Maintenance	
340	TIE BAY OF 400KV NSLG- I AT NPRN	21/12/17	10:00	21/12/17	18:00	ODB	POWERGRID ER-I	BAY AMP	
341	400 kV Main Bus-II at Patna	21/12/17	09:00	22/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
342	765 KV NRNC - DMG Ckt-1	21/12/17	09:00	21/12/17	18:00	ODB	POWERGRID ER-I	for replacement of insualtors damged by micreants at loc 89	NLDC
343	Tie bay of 765 KV B/R-1 & Future bay (bay 711) at New Ranchi	21/12/17	08:00	21/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
344	765 KV BUS-I at Gaya S/S	21/12/17	08:00	21/12/17	18:00	ODB	POWERGRID ER-I	For isolator rectification work under S/S extn. Package	NLDC
345	125 MVAR Bus reactor-I AT MAITHON	21/12/17	09:00	27/12/17	18:00	ODB	ER-II	Construction of fire wall	
346	41152 BAY AT BINAGURI	21/12/17	09:00	26/12/17	17:00	ODB	ER-II	BHEL CB Hydraulic perating mechanism overhauling	
347	400 KV TALA-Binnaguri FDR.-2	21/12/17	08:00	21/12/17	17:30	ODB	ER-II	For fitting Corona Ring And CC Ring Fitting at Loc No 122,123,124,125	NLDC
348	315 MVA ICT-II AT BINAGURI	21/12/17	08:00	21/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	
349	Main Bay-413 of 400KV Bus Reactor-I at Sundargarh	21/12/17	09:00	21/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
350	Tie Bay-414 of 400KV Bus Reactor-I&Future at Sundargarh	21/12/17	02:00	21/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
351	125 MVAR BUS REACTOR at Rourkela	21/12/17	09:00	21/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK of Reactor & Bay Equipments.	
352	765 KV 80 MVAR SPARE LINE REACTOR AT ANGUL	21/12/17	09:00	21/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
353	400kV Angul-Bolangir Line	21/12/17	08:00	25/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability	NLDC
354	400kV Taicher-I Main Bay (Bay No-404) at Rengali	21/12/17	09:00	21/12/17	17:00	ODB	ER-II/Odisha/Rengali	For AMP work.	
355	410 BAY(pandiabilli line main bay) at Baripada	21/12/17	09:00	21/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP work	
356	132 KV Kh- Kahalgaon Line	21/12/17	09:30	21/12/17	17:30	ODB	KAHALGAON	PM works & relay testing	BIHAR
357	400kV Fkk-Lalmatia	21/12/17	09:00	22/12/17	17:00	ODB	FARAKKA	Relay & CT testing	JSEB
358	NEW CHANDITALA: 220 kv MB 1 with Bus Coupler & 315 MVA TR 1	21/12/17	07:00	21/12/17	15:00	ODB	WB	Winter Maintenance	
359	400 kv Arambag-New PPSP 2	21/12/17	06:00	21/12/17	15:00	ODB	WB	Winter Maintenance	
360	400kv Kharagpur-Chanditala ckt 2	21/12/17	07:00	21/12/17	15:00	ODB	WB	Winter Maintenance	
361	132 KV Ara Ara (BSPTCL)	22/12/17	10:00	22/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
362	MAIN BAY OF 400KV SLG- II AT NPRN	22/12/17	10:00	22/12/17	18:00	ODB	POWERGRID ER-I	BAY AMP	
363	400 KV BUS -I at New Ranchi	22/12/17	08:00	24/12/17	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Isolator erection)	
364	132kV Pusauli-Dehri Line	22/12/17	09:00	22/12/17	18:00	ODB	POWERGRID ER-I	To carry out AMP work of Line Bay Equipments at Pusauli	BIHAR
365	765 KV BUS-II at Gaya S/S	22/12/17	08:00	22/12/17	18:00	ODB	POWERGRID ER-I	For isolator rectification work under S/S extn. Package	NLDC
366	400KV MEJIA-JAMSHEDPUR	22/12/17	09:00	22/12/17	17:00	ODB	ER-II	Line AMP work	DVC
367	132KV / 66KV 50 MVA ICT#1 Gangtok	22/12/17	09:00	22/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	SIKKIM
368	220KV BIRPARA-NEW SILIGURI -1	22/12/17	08:00	22/12/17	17:30	ODB	ER-II	FOR BAY AMP & CHECKING OF AUTO-RECLOSE OPERATION	
369	400 kV Bus-I at Baripada	22/12/17	08:30	22/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For GIS bay EXTN works(for recoonecting jumpers to GIS Bus-I)	
370	220 kV Balaosre-I	22/12/17	09:30	22/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Realy retrofittig woks	GRIDCO
371	220KV BUS COUPLER BAY CB (204 CB) at Bolangir	22/12/17	08:00	22/12/17	18:00	ODB	ER-II/Odisha/BOLANGIR	AMP (Timing and DCRM of 204 CB),there will be no powerflow interruption during above S/D.	
372	Main Bay-416 of 400KV Bus Reactor-II at Sundargarh	22/12/17	09:00	22/12/17	13:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
373	Tie Bay-417 of 400KV Bus Reactor-II & Future at Sundargarh	22/12/17	02:00	22/12/17	18:00	ODB	ER-II/Odisha/Sundergarh	Replacement of Auxiliary switch in 400KV CB	
374	400kV Taicher-I Tie Bay (Bay No-406) at Rengali	22/12/17	09:00	22/12/17	17:00	ODB	ER-II/Odisha/Rengali	For AMP work.	
375	400KV ANGUL-MERAMUNDALI LINE-2 AT ANGUL	22/12/17	08:00	22/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
376	220 kV Bus -II at Jeypore	22/12/17	09:00	23/12/17	18:00	ODB	ER-II/Odisha/Jeypore	Isolator Retrofitting Works of Bus-II side Isolators	GRIDCO
377	315MVA ICT#2 at Rourkela	22/12/17	09:00	22/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK OF TRANSFORMER.	GRIDCO
378	NEW CHANDITALA: 220 kv MB 2 with Bus Coupler & 315 MVA TR 2	22/12/17	07:00	22/12/17	15:00	ODB	WB	Winter Maintenance	
379	TIE BAY OF 400KV SLG- II AT NPRN	23/12/17	10:00	23/12/17	18:00	ODB	POWERGRID ER-I	BAY AMP	
380	500MVA ICT# V AT SUBHASGRAM	23/12/17	08:00	23/12/17	17:30	ODB	ER-II	CSD RETUNING WORKS	WB
381	400KV Maithon-Kahalgaon Line 1	23/12/17	10:00	23/12/17	13:00	ODB	ER-II	Retrofitting of Diff relay, FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	
382	220KV BIRPARA-NEW SILIGURI -2	23/12/17	08:00	23/12/17	17:30	ODB	ER-II	FOR BAY AMP & CHECKING OF AUTO-RECLOSE OPERATION	
383	400KV ROURKELA-SUNDARGARH#1 at Rourkela	23/12/17	09:00	23/12/17	21:30	ODB	ER-II/Odisha/ROURKELA	FOR ISOLATION OF LINE REACTOR	

384	63 MVAR SUNDARGARH#1 LINE REACTOR at Rourkela	23/12/17	09:30	23/12/17	17:30	ODB	ER-II/Odisha/ROURKELA	AMP WORK OF LINE REACTOR	
385	400KV ROURKELA-SUNDARGARH#1	23/12/17	05:30	23/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	FOR TAKING LINE REACTOR INTO SERVICE.	
386	400KV ANGUL-TALCHER I LINE AT ANGUL	23/12/17	08:00	23/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
387	400kV Angul-MERAMUNDALI LINE-1	23/12/17	08:00	23/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability	GRIDCO
388	400kV Taicher-II Main Bay (Bay No-403) at Rengali	23/12/17	09:00	23/12/17	17:00	ODB	ER-II/Odisha/Rengali	For AMP work.	
389	220 kV Balasore-II	23/12/17	09:30	23/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	Relay retrofitting works	GRIDCO
390	400KV Maithon-Kahalgaon Line 2	24/12/17	10:00	24/12/17	13:00	ODB	ER-II	Retrofitting of Diff relay, FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	
391	125MVAR B/R of baripada SS	24/12/17	09:30	24/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
392	400 kV Bus-I at Baripada	25/12/17	08:30	25/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For reconnection of jumpers of GIS BUS-I	
393	132 KV PURNEA - PURNEA BSPTCL#2 LINE	26/12/17	09:00	08/01/18	16:00	OCB	POWERGRID ER-I	GIS WORK	Bihar
394	400 kV Patna-Barh CKT - IV AND 400 kV Barh-Gorakhpur CKT - II	26/12/17	08:00	31/12/17	18:00	ODB	POWERGRID ER-I	Replacement of Porcelain Insulator with Polymer ones at Multi Circuit portion	NLDC
395	Main bay of 765 KV Dharmjaygarh line -1 (bay 704) at New Ranchi	26/12/17	08:00	26/12/17	18:00	ODB	POWERGRID ER-I	AMP (17-18)	NLDC
396	765kV Main Bus-I at Pusauli	26/12/17	09:00	26/12/17	18:00	ODB	POWERGRID ER-I	AMP	NLDC
397	315 MVA ICT-I AT SUBHASGRAM	26/12/17	08:00	26/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	WB
398	400 KV BINAGURI-Rangpo-1 with Bus 1	26/12/17	07:00	26/12/17	18:00	ODB	ER-II	Strung Bus Replacement AS A SYSTEM IMPROVEMENT SCHEME FOR STRENTHENING OF JACK BUS FOR HIGH POWER CARRYING	NOC REVISION
399	400KV ICT-1 & BOLANGIR LINE TIE BAY(402) AT ANGUL	26/12/17	10:00	26/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
400	400 KV Indravati-Jeypore line	26/12/17	08:00	26/12/17	18:00	ODB	ER-II/Odisha/Indravati	Fixing of BPI structures on BPI foundation	NLDC
401	220KV BUS-I at Rourkela	26/12/17	09:00	26/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK	GRIDCO
402	400kV Angul-Bolangir Line	26/12/17	08:00	28/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability	NLDC
403	400kV Fkk-Kahalgaon line-2	26/12/17	09:00	27/12/17	17:00	OCB	FARAKKA	CVT Replacement	
404	132 KV Ara Jagdishpur	27/12/17	10:00	27/12/17	17:00	ODB	POWERGRID ER-I	AMP Work	Bihar
405	400 kV Main Bus-I at Patna	27/12/17	09:00	27/12/17	18:00	ODB	POWERGRID ER-I	AMP work	
406	400 KV BUS -2 at New Ranchi	27/12/17	08:00	28/12/17	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION (Isolator erection)	
407	220KV BUS-II at Rourkela	27/12/17	09:00	27/12/17	18:00	ODB	ER-II/Odisha/ROURKELA	AMP WORK.	GRIDCO
408	400 KV Indravati-Jeypore line	27/12/17	08:00	28/12/17	18:00	OCB	ER-II/Odisha/Indravati	Shifting or interchanging the position of LAs & CVTs and pre commissioning testing.	NLDC
409	400K BOLANGIR LINE MAIN BAY (403) AT ANGUL	27/12/17	10:00	27/12/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
410	400 kV Jeypore-Bolangir S/C Line	27/12/17	09:30	27/12/17	17:30	ODB	ER-II/Odisha/Jeypore	For AMP Works of 80MVAR L/R	NLDC
411	132 kV 108 BAY (Bangriposi Line main Bay) at Baripada	27/12/17	09:00	27/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/	CT junction Box Replacement	
412	400kv Kharagpur-Baripada	27/12/17	07:00	27/12/17	15:00	ODB	WB	Winter Maintenance	
413	220 KV Main Bus-II at Patna	28/12/17	09:00	28/12/17	18:00	ODB	POWERGRID ER-I	AMP work	BIHAR
414	765kV Fathepur L/R Bay at Pusauli	28/12/17	09:00	28/12/17	18:00	ODB	POWERGRID ER-I	AMP	NLDC
415	315 MVA ICT-II AT SUBHASGRAM	28/12/17	08:00	28/12/17	17:30	ODB	ER-II	FOR LATEST VERSION NUMERICAL RELAY INSTALLATION	WB
416	125 MVAR Bus reactor-II AT MAITHON	28/12/17	10:00	28/12/17	17:30	ODB	ER-II	Onload testing of CSD	
417	400 KV BINAGURI-Rangpo 2 with Bus 1	28/12/17	07:00	28/12/17	18:00	ODB	ER-II	Strung Bus Replacement AS A SYSTEM IMPROVEMENT SCHEME FOR STRENTHENING OF JACK BUS FOR HIGH POWER CARRYING	NOC REVISION
418	402 Bay (Keonjhar Tie bay) at Baripada	28/12/17	09:00	28/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works & CT JB Replacement	
419	765kV Angul-Sundargarh Line-1	28/12/17	08:00	28/12/17	18:00	ODB	ER-II/Odisha/Angul TLAM	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability & reliability.	NLDC
420	Kharagpur: 315 MVA Transformer 3	28/12/17	07:00	28/12/17	15:00	ODB	WB	Winter Maintenance	
421	50MVAr Reactor of keonjhar at baripada end	29/12/17	09:30	29/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	AMP works	
422	50 MVAR BUS REACTOR#2 AT FARAKKA	30/12/17	08:00	31/01/18	17:30	OCB	ER-II	FOR BAY EQUIPMENT ERECTION UNDER ERSS-XV	
423	400 kV Bus-II at Baripada	30/12/17	08:30	30/12/17	17:30	ODB	ER-II/Odisha/BARIPADA S/S	For reconnection of jumpers of GIS BUS-II	
424	160 MVA ICT#3 AT PRN	01/01/18	09:00	08/01/18	16:00	OCB	POWERGRID ER-I	GIS WORK AND AMP WORK AS PER SCHEDULE	Bihar
425	132 KV PURNEA - PURNEA BSPTCL#1 LINE	05/01/18	09:00	08/01/18	16:00	OCB	POWERGRID ER-I	GIS WORK	Bihar

Outages proposed in other RPCs requiring ERPC approval

Sl No	Name of Elements	From		To		Basis	outages proposed in	Reason	Remarks
		Date	Time	Date	Time				
	765kV D'JAIGARH-RANCHI I	05-Dec-17	09:00	05-Dec-17	18:00	ODB	WRPC	First time swapping of (Non-switachble) R-phase line reactor unit with Spare unit.	May be clubbed together.
	765kV D'JAIGARH-RANCHI I	15-Dec-17	09:00	17-Dec-17	18:00	ODB	WRPC	Rectification of open spacer cum damper, Installation of missing Arcing horn, Insulator replacement on critical location. (Compiled WITH Raigarh TLM)	
	765kV D'JAIGARH- JHARSUGUDA I	07-Dec-17	09:00	07-Dec-17	18:00	ODB	WRPC	Rectification of shutdown nature defects on various locations	WRTS-I
	765kV D'JAIGARH-RANCHI II	09-Dec-17	09:00	11-Dec-17	18:00	ODB	WRPC	Rectification of shutdown nature defects on total 50 Locations. (Compiled WITH Raigarh TLM)	WRTS-I
	400kV RANCHI-SIPAT I	09-Dec-17	08:00	12-Dec-17	18:00	OCB	WRPC	For Rectification of Bend C-leg at Tower No 664, on permanent basis	SD alrady Availed
	400kV RANCHI-SIPAT II	09-Dec-17	08:00	12-Dec-17	18:00	OCB	WRPC	For Rectification of Bend C-leg at Tower No 664, on permanent basis	
	765kV D'JAIGARH- JHARSUGUDA II	13-Dec-17	09:00	13-Dec-17	18:00	ODB	WRPC	Rectification of shutdown nature defects on various locations	WRTS-I
	D/C Korba-Budipadar CKT-I & II	13-Dec-17	08:00	14-Dec-17	18:00	OCB	WRPC	Power line Crossing of U/C 765 KV D/C Jharsuguda-Korba Line-II of POWERGRID Note: Ckt-I, II & III Outages required at same date & time.	CSPTCL
	220kV KORBA(EAST)-BUDDHIPADAR III	13-Dec-17	08:00	14-Dec-17	18:00	OCB	WRPC	Power line Crossing of U/C 765 KV D/C Jharsuguda-Korba Line-II of POWERGRID Note: Ckt-I, II & III Outages required at same date & time.	WRTS-I
	Ballia-Biharshariff-1	04-Dec-17	09:00	05-Dec-17	17:00	ODB	NRPC	For replacement of all 03(R,Y,B) 400KV BHEL make Bushing (Defective) of 50MVAR Line Reactor, at Balia	
	Pole-2 at HVDC Vizag	14-Dec-17	09:00	14-Dec-17	18:00	ODB	SRPC	RTV coating Works.	
	Pole-2 at HVDC Vizag	14-Dec-17	09:00	14-Dec-17	18:00	ODB	SRPC	RTV coating Works.	
	A/R of 400kV Jeypore-Gazuwaka-1 & 2	15-Nov-17	09:00	30-Nov-17	17:00	ODB	SRPC	PID Testing (Auto Reclosure to be kept in non auto mode)	
	400kV Jeypore-Gazuwaka- 2	23-Nov-17	09:00	23-Nov-17	17:00	ODB	SRPC	RTV coating Works.	

पावर सिस्टम ऑपरेशन कॉरपोरेशन लिमिटेड
(भारत सरकार का उद्यम)
POWER SYSTEM OPERATION CORPORATION LIMITED
(A Government of India Enterprise)

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ERLDC/SS & MIS/2017/VDI/4617

Date: 01-11-17

To,

Member Secretary
Eastern Regional Power Committee
14, Golf Club Road, Kolkata – 33

Sub: Reporting of voltage deviation indices (VDI) for selected Substations in ER, for October 2017.
विषय: October 2017 के लिए पूर्वी क्षेत्र में चयनित सबस्टेशन के लिए वोल्टेज विचलन सूचकांक (VDI) की रिपोर्टिंग

Sir/ महोदय,

Enclosed please find VDI for selected 765 & 400kV buses of Eastern Region, computed for the month of October, 2017, for deliberation in next OOC meeting of ERPC.

संलग्न ERPC की अगली OCC बैठक में विचार विमर्श के लिए, October, 2017 के लिए गणना की गई पूर्वी क्षेत्र के चयनित 765 और 400 केवी बसों के लिए VDI को ढूंढें।

आपको धन्यवाद.

आपका विश्वस्त / Yours faithfully,

2/11/17

(पी मुखोपाध्याय) / (P Mukhopadhyay)
कार्यकारी निदेशक/ Executive Director

VDI of Selected 765 kV & 400 kV in Eastern Region in the month of October - 2017

नई रांची / Ranchi New			जमशेदपुर / Jamshedpur			मुजफ्फरपुर / Muzaffarpur		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
798	769	0.00	434	416	98.14	417	385	0.00

बिहार शरीफ / Bihar Sariff			बिनागुरी / Binaguri			जीरत / Jeerat		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
419	397	0.00	425	399	1.88	427	381	10.16

राउरकेला / Rourkela			जयपोर / Jeypore			कोडरमा / Koderma		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
419	408	0.00	418	387	0.00	422	407	0.42

मैथन / Maithon			तीस्ता / Teesta			रांगपो / Rangpo		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
420	403	0.00	418	396	0.00	418	394	0.00

Annexure-D5.1

FoR Technical Committee on Grid Integration of Renewable Energy (RE), with reference to regional cooperation and other options for managing intra-day load / generation variation due to RE or otherwise -– Record of Proceedings of the meeting held on 18.8.2017.

In order facilitate implementation of Framework on Renewables at State Level, FoR constituted a Technical Committee under the Chairmanship of Shri A.S. Bakshi, Member, CERC. The mandate given to the Committee *inter alia* includes evolving a roadmap for implementation of Framework on Forecasting, Scheduling and Deviation Settlement of Wind & Solar generating stations at State Level, implementation of ABT Framework, introduction of Ancillary Services and Reserves, implementation of Automatic Generation and Primary Control etc.

2. The Technical Committee in its meeting held on 28.3.2017 at Chennai, discussed the matter related to Co-operation among States for Optimum Utilization of their Generation Resources, amongst the other issues. During the discussion, it was decided that sub-groups be constituted in the Northern Region, Western Region and Southern Region (the three RE rich regions) headed by the Member Secretaries of the respective Regional Power Committees (RPCs). The Sub-groups were mandated to examine the feasibility and modality of co-operation among States in the respective region for ensuring optimum utilization of generation resources with least cost options for balancing across the region and submit their findings before the Technical Committee.

3. A meeting of the Heads / Representatives of the Sub-Groups was convened under the Chairmanship of Shri A.S.Bakshi, Member, CERC on 18.8.2017 in CERC, New Delhi to review the progress on framework for regional co-operation. The list of participants is at **Annexure - I.**

4. The following emerged during the deliberations in the meeting:-

- Of late, the States have recognized the value of electricity resource vis-à-vis the cost of generation. Some of the States are not willing to cooperate with other States in the Region on “cost” basis.
- It was also observed that some of the Regions are predominantly “Surplus” in power, leaving little scope for co-operation within the region. This necessitates a national level framework / product for optimum resource utilization.
- Various other options for handling intra-day load / generation variation due to RE or otherwise were also discussed as at **Annexure-II,** viz. (i) Banking; (ii) DAM price on PX as reference; (iii) Pool based on VC as approved by the Regulator and on payment of cost; (iv) Pool based on VC as approved by the Regulator and on payment of MC; (v) Pool based on auction for intra-day for the rest of the day; (vi) Pool based on auction for intra-day on hourly basis; (vii) Pool based on auction for intra-day on intra-hour basis i.e for 15 min. block-wise etc.

5. During the meeting it was decided to share with all RPCs the options raised therein and seek feedback.

Annexure - I

List of participants attended meeting of the Sub-Group under FOR Technical Committee Meeting held on 18.8.2017 under the Chairmanship of Shri A.S. Bakshi, Member, CERC

1. Shri A.S. Bakshi, Member, CERC
2. Dr. M.K. Iyer, Member, CERC
3. Shri M.A.K.P. Singh, Member Secretary, NRPC
4. Shri A. Balan, Member Secretary, WRPC
5. Shri S.R. Bhat, Member Secretary, SRPC
6. Shri S.C. Shrivastava, Chief (Engineering), CERC
7. Dr. S.K. Chatterjee, Joint Chief (Regulatory Affairs), CERC
8. Shri K.V.S. Baba, CEO, POSOCO
9. Shri S.K. Soonee, Advisor (POSOCO)
10. Smt. Shilpa Agarwal, Joint Chief (Engg.)
11. Shri S.S. Barpanda, GM, NLDC
12. Shri Samir Saxena, DGM, NLDC
13. Shri M.M. Chaudhari Deputy Chief (Engg.)
14. Smt. Shruti Deorah, Advisor (RE), CERC
15. Shri Anil, SRPC
16. Shri H.K. Pandey, S.E, NRPC
17. Shri Rajasekhar Devaguptapu, Regulatory Executive Officer, CERC
18. Shri Siddharth Arora, Research Officer, CERC

Annexure-II

I. Options for Intra-Day / Hour Ahead transactions:

Seven options have been proposed for Hour Ahead Transactions.

Option-1: Banking

- Pros: Voluntary; No price transaction; Easy to implement
- Cons: Still bilateral; Opaque to cheaper options; True marginal cost of meeting demand not known; Elements of Cost and Value missing; No knowledge of gain or loss

Option-2: Day Ahead Market Price on Power Exchange as reference

- Pros: Well accepted reference price; Dispute free
- Cons: Very remote chance of availability of generation sources with marginal cost equal to or less than Day Ahead Market(DAM) price; Liquidity will always be an issue

Option-3: Pool, based on variable cost as approved by the Regulator and on payment of cost

- Pros: Visibility of all options for purchase decision; Dispute free as regulator approved Variable Cost (VC); All resources get paid as per their cost or marginal cost; Improvement over option 2, liquidity
- Cons: Still based on cost and not on value; VC difficult to ascertain; Merchant plants cannot participate as their tariffs are not determined by regulator

Option-4: Pool, based on variable cost as approved by the Regulator and on payment of marginal cost

- Pros: Same as Option 3; Improvement over Option 3 – element of 'value' introduced because of marginal cost based payment
- Cons: VC difficult to ascertain; Merchant plants cannot participate as their tariffs are not determined by regulator; Payment based on marginal cost may lead to heart burn; still administered

Option-5: Pool, based on auction (intra-day for the rest of the day)

- Pros: Market Discovered Price; Dispute free; Not administered; Akin to DAM but closer to real time
- Cons: Preparedness of Power Exchange (PX); Discoms' decision making process; OA registry, a pre-requisite

Option-6: Pool, based on auction (hourly)

- Pros: Market Discovered Price; Dispute free; Not administered; Akin to DAM but closer to real time
- Cons: Preparedness of PX; Discoms decision making process; OA registry, a pre-requisite

Option-7: Pool, based on auction (intra-hour i.e. 15 min. block)

- Pros: Market Discovered Price; Dispute free; Not administered; Akin to DAM but closer to real time
- Cons: Preparedness of PX; Discoms' decision making process; OA registry, a pre-requisite

II. Illustration:

a. Auction: 7.30 Hrs. – 8.00 Hrs. window, transaction for 'rest of the day' (Intra-day : Option 5) / 'for 9.00 – 10.00 Hrs.' (Hourly : Option 6) / 'for 9.00 – 9.15 Hrs.' (Intra-hour : Option 7), and so on
b. Generators can participate for sale of surplus power (over and above already scheduled on day-ahead basis)
c. Sellers (other than generators) and buyers can participate for surplus / deficit vis-à-vis their schedule on day-ahead basis
d. After the trade materializes under Option 5, 6 or 7 as the case may be, net schedule for the buyers and sellers shall be prepared, which will serve as reference point for DSM / UI
e. However, payment for 'Day-ahead' transaction and 'Intra-day' (Option 5) / 'Hourly' (Option 6) / 'Intra-hour' (Option 7) transactions shall be settled separately based on the schedules for the respective segments
f. Open Access Registry and delegation of decision making authority to operating level at Discom are pre-conditions to success of this framework.

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