Minutes

of

137th OCC Meeting

Date: 06.10.2017

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 137th OCC Meeting held on 21st September, 2017 at ERPC, Kolkata

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

PART A

Item no. 1: Confirmation of minutes of 136th OCC meeting of ERPC held on 30.08.2017

The minutes of 136th OCC meeting were uploaded in ERPC website and circulated vide letter dated 18.09.2017 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

Members confirmed the minutes of 136th OCC meeting.

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 **August, 2017** as follows:

1. 400kV Barh- Motihari ckt-2 (LILO of 400kV Barh - GorakhPur 2 at Motihari) charged for the first time at 19:20Hrs 01/08/17
2. 315MVA ICT I at Motihari SS Charged for the first time at 20:52Hrs of 01/08/17
3. 125 MVAR BR I & II at Rengali Charged for the first time at 20:40Hrs and 21:12Hrs respectively of 01/08/17.
4. Bus Reactor I at Motihari SS Charged for the first time at 00:08Hrs of 02/08/17.
5. Bus Reactor II at Motihari SS Charged for the first time at 16:35Hrs of 03/08/17.
6. 132kV Motihari-Bettiah I & II Charged for the first time at 12:20Hrs and 12:21Hrs of 04/08/17.
7. 132Kv Motihari-Motihari(BSEB) II Charged for the first time at 15:41hrs of 04/08/17.
8. 315MVA ICT II at Motihari SS Charged for the first time at 18:09Hrs of 06/08/17.
9. 132Kv Motihari-Motihari(BSEB) I Charged for the first time at 15:41hrs of 06/08/17.
10. 400kV Gorakhpur- Motihari ckt-1 (LILO of 400kV Barh GorakhPur 1 at Motihari) charged for the first time at 12:14Hrs of 07/08/17
11. 400kV Barh- Motihari ckt-2 (LILO of 400kV Barh GorakhPur 2 at Motihari) charged for the first time at 15:55hrs of 07/08/17.
12. 132 KV Amnour (Chhapra New)-Siwan circuit-2 was in charged on its normal tower on 11.08.17. Earlier the line was in loaded condition on ERS (due to ROW problem) since 23.04.17.

13. 132 KV Amnour (Chhapra New)-Siwan circuit-1 was charged first time on 12.08.17.
14. **132 KV Raxaul-Parwanipur (Nepal), 22 KM was charged first time on 16.08.17. Charged on no-load from Raxaul end.**
15. 80MVAR Bus Reactor at New Chanditala SS charged for the first time at 19:07Hrs of 18/08/17.
16. 400kV DC RTPS-Ranchi (Ckt.- II & III) charged for the first time at 19:37hrs and 19:40Hrs of 28/08/17.
17. 220kV Biharsharif-Khizisarai= 50 Km, 220kV Khizisarai-Bodhgaya= 58 Km were charged first time on 06.08.17
18. 2*160 & 3*50 MVA ATRs at 220/132/33 KV Khizisarai GSS (GIS) charged first time on 06.08.17

Constituents may update.

Deliberation in the meeting

Members updated the status as follows:

19. *BRBCL U#2, 250 MW declared COD on 10th September 2017. Trail run was carried out from 23:00 hrs of 27th August 2017 to 30th August 2017.*

ERLDC informed that 132 KV Raxaul-Parwanipur (Nepal) line was also charged from Parwanipur (Nepal) and power flow was took place in August 2017. However, Bihar has not submitted any details of power flow to ERLDC.

OCC felt that since the line is connected to neighbouring country, SLDC, Bihar should submit the details to NLDC and ERLDC as decided in 136th OCC meeting.

OCC advised SLDC, Bihar to refer Item no. B25 of 136th OCC Meeting and submit the details to NLDC and ERLDC on regular basis.

Item No. B.2: 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.**
15a	ERPC	Training for Power System Engineers					***The proposal was approved by Appraisal Committee. The approval from MoP, GOI is awaited.***
15b		Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents					

In 35th ERPC meeting, CE-NPC, CEA informed that grant has been allotted to Powergrid for installation of STATCOM but no update on the progress have been received from Powergrid.

Powergrid informed that project has already been awarded and they will submit the details to PSDF Nodal Agency and NPC.

In 131st OCC, Powergrid informed that they will submit the details shortly.

Respective constituents may update.

Deliberation in the meeting

Powergrid informed that total fund granted from PSDF for installation of STATCOM is 160.28 Cr and till date they have taken 63.028 Cr from PSDF.

Item No. B.3: OPERATIONAL LOAD FLOW STUDY FOR SUMMER-PEAK PERIOD (WINTER LEAN PERIOD)

In 130th OCC advised PRDC to carry out another load flow study in the first week of May, 2017 tentatively for 4th and 5th May, 2017 for 19:00 and 20:00 Hrs. Therefore, all utilities have to record data for four instances.

OCC advised all the constituents to note the date and timings for recording the data and send it to ERPC/PRDC.

In 134th OCC, PRDC informed that as per the data received from ER constituents and ERLDC SCADA snapshot the demand of 20 Hrs of 4thMay, 2017 is observed as more appropriate for Peak load flow analysis.

OCC advised PRDC to carry out Peak load flow studies with the above data.

In 135th OCC, PRDC informed that load flow studies of Summer Peak Condition (4th and 5th May, 2017) for 19:00 and 20:00 hrs, some data is still pending from PGCIL and OPTCL.

OCC advised DVC, PGCIL and OPTCL to submit the pending data to PRDC with a copy to ERPC at the earliest.

Subsequently, PRDC informed that data from DVC and OPTCL has been received however; Powergrid data is yet to be received.

In 136th OCC, PRDC informed that the data is still pending from few substations.

OCC advised PRDC to consider SCADA data for pending substations and advised to finalize and submit the report at the earliest.

PRDC may update.

Deliberation in the meeting

PRDC presented the load flow results and submitted the report on load flow study of summer peak period. The report is available at ERPC website.

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

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

Members may note.

Deliberation in the meeting

Members noted.

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

GMR, Vedanta, JITPL, CESC, Chuzachen, Powergrid(ER-II & Odisha) & NTPC (TSTPS) have submitted the healthiness certificate for the month of August, 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.

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

Powergrid ER-I may submit the healthiness certificate for August 2017.

Deliberation in the meeting

It was informed that Rangpo SPS has been tested in last week and found satisfactory.

OCC advised Powergrid to submit SPS of 132 kV Muzaffarpur-Dhalkebar D/C line.

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

Members may furnish the above data by 30th September 2017.

Deliberation in the meeting

OCC advised all the constituents to submit the information as per the given formats to ***targetopmcea@gmail.com, prathamkumar@gmail.com*** *with a copy to ERPC (e-mail:* ***mserpc-power@nic.in)*** *by 30th September 2017.*

Item No. B.7: 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.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 August, 2017 has been received from CTPS, DVC, NTPC, JUSNL, BkTPS, Tata Power and CESC.

Members may note.

Deliberation in the meeting

NTPC informed that Farakka units #2 & 3 were also interfaced with Farakka islanding scheme.

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.

WBPDCL may update the latest status.

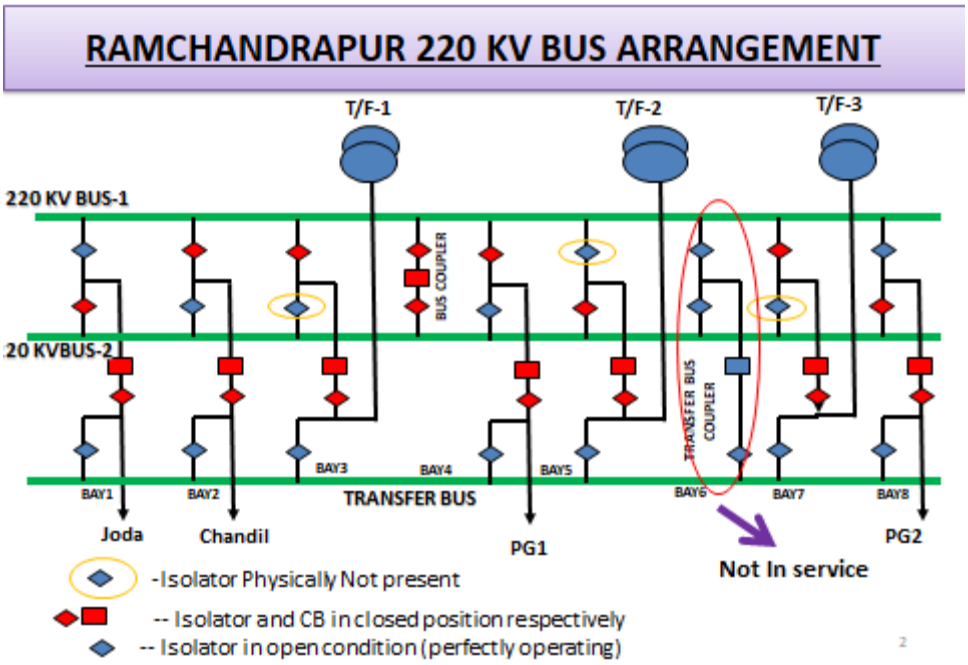
Deliberation in the meeting

WBPDCL informed that the order has to be revised as per new GST guidelines.

Item No. B.9: Difficulty in shifting of elements from one bus to another at 220 kV Ramchandrapur substation --ERLDC

220 kV Ramchandrapur substation of JUSNL is having two main transfer bus scheme. However during shutdown of one 400/220 kV 315 MVA ICT at Jamshedpur it was found that bus coupler between two main bus tripped due to high power flow through it. Later it was observed that the

load and incoming feeders cannot be moved to same bus because of non-operation of bus coupler breaker and other isolator. SLD of 220 kV Ramchandrapur Substation is shown below:



From the SLD it can be seen that many of the isolator are physically not present or non-operational which causing constraints in system operation.

Apart from above the 3rd 400/220 kV ICT at Jamshedpur was charged once which later tripped on operation of differential protection. In absence of 3rd ICT every time when one ICT at Jamshedpur is taken into s/d, Joda line need to be disconnected. Keeping this in view commissioning of 400/220 kV 3rd ICT at Jamshedpur needs to be expedited.

PowerGrid and JUSNL may explain.

Deliberation in the meeting

JUSNL explained that 220KV Bus bar coupler was in service before the tripping. Bus coupler breaker was tripped on overload, as it was feeding power to system load through 220KV main bus I.

At the time of incident, 220kV bus segregation was as follows:

- *ICT-1 under shutdown (by PGCIL).*
- *ICT-II-220 KV bus 2.*
- *Joda line was under S/D with permission from SLDC.*
- *Chandil-line- 220KV main bus-1 feeding power to chandil G/S/S.*
- *220 KV/132KV, 150 MVA transformer T1- 220KV main bus-1.*
- *220 KV/132KV, 150 MVA transformer T3- 220KV main bus-1.*
- *220 KV/132KV, 150 MVA transformer T2- 220KV main bus-II(off condition).*

At this time, ICT-II was feeding power to T1 and T3 and chandil line through 220KV bus coupler between 220Kv bus-1 and 2.

JUSNL explained the constraints at 220kV Ramchandrapur as follows:

I). Transformer T1 and T3 has no provision to be connected with 220Kv main bus-II.
II). Transformer T2 has no provision to be connected with 220KV main bus-I.
III). 220KV bus bar coupler overload setting is not proper as per load requirement.

220 KV/132KV, 150 MVA transformer T2 has been loaded after rectification of its breaker problem, the system normalized.

OCC felt that 315 MVA ICTs can be taken into service via any 220kV bus and if this procedure was followed judicially at the time of shutdown of any one 315 MVA ICT then unwanted tripping of 220kV bus coupler could be avoided.

OCC advised JUSNL to follow the above procedure to avoid unwanted tripping of 220kV bus coupler.

It was informed that 400/220 kV 3rd ICT at Jamshedpur will be commissioned by 15th November 2017.

Item No. B.10: Flexible jumpering arrangement for bypassing substations, prone to inundation during monsoon, for ensuring continuity of important corridors and power evacuation from power stations--ERLDC

During the current monsoon season, quite a few substations in Eastern Region viz. Alipurduar(PG), Kishanganj(PG), Dalkhola(PG) and Motihari(DMTCL) had to be completely shutdown, due to massive waterlogging. Outage of Kishanganj S/Stn posed constraint in power evacuation of Sikkim generators and surplus power of NER while outage of Alipurduar S/stn weakened the inter-regional connectivity between ER and NER. Such substations typically have 2 nos incoming and 2 nos outgoing lines and lie either along a major intra/inter-regional corridor or along the evacuation route of a major power station.

Under the above mentioned situation, it is desirable that continuity of the transmission corridor be maintained by directly connecting the incoming and outgoing lines, bypassing the inundated substation. However, such network re-configuration is possible only if facility for jumpering conductors at appropriate locations is already in place. This practice is already being followed at a number of locations in Western Region.

Members may please identify the substations where the above proposed arrangement can be utilised for maintaining grid security under flood situations.

In 136th OCC, ERLDC explained that the flexible jumpering arrangement may be done for 400 kV Binaguri-Kisheenganj-N.Purnea D/C and 400kV Binaguri-Alipurduar-Bongaigaon D/C lines for bypassing the LILO points i.e. 400kV Kishanganj(PG) and Alipurduar(PG) S/s so that the same lines may be directly connected during the emergencies like flood situations at LILO points. The possibility may be explored as these elements are very important in terms of hydro power evacuation and long outages of these elements may endanger the grid security. The other such elements (LILOed at Dalkhola, Motihari (DMTCL) etc) may also be explored which are under threat during flood and other emergencies.

OCC felt that such kind of bypassing arrangement will help the grid to improve the reliability during emergencies when substation is not available in service.

OCC advised Powergrid to explore the possibilities of implementing such bypassing arrangement for above elements and for other important elements, if any.

Powergrid agreed to do the survey and explore the possibilities.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that first they will implement the flexible jumper arrangement at Alipurduar(PG) S/s then they will implement at Kishanganj(PG) and Dalkhola(PG).

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

B.11.1. Status of construction of 400 kV Sterlite-Jharsuguda D/C sections

In 36th TCC/ERPC, OPTCL informed that Vedanta will complete the line by 27th September 2017 and of 400 kV Vedanta-Meramundali D/C line will also brought into service by 25th September 2017.

TCC advised to commission 400 kV Sterlite –Jharsuguda D/C dedicated line by 30th September 2017 and the LILO will be opened from 1st October 2017.

OPTCL may update.

Deliberation in the meeting

OPTCL informed that Vedanta will commission 400 kV Sterlite –Jharsuguda D/C dedicated line by 30th September 2017.

Special Protection Scheme(SPS) of Sterlite (VAL) –ERLDC

Sterlite has installed capacity of 4X600MW (2400MW) with smelter load of More than 1000MW grid-connected plant. In case of loss of smelter load or evacuation path units might trip due to mismatch of load and generation. Sterlite had already implemented SPS to minimize the impact of such major load generation mismatch on the grid. In an earlier OCC meeting VAL agreed to share their presently implemented SPS details. But thereafter, VAL did not submit anything to ERLDC/ERPC.

In 135th OCC, OPTCL was advised to submit the present SPS settings to ERPC and ERLDC within a week.

SLDC OPTCL and Vedanta may update.

Deliberation in the meeting

OPTCL vide mail dated 20th September 2017 informed that as per the ref no ERLDC/MO/SS/2013/559, 13th May'2013 from M/s POSOCO, the internal SPS i.e., Composite Islanding & Load Management (CILMS) of Vedanta Limited Jharsuguda had been framed and complied as per specified planning criteria to restrict the Transmission line loading within steady state loading limit of 850MW. Details are enclosed at ***Annexure-B11.1****.*

B.11.2. Enabling of 3-Phase Auto Reclose at 132 kV North Bengal and Sikkim areas to minimize element outages due to transient faults -- Powergrid

During rainy season In North Bengal and Sikkim area, high element outages observed of 132 KV level. Mainly from past experience it is observed that 90% of the fault is of Single Phase to Ground fault and transient in nature. However as per general practice 132 KV level CB's are of mechanically ganged and any single phase fault also causing tripping of all three phases.

To make system more dynamic it is prudent to go for, three phase auto reclosure for any single phase Fault in the 132 KV lines. Only by introduction of A/R facility line availability may be increased in the tune of 90% i.r.o present situations. POWERGRID proposed to implement the same however other constituents as well as ERLDC may give respective views. Upon concurrence detailed road map for Implementation will be given.

In 132nd OCC, Powergrid informed that in North Bengal and Sikkim area most of the time the 132 kV lines were tripping on transient fault and the system can be saved by implementing 3-phase auto-reclosure scheme.

OCC discussed the matter in detail and agreed in principle for implementation of 3-pase auto-reclosure scheme for 132 kV lines. Further, it was decided that the implementation would start with North Bengal and Sikkim area.

Further, OCC advised Powergrid to submit a report on the status of PLCC/telemetry, A/R facility etc. for both ends of each 132 kV lines of North Bengal and Sikkim area.

In 134th OCC, Powergrid informed that the 3-phase auto-reclosure scheme for 132kV Rangpo-Gantok line will be implemented by July 2017.

In 135th OCC, Powergrid informed that Rangpo end relay will be installed within a week and replacing the relay at Gangtok end will take time.

In 136th OCC, Powergrid was advised to submit a report on the status of PLCC/telemetry, A/R facility etc. for both ends of each 132 kV lines of North Bengal and Sikkim area.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the 3-phase auto-reclosure scheme for 132kV Rangpo-Gantok line will be implemented by December 2017.

Powergrid added that other 132kV lines except 132kV Siliguri-Melli line are radially connected where auto reclose scheme is not required. 3-phase auto-reclosure scheme for 132kV Siliguri-Melli line will be implemented after implementation of auto-reclosure scheme at 132kV Rangpo-Gantok line.

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 136th 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 Jan 2018*
3	Ranchi(New)	±300	2x125		
4	Jeypore	±200	2x125	2x125	*Expected to complete by Jun 2018*

It was informed that Powergrid is not placing any details about PSDF grant taken for this scheme in monthly OCC meetings.

OCC advised Powergrid send the details to ERPC Secretariat within three days so that the same can be placed before 7th NPC meeting scheduled to be held on 8th September, 2017.

Powergrid agreed.

Powergrid may update.

Deliberation in the meeting

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*

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 in May, 2017*.

In 134th OCC, it was informed that the bus splitting scheme at 400 kV Maithon & Biharshariff will be operationalized after the getting the consent from CTU.

CTU vide letter dated 11th September 2017 informed that they have carried out the study and the results suggested that bus splitting scheme at400 kV Maithon and Biharshariff may be operationalized at the earliest to limit the fault current. However, the bus sectionaliser may be kept closed or opened by POSOCO depending upon the system conditions and requirement.

CTU added that fault level at 400 kV Durgapur has almost reached the design limit, with the operationzation of split bus at 400kV Kahalgaon (expected by Dec 2018) and the Farakka bypass scheme (approved in 19th SCM), the fault current level at Durgapur reduces to 37 kA. Therefore, the bus splitting at Durgapur may be operationalized at a later date.

In 36th TCC/ERPC, ERLDC informed that they will carry out internal study and operationalize the bus splitting schemes at 400kV Maithon and Biharshariff one by one with close monitoring of the system behaviour.

ERLDC may update.

Deliberation in the meeting

ERLDC informed that they will carry out internal study and operationalize the bus splitting schemes at 400kV Maithon and Biharshariff.

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 136th OCC, NTPC informed that the bus splitting will be implemented by December, 2018.

NTPC may update.

Deliberation in the meeting

NTPC informed that the bus splitting will be implemented by December, 2018.

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 136th 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 Mar, 2018.***
2.	**400/220 kV Keonjhar S/S**	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By Dec, 2017.
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	Dec, 2017.

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 136th 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 (POWERGRID) – Ramchandrapur (JUSNL) 220kV D/c	***commissioned on 25th***

		August, 2017
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 136th 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***)	***Nov, 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. Restoration of power supply at Patna

According to present load scenario, load of Patna is increasing very fast. Supply of power to Patna is mainly dependent on the grid sub-station Patna (Sampatchak) of PGCIL. In case of tripping of transformers (ICTs) or lines connected with grid substation of PGCIL sub-station, the power supply to Patna gets highly affected, causing blackout at Patna and connected Substations.

Due to infructous or mal operation of the relay it has been observed that, though the system has to be taken in service within 10-15 minutes, the same is delayed due to process of taking code from ERLDC for loading/off loading. In order to fastest restoration of power supply to Patna the approval is solicited to allow Power Grid and BSPTCL to restore power in close association with each other and to seek post facto approval from ERLDC.

This approval may be granted for the conditions when restoration would be possible within 10-15 minutes after resetting of relays, load isolation/load management etc.

Members may discuss.

Deliberation in the meeting

ERLDC informed that they will study the BSPTCL proposal.

2. Standard operating procedure during contingencies

As a contingency plan for operations/load management to be done during the tripping scenarios, mainly at Patna (PG) {source} or BSPTCL, a standard of procedure has been prepared in association with PGCIL, Patna for restoration of supply or to avoid outages due to cascading effects. BSPTCL intends that the same is to be adopted in case of the contingencies defined under various conditions/outages. The approval of the proposed SOP may kindly be granted so that actions/load managements/sheddings as per availability of power could be done within shortest possible time with an objective to reduce restoration / outage time to bare minimum. Once approved, all operations shall be done by PGCIL/SLDC/Grid Sub Stations without waiting for further restrictions/codes either from SLDC/ERLDC. Procedure is enclosed at **Annexure-B12**. However all information shall be subsequently forwarded to ERLDC regarding the same event.

Members may discuss.

Deliberation in the meeting

ERLDC informed that they will study the BSPTCL proposal.

Item No. B.13: Early commissioning of 220 kV Patna-Sipara third ckt.—ERLDC

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.

BSPTCL may update the latest status.

Deliberation in the meeting

BSPTCL informed that the line will be commissioned within 20 days.

Item No. B.14: Third Party Protection Audit

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	16	47.06
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

JUSNL has updated the latest status.

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

2. Schedule for 2nd Third Party Protection Audit:

The latest status of 2nd Third Party Protection audit is as follows:

1)	Jeerat (PG)	Completed on 15th July 2015
2)	Subashgram (PG)	Completed on 16th July 2015
3)	Kolaghat TPS (WBPDCL)-	Completed on 7th August 2015
4)	Kharagpur (WBSETCL) 400/220kV -	Completed on 7th August 2015
5)	Bidhannagar (WBSETCL) 400 &220kV	Completed on 8th September, 2015
6)	Durgapur (PG) 400kV S/s	Completed on 10th September, 2015
7)	DSTPS(DVC) 400/220kV	Completed on 9th September, 2015
8)	Mejia (DVC) TPS 400/220kV	Completed on 11th September, 2015
9)	400/220/132kV Mendhasal (OPTCL)	Completed on 2nd November, 2015
10)	400/220kV Talcher STPS (NTPC)	Completed on 3rd November, 2015
11)	765/400kV Angul (PG)	Completed on 4th November, 2015
12)	400kV JITPL	Completed on 5th November, 2015
13)	400kV GMR	Completed on 5th November, 2015
14)	400kV Malda (PG)	Completed on 23rd February, 2016
15)	400kV Farakka (NTPC)	Completed on 24th February, 2016
16)	400kV Behrampur(PG)	Completed on 25th February, 2016
17)	400kV Sagardighi (WBPDCL)	Completed on 25th February, 2016
18)	400kV Bakreswar (WBPDCL)	Completed on 26th February, 2016
19)	765kV Gaya(PG)	Completed on 1st November, 2016
20)	400kV Biharshariff(PG)	Completed on 3rd November, 2016
21)	220kV Biharshariff(BSPTCL)	Completed on 3rd November, 2016
22)	400kV Maithon (PG)	Completed on 18th May, 2017
23)	132kV Gola (DVC)	Completed on 17th May, 2017
24)	132kV Barhi (DVC)	Completed on 18th May, 2017
25)	132kV Koderma (DVC)	Completed on 18th May, 2017
26)	132kV Kumardhubi (DVC)	Completed on 19th May, 2017
27)	132kV Ramkanali (DVC)	Completed on 19th May, 2017
28)	220kV Ramchandrapur (JUSNL)	Completed on 1st June, 2017

29) 400kV Jamshedpur (PG) Completed on 1st June, 2017
30) 132kV Patherdih (DVC) Completed on 31st May, 2017
31) 132kV Kalipahari (DVC) Completed on 30th May, 2017
32) 132kV Putki (DVC) Completed on 31st May, 2017
33) 132kV ASP (DVC) Completed on 30th May, 2017
34) 132kV Mosabani (DVC) Completed on 2nd June, 2017
35) 132kV Purulia (DVC) Completed on 1st June, 2017

The list of observations for the above sub-stations is already available at ERPC website (www.erpc.gov.in). Respective constituents are requested to comply and submit the report to ERPC for regular update.

Members may note.

Deliberation in the meeting

Members noted for compliance.

Item No. B.15: Inspection of Under Frequency Relays (UFR)

The proposed UFR audit schedule is placed below:

Sl No	Proposed Date	Substation/feeder inspected by the sub-group
1	Oct, 2017	220/132/33 KV Kalyaneswari of DVC
2		220/132/33 KV New Bishnupur of WBSETCL
3		132/33 KV Old Bishnupur of WBSETCL
4	Nov, 2017	BRS (Liluah S/Stn.) of CESC

Members may decide.

Deliberation in the meeting

Members noted.

Item No. B.16: 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.

Constituents may nominate.

Deliberation in the meeting

Members noted.

Item No. B.17: 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
- Bandel TPS, WBPDCL
- Kolaghat Generating station, WBPDCL
- Bakreswar Generating station, WBPDCL
- Sagardighi Thermal Power Project, WBPDCL
- DGPC units

Members may note and update the status.

Deliberation in the meeting

WBPDCL updated that Santaldhi TPS is certified with IS 18001:2007. Presently, all units of WBPDCL are certified with IS 18001:2007.

Item No. B.18: 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).

For the month of August, 2017 data has been received from OPTCL, CESC, DVC, WBSETCL, BSPTCL.

JUSNL may submit.

Deliberation in the meeting

JUSNL submitted the load shedding data.

Item No. B.19: Long outage of important transmission elements

a) Non availability of Line Reactor of 400KV Malda-Purnea-I

In 123rd OCC, Powergrid informed that order has been placed for Reactor-1 and it will be commissioned by September, 2016.

In 133rd OCC, Powergrid informed that the dispatch got delayed due to commercial issues and it will be dispatched by May, 2017 & commissioned by end of June, 2017.

In 134th OCC, Powergrid informed that the reactor is reached at site and will be commissioned by end of July, 2017 subject to availability of shutdown.

In 135th OCC, Powergrid informed that they are taking shutdown from today and the reactor will be commissioned by 15th August, 2017.

In 136th OCC, Powergrid informed that the reactor will be commissioned by 10th September, 2017.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that they are replacing the protection relay of the reactor within 2-3 days and commission the reactor.

b) 220 kV Waria – Bidhannagar-II

The line is under outage wef 20.08.16 due to collapse of one no of tower collapse.

In 133rd OCC, DVC informed that the line will be restored by 15th June, 2017.

In 135th OCC, DVC informed that the line will be restored by 20th August, 2017.

In 136th OCC, DVC informed that because of sever rains and difficult site conditions the restoration of the line would be delayed by another one month.

DVC may update.

Deliberation in the meeting

DVC informed that the line was restored on 26th August 2017.

c) 50MVAR Bus Reactor-I at Farakka (alongwith main and tie bays)

Under shutdown wef 31/05/16 for dismantling from old bay and re-installation in new bay in the dia of FSTPP GT#3.

In 133rd OCC, Powergrid informed that the reactor will be in service by second week of June, 2017.

In 134th OCC, Powergrid informed that the reactor will be in service within a week.

In 135th OCC, Powergrid informed they are taking shutdown on 31st July 2017 to complete the work.

In 136th OCC, Powergrid informed that the reactor has been put in service but differential protection is getting operated because of some problem in the scheme.

Powergrid informed that the reactor would be brought into service after the rectification of the same which is expected by 10th September 2017.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the reactor would be brought into service after the rectification of the differential protection which is expected by 5th October 2017.

Item No. B.20: Failure of RTU data with the outage of ICTs of Patna and Biharshariff station --ERLDC

It has been observed on several occasions that with the tripping of all the ICTs at Patna and Biharshariff station, RTU stopped reporting to ERLDC, after restoring these ICTs, data again started reporting. It is to be appreciated that real time SCADA data should not be getting interrupted for any eventuality of the grid. The same was informed to POWERGRID several times but it is yet to be implemented and confirmed by them.

In 135th OCC, Powergrid informed that at Biharshariff the ULDC battery bank is under replacement. At Patna, the reason is yet to be identified.

ERLDC informed that the same problem has been observed in other substations also and requested Powergrid to ensure uninterrupted power supply to RTUs.

OCC advised ERLDC to submit the list of such substations to Powergrid. OCC advised Powergrid to ensure uninterrupted power supply to RTUs and send the updated status to ERPC.

*In 136th OCC, ERLDC placed the details of substations where the communication and telemetry is getting effected due to power supply failures. The list is enclosed at **Annexure-B20**.*

Powergrid agreed to look and resolve.

Members may update.

Deliberation in the meeting

OCC advised Powergrid to ensure uninterrupted power supply to RTUs and send the updated status to ERPC and ERLDC.

Item No. B.21: 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 136th OCC, ERLDC has placed the updated status.

Powergrid agreed to complete the work at the earliest.

PGCIL may update.

Deliberation in the meeting

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.

Item No. B.22: 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.

136th OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC.

Members may update.

Deliberation in the meeting

*ERLDC presented the status of telemetry. Presentation is enclosed at **Annexure-B22**.*

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.

JITPL may update.

Deliberation in the meeting

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

Item No. B.23: 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.

ERLDC may update.

Deliberation in the meeting

*ERLDC presented the performance of the RRAS provider generators. Presentation is enclosed at **Annexure-B23**. 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. The performance of Talcher and Barh units is satisfactory.*

OCC advised NTPC to strictly follow the RRAS schedule.

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

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 136th 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.

Members may update.

Deliberation in the meeting

Powergrid ER-I has submitted the details.

OCC advised all the other constituents to submit the relevant information.

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 September-2017 is given below:

Sl No	State/Utility	TTC import(MW)	RM(MW)	ATC (Import) MW
1	BSPTCL	4498	132	4366
2	JUSNL	750	100	650
3	DVC	264	52	212
4	OPTCL	1844	82	1762
5	WBSETCL	3807	300	3507
6	Sikkim			

In 136th OCC, OCC advised WBSETCL to share the details of inter tripping schemes at other substations, if any.

In WBSETCL informed that they are having one more inter tripping scheme at Arambag the details of the same would be furnished to ERLDC.

Members may update.

Deliberation in the meeting

ERLDC informed that BSPTCL and JUSNL are not updating the ATC/TTC figures in their website.

OCC advised BSPTCL and JUSNL to update the ATC/TTC figures in their website as per the direction of NPC.

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**.

In 136th OCC, Powergrid informed that space provided for PMU installation at Farakka is already occupied and requested NTPC to allot space for installation of PMU.

NTPC agreed to look into.

Powergrid pointed that they are facing some problem at 400 kV FSTPS & Kolaghat S/s for installation of PMUs.

NTPC and WBPDCL agreed to co-operate with Powergrid for installation of PMUs.

POWERGRID may update the status.

Deliberation in the meeting

Members noted.

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.

Members may update.

Deliberation in the meeting

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.

Item No. B.28: Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents

The latest status of Emergency Restoration System (ERS towers) as well as the future plan of procurement was given at **Annexure- B.28**.

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).

Members may update the latest status.

Deliberation in the meeting

Members updated the latest status. Latest status is enclosed at **Annexure- B.28***.*

WBSETCL informed that they will send the updated status to ERPC mail.

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.

Subsequently, ERLDC has prepared a list of such SEMs.

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.

The list as shared by ERLDC is attached at ***Annexure-B.29****.*

In 134th OCC, Powergrid informed that SEM at Purnea has been replaced and the replacement of SEMs as per the Annexure will be completed within 2 months.

OCC advised Powergrid to give the schedule for replacement of SEMs to ERPC and ERLDC.

In 135th OCC, Powergrid ER-II, and Powergrid-Odisha informed that they will replace the SEMs by 15th August, 2017.

Powergrid ER-I informed that they are doing the time correction and SEMs are not required to be replaced.

In 136th OCC, Powergird informed that they will replace all the time drifted SEMs as prepared by ERLDC by September, 2017.

Powergrid/ ERLDC may update.

Deliberation in the meeting

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.

Item No. B.30: 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.

Powergrid may please update the status.

Deliberation in the meeting

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 order to accommodate intermittency and variability of around 175 GW Renewable energy, requirement of fast ramping of conventional generator is absolute necessity. In order to facilitate fast ramping of conventional generator, it is felt that ongoing 15 min scheduling, metering accounting and settlement methodology need to be shifted at 5 min interval level in near future. Keeping in view of Implementation of 5- Minute Scheduling, Metering, Accounting & Settlement, Technical specifications for "Interface Energy Meters (5-min compatibility) for Western region was approved by 34th TCC/WRPC on 27.07.17/28.07.17.

At present approximately 600 new meters are yet to be delivered by vendor M/s Genus for Eastern Region and inspection of those meters is not yet done. It is felt that the new meters should have the provision of giving data in parallel, in 5 min new coded format as well as old meters (present) coded format i.e in 15 min.

Member may please discuss.

Deliberation in the meeting

Powergrid informed that the issue has been referred to M/s TCS and Genus and it will be discussed in detail in 25th September 2017 meeting.

Powergrid added that M/s TCS and Genus will give the cost estimation for implementation of 5 min schedule. The cost is to be borne by the constituents.

Item No. B.31: 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.

Members may discuss.

Deliberation in the meeting

Powergrid requested ERLDC to share the format and they will interact with TCS for implementation.

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.

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

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	Ara(220)	ES-99	NP-8893-A	L&T	50	33000/110		Yes
5	Muzaffarpur	ET-02	NP-5231-A	L&T	1000	415/110		Yes
6	New Purnea	ES-98	NP-5249-A	L&T	50	33000/110		Yes
7	Pusauli	ET-06	NP-8646-A	L&T	50	33000/110		Yes
8	Gaya(765)	EM-99	NP-7472-A	L&T	50	33000/110		No
9	Kishanganj	ES-90	NP-8876-A	L&T	50	33000/110		No
10	Patna	ES-89	ER-1285-A	Genus	50	33000/110		No
11	Biharshariff	ET-01	NP-2355-A	SECURE	1000	415/110		No
12	Chaibasa						Detail not rcvd	No
13	Jamshedpur						Detail not rcvd	No
14	Ranchi(400/220)						Detail not rcvd	No
ER-II & Odhisa Project								
1	Angul	ES-95	NP-5942-A	L&T	1000	415/110		Yes
3	Pandiabili	ES-39	NP-7462-A	L&T	1000	415/110		Yes
4	Rangpo (33 kv TRF)	ES-96	NP-7940-A	L&T	1000	415/110		Yes
5	Rangpo (11 KV AUX TRF)	ES-97	NP-7941-A	L&T	1000	415/110		Yes
8	Sundergarh	ES-93	ER-1019-A	Genus	50	33000/110		Yes
9	Baripada	EM-69	NP-5909-A	L&T	1200	400/110		Yes
2	Bolangir	ET-03	NP-7951-A	L&T	50	33000/110		No
6	Durgapur	ET-04	NP-6024-B	L&T	200	400/110		No
7	Rengali	ET-05	NP-0629-B	Secure	200	415/110		No
10	Jeypore		NP-5695-A	L&T			Detail not rcvd	No
11	Keonjhar		NP-7921-A	L&T			Detail not rcvd	No
12	Maithon						Detail not rcvd	No
13	Birpara						Detail not rcvd	No
14	Siliguri						Detail not rcvd	No
15	Subhashgram						Detail not rcvd	No

In 136th OCC, ERLDC informed that for Ara and Muzaffarpur they have received only two months data thereafter they are not receiving the SEM data.

Powergrid was advised to check and resolve it.

Powergrid updated that tertiary at Birpara and Siliguri were not in charged condition. The meter at Subashgram is defective and the same will be changed.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that SEM has been installed at Chaibasa and SEM at Jamshedpur will be installed within 2 days.

OCC advised Powergrid to submit the details of pending SEM details connected to tertiary windings and also the SEM readings on regular basis to ERLDC and ERPC for accounting of the tertiary loading arrangement.

Item No. B.33: Determination of Tariff of 800kV BNC-Agra HVDC line – GRIDCO

PGCIL has filed a Petition No. 67/TT/2015 before CERC for determination of Tariff of +/- 800KV Biswanath Chariyali(NER) – Agra(NR) HVDC Transmission Line. This line has been constructed for evacuation of Power from Kameng HEP and Lower Subansiri HEP. CERC in Order dated 31.08.2017 disposed the above Petition with the direction that **the Assets of these Transmission System shall be treated as National Assets and its charges shall be borne by all DICs**.

It is pertinent to mention here that as per National Electricity Policy 2005 and National Tariff Policy 2016, **the transmission tariff should be sensitive to distance, direction and quantum of power flow**. Further as per CERC "Sharing of Inter-State Transmission Charges and Losses" Regulations 2010 and subsequent Amendments, **the Charges for HVDC systems shall be borne by the withdrawing DICs of region(s) for whom the asset has been created**.

GRIDCO has already moved to ATE against an interim order dated 07.02.2017 of CERC in Petition No. 67/TT/2015 in which CERC has extended the tariff for the above asset for 2017-18 F.Y.

In view of the above, it is suggested that all the constituents of ER may deliberate on the issue of paying PoC charges for the said asset for which they are not related. This should actually be paid by NR/WR/NER Constituents.

Members may discuss.

Deliberation in the meeting

OPTCL explained that ER constituents should not be charged for 800kV Biswanath Chariyali(NER)-Agra(NR) HVDC transmission line which is not related to ER.

OPTCL informed that CERC has also issued the final order on Petition no.67/TT/2015 and they are sending their comments to CERC.

OPTCL requested all the other constituents to respond and send their comments to CERC.

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	
4	U. Indarvati	3rdweek ofJune 2017	November 2017	2ndweek of February2018	
5	Subarnarekha	1stweek of October 2017		1stweek of January2018	
6	Balimela	3rdweek of October 2017		1stweek of March 2018	
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	Oct, 2017	Last week of February2018	
10	TLDP-III	1stWeek of June 2017	After Mansoon	2ndWeek of January2018	
11	TLDP-IV	Last Week of June 2017	After Mansoon	1stWeek of February2018	
12	Teesta-III				

Members may update.

Deliberation in the meeting

Respective constituents updated the status as mentioned above.

ERLDC informed that they will prepare the schedule for black start exercise for Teesta-III.

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

The latest status of units of ER under RGMO is available at ERPC website (http://www.erpc.gov.in/) under Operation>Important data.

*In 126thOCC requested all the generators to share their governor response with ERLDC in the group (**https://in.groups.yahoo.com/neo/groups/ er_gov_respons/info**). Members may also send their request for joining the group to **erldcprotection@gmail.com**.*

In 136th OCC, ERLDC informed that as per CERC order dated 31st July 2017 in Petition No. 84/MP/2015, the commission directed the following:

a) *Considering the fact that further measures have been put in place to facilitate desirable primary response, the Commission, starting from the month of September, 2017 shall be*

closely watching the primary response of ISGSs as reported by POSOCO/NLDCs. At the State level, SLDCs shall report the frequency response of intra-State generators to the concerned SERCs.

b) *NLDCs and SLDCs through the assistance of POSOCO shall start the process of selecting independent third parties capable of undertaking periodic checkups to monitor the RGMO/FGMO response. To start with selected independent third parties shall be sent to the generating stations which are not providing the desired RGMO/FGMO response. Independent Third Parties shall ensure that the generator has not, in any way, prevented/disabled the governor from providing the desired response. In case, even after enabling the governors, units are not able to provide the desired response as per the provisions of the Grid Code, third parties, based on the submissions of the generators, shall bring out the technical constraints, if any, which limit the primary response of the units.*

c) *All ISGSs are directed to provide primary response compulsorily in terms of Regulation 5.2 (f), (g), (h) and (i) of the Grid Code failing which we would not hesitate in initiating action under Section 142 of Electricity Act, 2003 for not providing desired RGMO/FGMO response without any valid reasons.*

ERLDC had uploaded the unit wise responses in the group "er_gov_respons@yahoogroups.co.in." i.r.o the following events for monitoring of RGMO response of generator:

(1) On 16.08.17,at 12:18 Hrs, 400 kV Rangpo-Teesta (III) line tripped on B-N fault resulting in generation loss of 879 MW and 100 MW in Teesta and Dikchu stations respectively.

ERLDC may update.

Deliberation in the meeting

ERLDC presented the CERC directives of CERC order dated 31st July 2017 on Petition No. 84/MP/2015. ERLDC presented the performance of generators for above mentioned event and informed that response of ER generators is not satisfactory. Presentation is enclosed at Annexure-B35A.

OCC advised all the generators to go through the details and take corrective actions to improve the performance.

CERC vide their letter dated 05-06-17 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.

134th OCC advised all the constituents to go through the list and update the latest status vide mail to ERPC/ERLDC.

ERPC vide letter dated 6th July 2017 advised all the generators to update the latest status of RGMO/FGMO.

*Updated status of the RGMO/FGMO of ER generators are enclosed in **Annexure-B35**. The list is also available in ERPC website.*

NHPC vide letter dated 7th September 2017 informed that as per 5th amendment 2017, the lower limit for hydro generators to provide RGMO/FGMO is 25 MW. Hence, Rangit units (3 x 20 MW) will not come under RGMO/FGMO.

Members may update.

Deliberation in the meeting

Members updated the latest status of the RGMO/FGMO of ER generators which is enclosed in ***Annexure-B35****.*

Item No. B.36: 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.

In 136th OCC, It was informed that DVC has already furnished their status.

OCC advised West Bengal and Odisha generating units to submit their status to ERLDC and ERPC.

All state sectors may update the latest status of units under de-commissioned or in the process of de-commissioning.

Deliberation in the meeting

OCC advised West Bengal and Odisha generating units to submit their status to ERLDC and ERPC.

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 August,17.

Power Plant	**Max and Min Voltage observed for August 17 (KV)**	**Date for monitoring (July 17)**
Farakka STPS	424,404	13,26
Khalgaon STPS	423,404	13,1
Talcher STPS	410,398	19,2
Teesta	418,395	31,1
Bakreshwar TPS	411,391	20,19
Kolaghat TPS	423,394	13,1
Sagardighi TPS	425,406	2,27
MPL	420,407	1,27
Mejia-B	422,411	12,26
DSTPS	428,412	16,18
Adhunik TPS	426,410	2,21
Barh	433,411	12,1
JITPL	415,404	21,23
GMR	415,406	13,1
HEL	429,391	15,1

Kodarma	425,402	9,27

ERLDC may present the reactive performance.

Deliberation in the meeting

ERLDC presented the performance of the generators for August, 2017 and informed that the performance of Barh unit #4&5 and Haldia unit #1&2 were not satisfactory. Presentation is enclosed at ***Annexure-B37****.*

OCC advised NTPC and CESC to take the corrective actions to improve the performance.

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 – December 2017
d. Raghunatpur – by December 2017
e. GMR (Three units)
f. Haldia TPS –October 2017

The reactive capability test of HEL units were carried out on 6th September 2017. HEL informed the following:

1. Lagging reactive capability test done at full load. Leading reactive capability test could not be performed due to low 400 KV bus voltage.
2. At low load tests are pending due to unavailability of required load export schedule.

The report will be submitted after carrying out pending capability tests.

Members may update.

Deliberation in the meeting

Members updated the status as mentioned above.

b) Transformer tap optimisation of Eastern Region :

1. Present tap position of 220/132KV, ICTs at Malda is 10(ten). Based on operational study, the voltage may be optimised by changing transformer tap from 10 to 8.
2. Tap position of 220/132KV, 160MVA ICT at Lalmatia is set to 5(five). For improvement of 132kV voltage, the tap position may be changed from 5 to 7(Seven).

In 136th OCC, it was decided to change the tap of 220/132 kV Malda ICTs from 10 to 8 and Lalmatia ICT tap on later stage.

Members may update.

Deliberation in the meeting

Members noted.

PART C:: OPERATIONAL PLANNING

Item no. C.1: ER Grid performance during August, 2017

The average consumption of Eastern Region for August - 2017 was 407 Mu. Eastern Region has achieved record maximum energy consumption of 434 Mu on 26th August-17. Total Export schedule of Eastern region for August - 2017 was 2378 Mu, whereas actual export was 2166 Mu.

ERLDC may present.

Deliberation in the meeting

ERLDC has presented the performance of the Eastern Region grid during August 2017. Presentation is enclosed at ***Annexure- C1****.*

Item no. C.2: 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

As informed by ERLDC, during review it was observed numbers of hydro units of state sectors were under outage due to various reasons and also some units were running at de-rated capacity compare to their installed capacity.

In this regards, it is requested to all State (through SLDC), ISGS and IPP owned hydro generators to update the status of the hydro units on bar, hydro units under outage along with reason to ERLDC and ERPC on daily basis in the following format. Hydro units which are unable to generate as per installed capacity may be intimated to RLDC and RPC on monthly basis.

Hydro unit outage status:

S.No	Station	Location	Owner	Unit No	Capacity	Reason(s) of Outage	Outage Date	Outage Time	Expected Revival Date
1.									
2.									
n.									

Hydro Units running at De-rated Capacity:

S.No	Station	Location	Owner	Unit No	Capacity	De-Rated capacity	Reason of operation at De-rated
1.							
2.							
n.							

In 136th OCC, all the hydro generators were advised to submit the requisite data to ERLDC and ERPC in the prescribed format on regular basis.

ERLDC informed that they have 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 to ERLDC in case of outage of units at their respective stations.

SLDC, WBSETCL, JUSNL and IPPs may comply.

Deliberation in the meeting

*ERLDC presented the performance of Hydro generators for July 2017. Presentation is enclosed at **Annexure-C2**.*

WBSETCL and JUSNL informed that outage status will not be changed on daily basis and sending daily report may not be required.

ERLDC advised SLDCs and IPPs to update the outage status on regular basis for any changes/deviation.

Item no. C.3: Anticipated power supply position during October'17

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of October'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.3**.

Members may confirm.

Deliberation in the meeting

*Modified anticipated power supply position for the month of October, 2017 after incorporating constituents' observations is given at **Annexure-C.3**.*

Item no. C.4: Shutdown proposal of transmission lines and generating units for the month of October'17

Members may finalize the Shutdown proposals of transmission lines and generating stations for the month of October'17 as placed at **Annexure-C.4**.

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 October, 2017 is given at **Annexure-C.4**.*

Item no. C.5: Prolonged outage of Power System elements in Eastern Region

(i) Thermal Generating units:

Sr. No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	GMR	2	350	COAL SHORTAGE	15-Aug-17
2	JITPL	1	600	COAL SHORTAGE	5-May-17
3	TENUGHAT	1	210	COAL SHORTAGE	5-Sep-17
4	SAGARDIGHI	4	500	COAL SHORTAGE	10-Sep-17
5	SAGARDIGHI	1	300	COAL SHORTAGE	15-Sep-17
6	BOKARO B	3	210	COAL SHORTAGE	24-Jun-17
7	ADHUNIK	2	270	FLAME FAILURE INITIALLY ,LATER GENERATOR VIBRATION	7-Sep-17
8	RAGHUNATHPUR	2	600	FURNACE PRESSURE HIGH	9-Aug-17
9	KOLAGHAT	6	210	STATOR EARTH FAULT	11-Jun-17
10	MEJIA	3	210	ROTOR EARTH FAULT	22-Aug-17
11	WARIA	4	210	BOILER TUBE LEAKAGE	26-Jul-17
12	IB THERMAL	1	210	BOILER TUBE LEAKAGE	14-Sep-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	1	50	R & M WORK	05.08.2016
3	BURLA	6	37.5	R & M WORK	16.10.2015
4	CHIPLIMA	3	24	R & M WORK	15.10.2015
5	BALIMELA	1	60	R & M WORK	05.08.2016
6	U.KOLAB	2	80	Repair of MIV & Draft tube gate leakage	28.05.2017
7	RENGALI	5	50	Hoist gate problem	21.03.2017
8	RENGALI	1	50	Stator Earth fault	08.09.17
9	U.KOLAB	3	80	Generator stator problem & MIV tunnion leakage	19.04.2017

(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
400 KV STERLITE - MERAMUNDALI D/C	OPTCL	15.05.17	TOWER CROSS ARM DAMAGED
220 KV THERUVALI-INDRAVATI-III	OPTCL	16.07.17	TOWER COLLAPSE At loc 69 and loc70 due to flood
220 KV THERUVALI-INDRAVATI-IV	OPTCL	16.07.17	TOWER COLLAPSE At loc 69 and loc70 due to flood
400KV MOTIHARI-BARH-I & II	DMTCL	14.08.17	24 NO OF TOWERS IN GANDAK RIVER WHERE WATER LEVEL IS HIGH

132 PURNEA(PG)-KISHANGUNG(BSEB)	BSEB/PG	08.09.17	TO REDUCE LOADING OF 132 KV kishangunJ(new)-kishangunj(old) D/C.
400 KV ROURKELA-RAIGARH	POWERGRID	15.09.17	S/D TILL 25.09.17 FOR DIVERSION WORK FOR NEW RAILWAY LINE
400 KV JARSUGUDA-RAIGARH-I	POWERGRID	15.09.17	S/D TILL 25.09.17 FOR DIVERSION WORK FOR NEW RAILWAY LINE
PURNEA-MADHEPURA-II	BSEB/POWERGRID	17.09.17	Y-B-N FAULT/LINE UNDER PATROLLING.

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

Members may update.

Deliberation in the meeting

Members noted.

Item no. C.6: 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 August'17

System frequency touched a maximum of 50.20 Hz at 06:03 Hrs of 20/08/17 and a minimum of 49.65 Hz at 19:13 Hrs of 08/08/17. 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 August'17.

Members may note.

Deliberation in the meeting

Members noted.

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

Sr No	GD/ GI	Date	Time	S/S involved	Summary	Load loss (MW)	Gen loss (MW)
1	GD-I	01/08/2017	13:07	Meramundali	At 13:07 hrs, one mentally challenged person entered into the substation and tried to climb the switchyard tower. To avoid unwanted accident all the emanating lines / ICTs from 220KV Meramundali were hand tripped.	120	30
2	GD-I	03/08/2017	11:45	Hatia	220 kV Ranchi - Hatia D/C and 220 kV Patratu - Hatia D/C along with all 220/132 kV ATR at Hatia end tripped due to DC failure of Hatia S/S.	78	0
3	GD-I	04/08/2017	13:46	Dikchu	400 KV Teesta III-Dikchu S/C tripped at 13:46 Hrs due to operation of directional O/c relay at Teesta III end. Same line did not trip from Dikchu end. In PMU data, no voltage dip has been observed. As per Teesta III end DR of 400 kV Teesta III Dikchu S/C, Dir. O/C picked up at 13:46:27.677 hrs, B phase current was 1.3 kA. As per Teesta III end DR of Teesta III Rangpo Cable, B/up O/C and B/up E/F picked up at 13:46:27.462 hrs. Initially current was high (1.3 kA) in all three phases. Later B phase current reduced. (final f/C 1kA)	0	101

4	GD-I	11/08/2017	16:05	Bakreswar	At 16:05 hrs all elements connected to Bakreswar 220 kV bus - I along with unit #III & #IV tripped due to operation of bus bar protection (96A) and Bus bar differential (87C, Check zone). At the same time R-N fault has been reported at 0.5 km from Bakreswar in 220 kV Bakreswar - Sadaipur - II. In PMU data, no fault has been captured at 16:05 hrs. However a 23 kV voltage dip in R phase has been observed at 16:01 hrs, which was cleared within 80 ms.	0	284
5	GD-I	12/08/2017	14:51	Sasaram	While availing emergency s/d of 220 kV bus I (East side) at Sasaram, HVDC Sasaram B/B, along with 765/400 kV 1500 MVA ICT - I and 400/220 kV ICT - I & II tripped resulting tripping of all 220 kV feeders eliminating from Sasaram followed by total supply of failure at 220 kV switchyard at Sasaram. As per preliminary information, while transferring all elements to 220 KV Bus II from 220 kV bus I, flashover occurred in 220 kV Bus - I side isolator of 400/220 kV ICT-II. It is suspected that isolator wasn't properly switched off before closing the earth switch.	209	0
6	GD-I	14/08/2017	08:55	Purnea	132 kV Supaul - Phoolparas D/C, 132 kV Kataiya - Duhabi S/C and 132 kV Kataiya - Forbisgunj T/C were under breakdown due to flood condition. At 08:55 hrs 220 kV Purnea - Madhepura D/C tripped on Y-B-N fault causing power failure at Madhepura, Supaul & Kataiya.	60	0
7	GD-I	16/08/2017	12:18	Teesta III	At 12:18 Hrs, 400 KV RANGPO - TEESTA-3 S/C tripped on B-N fault (Rangpo end: B-N, Z-II, F/C 4.49 kA, 54.7 km; Teesta III end: B-N, Z-I) resulting in outage of units # I, II, III, IV, V & VI (879 MW) at Teesta - III and unit I & II at Dikchu (100 MW) due to loss of evacuation path. Attempt was taken to charge the line from Rangpo end at 12:41 hrs but it immediately tripped in SOTF.	0	979
8	GD-I	21/08/2017	13:50	Banka	At 13:04 Hrs, 132 KV Banka-Sultanganj D/C tripped due to B-N fault. While attempting charging of Ckt II at 13:30 Hrs, it tripped on SOTF. Along with this line, both 400/132 KV ICTs at Banka also tripped.	84	0
9	GD-I	27/08/2017	07:36	Waria	Due to massive fire hazard at 132/33/3.3 kV station transformer # III at Waria all 220 kV and 132 kV feeders are hand tripped resulting in total power failure at surrounding area. In Durgapur PMU data, delayed clearance (700 ms) of Y-B phase fault (15 kV voltage dip) has been observed at 07:35 hrs.	323	0
10	GD-I	28/08/2017	13:25	CTPS B	Due to bursting of R phase CT of U # VIII GT at CTPS B, 220 KV CTPS B-CTPS A-I, 220 KV CTPS B- Dhanbad-II, 220 KV CTPS B-Bokaro B-I & CTPS B unit # 7 and # 8 tripped along with bus - I at CTPS - B. Consequently 400/220 kV ICT at Bokaro A loading became more than 299 MW. After opening of 220 kV Bokaro B - Jamshedpur D/C and 220 kV Dhanbad - Giridih D/C at 13:30 hrs, ICT loading got reduced to 255 MW. Further at 15:15 hrs, 132 kV Bokaro - Konar S/C and 132 kV Bokaro - Bari S/C were opened to reduce 400/220 kV ICT loading.	0	406

11	GD-I	30/08/2017	05:15	Rangit	At 5:15 hrs. 132 KV Siliguri-Kurseong S/C, 132 KV Siliguri Melli S/C and 132 KV Rangit-Rangpo S/C tripped on R-B-N fault. As a result, all running units of Rangit(3 x 20 MW) tripped on over frequency and subsequently,132 KV Rangit-Kurseong S/C and 132 KV Rangit-Sagbari S/C were hand tripped.	2.5	60
12	GD-I	31/08/2017	00:39	Rangit	At 00:39 hrs. 132 KV Siliguri-Kurseong S/C, 132 KV Siliguri Melli S/C and 132 KV Rangit-Rangpo S/C tripped on R-B-N fault. As a result, all running units of Rangit(3 x 20 MW) tripped on over frequency and subsequently,132 KV Rangit-Kurseong S/C and 132 KV Rangit-Sagbari S/C were hand tripped.	3.5	60

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 August, 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. Trail operational certificate for underground fiber optic link from Jakkanpur to SLDC, Patna-BSPTCL

End to end testing of UGFO link between Jakkanpur to SLDC, Patna has been carried out on 03-10-16. Route survey with M/S KEC was carried out on 31-05-17. It was observed that no marking to identify route, location of splice chamber and pits. No provision of clause of standard technical specification of UGFO of PGCIL was followed either regarding the route markers, constrcution of manholes, warning bricks etc. BSPTCL repeatedly requested PGCIL authorities to furnish the technical specification and the SAT procedure of UGFO, but the same has not been provided yet. This may affect the maintenance of UGFO link further.

Deliberation in the meeting

BSPTCL informed that issue is not yet resolved.

OCC advised Powergrid and BSPTCL to do the joint inspection as agreed in last OCC.

OCC advised Powergrid to provide the technical specification and SAT procedure of UGFO to BSPTCL.

2. Ethernet link for integration of Kishanganj SAS GSS with SLDC, Patna - BSPTCL

Synchronous Digital Hierarchy (SDH) has been installed in Kishanganj (PG)and approach cable laid out up to connecting SDH for integration of SDH of Kishanganj (New) GSS. Ethernet link for integration of SDH of Kishanganj SAS GSS with SLDC, Patna for monitoring

of real time data and voice of 220/132/33 kV Kishanganj (New) GSS as well as connecting GSS for ULDC purpose is required on priority basis.

Deliberation in the meeting

BSPTCL informed that there is no progress from Powergrid end.

OCC advised Powergrid to resolve the issue at the earliest.

3. 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.

Deliberation in the meeting

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.

Sikkim representative was not available for discussion.

Meeting ended with vote of thanks to the chair

****

Annexure-A

Participants in 137th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 21.09.2017 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
1	P. Mukhopadhyay	ED/ERLDC/ Posoco	9869438073	pmukhopadhyay@posoco.in	
2	G. Mitra	DGM, ERLDC	9831297392	gopal.mitra@posoco.in	
3	T. G. Rao	EE, ERPC			
4	P. P. Jena	AEE, ERPC	9776198991	ppjena.erpc@gov.in	
5	S. Kumar	CM, ERLDC	9933353370	kumar.s@posoco.in	
6	S. K. SAHU	CM, PGCIL, BBSR	9078883643	SKSahu@powergridindia.com	
7	B. Pan	CE/SLDC/DVC	9903247102	bpan.dvc@gmail.com	
8	H.S. Mukhopadhyay	AGM-OS NTPC-Kol	9473196396	hsmukhopadhyay@gmail.com	
9	S.K. Sharma	AGM(OS), ER-I HQ NTPC	9471008359	skdharma06@ntpc.co.in	
10	A.K. Chattopadhyay	AGM (Opn/EEMG)	9434028818	akchattopadhyay@ntpc.co.in	
11	S.P. Rath	Mgr. (E) NHPC LTD, Teesta PS	8170005662	Sakti1975@gmail.com	
12	S. K. Das.	Mgr (E). NHPC, Co.	9717788724	Sdas_nhpc@yahoo.co.in	
13	Langa Tshering	EE, DGPC		l.tshering227@drukgreen.bt	
14	RAKESH TALUKDAR	Sr. Manager MPL	9264855213	rakesh.talukdar@tatapower.com	
15	Saibal Ghosh	ERLDC, Engineer	8584071071	Saibal.ghosh@gmail.com	
16	Saurav Sahay	ERLDC, Dy. Manager	9432013173	Saurav.sahay@posoco.in	
17	Raj Pratim Kundu	ERLD, Sr. Engr.	9903329591	rajpratim@posoco.in	
18	MANOJ THAKUR	ERLDC/Manager	9432351832	mkt.elect@gmail.com	
19	Amit Chowdhury	ERLDC, Engineer	8584072089	akchowdhury@posoco.in	
20	Biswajit Mondal	Sr. Engr. ERLDC	9903329271	biswajit.mondal@posoco.in	

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

Participants in 137th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 21.09.2017 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
21	Anirban Banerjee	DGM Engg PRDC.	9433634273	anirban.b@prdcinfotech.com	
22	ch. Ravitega	Engineer JITPL	9583040936	challaravitega181@gmail.com	
23	Sonam Chophel	Section officer KHP/DGPC	-	Sonamchophel21@gmail.com	
24	KINLEY TENZIN	ENGG. CHP/DGPC	—	knlytnzn@gmail.com	
25	Yeshey D. Bidha	Section Officer CHP	—	ydbidha05@gmail.com	
26	Choki Gyeltshen	EE. Tala DGPC.	—	gchokey@gmail.com	
27	Jay Kishore Prasad	Manager (E) NHPC Ltd	9419042120	jkprasad@nhpc.nic.in	
28	S. K. Nayak	DGM(OS), NTPC ER-2, I	9437043291	santoshkumarnayak@ntpc.co.in	
29	Sudeep Kumar	PGCIL, ER-I, Patna	9431820338	Sudeepkumar@powergridindia.com	
30	D. SAHU	AGM (MARH)	8544419458	debasissahu@nhpc.co.in	
31	A. N. Pal	CM (SO)	9831339589	a_n_pal@hotmail.com	
32	Nadim Ahmad	Manager (HR)	9432351831	nadim@posoco.in	
33	Chandan Mallick	Engr. (SO), ERLDC	9007059660	chandan.mallick@posoco.in	
34	T. R. Mohapatra.	Mgr (SO)	9433041873	trmohapatra@posoco.in	
35	Guriya Kumari	A.G.M/SLDC/Patna	7763817980	er.gudiya91@gmail.com	
36	DEEPAK KUMAR	AEE/SLDC/Patna	9472218038	dkumar27107@gmail.com	
37	Prem Jeet Kumar	ESE/SLDC/Pat	7763817717	premjeet.75@gmail.com	
38	Tushar Ranjan	AEE/SLDC/Ranchi	9326374224	ranjtushar@gmail.com	
39	Vinod Bhoi	EEE/CRITL/JUSNL	7488284956	cecritl.jusnl@rediffmail.com	
40	P. K. Kundu	CE, WBSLDC	9434910030	ce.wbsldc@gmail.com	

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

Participants in 137th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata   Time: 11:00 hrs   Date: 21.09.2017 (Thursday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
41	N. G. Saha	DGM / WBPDCL	8336903700	ngsaha@wbpdcl.co.in	ngSaha
42	U.K. Pal	SM(O)/DPL	9434735582	ukpaldpl@gmail.com	[signature]
43	A. Sen Gupta	DGM (SC) CESC Ltd	9831802682	arunava.gupta@rp-sg.in	[signature]
44	U.N. Mishra	CGM(PP) GRIDCO	9438907774	cgm.pp@gridco.co.in	[signature]
45	P. S. Sahu	CLD SLDC Odisha	9438907778	ele.pssahu@optcl.co.in	Sahu
46	PRASHANT KUMAR DAS	DGM(EL), SLDC ODISHA	9438907406	prashantk.das@yahoo.co.in	[signature]
47	H.P. Mahapatra	AGM, OHPC	7328840418	hpm.ohpc@gmail.com	[signature]
48	Jitendra Pr. Malik	GMR, Manager	9777456737	jitendra.malik@gmrgroup.in	[signature]
49	MSP RAO	ED, TUL	9818425789	msp@teestaurja.com	MSPRao
50	D P Bhargava	Chief Comm O&M TUL	9958833795	dpbhargava@teestaurja.com	[signature]
51	Madhusudan Sahoo	AGM (Elect) GRIDCO	9692427876	gridco.ebc@gmail.com	M.S.Sahoo 21.9.17
52	Neelesh Gupta	TUL	9816805252	neelesh.gupta@andritz.com	[signature] 21/09
53	Sumit Dasgupta	WBPDCL	8336903911	s.dasgupta@wbpdcl.co.in	SDasgupta
54	Amitava Bardhan Roy	SLDC / ALE WBSETCL	9434910302		[signature]
55	A.K. Haldar	ACE WB SLDC	9434910379		AHaldar
56	P. GHOSH.	Dy. Mgr, ER-II.	9434748263		P.Ghosh
57					
58					
59					
60					

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

Station name

Organisation

Unit wise yearly generation Program for the year 2018-19

Annex-I (1 of 2)

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	

SPS FOR STERLITE – Rev 3

Assumptions:-

1. Unit 1, 3 & 4 are connected to PGCIL bus (400 kV).
2. Unit 2 is connected to OPTCL bus (400 kV).
3. Both the buses are decoupled
4. Circuits 2 and 4 of 400 kV Raigarh-Rourkela line are LILOed at Sterlite.
5. Steady state and emergency line loading limits for different outgoing lines as per new planning criteria:-

Sl	Line	Steady-state	Emergency
1	400 kV Raigarh-Sterlite-I	852MW	937MW
2	400 kV Raigarh-Sterlite-II	852MW	937MW
3	400kV Rourkela-Sterlite-I	852 MW	937MW
4	400kV Rourkela-Sterlite-II	852MW	937MW

Inputs to the SPS :-

1. MW flow (with direction) of 400 kV Sterlite- Raigarh-I
2. MW flow (with direction) of 400 kV Sterlite- Raigarh-II
3. MW flow(with direction) of 400 kV Sterlite- Rourkella-I
4. MW flow (with direction) of 400 kV Sterlite- Rourkela-II
5. Number of units on bar at 400kVand their present generation
6. CB status of all 400KV lines emanating from SEL

Principle of operation

Case:-1

At least three 400KV lines in service from Sterlite.

The SPS should be activated if loading of any of the following lines exceeds 850MVA (Thermal line loading as per CEA Planning criteria)

1. 400 kV Sterlite- Raigarh-I
2. 400 kV Sterlite- Raigarh-II
3. 400 kV Sterlite- Rourkella-I
4. 400 kV Sterlite- Rourkela-II

Condition:- Line loading (A) > 850MVA

Action:- Rapid reduction of generation till line loading comes down to 750MVA (100MVA margin kept to avoid frequent operation of SPS on account of variation in WR-ER interchange)

Case:-2

Only two 400KV lines in service from Sterlite.

Condition: - Line loading (A) > 850MVA or SEL maximum generation limited by 900MW

Action:- Rapid reduction of generation till line loading comes down to 750MVA (100MVA margin kept due to reduced security and to avoid frequent operation of SPS)

Scanning time will be every 10 sec. and thresh hold value will be 10 MVA for reduction of generation

Annexure-B12

BIHAR STATE POWER TRANSMISSION COMPANY LTD: PATNA
Registered Office: 4th Floor, Vidyut Bhawan, Baily Road, Patna
Corporate Identity No. (CIN) U40102BR2012SGC018889 Web site- www.bsptcl.in

Standard Operating Procedure (S.O.P.)

Case-I: In case of outage of 315 MVA ICT of Patna (PG) & 500 MVA ICT remaining in service

Action to be taken:

1. [illegible] tripping of 220 kV Patna (PG) - Fatuha T/L may be done in Consultation with PG & SLDC to avoid overloading of 500 MVA ICT, as recommended by PGCIL.
2. (a) Khagaul GSS will shed Bihta & Digha GSS immediately to get instant relief of approx 150 MW.
   (b) In case of synchronized state of 220 KV Patna(PG)-Khagaul-Ara (PG) loop, if 500 MVA ICT still gets overloaded after operation of (a) then incomer of 220 KV Patna (PG) & Sipara line will be isolated at Khagaul GSS **(in anticipation to post facto approval of ERLDC).**
   (c) In case of Khagaul is not synchronised with Ara (PG), SLDC will reduce load of Sasaram(PG)-Ara(PG) both ckt, subsequently ERLDC shall be requested for extending power from Khagaul to Arrah(PG) for synchronization. Then incomer of 220 KV Patna (PG) & Sipara will be isolated at Khagaul GSS **(in anticipation to post facto approval of ERLDC).**
   (d) Then Power to Khagaul will be available from Ara (PG)
   (e) SLDC will reschedule all connected GSS to ensure power availability at Khagaul GSS.
3. After stabilization of system at Khagaul, Khagaul will take action for reduction of rural load & restoration of PSS connected to Digha & Bihta etc. as per availability of power and in guidance of SLDC.

Case-II: In case of outage of 500 MVA ICT of Patna (PG) & 315 MVA ICT remaining in service

Action to be taken:

1. Simultaneous tripping of **220 KV Patna (PG)-Khagaul, 220 KV Sipara-Khagaul & 220 KV Patna (PG)-Fatuha** Trans. Lines may be done through relay, as recommended by PGCIL.
2. Under this condition power to 220 KV Khagaul will remain zero from Patna (PG) and Sipara (BSPTCL).
3. 250 MW power will be available at Patna (PG) which will be used for 132KV power supply to Jakkanpur, Mithapur & Karbigahiya. All 33 KV feeders at Sipara GSS will be disconnected.
4. Since, Khagaul is not synchronized with Ara (PG), SLDC will reduce load of Sasaram(PG)-Ara(PG) both ckt, subsequently ERLDC shall be requested for extending power from Arrah (PG) to Khagaul.
5. After stabilization of system at Khagaul, Khagaul will take action for restoration of its own load along with that of Digha, Bihta GSS & Traction load, as per availability of power in accordance with guidance of SLDC.

Case-III: In case of outage of both 315MVA & 500MVA ICT at Patna (PG)

Action to be taken:

1. Simultaneous tripping of **220 KV Patna (PG)-Khagaul, 220 KV Sipara-Khagaul & 220 KV Patna (PG)-Fatuha** Trans. Line may be done through relay, as recommended by PGCIL.
2. Under this condition, power to 220 KV Khagaul will remain zero from Patna (PG) and Sipara (BSPTCL).
3. Sipara will avail power from 220 KV Sipara- Fatuha line, then after transformation to 132KV it will be extended to Jakkanpur.
4. In case of unavailability of 220 kV Sipara-Fatuha line:
   (a) Isolate Fatuha power which is being feed to Masaudhi via transfer bus of Sipara.

(b) Fatuha will extend power to Sipara (up to 125 MW) and subsequently Sipara will extend it to Mithapur, Karbigahia & Jakkanpur.

5 The load allocation to Mithapur shall be done by SLDC considering the limit of loading of Biharsarif(PG) & associated 220KV Biharsarif(SG)-Fatuha transmission line.

6 Masaudhi & Jahanabad GSS will avail power from Gaya GSS (L-33) with suitable power allocation.

7 Isolation of rural load of Fatuha & Katra shall be done by respective GSS.

Case-IV: In case one ckt of 220 KV D/C Patna (PG)-Sipara goes under breakdown.

Action to be taken:

1. Simultaneous tripping of **220KV Patna (PG)-Khagaul & 220KV Sipara-Khagaul** line may be done through Relay.
2. Power to Khagaul from Patna(PG) will then be zero to avoid bulk load & tripping on overloading.
3. Then, Khagaul will avail power through 220 KV Patna (PG)-Khagaul line keeping Bihta and Digha GSS shaded.
4. After stabilization of system at Khagaul, Khagaul will take action for reduction of rural load & restoration of PSS connected to Digha & Bihta etc. as per availability of power and in guidance of SLDC.

Case-V: In case of 220KV D/C Patna (PG)-Sipara both goes under breakdown.

Action to be taken:

1. Simultaneous tripping of **220KV Patna (PG)-Khagaul & 220KV Sipara-Khagaul** line may be done through Relay.
2. Power to Khagaul from Patna (PG) will be zero to avoid tripping of line in overload due to bulk load and reverse power flow i.e. from Khgaul to Sipara (on single ckt of Patna(PG)-Khagaul).
3. Since, Sipara is powerless, it will avail power through 220 KV Sipara – Fatuha line then after transformation to 132KV it will be extended to Jakkanpur. Simultaneously, rescheduling of load at Fatuha, Katra, Gaighat, Jakkanpur, Mithapur & Karbigahiya will be done.
4. In case of unavailability of 220 kV Sipara-Fatuha line:
   (a) Isolate Fatuha power which is being feed to Masaudhi via transfer bus of Sipara.
   (b) Fatuha will extend power to Sipara (up to 125 MW) subsequently Sipara will extend it to Mithapur, Karbigahia & Jakkanpur.
5. The load allocation to Mithapur shall be done by SLDC considering the limit of loading of Biharsarif(PG) & associated 220KV Biharsarif(SG)-Fatuha transmission line
6. Masaudhi & Jahanabad GSS will avail power from Gaya GSS (L-33) with suitable power allocation.
7. Isolation of rural load of Fatuha & Katra shall be done by respective GSS.
8. Then, Khagaul will avail power through 220 KV Patna (PG)-Khagaul line keeping Bihta and Digha GSS shaded.
9. After stabilisation of system at Khagaul, Khagaul will take action for reduction of rural load & restoration of PSS connected to Digha & Bihta etc. as per availability of power and in guidance of SLDC.

Case-VI: In case of 132KV D/C Sipara-Jakkanpur goes under breakdown.

Action to be taken:

1. Extend Mithapur Power to Jakkanpur via Karbigahia , The total load of Jakkanpur will be restricted to 70 MW only &33 kv Power for Karbigahia shall be regulated as per instruction of SLDC

17

Case-VII: In case of 220KV D/C Biharsarif-Fatuha line goes under breakdown.

Action to be taken:

1. Isolation of Masaudhi & Jahanabad from Fatuha and shall be shifted on Gaya GSS with suitable power allocation.
2. GSS Katra, Gaighat & Fatuha shall be rescheduled by SLDC as per availability of power at Patna (PG).

Case-VIII: In case of either 13KV Fatuha-Gaighat or Fatuha-Katra line goes under breakdown.

Gaighat GSS & Katra GSS are interconnected at 132 KV level as such these grids can share load available at other end.

Case I:-In case 132 KV Fatuha-Gaighat lines goes under breakdown, Gaighat can draw full load from GSS Katra as the transmission line capacity of 132 Fatuha-Katra is 150 MW.

Case II:-In case 132 KV Fatuha-Katra line goes under breakdown, GSS Katra may avail load up to the extent load of Katra & Gaighat is 120 MW. As soon as load reaches peak of 120 MW, some rural feeder of Katra may be shaded or Katra PSS may be shifted on Fatuha GSS.

(Perwez Alam) ESE, Telecom & ULDC	(A. K. Choudhary) ESE, TC, Patna	Premjeet Kumar (Premjeet Kumar) ESE, SLDC	18/9/17 (R. K.Gopal) ESE,Tr.(O & M)

18/09/17 (H. R. Panday) CE (SO)	18/9/17 (S.B. Prasad) CE, Trans (O &M)	(J.P. Singh) GM-cum-CE Trans Zone, Patna

Item No:B20 Failure of RTU data with the outage of ICTs of Patna and Biharshariff station

- POWERGRID may update the status of extending UPS to RTUS for Patna and Biharshariff station.
- As per input from POWERGRID ,for following listed 17 nos of stations (having communication equipments) DCPS need to be replaced.

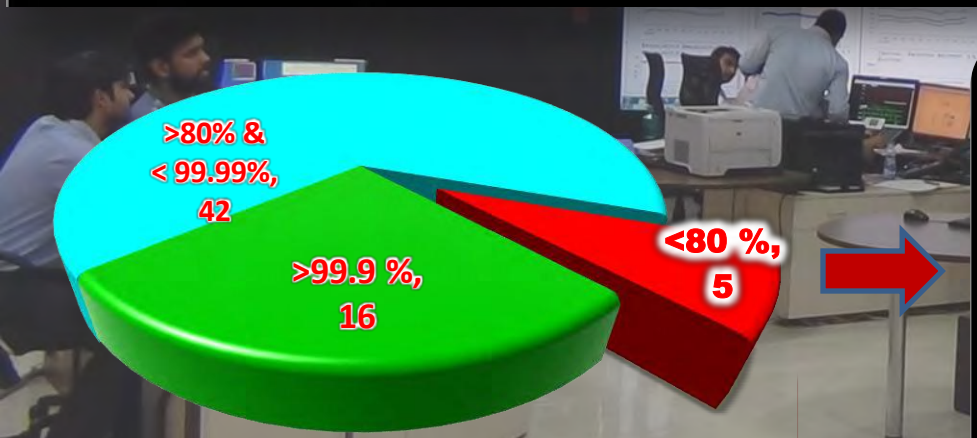
1. RSCC, Kolkata
2. CPCC, Durgapur
3. Kanchanpur
4. Barkot
5. Jamui
6. Maldah
7. Siliguri 400 kV
8. Jamshedpur 400 kV
9. Siliguri 220 kV
10. Rengali
11. Birpara
12. Rourkela
13. Purnea 220 kV
14. Indravati
15. Muzaffarpur 400 kV
16. Biharsharif 400 kV
17. Sasaram HVDC

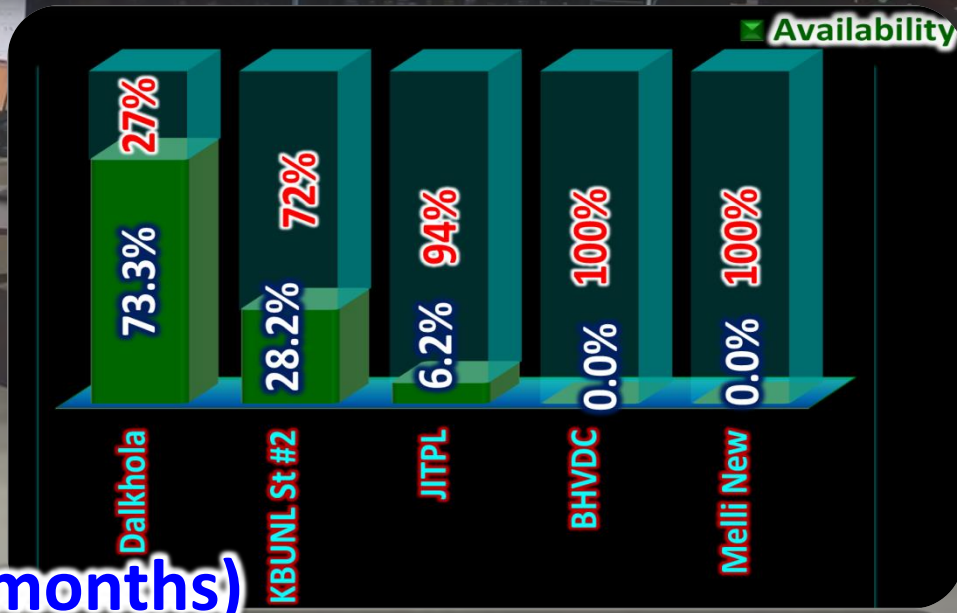
– **The above list is also available in Report of RTU / SAS replacement in Eastern Region dated 10-08-2017**.

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

AGENDA NO: B22

Annexure-B22



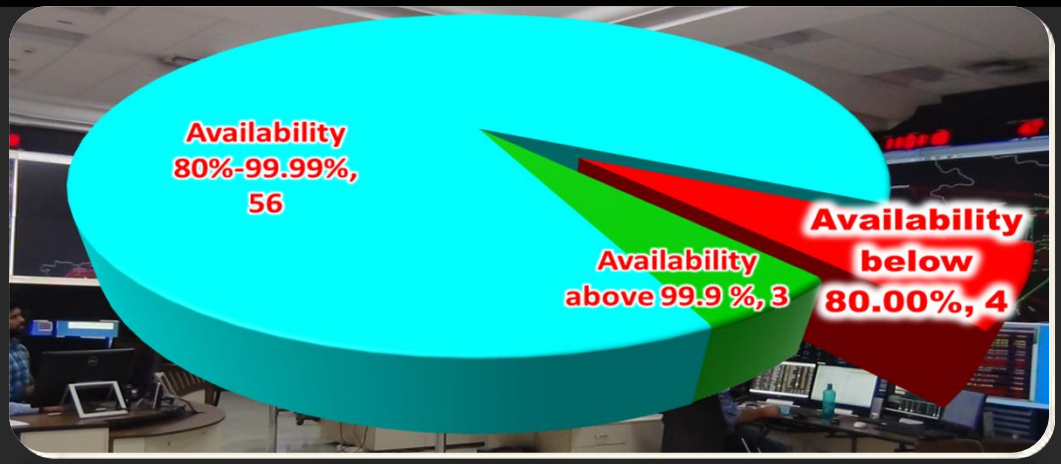


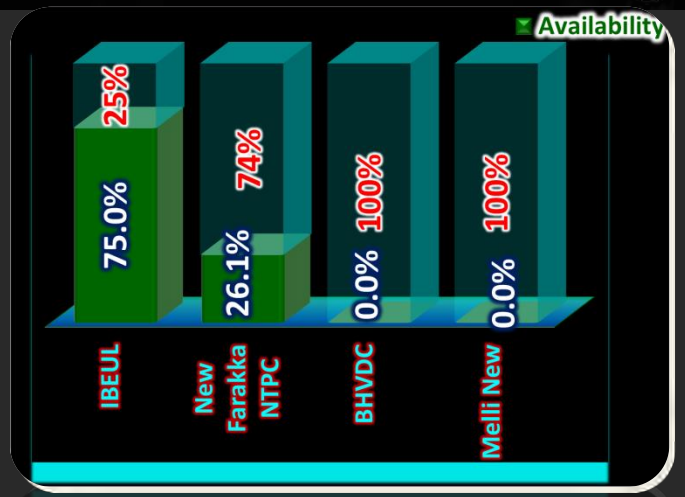
Major Concern:

Long outage of BHVDC (for 3 months)

& New Melli SCADA data (for 3 months)

Overview of real time telemetry of Eastern region from 01-Sept,17 to 19-Sep,17





Long outage of New Melli Data, for almost 3 months. Delayed response for restoration of real time data is quite alarming for real time GRID operation.

VOIP

Complete Outage (< 10% avl)	Partial outage (10% to 90% avl)	Availability > 90 %

Sl No	Station Name	Monthly average	01-Sep	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep	10-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
1	Patna	0.0%																		
2	Jeypore	0.0%																		
4	Indrabati	0.0%																		
5	Purnia 220	0.0%																		
6	Rengali	9.3%																		
7	Teesta NHPC	25.8%																		
8	Pandiavil	29.0%																		
9	Dalkhola	34.1%																		
10	Birpara	41.4%																		
11	Gangtok	41.4%																		
12	Binaguri	41.4%																		
13	Keonjhar	41.5%																		
14	Subashgram	41.6%																		
15	Ranchi 400	41.6%																		
16	Bolangir	43.5%																		
17	kanthi	48.7%																		
18	Durgapur	52.9%																		
19	MALDA	62.3%																		
20	Gaya	72.8%																		
21	Siliguri	75.3%																		
22	Jharsugura	76.0%																		
23	arrah	77.6%																		
24	Kisanganj	78.1%																		
25	FSTPP	83.0%																		
26	Rourkela	85.5%																		
27	Barh NTPC	85.8%																		
28	baharampur	85.8%																		

Concerns

1. VOIP for Patna, Jeypore, Indravati (PG) , Purnea 220 is out since long.

2. Since 09-09-2017 , Birpara, Gangtok, Binaguri, Keonjhor, Subhasgram, Ranchi stopped working.

3. At present for almost 16 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 concerns

- **Delayed restoration** of real time data.
- **Long outage of VOIP** (Voice communication) for many importance station of POWERGRID.
- **VOIP for JITPL yet to be provided.**
- **No redundancy** or stand by in communication channel
- **Non availability of Unit side data**→
  - **Farakka STPS (Unit #6).**
  - **Teesta V HPS all unit (LV).**
  - **IBEUL (Unit #1 and Unit #2).**
  - **Rangit HPS (GT i.e. HV side data)**
- **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.**

Elementary Data non availability at 400 kV Level:

- WBSETCL
  - Kolaghat TPS: Kharagpur #1 MW/MVAR not available since 06-07-2016.
- OPTCL
  - MW/MVAr flow of Meeramandali – GMR line at Meeramundali end since 29-11-2016.

IPP

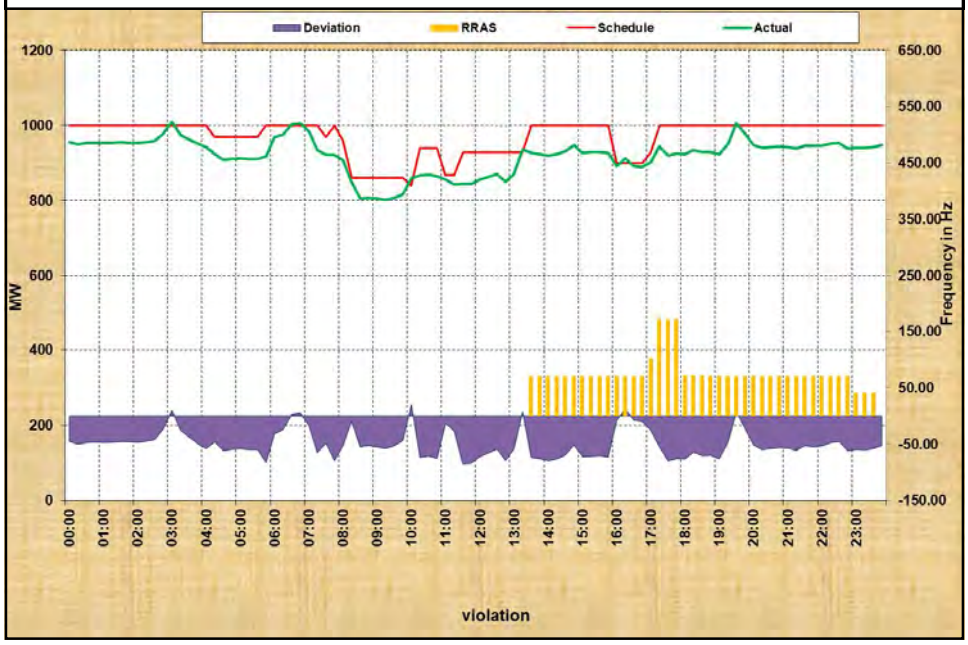
- **IBEUL :** Stand by channel upto Back up ERLDC not yet provided.

- **JITPL** : No voice communication available between JITPL and ERLDC.

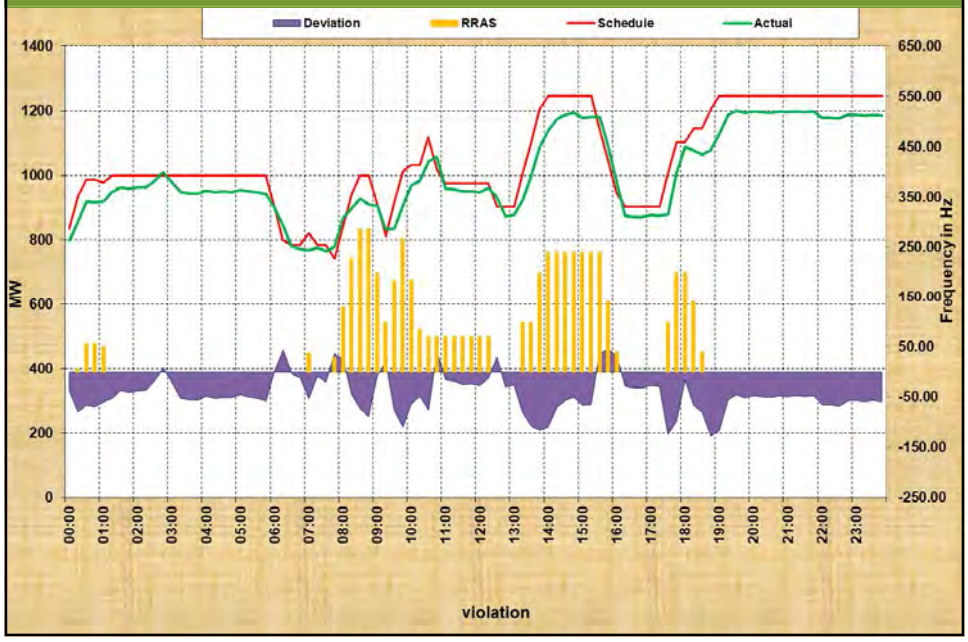
Important Stations with out real time telemetry:

- WBSETCL
  - Dharampur 220,Krishnanagar 220, Hura 220,Foundry Park, 220 Dalkhola,Bantala ,Lakshmikantapur ,New Town.
- DVC:
  - 220 kV Giridhi, 132 kV Kolaghat.
- OPTCL:
  - 220kV Samangara, 220 kV Lapanga.
- JSUNL:
  - Hatia New 220, Patratu ,Deoghar, Garwh ,Goelkera ,Jamtarta, Kendoposi.

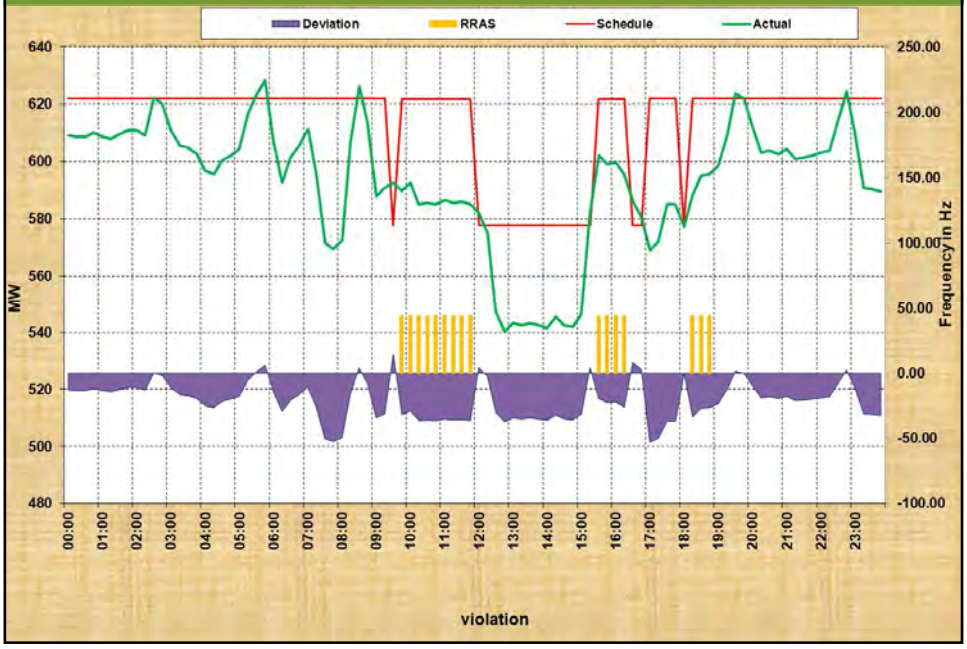
BARH 10.08.17 **Annexure-B23**



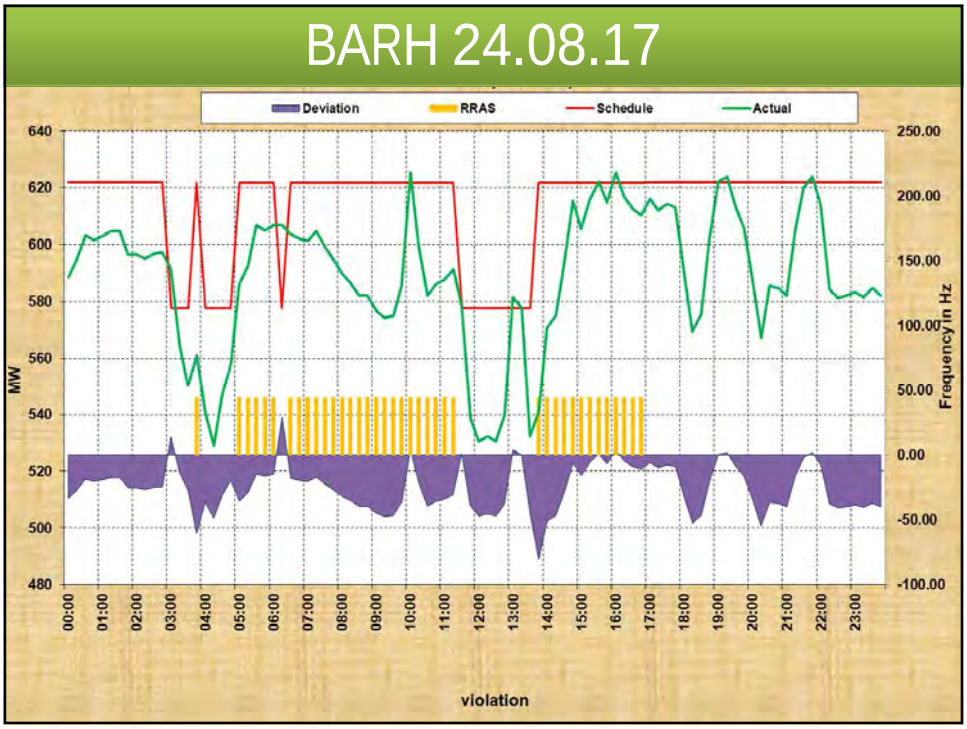
BARH 17.08.17



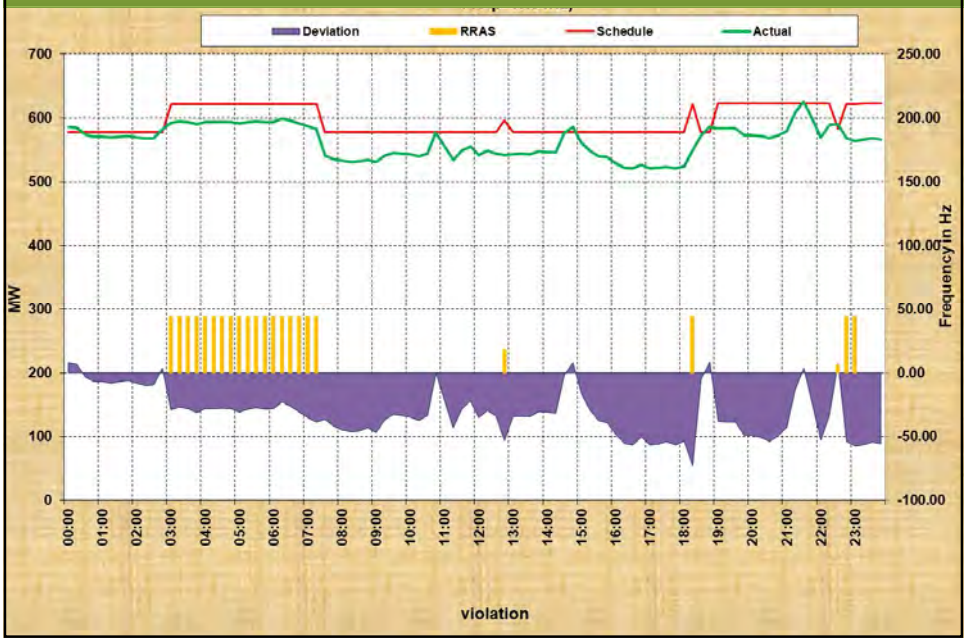
BARH 23.08.17



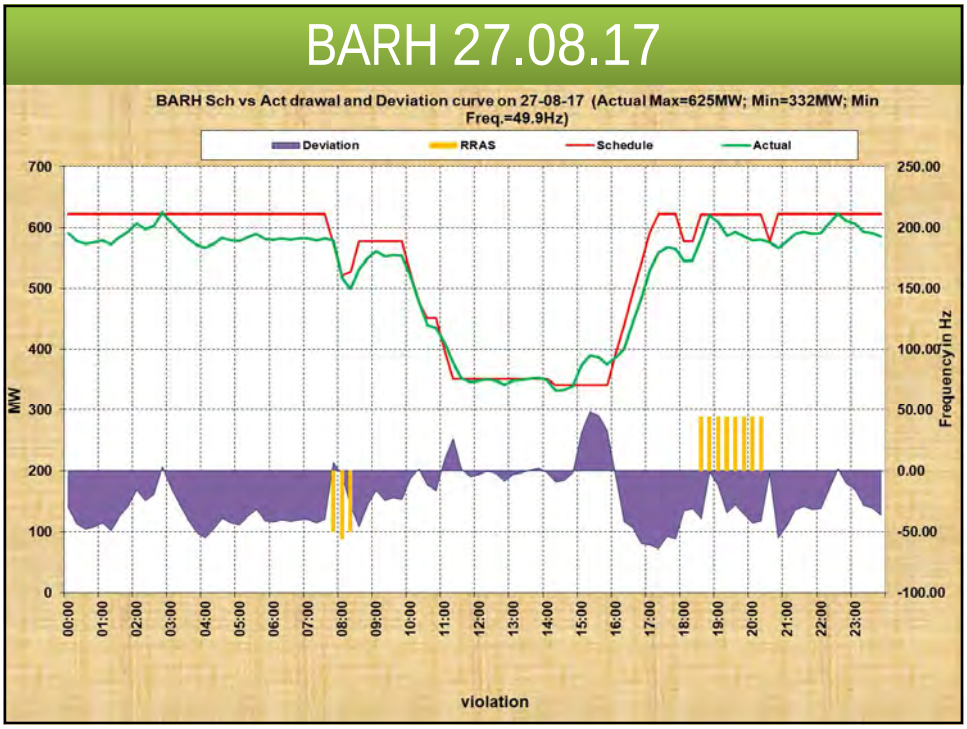
BARH 24.08.17



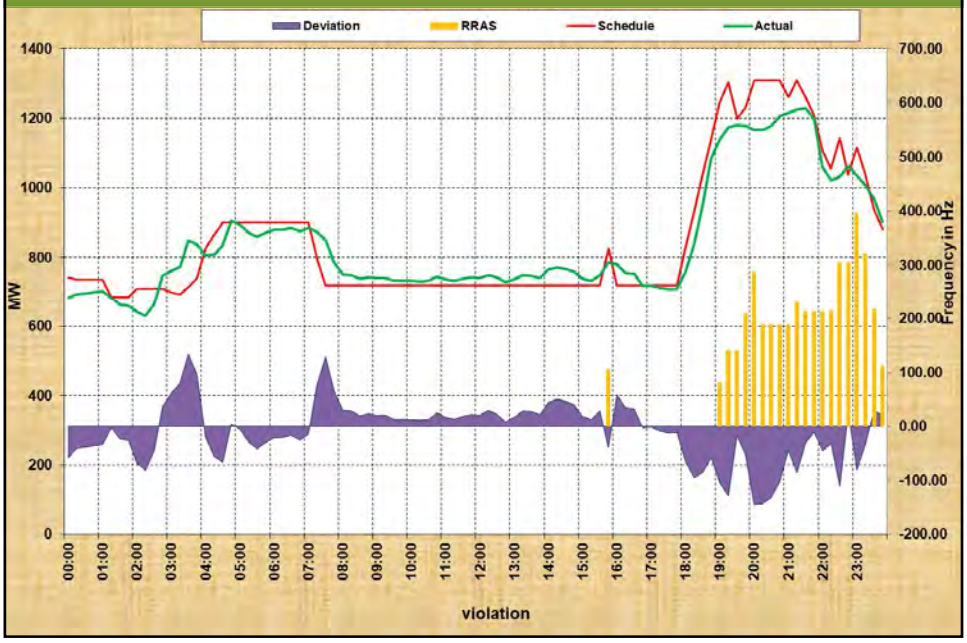
BARH 25.08.17



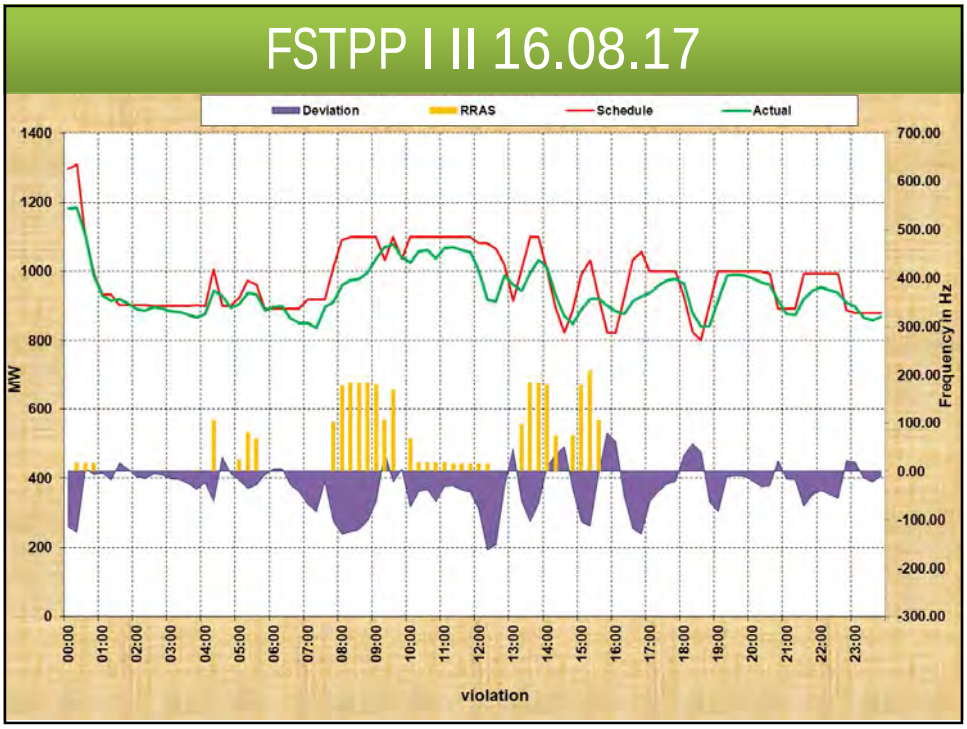
BARH 27.08.17



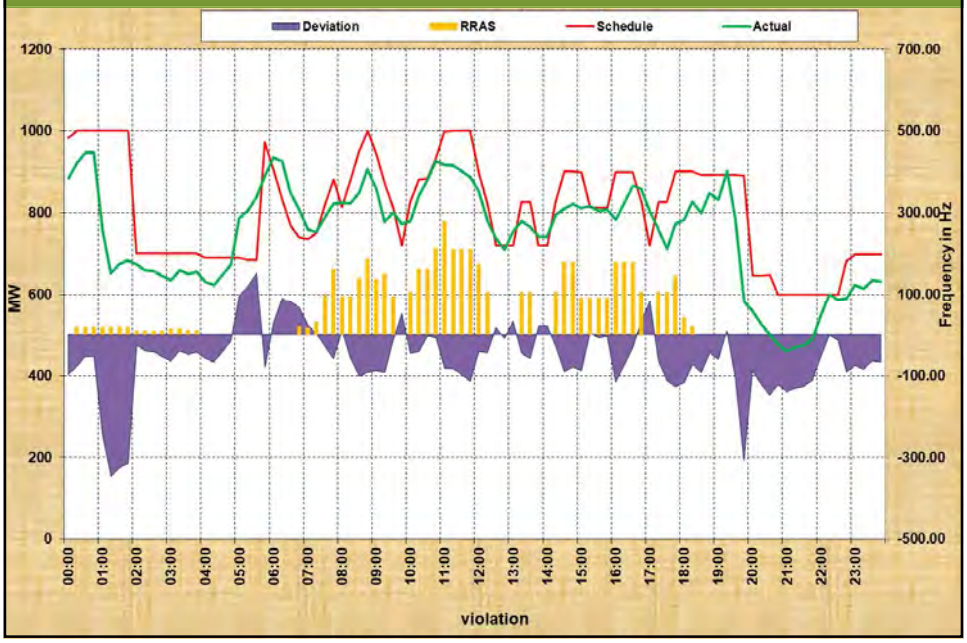
FSTPP I II 12.08.17



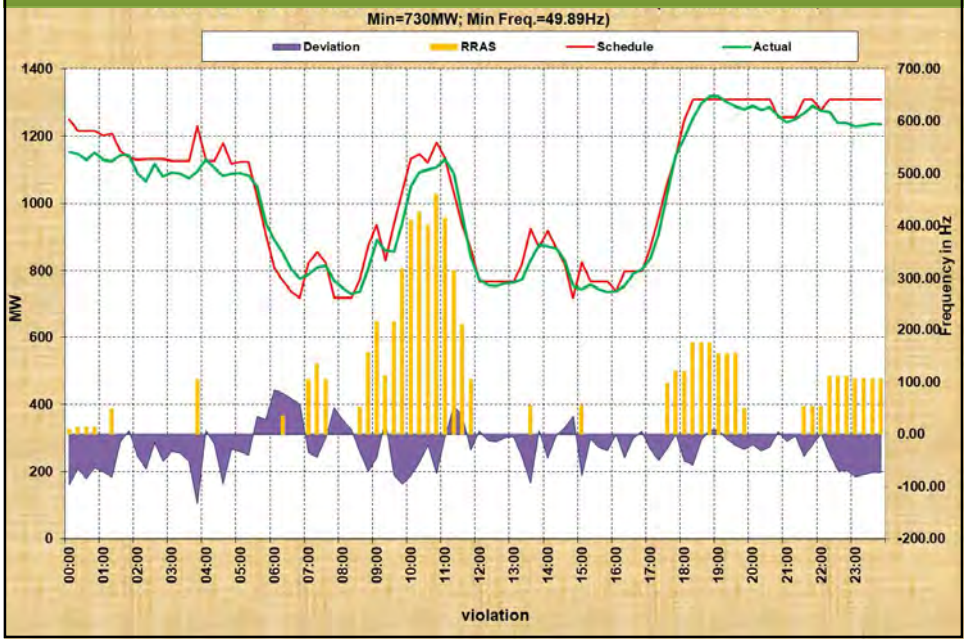
FSTPP I II 16.08.17



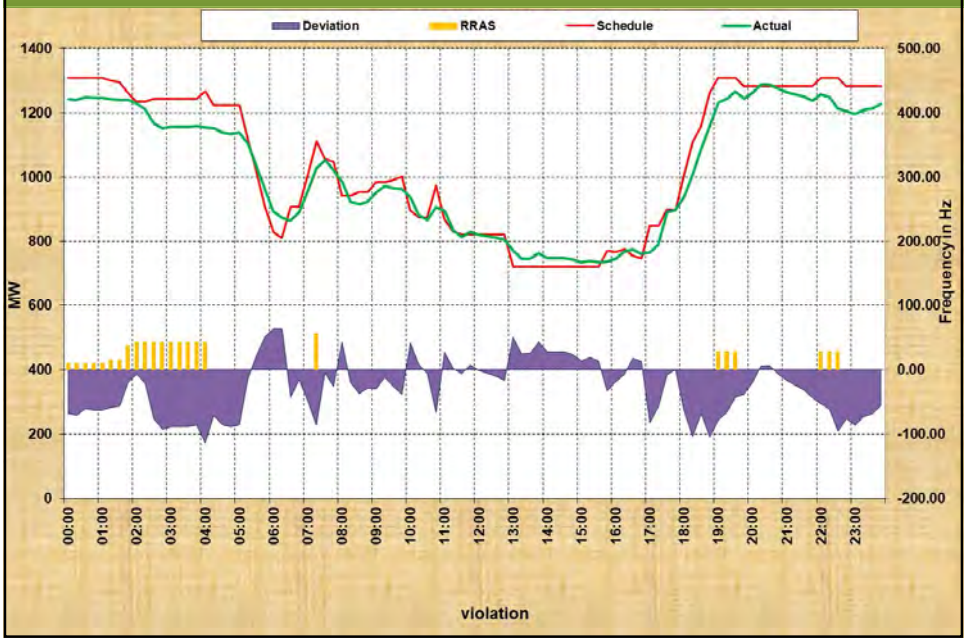
FSTPP I II 17.08.17



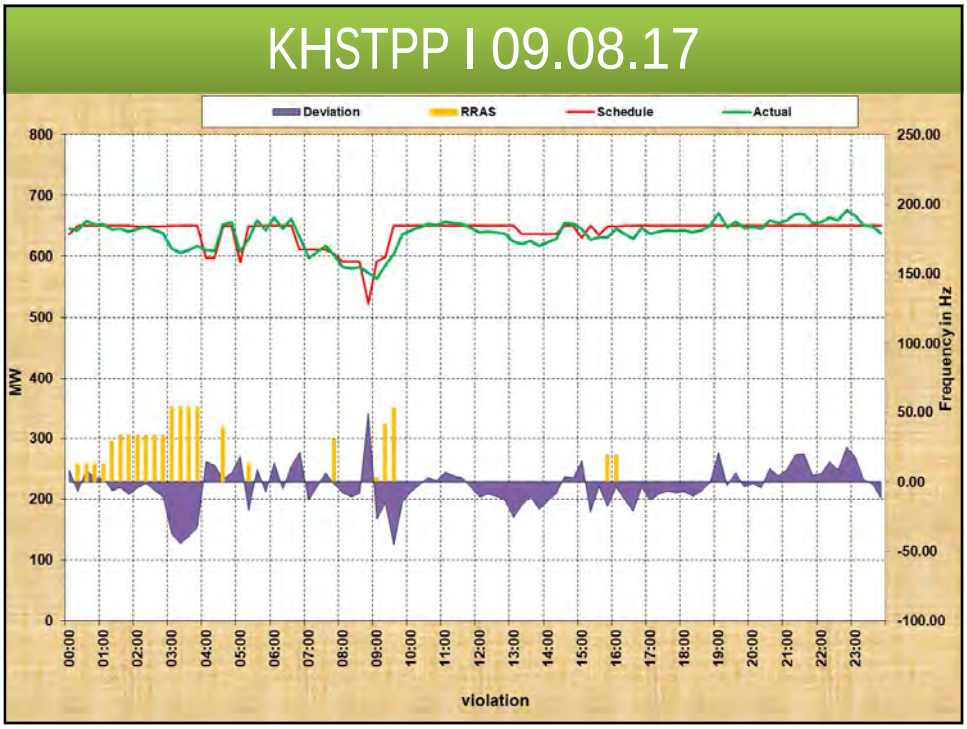
FSTPP I II 28.08.17



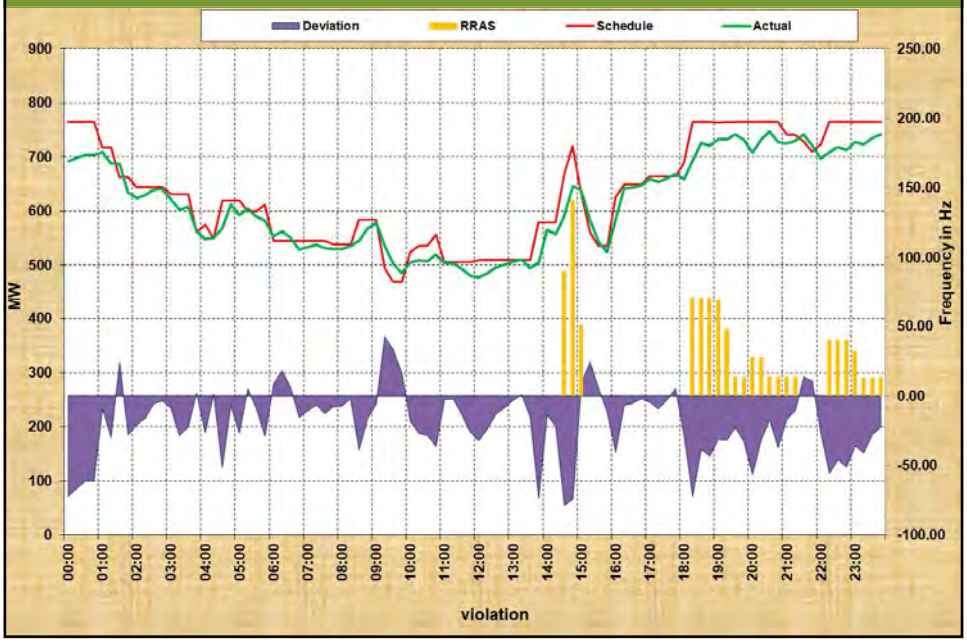
FSTPP I II 29.08.17



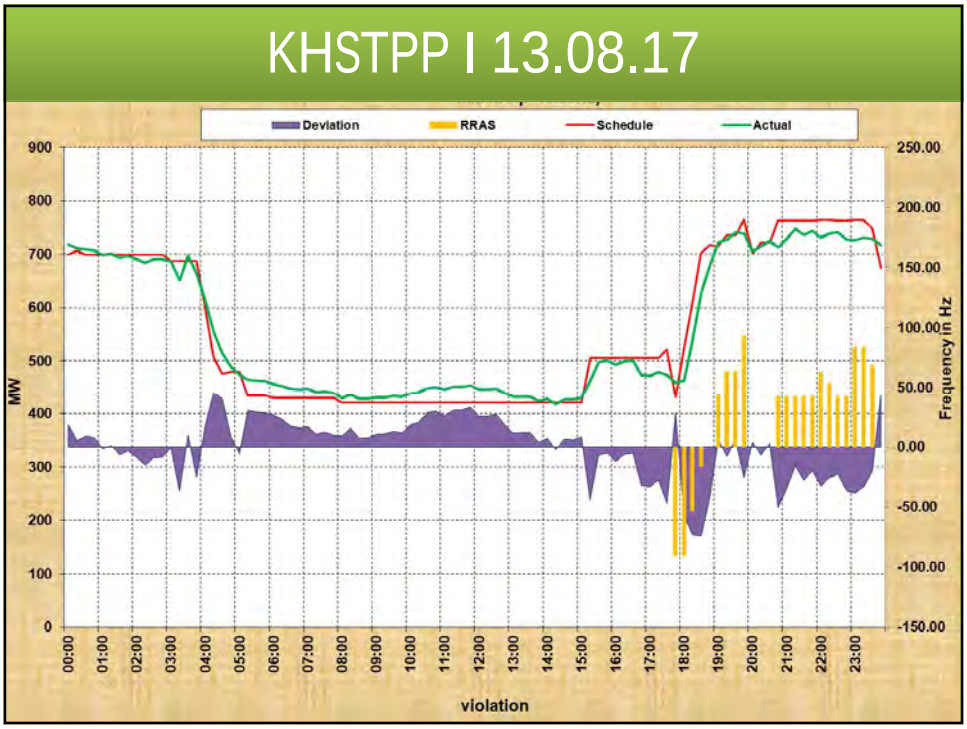
KHSTPP I 09.08.17



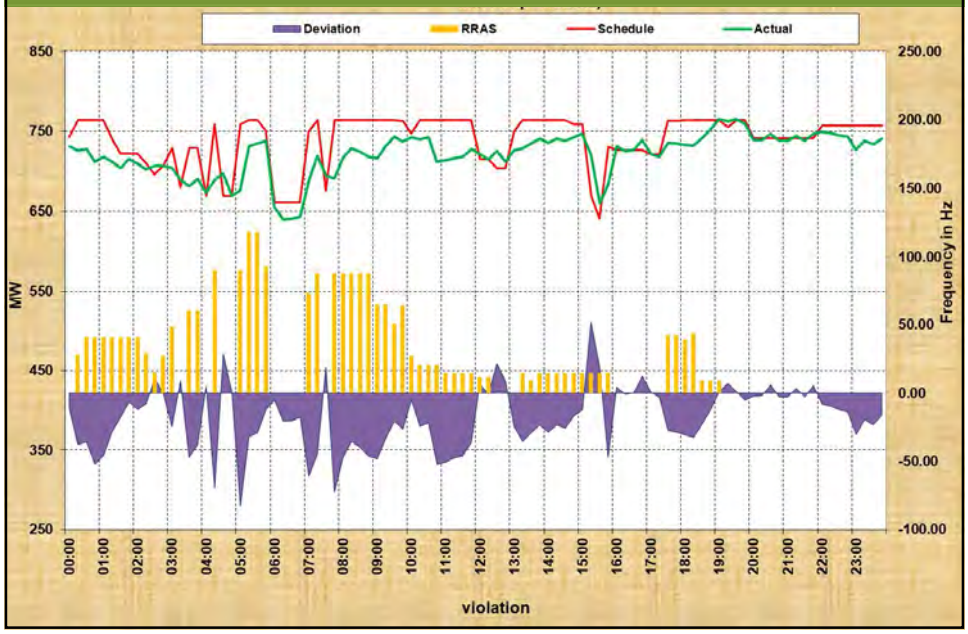
KHSTPP I 11.08.17



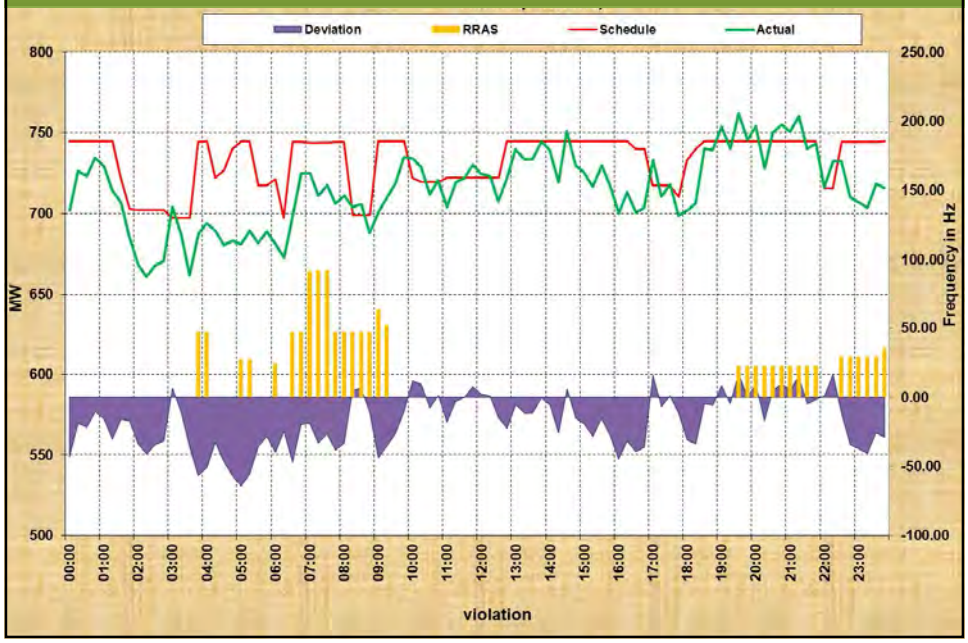
KHSTPP I 13.08.17



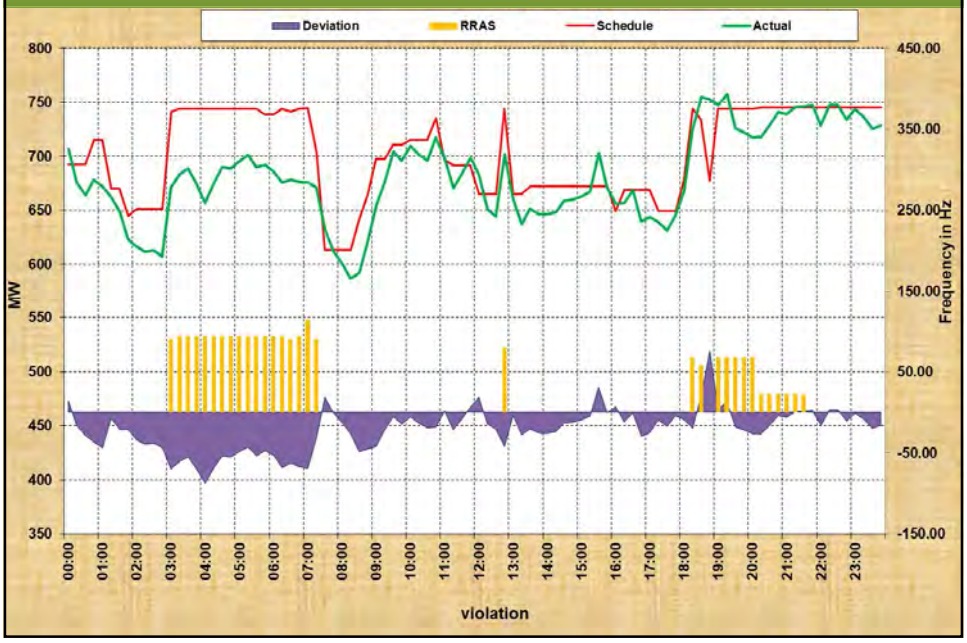
KHSTPP I 16.08.17



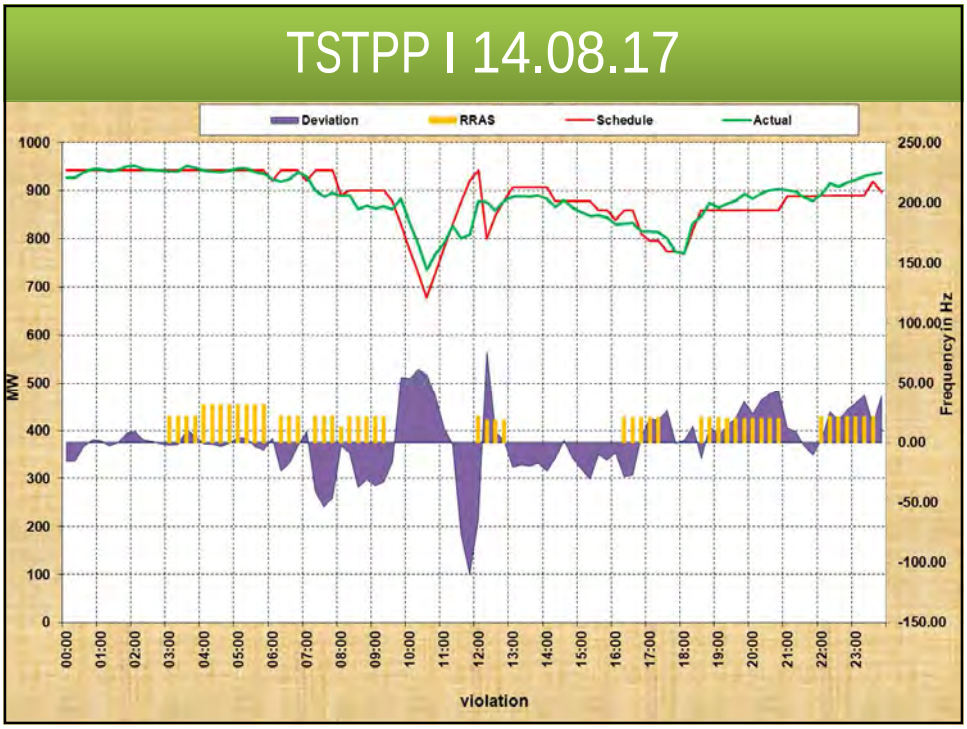
KHSTPP I 24.08.17



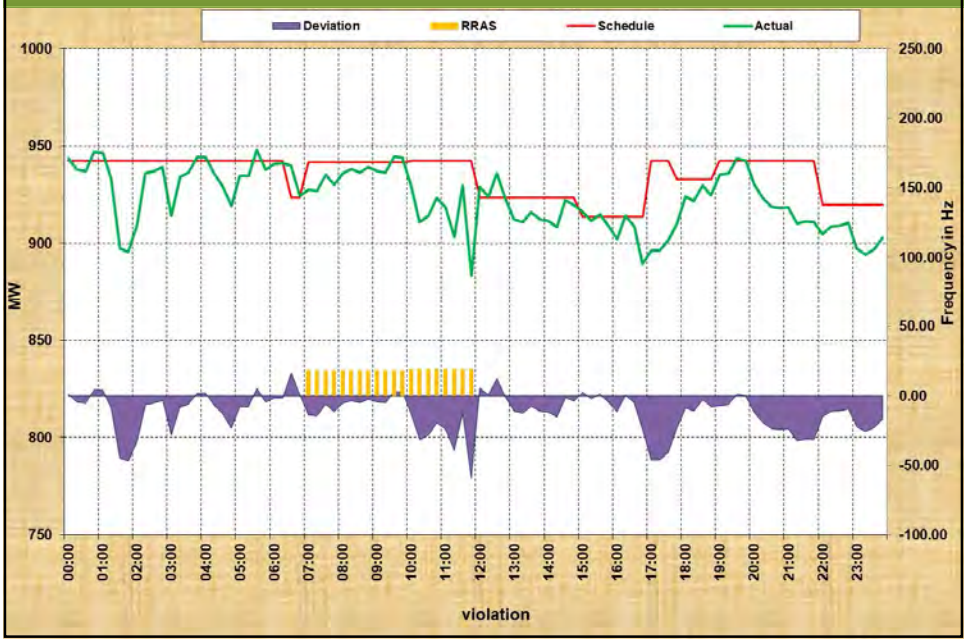
KHSTPP I 25.08.17



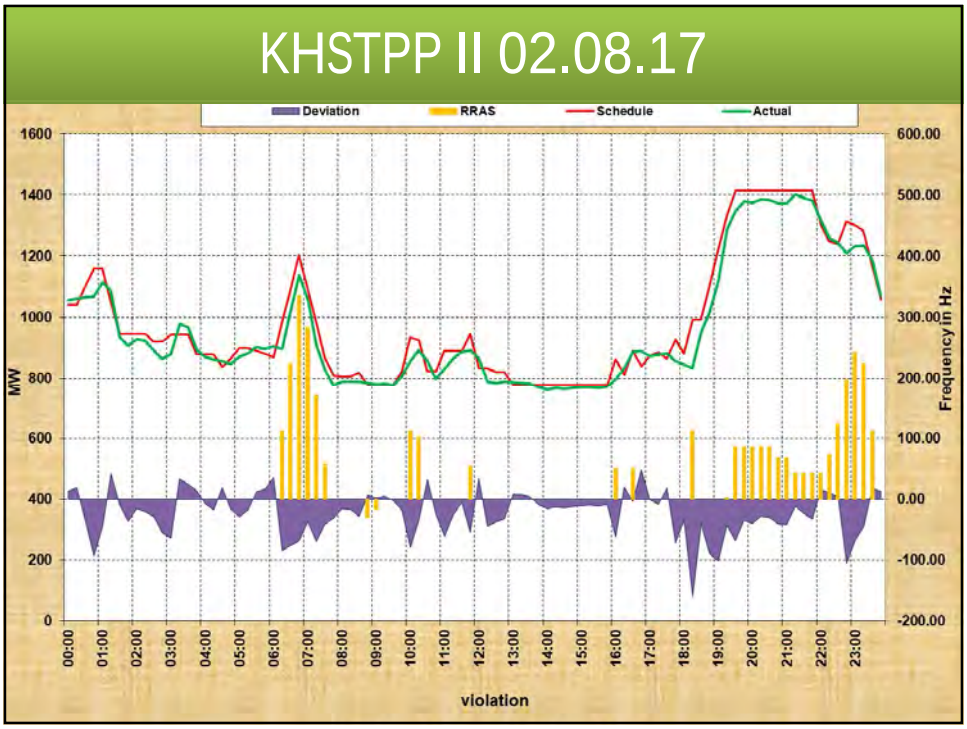
TSTPP I 14.08.17



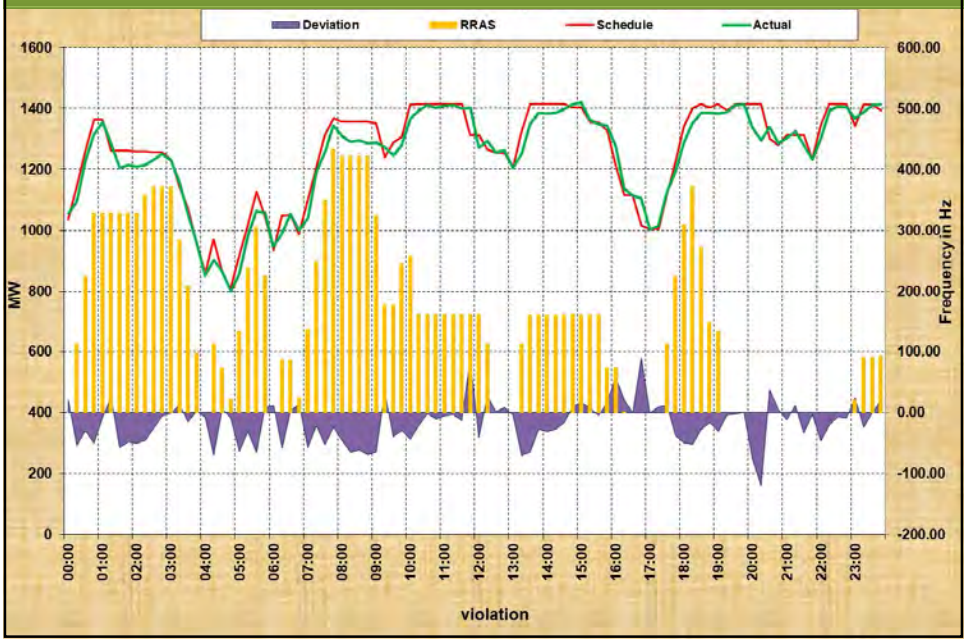
TSTPP I 25.08.17



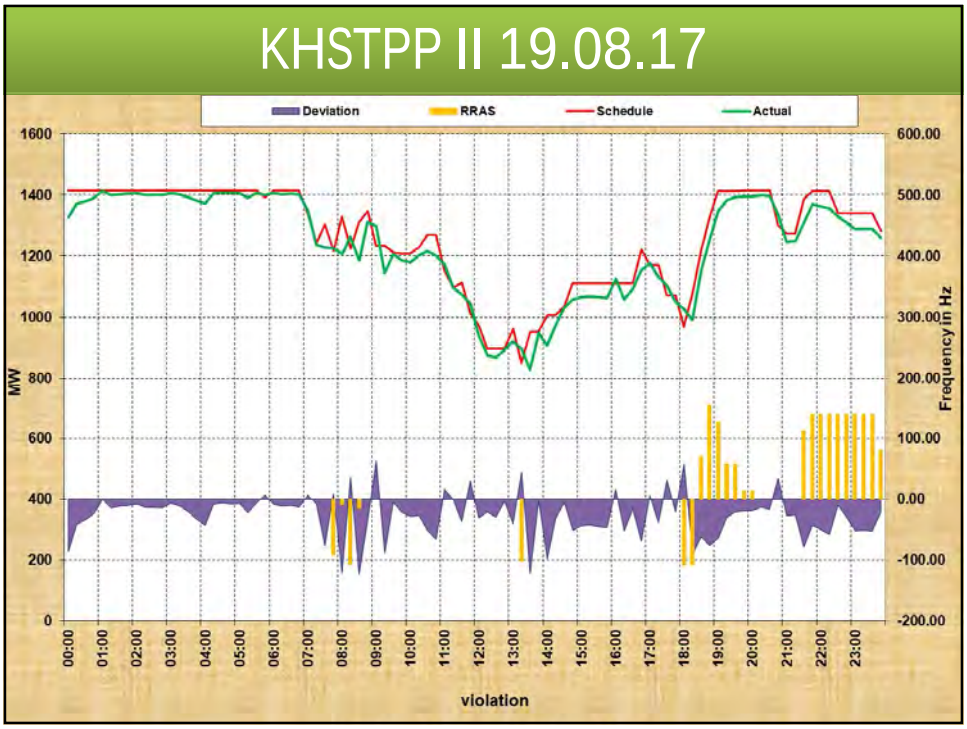
KHSTPP II 02.08.17



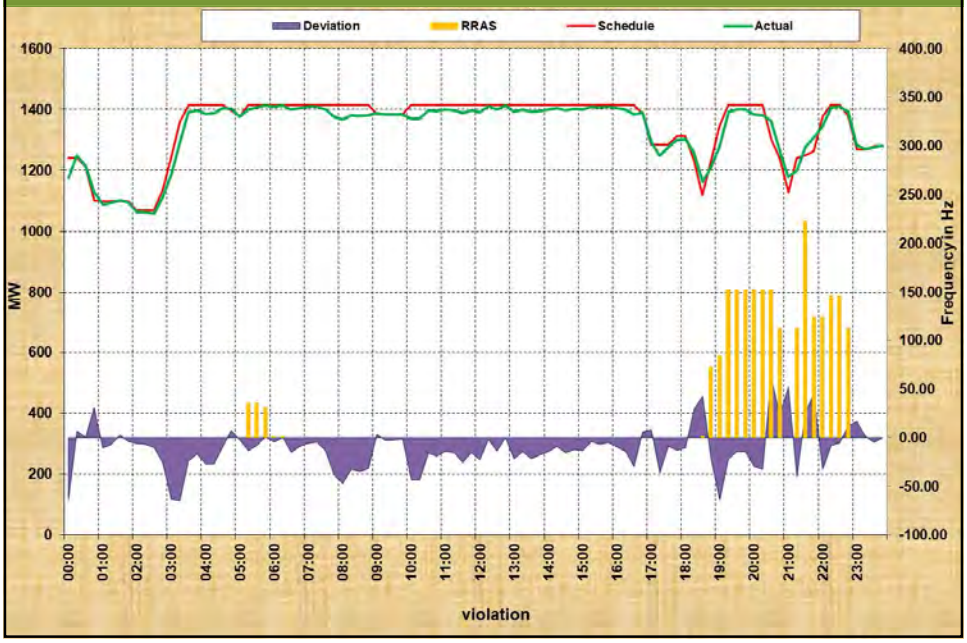
KHSTPP II 16.08.17



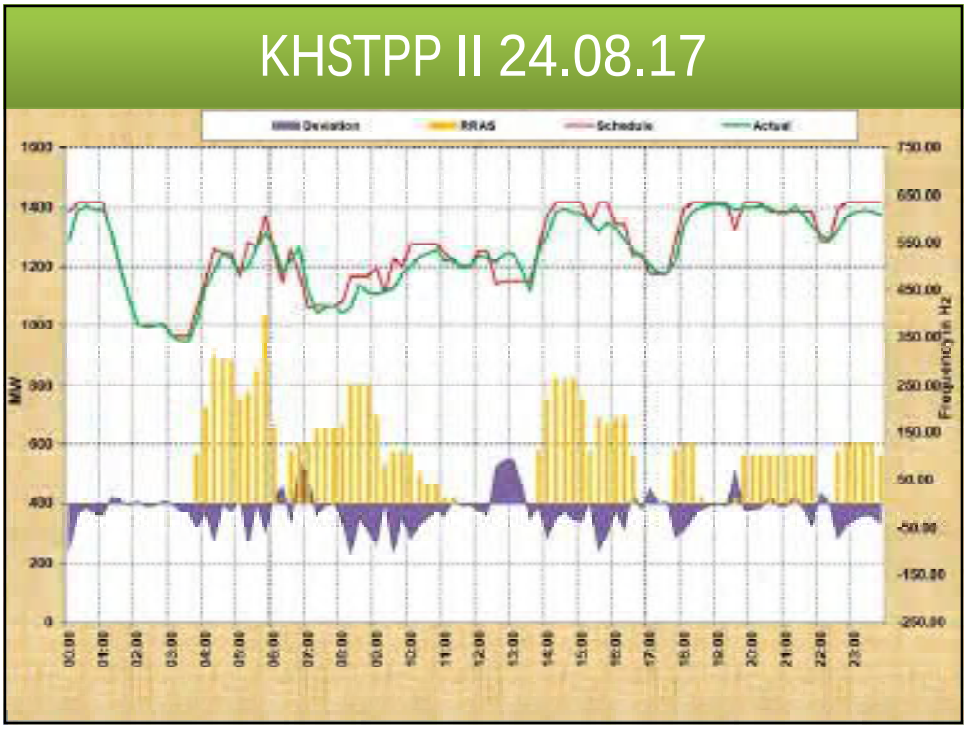
KHSTPP II 19.08.17



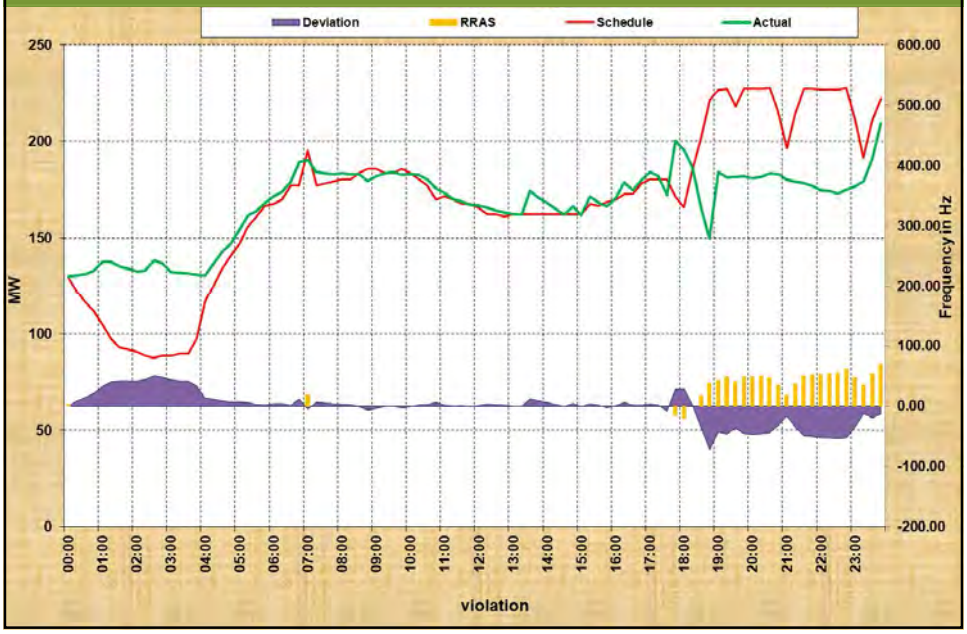
KHSTPP II 22.08.17



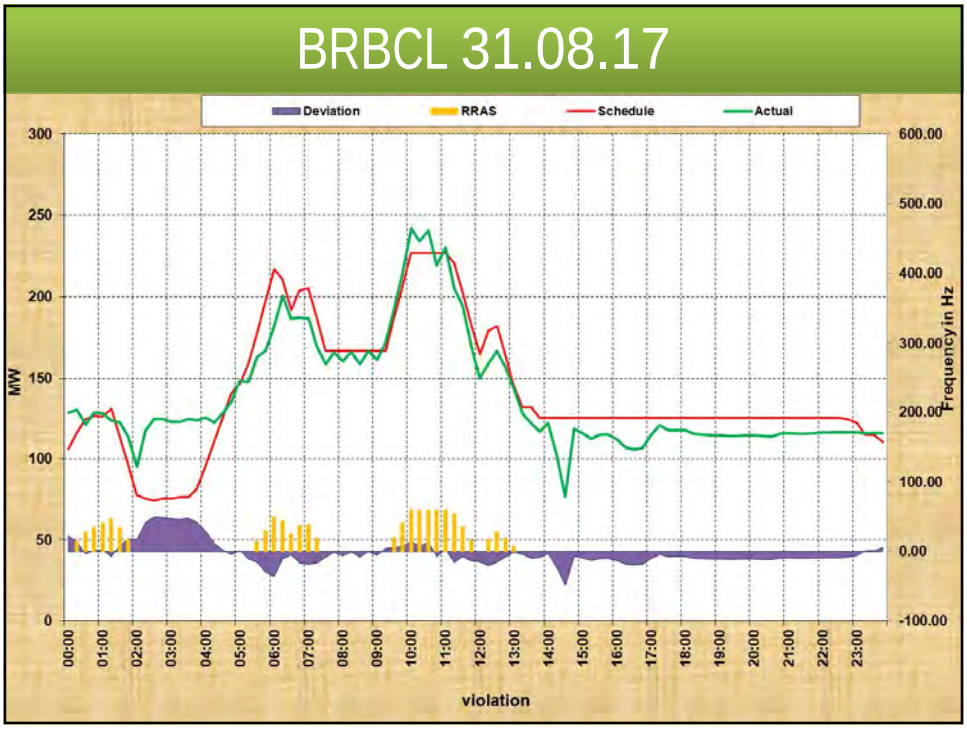
KHSTPP II 24.08.17



BRBCL 13.08.17



BRBCL 31.08.17



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-B29

List of drifted meters to be replaced in Phase-II

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

Annexure-B35A

CERC order regarding FGMO/RGMO response of generators

CERC order

- Petition No. 84/MP/2015, Date of order: July 31, 2017 section 23 (a):
  - "*… the Commission, starting from the month of **September, 2017** shall be closely watching the **primary response of ISGSs** as reported by POSOCO/NLDCs.*
  - *At the State level, **SLDCs** shall report the frequency response of **intra-State generators** to the **concerned SERCs**."*

Section 23(b)

- *"... **SLDCs** through the assistance of POSOCO shall start the process of **selecting independent third parties** capable of undertaking **periodic checkups** to monitor the **RGMO/FGMO response**.*
- *To start with selected independent third parties shall be sent to the generating stations which are not providing the desired RGMO/FGMO response...."*

Section 23(b) contd.

- *"…Independent Third Parties shall **ensure** that the generator **has not, in any way, prevented/disabled the governor from providing the desired response**.*
- *In case, **even after enabling the governors**, units are **not able to provide the desired response** as per the provisions of the Grid Code, third parties, based on the submissions of the generators, shall **bring out the technical constraints,** if any, which limit the primary response of the units."*

Section 23(c)

- *"All **ISGSs** are directed to **provide primary response compulsorily** in terms of Regulation 5.2 (f), (g), (h) and (i) of the Grid Code **failing which** we would not hesitate in **initiating action under Section 142** of Electricity Act, 2003 for not providing desired RGMO/FGMO response without any valid reasons."*

N.B. All ISGSs have been communicated about Hon'ble Commission's order vide letter no ERLDC/SS/FGMO/2017/2505 dated 25-08-17.

Section 24

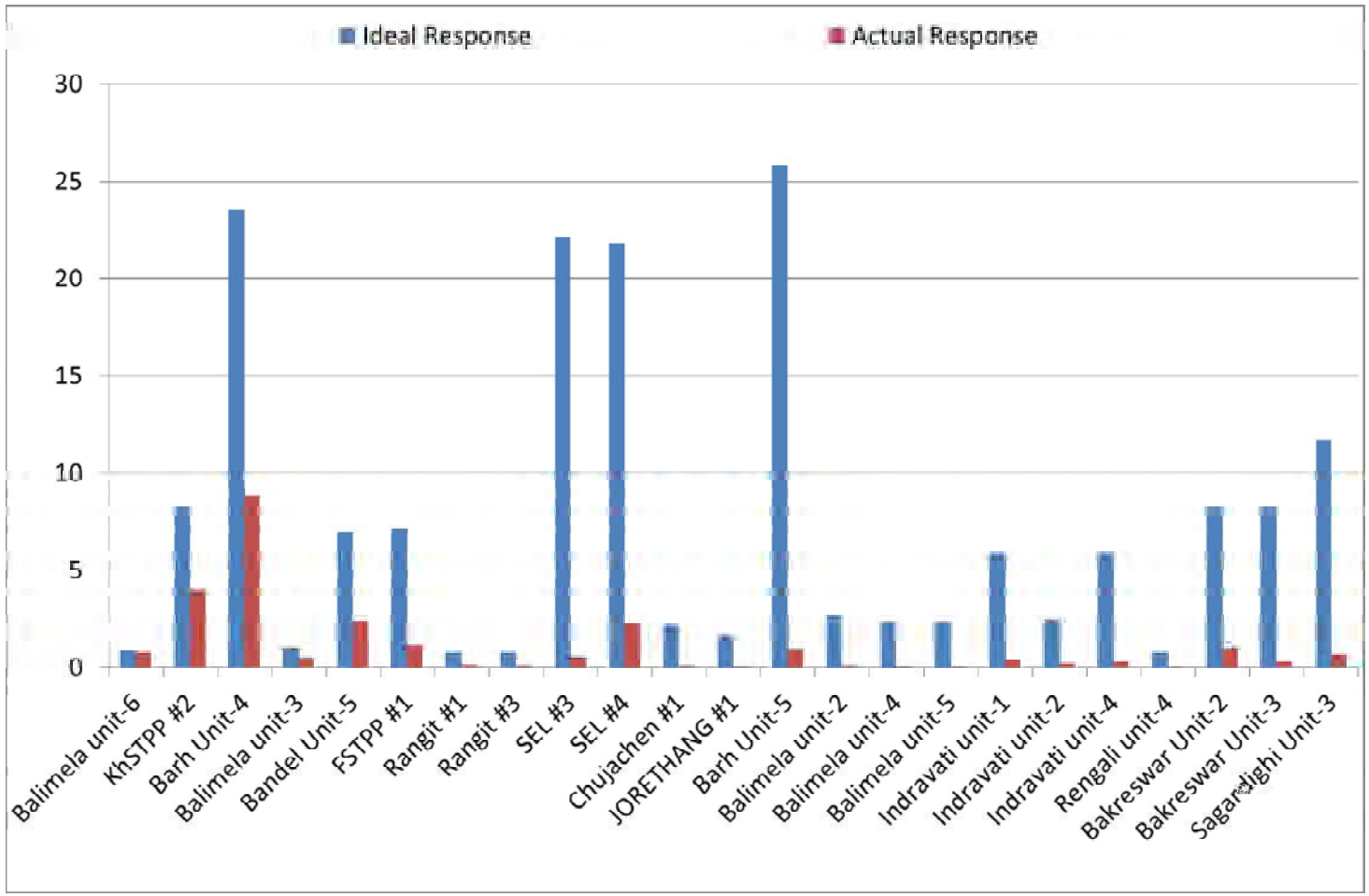
- *"..... The Committee (on implementation of FGMO / primary response) has also recommended that **there is no requirement for granting any exemption even to LMZ units** from operation under RGMO/FGMO with manual intervention*
- *... has the **option** of either expediting the R&M of old units which shall include **installation of new EHG governors** capable of providing adequate primary response or*
- *to go in for **retrofit of mechanical governors** for adopting RGMO features or*
- *to operate on **FGMO with manual intervention**..."*

Response of ER generating units for the event of generation loss at Teesta III at 12:18 hrs on 16-08-17

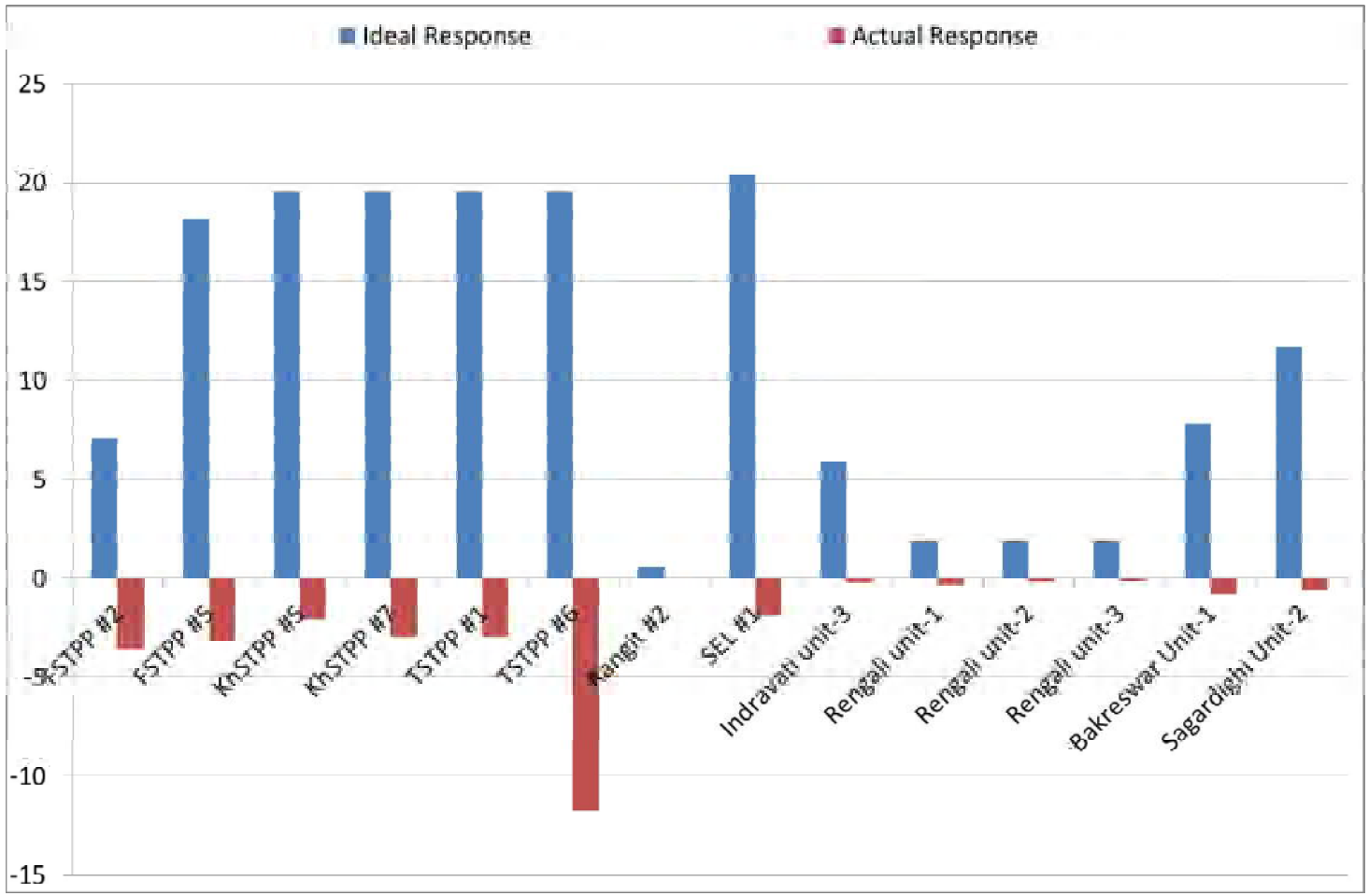
Summary

- Generation loss
  - 879 MW at Teesta and 100 MW at Dikchu
- Frequency change
  - 49.92 Hz to 49.82 Hz

Ideal response vs Actual Response



Ideal response vs Actual Response



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-C.3

Anticipated Power Supply Position for the month of
Oct-17

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	4500	2300
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	1265	164
		- Central Sector	2745	1653
	iii)	SURPLUS(+)/DEFICIT(-)	-490	-483
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1200	800
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	700	278
		- Central Sector	587	338
	iii)	SURPLUS(+)/DEFICIT(-)	87	-184
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2720	1687
	ii)	NET POWER AVAILABILITY- Own Source	4971	2753
		- Central Sector	540	383
		Long term Bi-lateral (Export)	1300	967
	iii)	SURPLUS(+)/DEFICIT(-)	1491	482
4		**ORISSA**		
	i)	NET MAX DEMAND	4000	2492
	ii)	NET POWER AVAILABILITY- Own Source	3154	2079
		- Central Sector	1104	699
	iii)	SURPLUS(+)/DEFICIT(-)	258	286
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	6035	3259
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	6035	3259
	iv)	NET POWER AVAILABILITY- Own Source	3564	2028
		- Import from DPL	166	0
		- Central Sector	2492	1413
	v)	SURPLUS(+)/DEFICIT(-)	187	182
	vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
5.2		**DPL**		
	i)	NET MAX DEMAND	260	187
	ii)	NET POWER AVAILABILITY	426	187
	iii)	SURPLUS(+)/DEFICIT(-)	166	0
5.3		**CESC**		
	i)	NET MAX DEMAND	1900	984
	ii)	NET POWER AVAILABILITY - OWN SOURCE	750	489
		FROM HEL	540	339
		FROM CPL/PCBL	40	0
		Import Requirement	570	156
	iii)	TOTAL AVAILABILITY	1900	984
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8195	4430
	ii)	NET POWER AVAILABILITY- Own Source	4740	2704
		- Central Sector+Others	3642	1752
	iii)	SURPLUS(+)/DEFICIT(-)	187	26
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	35
	ii)	NET POWER AVAILABILITY- Own Source	10	7
		- Central Sector+Others	130	84
	iii)	SURPLUS(+)/DEFICIT(-)	56	56
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	20097	11744
		Long term Bi-lateral by DVC	1300	967
		EXPORT BY WBSEDCL	10	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER** **(INCLUDING C/S ALLOCATION)**	23589	12895
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER** **(ii)-(i)**	2182	177

Annexure- C.4

Proposed Maintenance Schedule of Thermal Generating Units of ER during October, 2017
(as finalised in LGBR meeting)

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
WBPDCL	KTPS	4	210	15.10.17	05.11.17	20	BTG Overhauling
NTPC	FSTPS	6***	500	04.10.17	10.10.17	7	Boiler, Turbine
	Barh	4	660	05.10.17	15.10.17	11	Boiler heater maitenance
IPP	MPL	1	525	29.10.17	30.11.17	32	Boiler, Turbine

EASTERN REGIONAL LOAD DESPATCH CENTRE

KOLKATA

TRANSMISSION ELEMENTS OUTAGE APROVED IN 137TH OCC MEETING OF ERPC

Sr. No	**NAME OF THE ELEMENTS**	**DATE**	**TIME**	**DATE**	**TIME**	**REMARKS**	**S/D availed BY**	**Reason**	**SUBJECT TO CONSENT FROM AGENCY**
1	**50MVAR BUS REACTOR at Rourkela**	01/10/17	09:00	31/12/17	18:00	**OCB**	**ER-II/Odisha/Rourkela**	**Replacement of existing 50MVAR Bus Reactor by 125MVAR Bus Reactor for extension of 400KV Rourkela S/S under ERSS-IX Package.**	
2	315MVA ICT-II at Keonjhar	01/10/17	09:00	20/10/17	18:00	OCB	ER-II/Odisha/Keonjhar	Construction of Firewall for 125MVAR Reactor	GRIDCO
3	220 KV MAIN BAY CB OF 160 MVA ICT#1 AT PURNEA	01/10/17	09:00	02/10/17	17:00	OCB	POWERGRID ER-I	DEW POINT MEASUREMENT TO BE DONE OF Y & B POLE. RESULT IS BELOW EXPECTED LEVEL, POLE RECONDITIONING TO BE DONE.	
4	132 KV PURNEA - PURNEA BSPTCL#3 LINE	01/10/17	09:00	23/10/17	17:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
5	160 MVA ICT#3 AT PURNEA	01/10/17	09:00	08/10/17	16:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
6	400 kv SASARAM -BSF-1, 400 KV SASARAM -BSF-2, 400 KV SASARAM - VNS , 400 KV SASARAM - NABINAGAR -2 ,MAIN AND TIE BAY OF PREVIOSLY EXISTING BSF -4 LINE AT SASARAM (PRESINTLY DALTANKANJ LINE UNDER COMMISSIONING IS ANTETHEFT CHARGED THROUGH THESE BAYS)	01/10/17	09:00	03/10/17	18:00	ODB . Line bay to be availed for S/D of BSF-1 are CWD70-Q51, CWD70-Q50. Line bay to be availed for S/D of BSF-2 are CWD80-Q51, CWD80-Q50. Line bay	POWERGRID ER-I	TO CARRY OUT ERECTION AND STRINGING WORK AT DALTENGANJ CKT 1 AND 2 BAYS	NLDC/ Power Grid ER - I may pls explain
7	400 KV Maithon-Durgapur I & II	01/10/2017	08:00	12/10/2017	18:00	OCB	ER-II	Diversion of MD Line by M/S Suhara Power for dedicated freight coridor.	
8	220 kv Maithon-Dumka I&II	01/10/2017	09:00	01/10/2017	17:30	ODB	ER-II	Insulator Replacement at MD Line	DVC
9	50 MVAR Line Reactor AT SUBHASGRAM	01/10/2017	08:00	30/10/2017	17:30	OCB	ER-II	Implementation of Switching Scheme in existing 50 MVAR Sgram-S'dighi Line Reactor at Subhasgram	
10	**50 MVAR X 2 BUS REACTOR AT JEERAT**	01/10/2017	09:00	01/10/2017	17:00	ODB	ER-II	FOR FREQUENCY DOMAIN SPECTROCHEM MEASURMENT.	
11	**220 KV ALIPURDUAR-SALAKATI-D/C**	01/10/2017	09:00	31/10/2017	17:00	ODB	ER-II	ERECTION WORK OF JIGNELING BAY.	NLDC
12	400 KV Maithon-Kahalgoan I & II	14/10/2017	09:00	15.10.17	17:30	ODB	ER-II	Insulator Replacement at MD Line	
13	ICT-IV AT SUBHASGRAM & Haldia Line -1	02/10/2017	08:00	02/10/2017	17:30	ODB	ER-II	Joint Inspection of POWERGRID & CESC for simultenous Tripping	

14	80 MVAR Alipurduar-I L/R AT BONGAIGAON	02/10/2017	9.00 hrs	02.10.17	17.00 hrs	ODB	ER-II	AMP	
15	315MVA ICT#1 at Rourkela	03/10/17	09:00	07/10/17	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 lekage problem from tan delta test tap assemblies of its	GRIDCO
16	400 kV Bus-II at Baripada	03/10/17	08:30	03/10/17	17:30	ODB	ER-II/Odisha/Baripada	For GIS bay EXTN works(for isolation of GIS Bus-II)	
17	400 kV Bay 415 CB(GIS) at Baripada	03/10/17	08:30	08/10/17	17:30	OCB	ER-II/Odisha/Baripada	For GIS Bus-II ext. works	
18	315MVA ICT #3 at Baripada	03/10/17	09:30	03/10/17	11:30	ODB	ER-II/Odisha/Baripada	Insulation sleeves work on 52 kV buhsings	GRIDCO
19	400kV Keonjhar Main Bay (Bay No-401) at Rengali	03/10/17	09:00	03/10/17	17:00	ODB	ER-II/Odisha/Rengali	For attending hotspot and Isolator allignment work.	
20	132 kV LKR-LKR (BSPTCL) Line-1	03/10/17	10:00	03/10/17	14:00	ODB	POWERGRID ER-I	AMP	BSPHCL
21	400 KV BUS -I AT NEW RANCHI	03/10/17	08:00	05/10/17	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION	
22	500 MVA ICT-2 AT KISHANGANJ	03/10/17	10:00	03/10/17	17:00	ODB	POWERGRID ER-I	PRE WARRANTY TEST	BSPHCL
23	400kV Rengali-Talcher-I Main Bay-404 at Rengali	04/10/17	09:00	04/10/17	17:00	ODB	ER-II/Odisha/Rengali	AMP work at Rengali.	
24	63MVAr Dubri Line reactor(407R) at Baripada	04/10/17	09:30	04/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	
25	220KV BUS TRANSFER BAY (BAY NO.- 205) at Rourkela	04/10/17	09:00	04/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP	
26	63MVAR Reactor MAIN BAY (416) at Jeypore	04/10/17	09:30	04/10/17	17:30	ODB	ER-II/Odisha/Jeypore	AMP of Main Bay (416)	
27	400 KV Rourkela-Sterlite-II & Rourkela - Sundargarh-II (both circuits together)	04/10/17	08:00	05/10/17	17:00	OCB	ER-II/Odisha/Sundargarh TLC	Stringing work of 765KV Angul-Jharsuguda D/C (Ckt-III & IV) transmission line	NLDC
28	400KV Bus I at Bolangir	04/10/17	08:00	11/10/17	18:00	ODB	ER-II/Odisha/Bolangir	BPI Erection and Stringing in Reactor Bay construction ERSS-XIV	
29	400 KV BUS -II AT MUZAFFARPUR	04/10/17	09:00	05/10/17	18:00	ODB	POWERGRID ER-I	AMP	
30	400/220 kV 500 MVA CT- 1 AT GAYA	04/10/17	08:00	04/10/17	18:00	ODB	POWERGRID ER-I	220 K V LINE ISOLATOR RECTIFICATION WORK	BSPHCL
31	400KV MTN RB-I Main Bay(407 BAY) AT RANCHI	04/10/17	10:00	04/10/17	17:00	ODB	POWERGRID ER-I	AMP	
32	220kV JUSNL BUS -1 AT RAMCHANDRAPUR	04/10/17	09:30	04/10/17	17:30	ODB	POWERGRID ER-I	BAY CONSTRUCTION WORK RELATED TO 315 MVA ICT-3 AT JSR (PG)	JHARKHAND
33	500 MVA ICT-1 AT KISHANGANJ	04/10/17	10:00	04/10/17	17:00	ODB	POWERGRID ER-I	PRE WARRANTY TEST	BSPHCL
34	BAY No.- 416 (Main Bay of KGP-2) AT CHAIBASA	04/10/17	10:00	04/10/17	13:00	ODB	POWERGRID ER-I	DCRM	
35	400 kV PTN-BARH CKT – I	04/10/17	08:00	04/10/17	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF PORCELAIN INSULATOR WITH POLYMER INSULATOR	
36	125 MVAR BR#2 at DURGAPUR	04/10/2017	10:00hrs	04/10/2017	17:00hrs	ODB	ER-II	for fire fighting commissioning of BR#2	
37	400 KV Maithon-Jamshedpur	04/10/2017	09:00	05.10.17	17:30	ODB	ER-II	Insulator Replacement at MD Line	

38	220 kv Maithon-Kalyanswari I&II	04/10/2017	09:00	04/10/2017	17:30	ODB	ER-II	Insulator Replacement at MD Line	DVC
39	220 kv Maithon-Dhanbad I&II	04/10/2017	09:00	04/10/2017	17:30	ODB	ER-II	Insulator Replacement at MD Line	DVC
40	Sagardihgi - ICT#1 Tie bay (402) AT SUBHASGRAM	04/10/2017	08:00	06/10/2017	17:30	OCB	ER-II	Yph Interrupter Unit repalcement for SF6 Leakage	
41	400KV ICT-I main Bay(BAY NO.-407)	04/10/2017	9.00 hrs	09.10.17	17.00 hrs	OCB	ER-II	CB (BHEL make) overhauling	
42	Auto Reclose to be kept in Manual mode 400 KV Rengali-Indravati Line	05/10/17	08:00	28/10/17	18:00	ODB	ER-II/Odisha/Bolangir	For Carrying out PID of line , No Power Interuption will be there.	
43	765kV, 3*110MVAR Bus Reactor-1 at Angul	05/10/17	10:00	05/10/17	18:00	ODB	ER-II/Odisha/Angul SS	For attending Oil Leakage by full gasket replacement in Y-phase of BR-1 under M/s. TBEA Punch points.	NLDC
44	400kV 125MVAR Bus Reactor#1 at Sundargarh	05/10/17	08:00	06/10/17	18:00	ODB	ER-II/Odisha/Sundergarh	Arresting of Leakage and AMP	
45	160 MVA ICT#1 at Baripada	05/10/17	09:00	05/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP work	GRIDCO
46	400kV Rengali-Talcher-I Tie Bay-406 at Rengali	05/10/17	09:00	05/10/17	17:00	ODB	ER-II/Odisha/Rengali	For attending hotspot, attending SF6 gas leakage and Isolator allignment work.	
47	400 kV Bay No.- 408 (Tie Bay of 400 kV KHG-1 & 80 MVAR Bus Reactor AT LAKHISARAI)	05/10/17	10:00	05/10/17	14:00	ODB	POWERGRID ER-I	CABLE REPLACEMENT OF CB SPRING CHARGING MOTOR	
48	220 KV BUS-I at Gaya S/S	05/10/17	08:00	05/10/17	18:00	ODB	POWERGRID ER-I	FOR KHIJARSARAI BAY COMMISIONING WORK	BSPHCL
49	200MVA ICT-1 AT BANKA	05/10/17	10:00	05/10/17	18:00	ODB	POWERGRID ER-I	PROVIDING INSULATION SLEEVES ON TERTIARY CONDUCTOR	BSPHCL
50	220kV JUSNL BUS -2 AT RAMCHANDRAPUR	05/10/17	09:30	05/10/17	17:30	ODB	POWERGRID ER-I	BAY CONSTRUCTION WORK.	JHARKHAND
51	400 kV PTN-BARH CKT – II	05/10/17	08:00	05/10/17	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF PORCELAIN INSULATOR WITH POLYMER INSULATOR	
52	400/220/33kV, 315MVA ICT - 1 at ALIPURDUAR & 220 KV Bus-II	05/10/2017	09:00	07.10.2017	18:00	OCB	ER-II	Rectification work of ICT - I 220 KV side Isolator alignment problem.	
53	220 KV BIRPARA-ALIPURDUAR-I	05/10/2017	09:00	05.10.17	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	AFTER RESTORATION OF ALIPURDUAR - SALAKATI D/C
54	125 MVAR Bus Reactor-1 AT MAITHON	05/10/2017	09:00	10.10.2017	17:30	ODB	ER-II	Construction of Fire wall under ERSS-IX	
55	400 KV PPSP-DURGAPUR	05/10/2017	09:00	05/10/2017	17:30	ODB	ER-II	Insulator Replacement at MD Line	
56	160 MVA ICT-1 220/132 KV AT MALDA	05/10/2017	8-00 A.M.	05/10/2017	4-00 P.M.	ODB	ER-II	AMP	WBSETCL
57	220kV Bus Coupler at Rengali	06/10/17	09:00	06/10/17	17:00	ODB	ER-II/Odisha/Rengali	Replacement of Tan delta violated CT (R&B Ph.)	OPTCL
58	160 MVA ICT#2 at Baripada	06/10/17	09:30	06/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	GRIDCO
59	400kV Bus Reactor-2 Main Bay(410) at Angul	06/10/17	10:00	06/10/17	16:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
60	125MVAR Reactor MAIN BAY (409) at Jeypore	06/10/17	09:30	06/10/17	17:30	ODB	ER-II/Odisha/Jeypore	AMP of Main Bay (409)	
61	3x105MVA ICT#2 at Indravati	06/10/17	08:00	06/10/17	18:00	ODB	ER-II/Odisha/Indravati	AMP work	GRIDCO

62	L/R OF 400KV MUZAFFARPUR-PURNEA-2 AT MUZAFFARPUR	06/10/17	09:00	06/10/17	18:00	ODB	POWERGRID ER-I	AMP OF REACTOR & REACTOR CB (41052LR)	
63	220 KV BUS-II at Gaya S/S	06/10/17	08:00	06/10/17	18:00	ODB	POWERGRID ER-I	FOR KHIJARSARAI BAY COMMISIONING WORK	BSPHCL
64	200MVA ICT-2 AT BANKA	06/10/17	10:00	06/10/17	12:00	ODB	POWERGRID ER-I	PROVIDING INSULATION SLEEVES ON TERTIARY BUSHING	BSPHCL
65	400KV MTN RB-II Main Bay (410 BAY) AT RANCHI	06/10/17	10:00	06/10/17	17:00	ODB	POWERGRID ER-I	AMP	
66	400kV BUS - 1 AT JSR	06/10/17	09:30	06/10/17	17:30	ODB	POWERGRID ER-I	BAY CONSTRUCTION WORK.	
67	Bay No.- 417(Tie Bay of KGP-2) AT CHAIBASA	06/10/17	10:00	06/10/17	13:00	ODB	POWERGRID ER-I	DCRM	
68	400 kV PTN-BARH CKT – III	06/10/17	08:00	06/10/17	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF PORCELAIN INSULATOR WITH POLYMER INSULATOR	
69	400 KV S/C Farakka-Durgapur-II TL	06/10/2017	11:00	06/10/2017	15:00	ODB	ER-II	For replacement of Insulator due to damage by miscreant	
70	400kV Bus-I AT BINAGURI	06/10/2017	07.00 hrs	06/10/2017	17.00 hrs	ODB	ER-II	To facilitate hot spot rectification in Purnea-3 & 4 Line.	
71	400kV B/R-2& Meramundali Line-2 Tie Bay(411) at Angul	07/10/17	10:00	07/10/17	16:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	OPTCL
72	220KV Budhupada-Korba# 3	07/10/17	08:00	07/10/17	18:00	ODB	ER-II/Odisha/Sundergarh	For AMP Work	NLDC
73	200 MVA ICT-1 AT LAKHISARAI	07/10/17	08:00	08/10/17	18:00	ODB	POWERGRID ER-I	CHECKING OF AIR CELL.	BSPHCL
74	Main Bay of 400KV MLD-II CB (41352) AT NEW PURNEA	07/10/17	10:00	09/10/17	18:00	OCB	POWERGRID ER-I	CB OPERATING MECH.OVERHAULING	
75	Main bay RNC-RNC CKt-1 (bay 406) AT NEW RANCHI	07/10/17	08:00	07/10/17	18:00	ODB	POWERGRID ER-I	AMP	
76	400 KV BUS-I at Gaya S/S	07/10/17	08:00	07/10/17	18:00	ODB	POWERGRID ER-I	BAY EXTENSION WORK FOR GAYA NAVINAGAR LINE	
77	400kV BUS -2 AT JSR	07/10/17	09:30	07/10/17	17:30	ODB	POWERGRID ER-I	BAY CONSTRUCTION WORK.	
78	220 KV BIRPARA-ALIPURDUAR-II	07/10/2017	09:00	07/10/2017	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	AFTER RESTORATION OF ALIPURDUAR - SALAKATI - D/C
79	400 kV Bus-II at Baripada	08/10/17	08:30	08/10/17	17:30	ODB	ER-II/Odisha/Baripada	For GIS bay EXTN works(for recoonecting jumpers to GIS Bus-II)	
80	160 MVA ICT-2 220/132 KV AT MALDA	08/10/2017	8-00 A.M.	08/10/2017	4-00 P.M.	ODB	ER-II	AMP	WBSETCL
81	400 kV Bus-I at Baripada	09/10/17	08:30	09/10/17	17:30	ODB	ER-II/Odisha/Baripada	For GIS bay EXTN works(for isolation of GIS Bus-I)	OPTCL
82	400 kV Bay 413CB(GIS) at Baripada	09/10/17	08:30	14/10/17	17:30	OCB	ER-II/Odisha/Baripada	For GIS Bus-I ext. works	
83	400kV Meramundali Line-2 Main Bay(412) at Angul	09/10/17	10:00	09/10/17	16:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
84	400KV BUS-II at Rourkela	09/10/17	09:00	09/10/17	14:00	ODB	ER-II/Odisha/Rourkela	Erection, Installation and Alignment of 41089 Isolator in Bay No.- 410 (STATCOM Main Bay).	
85	765KV 240 MVAr Bus reactor-II at Sundargarh	09/10/17	09:00	09/10/17	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of spare Reactor to B-Ph reactor of 765KV B/R-II after attending oil leakage of the Reactor.	NLDC

86	400 kV Main Bus-1 AT LAKHISARAI	09/10/17	10:00	09/10/17	14:00	ODB	POWERGRID ER-I	AMP	
87	Main Bay of 400KV MLD-I CB (41652) AT NEW PURNEA	09/10/17	10:00	11/10/17	18:00	OCB	POWERGRID ER-I	CB OPERATING MECH.OVERHAULING	
88	765/400 KV ICT-I AT NEW RANCHI	09/10/17	08:00	14/10/17	18:00	ODB	POWERGRID ER-I	ERECTION OF GANTRY TOWER UNDER STATCOM PROJECT	NLDC
89	Tie bay 400KV RNC-Chandwa Ckt-1 (bay 426) AT NEW RANCHI	09/10/17	08:00	09/10/17	18:00	ODB	POWERGRID ER-I	AMP	
90	400 KV BUS-II at Gaya S/S	09/10/17	08:00	09/10/17	18:00	ODB	POWERGRID ER-I	BAY EXTENSION WORK FOR GAYA NAVINAGAR LINE	
91	400kV Biharsharif Ckt-1 Main bay (bay no.-401) AT BANKA	09/10/17	10:30	09/10/17	14:30	ODB	POWERGRID ER-I	AMP work	
92	220KV HATIA-II Main Bay (201 Bay) AT RANCHI	09/10/17	10:00	09/10/17	17:00	ODB	POWERGRID ER-I	AMP	JHARKHAND
93	400/220kV, 315MVA ICT-1 AT JSR	09/10/17	09:30	09/10/17	17:30	ODB	POWERGRID ER-I	DIFFERENTIAL RELAY REPLACEMENT WORK	JUSNL
94	400 kV PTN-BARH CKT – IV	09/10/17	08:00	09/10/17	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF PORCELAIN INSULATOR WITH POLYMER INSULATOR	
95	220 KV SILIGURI-KISHANGANJ-I	09/10/2017	09:00	09.10.17	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	
96	500MVA ICT# V AT SUBHASGRAM	09/10/2017	08:00	09/10/2017	17:30	ODB	ER-II	PSD Commissioning work	WBSETCL
97	400kV Tala-I L/R along with Line	09/10/2017	9.00 hrs	09.10.17	17.00 hrs	ODB	ER-II	Repeat tan delta of 400kV R Phase Bushing & Neutral Bushing.	
98	765KV 240 MVAr Bus reactor-I at Sundargarh	10/10/17	09:00	10/10/17	12:00	ODB	ER-II/Odisha/Sundergarh	Shifting of Y-Ph Reactor to Spare Reactor to attend oil leakage in Y-Ph Reactor.	NLDC
99	400KV BUS-I at Rourkela	10/10/17	09:00	10/10/17	14:00	ODB	ER-II/Odisha/Rourkela	Erection, Installation and Alignment of 41289 Isolator & Earthswitch in Bay No.- 412 (STATCOM Future Bay).	
100	400kV 125MVAR Bus Reactoe-2 at Angul	10/10/17	10:00	10/10/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	
101	315MVA ICT#2 MAIN BAY (418) at Jeypore	10/10/17	09:30	10/10/17	17:00	ODB	ER-II/Odisha/Jeypore	ELPRO isolator allignment work	
102	400KV Rourkela - SEL-II line	10/10/17	09:00	10/10/17	18:00	ODB	ER-II/Odisha/Sundergarh TLM	Replacement of flash insulator at location no. 266 in bottom phase & For replacement of Porcelein Insulator at single crossing span (317-318) by CLR polymer . Insulator replacement at Location No.- 57 & rectification of bundle spacer in span 195-196 (Already approved in 136th OCC, in case of non availability the S/D will be taken in the month of Oct-17)	GRIDCO
103	Dubri Bus reactor at Dubri end	10/10/17	09:30	10/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	
104	400 KB Rourkela-Raigarh -I & Rourkela - Sundargarh-I (both circuits together)	10/10/17	08:00	15/10/17	17:00	OCB	ER-II/Odisha/Sundargarh TLC	Erection of tower under line and Stringing work of LILO of 400 KV D/C Rourkela-Raigarh (Ckt- I)	NLDC

105	765 KV Angul-Srikakulam TL CKT-II	10/10/17	07:00	11/10/17	17:00	ODB	ER-II/Odisha/Berhampur	Replacement of Glass Insulatos by Long Rod Polymer Insulators at loc no. 681, 715, 722,723, 727 and 728. (Already approved in 136th OCC, in case of non availability, the S/D will be taken in the month of Oct-17)	NLDC
106	400/200kV ICT-I 315 MVA at Rengali	10/10/17	09:00	10/10/17	17:00	ODB	ER-II/Odisha/Rengali	For attending hotspot,replacement of burnt nuts and bolt and Isolator allignment work.	GRIDCO
107	400 KV BSF - BALIA Ckt-I	10/10/17	08:00	11/10/17	18:00	ODB	POWERGRID ER-I	FOR INSULATOR REPLACEMENT OF PROCELAIN INSULATOR WITH POLYMER INSULATORS.	NLDC
108	132 KV PURNEA - KISHANGANJ LINE AT PURNEA	10/10/17	09:00	23/10/17	16:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
109	400 kV Main Bus-2 AT LAKHISARAI	10/10/17	10:00	10/10/17	14:00	ODB	POWERGRID ER-I	AMP	
110	Tie bay 400KV RNC-Chandwa Ckt-2 (bay 429) AT NEW RANCHI	10/10/17	08:00	10/10/17	18:00	ODB	POWERGRID ER-I	AMP	
111	765KV NRNC- DMG Ckt.-II	10/10/17	09:00	12/10/17	18:00	ODB	POWERGRID ER-I	INSULATOR RELACEMENT WORK DAMAGED BY MICREANTS	NLDC
112	500 MVA ICT-3 AT MUZAFFARPUR	10/10/17	09:00	14/10/17	18:00	OCB	POWERGRID ER-I	REPLACEMENT OF GASKET/ORINGS OF ALL TURRET BUSHINGS FOR ARRESTING LEAKAGE .(LOAD TO BE RESTRICTED)	BSPHCL
113	400kV Biharsharif Ckt-2 Main bay (bay no.-404) AT BANKA	10/10/17	10:30	10/10/17	14:30	ODB	POWERGRID ER-I	AMP work	
114	CWC13-Q50 North Side Filter Bay AT SASARAM	10/10/17	09:00	10/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	
115	400/220kV, 315MVA ICT-2 AT JSR	10/10/17	09:30	10/10/17	17:30	ODB	POWERGRID ER-I	DIFFERENTIAL RELAY REPLACEMENT WORK	JUSNL
116	Bay No.-413 (Main Bay of KGP-1) AT CHAIBASA	10/10/17	09:00	10/10/17	17:00	ODB	POWERGRID ER-I	AMP	
117	400 KV FARAKKA-BERHAMPUR	10/10/2017	09:00	10.10.2017	18:00	ODB	ER-II	AMP WORK	
118	400 kv Maithon-Mejia 3	10/10/2017	09:00	11.10.17	17:30	ODB	ER-II	Insulator Replacement at MD Line	
119	**400 KV BUS-I AT ALIPURDUAR**	10/10/2017	09:00	10.10.2017	17:00	ODB	ER-II	ERECTION WORK OF JIGNELING BAY.	
120	315MVA Ict-II at Baripada	11/10/17	09:30	11/10/17	11:30	ODB	ER-II/Odisha/Baripada	Insulation sleeves work on 52 kV buhsings	GRIDCO
121	765kV 3*80MVAR Line Reactor-1 at Angul	11/10/17	09:00	11/10/17	18:00	ODB	ER-II/Odisha/Angul SS	AMP Work.	NLDC
122	400KV TALCHER#2-CHAIBASA#2 TIE BAY (BAY NO.-408) at Rourkela	11/10/17	09:00	11/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK.	
123	400KV Bus-I at Sundargarh	11/10/17	08:00	12/10/17	18:00	OCB	ER-II/Odisha/Sundergarh	For Jumpring, Checking of Bus stability, Busbar & LBB Protection for 400KV GIS extn work under construction head.	
124	400 KV Indravati-Jeypore Main Bay at Indravati	11/10/17	08:00	14/10/17	18:00	OCB	ER-II/Odisha/Indravati	Overhauling of Main Bay (401) CB Mechanism	NLDC
125	200 MVA ICT-2 AT LAKHISARAI	11/10/17	08:00	12/10/17	18:00	ODB	POWERGRID ER-I	CHECKING OF AIR CELL.	BSPHCL
126	400kV Kahalgaon Ckt-1 Main bay (bay no.-407) AT BANKA	11/10/17	10:30	11/10/17	14:30	ODB	POWERGRID ER-I	AMP work	
127	220kV BUS Coupler Bay (203 bay) AT RANCHI	11/10/17	10:00	11/10/17	17:00	ODB	POWERGRID ER-I	AMP	JHARKHAND
128	CWC14-Q50 North Side Filter Bay AT SASARAM	11/10/17	09:00	11/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	

129	400 KV Ranchi -Rourkela Ckt-II	11/10/17	09:00	11/10/17	17:00	ODB	POWERGRID ER-I	DAMAGE INSULATOR REPLACEMENT AT LOCATION NO 333 & 337 . INSULATORS DAMAGED BY MISCREANTS	
130	400 kV PTN-BALIA CKT I	11/10/17	08:00	11/10/17	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF PORCELAIN INSULATOR WITH POLYMER INSULATOR	NLDC
131	220 KV SILIGURI-KISHANGANJ-II	11/10/2017	09:00	11/10/2017	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	
132	400 KV Subhasgram- Jeerat Line	11/10/2017	08:00	13/10/2017	17:30	ODB	ER-II	PID test & Insulator replacement work at Line	WBSETCL
133	**400 KV BUS-I AT ALIPURDUAR**	11/10/2017	09:00	11/10/2017	17:00	ODB	ER-II	ERECTION WORK OF JIGNELING BAY.	
134	400KV ROURKELA-CHAIBASA#2 MAIN BAY (BAY NO.- 409) at Rourkela	12/10/17	09:00	12/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK.	
135	765kV 3*80MVAR Line Reactor-1 at Angul	12/10/17	10:00	12/10/17	18:00	ODB	ER-II/Odisha/Angul SS	For attending Oil Leakage by full gasket replacement in Y-phase of L/R-1 under M/s. TBEA Punch points.	NLDC
136	3X105MVA ICT #1 & 125MVAR Reactor TIE Bay (408) at Jeypore	12/10/17	09:30	12/10/17	17:30	ODB	ER-II/Odisha/Jeypore	AMP of TIE Bay (408)	OPTCL
137	765KV Angul - Sundargarh line - I (S/C)	12/10/17	09:00	12/10/17	17:00	ODB	ER-II/Odisha/Sundergarh TLM	Replacement of broken glass insulator at location no. 271 in Y phase	NLDC
138	315MVA ICT-I at Baripada	12/10/17	09:30	12/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	OPTCL
139	210 BAY(220kv side 160MVA ICT#1) at Baripada	12/10/17	09:00	12/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP work	
140	765 KV Angul-Srikakulam TL CKT-I	12/10/17	07:00	13/10/17	17:00	ODB	ER-II/Odisha/Berhampur	Replacement of Glass Insulatos by Long Rod Polymer Insulators at loc no. 681, 715, 722,723, 727 and 728.(Already approved in 135th OCC,	NLDC
141	400KV Bus II at Bolangir	12/10/17	08:00	19/10/17	18:00	ODB	ER-II/Odisha/Bolangir	BPI Erection and Stringing in Reactor Bay construction ERSS-XIV	
142	400 KV BSF - BALIA Ckt. II	12/10/17	08:00	13/10/17	18:00	ODB	POWERGRID ER-I	FOR INSULATOR REPLACEMENT OF PROCELAIN INSULATOR WITH POLYMER INSULATORS.	NLDC
143	Main Bay of 400KV MUZ-II CB (40952) AT NEW PURNEA	12/10/17	10:00	14/10/17	18:00	OCB	POWERGRID ER-I	CB OPERATING MECH.OVERHAULING	
144	765kV Gaya-Balia line	12/10/17	08:00	12/10/17	18:00	ODB	POWERGRID ER-I	INSULATOR RELACEMENT WORK DAMAGED BY MICREANTS	NLDC
145	400kV Kahalgaon Ckt-2 Main bay (bay no.-410) AT BANKA	12/10/17	10:30	12/10/17	14:30	ODB	POWERGRID ER-I	AMP work	
146	CWC15-Q50 North Side Filter Bay AT SASARAM	12/10/17	09:00	12/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	
147	50 MVAR BR1 AT JSR	12/10/17	09:30	12/10/17	17:30	ODB	POWERGRID ER-I	BR-3 BAY CONSTRUCTION WORK.	
148	Bay No.-414 (Tie Bay of KGP-1) AT CHAIBASA	12/10/17	09:00	12/10/17	17:00	ODB	POWERGRID ER-I	AMP	
149	400 kV PTN-BALIA CKT II	12/10/17	08:00	12/10/17	18:00	ODB	POWERGRID ER-I	FOR REPLACEMENT OF PORCELAIN INSULATOR WITH POLYMER INSULATOR	NLDC
150	220 KV B/C BAY AT MALDA	12/10/2017	8-00 A.M.	12/10/2017	4-00 P.M.	ODB	ER-II	AMP	WBSETCL
151	**400 KV BUS-II AT ALIPURDUAR**	12/10/2017	09:00	12/10/2017	17:00	ODB	ER-II	ERECTION WORK OF JIGNELING BAY.	
152	315MVA ICT #2 at Jeypore	13/10/17	09:30	13/10/17	17:30	ODB	ER-II/Odisha/Jeypore	AMP of 315MVA ICT #2	GRIDCO

153	765kV Angul-Sundargarh Line-2 at Angul	13/10/17	10:00	13/10/17	18:00	ODB	ER-II/Odisha/Angul SS	Line shutdown required for Gasket replacement of HV Bushing in Y-phase of L/R-1.	NLDC
154	125 MVAR BUS REACTOR at Rourkela	13/10/17	09:00	13/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK of Reactor & Bay Equipments.	
155	400KV Bus-II at Sundargarh	13/10/17	08:00	14/10/17	18:00	OCB	ER-II/Odisha/Sundergarh	For Jumpring, Checking of Bus stability, Busbar & LBB Protection for 400KV GIS extn work under construction head.	
156	765kV Gaya-VNS-I line	13/10/17	08:00	13/10/17	18:00	ODB	POWERGRID ER-I	INSULATOR RELACEMENT WORK DAMAGED BY MICREANTS	NLDC
157	Tie bay of 400kV Kahalgaon Ckt-2 & Future (bay no.-411) AT BANKA	13/10/17	10:30	13/10/17	14:30	ODB	POWERGRID ER-I	AMP work	
158	220KV Chandil-II Bay (204 Bay) AT RANCHI	13/10/17	10:00	13/07/17	17:00	ODB	POWERGRID ER-I	AMP	JHARKHAND
159	CWC16-Q50 North Side Filter Bay AT SASARAM	13/10/17	09:00	13/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	
160	40252CB (Tie Bay of ICT2 & BR2) AT JSR	13/10/17	09:30	13/10/17	17:30	ODB	POWERGRID ER-I	PNUMATIC DRIVE UNIT OVERHAULING WORK	
161	315MVA ICT-II AT PATNA	13/10/17	08:00	13/10/17	18:00	ODB	POWERGRID ER-I	APPLICATION OF INSULATION SLEEVE ON TERTIARY	BSPHCL
162	220 KV MALDA-DALKHOLA-I	13/10/2017	09:00	13/10/2017	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	
163	125 MVAR BR#3 at DURGAPUR	13/10/2017	10:00hrs	13/10/2017	17:00hrs	ODB	ER-II	for fire fighting commissioning of BR#3	
164	**400 KV BUS-III AT ALIPURDUAR**	13/10/2017	09:00	13/10/2017	17:00	ODB	ER-II	ERECTION WORK OF JIGNELING BAY.	
165	765kV Angul- Srikakulam Line-1 with LR at Angul	14/10/17	08:00	14/10/17	18:00	ODB	ER-II/Odisha/Angul SS	For commissioning of Spare Reactor with Line Reactor-1. Isolator switching needs to be done for CB selection scheme checking. During	NLDC
166	400 kV Bus-I at Baripada	14/10/17	08:30	14/10/17	17:30	ODB	ER-II/Odisha/Baripada	For GIS bay EXTN works(for recoonecting jumpers to GIS Bus-I)	
167	104 BAY(132kv side 160MVA ICT#1) at Baripada	14/10/17	09:00	14/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP work	
168	765kV Gaya-VNS-II line	14/10/17	08:00	14/10/17	18:00	ODB	POWERGRID ER-I	INSULATOR RELACEMENT WORK DAMAGED BY MICREANTS	NLDC
169	CWC53-Q50 East Side Filter Bay AT SASARAM	14/10/17	09:00	14/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	
170	500 MVA ICT-I AT PATNA	14/10/17	08:00	14/10/17	18:00	ODB	POWERGRID ER-I	APPLICATION OF INSULATION SLEEVE ON TERTIARY	BSPHCL
171	**400 KV BUS-IV AT ALIPURDUAR**	14/10/2017	09:00	14/10/2017	17:00	ODB	ER-II	ERECTION WORK OF JIGNELING BAY.	
172	400 KV Indravati-Jeypore Tie Bay at Indravati	15/10/17	08:00	18/10/17	18:00	OCB	ER-II/Odisha/Indravati	Overhauling of Tie Bay (402) CB Mechanism	NLDC

173	160 MVA ICT#2 AT PURNEA	15/10/17	09:00	23/10/17	16:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
174	220 KV MALDA-DALKHOLA-II	15/10/2017	09:00	15/10/2017	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	
175	**220 KV BUS-I AT ALIPURDUAR**	15/10/2017	09:00	15/10/2017	17:00	ODB	ER-II	ERECTION WORK OF WBSETCL BAY.	
176	765kV Angul- Srikakulam Line-2 with LR at Angul	16/10/17	08:00	16/10/17	18:00	ODB	ER-II/Odisha/Angul SS	For commissioning of Spare Reactor with Line Reactor-2. Isolator switching needs to be done for CB selection scheme checking. During	NLDC
177	400KV ROURKELA-RANCHI#1 MAIN BAY (BAY NO.- 428) at Rourkela	16/10/17	09:00	16/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK.	
178	Main Bay of 765kV Sundargarh-Angul#3 at Sundargarh	16/10/17	09:00	16/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Signal Testing for NTAMC under construction head	
179	765KV Angul - Sundargarh line - II (S/C)	16/10/17	09:00	16/10/17	17:00	ODB	ER-II/Odisha/Sundergarh TLM	Replacement of broken glass insulator at location no. 485 in B phase	NLDC
180	401BAY (Keonjhar main Bay) at Baripada	16/10/17	09:00	16/10/17	17:30	ODB	ER-II/Odisha/Baripada	Gas arresting works	
181	400KV Rourkela-Sundergarh-II	16/10/17	08:00	16/10/17	18:00	ODB	ER-II/Odisha/Sundergarh TLM	For replacement of Porcelein Insulator at single crossing span (317-318, 7 & 236.) by CLR polymer (Already approved in 135th OCC, in	
182	400KV Bus-I at Keonjhar	16/10/17	09:00	24/10/17	18:00	ODB	ER-II/Odisha/Keonjhar	Erection of G2 Beam over Bus-I for 125 MVAR Reactor	
183	200 MVA ICT-2 & 80 MVAR Bus Reactor AT LAKHISARAI	16/10/17	08:00	19/10/17	18:00	ODB	POWERGRID ER-I	FIRE WALL CONSTRUCTION	BSPHCL
184	400 KV BUS -2 AT NEW RANCHI	16/10/17	08:00	18/10/17	18:00	ODB	POWERGRID ER-I	STATCOM CONSTRUCTION	
185	765 KV BUS-I at Gaya S/S	16/10/17	08:00	16/10/17	18:00	ODB	POWERGRID ER-I	FOR ISOLATOR RECTIFICATION WORK UNDER S/S EXTN. PACKAGE	NLDC
186	400 kV 125 MVAR Bus Reactor-1 AT GAYA	16/10/17	08:00	16/10/17	18:00	ODB	POWERGRID ER-I	BAY EXTENSION WORK FOR GAYA NAVINAGAR LINE	
187	315MVA ICT-I 220kV side Bay (205 Bay) AT RANCHI	16/10/17	10:00	16/10/17	17:00	ODB	POWERGRID ER-I	AMP	JUSNL
188	AC Bypass@ Pusauli	16/10/17	09:00	18/10/17	18:00	OCB .	POWERGRID ER-I	TO CARRY OUT FOLLOWING ACTIVITIES (I) FAULTY THYRISTER REPLACEMENT,	NLDC
189	HVDC Back to Back System AT PUSAULI	16/10/17	09:00	16/10/17	18:00	ODB .	POWERGRID ER-I	TO CARRY OUT FOLLOWING ACTIVITIES (I) FAULTY THYRISTER REPLACEMENT,	NLDC
190	40152CB (Tie Bay of ICT2 & BR2) AT JSR	16/10/17	09:30	16/10/17	17:30	ODB	POWERGRID ER-I	PNUMATIC DRIVE UNIT OVERHAULING WORK	
191	220 KV PTN -SIPARA -II OF BSPTCL	16/10/17	10:00	16/10/17	18:00	ODB	POWERGRID ER-I	AMP AND TO ATTEND THE HOT SPOT IN LINE ISOLATOR	BSPHCL
192	400 KV Subhasgram-Haldia Line-1	16/10/2017	08:00	16/10/2017	17:30	ODB	ER-II	Jumper Tightning of Haldia Line-1	WBSETCL

193	**220 KV BUS-II AT ALIPURDUAR**	16/10/2017	09:00	16/10/2017	17:00	ODB	ER-II	ERECTION WORK OF WBSETCL BAY.	
194	400 KV Rengali-Indravati Line (Rescheduled Shutdown proposal, already approved in 136th	17/10/17	07:00	27/10/17	18:00	ODB	ER-II/Odisha/Bolangir	Replacement of Porcelain insulators with Polymer insulators in major crossings at Locations 1121-1122,929-930,773-774,931-932,1078-	NLDC
195	Main Bay of 765kV Sundargarh-Angul#4 at Sundargarh	17/10/17	09:00	17/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Signal Testing for NTAMC under construction head	
196	400KV RAIGARH#2-RANCHI#2 TIE BAY (BAY NO.-420) at Rourkela	17/10/17	09:00	17/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK.	
197	765kV Main Bus-I at Angul	17/10/17	08:00	18/10/17	18:00	OCB	ER-II/Odisha/Angul SS	Checking of Bus-bar Stability of 765kV Angul-Sundargarh Line-3&4 for connection with existing system under Construction Head.	NLDC
198	400KV Sundergarh-Raigarh-I	17/10/17	08:00	18/10/17	18:00	ODB	ER-II/Odisha/Sundergarh TLM	For replacement of Porcelein Insulator at various crossing span by CLR polymer (proposed crossing span 624-625 & 675-676)	NLDC
199	765 KV BUS-II at Gaya S/S	17/10/17	08:00	17/10/17	18:00	ODB	POWERGRID ER-I	FOR ISOLATOR RECTIFICATION WORK UNDER S/S EXTN. PACKAGE	NLDC
200	401 kV 125 MVAR Bus Reactor-2 AT GAYA	17/10/17	08:00	17/10/17	18:00	ODB	POWERGRID ER-I	BAY EXTENSION WORK FOR GAYA NAVINAGAR LINE	
201	400 KV Jsr-Baripada Line	17/10/17	09:00	17/10/17	17:00	ODB	POWERGRID ER-I	DAMAGE INSULATOR REPLACEMENT AT LOCATION NO 170,171,220.NSULATORS DAMAGED BY MISCREANTS	
202	220 KV BIRPARA-CHUKHA-I	17/10/2017	09:00	17/10/2017	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	NLDC
203	**220 KV BUS-I AT ALIPURDUAR**	17/10/2017	09:00	17/10/2017	17:00	ODB	ER-II	ERECTION WORK OF WBSETCL BAY.	
204	ICT-I (3x 105 MVA) at Jeypore	18/10/17	10:30	18/10/17	11:30	ODB	ER-II/Odisha/Jeypore	For changing ICT-I combination form Unit-I,II,III, to Unit-II , III & IV for charging Unit-IV after Oil Refilling Works due to H2 violation	GRIDCO
205	400KV ROURKELA-SEL#2	18/10/17	09:00	18/10/17	18:00	ODB	ER-II/Odisha/Rourkela	For fixing of Counter weight at loc 193 & fixing of Dislocated VD ,spacers at other locations.	OPTCL
206	765KV Sundargarh - Dharmjaygarh Ckt - I	18/10/17	09:00	18/10/17	17:00	ODB	ER-II/Odisha/Sundergarh TLM	Replacement of broken glass insulator at location no. 119 in BOTTOM phase	NLDC
207	403 BAY(315MVA ICT#1 main bay) at Baripada	18/10/17	09:00	18/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP work	
208	HVDC Back to Back System AT PUSAULI	18/10/17	09:00	18/10/17	18:00	ODB .	POWERGRID ER-I	TO CARRY OUT FOLLOWING ACTIVITIES (I) FAULTY THYRISTER REPLACEMENT, (II) UV DETECTOR CLEANING,	NLDC
209	400 KV Jeerat- Baharampur Line	18/10/2017	08:00	20/10/2017	17:30	ODB	ER-II	For increasing CT Ratio as requseted by SLDC (WBSETCL Jeerat)	WBSETCL
210	132kV Siliguri - Melli	18/10/2017	9.00 hrs	18/10/2017	17.00 hrs	ODB	ER-II	Jumper tightening	SIKKIM
211	**220 KV BUS-II AT ALIPURDUAR**	18/10/2017	09:00	18/10/2017	17:00	ODB	ER-II	ERECTION WORK OF WBSETCL BAY.	
212	408 BAY(dubari &jamshedpur line tie bay) at Baripada	19/10/17	09:00	19/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP work	
213	765KV Sundargarh - Dharmjaygarh Ckt - II	19/10/17	09:00	19/10/17	17:00	ODB	ER-II/Odisha/Sundergarh TLM	Replacement of broken glass insulator at location no. 110 in Bottom phase and Rigid spacer to be orderly placed in the span of 87 - 88	NLDC
214	765kV Main Bus-II at Angul	19/10/17	08:00	20/10/17	18:00	OCB	ER-II/Odisha/Angul SS	Checking of Bus-bar Stability of 765kV Angul-Sundargarh Line-3&4 for connection with existing system under Construction Head.	NLDC
215	400KV ROURKELA-TACHER#2	19/10/17	09:00	21/10/17	18:00	ODB	ER-II/Odisha/ROURKELA	For replacement of disc insulators with polymer insulators (Already approved in 135th OCC, in case of non availability, the S/D will be	

216	220 KV BIRPARA-CHUKHA-II	19/10/2017	09:00	19/10/2017	16:00	ODB	ER-II	PORCEALIN INSULATOR REPLACEMENT BY POLYMER INSULATOR.	NLDC
217	132kV Siliguri - Kurseong	19/10/2017	9.00 hrs	19/10/2017	17.00 hrs	ODB	ER-II	Jumper tightening	WBSETCL
218	400KV Indravati-Rengali S/C Line	20/10/17	08:00	24/10/17	18:00	ODB	ER-II/Odisha/Angul TLC	For stringing of 765KV Angul-Sundargarh D/C Line - III & IV under construction head.	NLDC
219	315MVA ICT #2 & 63MVAR Reactor TIE Bay (417) at Jeypore	20/10/17	09:30	20/10/17	17:30	ODB	ER-II/Odisha/Jeypore	AMP of TIE Bay (417)	GRIDCO
220	400KV ROURKELA-RAIGARH#2	20/10/17	09:00	20/10/17	18:00	ODB	ER-II/Odisha/Rourkela	For fixing of Counter weight at loc 1013 & fixing of Dislocated VD ,spacers at other locations	NLDC
221	400 kV Bus-I at Baripada	20/10/17	08:30	20/10/17	17:30	ODB	ER-II/Odisha/Baripada	For GIS bay EXTN works(for isolation of GIS Bus-I)and HV testing	
222	400 kV Bay 413 CB(GIS) at Baripada	20/10/17	08:30	25/10/17	17:30	OCB	ER-II/Odisha/Baripada	For GIS Bus-II ext. works	
223	765 KV D/C Jharsuguda- Dharamjaygarh Transmission line (Ckt-I & II)	20/10/17	08:00	22/10/17	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
224	Tie Bay-705 of 765KV ICT-II & BR-II at Sundargarh	20/10/17	09:00	20/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Retest of capacitance violated GC under construction punch point	
225	132 KV MAIN BUS AT 220/132 KV PURNEA SS	20/10/17	09:00	20/10/17	10:00	ODB	POWERGRID ER-I	GIS WORK	BSPHCL
226	160 MVA ICT#1 AT PURNEA	20/10/17	09:00	23/10/17	16:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
227	410 BAY(pandiabilli line main bay) at Baripada	21/10/17	09:00	21/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP work	
228	400kV Angul-Meramundali Line-1	21/10/17	08:00	21/10/17	18:00	ODB	ER-II/Odisha/Angul SS	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of	GRIDCO
229	400KV SEL-Raigarh -II line	21/10/17	08:00	31/10/17	18:00	OCB	ER-II/Odisha/Sundergarh TLM	Erection and stringing of M/C (Multi Ckt) tower of diversion work	NLDC/ odisha project may explain
230	400KV Sundargarh-Raigarh -II line	21/10/17	08:00	31/10/17	18:00	OCB	ER-II/Odisha/Sundergarh TLM	Erection and stringing of M/C (Multi Ckt) tower of diversion work	NLDC/ odisha project may explain
231	400 KV Indravati-Jeypore Main Bay at Indravati	21/10/17	08:00	24/10/17	18:00	OCB	ER-II/Odisha/Indravati	Overhauling of Main Bay (403) CB Mechanism	NLDC
232	Main Bay-707 of 765KV Sundargarh-Angul Line-II	21/10/17	09:00	21/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Retest of capacitance violated GC under construction punch point	
233	132 kV LKR-LKR-2	21/10/17	08:00	25/10/17	18:00	ODB	POWERGRID ER-I	FOR ERECTION OF LM TOWER-1	BSPHCL
234	132 kV LKR-Jamui-1	21/10/17	08:00	25/10/17	18:00	ODB	POWERGRID ER-I	FOR ERECTION OF LM TOWER-1	BSPHCL
235	132 kV Bay of 400/132 kV 200 MVA ICT-1 AT LAKHISARAI	21/10/17	08:00	25/10/17	18:00	ODB	POWERGRID ER-I	FOR ERECTION OF LM TOWER-1	
236	Main bay 765/400 KV ICT-2 (bay 706) AT NEW RANCHI	21/10/17	08:00	22/10/17	18:00	ODB	POWERGRID ER-I	AMP	NLDC
237	220 KV Bus-II AT PATNA	21/10/17	10:00	21/10/17	18:00	ODB	POWERGRID ER-I	AMP	BSPHCL
238	220 kV Bus-II at Baripada	22/10/17	09:30	22/10/17	11:30	ODB	ER-II/Odisha/Baripada	Bus isolator maint.	GRIDCO
239	400 KV Subhasgram-Haldia Line-2	22/10/2017	08:00	22/10/2017	17:30	ODB	ER-II	Jumper Tightning of Haldia Line-2	WBSETCL

240	220 kV Bus-I at Baripada	23/10/17	09:30	23/10/17	11:30	ODB	ER-II/Odisha/Baripada	Bus isolator maint.	GRIDCO
241	765kV, 3*110MVAR Bus Reactor-1 at Angul	23/10/17	10:00	23/10/17	18:00	OCB	ER-II/Odisha/Angul SS	Y-phase Reactor taken in to service after gasket replacement in place of Spare phase Reactor.	NLDC
242	400KV ROURKELA-TACHER#2	23/10/17	09:00	25/10/17	18:00	ODB	ER-II/Odisha/Rourkela	For replacement of disc insulators with polymer insulators ,M/s Selim construction	NLDC
243	765KV Sundargarh-Darlipali(NTPC)-I	23/10/17	09:00	23/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Changing of line side CVT jumper from Quard to twin conductor to reduce load on CVT under construction head.	NLDC
244	Main bay 400 KV PPSP-1 Main Bay (bay 419) AT NEW RANCHI	23/10/17	08:00	23/10/17	18:00	ODB	POWERGRID ER-I	AMP	WB
245	BAY No.-401 (Main bay of JSR-1) AT CHAIBASA	23/10/17	09:00	23/10/17	18:00	ODB	POWERGRID ER-I	AMP	
246	419 bay (Ballia-III Main) AT PATNA	23/10/17	10:00	23/10/17	18:00	ODB	POWERGRID ER-I	AMP	
247	765KV Sundargarh-Darlipali(NTPC)-II	24/10/17	09:00	24/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Changing of line side CVT jumper from Quard to twin conductor to reduce load on CVT under construction head.	NLDC
248	765kV, 3*110MVAR Bus Reactor-2 at Angul	24/10/17	10:00	24/10/17	18:00	OCB	ER-II/Odisha/Angul SS	For attending Oil Leakage by full gasket replacement in B-phase of B/R-2 under M/s. TBEA Punch points.	NLDC
249	3X105MVA ICT #1, 220KV side Bay (201) at Jeypore	24/10/17	09:30	24/10/17	17:30	ODB	ER-II/Odisha/Jeypore	AMP of 315MVA ICT#1, 220KV side Bay (201)	GRIDCO
250	125MVAR B/R of baripada SS	24/10/17	09:30	24/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	
251	400KV BUS-II AT CHAIBASA	24/10/17	08:00	24/10/17	17:00	ODB	POWERGRID ER-I	BAY EXTENSION WORK UNDER ERSS-XIV	
252	BAY No.- 402(Tie Bay of JSR-1 & ICT-1) AT CHAIBASA	24/10/17	09:00	24/10/17	18:00	ODB	POWERGRID ER-I	AMP	
253	220 KV Bus-I AT PATNA	24/10/17	10:00	24/10/17	18:00	ODB	POWERGRID ER-I	AMP	BSPHCL
254	400 kv Maithon-Ranchi	24/10/2017	09:00	24/10/2017	17:30	ODB	ER-II	Insulator Replacement at MD Line	
255	400 kV Bus-I at Baripada	25/10/17	08:30	25/10/17	17:30	ODB	ER-II/Odisha/Baripada	For reconnection of jumpers of GIS BUS-I	
256	400kV Angul-Bolangir Line	25/10/17	08:00	25/10/17	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	
257	BAY No.- 404 (Main Bay of JSR-2) AT CHAIBASA	25/10/17	09:00	25/10/17	18:00	ODB	POWERGRID ER-I	AMP	
258	400 kv Maithon-RTPS	25/10/2017	09:00	25/10/2017	17:30	ODB	ER-II	Insulator Replacement at MD Line	
259	400kV Subhasgram- Sagardighi Line	25/10/2017	08:00	27/10/2017	17:30	ODB	ER-II	PID Test & Insulator replacement work at Line	WBSETCL
260	400kV NSLG-Purnea Ckt-1	25/10/2017	07.00 hrs	26/10/2017	17.00 hrs	ODB	ER-II	Defect Insulator replacements & jumper tightening	
261	400 KV BUS COUPLER AT MALDA	25/10/2017	09:00	25/10/2017	17:00	ODB	ER-II	AMP	
262	765kV Angul-Srikakulam Line-1	26/10/17	08:00	26/10/17	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	NLDC
263	22OKV BUS-I at Rourkela	26/10/17	09:00	26/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK	OPTCL

264	765KV Bus-I at Sundargarh	26/10/17	09:00	26/10/17	17:00	ODB	ER-II/Odisha/Sundergarh	Changing of Bus CVT connectors to reduce load on CVT under system improvement scheme	NLDC
265	400 kV Bus-II at Baripada	26/10/17	08:30	26/10/17	17:30	ODB	ER-II/Odisha/Baripada	For GIS bay EXTN works(for isolation of GIS Bus-II)and HV testing	
266	400 kV Bay 415 CB(GIS) at Baripada	26/10/17	08:30	30/10/17	17:30	OCB	ER-II/Odisha/Baripada	For GIS Bus-Iext. Works	
267	400 KV Indravati-Jeypore line	26/10/17	08:00	26/10/17	18:00	ODB	ER-II/Odisha/Indravati	Fixing of BPI structures on PBI foundation	NLDC
268	400KV Bus-II at Keonjhar	26/10/17	09:00	03/11/17	18:00	ODB	ER-II/Odisha/Keonjhar	Erection of G2 Beam over Bus-II for 125 MVAR Reactor	
269	132 KV PURNEA - PURNEA(BSPTCL)#2 LINE	26/10/17	09:00	08/10/17	16:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
270	80 MVAR BUS REACTOR OF BERHAMPUR	26/10/2017	09:00	26/10/2017	16:00	ODB	ER-II	Rectification of LA position	
271	400 KV Indravati-Jeypore line	27/10/17	08:00	28/10/17	18:00	OCB	ER-II/Odisha/Indravati	Shifting / interchanging the position of LAs & CVTs and pre cossioning testing.	NLDC
272	220KV BUS-II at Rourkela	27/10/17	09:00	27/10/17	18:00	ODB	ER-II/Odisha/Rourkela	AMP WORK.	GRIDCO
273	765kV Angul-Srikakulam Line-2	27/10/17	08:00	27/10/17	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	NLDC
274	400kV NSLG-Purnea Ckt-2	27/10/2017	07.00 hrs	28/10/2017	17.00 hrs	ODB	ER-II	Defect Insulator replacements & jumper tightening	

275	765kV Angul-Sundargarh Line-1	28/10/17	08:00	28/10/17	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	NLDC
276	402 Bay (Keonjhar Tie bay) at Baripada	28/10/17	09:00	24/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	
277	132 kV TBC & 132 kV Main Bus AT LAKHISARAI	28/10/17	08:00	30/10/17	18:00	ODB	POWERGRID ER-I	FOR ERECTION OF LM TOWER-3	BSPHCL
278	50MVAr Reactor of keonjhar at baripada end	29/10/17	09:30	29/10/17	17:30	ODB	ER-II/Odisha/Baripada	AMP works	
279	765kV 3*80MVAR Line Reactor-1	30/10/17	08:00	30/10/17	18:00	ODB	ER-II/Odisha/Angul SS	For attending Oil Leakage by full gasket replacement in B-phase of L/R-1 under M/s. TBEA Punch points.	NLDC
280	400 kV Jeypore-Indravati S/C Line at Jeypore	30/10/17	06:00	31/10/17	18:00	ODB	ER-II/Odisha/Jeypore	For Replacement of PID Defective Insulators in Jey-Ivt Line (If Not available in the month of Aug 2017)	NLDC
281	400kV 125MVAR Bus Reactor#2 at Sundargarh	30/10/17	08:00	31/10/17	18:00	ODB	ER-II/Odisha/Sundergarh	Arresting of Leakage and AMP	
282	400 kV Bus-II at Baripada	30/10/17	08:30	30/10/17	17:30	ODB	ER-II/Odisha/Baripada	For reconnection of jumpers of GIS BUS-II	
283	CWC53-Q50 East Side Filter Bay AT SASARAM	30/10/17	09:00	30/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	
284	220 KV PTN - SIPARA -I OF BSPTCL	30/10/17	10:00	30/10/17	18:00	ODB	POWERGRID ER-I	AMP	BSPHCL
285	315 MVA ICT-I AT SUBHASGRAM	30/10/2017	08:00	30/10/2017	17:30	ODB	ER-II	Tertiary CT- Bph Replacement Work	WBSETCL
286	765kV Angul-Sundargarh Line-2	31/10/17	08:00	31/10/17	18:00	ODB	ER-II/Odisha/Angul SS	Line shutdown required for Gasket replacement of HV Bushing in B-phase of L/R-1.	NLDC
287	CWC53-Q50 East Side Filter Bay AT SASARAM	31/10/17	09:00	31/10/17	18:00	ODB	POWERGRID ER-I	AMP Work	
288	BAY No. - 405 (Tie Bay of JSR-2 & ICT-2) AT CHAIBASA	31/10/17	09:00	31/10/17	18:00	31.10.2017	POWERGRID ER-I	AMP	
289	132 KV PURNEA - PURNEA(BSPTCL) #1 LINE	05/11/17	09:00	08/11/17	16:00	OCB	POWERGRID ER-I	GIS WORK	BSPHCL
	Non auto mode of A/R in 400KV Indravati (PG)-Indravati(UHPP) Line	05/10/17	08:00	25/10/2017	18:00	ODB	ER-II/Odisha/Indravati	Non auto mode of A/R in 400KV Indravati (PG)-Indravati(UHPP) Line for laying of OPGW .	shall be allowed after restoration of 220 kV Theruelli - Indravati D/C

Outages proposed in other RPCs requiring ERPC approval

Sl No	Name of Elements	From		To		Basis	Name of Requesting Agency	Reason	outages proposed in
		Date	Time	Date	Time				
1	400 kV Bongaigaon-Siliguri # 2	23-Sep-17	10:00	23-Sep-17	12:00	Daily		AMP of Line equipments and LR	
2	400 kV Bongaigaon-Siliguri # 1	25-Sep-17	10:00	25-Sep-17	12:00	Daily		AMP of Line equipments and LR	

3	220 kV Salakati-Alipurduar D/C	01-Oct-17	10:00	31-Oct-17	12:00	Continuous		Permanent restoration of Loc no 196 that got tilted during recent flood in North-Bengal.Placement of 2 nos 400 kV DD+18 tower in place of existing loc no 196 shall be carried out during the S/D period	Approved in NERPC
4	400kV RANCHI-SIPAT I	09-Oct-17	08:00	14-Oct-17	18:00	Continuous		For Rectification of Bend C-leg at Tower No 664, on permanent basis	
5	400kV RANCHI-SIPAT II	09-Oct-17	08:00	14-Oct-17	18:00	Continuous		For Rectification of Bend C-leg at Tower No 664, on permanent basis	
6	765kV D'JAIGARH-RANCHI II	14-Oct-17	09:00	14-Oct-17	13:00	Daily		AMP work . Other ckt AR is in Non Auto Mode	
7	765kV D'JAIGARH-RANCHI I	23-Oct-17	09:00	24-Oct-17	18:00	Daily		AMP work . Other ckt AR is in Non Auto Mode	
8	Pole-1 at Vizag @ Gajuwaka	06-Oct-17	09:00	06-Oct-17	18:00	Daily		RTV Coating works.	TTC Curtailment 150 MW during Shut down
9	Pole-2 at HVDC Vizag	07-Oct-17	09:00	07-Oct-17	18:00	Daily		RTV Coating works.	TTC Curtailment 150 MW during Shut down
10	Pole-1 East Bus-1 @ Gajuwaka	08-Oct-17	09:00	08-Oct-17	18:00	Daily		RTV Coating works.	TTC Curtailment 150 MW during Shut down
11	Pole-1 East Bus-2 @ Gajuwaka	09-Oct-17	09:00	09-Oct-17	18:00	Daily		RTV Coating works.	TTC Curtailment 150 MW during Shut down
12	400KV Bus I at Bolangir	04-Oct-17	08:00	11-Oct-17	18:00	ODB		BPI Erection and Stringing in Reactor Bay construction ERSS-XIV	Approx. 300 MW TTC reduction in ER-SR
13	400KV Bus II at Bolangir	12-Oct-17	08:00	19-Oct-17	18:00	ODB		BPI Erection and Stringing in Reactor Bay construction ERSS-XIV	
14	765 KV Angul-Srikakulam TL CKT-II	28-Oct-17	07:00	29-Oct-17	17:00	ODB		Replacement of Glass Insulatos by Long Rod Polymer Insulators at loc no. 681, 715, 722,723, 727 and 728. (Already approved in 136th OCC, in case of non availability, the S/D will be taken in the month of Oct-17)	SRPC Approved the shutdowns on
15	765 KV Angul-Srikakulam TL CKT-I	30-Oct-17	07:00	31-Oct-17	17:00	ODB			
16	765kV Main Bus-I at Angul	17-Oct-17	08:00	18-Oct-17	18:00	OCB		Checking of Bus-bar Stability of 765kV Angul-Sundargarh Line-3&4 for connection with existing system under Construction Head.	
17	400 KV Rengali Indravati Line (Rescheduled Shutdown proposal, already approved in 136th	17-Oct-17	07:00	27-Oct-17	18:00	ODB		Replacement of Porcelain insulators with Polymer insulators in major crossings	
18	400 KV Indravati-Jeypore line	27-Oct-17	08:00	28-Oct-17	18:00	OCB		Shifting / interchanging the position of LAs & CVTs and pre cossioning testing.	
19	400 kV Jeypore-Indravati S/C Line at Jeypore	30-Oct-17	06:00	31-Oct-17	18:00	ODB		For Replacement of PID Defective Insulators in Jey-Ivt Line (If Not available in the month of Aug 2017)	

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

पूर्वी क्षेत्रीय भार प्रेषण केन्द्र, 14, गोल्फ क्लब रोड, टालिगंज, कोलकाता - 700 033
दूरभाष : 033 2423 5867/5875, फैक्स : 033 2423 5809/5704/5029, ई-मेल : erldc@posoco.in / www.erldc.org
EASTERN REGIONAL LOAD DESPATCH CENTRE, 14, Golf Club Road, Tollygunge, Kolkata - 700 033
Tel. : 033 2423 5867/5875, Fax : 033 2423 5809/5704/5029, E-mail : erldc@posoco.in / www.erldc.org

ERLDC/SS & MIS/2017/VDI/ Date: 04-09-17

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 August 2017.
वषय: August 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 August, 2017, for deliberation in next OOC meeting of ERPC.

संलग्न ERPC की अगली OCC बैठक में विचार विमर्श के लिए, August, 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,

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

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

Ranchi New			Jamshedpur			Muzaffarpur		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
801	767	0.04	432	416	96.73	415	380	0.01

Bihar Sariff			Binaguri			Jeerat		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
418	395	0.00	421	391	0.01	421	383	0.24

Rourkela			Jeypore			Koderma		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
420	408	0.00	424	385	0.39	422	403	0.58

Maithon			Teesta			Rangpo		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
420	405	0.00	419	393	0.00	417	390	0.00