Agenda

for

131st OCC Meeting

Date: 20.03.2017
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

Eastern Regional Power Committee

Agenda for 131st OCC Meeting to be held on 20th March, 2017 at ERPC, Kolkata

PART A

Item no. 1: Confirmation of minutes of 130th OCC meeting of ERPC held on 17.02.2017

The minutes of 130th OCC meeting were uploaded in ERPC website and circulated vide letter dated 07.03.2017 to all the constituents.

Members may confirm the minutes.

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.

The list of new Transmission Elements commissioned/charged during **February 2017** as informed by ERLDC and BSPTCL is given below:

1) 400kV Main Bus – I (Section A) and Main Bus – II (Section A) and Bus Sectionaliser at ±800kV HVDC Converter station Alipurduar, Powergrid was charged for first time as follows:
    a. Main Bus – I (Section A): 16:16hrs of 10/02/17
    b. Main Bus - II(Section A): 19:20Hrs of 10/02/17
2) 400/220/33kV, 315MVA ICT – II at ±800kV HVDC Alipurduar, POWERGRID was charged for first time 16:25hrs of 10/02/17.

DVC vide letter dated 24.02.17 declared date of Commercial Operation (COD) of Bokaro Thermal Power Station- A (BTPS-A) of 500 MW w.e.f. 00:00 Hrs of 23.02.2017.

Teesta Urja Limited (TUL) vide letter dated 22.02.17 and 27.02.17 declared date of Commercial Operation (COD) of 1200 MW Teesta-III HEP Unit #2, 3 & 4 (200 MW each) w.e.f. 00:00 hrs of 23.02.2017 and Unit #1, 5 & 6 (200 MW each) w.e.f. 00:00 hrs of 28.02.2017 respectively.

Other constituents may update.

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. The latest status as updated in 35th TCC is as given below:

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 129th 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	WBSETCL	Transmission System improvement of WBSETCL					
3	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.	***19.53 Cr***	***Total contract awarded for Rs. 67.73 Cr*** *Erection work for received equipment is in progress.*
4	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) delivered.*** ***4) Training on PDMS organised at Odisha.***
5	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	64.33 crore	***23.68 crore***	*Project is on going.* ***Order for supply of equipment placed for Rs.13.51 Cr.***
6		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)
7		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.
8	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation			25.96		Approved by Ministry of Power
9		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.
10	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station					Appraisal committee has recommended. It will be placed in next monitoring Committee
		Upgradation of Protection and SAS			26.09		Approved by Ministry of Power
11	OHPC	Renovation and up-gradation of protection and control system of 4 nos OHPC substations.					***OHPC will submit the detailed proposal soon as per the requirement of Appraisal committee.***
12a	ERPC	Training for Power System Engineers					***The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal with consideration of views of the group.***

12b		Training on Integration of Renewable Energy resources					***The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal only for training at NORD POOL Academy with consideration of views of the group.***
12c		*Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents*					

Other constituents may update.

Item No. B.3: MONITORING OF SCHEMES FUNDED FROM PSDF—NPC Agenda

In the 6th meeting of NPC held on 19th December,2016 it was decided that all the RPCs in the monthly OCC meetings may follow up with entities to expedite completion of the scheme by giving due priority. The implementation of most of these schemes are based on the recommendation of the Enquiry Committee on Grid Disturbance of July 2012 headed by Chairperson, CEA. Therefore, timely implementation of these schemes would enhance the grid security and reliability. Accordingly, the grant sanctioned from PSDF for the schemes of Eastern Region is enclosed at **Annexure-B.3(I)** for deliberation in the OCC meeting.

The status of implementation of the above schemes (physical as well as financial progress) may please be reviewed and the entities are requested to expedite implementation of the schemes. The entities may also be advised to furnish information in the format enclosed at **Annexure-B.3 (II)** by first week of every month on regular basis to Member Convener, PSDF Project Monitoring Group (AGM, NLDC,POSOCO) with a copy to NPC Division.

*In 129th OCC, all the respective constituents are advised to furnish the status to NLDC & NPC as per the desired format as attached at **Annexure- B.3 (II)**.*

In 130th OCC, BSPTCL informed that they have furnished the status to NLDC & NPC.
OCC advised all other constituents to furnish the status to NLDC & NPC at the earliest.

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.

Constituents may update.

Item No. B.4: OPERATIONAL LOAD FLOW STUDY FOR OFF-PEAK PERIOD (WINTER LEAN PERIOD)

In 128th OCC< for lean off-peak load flow study, OCC finalized the date and time as follows

- *13.00 Hrs of 28th December,2016.*
- *02:00 Hrs of 29th December,2016*

OCC advised to submit the data as per the format available in ERPC website.

Further, 129th OCC advised PRDC to interact with ERLDC and resolve the issue of mismatch between SCADA snapshot and Study result of peak scenario for few pockets of ER grid as per the earlier decision.

PRDC presented the status of data collection for off-peak load flow study. Further, it was informed that the report will be submitted by March, 2017.

PRDC may place the report.

Item No. B.5: Status of UFRs healthiness installed in Eastern Region

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

BSPTCL, OPTCL and WBSETCL may update.

Item No. B.6: Healthiness of SPS existing in Eastern Region

CESC, Vedanta, , have submitted the healthiness certificate for the month of February 2017.

130th OCC requested NTPC ER-II to submit the healthiness certificate at the earliest.

NTPC, GMR, Chuzachen JITPL, Powergrid-Odisha & Powergrid ER-II may submit the healthiness certificate for February, 2017.

In 129th OCC, on query about SPS at 400kV level at Rangpo S/s for reliable power evacuation through 400kV Rangpo – Siliguri D/c, Powergrid informed that the SPS at Rangpo substation has been completed and the extension of signal to respective generation stations have been tested.

However, ERLDC informed that the SPS scheme for unit trip/ generation reduction has been received from Teesta-III & Chuzachen. The scheme details are yet to be received form Jorethang, Dikchu and Tashiding HEPs.

OCC advised all generators to share the details with ERLDC & to comply other requirements as per decision of the special meeting of 14.10.16 & 30.11.16 so that there should not be any delay in doing commercial transactions by concerned generators

ERLDC informed that Powergrid, Jorethang, Chuzachen and Teesta-III had submitted the SPS scheme through mail.

OCC advised ERLDC to consider this mail communication as official and requested Dikchu and Tashidig HEP to share the scheme details with ERLDC at the earliest.

Respective members may update.

Item No. B.7: Status of Islanding Schemes of Eastern Region

B.7.1. 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

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

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

Members may note.

B.7.2. FSTPS Islanding Scheme, NTPC

In 123rd OCC, NTPC informed that cable laying completed and interfacing is pending. Interfacing will be done after completion of the PLCC installation work by PGCIL at JUSNL sub-stations.

In 127th OCC, Powergrid informed that the work under the scope of JUSNL has been completed.

In 35th TCC, NTPC confirmed that the final hooking of U#1 will be completed during overhauling S/D of U-1 in the month of March-April, 2017. They assured FSTPP islanding scheme with U#1 of FSTPS will be operational positively by April 2017 without further delay. On specific queries NTPC informed that except hooking up with units all their assigned works for implementing FSTPS islanding are satisfactorily completed.

NTPC may update.

B.7.3. Bandel Islanding Scheme, WBPDCL

In 33rd TCC, WBPDCL informed that DPR has been submitted to NLDC on 22-06-2016 for funding from PSDF.

Subsequently, PSDF Secretariat vide mail dated 07.10.2016 informed that the Scheme was examined on 28.09.2016 and has sought some clarification from WBPDCL.

In 127th OCC, WBPDCL informed that clarification has been submitted.

It was informed that the Appraisal committee has recommended. It will be placed in next Monitoring Committee

In 130th OCC, it was informed that the PSDF Appraisal committee has accepted the proposal and forwarded to CERC.

WBPDCL may update the latest status.

Item No. B.8: Water requirement of Teesta-V Power Station after commenoement of generation from Teesta-III HE Proiect-- NHPC

NHPC vide letter dated 22.02.2017 pointed the issue of water requirement of Teesta-V Power Station during lean season after commencement of generation from Teesta-III HE Project, it is to mention that during lean season major poftion of water at Teesta-V Power Station shall be available through Teesta-III HE Project. Hence, the scheduling of generating units of Teesta-III HE Project must be 4 hour in advance to generation schedule given to Teesta-V Power Station so that reservoir level at Teesta-V Power Station can be built up before commencement of generation.

Moreover, Teesta-III HE Project generation scheduling should be in set pattern so that other power stations in its downstream. can forecast their generation scheduling correctly. Further, Teesta-III HE Project may be advised to intimate its generation schedule to us on mail id teestav.nhoc@omail.com and through SMS on mobile no 9800003801 in advance.

NHPC may elaborate. Members may discuss.

Item No. B.9: 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.

ERPC also advised Powergrid to place the list of 10% of the heavily drifted SEMs to be replaced with Genus make meters in next OCC meeting.

Subsequently, ERLDC has prepared a list of such SEMs, the same is placed at ***Annexure- B.9****.*

Powergrid/ ERLDC may update.

Item No. B.10: Charging of 132KV Patratu(DVC) - Patratu(JSEB) tie line and Kolaghat(DVC) - Kolaghat(WBSETCL) tie line--DVC

It has been observed that 132KV, Patratu(DVC) - Patratu(JSEB) tie line and Kolaghat(DVC) - Kolaghat(WBSETCL) tie line are out since long. These lines are made on request to facilitate any shut-down/ maintenance purpose.

But, inter-state tie lines are meant for stability of any state network irrespective any power flow through it as per sec 40(a) of Elec Act 2003. It is learnt that at Kolaghat S/s of WBSETCL, all three ATRs have already been replaced and are all in service. DVC is supplying around 138MVA load to WBSEDCL between Burdwan S/s to Kharagpur S/s of DVC and it has been felt necessary that Kolaghat - Kolaghat tie be kept in service for reliability of power supply to WBSEDCL and stability of the grid. Similarly, Patratu(DVC) - Patratu(JSEB) tie line be also kept in service to obviate the low voltage problem at Patratu and North-karanpura S/s of DVC and stability of grid as well.

128th OCC felt that inter-state lines should be utilized to improve the reliability of the system and advised WBSETCL and JUSNL to charge 132KV Kolaghat(DVC) - Kolaghat(WBSETCL) and 132kV Patratu(DVC) - Patratu(JSEB) lines on continuous basis.

DVC vide mail dated 10.01.17 informed that West Bengal SLDC has not agreed with synchronisation of DVC system with WBSETCL via 132kV network due to non availability of 132kv circuit breaker at WBSETCL end and high loading of 132kv KTPP - Kolaghat(WBSETCL) D/C with present peak load of Kolaghat S/S (above 130MW with traction)

Regarding Kolaghat(DVC)- Kolaghat(WBSETCL) line, OCC preferred to carry out a simulation study to know the cause of constraints.

In 130th OCC, JUSNL informed that charging of Patratu(DVC) - Patratu(JSEB) tie line on continuous basis is not possible as it will be overloaded the JUSNL system in the case of contingency of TVNL units or one ckt of 220 kV Hatia-Ranchi. They submitted the relevant data regarding the line along with the load flow pattern.

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OCC requested ERLDC/ERPC to carry out a system study to find the constraints related to closing of this tie.

Regarding Kolaghat(DVC)- Kolaghat(WBSETCL) line, OCC requested WBSETCL to submit a official communication mentioning the anticipated constraints/problems due to closing of the said tie. After that ERLDC/ERPC may carry out a system study to find out the constraints. OCC also requested WBSETCL to provide the relevant data for carrying out the system study.

WBSETCL agreed.

DVC and WBSETCL may update.

Item No. B.11: HIGH VOLTAGE PROBLEM IN 400KV MERAMUNDALI GRID S/S

GRIDCO vide letter dated 07.01.17 intimated that presently Odisha is going through very high voltages at 400kV bus of Meramundali, Duburi and Mendhashal grid S/S. The situation is further worsened due to high reactive power flow from Meramundali to Angul pooling sub-station, from Duburi to Meramundali sub-station and from Kuchei to Duburi sub-station. It may be noted that, PGCIL has installed two nos. of 330 MVAr Bus reactors at Angul 765kV substation and two nos. of 125 MVAR Bus reactors at Ancul 400kV substation, thus resulting high reactive power flow from Meramundali to Angul & Duburi to Meramundali grid S/S. In view of the above OPTCL suggests the following as short term and long term measures to mitigate the high voltage issue as well as to improve the high reactive power flow situation.

Short term measure

- OPTCL will install 80 MVAr reactor at Meramundali 400kV S/S.
- The Angul-Meramundali Double circuit tie to be opened at both ends.

Long term measure

- The Meramundali-Angul Double circuit will be terminated at Meramundali (B). A letter regarding the above change has already been forwarded to CEA and will be placed in the next Standing Committee meeting of CEA. Meremundali(B) will be a new 400kV substation of OPTCL,approved by CEA and the work order to be issued shortly.

In 130th OCC, ERLDC presented the study results and informed the following:

- *The voltage at Meramundali is increasing during winter season due low demand at Meramundali, Dubri and Mendhasal and insufficient reactive power support.*
- *In the present scenario the 765/400 kV Angul S/s is acting like sink of Reactive power for OPTCL system in around 400kV Meramundali S/s.*
- *With opening 400kV Angul-Meramundali line the export of reactive power to the ISTS network is reduced drastically but the voltage at 400kV Meramundali S/s is increasing by 4 kV which may affect the sub-station equipment.*
- *Further due to outage of one ckt of 400 kV Meramundali- Mendhasal the voltage at Meramundali is on higher side. This line may be restored at the earliest.*

In 35th TCC, ERLDC informed that VAR is being generated at OPTCL system and the 765/400 kV Angul S/s is acting like sink of Reactive power for OPTCL system in around 400kV Meramundali S/s. The opening of 400kV Angul-Meramundali line will not the solution. Further due to outage of one ckt of 400 kV Meramundali- Mendhasal the voltage at Meramundali is on higher side. This line may be restored at the earliest.

OPTCL informed that 400 kV Meramundali- Mendhasal line will be charged on tomorrow and 315 MVA, 400/220kV ICT will be restored by 15th March, 2017.

Powergrid informed that the flexible LILO scheme as approved in 18th SCM was approved in their Board and it is in final stage and the scheme will be implemented by 2018.

TCC opined that the high voltage issue should be reviewed after restoration of 400 kV Meramundali- Mendhasal line and commissioning of 315 MVA, 400/220kV ICT at Meramundali in OCC meeting.

TCC advised all generators in around 400kV Meramundali S/s to absorb VAR up to maximum extend as per the capability curve. TCC also advised OPTCL to plan for proper reactive power compensation at 400kV Meramundali, New Dubri and Mendhasal S/s.

CE, CEA opined that reactive power compensation is part of grid security and it is eligible for PSDF grant. OPTCL may apply for PSDF.

OPTCL may update.

Item No. B.12: Restoration of PLCC system of important JUSNL ties

I) 220 KV Chandil –Santaldih line

In 130th OCC meeting, JUSNL intimated that PLCC for 220 kV Chandil-Santaldih line has been tested and commissioned successfully on 25.01.17.

WBPDCL informed that the PLCC was activated but the auto-reclosure could not be put into service as the R-Ph pole of Circuit Breaker is not getting closed during auto-reclosure operation. The same is taken up with the OEM (i.e. ABB) and they will be rectifying the CB.

In 35th TCC, WBPDCL informed that overhauling of the R-ph pole of CB will be done by 15th March 2017. Subsequently, auto-reclosure feature will be enabled.

II) 220 KV Ramchandrapur-Joda line

In 130th OCC meeting, OPTCL informed that PLCC panels at 220kV Joda end will be commissioned within a week. JUSNL informed that the Ramchandrapur end is ready in all respect for implementation of PLCC.

In 35th TCC, OPTCL informed that PLCC panels at 220kV Joda end will be commissioned by March 2017.

JUSNL/WBPDCL/OPTCL may update.

Item No. B.13: Concerned members may update the latest status.

B.13.1. Commissioning of 400 kV Ind-Bharath to Jharsuguda D/C (dedicated line)

In 130th OCC, IBEUL informed that construction of the line has been completed and ready for commission. The line will be commissioned by 28th February, 2017.

OCC advised IBUEL to communicate the status to ERPC and ERLDC after commissioning of line for commencement of commercial transaction.

OCC advised ERPC secretariat to check the readiness of Protection co-ordination, communication both data and voice and all other details in interaction with ERLDC before permitting IBEUL for commercial evacuation of power.

In 35th TCC, it was informed that IBUEL vide mail has submitted the status of their dedicated line to ERPC and ERLDC on 23-02-2017. TCC advised ERPC secretariat to assess the position and do needful in line with CERC order, regulation and decisions taken in several meetings held on this issue.

IBEUL may update.

A. Statutory clearances of 400kv transmission line of IBEUL at the crossing points over the MGR rail corridor of OPGC

OPGC vide letter dated 03.03.2017 intimated that OPGC is pursuing construction of 2x660MW Thermal Power Plant at Ib-Thermal Power Station in the district of Jharsuguda,Odisha. The plant location is in close proximity to IBEUL's power plant located in the same area. Construction work of OPGC's expansion project is in very advanced state with a scheduled commissioning in 3rd Qr. of FY 2017-18. OPGC's expansion project includes construction of a dedicated rail corridor (MGR)

connecting the power plant to its captive coal mines in Sundergarh. The alignment of the MGR has been finalized in 2009 and land acquisition has been completed. The MGR is presently under construction.

IBEUL has constructed its 400kV transmission line for evacuation of power which is crossing the MGR corridor of OPGC. This 400 KV transmission line has been constructed by IBEUL without maintaining the required statutory clearance at four locations (involving tower footing location and maintaining vertical clearance for conductors). This has been communicated to IBEUL at the time when the transmission line construction was yet to be undertaken. It is a matter of regret that in spite of several discussions and commitments by IBEUL, they have failed to comply with the statutory clearances during the construction of towers. As a result, the construction of the MGR corridor of OPGC is getting delayed due to failure of IBEUL to complete the rectification work of the 400kV transmission line at the crossing points and this is seriously affecting the commissioning schedule of OPGC expansion power plant.

In view of the above, OPGC requested to keep on hold all clearances for charging of the 400 kV transmission lines of IBEUL till the rectification works at the affected crossing points are completed in compliance with all the statutory requirements. This will facilitate completion of the construction work of the MGR system of OPGC as per schedule.

OPGC/IBEUL may update.

B.13.2. Status of construction of 400 kV Sterlite-Jharsuguda D/C sections

In 35th TCC, Vedanta updated the latest status as follows:

Activities	Nos	Status as on 15-Nov-16 (as updated in 34th TCC)	Status as on 24-Feb-17 (As updated in 35th TCC)	Remarks
Tower Foundation	64	60	**64**	Completed
Tower Erection	64	42	**58**	
Stringing /OPGW Cabling & Testing	20.5 Km	One stretch completed	**8 km completed**	
Sub station Bay	2	Equipment Erection, Cable Trench, Earthing Completed	Bay construction completed	Will be completed by 2nd March, 2017.

Vedanta informed that the construction work was delayed due to non-availability of shutdown of 11kV lines during Panchayat election.

TCC opined that Vedanta is not serious about the construction of the line and still asking for 2 months extension. TCC viewed that the line can be commissioned by end of March 2017 if they could take up the activities related to statutory clearances simultaneously. Accordingly advised Vedanta to place item wise schedule for commissioning of line, in 35th ERPC meeting on 25.2.17.

Vedanta informed that they will submit the item wise schedule for commissioning of line within a week.

In 35th ERPC, Vedanta added that physical construction of the line will be completed by the end of March, 2017 and the line will be commissioned by end of April 2017 after getting the statutory clearances. Vedanta requested ERPC to extend the dead line for removal of LILO up to 30th April 2017.

Further, GRIDCO, Odisha informed that the dead line for removal of LILO may be extended up to 15th April 2017.

In view of above, ERPC decided to extend the dead line for removal of LILO up to 15.04.2017 and advised Vedanta to strictly adhere to the schedule for commissioning of the dedicated line in all aspects.

Further, ERPC authorised CTU to open the LILO on 16.04.2017.

Vedanta may update.

B.13.3. Status of Bus Splitting schemes in Eastern Region

A. Bus Splitting of Powergrid Sub-stations

As per decision of Standing Committee of ER CTU was entrusted to do Bus splitting at 400 kV 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—Foundation work has been completed but shutdown are yet to be received to complete the work.

In 130th OCC, Powergrid informed that physical bus splitting at 400kV Biharshariff S/s has been completed. Protection part is yet to be completed.

Powergrid added that bus splitting at 400kV Biharshariff S/s will be commissioned by March 2017.

Powergrid/BSPTCL may update.

B. 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.

NTPC may update.

B.13.4. 11KV Auxiliary power supply of 400KV Berhampore Powergrid Substation.

In 34th TCC, WBSEDCL informed that the construction of dedicated line has been delayed due to ROW issues. The same has been resolved now and the construction of dedicated line will be completed by December, 2016.

WBSEDCL added that cable needs to be laid out for highway crossing for which cost estimate will be given to Powergrid within a week.

Powergrid agreed to do the payment after receiving the estimate.

In 130th OCC, WBSEDCL informed that the requisite amount has been received from Powergrid and the work will be completed by 15th March, 2017.

WBSEDCL/Powergrid may update.

B.13.5. Run-back scheme of Sasaram 500MW HVDC B-t-B converter -- ERLDC

It is understood that the following run–back schemes are functional for the 500 MW B-t-B HVDC converter at Sasaram:

1. Tripping of any circuit of 400kV Biharshariff-Sasaram D/C line – reduction of HVDC power order to 250 MW
2. Tripping of both circuits of 400kV Biharshariff-Sasaram D/C line – complete blocking of the HVDC converter.

In this connection it is stated that the above run-back conditions were relevant when 400kV Biharshariff-Sasaram D/C line was the only AC source on the East side bus. However, at present due to existence of 765kV Sasaram-Fatehpur 765kV line along with 765/400kV Sasaram ICT, there would be no loss of AC voltage of the 400kV East bus, even if both circuits of Biharshariff-Sasaram 400kV D/C line trip.

It is to mention that on 19-12-16, the HVDC Sasaram power order had to be reduced to 250MW when 400kV Biharshariff-Sasaram-I was taken under planned shutdown. Thereafter, at 12:43 Hrs, the other 400kV circuit Biharshariff-Sasaram-II tripped due to transmission of DT signal from Biharshariff to Sasaram leading to complete blocking of the converter. However, such blocking was unwarranted as the 765kV Sasaram-Fatehpur line together with the 765/400kV ICT at Sasaram was still in service.

It is therefore suggested that the existing run-back scheme may be activated only when Sasaram 765/400kV ICT or Sasaram-Fatehpur 765kV line is under outage and bypassed under normal conditions. The scheme may be further reviewed when at least two units of Nabinagar TPS commence firm generation.

ERLDC explained the scheme in 128th OCC.

OCC decided to implement the revised scheme and advised Powergid to modify the scheme in coordination with CTU.

In 129th OCC, Powergrid informed that for implementing the scheme there is a requirement of modification in CCU which will be done by the OEM (Alstom). The same will be implemented by March,2017.

In 130th OCC, Powergrid informed that the CCU at Sasaram is old and it is not possible to implement the revised scheme. So, the CCU needs to be changed for implementation of new scheme.

Powergrid/ERLDC may update.

B.13.6. 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 130th 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 **May, 2017**.
b.	LILO of one circuit of Katapalli-Sadeipalli220 kV D/C line at Bolangir S/S	Charged on 04.05.16
2.	**400/220 kV Keonjhar S/S**	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By 2017.
b.	Keonjhar (PG)-Turumunga(OPTCL) 220kV D/C line	By 2019.
3.	**400/220kV Pandiabil Grid S/s: Expected by June'16**	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	Dec, 2017.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	***May, 2017***

OPTCL may update.

B.13.7. 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj & Dhanbad

In 125th 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) – Chaibasa (JUSNL) 220kV D/c	Completed.
b.	Chaibasa (POWERGRID) – Ramchandrapur (JUSNL) 220kV D/c	***March, 2017***
2.	**Daltonganj 400/220/132kV S/s: Expected by Mar'17**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	***By Dec, 2017.***
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	Matching with S/s
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	Matching with S/s
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.

B.13.8. 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In 126th 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***)	April, 2017
2.	**2x500MVA, 400/220kV Rajarhat --- *by Feb, 2017***	
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.

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.

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

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.

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

In 124th OCC, DVC informed that the UFR relays will be delivered by August, 2016 and the UFRs at 220/132/33 KV Ramgarh S/s will be replaced by next month.

In 125th OCC, DVC informed that the UFR relays are in transit and the UFRs at 220/132/33 KV Ramgarh S/s will be replaced by next month.

In 127th OCC, *DVC informed that the UFR relays at 220/132/33 KV Ramgarh S/s will be replaced by December, 2016.*

In 128th & 129th OCC, DVC informed that the UFR relays at 220/132/33 KV Ramgarh S/s will be replaced by January, 2017.

The proposed UFR audit schedule is placed below:

Sl No	Proposed Date	Substation/feeder inspected by the sub-group
1	April, 2017	220/132/33 KV Sampatchak of BSPTCL
2		132/33 KV Purnea of BSPTCL
4	May, 2017	220/132/33 KV Kalyaneswari of DVC
5		220/132/33 KV New Bishnupur of WBSETCL
6		132/33 KV Old Bishnupur of WBSETCL
7	June, 2017	BRS (Liluah S/Stn.) of CESC

Members may decide.

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.

Members may note and comply.

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.

In 85th OCC NTPC informed that, NTPC-Farakka has been certified with IS 18001. Other constituents including OHPC requested to interact with BIS with intimation to ERPC and get certified as per CEA direction. The matter is getting reviewed by highest authorities with top priority.

In 88th OCC NTPC informed that, all NTPC stations in Eastern Region are certified with IS 18001. NHPC informed that, Teesta is also certified with IS 18001. After that, OHPC and CESC informed that their stations are certified with IS18001.

In 104th OCC, WBPDCL informed that Bandel TPS is certified with IS 18001.

OPTCL vide letter No. TB-SO-MISC-9/2010/1914 dated 20.12.2014 had proposed to go for IS 18001:2007 certification as per direction of CEA.

In 113th OCC, CESC informed that Budge-Budge Generating station (3x250 MW) has renewed their certification of BS 18001:2007.

In 121st OCC, it was informed that Kolaghat Generating station of WBPDCL has received certification of IS 18001:2007 from BIS on 29.04.2016.

In 124th OCC, WBPDCL informed that Bakreswar Generating station has received certification of IS 18001:2007 from BIS.

In 130th OCC, WBPDCL informed that Sagardighi Thermal Power Project has also received certification of IS 18001:2007 from BIS in December, 2016.

Members may note and update the status.

Item No. B.18: Energy Generation data management from Renewable Energy Sources

RES development Division, CEA has been receiving monthly generation details and installed capacity of Renewable Energy Sources from respective SLDCs and other authorized agencies. Some discrepancies has been found in the data as received by CEA and MNRE.

Constituents are requested to reconcile/confirmed the correct information at the earliest.

In 120th OCC, all the SLDCs were advised to submit the data to CEA as per the format given in **Annexure- B.18** with a copy to ERPC Secretariat.

In 121st OCC, SLDC West Bengal and SLDC Odisha informed that they have submitted the relevant data to CEA.

SLDCs may update.

Item No. B.19: Compilation of data for meeting Renewable Energy targets of 175 GW by 2020 -- Reference from MNRE

CEA vide letter dated 29.03.16 has referred Ministry of Power letter no. 23/2/2005-R &R(Vol-XI), dated 22.03.2016 & MNRE letter dated 02.03.2016 regarding compilation of data for meeting Renewable Energy targets of 175 GW by 2020.

Concerned State Utilities /Generating companies are requested to submit data of their respective control areas.

Members may update.

Item No. B.20: 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.

In 129th OCC, JUSNL and BSPTCL agreed to furnish the data.

For the month of February, 2017 data has been received from OPTCL, CESC & WBSETCL.

JUSNL BSPTCL & DVC may update.

Item No. B.21: Reasons for demand –supply gap and its variation -- Agenda by NPC

It was deliberated in the 4th NPC meeting that monthly power supply position prepared & published by CEA based on the data furnished by the states reflected shortages in almost all the states. However, a number of those states intimated adequate availability of power. This meant that the deficit / shortage in such states was actually not the deficit in true sense but demand - supply gap due to reasons other than shortage of power. The other reasons for the demand - supply gap could be inadequate availability of power, transmission constraint, distribution constraint, financial constraint etc. The reason for demand –supply gap needed to be clearly mentioned to reflect true picture of power supply position in different states and also to invite attention of various agencies including policy makers to the specific problem areas in the power sector for suitable solution.

It was agreed by all the RPCs to advise the states in their respective regions to intimate broad break-up of demand –supply gap due to various reasons, or at least, the main reason(s) for demand supply in each month.

In 129th OCC, all the constituents are advised to comply.

Members may update.

Item No. B.22: 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.

33rd TCC felt that grid operator should have the information on how much power they can export and import and they should restrict to that figures in order to avoid major grid disturbances.

Accordingly, TCC advised all the constituents to place the details in monthly OCC meetings till they upload the information in their respective websites.

In 126th OCC, OCC *advised all the SLDCs to mention the constraints along with ATC/TCC figures.*

WBSETCL is uploading the ATC/TCC figures in their website.

OCC advised DVC, JUSNL and Odisha to upload ATC/TTC figures along with the constraint details in their website.

OCC advised Bihar to compute ATC/TTC figures and submit to ERPC and ERLDC at the earliest.

In 129th OCC, BSPTCL informed that they will compute their ATC/TTC and furnished to ERPC/ERLDC.

Import TTC for Feb 2017

State	TTC (MW)	Reliability Margin	ATC (MW)	RemarkS
WBSETCL	3960	300	3660	Not mentioned
OPTCL	1447	80	1367	Outage of one 220kV Meramundali-BhanjanagarCkt.
DVC	Not received			Received for month of Jan 17
BSPHCL	Not received			
JUSNL	713	100	613	**1)** 220 kV D/C Ranchi- Hatia-II **2)** 132 kV Jamtara- Maithon **3)** 132 kV Ramchandrapur- Adityapur line
SIKKIM	Not received			

130th OCC requested all the SLDCs to compute and send the ATC/TTC figures for the next month in advance along with the details like assumptions, constraints etc.

Members may update.

Item No. B.23: Implementation of New Web Based Scheduling at ERLDC

As per the deliberation in 130th OCC meeting, a detailed workshop cum interactive Session with all Stakeholders/beneficiaries was arranged during 20-21 February, 2017, where in all eastern region IPPs, NTPC, NHPC, Regional entities and SLDCs except Sikkim SLDC participated. As per the decision taken in the workshop, parallel operation of WBES has been started with effective from 01st March, 2017. In this process all users are uploading their daily operation scheduling related

data in new WBES module as well as in the old scheduling software. Depending upon the progress of the parallel operation, ERLDC would migrate to the new WBES software from 01st April, 2017. Till now the progress of parallel operation is satisfactory and we are planning to migrate with effective from 01st April, 2017.

Members may share their issues regarding above.

Item No. B.24: 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 129th OCC, Powergrid informed that the reactor will be dispatched by 25th January, 2017 and the same will be commissioned by February,2017.

In 130th OCC, Powergrid informed that the reactor will be commissioned by end of February,2017.

Powergrid may update.

b) 400kV Meramundali-Mendhasal S/C

Tower collapsed near Mendhasal at 3 Locs, viz.Locs.180,181 & 182.

In 123rd OCC, OPTCL informed that tower 181 and 182 were restored. Restoration of tower 180 will take time due to water logging and the tower would be restored by September, 2016.

In 124th OCC, OPTCL informed that restoration of tower 180 will take time due to water logging and the tower would be restored by December, 2016.

In 130th OCC, OPTCL informed that the line will be restored by 20th February, 2017.

OPTCL may update.

c) 400kV Patna-Kishengunj D/C

Tower collapsed at Loc.51 in Kankai river on 26.07.2016 and three nos towers at Loc no 128F/0, 128 G/0 and 128E/0 in Ganga riveron 01.09.2016.

In 129th OCC,Powergrid informed that the work has been awarded.

In 130th OCC, Powergrid informed that line will be restored by July, 2017.

Powergrid may update.

d) 400kV Purnea-Biharshariff D/C(under outage wef 23/08/16)

Three Nos.Tower(mid river) collapsed.

In 126th OCC, ENICL informed that the final assessment is under progress. The same will be submitted to ERPC and ERLDC.

In 130th OCC, ENICL informed that line will be restored by last week of June, 2017.

ENICL may update.

e) Tie bay of 125MVAR Bus reactor and 400kV Indravati-Indravati and Indravati(PG):

Under outage wef 18/03/16 due to R-Ph pole bursting of Tie CB. Due to non-availability of the tie bay, the Buses are coupled only via the tie bay of 400kV Rengali-Indravati and 400kVIndravati-Jeypore at Indravati and any outage of the lines would result in decoupling of the Buses.

In 125th OCC, Powergrid informed that main CB has some problem which will be taken care by OHPC/OPTCL.

In 129th OCC,OPTCL informed that the CB has reached at the site. The installation work will be completed by February,2017.

In 130th OCC, OPTCL informed that the work will be completed by February, 2017.

Powergrid/OHPC may update.

f) 220 kV Waria – Bidhannagar-II

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

In 129th OCC, DVC informed that the line will be restored by July, 2017.

In 130th OCC, WBSETCL requested DVC for early restoration of line in view of summer peak.

OCC requested DVC to expedite the work.

DVC may update.

g) 315MVA ICT-I at Meramundali

The ICT is under outage wef 12/11/16 due to damage after B-ph LA blasting.

In 129th OCC, OPTCL informed that the ICT reached the site and it will be in service by February 2017.

In 130th OCC, OPTCL informed that the ICT will be in service by 15th March,2017

OPTCL may update.

h) 220kV Meramundali-Bhanjanagar-I

The line is under outage w.e.f 25/11/16 for conductor replacement work. OPTCL may furnish the details of conductor replacement being done and the expected date of restoration.

In 128th OCC, OPTCL informed that the conductor replacement work will be completed by January 2017. OPTCL added that type of conductor is ACSR Zebra.

In 130th OCC, OPTCL informed that the conductor replacement work will be completed by end of March 2017.

OPTCL may update.

i) Main bay of 315MVA ICT at Farakka(Tie element-400kV FSTPP-Malda-I)

The main bay is under s/d for upgradation wef 06/05/16.Powergrid may update stating status of the upgradation.

In 125th OCC, Powergrid informed that Bus-I end is ready and will be charged, Bus-II end is bypassed and will be ready for charge after getting shutdown.

In 128th OCC, NTPC informed that the bay will be in service by 2nd week of January, 2017.

In 129th OCC, NTPC informed that the tie transformer-III has been charged and the shutdown will be allowed by next week. Powergrid informed that the work will be completed by January, 2017.

In 130th OCC, Powergrid informed that the element will be charged today.

Powergrid/NTPC may update.

j) 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 130th OCC, Powergrid informed that the reactor will be charged by 1st week of March, 2017.

Powergrid may update.

k) Restoration of 400kV Bay-12 at Farakka STPS

Consequent to strengthening of 400kV Farakka – Malda D/C line, the associated bays at Farakka and Malda ends have also been uprated by PGCIL. However, Bay-12 at Farakka STPS connected to 400kV Bus-1, is yet to be put into service by Farakka. Under the circumstances, Farakka-Malda-I line is connected only to 400kV Bus-2 and 400/220kV ICT is also operating on Bus-2 through the tie CB of Farakka-Malda-I.

A fault involving 400kV Bus-2 will cause outage of both the ICT and Farakka-Malda-I. NTPC may therefore take necessary action for restoration of Bay-12 (connected to 400kV Bus-1) at the earliest.

NTPC may update.

Item No. B.25: Submission of the first time charging documents for charging of the new elements

As per the NLDC and ERPC approved procedure for Interconnection of new Transmission Elements, Indenting agency has to submit detail formats related to first time charging of new transmission elements 10 days in advance of the proposed date for commissioning to ERLDC. However, ERLDC usually does not receive the detail format as per the procedure in time. After receipt of the first time charging format, ERLDC carries out system studies to envisage the change in system parameter with new element, validation of SCADA & voice communication, validation of protection and validation of SEM etc. before issuing the consent for charging of the new elements.

In this regard, indenting agencies are requested submit their new elements charging format at least 10 day ahead to ERLDC along with following additional details:

1. Minutes of the meeting (SCM/RPC) mentioning the original target date, Name of the Project package
2. Revised target date of project commissioning along with MoM of the meeting.
3. Reason for deviation from the target commissioning date of the new asset.

Members may comply.

Item No. B.26: 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).

At present State net drawl through PGCIL substation in ER is being computed considering meter installed at feeders after LV side of Transformer. Those sub stations where auxiliary requirement is met through tertiary, States net drawl need to be computed by adding drawl through feeders after LV side of Transformer and auxiliary consumption through tertiary.

In NR, WR & SR, auxiliary power through is already being accounted in states net drawl.

In order to account for the drawl through tertiary for Auxiliary consumption, PGCIL is requested to:

1. Provide list of substations in ER where auxiliary supply is met through tertiary.
2. Install SEM on 33 KV tertiary side of transformers used for auxiliary supply.

Members may discuss.

Item No. B.27: Expediting commissioning of the 4th 400/220kV ICT at Biharshariff

POWERGRID is executing the work of re-commissioning 220kV Tenughat-Biharshariff S/C line at 400kV as a consultancy project of JUSNL. The work is expected to be completed by end of June-17, subject to release of the balance amount payable to POWERGRID by JUSNL. After charging the line at 400kV, power flowing through this line towards Biharshariff will land at 400kV switchyard PGCIL. Since Biharshariff is a major load center of Bihar, this arrangement may cause heavy loading of the 3X315 MVA, 400/220kV ICTs at Biharshariff, which would become the only source for supplying power to the downstream S/Stns.

Since the 500MVA ICT earmarked for Biharshariff S/Stn may take around 2 years to be ready, PGCIL may arrange to divert a 400/220kV ICT at Biharshariff from other project/region.

Powergrid may update.

Item No. B.28: LILO Connection of Inter-Regional tie line 132 KV Sonenagar-Rihand (UP,NR) Circuit-I (direct line) at NPGC,Nabinagar for providing startup power to NPGC -- BSPTCL

BSPTCL vide letter dated 18.02.17 intimated that LILO connection of inter-regional tie line 132kV Sonenagar-Rihand (UP,NR) Circuit-I (direct line) is urgently required at NPGC, Nabinagar for providing startup power for commissioning of Super Thermal Power Project (3x660MW) Unit # 1 which is expected to be commissioned in March,2017. At present 132kV Sonenagar-Rihand (UP,NR) Circuit-I remain charged on No Load from Sonenagar end & open at Rihand (UP) end.

BSPTCL requested for LILO Connection of 132 KV Sonenagar-Rihand(UP,NR) Circuit-I transmission line at NPGC ,Nabinagar for providing start up power.

BSPTCL may elaborate. Members may discuss.

Item No. B.29: 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.

In 130th OCC, ERLDC informed that the 220 kV Lalmatia data is not coming since Jan, 2016 and requested NTPC to look into the matter.

NTPC informed that the AMC of PLCC is with Powergrid and requested Powergrid to restore the PLCC communication at the earliest.

OCC advised NTPC is resolve the matter at the earliest.

Futher, OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC. The updated status is enclosed at ***Annexure- B.29****.*

Members may update.

Item No. B.30: 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 130th OCC, Powergrid submitted the latest status of PMU installation, which is given at ***Annexure- B.30****.*

POWERGRID may update the status.

Item No. B.31: 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.31**.

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

Members may update.

Item No. B.32: 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.32**.

Members may update the latest status.

Item No. B.33: Pollution mapping for Eastern Region

The Pollution Mapping work in ER was started with on-site measurement of ESDD and NSDD.

OCC advised all the respective constituents to coordinate with Powergrid for online filling of measurement data.

The updated status as updated by constituents & as intimated by Powergrid vide mail dated 19.10.16 is as given below:

	Scope (no. of locations)	Installed Locations	Number of locations where the results for 1st set of Measurements submitted	No. of locations where the results for 2nd set of Measurements submitted	Number of locations where the results for 3rd set of Measurements submitted	Number of locations where the results for 4th set of Measurements submitted
JUSNL	67	27	21	19	13	3
BSPTCL	59	52	52	40	4	0
WBSETCL	73	68	43	3	2	0
OPTCL	164	102	102	90	79	0
SIKKIM POWER	12	9	6	6	0	0
POWERGRID ER1	99	99	99	47	0	0
POWERGRID ER2	40	40	40	40	17	0
POWERGRID ODISHA	42	42	42	42	40	0

It is requested to submit the fourth and balance third set measurement result at the earliest.

Further, the schedule for measurement as informed vide letter dated 20.01.2016 & mail dated 21.01.2016 are as follows:

Measurement Schedule		
4th set	*5th set*	*6th set*
21st -30th Sep 2016	*21st -31st Jan 2017*	*21st -31st May 2017*

OCC advised all the constituents to complete the measurements as per the schedule.

Powergrid updated the latest status as follows:

	Scope (no. of locations)	Installed Locations	Number of locations where the results for 1st set of Measurements submitted	No. of locations where the results for 2nd set of Measurements submitted	Number of locations where the results for 3rd set of Measurements submitted	Number of locations where the results for 4th set of Measurements submitted
JUSNL	67	27	17	17	13	11
BSPTCL	59	52	40	29	4	3
WBSETCL	73	68	43	4	3	1
OPTCL	164	102	100	90	79	1
SIKKIM POWER	12	9	6	6	0	0
POWERGRID ER1	99	99	99	47	0	0
POWERGRID ER2	40	40	40	40	17	0
POWERGRID ODISHA	42	42	42	42	40	0

Powergrid informed that most of scheduled measurements till fourth set has not been completed yet, it is requested to complete the measurements and submit the results at the earliest.

Powergrid added that they prepared an online format to submit the details of measurements. Powergrid requested to fill the Google form(https://goo.gl/6375HJ) for onward submission of measurements for better analysis of results.

OCC advised all the constituents to complete the measurements as per the schedule.

Members may update.

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

i) <u>The status of black start exercises</u>

The schedule of the proposed black-start exercises for F.Y 2016-17 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, 2016	*Completed on 16th July 2016*	Last Week of January 2017	***Completed on 25.01.17***
2	Maithon (To be tested in islanded mode)	1st week of June 2016	*Completed on 02.12.2016*	1st Week of February 2017	
3	Rengali	2nd week of June 2016	*Completed on 23rd Sept, 2016*	Last week of November 2016	***Completed on 25.01.17***
4	U. Indarvati	3rd week of June 2016	*Completed on 16th July 2016*	2nd week of February 2017	***February 2017***
5	Subarnarekha	1st week of October 2016	*Completed on 19.10.16*	1st week of January 2017	
6	Balimela	3rd week of October 2016	*Completed on* 29.11.16	1st week of March 2017	
7	Teesta-V	2nd week of Nov 2016		Last week of February 2017	February 2017
8	Chuzachen	Last Week of May 2016	***17th Jan, 2017 (Scheduled)***	January 2017	
9	Burla	Last Week of June 2016	*Completed on 28.07. 2016*	Last week of February 2017	**F*ebruary 2017***
10	TLDP-III	1st Week of June 2016		2nd Week of January 2017	
11	TLDP-IV	Last Week of June 2016	*Completed on 17.*11.16	1st Week of February 2017	

In 130th OCC, OCC advised CHEP to finalize the date for mock black start exercise in consultation with Sikkim electrical department. CHEP agreed to carry out in March, 2017.

Members may update.

<u>Testing of DG sets meant for Black start</u>

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.

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 126th OCC 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**.*

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 05-Feb-17, at 12:24hrs 765kV Mainpuri-Bara ckt trippedalong with both running units at Bara TPS (UP). Generation loss of around 1100MW occurred.
(2) On 21.02.17, at 1559 hrs,due to tripping of Kalisindh Unit-I & II the generation loss of 900 MW took place.
(3) On 23-02-2017 @ 16:15 HrsDuring The Testing the unit-II of Kudankulamcame from 958 to 650 MW, stabilized for 2 Minutes and then subsequently it tripped.

ERLDC may update.

Item No. B.36: Reactive Power performance of Generators

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

Power Plant	Max and Min Voltage observed for Feb 17 (KV)	Date for monitoring (Feb 17)
Farakka STPS	424,408	24,25
Khalgaon STPS	424,402	29,08
Talcher STPS	413,402	24,27
Teesta	424,394	28,05
Bakreshwar TPS	412,392	16,25
Kolaghat TPS	427,401	16,18
Sagardighi TPS	--	--
MPL	422,409	27,18
Mejia-B	--	--
DSTPS	427,416	15,11
Adhunik TPS	424,411	24,23
Sterlite	--	--
Barh	--	--
JITPL	--	--
GMR	419,405	01,05
HEL	--	
Kodarma	424,404	27,25

ERLDC may present the reactive 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. DSTPS (Unit#2 only pending) – done
c. Koderma TPS Unit#1 -- done on 08.08.2016
d. JITPL(both units) – Procedure given. Not yet done
e. Barh TPS – In June 2016
f. Raghunatpur (both units)
g. GMR (Three units)
h. *Haldia TPS (Unit #4)*

Members may update.

b) Tap Position Optimization at Jeypore

Current Tap position at Jeypore ICT is 14. From scatter plot of 400/220 kV Jeypore S/S for the month February it is seen that 80% of time it is remaining in 1st quadrant and 20 % of tme in 2nd quadrant. This means most of the time voltage at both 400 and 220 KV level remains above their nominal value and occasionally 400 kv side voltage going below nominal value. But 220 kv side voltage always remaining on the higher side. Also it is seen that although 80% of time scatter plot is staying im 1st quadrant but Max voltage is within 420 Kv. So if we reduce the Tap position then it will help to reduce 220 Kv voltage and further increase 400 kv side voltage which is remaining below 400 kV for 20% of time and within 400 to 420 kV for 80 % of time. So even after tap change 400 kV side voltage will stay mostly within 420 kV and may occasionally cross 420 kV by a very small margin. We also have reactors at Jeypore and Indravati for controlling high voltage at 400 kV.It is proposed that Tap may set to 12 from 14.

Members may express their opinion in this regards.

PART C:: OPERATIONAL PLANNING

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

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

Members may confirm.

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

Members may finalize the Shutdown proposals of the generating stations for the month of April'17 as placed at **Annexure-C.2**.

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

A. Submission of OCC approved outage to ERLDC

The procedure for transmission element outage was approved in 87th ERPC meeting. As per the procedure following need to be adhered by the outage indenting parties while applying OCC approved transmission element outages to ERLDC for approval;-

1. Request for outages which are approved by OCC must be sent by the indenting agency of the transmission asset at least 3 days in advance to respective RLDC by 1000 hours. (For example, if an outage is to be availed on say 10th day of the month, the indenting agency would forward such requests to the concerned RLDC on or before 7th day of the month by 1000 hours.)
2. In case the request for transmission element outage is not received within the timeline prescribed above, it will be assumed that the indenting agency is not availing the outage. However, indenting agency is duty bound to inform ERLDC at least 3 days in advance, if it is not availing the OCC approved outage.

Since last few months it was observed that indenting agencies were deviating from submission dates corresponding to their OCC approval date while submitting their request, which causes a lot of inconvenience to coordinate with multiple agencies and also to carry out system study before approve the outage request. In this regard, it is advised to submit the OCC approved outage request to ERLDC as per the outage procedure (at least 3 days advance) for final approval from ERLDC side. Receipt of the outage request violating the time line may be considered as cancelation of outage. Further, in case of any change of OCC outage schedule date as per the OCC approval, reason of deviation along with rescheduled date shall be mailed to ERPC and ERLDC both for consideration.

ERLDC may elaborate.

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

(i) Generating units:

Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE	Restoration
GMR	2	350	PROBLEM IN ASH HANDLING SYSTEM	22-Feb-17	
ADHUNIK	2	270	TURBINE VIBRATION HIGH	5-Mar-17	
JITPL	1	600	CHP PROBLEM	7-Mar-17	
DPL	7	300	TUBE LEAKAGE	2-Feb-17	
BANDEL	5	210	DESYN DUE TO LOW SYSTEM DEMAND	10-Mar-17	
KOLAGHAT	3	210	TUBE LEAKAGE	22-Feb-17	
KOLAGHAT	1	210	OVER HAULING	16-Feb-17	
KOLAGHAT	2	210	DESYN DUE TO POLLUTION ISSUE	24-Feb-17	
KOLAGHAT	6	210	BOILER TUBE LEAKAGE	7-Mar-17	
TENUGHAT	2	210	TURBINE MAINTENANCE	7-Nov-16	
BOKARO A	1	500	DESYN DUE TO LOW SYSTEM DEMAND	13-Mar-17	
BOKARO B	3	210	BOILER TUBE LEAKAGE	15-Dec-16	
BOKARO B	2	210	BOILER TUBE LEAKAGE	5-Mar-17	
BOKARO B	1	210	TUBE LEAKAGE	13-Feb-17	
WARIA	4	210	TUBE LEAKAGE	8-Mar-17	
MEJIA	1	210	DESYN DUE TO LOW SYSTEM DEMAND	28-Feb-17	
MEJIA	2	210	DESYN DUE TO LOW SYSTEM DEMAND	1-Mar-17	
MEJIA	4	210	DESYN DUE TO LOW SYSTEM DEMAND	7-Mar-17	
RAGHUNATHPUR	1	600	L.P. DIFFERENTIAL EXPANSION	27-Jan-17	
KODERMA	1	500	BOILER TUBE LEAKAGE	19-Jan-17	

(ii) Transmission elements

Name of the Line/Element	Outage	Reason
400 KV MEERAMANDALI- MENDHASAL S/C	23/05/16	TOWER COLLAPSED NEAR MENDHASAL,LOC NO 180,181,182.
400 KV PATNA-KISHANGANJ D/C	26/07/16	TOWER COLLAPSED AT LOC NO 51
400 KV BIHARSARIFF-PURNEA- I & II	23/08/16	Three numbers of tower badly damaged at location
220KV WARIA - BIDHANNAGAR-II	10/09/16	LINE UNDER B/D, TOWER COLLAPSED AT LOC NO 28 CONDUCTOR REPLACEMENT WORK
220 KV MERAMUNDALI – BHANJNAGAR-I	25/11/16	
315 MVA ICT-I AT MEERAMUNDALI	12/11/16	UNDER B/D AS ICT GOT BURNT DUE TO B

Members may update.

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

New generating units:

S.No.	Power Plant	Plant Size	Expected date

New transmission elements:

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

Members may update.

PART D:: OTHER ISSUES

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

System frequency touched a maximum of 50.34Hz at 18:02Hrs of 17/02/17 and a minimum of 49.76Hz at 07:11Hrs of 01/02/17, 21:05Hrs of 03/02/17, 11:09Hrs of 23/02/17 and 22:09Hrs of 27/02/17. Accordingly, no report of operation of UFR has been received from any of the constituents.

Members may note.

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 January'17.

Members may note.

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

Sl no	Disturbance Place	Date	Time	Generation loss (MW)	Load loss (MW)	Remark	Category
1	Arrah	02-02-2017	00:22	0	110	At 00:22 hrs, B-N fault occurred at 220 kV Arrah – Sasaram S/C (Sasaram end: B-N, Z-I, F/C 7.35 kA, A/R started; Arrah end: Carrier received). A/R operation started at both end. But after 1000 ms, other two phase breakers tripped at Sasaram end on pole discrepancy resulting loss of total power supply at Arrah and its surrounding area i.e. Dumraon & Jagdishpur (all were being radially fed from Sasaram).	GD - I
2	Lalmatia	06-02-2017	16:40	0	66	At 16:40hrs, blasting of 132 kV Y & B phase CT of 132 kV bus sectionalizer at Lalmatia resulted tripping of multiple elements. 132 kV Kahalgaon and Dumka – II tripped from Lalmatia end on Z-IV protection. 132 kV Dumka – I feeder tripped from both end. 220 kV Farkka Lalmatia tripped from Farakka end. 220/132 and 132/33 kV ATR also tripped	GD - I
3	Bakreswar	13-02-2017	09:55	456	0	As 220 kV Bus-II was under shutdown, all the elements were connected to 220 kV Bus – I at Bakreswar. At 09:55 hrs, operation of bus bar protection at bus – II resulted tripping of all 220 kV feeders and 400/220 kV IBTs. Unit #3, 4 & 5 (units connected to 220 kV bus) were remain in service with house load. But unit #3 tripped after 22 sec due to drum level low because of not opening of bypass valve. Other two units sustained with house-load.	GD - I
4	CESC	23-02-2017	09:53	720	745	At 09:53 hrs, 132 kV Chakmir – Taratala – I tripped from both end due to B-N fault. Though fault was cleared by both ends in 300 ms, 132 kV BBGS – Chakmir Q/C tripped only from BBGS end in Z-II. Tripping of 132 kV BBGS – Chakmir Q/C resulted instant shutdown of all radially fed substations i.e. SRS (fed from Majherhat), P. ST(fed from Taratala),	GD - I

						BBD Bag (fed from Taratala), Majherhat & Chakmir. Tripping of these s/s resulted load approx. 400 MW load loss. So power injected by BBGS flowed through 220 kV BBGS – 220 KV EMSS -132 KV EMSS – 132 KV Kasba (WBSETCL) resulted hunting in BBGS machines. At this time, 132 kV EMSS – Kasba(WBSETCL) T/C tripped from WBSETCL end in O/C protection and from CESC end due to carrier received from WBSETCL end and CESC system got islanded. BBGS U#1 and U#2 tripped due to over speed and U#3 tripped due to under frequency.	
5	Chandil	24-02-2017	09:05	0	97	At 09:05hrs, 220 kV Ranchi – Chandil S/C tripped due to Y phase CT burst at Chandil end. At the same time, 220 kV STPS – Chandil S/C tripped from Chandil end & 220 kV Ramchandrapur – Chandil S/C and 220 kV Ramchandrapur – Joda S/C tripped from Ramchandrapur end.	GD - I

Members may note.

Item no. D.4: Any other issues

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ANNEXURES

Annexure-B.3 (I)

Schemes of Eastern Region funded under PSDF

State / UT	Sr. No.	Details of the Scheme	Nos. of Schemes	Grant Sanctioned (in Rs Crores)	Date of Sanction	Funds released (in Rs Crores) as on 30.11.2016	% age of fund Disbursed against Grant sanctioned
West Bengal	1.	Renovation and Upgradation of protection system of substations	2	108.60	31/12/2014	11.04	10.16%
	2.	The Renovation and Modernization of 220/132 kV STPS switch yard and implementation of Substaion Automation System.		23.48	5/9/2016	0	0%
Bihar	3.	Renovation and Upgradation of protection system of substations	2	64.22	11/05/2015	18.68	29.09%
	4.	Installation of capacitor bank for Improvement of Voltage profile in BSPTCL, Bihar.		18.88		0	0%
Odisha	5.	Renovation and Upgradation of protection system of substations	1	162.50	11/05/2015	19.52	12.01%
Eastern Regional Power Committee (ERPC)	6.	Creation and Maintanance of Web based Protection Database Management System and Desktop based Protection Setting Calculation Tool for Eastern Regional Grid.	1	20.00	17/03/2016	4.94	24.7%
POWERGRID	7.	Installation of STATCOMs in ER at Ranchi-New,Rourkela, Kishanganj and Jeypore substation of POWERGRID.	1	630.28	5/1/2016	0	0%
		TOTAL	**7**	**1027.96**			

Annexure-~~B~~.3 (II)

Reporting Format to the PSDF Project Monitoring Group

1. Name of the Scheme	
1.1 Name of the substation and its Location	
1.2 Executing Agency	
1.3 State/Region	
2. Date of Sanction order	
2.1 Date of Agreement of Entity with State Govt./NLDC	
2.2 Total Approved Cost of the Scheme	
2.3 Approved Grant by Monitoring Committee (Rs. In Lakhs)	
2.4 Date of Requisition by the Entity	
2.4.a) date and Reference of LOA	
2.4.b) Amount of LOA	
2.5 Date of Disbursement and amount	
2.5.1 : Ist Installment	
2.5.2: IInd installment	
2.5.3: IIIrd installment	
2.6 Date of Scheduled completion of Work	
2.7 Date of handing over of Site to entity (in case of turnkey projects)	

Report for the Month of MM / YY

No.	Supply Description	Qty. AS PER LOA	Quantity Received during Month	CUMMULATIVE PROGRESS Till date		BALANCE	Remarks
				Sch.	Act.		
1	item Details						
1.1							
1.2							
....							
	Erection Description	works as per LOA	Progress During Month	CUMMULATIVE PROGRESS Till date		Balance	
2	work details						
2.1							
2.2							
....							
3	Others						

Signature with seal of the Nodal Officer

Annexure-B.9

S.No	*MAKE*	*Date/Year of SEM Installation*	*ERLDC_ID*	*NEW MTR NO*	*LOCATION*	*Time Drift (Min)*
1	L&T	2006	EM-07	NP-5086-A	BINAGURI(PG)	11
2	L&T	2006	EM-09	NP-5088-A	BINAGURI(PG)	12
3	L&T	2006	EM-10	NP-5888-A	BINAGURI(PG)	13
4	L&T	2008	ER-85	NP-5962-A	JEYPORE(PG)	49
5	L&T	2008	ER-34	NP-5957-A	JEYPORE(PG)	52
6	L&T	2008	ER-35	NP-5958-A	JEYPORE(PG)	55
7	L&T	2008	ER-53	NP-5946-A	SILIGURI(PG)	10
8	L&T	2008	ER-40	NP-6464-A	BIRPARA(PG)	-11
9	L&T	2008	ER-59	NP-6478-A	MALDA(PG)	-16
10	L&T	2008	ER-12	NP-6451-A	MAITHON(PG)	-11
11	L&T	2008	ER-41	NP-6490-A	BIRPARA(PG)	-10
12	L&T	2011	ER-44	NP-5892-A	BIRPARA(PG)	35
13	L&T	2012	EM-96	NP-5068-A	DALKHOLA(PG)	23
14	L&T	2013	EP-56	NP-5233-A	MUZAFFARPUR(PG)	13
15	L&T	2013	EP-57	NP-5234-A	MUZAFFARPUR(PG)	15
16	L&T	2013	ER-58	NP-7555-A	MALDA(PG)	18
17	L&T	2013	EP-72	NP-7935-A	SUBHASGRAMA(PG)	11
18	L&T	2013	EP-55	NP-7969-A	DALKHOLA(PG)	16
19	L&T	2013	EP-83	NP-7828-A	PURNEA(PG)	12
20	L&T	2013	EP-84	NP-7829-A	PURNEA(PG)	16
21	L&T	2013	EP-93	NP-7612-A	BERHAMPORE(PG)	19
22	L&T	2013	EP-94	NP-7993-A	BERHAMPORE(PG)	17
23	L&T	2014	EN-16	NP-7938-A	SUBHASHGRAM(PG)	12
24	L&T	2015	EN-96	NP-7881-A	RANCHI(PG)	15

Annexure-B.18

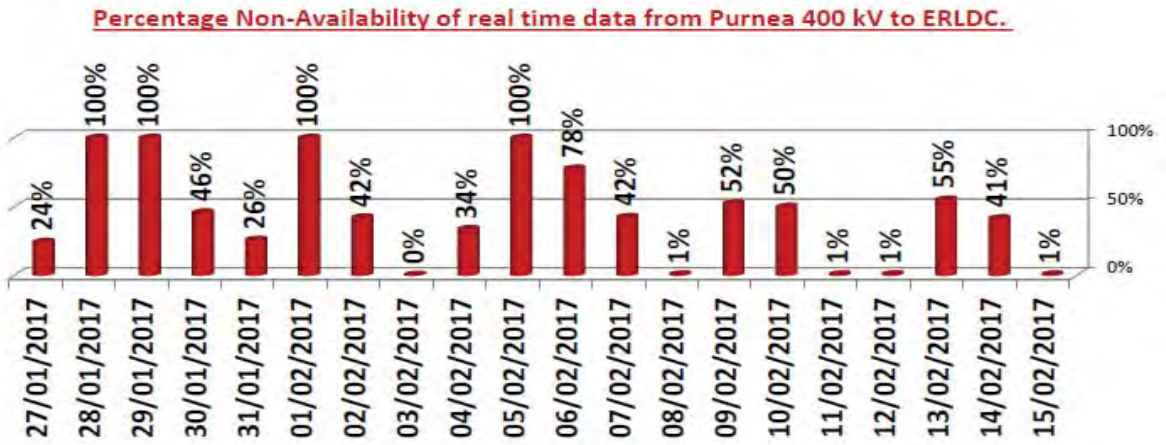
Installed Capacity (MW) and Generation (MU) from renewable Resources (Injected into the Grid)

1. State/Centre :
2. Month :
3. Year :

Renewable Resources/Organizations	Installed Capacity (MW) as on last date of the month			Generation (MU) during the month : ~~January~~			Cumulative Generation (MU) during the 1st April ~~2015~~ to end of month		
Renewable Energy Resources	Central Sector	State Sector	Private Sector	Central Sector	State Sector	Private Sector	Central Sector	State Sector	Private Sector
1. Wind									
2 a. Solar (1 MW & above)									
2 b. Solar (Less than 1 MW)									
3. Biomass									
4. Bagasse									
5. Small Hydro (1 MW to 25 MW)									
6. Any Other (Please Specify the resources)									
Total									

Chronic issue with real time data availability in eastern region:-

- Frequent Failure of Purnea New real time data.



- Another 31 days gone but JITPL and Lalmatia data yet be restored by JITPL and NTPC respectively.
- No redundant Communication channel in eastern region for real time telemetry over IEC 101, IEC 104 as well as over ICCP protocol

No VOICE over VOIP

- IPP : JITPL, GMR, IBEUL, TEESTA #3.
- POWERGRID : Bolangir , Indravati , Jeypore , Keonjhar, Purnea 400 kV, Purnea 220 , Baharampur 400kV , Rourkella , Lakhisarai, Rengali, Keonjhor, Jeypore, Dalkhola (PG), Birpara, Kishanganj,Indravati (PG), Bolangir ,Pandiabili.
- NTPC : Nabinagar.

Building more confidence of Grid operator on SCADA data.

- **Meeramundali MVAr data:**

	Duburi New 1	Duburi New 2	Mendhasal	Angul 1	Angul 2	GMR	Talcher STPS	ICT 2	JSPL 1	JSPL 2	Sterlite 1	Sterlite 2	Residue
Site	-96	-98	19	100	126	14	18	85	-23	-25	-52	-52	16
OPTCL	-96	-92	57	182	126	25	20	85	-25	-30	5	-2	255
ERLDC	-96	-92	57	182	126	25	20	85	-25	-30	5	-2	255

- Data validation is required to be done on periodic basi.

Non availability of Unit side data

- IBEUL (Unit 1 , Unit 2)
- Farakka Unit #6, Unit #5 (erroneous data).
- Sagardighi Unit #3.
- Teesta V HPS unit data.
- Rangit HPS Unit Data.

OLTC

1. NEW SASARAM @ 1500 MVA 765/400 kV ICT 1
2. ANGUL @ 1500 MVA 765/400 kV ICT 1
3. ANGUL @ 1500 MVA 765/400 kV ICT 3
4. ANGUL @ 1500 MVA 765/400 kV ICT 4
5. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 1
6. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 2
7. BOLANGIR @ 315 MVA 400/220 kV ICT 1
8. BIHARSHARIF @ 315 MVA 400/220 kV ICT 1
9. BIHARSHARIF @ 315 MVA 400/220 kV ICT 3
10. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 1
11. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 2
12. KEONJHAR @ 315 MVA 400/220 kV ICT 1
13. KEONJHAR @ 315 MVA 400/220 kV ICT 2
14. MALDA @ 315 MVA 400/220 kV ICT 1
15. MUZAFFARPUR @ 315 MVA 400/220 kV ICT 3
16. RANCHI @ 315 MVA 400/220 kV ICT 1

OLTC

19. RANCHI @ 315 MVA 400/220 kV ICT 2
20. RENGALI @ 315 MVA 400/220 kV ICT 2
21. ROURKELA @ 315 MVA 400/220 kV ICT 3
22. CHAIBASA @ 315 MVA 400/220 kV ICT 1
23. CHAIBASA @ 315 MVA 400/220 kV ICT 2
24. CHAIBASA @ 315 MVA 400/220 kV ICT 3
25. SUBHASGRAM (ICT I, II & V) @ 315 MVA 400/220 kV ICT3
26. KISHANGUNJ @ 500 MVA 400/220 kV ICT 2
27. KISHANGUNJ @ 500 MVA 400/220 kV ICT 3
28. BARH @ 200 MVA 400/132 kV ICT 1
29. BARH @ 200 MVA 400/132 kV ICT 2
30. LAKHISARAI @ 200 MVA 400/132 kV ICT 3
31. ARRAH @ 100 MVA 220/132 kV ICT 1
32. ARRAH @ 100 MVA 220/132 kV ICT 2
33. PURNEA @ 160 MVA 220/132 kV ICT 1
34. PURNEA @ 160 MVA 220/132 kV ICT 2

NTPC

- Lalmatia: (No data since Jan 2016).
- Farakka NTPC:
  - Unit #5 MW and MVAr data not matching with site data (As per inputs from NTPC, This will be done during overhauling of Unit#5)
  - Unit # 6 LV side not available.
- Nabinagar NTPC :
  - Alternet Data channel not provided.
  - Unit HV side data.
  - **No VOIP.**

POWERGRID

- **Data Intermittent /not available:**
  - Purnea 400kV (Frequent Failure of RTU)
  - Ranchi 400kV, Baripada, Gaya, Angul, Chaibasa
- **VOIP for following station not yet provided:**
  - Bolangir , Indravati , Jeypore , Keonjhar

WBSETCL

- Following station data not available:
  - TLDP 4.
  - Gokarna 400kV (400/220 kV ICT was first charged on 15th Sept'16),
  - Dharampur 220,
  - Krishnanagar 220,
  - Hura 220,
  - Foundry Park 220.
  - Dalkhola
  - Bantala
  - Lakshmikantapur
  - New Town
- Sagardighi :
  - Unit 3 LV side (Unit) data not available.
- **Kolaghat TPS** : Kharagpur #1 MW/MVAR flow not available.

BSPHCL

- Data Intermittent /not available:
  - Dumraon, Sonenagar,Khagaul ,Darbhanga, Dehri , sultangaunj , Lakhisarai, Karmanasa, Kahalgaon, Jamaui , Banka, Gopalganj, Kisanganj, Arrah ,Rajgir,Sipara ,Hajipur(New), Pusauli, Valmikinagar, Koshi

JSUNL

- **Data Intermittent /not available:**
  - Hatia New 220,
  - Dumka 220.
  - Patratu(Intermittent)
  - DEOGHAR
  - DUMKA
  - GARHW
  - GOELKERA
  - JAMTARA
  - JAPLA
  - KENDOPOSI

DVC

- Data Not provided:
  - Giridhi 220,
- Durgapur TPS (DSTPS): Highly intermittent.

Annexure- B.30

PMU Installation and commissioning status of ER as on 16.02.2017

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
			78			286	175	59	59	42	35	31	31	16	27	
1	ER-II	West Bengal	Arambagh	WBSETCL	CR	3	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
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	pending	pending	pending	Pending	pending	After stoppage of work for 2 months due to permission issue, WBSETCL has peovided interfacing point details on 16.02.17. CT cable shortage issue may arise as star point CT connection not available at Jeerat.
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	pending	pending	pending	Pending	pending	After stoppage of work for 2 months due to permission issue, WBSETCL has peovided interfacing point details on 15.02.17. But sub-station in-change informed us that they will not allow us to work from 10.02.17 to 03.03.17.
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	under progress	pending	pending	Pending	pending	
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	N/A	N/A	N/A	N/A	N/A	N/A	
20	Odisha	Orissa	BALIMELA(H)	OPTCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	DC supply issue resolved. CT/ PT/ DI interfacing permission required.
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	No	N/A	N/A	N/A	N/A	N/A	N/A	Road permit requested for cable.
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	
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

PMU Installation and commissioning status of ER as on 16.02.2017

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
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	under progress	pending	pending	Pending	pending	Work started from 31.01.2017.
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	No	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	under progress	pending	Pending	pending	Work started again from 31.01.2017.
44	ER-II	West Bengal	Purulia PSP	WBSETCL	CR	2	1	No	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	N/A	N/A	N/A	N/A	N/A	N/A	
46	ER-II	West Bengal	Durgapur TPS	DVC	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
47	Odisha	Orissa	TTPS(Talcher)	OPTCL	CR	3	1	No	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	
49	ER-II	Sikkim	TEESTA	Powergrid	CR	1	1	No	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	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
52	Odisha	Orissa	Monnet	Monnet	CR	1	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
53	Odisha	Orissa	Strelite	Strelite	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
54	Odisha	Orissa	Ind barath	Ind barath	Kiosk	1	1	No	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	N/A	N/A	N/A	N/A	N/A	N/A	Scheduled to start from 20.02.2017
61	ER-I	BIHAR	Purnea	Powergrid	CR	6	2	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
62	ER-I	BIHAR	PATNA	Powergrid	Kiosk	6	7	Yes	Yes	pending	pending	pending	pending	Pending	pending	Work started from 16.02.2017.

PMU Installation and commissioning status of ER as on 16.02.2017

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
63	ER-I	Jharkhand	RANCHI	Powergrid	Kiosk	12	13	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	1 panel not delivered. Way bill requested.
64	ER-I	BIHAR	SASARAM(Pusauli)	Powergrid	CR+Kiosk	9	3	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Panel not delivered due to road permit issue.
65	ER-I	BIHAR	BARH	NTPC	CR	4	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	Panel delivered. Road permit for cable pending.
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.
68	ER-I	Jharkhand	Chaibasa	Powergrid	Kiosk	4	5	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Road permit pending for FO cable and switch.
69	ER-I	BIHAR	765kv Gaya	Powergrid	Kiosk	11	12	Yes	Yes	done	done	done	done	Pending	pending	Splicing of FO is under progress.
70	ER-I	Jharkhand	765/400kV Ranchi (N)	Powergrid	Kiosk	8	9	Yes	Yes	done	done	under progress	pending	Pending	pending	CT interfacing was allowed from 15.02.2017.
71	ER-I	Bihar	Biharshariff	Powergrid	CR	9	3	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Panel not delivered due to road permit issue.
72	ER-I	Bihar	MUZAFFAPUR	Powergrid	CR	5	2	No	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	under progress	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mts.
75	ER-I	Jharkhand	Jharkhand Pool (Chand	Powergrid	Kiosk	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Scheduled to start from 22.02.2017
76	ER-I	Jharkhand	Patratu	Jharkhand	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
77	ER-I	Jharkhand	Tenughat	Jharkhand	CR	2	1	No	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/ SLDC	
			No. of Substations	No. of PMU	S/S	PMU	S/S	PMU	S/S	PMU	S/S	PMU
1	ER-I	Powergrid	15	94	12	71	6	37	5	29	1	6
2	ER-I	NTPC	2	10	2	10	0	0	0	0	0	0
3	ER-I	Jharkhand	2	5	0	0	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**	**14**	**81**	**6**	**37**	**5**	**29**	**1**	**6**
1	ER-II	Powergrid	13	42	10	41	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	11	31	9	28	8	23	3	8
4	ER-II	WBSETCL	7	21	6	19	4	12	0	0	0	0
	ER-II	**Total**	**34**	**105**	**28**	**96**	**23**	**79**	**16**	**56**	**10**	**37**
1	Odisha	Powergrid	10	38	10	38	10	38	9	28	5	20
2	Odisha	OPTCL	8	19	6	16	4	13	1	2	0	0
3	Odisha	NTPC	1	5	0	0	0	0	0	0	0	0
4	Odisha	IPP	5	10	1	3	0	0	0	0	0	0
	Odisha	**Total**	**24**	**72**	**17**	**57**	**14**	**51**	**10**	**30**	**5**	**20**
	ER	**Total**	**78**	**286**	**59**	**234**	**43**	**167**	**31**	**115**	**16**	**63**

Status of PDS system Installation and commissioning at ER as on 16.02.2017

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.31

AVAILABILITY STATUS OF EVENT LOGGER, DISTURBANCE RECORDER & GPS

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

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

Eastern Regional Power Committee

The status of ERS towers in Eastern Region as submitted during ERS meeting held on 10.11.14 taken by Member (Power System), CEA is given below:

1) As per 100th OCC meeting held on 22.08.2014, the status of ERS towers as available in Powergrid 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) As informed by OPTCL, 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 approved by Board of Director for procurement in the current financial year. Purchase order has been placed.
- Another, 16 nos of 400 kV towers accompanied with 6 sets of T&P are required.

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) Bihar informed that they have 10 sets of 220 kV ERS towers and 2 sets are under process of procurements.

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

Annexure-C.1

Anticipated Power Supply Position for the month of
Apr-17

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	3800	2150
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	258	135
		- Central Sector	2891	1548
	iii)	SURPLUS(+)/DEFICIT(-)	-651	-467
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1220	800
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	360	249
		- Central Sector	598	302
	iii)	SURPLUS(+)/DEFICIT(-)	-262	-249
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2760	1656
	ii)	NET POWER AVAILABILITY- Own Source	4799	2618
		- Central Sector	531	323
		Long term Bi-lateral (Export)	1300	936
	iii)	SURPLUS(+)/DEFICIT(-)	1270	349
4		**ORISSA**		
	i)	NET MAX DEMAND	4400	2520
	ii)	NET POWER AVAILABILITY- Own Source	3207	1896
		- Central Sector	1201	683
	iii)	SURPLUS(+)/DEFICIT(-)	8	59
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	6280	3691
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	6280	3691
	iv)	NET POWER AVAILABILITY- Own Source	3466	2063
		- Import from DPL	0	-14
		- Central Sector	3149	1480
	v)	SURPLUS(+)/DEFICIT(-)	335	-162
	vi)	EXPORT (TO B'DESH & SIKKIM)	5	4
5.2		**DPL**		
	i)	NET MAX DEMAND	270	195
	ii)	NET POWER AVAILABILITY	426	181
	iii)	SURPLUS(+)/DEFICIT(-)	156	-14
5.3		**CESC**		
	i)	NET MAX DEMAND	2020	1103
	ii)	NET POWER AVAILABILITY - OWN SOURCE	750	473
		FROM HEL	530	328
		FROM CPL/PCBL	0	0
		Import Requirement	740	302
	iii)	TOTAL AVAILABILITY	2020	1103
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8570	4989
	ii)	NET POWER AVAILABILITY- Own Source	4642	2717
		- Central Sector+Others	4419	1808
	iii)	SURPLUS(+)/DEFICIT(-)	491	-464
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	34
	ii)	NET POWER AVAILABILITY- Own Source	5	3
		- Central Sector+Others	127	69
	iii)	SURPLUS(+)/DEFICIT(-)	47	38
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	20228	12149
		Long term Bi-lateral by DVC	1300	936
		EXPORT BY WBSEDCL	5	4
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	23038	12351
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1505	-738

Annexure- C.2

Proposed Maintenance Schedule of Thermal Generators of ER during April, 2017 (as finalised in LGBR 2017-18)

System	Station	Unit	Size (MW	Period		No. of Days	Reason
				From	To		
DVC	MTPS	4	210	01.04.17	21.04.17	21	AOH (Boiler)
	CTPS	2	130	01.04.17	21.04.17	21	Burner Replacement
Odisha	TTPS	2	60	10.04.17	24.04.17	15	Boiler Overhaul