Agenda

for

136th OCC Meeting

Date: 30.08.2017

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Agenda for 136th OCC Meeting to be held on 30th August, 2017 at ERPC, Kolkata

PART A

Item no. 1: Confirmation of minutes of 135th OCC meeting of ERPC held on 24.07.2017

The minutes of 135th OCC meeting were uploaded in ERPC website and circulated vide letter dated 09.08.2017 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.

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

1. 400kV Kolaghat- New Chanditala (LILO of 400kV Jeerat- Kolaghat SC at New Chanditala) charged for the first time at 14:46Hrs of 03.07.17.
2. 400kV Jeerat-New Chanditala (LILO of 400kV Jeerat- Kolaghat SC at New Chanditala) charged for the first time at 16:42Hrs of 03.07.17.
3. New PPSP-Arambag Ckt-1 (LILO of 400kV PPSP-Arambag Ckt-1 at New PPSP) charged for the first time at 19:13Hrs of 15/07/17.
4. PPSP-New PPSP Ckt-1 (LILO of 400kV PPSP-Arambag Ckt-1 at New PPSP) charged for the first time at 18:49Hrs of 15/07/17.
5. 50MVAR Bus Reactor-1 at New PPSP Substation charged for the first time at 19:00Hrs of 15/07/17.
6. 400kV New Ranchi-New PPSP-DC charged for the first time as follows:
    a. Ckt-1: 20:08Hrs of 24/07/17.
    b. Ckt-2: 20:50Hrs of 24/07/17.
7. 400kV Gorakhpur-Motihari (DMTCL) ckt-2 (LILO of 400kV Barh-Gorakhpur ckt-2) charged for the first time at 22:54Hrs of 31/07/17.

List of newly commissioned elements of WBSETCL in July 2017 is enclosed at Annexure-B1.

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.

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 134th 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.	16.25 Cr + 8.91 Cr	***Total contract awarded for Rs. 51.35 Cr***
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) put in live w.e.f. 30.03.17.** 4) ***Training on PDMS organised at Odisha, ERPC & Bihar.***
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	64.22 crore	23.68 crore	Project is on going. ***Contract awarded for Rs.71.37 Cr till date.***
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			1.39 Cr		***MOP vide letter dated 16.05.17 has issued the sanction for grant of Rs. 1.39 Cr. Order has been placed to ABB for implementation***
		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.			***2.54 Cr***		***MOP has issued the sanction letter for PSDF grant.***
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*					

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

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

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

In 134th OCC, it was informed that MoP has issued the letter for sanction of grant for Bandel islanding scheme and renovation & up-gradation of OHPC substations.

In 135th OCC, WBSETCL informed that two schemes (installation of switchable reactor & shunt capacitor for improvement of voltage profile and Improvement of State Transmission System by Renovation & Modernisation of Transmission System for relieving congestion) have been approved by the PSDF monitoring committee.

Respective constituents may update.

Item No. B.3: 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

In 130th OCC, PRDC informed that they will submit the report by end of March, 2017.
The report is available at ERPC website (www.erpc.gov.in)

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

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

In 133rd OCC, PRDC informed that load flow studies of Summer Peak Condition (4th and 5th May, 2017) for 19:00 and 20:00 hrs, they have received data from BSPTCL and CESC.

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

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

Further, it was informed that the login ID and Password for access of PDMS has been issued to the respective members as nominated by the authorities.

OCC advised constituents to verify their respective data and give their feedback.

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

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

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

PRDC may update.

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

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

Members may note.

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

GMR, Vedanta, CESC, Chuzachen, Powergrid-Odisha & NTPC (TSTPS) have submitted the healthiness certificate for the month of July, 2017.

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

JITPL, Powergrid (ER-II) may submit the healthiness certificate for July 2017.

Item No. B.6: Furnishing of data for Merit Order Web Portal – CEA

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

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

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

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

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

1) Login to MERIT web portal (www.meritindia.in/login).
2) Select any date and click on "GO" button. After this, list of all station will be visible for that date with other information's, if already filled.
3) Click on "Export Data in Excel" to export the file in excel***. This would be a template file which is to be used for uploading the data***.
    a. Once you do not have any changes in the list of plants, this file can be used for data uploading and on daily basis user need not to download excel format again.

b. In case updation in list of station is required (State owned stations), same can be modified through monthly page. At present this feature is disabled and very shortly it will be enabled.
c. Initial two row has station ID and name of station, which should not be disturbed and data will be uploaded based on these only. Any changes in it may lead to wrong data uploading.
d. User can select any file name to save and upload the data.
e. Once you filled data click on "If you have data ready in Excel, CICK HERE to upload", select date for which you want to upload data, browse for the desired file and click on UPLOAD.
f. If entire file has not been uploaded, you will get the file which will show list of stations not uploaded.

4) If new station to be added for state, user can add through monthly data upload pages. Once, it has added new EXCEL template to be downloaded again in order to fill data for new station.
5) User who wants to fill data directly through web-portal, would now have option to sort based on the various fields, which will help in filling data. Users who wants to fill on-line need not to click on "If you have data ready in Excel, CICK HERE to upload", they only select the date and simply click on "GO" button.

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

Members may comply.

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
5. Farakka Islanding Scheme, NTPC

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

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

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

Members may note.

B.7.2. Bandel Islanding Scheme, WBPDCL

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

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

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

WBPDCL may update the latest status.

Item No. B.8: Request for LILO arrangement in 132kV Lalmatia-Dumka D/C line at loc. 89 for supplying construction power at 132kV level to 2x800 MW Thermal power plant at Godda by M/s Adani power--JUSNL

JUSNL vide letter dated 18-08-2017 informed that M/s Adani Power Jharkhand Ltd. (APJL) is setting up 2x800 MW thermal power plant at Godda. Availing power supply for construction M/s Adani Power has requested for construction of LILO of 132kV Dumka-Lalmatia D/c line at loc. 89 on cost deposit basis. Details are enclosed at **Annexure-B8**.

132kV Lalmatia-Dumka D/C line is covered under Farakka islanding scheme.

Members may discuss.

Item No. B.9: Flexible jumpering arrangement for bypassing substations, prone to inundation during monsoon, for ensuring continuity of important corridors and power evacuation from power stations--ERLDC

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

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

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

Members may discuss.

Item No. B.10: Concerned members may update the latest status.

B.10.1. Status of construction of 400 kV Sterlite-Jharsuguda D/C sections

In 134th OCC, OPTCL updated the status as follows:

Activities	Nos	Status as updated in 35th TCC	Status as updated in 134th OCC	Remarks
Tower Foundation	64	64	**64**	Completed
Tower Erection	64	59	**64**	Completed
Stringing /OPGW Cabling & Testing	20.5 Km	9 km completed	**16 km completed**	
Sub station Bay	2	Bay construction completed	Testing going on	

OPTCL informed that the construction of the dedicated line would be completed by 15th July, 2017 in all respects.

Further, GRIDCO/OPTCL added that 7 No. of towers of 400KV Vedanta-Meramundali D/C line have been severely damaged due to whirlwind and cyclonic storm on 15-06-2017 night between Location No.7-0 to 8-0. As a result, GRIDCO could not avail State share of power through the said line and is solely dependent on LILO connectivity to avail IPP power from M/s. Vedanta Limited.

In view of the above, GRIDCO/OPTCL requested that the disconnection of interim LILO connectivity scheduled on 01-07-2017 for M/s. Vedanta Ltd may please be deferred until the restoration work of Vedanta-Meramundali line and commencement of power supply to the State through this line.

After detailed deliberation, OCC agreed to extend the LILO connectivity till 15th July, 2017. It was also decided that the removal of LILO could be reviewed subject to the completion of dedicated line as per the latest schedule i.e. by 15th July, 2017.

Accordingly, a special meeting to review the removal of LILO connectivity was held at ERPC on 14th July 2017 and the minutes are available at ERPC website.

In 135th OCC, OPTCL updated the status as follows:

Activities	Nos	Status as updated in 35th TCC	Status as updated in 135th OCC	Remarks
Tower Foundation	64	64	**64**	Completed
Tower Erection	64	59	**64**	Completed
Stringing /OPGW Cabling & Testing	20.5 Km	9 km completed	**17.8 km completed**	
Sub station Bay	2	Bay construction completed	Testing going on	

After detailed discussion, it was decided that Vedanta should complete the line construction and bay works by 30th July, 2017. It was also decided that the LILO of Vedanta Ltd may be disconnected from 16th August, 2017.

OCC advised OPTCL to complete the line by 1st week of August 2017.

Members may discuss.

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

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

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

SLDC OPTCL and Vedanta may update.

B.10.2. Enabling of 3-Phase Auto Reclose at 132 kV North Bengal and Sikkim areas to minimize element outages due to transient faults -- Powergrid

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

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

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

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

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

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

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

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

Powergrid may update.

B.10.3. Status of Installation of STATCOM in Eastern Region

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

Sl No	Location /Sub-Station of POWERGRID in ER	STATCOM -Dynamic Shunt Controller (MVAr)	Mechanically Switched Compensation Sl. (MVAr)	
			Reactor (MSR)	Capacitor(MSC)
1	Rourkela	±300	2x125	
2	Kishanganj	±200	2x125	
3	Ranchi(New)	±300	2x125	
4	Jeypore	±200	2x125	2x125

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

POWERGRID may kindly inform tentative dates for commissioning of STATCOMs at the above mentioned locations.

B.10.4. Bus Splitting of Kahalgaon STPS Stage I&II, NTPC

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

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

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

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

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

In 135th OCC, NTPC informed that the bus splitting will be implemented by December, 2018.

NTPC may update.

B.10.5. 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 135th 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 Oct, 2017.***
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:**	
a.	Pratapsasan(OPTCL)-Pandiabil(PG) 220 kV D/C line	Dec, 2017.

OPTCL may update.

B.10.6. 220 kV inter-connecting lines of JUSNL with 2x315 MVA, 400/220 kV sub-stations at Chaibasa, Daltonganj & Dhanbad

In 135th OCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Chaibasa 400/220kV S/s**	
a.	Chaibasa (POWERGRID) – Ramchandrapur (JUSNL) 220kV D/c	***August, 2017***
2.	**Daltonganj 400/220/132kV S/s:**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	By Dec, 2017.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	May, 2018
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	Dec, 2018
d	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Matching with S/s
3.	**Dhanbad 400/220 kV S/s: Awarded under TBCB**	
a.	Dhanbad – Dhanbad (Govindpur) (JUSNL) 220kV D/c	Matching with S/s

JUSNL may update.

B.10.7. 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In 135th 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***)	***October 2017***
2.	**2x500MVA, 400/220kV Rajarhat ---**	
a.	Rajarhat-N. Town-3 (WBSETCL) 220 kV D/C line	Matching
b.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	June, 2018
c.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	June, 2018

WBSETCL may update.

Item No. B.11: Restoration of PLCC system of important JUSNL ties

I) 220 KV Chandil –Santaldih line

WBPDCL vide mail dated 24.07.2017 informed that single phase Auto Reclose feature has been put into service at 220 KV STPS-Chandil feeder at STPS end at 14:02 hrs. on 14.07.17.

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.

In 131st OCC, WBPDCL informed that shutdown was proposed on 31st March, 2017 to complete the work.

In 132nd OCC, OPTCL informed that the PLCC panels have been commissioned and will be put in service after completion of testing.

In 133rd OCC, OPTCL informed that the panels will be commissioned by June, 2017.

In 134th OCC, OPTCL informed that the panels will be commissioned by June, 2017.

OCC advised OPTCL and WBPDCL to take the issue seriously and implement the auto reclose scheme at the earliest as CERC may take some suo motu action against non-completion of said PLCC links.
In 135th OCC, OPTCL informed that the auto reclose scheme will be implemented within 10 days.

JUSNL/WBPDCL/OPTCL may update.

Item No. B.12: 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
22) 400kV Maithon (PG) Completed on 18th May, 2017
23) 132kV Gola (DVC) Completed on 17th May, 2017
24) 132kV Barhi (DVC) Completed on 18th May, 2017
25) 132kV Koderma (DVC) Completed on 18th May, 2017
26) 132kV Kumardhubi (DVC) Completed on 19th May, 2017
27) 132kV Ramkanali (DVC) Completed on 19th May, 2017
28) 220kV Ramchandrapur (JUSNL) Completed on 1st June, 2017
29) 400kV Jamshedpur (PG) Completed on 1st June, 2017
30) 132kV Patherdih (DVC) Completed on 31st May, 2017
31) 132kV Kalipahari (DVC) Completed on 30th May, 2017
32) 132kV Putki (DVC) Completed on 31st May, 2017

33) 132kV ASP (DVC) Completed on 30th May, 2017
34) 132kV Mosabani (DVC) Completed on 2nd June, 2017
35) 132kV Purulia (DVC) Completed on 1st June, 2017

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

Members may note.

Item No. B.13: Inspection of Under Frequency Relays (UFR)

The proposed UFR audit schedule is placed below:

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

Members may decide.

Item No. B.14: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

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

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

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

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

Constituents may nominate.

Item No. B.15: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

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

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

- All NTPC stations in Eastern Region
- Teesta, NHPC
- All OHPC generating units
- All CESC generating units
- Bandel TPS, WBPDCL
- Kolaghat Generating station, WBPDCL
- Bakreswar Generating station, WBPDCL
- Sagardighi Thermal Power Project, WBPDCL

- DGPC units

Members may note and update the status.

Item No. B.16: Data of Peak Demand – Submission of hourly power cut data

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

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

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

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

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

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

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

JUSNL may submit.

Item No. B.17: Transfer capability determination by the states -- Agenda by NPC

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

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

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

Sl No	State/Utility	TTC import(MW)	RM(MW)	ATC (Import) MW
1	BSPTCL	4395	91	4304
2	JUSNL	842	100	742
3	DVC	603	52	551
4	OPTCL	1000	72	928

5	WBSETCL	3660	300	3360
6	Sikkim			

In 135th OCC, ERLDC informed that the ATC figure of WBSETCL will differ as the RM should be maximum unit size of WBPDCL which is 500 MW. Also the TTC figure will depend upon the inter-tripping schemes of Jeerat and Subhasgram S/s of WBSECTL.

OCC advised WBSETCL to share the details of inter tripping scheme at Jeerat and Subashgram.

Members may update.

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

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

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

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

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

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

Powergrid may update.

b) 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 134th OCC, Powergrid informed that line will be restored by 15th July, 2017.

OCC advised Powergrid to submit weekly progress to ERPC and ERLDC.

In 135th OCC, Powergrid informed that line will be restored by 15th August, 2017.

OCC advised Powergrid to submit weekly progress to ERPC and ERLDC.

Powergrid may update.

c) 220 kV Waria – Bidhannagar-II

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

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

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

DVC may update.

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

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

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

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

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

Powergrid may update.

Item No. B.19: Replacement of old RTU in Eastern Region for reporting of RTU / SAS to back-up control centre

The matter for replacement of old RTU in Eastern Region for reporting to back up control centre has been discussed in a special project review meeting held on 14th February 2017 at ERPC & also on 35th TCC/ERPC meeting held on 24th / 25th February 2017, It was also mentioned that there would not be any service support for the old RTUs from POWERGRID after 15 years of operation period. It was accordingly advised to ERLDC to form a committee with POWERGRID as a nodal agency for assessment of such old RTUs vis-a-vis further action plan on replacement. It was also advised to submit a report in the next TCC/ERPC meeting.

The matter for replacement of old RTU in Eastern Region for reporting to back up control centre has been discussed again in 19th SCADA O&M meeting held at ERLDC, Kolkata on 07th April 2017, wherein nomination of nodal person name from OPTCL, WBSETCL, DVC, BSPTCL, JUSNL, POWERGRID ERTS-1, POWERGRID ERTS-2, ERLDC, MPL &Jorethang has been collected.

Nomination from NTPC all stations including Nabinagar, NHPC all stations, Dikchu, Teesta-III, Chuzachen, JITPL, GMR, Ind Bharat & APNRL are yet to be provided. ERLDC has already issued letter ref no: ERLDC / SCADA O&M / 2017/ dated 11.04.2017 for the same. It is requested to provide the nomination from these stations.

OCC requested all the respective members to nominate their representatives at the earliest.

In 133rd OCC, OCC advised NHPC to submit the nomination list at the earliest.

ERLDC informed that a meeting has been scheduled on 09th June 2017 to discuss the above matter and requested all the constituents to send their nominated members to attend the meeting.

In 134th OCC, ERLDC informed that the next meeting will be held in end of July 2017 and the report will be placed in August, 2017.

In 135th OCC, ERLDC informed that the second meeting will be held on 4th August 2017 and the report will be placed by 10th August, 2017.

As advised by TCC, a committee with POWERGRID as a nodal agency has been formed in Eastern Region for assessment of old RTUs and further action on replacement. Subsequently, two meetings were held at ERLDC, Kolkata on 09th June 2017 & 04th August 2017.

A report has been finalized based on the suggestions received from the various committee members and the report is available in ERPC website (http://erpc.gov.in/report/).

Members may note.

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

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

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

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

OCC advised ERLDC to submit the list of such substations to Powergrid.

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

Members may update.

Item No. B.21: Shifting of communication links for PMUs reporting to ERLDC--ERLDC

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

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

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

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

Accordingly, ERLDC has sent the detailed requirement for shifting of communication link to POWERGRID ULDC on 14-07-2017. The same is attached at **Annexure – B.21**.

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

PGCIL may update.

Item No. B.22: Update on status of telemetry

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

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

134th OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC.

Members may update.

a) Frequent failure of JITPL data to ERLDC:

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

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

The same was informed to JITPL several times verbally and through a letter vide ref no: ERLDC/SL/2017-18/621 dated: 3rd May 2017 but it is yet to be diverted / provided.

In 134th OCC, JITPL representative was not available in the meeting.

ERLDC informed that SCADA data from JITPL is frequently failing and JITPL is not responding even with repeated persuasions.

OCC advised ERLDC to take suitable action against JITPL and stop entertainment of STOA application till SCADA data is restored.

ERLDC informed that they will be constrained to stop all STOA transactions with effective from 00:00 Hrs of 01st August, 2017, upon unavailability of SCDA data at ERLDC.

In 135th OCC, it was informed that the data is coming through Powergrid substations via PLCC link. Because of some commercial issues between JITPL and Powergrid the direct link is yet to be restored.

OCC advised JITPL and Powergrid to settle the commercial issues bilaterally and restore the JITPL data availability to ERLDC.

JITPL may update about the action plan for restoration of real time SCADA data, route diversion of data flow through POWERGRID Angul pooling station & voice connectivity integration with Orange exchange.

JITPL and ERLDC may update.

b) Delay in restoration of 400kV JITPL-Angul line II on 04-08-2017

JITPL vide letter dated 09.08.2017 informed that they have received the charging code from ERLDC at 23:39 hrs on 04.08.2017. But the line could not be charged due to no communication from Angul S/s.

After repeated pursuation the line was charged at 11:19 hrs on 05.08.2017.

JITPL and Powergrid-Odisha may explain.

Item No. B.23: Less Generation/ Pumping at PPSP, WBSEDCL --ERLDC

Since last few days, two units of PPSP were not running either in PUMP mode or Generation mode due to leakage in pipe lines between upper and lower dams. Due to outage of units of

PPSP and lower side generation in other state generator, West Bengal is over drawing around 200 to 300 MW during peak hour.

WBSEDCL, may please inform the status of the PPSP generation revival plan and their planning of load management during PUJA days if PPSP problem would not solved.

Item No. B.24: Despatch of power from Farakka-III under RRAS--ERLDC

The matter of participation of Farakka – III under RRAS was deliberated and discussed in 35th Commercial Committee Meeting of ERPC, Where in NTPC, Farakka – III sought some time to sort out the commercial implications with their corporate office.

NTPC, Farakka – III may please update the status.

Item No. B.25: Trans-National Exchange of Power (NLDC Agenda)

National Load Despatch Centre (NLDC) has been constituted as per Ministry of Power (MOP) notification, New Delhi dated 2nd March 2005 and is the apex body to ensure integrated operation of the national power system. One of the important function of NLDC as per clause 3(2) (i) of NLDC Rules, 2005 is to coordinate for trans-national exchange of power. This coordination function includes following activities:

1) First time charging
2) Operational Planning
3) Outage Coordination
4) Real Time Monitoring
5) Switching Coordination
6) Tripping Analysis
7) Maintaining records of power transfer

In this regard, it is to bring to the kind notice of the members that, NLDC is coordinating for trans-national exchange of power with Bhutan, Nepal and Bangladesh for 132 kV and above lines. However, in case of 132 kV lines between India and Nepal which are owned by erstwhile Bihar State Electricity Board (BSEB) are being operated without involving NLDC and ERLDC. These lines include 132 kV Balmiknagar (BSEB)-Surajpura S/C and 132 kV Kataiya (BSEB)-Duhabi S/C. 132 kV Raxaul – Parwanipur D/C is also expected to be commissioned shortly. In this regard, it is pertinent to mention here that 132 kV Rangia (Assam) – Motanga (Bhutan) line owned by AEGCL is also being operated by NLDC in coordination with Bhutan, Assam SLDC and NERLDC.

Therefore, all the states of Eastern Region are requested to take following actions with reference to the 132 kV & above lines with neighboring countries:

1) Provide first time charging documents and take consent from ERLDC/NLDC before first time charging in accordance with NLDC procedure for interconnection of new transmission element.
2) Provide real time data of the lines and all other elements impacting power transfer on these lines.
3) Take real time code from NLDC/ERLDC for switching.
4) Inform NLDC/ERLDC regarding the quantum and limit of power flow.
5) Inform OCC and take approval from OCC for all planned outages.
6) Inform and take consent/approval from NLDC/ERLDC regarding the planned and emergency outages in accordance with NLDC Outage Planning procedure.
7) Inform NLDC/ERLDC regarding the details of tripping (including lines below 132 kV as well).
8) Inform NLDC/ERLDC regarding the power transfer on all lines (including lines below 132 kV as well) with neighboring countries on daily basis.

Members may discuss.

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

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

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

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

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

POWERGRID may update the status.

Item No. B.27: Status of Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipment.

The status of DR/EL and GPS as updated in previous OCCs is enclosed at **Annexure-B.27**.

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

Members may update.

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

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

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

Members may update the latest status.

Item No. B.29: Time correction of SEMs in Eastern Region – Replacement of heavily drifted SEMs

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

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

Subsequently, ERLDC has prepared a list of such SEMs.
In 133rd OCC, Powergrid informed that 22 meters were replaced except Purnea.

ERLDC informed that the performance of 22 newly installed meters are satisfactory and suggested that all other meters can be replaced.

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

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

*In 134th OCC, Powergrid informed that SEM at Purnea has been replaced and the replacement of SEMs as per the **Annexure-B.29** will be completed within 2 months.*

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

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

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

Powergrid/ ERLDC may update.

Item No. B.30: Integration of Genus Make meter in AMR-- ERLDC

In Eastern Region, order for procurement of 965 no of SEM's was placed with M/s Genus Power. First Lot of the meters have already been delivered by Genus and 24 meters of Genus make meter has been installed in different substation in ER.

Issue of Integration of Genus make meters in AMR system was discussed in meeting held with PGCIL, ERLDC, M/s Genus, & M/s TCS on 02.03.17 at ERLDC. M/s TCS informed that they have done the AMR integration test with Genus meter and informed that communication with existing Genus meter for AMR integration couldn't be established. Moreover M/s TCS had informed that they will try the subsequent steps for communication with Genus meter and update ERLDC & PGCIL accordingly.

In 132nd OCC, Powergrid informed that as per their communication with M/s TCS, integration of Genus meters in AMR system is possible, but it will take some more time to establish the communication.

In 133rd OCC, Powergrid informed that it will take some more time and asserted it will be done by June, 2017.

In 134th OCC, Powergrid informed that TCS is able to read the Genus make meter data however there are some issues related to baud rate of communication. Testing is in progress at Subashgram. It is expected to be completed by July, 2017.

In 135th OCC, Powergrid informed that integration with Genus make meter is successful and some observations were found. TCS has resolved the observations related to software but issues related to Genus are still pending and is expected to be resolved shortly.

Powergrid may please update the status.

Item No. B.31: Accounting of Tertiary Loading Arrangement at PGCIL s/station in ER

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

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

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

ER-I								
S. No	S/Station	Loc ID	Meter No	Make	CTR	PTR	Remarks	Data Receipt
1	Banka	ES-88	NP-7458-A	L&T	50	33000/110		Yes
2	Lakhisarai	ES-94	NP-8870-A	L&T	50	33000/110		Yes
3	New Ranchi(765)	ES-87	NP-8752-A	L&T	50	33000/110		Yes
4	Ara(220)	ES-99	NP-8893-A	L&T	50	33000/110		Yes
5	Muzaffarpur	ET-02	NP-5231-A	L&T	1000	415/110		Yes
6	New Purnea	ES-98	NP-5249-A	L&T	50	33000/110		Yes
7	Pusauli	ET-06	NP-8646-A	L&T	50	33000/110		Yes
8	Gaya(765)	EM-99	NP-7472-A	L&T	50	33000/110		No
9	Kishanganj	ES-90	NP-8876-A	L&T	50	33000/110		No
10	Patna	ES-89	ER-1285-A	Genus	50	33000/110		No
11	Biharshariff	ET-01	NP-2355-A	SECURE	1000	415/110		No
12	Chaibasa						Detail not rcvd	No
13	Jamshedpur						Detail not rcvd	No
14	Ranchi(400/220)						Detail not rcvd	No
ER-II & Odhisa Project								
1	Angul	ES-95	NP-5942-A	L&T	1000	415/110		Yes
3	Pandiabili	ES-39	NP-7462-A	L&T	1000	415/110		Yes
4	Rangpo (33 kv TRF)	ES-96	NP-7940-A	L&T	1000	415/110		Yes
5	Rangpo (11 KV AUX TRF)	ES-97	NP-7941-A	L&T	1000	415/110		Yes
8	Sundergarh	ES-93	ER-1019-A	Genus	50	33000/110		Yes
9	Baripada	EM-69	NP-5909-A	L&T	1200	400/110		Yes
2	Bolangir	ET-03	NP-7951-A	L&T	50	33000/110		No
6	Durgapur	ET-04	NP-6024-B	L&T	200	400/110		No
7	Rengali	ET-05	NP-0629-B	Secure	200	415/110		No
10	Jeypore		NP-5695-A	L&T			Detail not rcvd	No
11	Keonjhar		NP-7921-A	L&T			Detail not rcvd	No
12	Maithon						Detail not rcvd	No
13	Birpara						Detail not rcvd	No
14	Siliguri						Detail not rcvd	No
15	Subhashgram						Detail not rcvd	No

Powergrid may update.

Item No. B.32: Non scheduling of MTPS Stage-II (2x195 MW)

KBUNL vide letter dated 11-07-2017 informed that in special meeting held on 25.01.2017 at ERPC, Kolkata, it was agreed by all the parties that schedulirrg of MTPS Stage-II shall be done by SLDC, Patna.

In this regard, KBUNL is sending daily declaration of availability, for MTPS Stage-II, to SLDC, Patna with a specific remark as mentioned below:

"*Kindly forward this DC to ERLDC also for scheduling purpose of other eastern region beneficiaries of MTPS Stage-II of KBUNL namely Jharkhand, West Bengal, DVC, GRIDCO & Sikkim*".

However, it is learned that SLDC, Patna is not co-ordinating with ERLDC to enable scheduling of other Eastern Region beneficiaries of MTPS Stage-II.

It is also pertinent to mention that JBVNL (Jharkhand) has signed LTA agreement with CTU. Further, JBVNL vide their letter ref. no. 909/ C.E. (C&R)/ Ranchi dtd. 22.06.2017 have contended that even after signing of LTA agreement their power is not getting scheduled i.e. they are not getting intimation from SLDC, Patna/ ERLDC regarding scheduling of MTPS Stage-II. Moreover, other Beneficiaries of MTPS Stage-II have also raised similar issues.

In view of the above, and in order to discharge the functions/duties assigned to SLDC under Electricity Act, 2003, BSPTCL was requested to co-ordinate with ERLDC for scheduling other Eastern Region beneficiaries of MTPS Stage-II.

In 135th OCC, JUSNL was advised to pursue with CTU for issuing the letter for LTA operationalisation for enabling the scheduling of JUSNL share from MTPS Stage-ll.

JUSNL and KBUNL may update.

Item No. B.33: Non Receipt of meter Data -- ERLDC

1. Motipur & Samastipur in BSPTCL

220 KV Darbhanga(DMTCL)-Motipur (BSPTCL) D/C Line & 220 KV Darbhanga(DMTCL)-Samastipur (BSPTCL) S/C Line has already been charged and synchronized in April'17. Meter has been installed at BSPTCL end. BSPTCL was requested to send SEM data to ERLDC by every Tuesday. It has been seen that in spite of ERLDC request BSPTCL is not sending the data of Genus Meter installed at Motipur & Samastipur.

In 133rd OCC, ERLDC informed that the Genus meter software is available in ERLDC website and it can be installed in Laptop. The SEM data can be downloaded through Laptop.

BSPTCL agreed to send the SEM data after downloading the software.

ERLDC informed that BSPTCL is sending data of Motipur end but Samastipur end data is still pending.

In 134th OCC, BSPTCL requested for a Laptop for downloading the meter data. Powergrid informed that the software can be downloaded in desktop available at Substation.

OCC advised Powergrid to allocate the Laptops to constituents.

In 135th OCC, BSPTCL informed that Samastipur data would be send from tomorrow.

BSPTCL may update.

Item No. B.34: 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.

Powergrid updated the latest status as follows*:*

	Scope (no. of locations)	Installed Locations	1st set of Measurements submitted	2nd set of Measurements submitted	3rd set of Measurements submitted	4th set of Measurements submitted	5th set of Measurements submitted
JUSNL	67	27	17	17	13	15	24
BSPTCL	59	52	40	29	4	3	0
WBSETCL	73	68	43	4	3	1	1
OPTCL	164	102	100	90	79	78	24
SIKKIM POWER	12	9	6	6	0	0	9
POWERGRID ER1	99	99	99	47	0	15	0
POWERGRID ER2	40	40	40	40	24	0	0
POWERGRID ODISHA	42	42	42	42	40	40	0

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.

It is also requested to send the onward measurement results to following emails in addition to current email ids
1. vbhaskar@powergridindia.com
2. ritesh.kumar@powergridindia.com

Members may update.

Item No. B.35: Mock Black start exercises in Eastern Region – ERLDC

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

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

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2017	*30th May 2017*	Last Week of January2018	
2	Maithon	1stweek of June 2017	Completed on 04.04.17	1stWeek of February2018	
3	Rengali	2ndweek of June 2017	November 2017	Last week of November 2017	
4	U. Indarvati	3rdweek ofJune 2017	November 2017	2ndweek of February2018	
5	Subarnarekha	1stweek of October 2017		1stweek of January2018	
6	Balimela	3rdweek of October 2017		1stweek of March 2018	
7	Teesta-V	2ndweek of Nov 2017		Last week of February2018	
8	Chuzachen	Last Week of May2017	May, 2017	January2018	
9	Burla	Last Week of June 2017	1st week of July, 2017	Last week of February2018	
10	TLDP-III	1stWeek of June 2017	After Mansoon	2ndWeek of January2018	
11	TLDP-IV	Last Week of June 2017	After Mansoon	1stWeek of February2018	
12	Teesta-III				

Members may update.

Black start and FGMO/RGMO operation of Purulia Pump Storage Project (PPSP) units of WBSEDCL – ERLDC

In the 130th OCC Meeting held on 17th February, 2017 WBSEDCL informed that they had contacted OEM Toshiba for feasibility of black start and OEM required to conduct a simulation with CEA recommendations. OCC advised WBSEDCL to expedite the process as the time extension granted by CERC for making black-start and FGMO/RGMO operational in PPSP units, was going to lapse by March.2017.

In 135th OCC, WBSEDCL informed that they have not received any comments from OEM.

ERLDC informed that making black-start functional at PPSP has therefore become uncertain as it is completely dependent on the OEM, who is not responding to the requirement of WBSEDCL. It may be noted that WBSEDCL had already sought 6 month time from CERC and no progress could be made even after expiry of 11 months. Since such delay and uncertainty in execution of the work is ultimately affecting the security of Eastern Regional grid, matter may escalated to MOP / CEA for hiring the professional service of competent vendors / consultants so that black-start capability at PPSP could be operationalised within a definite target date.

WBSEDCL may update.

Testing of DG sets meant for Black start

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

Constituents may kindly ensure compliance.

Item No. B.36: Restricted Governor /Free Governor Mode Operation of generators in ER

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

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

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 21.07.17, at 21:26 Hrs Genration loss of about 1031 MW Occurred at Korba STPS due to tripping of evacuation lines.
(2) On 02-03-17, 01:58 hrs, Unit I & II at Krishnapattanam tripped. Generation loss 1085 MW

ERLDC may update.

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

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

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

*Updated status of the RGMO/FGMO of ER generators are enclosed in **Annexure-B36**. The list is also available in ERPC website.*

Members may update.

Item No. B.37: Status of state owned units under long outage --ERLDC

Numbers of units of state sector were decommissioned during recent days/months. As per the letter received from DVC on date 08th August, 2017, CTPC U#2, BTPS U#1&2 are under the

process of de-commissioning as they have crossed their useful life and compliance of prevailing pollution norms is not feasible and CTPS U#1 is already de-commissioned.

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

Item No. B.38: Reactive Power performance of Generators and optimisation of Transformer tap

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

Power Plant	Max and Min Voltage observed for July 17 (KV)	Date for monitoring (July 17)
Farakka STPS	424,400	1,2
Khalgaon STPS	423,404	9,27
Talcher STPS	409,396	2,21
Teesta	416,393	3,11
Bakreshwar TPS	413,400	2,16
Kolaghat TPS	427,398	2,16
Sagardighi TPS	425,406	2,27
MPL	420,407	1,27
Mejia-B	423,411	1,27
DSTPS	428,412	16,18
Adhunik TPS	426,410	2,21
Barh	439,411	9,27
JITPL	415,404	21,23
GMR	415,405	13,28
HEL	434,397	9,27
Kodarma	425,402	9,27

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. JITPL(both units) – Procedure given. Not yet done
c. Barh TPS – *(both units)*
d. Raghunatpur (both units)
e. GMR (Three units)
f. *Haldia TPS*

Members may update.

b) Transformer tap optimisation of Eastern Region :

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

Members may discuss.

PART C:: OPERATIONAL PLANNING

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

The average consumption of Eastern Region for July - 2017 was 394 Mu. Eastern Region has achieved record maximum energy consumption of 429 Mu on 17th July-17. Total Export schedule of Eastern region for July - 2017 was 2529 Mu, whereas actual export was 2399 Mu.

ERLDC may present.

Item no. C.2: OPERATION OF HYDRO POWER PROJECTS IN PEAKING MODE

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

It has been desired by the Chairperson that the matter of utilization of hydro stations in peaking mode be made a regular agenda item for discussion at the monthly OCC meetings while discussing operational planning for the month ahead and analyzing the operation in the previous month.

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

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

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

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

Hydro unit outage status:

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

Hydro Units running at De-rated Capacity:

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

2.							
n.							

Members may update.

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

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of September'17 were prepared by ERPC Secretariat on the basis of Provisional LGBR for 2015-16 and feedback of constituents, keeping in view that the units are available for generation and expected load growth etc. is at **Annexure-C.3**.

Members may confirm.

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

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

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

Unit 5 shutdown of NTPC Barh was scheduled from 17/8/2017. During this shutdown, originally boiler and generator works were to be undertaken. But based on failure experience in some latest 660 MW turbines of BHEL recently, they have recommended for overhauling and inspection of LP turbine also. As this recommendation was received very late, despite our best effort, the necessary logistic arrangement is delayed by 3-4 days. Now we propose to shutdown this unit on 20/08/2017, 24:00 hrs. The shutdown duration will be for one month (30 days). Unit is planned to be brought back on 20/09/2017.

Members may note.

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

(i) Thermal Generating units:

Sr No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	APNRL	1	270	PA FAN TRIPPED	18-Aug-17
2	JITPL	1	600	COAL SHORTAGE	5-May-17
3	RAGHUNATHPUR	2	600	FURNACE PRESSURE HIGH	9-Aug-17
4	PATRATU TPS	10	110	OVER HAULING	26-Jan-17
5	KOLAGHAT	6	210	STATOR EARTH FAULT	11-Jun-17
6	BOKARO B	3	210	COAL SHORTAGE	24-Jun-17
7	MEJIA	4	210	COAL SHORTAGE	23-Jul-17
8	MEJIA	2	210	COAL SHORTAGE	25-Aug-17
9	BOKARO A	1	500	STATION TRANSFORMER TRIPPED	15-Aug-17
10	TENUGHAT	1	210	COAL SHORTAGE	25-Jul-17
11	SANTALDIH	5	250	ROTOR EARTH FAULT	30-Apr-17
12	DSTPS	1	500	TESTING OF HOUSE LOAD OPERATION	11-Jul-17
13	SAGARDIGHI	4	300	AUXILIARY FAILURE	17-Jul-17

(ii) Hydro Generating units:

Sr No	Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE
1	BALIMELA	2	75	Due to flood	18-08-17
2	BALIMELA	8	75	Due to flood	18.08.2017
3	BALIMELA	7	75	Generator Stator Problem	16.04.2017
4	RENGALI	5	50	Hoist gate problem	21.03.2017
5	U.KOLAB	3	80	Generator interturn fault	19.04.2017
6	TLDP-III	1	33	agitation / law and order issue	12.07.2017
7	TLDP-III	2	33	agitation / law and order issue	12.07.2017
8	TLDP-III	3	33	agitation / law and order issue	12.07.2017
9	TLDP-III	4	33	agitation / law and order issue	12.07.2017
10	TLDP-IV	1	40	agitation / law and order issue	13.07.17
11	TLDP-IV	2	40	agitation / law and order issue	13.07.17
12	TLDP-IV	3	40	agitation / law and order issue	13.07.17
13	TLDP-IV	4	40	agitation / law and order issue	13.07.17

(iii) Transmission elements

Transmission Element / ICT	Outage Date	Reasons for Outage
220 KV BALIMELA - U' SILERU	27.04.15	LINE IDLE CHARGED FROM UPPER SILERU END AT 12:42 HRS OF 25.01.17
220KV WARIA - BIDHANNAGAR-II	10.09.16	LINE UNDER B/D, TOWER COLLAPSED AT LOC NO 28
400 KV STERLITE - MERAMUNDALI D/C	15.05.17	TOWER CROSS ARM DAMAGED
220 KV THERUVALI-INDRAVATI-III	16.07.17	TOWER COLLAPSE At loc 69 and loc70 due to flood
220 KV THERUVALI-INDRAVATI-IV	16.07.17	TOWER COLLAPSE At loc 69 and loc70 due to flood
220 KV Kishanganj(PG)-Kishanganj (B) I	13.08.17	HAND TRIPPED DUE TO FLOOD IN KISHANGANJ SWITCHYARD
220 KV Kishanganj(PG)-Kishanganj (B) IV	13.08.17	HAND TRIPPED DUE TO FLOOD IN KISHANGANJ SWITCHYARD
400KV MOTIHARI-BARH-I & II	14.08.17	24 NO OF TOWERS IN GANDAK RIVER WHERE WATER LEVEL IS HIGH

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

Members may update.

Item no. C.6: Status of commissioning of generating station and transmission elements

New generating units:

S.No.	Power Plant	Plant Size	Expected date

New transmission elements:

Sl No.	Name of Element	Expected date
1	400kV Rajarhat-Purnea D/C (with LILO of one circuit each at Farakka and Gokarno)	

2	Augmentation of 400kV Farakka-Malda D/C with HTLS conductor	
3	400kV Ind-Bharath-Jharsuguda D/C	
4	400kV Talcher-Bramhapur-Gazuwaka D/C	
5	400kv Talcher-Rourkella(2nd D/C-Quad)	
6	400kV Sterlite-Jharsuguda D/C	
7	765kv Anugul-Srikakulum D/C	
8	400kV Sasaram-Daltonganj D/C &Daltonganj S/Stn	
9	400 kV Ranchi-Raghunathpur D/C	
10	220 kV TLDP-IV – NJP ckt-2	
11	220 kV Bidhansai-Cuttack D/C	
12	220kV Gola- Ranchi	

Members may update.

PART D:: OTHER ISSUES

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

System frequency touched a maximum of 50.23 Hz at 08:00 Hrs of 06/07/17 and a minimum of 49.69 Hz at 20:56 Hrs of 08/07/17 and 18:59 Hrs of 19/07/17. Hence, 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 July'17.

Members may note.

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

Sr No	GD/ GI	Date	Time	S/S involved	Affected System	Summary	Load loss (MW)	Gen loss (MW)
1	GD-I	03/07/2017	18:32	Lalmatia	JUSNL	Total loss of power supply occurred at Sahebgunj and Lalmatia after hand tripping of all 132 kV & 220 kV lines connected to Lalmatia S/S due to DC failure at Lalmatia.	76	0

2	GD-I	03/07/2017	18:53	Patna	ISTS	On mal-operation of Bucholtz relay due to ingress of moisture through cables during rain, 400/220 kV 500 MVA ICT - I at Patna tripped at 18:53 hrs. Prior to the tripping, total loading of the ICTs was 571 MW. After tripping of ICT - I, loading at other 400/220 kV ICT (315 MVA) at Patna increased to 430 MW. At 19:14 hrs, 400/220 kV ICT - II tripped due to overload resulting load loss at surrounding area.	536	0
3	GD-I	13/07/2017	20:18	Bokaro-B	DVC	At 20:18 hrs, all 220 kV feeders along with 400/220 kV ICTs (connected to 400 kV Bokaro A bus) and 220/132 kV ATRs at Bokaro B tripped due to bus bar protection operated for R phase PT failure at 220 kV Bokaro B main bus. Heavy thundering was reported at Bokaro end.	201	0
4	GD-I	15/07/2017	09:40	Lalmatia	JUSNL	132 kV Kahalgaon(BSPTCL) - Lalmatia S/C tripped at 09:50 hrs on E/F causing load loss of 22 MW at Sahebgunj. 132 kV Kahalgaon(NTPC) - Lalmatia S/C also tripped at the same time from Lalmatia on E/F. 132 kV Kahalgaon(BSPTCL) - Lalmatia S/C & 132 kV Kahalgaon(NTPC) - Lalmatia S/C tripped again at 13:54 hrs on E/F.	22	0
5	GD-I	16/07/2017	00:30	Teesta III	ISTS	400 kV Teesta III - Dikchu S/C (tripped only from Teesta III end) and Unit #I at Dikchu tripped due to operation of cable differential protection (B phase current 1.1 kA at Teesta III) resulting generation loss at Unit # II at Dikchu due to loss of evacuation path.	0	100
6	GD-I	24/07/2017	15:56	Teesta III	ISTS	400 kV B/C at Teesta III tripped on receipt of SPS signal resulting in tripping of unit I, II & IV. However both circuits of 400 kV Rangpo - Binaguri D/C were in service. Flow in 400 kV Rangpo - Binaguri D/C was around 800 MW/Ckt. Rangpo personnel verbally confirmed non increment of TX counter dedicated for transmitting SPS signal.	0	670
7	GD-I	24/07/2017	19:11	Teesta III	ISTS	Due to Rotor Earth Fault in Unit #5, there was a dip in DC Voltage during Unit 5 Start-up (DC Field Flushing) leading other synchronized units to No Load Operation.	0	420
8	GD-I	27/07/2017	10:08	Teesta III	ISTS	At 10:08 hrs 400 kV Rangpo – Binaguri – II tripped due to B-N fault. (DEF, F/C at Rangpo and DT received at Binaguri). After tripping of circuit – II, power flow in 400 kV Rangpo – Binaguri – I became more than 850 MW (1700 MW approx.) and SPS – I (generation reduction at Teesta III, Dikchu, JLHEP and Chujachen.) got activated resulting tripping of one unit at each power plant at Chujachen, JLHEP and Dikchu. Due to non-tripping of any unit at	0	1070

						Teesta III, power flow in 400 kV Rangpo – Binaguri – I remained more than 850 MW for more than 500 ms and SPS – II got activated resulting tripping of 400 kV Teesta III – Rangpo S/C followed by tripping of remaining units at Teesta III and Dikchu due to loss of evacuation path.		
9	GD-I	31/07/2017	11:24	Tarkera	OPTCL	B phase isolator drop jumper of 220 kV Tarkera - Chandiposh - Rengali snapped at Tarkera end at 11:24 hrs. But relay at Tarkera end failed to operate due to DC failure in relay panel of same line resulting tripping of all elements connected to 220 kV Bus at Tarkera due to LBB operation.	150	0

Multiple elements tripping without load loss

1	GI-I	19/07/2017	10:50	Dalkhola	ISTS	Due to operation of bus bar protection of bus - I, 220 kV Dalkhola - Kishangunj D/C and 220 kV Dalkhola - Purnea D/C tripped.	0	0

Members may note.

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

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

Members may note.

Item no. D.5: Additional agenda

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Annexure-B1

WBSETCL

WEST BENGAL STATE ELECTRICITY TRANSMISSION COMPANY LTD.

(A Government of West Bengal Enterprise)

Office of the Chief Engineer, State Load Despatch Centre

From: A.C.E., SLDC, WBSETCL
To: Member Secretary, ERPC
Copy To: The G.M., ERLDC

Sub :- **Newly Commissioned data regarding STU Network**

Sir,

Please find the following list of transmission elements which were newly commissioned in July 2017 in WBSETCL System.

Sl. No	Name of the Elements	Date	Time	Remarks
1.	400/220 KV New Chanditala S/S: a) 400 kv JRT –N.Chanditala # b) 400 kv M.B -1 c) 400 kv M.B -2 d) 400/220 kv 315 MVA Tr.1 e) 400 kv N.Chanditala –KTPP #	03.07.17	14:44 Hr. 14:46 Hr. 15:03 Hr. 15:28 Hr.(HV only) 16:40Hr.(N.Chand)/ 16:42 Hr.(KTPP)	a) Charged from JRT. b) Via JRT # bay c)Through busccoupler d) Via M.B-1 e)Via M.B-2 at N.Chanditala
2.	Kalyani: 132/33 kv 50MVA Tr.#3	12.07.17 13.07.17	15:47hr(HV) 12:25hr.	No load charge Loaded
3.	Sadaipur: 132/33 kv 50MVA Tr.#1	12.07.17 13.07.17	16:51hr(HV) 12:06hr	No load charge Loaded
4.	400KV New PPSP S/S: a)400 kv PPSP –N.PPSP#1 b)400 kv M.B -2 c) 400 kv 80 MVAR Reactor d) 400 kv M.B-1 e) N.PPSP- Arambag # 1	15.07.17	18:43 Hr. 18:49 Hr. 19:00 Hr. 19:03 Hr. 19:09 Hr.(ARAM)/ 19:13 Hr.(N.PPSP)	a) charged from PPSP . b) via PPSP #1 bay. c) Via Tie Bay. d) through Bus-Coupler. e)Power flow starts via NewPPSP 400kv S/S
5.	400KV New PPSP S/S: a) 400 kv N.PPSP-New Ranchi #1 b) 400 kv N.PPSP- New Ranchi#2	24.07.17	19:39 Hr.(N.Ranchi)/ 20:08 Hr.(N.PPSP) 20:58 Hr.(N.PPSP)	a) at M.B-1 of N.PPSP b) at M.B-1 of N.PPSP

❖ ANDUL ROAD ❖ P.O. DANESH SEIKH LANE ❖ HOWRAH - 711109
❖TELEPHONE : 2688-7697 ❖ FAX NO.2688-5417 / 2688-6232

Annexure-B8

JHARKHAND URJA SANCHARAN NIGAM LIMITED

(CIN No. – U40108JH2013SGC001704)

Regd. Office – Engineering Building, H.E.C., Dhurwa, Ranchi – 834 004

Agenda for OCC meeting of ERPC meeting

Sub: Permission for LILO arrangement in 132 kV D/C Lalmatia – Dumka Transmission line at location no. 89 for supply of construction power at 132 kV level to proposed 2x800= 1600 MW Thermal Power Plant at Godda by M/s Adani Power Ltd.

Background

M/s Adani Power Jharkhand Ltd. (APJL) is setting up a 2x800 MW Thermal Power In Godda District for construction work of thermal project M/s Adani Power has submitted the requirement of construction power (5 to 7.5 MVA) as per schedule given below : -

(i) Below 2 MVA from (August – December 2017)
(ii) 2 MVA – January to June 2018
(iii) 3 MVA – July to December 2018
(iv) 5 MVA – January to December 2019
(v) 7.5 MVA – January to December 2020

And further requirement for commissioning power up to 40 MW (Peak load) January 2021 to June 2021.

For the fulfillment of above requirement and for availing reliable and un interrupted power supply M/s Adani Power has requested for permission of construction of LILO of 132 kV D/C Dumka – Lalmatia Transmission Line at location no. 89 on cost deposit basis.

Proposal has been checked and recommended by respective GM-cum-CE, Transmission Zone-II, Dumka. However, proposal was sent to Chief Engineer (SLDC) for their opinion (comment) on this LILO. As per Chief Engineer (SLDC) this 132 kV D/C Lalmatia – Dumka Transmission line has been covered under islanding scheme considering all the route of GSS Lalmatia, Dumka, Deoghar, Jamtara, Sahebganj, Pakur etc. This islanding scheme has been designed by PGCIL in light of direction of ERPC.

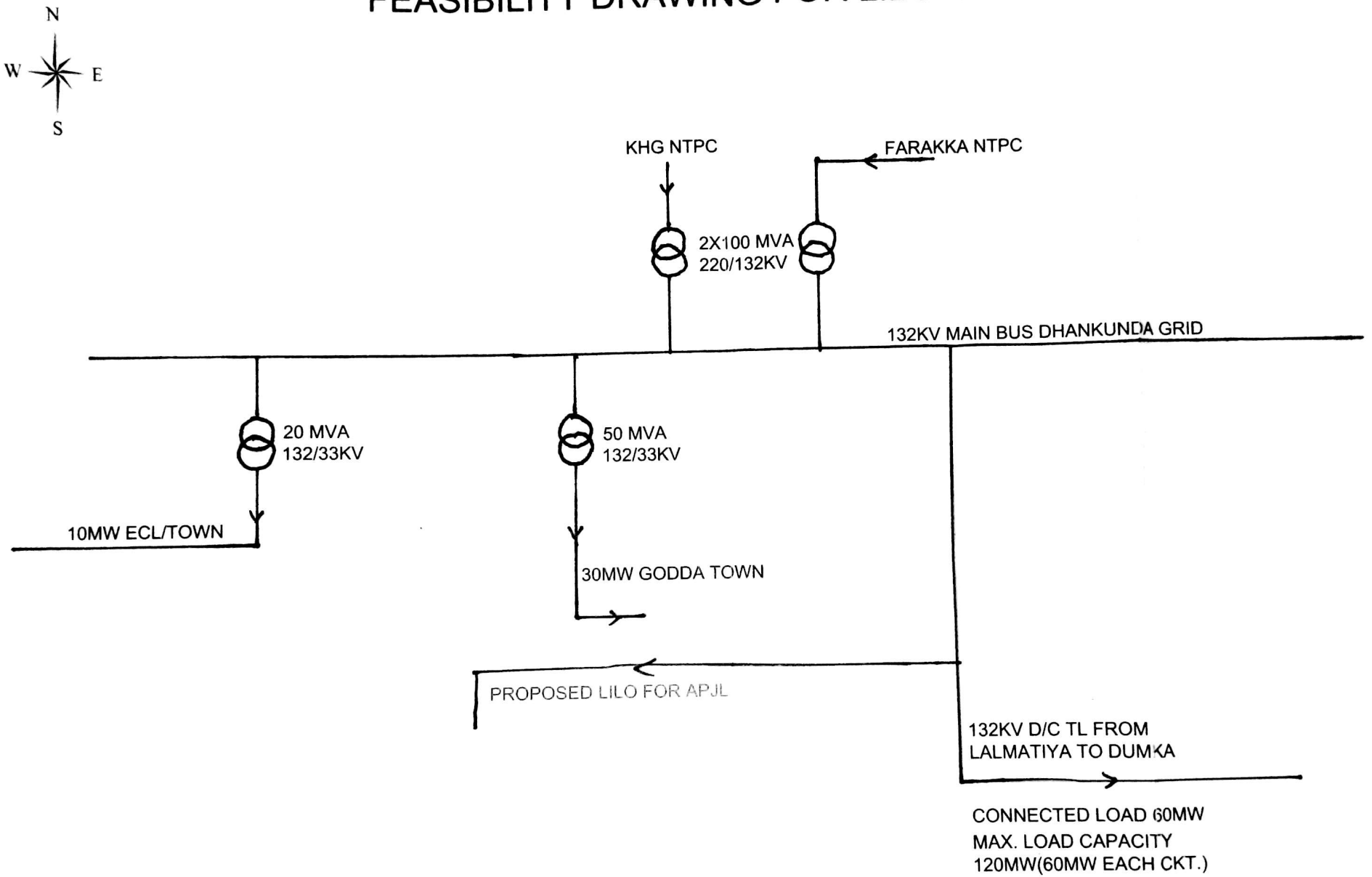
Point of Discussion

The matter of LILO of 132 kV D/C Lalmatia – Dumka Transmission line to provide construction power to proposed 2x800 MW Thermal Power Station at Godda by M/s Adani Power may be discussed in OCC meeting of ERPC for decision and approval.

18/05/17

Chief Engineer (Transmission)

FEASIBILITY DRAWING FOR LILO OPTION



Annexure – B21

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

SEL Make PMU
Siemens MakePMU

PMU Installation and commissioning status of ER as on 20.04.2017

Annexure- B.26

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

PMU Installation and commissioning status of ER as on 20.04.2017

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

PMU Installation and commissioning status of ER as on 20.04.2017

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

ER PMU site activity Summary:

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

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

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

Annexure – B.27

AVAILABILITY STATUS OF EVENT LOGGER, DISTURBANCE RECORDER & GPS

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

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

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-B29

List of drifted meters to be replaced in Phase-II

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

Annexure-B36

Details of stations/Units required to operate under RGMO/FGMO as per IEGC							Whether operating under RGMO	indicate in case of status is not available
Name of State	Type	Name of Uitlity	Sector (CS/SS/Private)	Name of Station	Name of Stage/ Unit	Installed capacity (MW)		
JHARKHAND	Thermal	TVNL	SS	Tenughat	1	210	No	Difficulties in implementing RGMO & exemption not
			SS		2	210	No	
	Hydro	JSEB	SS	Subarnrekha	1	65	Yes	
			SS		2	65	Yes	
WEST BENGAL	Termal	WBPDCL	SS	Bandel TPS	1	82.5	No	
			SS		2	82.5	No	
			SS		3	82.5	No	
			SS		4	82.5	No	
			SS		5	210	No	
			SS	Santaldih	5	250	No	Unit#6 could not be implemented because of some technical problem
			SS		6	250	No	
			SS	Kolaghat	1	210	No	Nil
			SS		2	210	No	Nil
			SS		3	210	No	Nil
			SS		4	210	No	Nil
			SS		5	210	No	Nil
			SS		6	210	No	Nil
			SS	Bakreshwar	1	210	Yes	
			SS		2	210	Yes	
			SS		3	210	Yes	
			SS		4	210	Yes	
			SS		5	210	Yes	
			SS	Sagardighi	1	300	No	Without OEM support it is not possible to put in FGMO/RGMO. At present OEM support is not
			SS		2	300	No	
	Hydro		SS	Raman Hydel	1	12.5	No	Station is not in RGMO. WBSETCL is pursuing with Rammam
			SS		2	12.5	No	
			SS		3	12.5	No	
			SS		4	12.5	No	
			SS	PPSP	1	225	Yes	In 134th OCC WBPDCL informed that the units are in RGMO/FGMO mode
			SS		2	225	Yes	
			SS		3	225	Yes	
			SS		4	225	Yes	
	Thermal	CESC	SS	Budge-Budge	1	250	Yes	
			SS		2	250	Yes	
			SS		3	250	Yes	
			SS	Haldia	1	300	Yes	
			SS		2	300	Yes	
	Thermal	DPL	SS	DPL	7	300	Yes	
Orissa		OPGC	SS	IB TPS	1	210	No	Not adequate response in RGMO
			SS		2	210	No	
	Hydro	OHPC	SS	Burla	1	49.5	No	
			SS		2	49.5	No	
			SS		3	32	No	
			SS		4	32	No	
			SS		5	37.5	No	
			SS		6	37.5	No	
			SS		7	37.5	No	
			SS	Chiplima	1	24	No	
			SS		2	24	No	
			SS		3	24	No	
			SS	Balimela	1	60	No	
			SS		2	60	No	
			SS		3	60	No	
			SS		4	60	No	
			SS		5	60	No	
			SS		6	60	No	
			SS		7	75	No	
			SS		8	75	No	
			SS		1	50	No	
			SS		2	50	No	

			SS	Rengali	3	50	No	
			SS		4	50	No	
			SS		5	50	No	
			SS	Upper Kolab	1	80	No	
			SS		2	80	No	
			SS		3	80	No	
			SS		4	80	No	
			SS	Indravati	1	150	No	
			SS		2	150	No	
			SS		3	150	No	
			SS		4	150	No	
			71					
			CS	Bokaro-B	1	210	No	RGMO mode of operation would not be possible for units1, 2 and 3. Because of non-availability of electro-hydraulic governor, digital voltage recorder and CMC.
			CS		2	210	No	
			CS		3	210	No	
			CS	CTPS	2	140	No	Machines are very old (under consideration for phase wise decommissioning)
			CS		3	140	No	
			CS		7	250	Yes	
			CS		8	250	Yes	
			CS	DTPS	4	210	No	
			CS	Mejia	1	210	No	there is no DCS for SG/TG package the possibility of implementing RGMO is to be explored
	Thermal		CS		2	210	No	
		DVC	CS		3	210	No	
			CS		4	210	No	Final tuning of RGMO is in progress
			CS		5	250	Yes	
			CS		6	250	Yes	
			CS	Mejia - B	7	500	Yes	
			CS		8	500	Yes	
			CS	DSTPS	1	500	Yes	
			CS		2	500	Yes	
			CS	KODERMA	1	500	Yes	
			CS		2	500	Yes	
Central Sector			CS	RTPS	1	600	Yes	
			CS		2	600	Yes	
			CS	Maithon	1	20	No	RGMO mode of operation would not be possible for units1, 2 and 3. Because of
			CS		2	20	No	
	Hydro		CS		3	23.2	No	
			CS	Panchet	1	40	No	RGMO mode of operation would not be possible for
			CS		2	40	No	
			CS	Farakka STPP-I	1	200	Yes	
			CS		2	200	Yes	
			CS		3	200	Yes	
			CS	Farakka STPP-II	1	500	Yes	
			CS		2	500	Yes	
			CS	Farakka-U#6		500	Yes	Kept in RGMO mode from April, 2014
			CS	Kahalgoan STPP	1	210	Yes	
			CS		2	210	Yes	
			CS		3	210	Yes	
			CS		4	210	Yes	
			CS		5	500	Yes	
			CS		6	500	Yes	
			CS		7	500	Yes	
			CS	Talcher STPP Stg-I	1	500	Yes	
			CS		2	500	Yes	
			CS	Barh	5	660	Yes	
			CS	Barh	6	660	Yes	
			CS	* Rangit	1	20	No	Pondage capacity is to generate power upto 3 hours only.Hence not under
			CS		2	20	No	
	Hydro	NHPC	CS		3	20	No	
			CS	Teesta HEP	1	170	Yes	
			CS		2	170	Yes	
			CS		3	170	Yes	
			50					
			PS	Maithon RB TPP	1	525	Yes	
			PS		2	525	Yes	
			PS		1	600	Yes	

IPP	Thermal	IPP	PS	Sterlite	2	600	Yes	
			PS		3	600	Yes	
			PS		4	600	Yes	
			PS	Adhunik Power	1	270	Yes	
			PS		2	270	Yes	
	Hydro	IPP	PS	JLHEP	1	48	No	(RoR project with 3 hours pondage)
			PS		2	48	No	
			PS	Chujachen HEP	1	49.5	No	(RoR project with 3 hours pondage)
			PS		2	49.5	No	
			PS	Teesta Urja	1	200	No	could be put in RGMO mode but because of transmission evacuation constraint RGMO/FGMO is disabled
			PS		2	200	No	
			PS		3	200	No	
			PS		4	200	No	
			PS		5	200	No	
			PS		6	200	No	
			PS	Dikchu	1	48	No	(RoR project with 3 hours pondage)
			PS		2	48	No	

Annexure-C.3

Anticipated Power Supply Position for the month of
Sep-17

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	3900	2250
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	371	158
		- Central Sector	2835	1710
	iii)	SURPLUS(+)/DEFICIT(-)	-694	-382
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1280	760
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	489	287
		- Central Sector	617	357
	iii)	SURPLUS(+)/DEFICIT(-)	-174	-116
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2720	1631
	ii)	NET POWER AVAILABILITY- Own Source	4822	2599
		- Central Sector	473	342
		Long term Bi-lateral (Export)	1300	936
	iii)	SURPLUS(+)/DEFICIT(-)	1275	374
4		**ORISSA**		
	i)	NET MAX DEMAND	4300	2484
	ii)	NET POWER AVAILABILITY- Own Source	3530	2212
		- Central Sector	1215	748
	iii)	SURPLUS(+)/DEFICIT(-)	445	476
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	6225	3423
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	6225	3423
	iv)	NET POWER AVAILABILITY- Own Source	3566	1980
		- Import from DPL	171	0
		- Central Sector	2732	1626
	v)	SURPLUS(+)/DEFICIT(-)	244	182
	vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
5.2		**DPL**		
	i)	NET MAX DEMAND	255	178
	ii)	NET POWER AVAILABILITY	426	181
	iii)	SURPLUS(+)/DEFICIT(-)	171	3
5.3		**CESC**		
	i)	NET MAX DEMAND	1990	1027
	ii)	NET POWER AVAILABILITY - OWN SOURCE	750	473
		FROM HEL	530	328
		FROM CPL/PCBL	0	0
		Import Requirement	710	226
	iii)	TOTAL AVAILABILITY	1990	1027
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8470	4628
	ii)	NET POWER AVAILABILITY- Own Source	4742	2634
		- Central Sector+Others	3972	1954
	iii)	SURPLUS(+)/DEFICIT(-)	244	-40
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	34
	ii)	NET POWER AVAILABILITY- Own Source	10	7
		- Central Sector+Others	152	99
	iii)	SURPLUS(+)/DEFICIT(-)	78	72
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	20150	11787
		Long term Bi-lateral by DVC	1300	936
		EXPORT BY WBSEDCL	10	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	23228	13107
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1768	377

Annexure- C.4

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

System	Station	Unit	Size (MW)	Period		No. of Days	Reason
				From	To		
DVC	KTPS	2	500	15.09.17	10.10.17	26	AOH (Blr, TG Brgs, LPT Gen)
ODISHA	TTPS	3*	60	01.09.17	15.09.17	15	Boiler Overhaul
WBPDCL	Santaldih	6	250	01.09.17	07.09.17	7	Boiler License

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

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

ERLDC/SS & MIS/2017/VDI/ 2215

Date: 08-08-17

To,

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

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

Sir/ महोदय,

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

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

आपको धन्यवाद,

आपका विश्वस्त / Yours faithfully,

(पी मुखोपाध्याय) / (P Mukhopadhyay)
महाप्रबधक / General Manager

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

Ranchi New			Jamshedpur			Muzaffarpur		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
800	766	0.00	434	415	90.87	412	6	0.16

Bihar Sariff			Binaguri			Jeerat		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
420	393	0.00	420	394	0.00	428	384	3.11

Rourkela			Jeypore			Koderma		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
420	407	0.00	422	383	0.06	424	402	2.60

Maithon			Teesta			Rangpo		
MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)	MAX	MIN	VDI (% of Time)
420	404	0.00	419	393	0.00	417	390	0.00