Agenda

for

132nd OCC Meeting

Date: 21.04.2017
Eastern Regional Power Committee
14, Golf Club Road, Tollygunge
Kolkata: 700 033

Eastern Regional Power Committee

Agenda of 132nd OCC Meeting to be held on 21st April, 2017 at ERPC, Kolkata

PART A

Item no. 1: Confirmation of minutes of 131st OCC meeting of ERPC held on 20.03.2017

The minutes of 131st OCC meeting were uploaded in ERPC website and circulated vide letter dated 06.04.2017 to all the constituents.

The last para of Item No. B.1 regarding the trial run period of BTPS-A may be replaced with the updated information as intimated by DVC which is as given below:

"DVC vide mail dated 12.04.17 informed that the trial run period for declaration of COD of BTPS-A unit (500 MW) was w.e.f. 00:00 Hrs of 20.02.2017 to 24:00 Hrs of 22.02.2017."

With the above amendment members may confirm the minutes.

PART B: ITEMS FOR DISCUSSION

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

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

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

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

1) 125MVAR BR 1 at Alipurduar first time charged on 19:31 Hrs of 08/03/17.
2) 315 MVA ICT I at Alipurduar first time charged from 400kV side on 20:35 Hrs of 09/03/17.
3) 220kV Kishanganj (BSEB) - Kishanganj (PG) 1 & 2 first time charged as follows:
    a. Ckt 1: 16:10Hrs of 10/03/17
    b. Ckt 2: 16:41Hrs of 10/03/17
4) 6 Nos. of converter transformer (295MVA each) at Alipurduar first time charged at 17:29Hrs of 15/03/17.
5) 4 Sub-Bank of Filter-Bank at Alipurduar first time charged as follows:
    a. Bank 1-Subbank I (125Mvar) : 19:57hrs 16/03/17
    b. Bank 1-Subbank II (160Mvar) : 16:30hrs 17/03/17
    c. Bank 1-Subbank V (160Mvar) : 19:40hrs 17/03/17
    d. Bank 1-Subbank IV (159Mvar) : 12:19hrs 20/03/17
6) Pole 3 at Alipurduar first time charged at 15:42Hrs of 17/03/17
7) 315 MVA ICT 3 at Kharagapur first time charged at 11:26hrs of 19/03/17
8) Main Bus I and II at Gokarna first time charged 17:48Hrs and 17:50Hrs respectively on 23/03/17.
9) 400kV Farakka - Gokarna I first time charged 18:16Hrs respectively on 28/03/17.

10) 400kV Farakka - Gokarna II first time charged 17:04Hrs respectively on 29/03/17.
11) 80 MVAR Bus reactor at Gokarna first time charged at 12:38hrs on 30/03/17
12) 315MVA ICT 3 at Jamshedpur first time charged at 23:04Hrs on 30/03/17

Other constituents may update.

Item No. B.2: Status of projects funded under PSDF schemes

In the PSDF review meeting, it was advised to RPCs to monitor the status of all the projects funded by PSDF. Therefore, constituents are requested to update the status of projects which are being funded by PSDF in the desired format. The latest status as updated in 35th TCC is as given below:

SN	Name of Constituent	Name of Project	Date of approval from PSDF	Target Date of Completion	PSDF grant approved (in Rs.)	Amount drawn till date (in Rs.)	Status as updated in 35th TCC
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in W. Bengal	31-12-14		120.67 Cr	11.04 Cr.	95 % Supply Completed
2	WBSETCL	Transmission System improvement of WBSETCL					
3	OPTCL	Renovation & Up-gradation of protection and control systems of Sub-stations in the State of Odisha in order to rectify protection related deficiencies.	10.05.15	10.05.17	162.5 Cr.	***19.53 Cr***	***Total contract awarded for Rs. 67.73 Cr*** *Erection work for received equipment is in progress.*
4	ERPC	Creation & Maintenance of web based protection database and desktop based protection calculation tool for Eastern Regional Grid	17.03.16		20 Cr.	***4.94 Cr. + 9.88 Cr.***	***1) Hardware supplied and installed.*** ***2) SAT completed for pilot state*** ***3) Protection database management software (PDMS) delivered.*** ***4) Training on PDMS organised at Odisha.***
5	BSPTCL	Renovation and up-gradation of 220/132/33 KV GSS Biharsharif, Bodhgaya, Fatuha, Khagaul, Dehri -on-sone & 132/33 kV GSS Kataiya	11/5/2015	Feb'2017	64.33 crore	***23.68 crore***	*Project is on going.* ***Order for supply of equipment placed for Rs.13.51 Cr.***
6		Installation of capacitor bank at different 35 nos. of GSS under BSPTCL	5/9/2016		18.88 crore		Approved (triparty agreement among NLDC, Govt. of Bihar & BSPTCL is in under process)
7		Renovation & up-gradation of protection and control system of 12 nos. 132/33 KV GSS under BSPTCL.					Recommendation of appraisal committee is awaited. Estimated cost 54.69 crore.
8	DVC	Renovation and upgradation of control & protection system and replacement of Substation Equipment of 220/132/33 kV Ramgarh Substation			25.96		Approved by Ministry of Power
9		Renovation and upgradation of control & protection system including replacement of substation equipment at Parulia, Durgapur, Kalyaneshwari, Jamshedpur, Giridih, Barjora, Burnpur, Dhanbad and Burdwan Substation of DVC			140		Appraisal committee has recommended. It will be placed in next monitoring Committee meeting.
10	WBPDCL	Implementation of Islanding scheme at Bandel Thermal Power Station					Appraisal committee has recommended. It will be placed in next monitoring Committee

		Upgradation of Protection and SAS			26.09		Approved by Ministry of Power
11	OHPC	Renovation and up-gradation of protection and control system of 4 nos OHPC substations.					***OHPC will submit the detailed proposal soon as per the requirement of Appraisal committee.***
12a	ERPC	Training for Power System Engineers					***The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal with consideration of views of the group.***
12b		Training on Integration of Renewable Energy resources					***The proposal was examined by the Techno Economic sub group of PSDF and advised to submit revised proposal only for training at NORD POOL Academy with consideration of views of the group.***
12c		*Training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents*					

Respective constituents may update.

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

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

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

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

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

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

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

In 131st OCC, Powergrid informed that they will submit the details shortly.
OCC advised all other constituents to furnish the status to NLDC & NPC at the earliest.

Constituents may update.

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

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

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

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.

Members may note the date and timings.

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

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

Members may note*.*

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

GMR**,** CESC, JITPL, NTPC, Vedanta & Powergrid-Odisha have submitted the healthiness certificate for the month of March, 2017.

Chuzachen & Powergrid ER-II may submit the healthiness certificate for March, 2017.

A. Testing of SPS at 400 kV Rangpo S/s

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

In 131st OCC, ERLDC informed that the SPS needs to be tested and the response time of each generator needs to be checked.

OCC advised to carry out the SPS test on 22.03.2017 and advised to review the response time of each generator on special meeting of 29.03.2017.

In the special meeting of 29.03.2017, ERLDC informed that as per the decision of 131st OCC, the SPS was tested on 24.03.2017 and the response time of Generators are as follows:

a) *Teesta-III: 130 ms*
b) *Jorethang: 1.2 sec for SPS receipt*
c) *Cuzachen: 2.1 sec & 3.3 sec*

The response time of Jorethang and Chuzachen needs to be reviewed and they should respond faster.

Further, Powergrid communicated that presently the scheme has been implemented using available resources and codes have been transferred through available PLCC panels without redundancy. As the SPS scheme is very important and also for future accommodation of Tashiding and Dikchu generations, fresh connectivity of the Logic signals and PLCC channel up gradation is required.

On getting concurrence from TUL regarding cost implications, necessary steps will be taken for implementation of the system through SCADA and dedicated data channels.

Respective members may update.

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

B.7.1. Status of commissioned Islanding Schemes in Eastern Region

At present, the following islanding schemes are in service:

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

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

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

Members may note.

B.7.2. FSTPS Islanding Scheme, NTPC

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

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

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

In 131st OCC, NTPC informed that the overhauling S/D of U-1 has been taken from 14th March, 2017 and the scheme will be operational as per schedule.

NTPC may update.

B.7.3. Bandel Islanding Scheme, WBPDCL

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

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

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

In 130th & 131st OCC, it was informed that the PSDF Appraisal committee has accepted the proposal and forwarded to CERC.

WBPDCL may update the latest status.

Item No. B.8: Testing / Calibration of Main and Check Energy Meters -- DGPC

DGPC vide mail dated 04.04.17 intimated that the Clause No. 5.8 of Power Purchase Agreement (PPA) between PTC India Ltd and Royal Government of Bhutan dated August 31, 2002 for sale of Chhukha and Kurichhu power and Clause No. 5.5 of PPA between PTC India Ltd. and Royal Government of Bhutan for sale of Tala power indicates that "All main and check energy meters shall be tested and calibrated at intervals not exceeding 12 (twelve) months by the owner of the respective energy meters".

While DGPC has been carrying out the testing of its main and check energy meters every year as per the PPA, the main energy meters pertaining to PTC/POWERGRID at Birpara end for 220kV Chhukha – Birpara Feeder I & II and 400kV Tala – Binaguri Feeder I, II, III & IV at Siliguri end has not been tested since 2014. The check energy meter of the above feeders at Chhukha, Tala and Malbase end pertaining to PTC/POWERGRID has been tested by DGPC on an annual basis.

The main energy meter (owner - DGPC) and check energy meter (owner - PTC/POWERGRID) of 132 kV Gelephu-Salakati Feeder at Gelephu end has been tested annually by DGPC, however the testing of energy meters of 132 kV Motanga – Rangia feeder is due for 2017.

ERPC is requested to persue PTC/POWERGRID to test the energy meters owned by PTC/POWERGRID as per the provision of PPA at the earliest and furnish the results to DGPC for reference as the non-adherence to the requirement of PPA shall invite serious audit observations for DGPC

DGPC/Powergrid may update.

Item No. B.9: 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.

Members may discuss.

Item No. B.10: Under utilization of 220 kV Ara (PG)-Pusauli New (Nadokhar) T/L and 220 kV Ara (PG)-Khagaul D/C T/L-- BSPTCL

BSPTCL vide mail dated 13.04.17 informed that despite all possible arrangements in BSPTCL system, high voltage problem (220 kV and 132 kV voltage goes upto 238 kV and 146 kV respectively) at Ara (PG) and Pusauli New (Nadokhar) GSS and connected sub-stations persists during off-peak hours, so to avoid any unwanted tripping and connected load loss at our system we have to switch off 220 kV Ara (PG)-Pusauli (Nadokhar) T/L from both end during OFF-Peak hours. Because of this, in case of power disturbance in 220kV Sasaram (PG)-Ara (PG) and 220 kV Sasaram (PG)-Pusauli New (Nadokhar) line complete power failure at Ara (PG) (load loss 160 MW) and Pusauli New (Nadokhar) (load loss 80 MW) respectively happens due to unavailability of 220 kV Ara(PG)-Pusauli New (Nadokhar) T/L

Also on closing the 220 kV Patna (PG)-Khagaul-Ara (PG) loop, there remains continuous back feed of power from Khagaul GSS to Ara (PG) (of the magnitude of 100 MW during OFF-PEAK and 150 MW during PEAK hours), which causes overloading of 220 kV Patna (PG)-Sipara D/C T/L during PEAK hour. So we are forced to take this loop out of service at Ara (PG) end. Because of this, in case of power disturbance in 220 kV Patna (PG)-Khagaul-Sipara or at Patna (PG) complete power failure at Khagaul GSS with load loss of 250 MW happens due to unavailability of 220 kV Patna (PG)-Khagaul-Ara (PG) loop.

Above stated problem is causing under utilization of 220 kV Ara (PG)-Pusauli New (Nadokhar) T/L and 220 kV Ara (PG)-Khagaul D/C T/L. Also reliability of system at Ara (PG), Pusauli New (Nadokhar) and Khagaul GSS is getting badly affected. System reliability at these sub-stations can be increased if Ara (PG) feeds power to Khagaul GSS on closing the 220 kV Patna (PG)-Khagaul-Ara (PG) loop {which at present gets reverse feed from Khagaul to Ara (PG)}.

As in a single day we observe both high voltage and low voltage problem in Ara (PG) and Sasaram (PG) area, so we are unable to reach at any permanent solution.

Voltage profile of 220 kV Khagaul, 220 kV Ara (PG) and load profile of 220 kV Patna (PG)-Sipara and 220 kV Ara (PG)-Khagaul for the month of March 2017 along with respective line diagram has been enclosed at **Annexure-B.10**.

Members may discuss.

Item No. B.11: Proposal for entrusting ERLDC to allocate URS power directly against the request of beneficiary following the merit order despatch principle like other regions-- WBSEDCL

In the event sudden loss of availability,WBSEDCL has to place the requisition to NTPC / Patna for allotment of URS power on merit order despatch principle. After exploring the URS availability from ERLDC website, NTPC/Patna forward such requisition to ERLDC with URS allotment from the stations from where URS is available. Finally ERLDC schedule the URS quantum as proposed by NTPC/Patna. Such practice of routing the requisition through NTPC/Patna causes unnecessary delay in scheduling URS power to the beneficiaries who are at that time in utter need of power. So, to avoid such delay in processing, ERLDC may be entrusted to allot & schedule such URS on merit order despatch principle directly against the requisition of beneficiary placed to ERLDC directly.

It is also observed that while allocating URS power NTPC/Patna violates the merit order despatch principle based on the total cost of generation. Necessary supporting evidence in this regard may be produced by WBSEDCL on demandt. Apropos the merit order It is to be noted that beneficiary bears both the fixed & variable cost of URS power & also additional trading margin of 7paisa per unit to M/S NVVNL in the case of allocation from the stations from where beneficiary has coal power share under JNSM Bundle Power scheme. So considering above commercial aspects merit order should be envisaged during URS allocation to honour the spirit of relevant national policies & also for the commercial interest of end users of electricity .

Members may discuss.

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

I) 220 KV Chandil –Santaldih line

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

WBPDCL informed that the PLCC was activated but the auto-reclosure could not be put into service as the R-Ph pole of Circuit Breaker is not getting closed during auto-reclosure operation.

The same is taken up with the OEM (i.e. ABB) and they will be rectifying the CB.

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

II) 220 KV Ramchandrapur-Joda line

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

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

In 131st OCC, WBPDCL informed that shutdown was proposed on 31st March, 2017 to complete the work.
OPTCL informed that PLCC panels will be commissioned by March 2017.

JUSNL/WBPDCL/OPTCL may update.

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

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

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

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

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

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

In 131st OCC, IBEUL informed that their dedicated line will be commissioned by 24th March, 2017.

IBEUL may update.

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

OPGC vide letter dated 03.03.2017 intimated that OPGC is pursuing construction of 2x660MW Thermal Power Plant at Ib-Thermal Power Station in the district of Jharsuguda,Odisha. The plant location is in close proximity to IBEUL's power plant located in the same area. Construction work of OPGC's expansion project is in very advanced state with a scheduled commissioning in 3rd Qr. of FY 2017-18. OPGC's expansion project includes construction of a dedicated rail corridor (MGR) connecting the power plant to its captive coal mines in Sundergarh. The alignment of the MGR has been finalized in 2009 and land acquisition has been completed. The MGR is presently under construction.

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

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

In 131st OCC, IBEUL informed that the issue has been discussed with Govt. of Odisha and they have already placed an order for extending the tower heights for maintaining the statuary clearances and the work will be completed by May, 2017.

OCC advised IBEUL to get fresh clearance from CEA for the complete line including the said crossing points over the MGR rail corridor of OPGC before commissioning the line.

Subsequently, a joint visit was carried out by RIO, OPGC and IBEUL the minutes of the said visit is enclosed at ***Annexure-B.13.1****.*

OPGC/IBEUL may update.

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

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

Activities	Nos	Status as on 15-Nov-16 (as updated in 34th TCC)	Status as on 24-Feb-17 (As updated in 35th TCC)	Remarks
Tower Foundation	64	60	**64**	Completed
Tower Erection	64	42	**59**	
Stringing /OPGW Cabling & Testing	20.5 Km	One stretch completed	**9 km completed**	
Sub station Bay	2	Equipment Erection, Cable Trench, Earthing Completed	Bay construction completed	Will be completed by 2nd March, 2017.

35th ERPC decided to extend the dead line for removal of LILO up to 15.04.2017 and advised Vedanta to strictly adhere to the schedule for commissioning of the dedicated line in all aspects.

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

In 131st OCC, Vedanta submitted the item wise schedule, the same is placed at **Annexure-B.13.2A**.

Subsequently, GRIDCO vide letter dated 13.04.17 has requested for extending the LILO connectivity till 30.06.2017. (The letter is enclosed t=at ***Annexure- B.13.2B.***

Members may discuss.

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

A. Bus Splitting of Powergrid Sub-stations

As per decision of Standing Committee of ER CTU was entrusted to do Bus splitting at 400 kV Maithon, Durgapur & Biharsariff S/Ss or ER. The latest status on the same are:

- 400 kV Maithon ---Completed
- 400 kV Durgapur--Completed
- 400 kV Biharshariff—Foundation work has been completed but shutdown are yet to be received to complete the work.

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

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

In 131st OCC, Powergrid added that bus splitting at 400kV Biharshariff S/s will be commissioned by April, 2017.

Powergrid may update.

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

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

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

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

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

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

In 131st OCC, NTPC informed that the bus splitting will be implemented by December, 2018.

NTPC may update.

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

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

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

Powergrid agreed to do the payment after receiving the estimate.

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

In 131st OCC, WBSEDCL informed that the work will be completed by the end of March,2017.

WBSEDCL/Powergrid may update.

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

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

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

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

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

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

ERLDC explained the scheme in 128th OCC.

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

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

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

In 131st OCC, ERLDC advised Powergrid to at least block or bypass the existing run back scheme logic for the time being.

Powergrid informed that they will explore the possibilities to bypass the existing scheme.

Powergrid/ERLDC may update.

B.13.6. 220 kV inter-connecting lines of OPTCL with 400/220 kV Bolangir (PG), Keonjhar & Pandiabil S/s

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

In 130th OCC, OPTCL updated the completion schedule of inter-connecting system as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA 400/220kV Bolangir S/s**	
a.	LILO of one circuit of Sadeipalli-Kesinga220 kV D/C line at Bolangir S/S	Only 7 towers left (Severe ROW problem). By May, 2017.
b.	LILO of one circuit of Katapalli-Sadeipalli220 kV D/C line at Bolangir S/S	Charged on 04.05.16
2.	**400/220 kV Keonjhar S/S**	
a.	Keonjhar (PG)-Keonjhar (OPTCL) 220 kV D/C line	By 2017.
b.	Keonjhar (PG)-Turumunga(OPTCL) 220kV D/C line	By 2019.
3.	**400/220kV Pandiabil Grid S/s: Expected by June'16**	
a.	Pratapsasan(OPTCL)-Pandiabil (PG) 220 kV D/C line	Dec, 2017.
b.	LILO of one circuit of Atri-Puri (Samangara) 220 kV D/C line at Pandiabil (PG)	May, 2017

OPTCL may update.

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

In 125th OCC, JUSNL updated the latest status as follows:

Sl. No.	Name of the transmission line	Completion schedule
1.	**Chaibasa 400/220kV S/s**	
a.	Chaibasa (POWERGRID) – Chaibasa (JUSNL) 220kV D/c	Completed.
b.	Chaibasa (POWERGRID) – Ramchandrapur (JUSNL) 220kV D/c	***April, 2017***
2.	**Daltonganj 400/220/132kV S/s: Expected by Mar'17**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	By Dec, 2017.
b.	Daltonganj (POWERGRID) – Garhwa 220kV D/c	Matching with S/s
C	Daltonganj (POWERGRID) – Daltonganj (JUSNL) 132kV D/c	Matching with S/s
d	Daltonganj (POWERGRID) – Chatarpur/Lesliganj 132kV D/c	Matching with S/s
3.	**Dhanbad 400/220 kV S/s: Awarded under TBCB**	
a.	Dhanbad – Dhanbad (Govindpur) (JUSNL) 220kV D/c	Matching with S/s

JUSNL may update.

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

In 126th OCC, *WBSETCL updated the latest status as follows:*

Sl. No.	Name of the transmission line	Completion schedule
1.	**2x315MVA, 400/220kV Alipurduar sub-station**	
a.	Alipurduar (POWERGRID) – Alipurduar (WBSETCL) 220kV D/c (***Twin moose***)	April, 2017

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

WBSETCL may update.

Item No. B.14: Third Party Protection Audit

1. Status of 1st Third Party Protection Audit:

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

Name of Constituents	Total Observations	Complied	% of Compliance
Powergrid	54	37	68.52
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	27	39.71
Odisha	59	38	64.41
JUSNL	34	16	47.06
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

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

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

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

Members may comply.

2. Schedule for 2nd Third Party Protection Audit:

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

1)	Jeerat (PG)	Completed on 15th July 2015
2)	Subashgram (PG)	Completed on 16th July 2015
3)	Kolaghat TPS (WBPDCL)-	Completed on 7th August 2015
4)	Kharagpur (WBSETCL) 400/220kV -	Completed on 7th August 2015
5)	Bidhannagar (WBSETCL) 400 &220kV	Completed on 8th September, 2015
6)	Durgapur (PG) 400kV S/s	Completed on 10th September, 2015
7)	DSTPS(DVC) 400/220kV	Completed on 9th September, 2015
8)	Mejia (DVC) TPS 400/220kV	Completed on 11th September, 2015
9)	400/220/132kV Mendhasal (OPTCL)	Completed on 2nd November, 2015
10)	400/220kV Talcher STPS (NTPC)	Completed on 3rd November, 2015
11)	765/400kV Angul (PG)	Completed on 4th November, 2015
12)	400kV JITPL	Completed on 5th November, 2015
13)	400kV GMR	Completed on 5th November, 2015
14)	400kV Malda (PG)	Completed on 23rd February, 2016
15)	400kV Farakka (NTPC)	Completed on 24th February, 2016
16)	400kV Behrampur(PG)	Completed on 25th February, 2016

17) 400kV Sagardighi (WBPDCL) Completed on 25th February, 2016
18) 400kV Bakreswar (WBPDCL) Completed on 26th February, 2016
19) 765kV Gaya(PG) Completed on 1st November, 2016
20) 400kV Biharshariff(PG) Completed on 3rd November, 2016
21) 220kV Biharshariff(BSPTCL) Completed on 3rd November, 2016

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

Members may note.

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

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

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

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

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

The proposed UFR audit schedule is placed below:

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

Members may decide.

Item No. B.16: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

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

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

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

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

Members may note and comply.

Item No. B.17: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

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

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

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

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

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

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

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

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

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

Members may note and update the status.

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

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

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

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

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

SLDCs may update.

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

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

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

Members may update.

Item No. B.20: Data of Peak Demand – Submission of hourly power cut data

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

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

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

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

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

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

JUSNL may update.

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

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

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

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

Members may update.

Item No. B.22: Transfer capability determination by the states -- Agenda by NPC

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

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

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

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

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

All the SLDCs were computing the ATC/TTC figures except Bihar.

In 131st OCC, BSPTCL informed that they will submit the ATC/TTC figures at the earliest.

Members may update.

Item No. B.23: 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 130th OCC, Powergrid informed that the reactor will be commissioned by end of February,2017.

In 131st OCC, Powergrid informed that the reactor commissioning was delayed due to some vibration issue and now it is expected to be commissioned by April, 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 129th OCC,Powergrid informed that the work has been awarded.

In 130th *& 131st OCC, Powergrid informed that line will be restored by July, 2017.*

Powergrid may update.

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

Three Nos.Tower (mid river) collapsed.
In 126th OCC, ENICL informed that the final assessment is under progress. The same will be submitted to ERPC and ERLDC.

In 130th & 131st OCC, ENICL informed that line will be restored by last week of June, 2017.

ENICL may update.

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

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

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

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

In 131st OCC,OPTCL informed that the work will be completed by end of March, 2017.

Powergrid/OHPC may update.

e) 220 kV Waria – Bidhannagar-II

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

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

OCC requested DVC to expedite the work.

In 131st OCC, DVC informed that the line will be restored by mid of June, 2017.

DVC may update.

f) 315MVA ICT-I at Meramundali

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

In 131st OCC, OPTCL informed that the ICT will be in service by first week of April, 2017.

OPTCL may update.

g) 220kV Meramundali-Bhanjanagar-I

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

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

In 130th & 131st OCC, OPTCL informed that the conductor replacement work will be completed by end of March 2017.

OPTCL may update.

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

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

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

In 131st OCC, Powergrid informed that they have requested for shutdown on 22nd and 23rd March, 2017 to complete the work.

Powergrid may update.

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

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

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

131st OCC advised NTPC to look into the matter and resolve at the earliest.

NTPC may update.

Item No. B.24: Accounting of Tertiary Loading Arrangement at PGCIL s/station in ER

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

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

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

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

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

131st OCC advised Powergrid to submit the list of substations in ER where auxiliary supply is met through tertiary(both for 33 kV and 11kV level).

Powergrid agreed.

Powergrid may update.

Item No. B.25: LILO Connection of Inter-Regional tie line 132 KV Sonenagar-Rihand (UP,NR) Circuit-I (direct line) at NPGC,Nabinagar for providing startup power to NPGC -- BSPTCL

BSPTCL vide letter dated 18.02.17 intimated that LILO connection of inter-regional tie line 132kV Sonenagar-Rihand (UP,NR) Circuit-I (direct line) is urgently required at NPGC, Nabinagar for providing startup power for commissioning of Super Thermal Power Project (3x660MW) Unit # 1

which is expected to be commissioned in March,2017. At present 132kV Sonenagar-Rihand (UP,NR) Circuit-I remain charged on No Load from Sonenagar end & open at Rihand (UP) end.

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

In 131st OCC, BSPTCL informed that NPGC, Nabinagar has applied for 65 MVA start up power and initially they will draw around 5-10 MW power through 132 kV Sonenagar-Rihand-I line LILOed at NPGC, Nabinagar. It was also pointed that 132kV Sonenagar-Rihand (UP,NR) Circuit-I is lying idle charged since last 5-6 years and presently it remains charged on no load from Sonenagar end & open at Rihand (UP) end.

Further, BSPTCL added that in order to cater the start up power from Sonenagar end they are strengthening the 132 kV Sonenagar GSS with double moose conductor which will be completed by March, 2017.

It was informed that NPGC, Nabinagar will only draw startup power for commissioning activities through the above LILO as an interim arrangement and injection of power/trial-run will be done after the completion of 400 kV ATS of NPGC, Nabinagar

OCC agreed for commencement of start up power through LILO of 132kV Sonnagar-Rihand-I line at NPGC, Nabinagar as consumer of BSPTCL and as an interim arrangement subject to the consent of NRPC.

Further, it was decided that the now the inter-regional tie-line will be 132 kV NPGC, Nabinagar-Rihand and requested Powergrid to install a new SEM at NPGC, Nabinagar end for accounting purpose.

Subsequently, ERPC vide letter dated 28.03.2017 requested NRPC to do the needful for LILO connection of inter-regional tie line 132kV Sonenagar-Rihand (UP,NR) Circuit-I at NPGC, Nabinagar at the earliest

BSPTCL may update.

Item No. B.26: Time correction of SEMs in Eastern Region – Replacement of heavily drifted SEMs

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

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

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

Subsequently, ERLDC has prepared a list of such SEMs, the same is placed at **Annexure- B.26**.

In 131st OCC, Powergrid informed that they have already started meter replacement work and all highly drifted meters as per list will be replaced by 1st week of April, 2017.

Powergrid also informed that the present list of drifted SEMs were of Powergrid sub-stations which are being replaced. Further, Powergrid agreed to send the weekly data of newly installed SEMs to ERLDC by every Tuesday till the integration of Genus meter with AMR system by TCS,

Powergrid/ ERLDC may update.

Item No. B.27: 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.

Powergrid may please update the status.

Item No. B.28: Non Receipt of Genus make meter Data from FSTPP NTPC -- ERLDC

400 KV FSTPP-Gokarna (WB) Line-1 & 2 has already been charged and synchronized on 28.03.17 & 29.03.17 respectively. Main & Check meter has been installed at Farakka end of D/C Line. FSTPP NTPC was requested to send SEM data to ERLDC by every Tuesday. It has been seen that in spite of ERLDC request Farakka, NTPC is not sending the data of Genus Meter (Main & Check both) installed at Farakka end of Gokarana Line-1.

NTPC may please respond.

Item No. B.29: 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.

NTPC and NHPC may nominate.

Item No. B.30: Pending completion of DSTPS – RTPS OPGW work in DVC

POWERGRID ERTS – 2 ULDC informed in 19th SCADA O&M meeting held at ERLDC, Kolkata on 07th April 2017 that they are not able to complete the OPGW work in DSTPS – RTPS in DVC Sector under Microwave Replacement Package due to severe ROW issue. POWERGRID further informed that they have mobilized the team several times but work could not be completed due to heavy ROW / compensation issues related to TL construction resulting non-completion of 2 no. OPGW drum (approx. 9 Km). POWERGRID again informed that this issue is discussed in various forums but the solution is yet to be provided by DVC.

DVC informed that they are not able to resolve the issue as this is old ROW / compensation issue related to TL construction.

ERLDC opined that the matter may be put up in TCC/ERPC board for further deliberation and resolution of the matter. POWERGRID & DVC agreed for the same.

Members may discuss.

Item No. B.31: 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.

131st OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC. The updated status is enclosed at **Annexure- B.31**.

Members may update.

Item No. B.32: Implementation of Automatic Demand Management Scheme (ADMS)

In special PRM held on 7th June, 2016, Chemtrols provided the following status of DO implementation:

Constituent	Target by June end	Actual
Bihar	50	67
DVC	12	17
WBSETCL	10	65**
Jharkhand	2	2

(**As per the WB instruction, In all RTUs of WB the DO cable has been terminated in the C&R Panel TBs. WBSETCL testing Team to further extend the connections to the trip relays)

Constituents may update present status of implementation ADMS.

Item No. B.33: 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, which is given at **Annexure- B.33**.

POWERGRID may update the status.

Item No. B.34: 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.34**.

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.35: 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.35**.

Members may update the latest status.

Item No. B.36: Pollution mapping for Eastern Region

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

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

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

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

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

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

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

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

Powergrid updated the latest status as follows*:*

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

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

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

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

Members may update.

Item No. B.37: Mock Black start exercises in Eastern Region – ERLDC

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

The status of the black-start exercises for F.Y 2016-17 is as follows:

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2016	*Completed on 16th July 2016*	Last Week of January 2017	Completed on 25.01.17
2	Maithon (To be tested in islanded mode)	1st week of June 2016	*Completed on 02.12.2016*	1st Week of February 2017	

3	Rengali	2nd week of June 2016	*Completed on 23rd Sept, 2016*	Last week of November 2016	Completed on 25.01.17
4	U. Indarvati	3rd week of June 2016	*Completed on 16th July 2016*	2nd week of February 2017	***Scheduled on 23.03.2017***
5	Subarnarekha	1st week of October 2016	*Completed on 19.10.16*	1st week of January 2017	
6	Balimela	3rd week of October 2016	*Completed on* 29.11.16	1st week of March 2017	***Scheduled on 24.03.2017***
7	Teesta-V	2nd week of Nov 2016		Last week of February 2017	***Scheduled on*** *30.03.2017*
8	Chuzachen	Last Week of May 2016	***17th Jan, 2017 (Scheduled)***	January 2017	
9	Burla	Last Week of June 2016	*Completed on 28.07. 2016*	Last week of February 2017	***Scheduled on 23.03.2017***
10	TLDP-III	1st Week of June 2016		2nd Week of January 2017	
11	TLDP-IV	Last Week of June 2016	*Completed on 17*.11.16	1st Week of February 2017	

In the year 2016-17 Teesta-V, Chuzachen and TLDP-III hydro generating stations have not completed it.

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		Last Week of January2018	
2	Maithon	1stweek of June 2017		1stWeek of February2018	
3	Rengali	2ndweek of June 2017		Last week of November 2017	
4	U. Indarvati	3rdweek ofJune 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		January2018	
9	Burla	Last Week of June 2017		Last week of February2018	
10	TLDP-III	1stWeek of June 2017		2ndWeek of January2018	
11	TLDP-IV	Last Week of June 2017		1stWeek of February2018	

Members 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.38: Restricted Governor /Free Governor Mode Operation of generators in ER

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

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

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

(1) On 02-03-17, 01:58 hrs, Unit I & II at Krishnapattanam tripped. Generation loss 1085 MW.
(2) On 05-03-17, 15:14 hrs, Load rejection test of Unit II at Kudankulam took place.1000 MW load rejection was done

ERLDC may update.

Item No. B.39: Reactive Power performance of Generators

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

Power Plant	Max and Min Voltage observed for Mar 17 (KV)	Date for monitoring (Mar 17)
Farakka STPS	420,407	13,16
Khalgaon STPS	421,401	13,16
Talcher STPS	412,403	4,10
Teesta	422,396	24,27
Bakreshwar TPS	413,391	16,25
Kolaghat TPS	419,400	16,18
Sagardighi TPS	--	--
MPL	421,408	27,18
Mejia-B	--	--
DSTPS	426,415	15,11
Adhunik TPS	421,410	24,23
Sterlite	--	--
Barh	--	--
JITPL	--	--

GMR	418,404	1,5
HEL	--	
Kodarma	422,403	27,25

ERLDC may present the reactive performance.

a) Schedule for reactive capability tests

The following was status of regarding reactive capability testing:

a. Adhunik TPS(both units) –Yet to be confirmed by Adhunik
b. DSTPS (Unit#2 only pending) – done
c. Koderma TPS Unit#1 -- done on 08.08.2016
d. JITPL(both units) – Procedure given. Not yet done
e. Barh TPS – In June 2016
f. Raghunatpur (both units)
g. GMR (Three units)
h. *Haldia TPS (Unit #4)*

Members may update.

b) Tap Position Optimization at Jeypore

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

131st OCC advised Powergrid to do the tap changing from 12 to 14.

Powergrid agreed to do the tap changing in off load condition.

Powergrid may update.

PART C:: OPERATIONAL PLANNING

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

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

Members may confirm.

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

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

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

A. Powergrid has placed the following shutdown for discussions:

1. Insulator Replacement programme for the month of May'2017.

As per earlier discussion POWERGRID/ER-II is submitting the plan for insulator replacement for the month of May'2017:

Sl No.	Name of TL	Description of Work	Remarks
1	220 KV MALDA-DALKHOLA-D/C.	Replacement of porcelain insulators with CLR insulators.	Complete replacement of insulators.
2	400kV D/C Binaguri-Bongaigaon TL Ckt-I & II.	------DO------	Railway crossing, NH/SH Crossings. S/D will be availed only if work pending during railway diversion period.
3	400 KV DURGAPUR-JAMSHEDPUR.	------DO------	Railway crossing, NH/SH Crossings.
4	400 KV FKK-DGP-2.	------DO------	Railway crossing, NH/SH Crossings.
5	400 KV JEERAT-SUBHASGRAM.	------DO------	National Highway/State highway/River crossing.
6	400 KV BINAGURI-RANGPO-II	------DO------	Only 01 day S/D required. Applied in S/D list for 02.05.17.

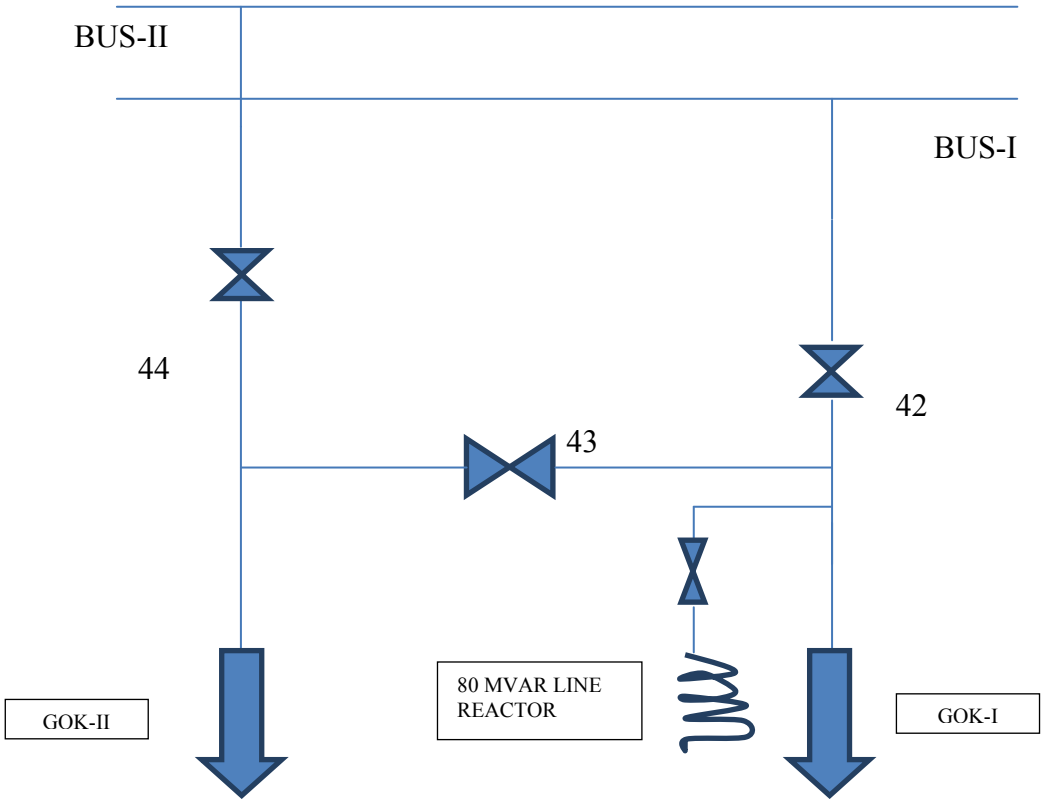
For all above places conventional porcelain insulator will be replaced by Composite Long Rod Insulator. Placed before members for discussion and subsequent consideration of the outages as deemed availability.

Members may discuss.

2. Shut down of 400 KV Bus-II& 400 KV BUS-I For completion of various packages at NTPC/FARAKKA.

At NTPC/Farakka, presently ERSS-XII & ERSS-V final implementation is going on. Under ERSS-XII, 50 MVAR Bus Reactor-I to be shifted to new dia (Bay No: 09). Presently all the work related to bus reactor and Bay no: 09 completed except bus connectivity and bus bar stability. Executing agency M/S. ALSTOM, has given reminder for demobilization from sites as completion activity pertaining to Bus shut down gone for more than 03 months. POWERGRID requested NTPC several times for commitment of shut down in this regard but till date nothing can be planned. Once again it is requested to consider the 400 KV Bus-I shut down at NTPC/Farakka, positively by 10.05.2017, in a planned manner such that work could be completed.

Again, under ERSS-V, recently 400 KV Farakka-Gokarna-D/C line has been commissioned. Bay connectivity at Farakka end is given below for reference:-



At present only 400 KV BUS-I, Connectivity available to the dia i.e. Both FKK-GOK-D/C is charged through Bay 42 & 43 Only. Due to system constraint (Shut down of U#1), NTPC did not allow 400 KV Bus-II shut down during commissioning. Any shut down related to Bus-I, will result into outage of both 400 KV Fkk-Gok-D/C feeder.
All work related to Bus-II connectivity/protection checking already completed by POWERGRID except Bus bar stability and physical connection, which is only possible after 400 KV Bus-II shut down.

Keeping in view of above, it is proposed to provide 400 KV BUS-II Shut down on priority for completion of connectivity of bay no: 44 to Bus-II and afterwards shut down of 400 KV Bus-I for connectivity of Bay no: 09 and subsequent charging of Bus Reactor.

3. Shut Down of 400 KV, 125 MVAR Bus Reactor-I at Binaguri S/S for Internal Inspection.

DGA analysis of 125 MVAR BUS REACTOR-I of Binaguri S/S found slightly abnormal than the expected results. OEM (BHEL) Consulted over the issue and they suggest for a through internal inspection. Considering the importance OEM engineer is already planned and shut down required for subject Reactor for 15 days on continuous basis. (S/D applied from 05.05.17 to 20.05.17).

Members may discuss.

4. Covering of Tertiary Bushing and associated bay equipment's by Insulating Sleeve of ICT's of ER-II.

It has been observed that due to certain presence of foreign object (By wind or Bird etc.) tertiary system of ICT's creating fault which results in unnecessary outage of the main element and sometime also contributing towards failure of associated part. To prevent this abnormality,

POWERGRID has started covering the tertiary system (Bushing and associated conductor part & connectors also) with adequate insulation covering.

For the same following S/D's are proposed for carrying out the job in following locations:-

Sl No	Name of Sub-station	Equipment Identification	Tentative Date	Tentative time for outage
01.	Binaguri	315 MVA ICT-I & II.	03.05.17 & 04.05.17.	05 Hours Each, One ICT at a time.
02.	Malda	315 MVA ICT-III & V.	05.05.17 & 06.05.17.	05 Hours Each, One ICT at a time.
03.	Durgapur	315 MVA ICT-I & II.	08.05.17 & 09.05.17.	05 Hours Each, One ICT at a time.
04.	Subhasgram	315 MVA ICT-I.	10.05.17	05 Hours Each, One ICT at a time.
05.	Maithon	315 MVA ICT-II.	14.05.17	05 Hours for ICT.
06.	Alipurduar	315 MVA ICT-I & II.	30.04.17 & 01.05.17.	08 HOURS FOR EACH ICT.

As this is for system improvement and earlier same type of fault has been observed in the system, it is proposed to allow the above mentioned S/D's

For carrying out the work and also consideration for deemed availability as this will contribute towards system improvement.

Members may discuss.

5. 400 KV Maithon-Durgapur-D/C shut down for railway diversion work (Both circuit in Continuous basis):

For dedicated freight corridor project widening of railway track under Eastern railway, tower diversion required to be carried out between location no: 134&135. For carrying out the work 15 days continuous S/D of both the circuits are required. As huge manpower mobilization required including railway block shut down, firm shut down period is required for proper co-ordination.

Tentative date proposed from POWERGRID/ER-II is from 15.05.17 to 30.05.17 on continuous basis.

Members may discuss.

6. Shut down of 400 KV Malda-Farakka & Malda-Purnea-D/C (One circuit at a time):-

For last eight months (Since September'2016) in numerous occasions the S/D applied for all above elements (One at a time) with work details & possible emergency conditions which required to be addressed. However, every occasion it has been noticed that, NLDC disallowed the S/D in view of non-availability of 400 KV Biharsariff-Purnea-D/C & Patna-Kishanganj-D/C. it may be noted that for both the lines, expected return is in the month of June-July'2017 arguably. It will be difficult to maintain the reliability of the system without getting shut down for so long. At least two times it has been observed that only after jumper opening in line or huge oil leakage in CT (Emergency condition), shut down is provided. In such a emergency situation it is not possible to address all the pending work. Also 400 KV Malda-Farakka S/D is long pending and balance punch points identified after reconductoring (April'2016) is still to be attended.

We again request to consider the shutdown in planned manner immediately for avoiding any unplanned outages. In the event of failure of any above elements, due to non-attending defects in timely manner, may pose a serious threat to the grid stability.

Members may discuss.

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

(i) Generating units:

Generating Station	UNIT NO	CAP(MW)	REASONS FOR OUTAGE	OUTAGE DATE	Restoration
FSTPP	1	200	OVERHAULING	15-Mar-17	
FSTPP	5	500	OVERHAULING	29-Mar-17	
JITPL	2	600	LEAKAGE IN DRAIN OF TURBINE	24-Mar-17	
SAGARDIGHI	3	500	TUBE LEAKAGE	25-Jan-17	
SAGARDIGHI	4	500	TUBE LEAKAGE	09-Apr-17	
KOLAGHAT	1	210	OVER HAULING	16-Feb-17	
KOLAGHAT	2	210	DESYN DUE TO POLLUTION	24-Feb-17	
KOLAGHAT	3	210	TUBE LEAKAGE	22-Feb-17	
KOLAGHAT	6	210	BOILER TUBE LEAKAGE	09-Apr-17	
TENUGHAT	2	210	TURBINE MAINTENANCE	7-Nov-16	
BOKARO B	2	210	BOILER TUBE LEAKAGE	5-Mar-17	
BOKARO B	3	210	BOILER TUBE LEAKAGE	15-Dec-16	
RAGHUNATHPUR	1	600	L.P. DIFFERENTIAL EXPANSION	27-Jan-17	
RAGHUNATHPUR	2	600	COAL SHORTAGE	23-Mar-17	
MEJIA	2	210	STATOR EARTH FAULT	05-Apr-17	
MEJIA	5	210	TUBE LEAKAGE	03-Apr-17	
KODERMA	1	500	BOILER TUBE LEAKAGE	19-Jan-17	

(ii) Transmission elements

Name of the Line/Element	Outage	Reason
400 KV PATNA-KISHANGANJ D/C	26/07/16 161616	TOWER COLLAPSED AT LOC NO 51
400 KV BIHARSARIFF-PURNEA- I & II	23/08/16	Three numbers of tower are badly damaged at location 46/9, 47/0 & 47/1 (In the mid of river Ganga).
220KV WARIA - BIDHANNAGAR-II	10/09/16	LINE UNDER B/D, TOWER COLLAPSED AT LOC NO 28
400 KV TALA- BINAGURI-I	08/04/17	B_N .Z-1,107.8 KM FROM BINAGURI, 2.56 KA
400 KV TALA- BINAGURI-IV	03/04/17	
220 KV MERAMUNDALI - BHANJNAGAR - I	15/02/16	UNDER CONTINIOUS S/D, CONDUCTOR
315 MVA ICT-I AT MEERAMUNDALI	12/11/16	UNDER B/D AS ICT GOT BURNT DUE TO B PHASE LA

Members may update.

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

New generating units:

S.No.	Power Plant	Plant Size	Expected date

New transmission elements:

Sl No.	Name of Element	Expected date
1	400kV Rajarhat-Purnea D/C (with LILO of one circuit each at Farakka and Gokarno)	
2	Augmentation of 400kV Farakka-Malda D/C with HTLS conductor	
3	400kV Ind-Bharath-Jharsuguda D/C	
4	400kV Talcher-Bramhapur-Gazuwaka D/C	

5	400kv Talcher-Rourkella(2nd D/C-Quad)	
6	400kV Sterlite-Jharsuguda D/C	
7	765kv Anugul-Srikakulum D/C	
8	400kV Sasaram-Daltonganj D/C &Daltonganj S/Stn	
9	400 kV Ranchi-Raghunathpur D/C	
10	220 kV TLDP-IV – NJP ckt-2	
11	220 kV Bidhansai-Cuttack D/C	
12	220kV Gola- Ranchi	

Members may update.

PART D:: OTHER ISSUES

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

System frequency touched a maximum 50.34Hz at 18:03Hrs of 05/03/17 and 18:03Hrs of 13/03/17 and a minimum of 49.66Hz at 18:58Hrs of 27/03/17. Accordingly, no report of operation of UFR has been received from any of the constituents.

Members may note.

Item no. D.2: Non-compliance of directions issued by SLDC

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

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

No report from any constituent has yet received. Hence, ERLDC would be considering 'Nil' report for all constituents for February'17.

Members may note.

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

Sl no	Disturbance Place	Date	Time	Generation loss (MW)	Load loss (MW)	Remark	Category
1	Biharshariff	03-03-2017	13:25	0	350	At 13:25 hrs, 400/220 kV 315 MVA ICT-I, II, III at Biharshariff along with 220 kV Biharshariff – Begusarai D/C tripped from Biharshariff end due to fault in 220 kV Begusarai – Ujiarpur – I which tripped from Ujiarpur only.	GD - I
2	Biharshariff	04-03-2017	13:21	0	435	At 13:21 hrs, tripping of 400/220 kV 315 MVA ICT-I, II, III at Biharshariff along with 220 kV Biharshariff – Begusarai I and 220 kV Tenughat Biharshariff S/C resulted power loss at Biharshariff, Begusarai, Fatua, Patna, Darbhanga including traction load of 60 MW (approx.) at Khagaria, Samastipur, Barh, Fatua and Mukama.	GD - I

3	SEL	17-03-2017	10:22	0	800	At 10:22 hrs, 400 kV SEL – Rourkela S/C tripped from both ends due to Y phase jumper snapping at Loc. No-88/0 (8.16 km from SEL end). At the same time, 400 kV SEL – Meramundali – I (Ckt – II was under s/d) tripped from Meramundali end (did not trip from SEL end) and all the three 400 kV SEL internal smelter feeders tripped on E/F	GD - I
4	Bakreswar	29-03-2017	09:32	200	0	During diversion of 400 kV GT #2 through bus tie, 400 kV BkTPP – Arambag S/C, 400/220 kV IBT – I, 400 kV bus tie and 400 kV B/C along with GT#2 tripped due to operation of bus bar protection relay (96) of MB#1 at BkTPP.	GD - I
5	Arrah	30-03-2017	13:25	0	62	At 13:55 Hrs, all three 220/132 KV ICT's at Ara (2*100 MVA, 1*160 MVA) tripped on overflux. At the same time, 220 KV Ara-Sasaram (BSEB) and 220 KV Sasaram (BSEB)-Sasaram (PG) tripped from Sasaram (BSEB) end only. Consequntly, a load loss of 62 MW fed from Ara occurred. High voltage was persisting in the affected areas due to very low demand	GD - I

Members may note.

Item no. D.4: Any other issues

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ANNEXURES

Annexure-B.3 (I)

Schemes of Eastern Region funded under PSDF

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

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

Reporting Format to the PSDF Project Monitoring Group

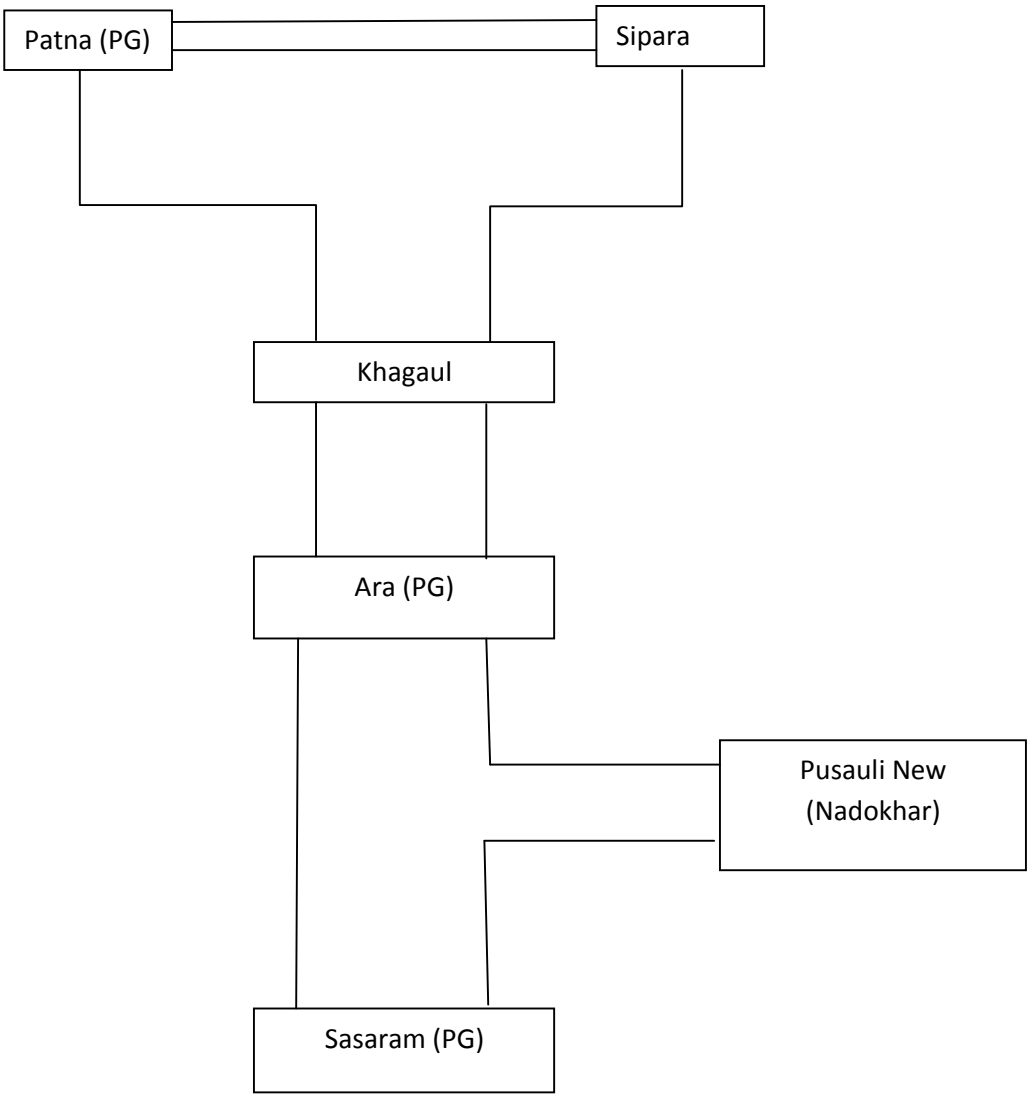
1. Name of the Scheme	
1.1 Name of the substation and its Location	
1.2 Executing Agency	
1.3 State/Region	
2. Date of Sanction order	
2.1 Date of Agreement of Entity with State Govt./NLDC	
2.2 Total Approved Cost of the Scheme	
2.3 Approved Grant by Monitoring Committee (Rs. In Lakhs)	
2.4 Date of Requisition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

Report for the Month of MM / YY

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

Signature with seal of the Nodal Officer

Annexure- B.10



	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Max	Min
01-03-2017																										
Ara_PG_220 kV	233.251	235.6627	235.6627	235.2687	237.6937	232.7914	230.8084	234.0782	231.8321	229.6547	229.3441	226.9515	227.0604	229.3862	229.9891	229.9891	229.7459	229.6709	227.142	219.9731	222.0729	221.9289	224.0743	229.1138	237.6937	219.9731
Khagaul_220 kV	229.3	229.7	230.5	231.3	230.3	229.8	227.3	225.5	225.8	224.3	224.5	224.4	224.3	226.7	226	226.2	226	225	224.6	219.9	223.3	225	226.1	227.4	231.3	219.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	167	146	151	147	168	172	191	193	181	182	173	156	166	158	150	158	160	227	239	251	236	209	192	175	251	146
02-03-2017																										
Ara_PG_220 kV	229.114	233.9926	233.9926	233.9926	233.9926	229.2573	226.7302	229.2385	231.6962	229.2908	227.2635	220.7882	223.0148	223.0148	222.8564	222.8564	223.1391	223.1391	226.7586	224.4307	226.5101	223.6021	226.3856	226.4344	233.9926	220.7882
Khagaul_220 kV	229.4	229.5	230.4	231.2	230.4	228.9	227	224.4	224.1	223.7	223.9	222	223	224.5	223.3	224.4	223.8	223.3	223.2	219.7	224.3	224.1	224.8	227.4	231.2	219.7
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	-89	-70	-60	-58	-70	-71	-74	0	0	0	0	0	0	0	0	-89
Patna (PG)-Sipara	165	153	153	170	154	164	174	200	185	190	230	207	188	192	188	196	211	209	234	236	244	228	190	177	244	153
03-03-2017																										
Ara_PG_220 kV	231.217	233.5666	228.2168	230.5067	232.8216	232.8216	227.882	229.8858	229.849	226.9391	231.6794	232.0953	232.092	234.6694	234.6694	234.6694	232.1594	231.733	227.0803	220.9839	224.6285	226.9036	229.2503	228.9525	234.6694	220.9839
Khagaul_220 kV	228.6	229.2	229.7	230.2	230.3	229.5	226.2	224.6	223.8	222.6	230.5	222.3	224.1	225.3	225	226.4	227.7	223.9	221	219.6	221.6	222.9	224.8	225.8	230.5	219.6
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	173	178	181	183	185	189	192	198	187	193	183	167	173	161	154	161	178	212	244	252	249	223	183	180	252	154
04-03-2017																										
Ara_PG_220 kV	231.354	230.5735	230.5736	233.0062	233.0062	230.7393	225.9158	223.5847	225.6932	230.3864	230.3653	228.0485	228.0029	232.6988	232.6988	232.6201	232.5804	232.5804	227.7584	220.8573	223.0496	227.6427	227.5519	229.9767	233.0062	220.8573
Khagaul_220 kV	228	228.2	228.3	228.3	227.5	225.9	226.4	225	223	223.5	221.9	222.7	223	225.5	226.3	226	225.2	224.6	221.9	218.6	222.5	224.8	224.5	226	228.3	218.6
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	180	170	155	165	174	179	166	180	130	130	118	119	122	118	119	118	133	206	252	259	250	223	195	185	259	118
05-03-2017																										
Ara_PG_220 kV	232.332	237.0062	236.944	236.7807	236.7807	234.4124	228.883	231.1828	233.4572	233.3723	233.1603	230.7668	233.4707	233.4707	235.9388	235.9656	235.9176	235.9176	231.0179	219.4761	221.7152	223.9283	226.2436	228.5078	237.0062	219.4761
Khagaul_220 kV	227.8	228.2	228.8	229.3	229.4	228.1	226.9	225	224.7	224.7	223.5	223.7	225.5	226.8	227.9	228.5	228.5	228.9	225.7	221.5	224.2	224.6	226	227.6	229.4	221.5
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	174	180	177	168	168	195	210	197	187	187	174	165	172	164	153	157	162	211	255	262	253	221	188	180	262	153
06-03-2017																										
Ara_PG_220 kV	233.209	234.9777	235.0377	235.0377	235.0377	232.1704	229.7755	229.2182	229.2012	229.2012	229.0743	231.3779	230.5289	232.9235	235.2826	235.2826	235.2826	235.2826	230.46	217.4472	219.9936	224.5929	227.0839	229.3963	235.2826	217.4472
Khagaul_220 kV	228.2	229.3	229.6	230.1	229.8	229.7	226.4	224.2	224.9	223.4	222.6	225.2	225.6	227.8	228.3	227.6	227.5	225.2	224.6	220.9	221.6	223.8	225.2	225.4	230.1	220.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	180	175	170	166	173	193	205	194	189	179	168	154	146	150	149	147	237	209	240	245	236	217	199	180	245	146
07-03-2017																										
Ara_PG_220 kV	231.72	234.0796	234.0796	236.5087	234.0325	231.6897	226.699	229.3157	229.2538	229.2538	229.2322	229.3466	231.6443	233.9952	233.9573	233.9573	233.9572	233.8764	226.4377	216.7201	224.0375	226.132	228.4474	228.4843	236.5087	216.7201
Khagaul_220 kV	227.3	227.9	228.6	228.9	229.3	228.1	225.7	225.2	223.3	222.8	222.5	222.9	226.6	227.9	226.7	226.7	226.4	226.9	225.1	220.3	223	225.9	226.1	226.8	229.3	220.3
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	169	166	163	161	166	191	195	196	186	182	180	166	155	136	140	149	231	183	255	254	244	225	203	181	255	136
08-03-2017																										
Ara_PG_220 kV	230.779	233.1638	233.1638	235.5136	235.5136	230.2956	221.0584	223.434	225.5866	225.5456	225.5456	225.5456	214.6016	220.7466	218.3148	218.3148	218.3038	219.3609	222.8409	218.0047	220.6517	212.4431	214.0668	218.4308	235.5136	212.4431
Khagaul_220 kV	227.8	229.2	229.4	228.2	228.6	227.9	224.5	224.3	224.2	222.9	224.1	223.7	213.2	215.3	215.1	214.1	213	215.6	224.6	220.7	220.4	207	209.8	209.4	229.4	207
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	145	139	135	136	141	123	0	0	0	190	183	163	-134	190	-134
Patna (PG)-Sipara	170	166	169	161	168	189	199	199	188	181	170	89	100	97	77	83	93	225	300	323	136	118	117	258	323	77
09-03-2017																										
Ara_PG_220 kV	227.65	229.952	229.952	232.2532	232.2532	229.9041	227.5636	225.2815	225.2815	227.5616	227.5121	225.2051	227.7516	230.1771	232.5685	232.6412	229.1103	227.5812	220.7404	216.5549	221.262	223.7379	223.8939	226.1823	232.6412	216.5549
Khagaul_220 kV	228.4	229	229.8	231	229.8	229.7	226.8	225.2	225.1	224.5	226.6	225.8	226.6	228.3	229.3	227.6	227.8	226.1	223.7	221.6	224.6	226.1	226.8	227.5	231	221.6
Ara (PG)-Khagaul	-139	-140	-136	-137	-138	-142	-142	-130	-124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-142
Patna (PG)-Sipara	252	251	255	254	250	267	287	282	260	193	190	162	170	168	168	167	198	262	259	255	228	125	207	198	287	125
10-03-2017																										
Ara_PG_220 kV	228.598	230.8719	233.1913	235.5648	233.2071	233.2071	226.2442	228.5489	231.2102	228.8492	231.1832	231.1832	231.1832	231.1832	224.8947	227.254	224.7465	229.5887	222.3964	231.5123	233.8419	236.756	229.4669	234.1229	236.756	222.3964
Khagaul_220 kV	229.1	229.4	230.7	231.3	231.4	230.3	227.8	226.7	228.5	227.3	227.5	228.5	227.8	231	221.9	223.7	221.3	225.5	226.4	228	234.7	231.4	229.7	232.2	234.7	221.3
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	-92	-109	130	132	138	132	177	-43	-122	-95	-94	-103	-130	177	-130
Patna (PG)-Sipara	189	188	189	191	190	209	214	214	219	208	205	191	225	105	105	108	115	141	281	175	218	236	215	114	281	105
11-03-2017																										
Ara_PG_220 kV	236.567	236.5669	236.5669	239.0363	236.6263	236.6263	231.901	234.2227	231.8275	229.3764	227.0694	229.3484	229.3484	229.3483	229.1647	229.1647	229.1647	231.5619	229.2454	223.529	225.6802	228.0245	229.388	227.087	239.0363	223.529
Khagaul_220 kV	235	235.5	236.1	236.5	236.1	232.5	232	233	231	228.7	226.1	228	226.8	229.5	229.3	228.5	229.2	229.3	228.5	226.6	227.2	226.5	227.8	227.5	236.5	226.1
Ara (PG)-Khagaul	-77	-78	-83	-85	-86	-90	-94	-100	-103	-88	-103	-116	-117	-120	-121	-122	-121	-128	0	0	0	0	0	0	0	-128
Patna (PG)-Sipara	157	160	138	140	145	160	180	180	202	209	223	231	211	209	219	214	222	258	244	246	232	205	180	179	258	138
12-03-2017																										
Ara_PG_220 kV	231.952	231.9749	231.9749	236.7899	236.7899	234.3866	229.6626	229.5414	234.4695	229.6163	227.2819	229.7968	232.173	233.9124	230.6225	231.8767	231.8767	227.8506	220.5069	210.4765	222.426	227.5833	228.0607	223.8847	236.7899	210.4765
Khagaul_220 kV	230.2	230.1	231	231.2	231.1	230.5	228.8	228.8	228.8	227.2	226.7	227.4	228.2	229.9	230.9	231.9	232.5	231.1	228	224.2	228	228.4	228.8	229.4	232.5	224.2
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	182	180	170	153	165	172	181	184	182	188	170	164	141	136	134	130	139	182	209	110	104	143	154	153	209	104
13-03-2017																										
Ara_PG_220 kV	225.791	225.8254	228.1874	228.1441	228.3727	226.0367	221.8289	224.3124	224.0819	228.6756	226.1543	226.1543	226.1543	226.1543	228.3389	230.6921	230.648	232.174	222.3188	214.8522	218.6246	221.002	225.515	227.7014	232.174	214.8522
Khagaul_220 kV	230	230.7	231.8	232	232.5	230.7	228.2	228.5	228.3	228.5	229.7	229.2	228.9	228.7	229.7	231	231.6	232.2	230.8	225	226.1	226.7	231.3	232	232.5	225
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	151	145	146	143	146	156	169	164	166	171	177	162	157	155	148	144	150	172	198	197	190	185	166	158	198	143

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Max	Min
14-03-2017																										
Ara_PG_220 kV	229.7	225.4345	225.4345	227.8554	227.8554	223.2437	218.7454	219.9604	222.6136	226.1297	229.781	229.7663	232.1048	230.3152	232.7036	232.7037	232.0913	232.1463	227.086	218.5129	218.3308	220.6727	225.1147	227.6566	232.7037	218.3308
Khagaul_220 kV	232.8	232.2	232.4	232.5	233.2	231.4	228.4	228.4	226.7	225.7	227.4	226.9	228.1	228.5	229.1	230.2	230.3	229	228	224	226.5	225.4	228.9	229.1	233.2	224
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	152	149	142	147	154	155	166	168	170	169	162	149	141	133	128	141	163	207	219	197	200	176	174	164	219	128
15-03-2017																										
Ara_PG_220 kV	230.085	232.3914	232.4471	232.3419	232.1583	229.1474	229.1474	226.3444	230.8303	230.8282	230.7436	228.3745	230.6613	235.3114	227.9336	228.0499	227.9063	227.9063	223.0285	219.6772	218.3806	220.9196	220.5176	220.4198	235.3114	218.3806
Khagaul_220 kV	230.9	230.3	231	231.5	231.7	229.5	228.6	226.8	227.5	227.8	226.9	227.6	228.1	229.9	229.7	229.7	227.6	228.3	227	224	225	225.9	226.5	227.4	231.7	224
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	161	156	150	154	150	176	191	190	183	187	176	164	156	148	149	151	163	220	232	228	220	198	184	168	232	148
16-03-2017																										
Ara_PG_220 kV	223.224	227.7753	227.7488	230.0568	227.6754	225.3577	223.6741	223.4633	225.5071	225.3119	227.1409	229.4424	231.7408	231.7408	235.2192	230.4767	229.7574	229.7572	227.4204	220.1605	220.205	222.5107	220.1324	223.6103	235.2192	220.1324
Khagaul_220 kV	228.7	229.9	230.2	229.8	229.6	229.7	228	226.9	225.7	226.4	225.2	226.2	225.8	227.2	228.9	227.8	227.7	228.5	227.3	223.6	225	226.1	227.3	226.4	230.2	223.6
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	158	150	155	153	157	178	184	185	179	169	126	132	124	114	118	120	121	204	248	243	228	188	158	157	248	114
17-03-2017																										
Ara_PG_220 kV	228.106	233.2041	233.2041	230.9147	233.2105	228.4685	225.8706	225.9724	226.2887	228.416	230.5245	223.285	227.6413	229.95	229.8998	229.9694	229.9339	234.7033	227.4642	217.7823	217.9825	220.2036	220.3881	222.6722	234.7033	217.7823
Khagaul_220 kV	228.5	229.8	229.5	229.2	229	228.8	226.7	225.2	225.3	224.8	224.2	22.8	225.3	227.9	228.1	228	228.1	229	226	222.8	225	226.7	226.6	227.6	229.8	22.8
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	150	143	154	149	169	181	194	188	188	174	167	166	147	151	151	150	167	256	260	271	262	234	196	186	271	143
18-03-2017																										
Ara_PG_220 kV	229.454	229.4978	231.8198	231.8198	231.831	227.1312	227.0247	224.5982	229.8531	229.8029	227.4444	224.9018	227.1852	231.976	234.4724	231.7664	229.7992	232.2028	227.1221	215.5818	217.7722	219.7547	219.7009	222.0034	234.4724	215.5818
Khagaul_220 kV	228.5	228.8	229	229.1	229	228.9	227.8	225.6	225.1	225.2	224.4	225.5	226.4	228.9	229.2	228.9	227.9	228	226	223.4	224.4	226.2	225.3	226.9	229.2	223.4
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	178	181	180	171	187	196	211	213	201	189	184	181	158	160	149	157	152	234	281	281	270	248	221	194	281	149
19-03-2017																										
Ara_PG_220 kV	224.66	229.4091	231.7303	231.7303	229.3815	224.7703	227.1875	224.8199	227.1581	227.3458	227.5101	227.3316	227.0268	231.5291	231.3698	231.3698	228.6565	230.9478	225.8953	211.9239	217.0315	226.6712	226.5894	228.8975	231.7303	211.9239
Khagaul_220 kV	229.1	229.6	229.7	229.6	229.4	228.8	228.2	227.2	227.6	226.3	225.9	228.8	228.6	230	229.2	229.2	229.2	229.3	228.8	226.1	227.3	227.3	226.8	226.7	230	225.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	200	205	201	205	210	216	213	216	206	194	187	179	160	157	151	164	183	230	263	275	261	230	204	186	275	151
20-03-2017																										
Ara_PG_220 kV	231.419	233.7682	231.3991	231.1488	233.5795	228.7821	228.8247	231.2518	229.9748	231.282	229.1286	229.1641	228.0228	235.1533	232.7182	233.8462	231.9319	234.3073	227.2247	222.2103	228.7722	229.0305	231.3843	231.3842	235.1533	222.2103
Khagaul_220 kV	229.8	230	230.1	229.1	229	229.8	227.6	227.6	227.6	225.7	225	225.8	226.6	228.2	230.1	231.1	228.1	229.3	227.8	223.7	225.6	226.8	227.7	228.6	231.1	223.7
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	185	178	173	171	158	205	212	209	201	183	175	153	189	174	166	167	187	225	271	258	259	245	210	185	271	153
21-03-2017																										
Ara_PG_220 kV	236.1	230.5941	230.5734	230.54	232.853	230.4384	230.3677	230.3677	230.3677	230.3677	230.3677	228.1312	228.1312	230.8346	230.8358	230.4752	228.1306	228.1096	225.9947	216.5868	220.7934	220.7935	223.3817	225.6243	236.1003	216.5868
Khagaul_220 kV	229.8	230.2	230.4	230.1	229.2	229.5	227.2	226.2	225.7	225.5	226.2	225.2	226	227.3	225.9	226.3	225.6	227	223.8	222	225.9	225.2	226	226.7	230.4	222
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	193	185	181	178	180	210	206	209	208	187	174	177	171	161	156	162	199	221	274	279	260	246	202	199	279	156
22-03-2017																										
Ara_PG_220 kV	225.624	230.3303	230.3303	230.3303	230.3303	227.8385	227.9167	227.6747	230.3292	230.3292	227.9116	225.9497	223.6931	228.3118	228.5669	230.9839	233.1576	230.6837	225.8549	216.6309	221.054	218.7192	220.9306	225.3803	233.1576	216.6309
Khagaul_220 kV	227.4	227.6	227.8	228	228.2	227.8	226.6	225.8	227.3	224.5	224.3	226.6	227.4	226.8	228.5	227.3	227.9	227.1	224	221.9	224.6	223.9	225.7	226.2	228.5	221.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	185	179	178	189	188	194	220	214	199	204	174	185	250	174	171	174	193	330	286	284	268	260	226	208	330	171
23-03-2017																										
Ara_PG_220 kV	225.402	227.7185	225.3567	227.6614	227.5156	225.0081	229.6272	229.4435	229.4435	231.8615	229.5004	222.2841	222.2841	224.5092	224.4634	222.0952	226.4674	224.1334	224.0867	224.0337	226.5865	217.1088	224.1011	228.6688	231.8615	217.1088
Khagaul_220 kV	227.3	227.6	227.6	227.5	227.5	227.6	227.9	225.5	225.9	225.8	224.8	222.9	221.8	222.7	223	223.2	224	223.6	223.7	221.9	223.6	223.7	225	226.3	227.9	221.8
Ara (PG)-Khagaul	0		0	0	0	0	0	0	0	0	-84	-80	-114	-107	-115	-108	-125	-98	-54	0	0	0	0	0	0	-125
Patna (PG)-Sipara	187	189	182	190	189	207	220	213	206	192	220	232	238	233	224	220	250	292	313	295	280	228	233	202	313	182
24-03-2017																										
Ara_PG_220 kV	228.809	226.4246	226.4247	228.7585	226.3805	226.3803	231.1968	226.488	229.1778	231.5772	231.5346	226.8732	226.8026	229.1274	229.1274	229.0597	228.5607	226.2718	226.2718	224.1651	231.1127	226.3337	228.7242	231.1323	231.5772	224.1651
Khagaul_220 kV	226.5	227	227.1	226.2	226.3	228.2	225.6	225.9	224.3	225.1	223.8	223.1	223	223.2	224.7	225.1	225.2	223.4	221.5	218.9	221.3	222.5	225.3	225.3	228.2	218.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	203	209	203	195	211	209	214	216	206	203	195	194	200	193	196	214	220	271	297	303	276	270	246	221	303	193
25-03-2017																										
Ara_PG_220 kV	227.988	232.7721	230.27	227.9628	227.963	225.7248	228.3046	228.2997	228.4849	228.4671	228.4671	226.0496	228.3306	228.3306	230.3077	227.9434	227.9285	227.9285	223.3059	219.1677	219.2109	219.2109	223.7278	225.9634	232.7721	219.1677
Khagaul_220 kV	226.7	226.8	226.6	227	226.9	225.7	224.7	224.9	224.4	225	222.8	222.6	223.5	225.2	226	226	223.4	223	220.2	218	217.8	220.4	224.1	223	227	217.8
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	222	221	227	207	213	203	219	224	210	203	206	208	186	185	180	93	214	236	304	304	301	274	241	240	304	93
26-03-2017																										
Ara_PG_220 kV	225.963	231.0441	231.0441	231.0441	233.4201	228.7675	231.1783	233.4116	235.8077	238.7999	233.7148	233.7148	231.2221	233.5319	233.507	231.1525	231.1846	231.1846	228.8211	223.0203	225.3453	225.3991	229.9765	227.2402	238.7999	223.0203
Khagaul_220 kV	224	225.6	226.5	226.7	226.5	226.6	225.5	226.5	226.2	225.4	224.5	225.1	225.6	225.5	226.2	227.3	227.5	225.4	224.3	216.9	217.1	219	222.1	223.6	227.5	216.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	227	226	225	214	203	213	204	212	209	197	191	198	215	216	194	204	205	246	282	295	296	269	239	227	296	191

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Max	Min
27-03-2017																										
Ara_PG_220 kV	225.5	225.8	226.4	226.7	226.8	225.8	225	225	224.7	221.8	220.7	220.2	222.4	222.6	223.5	221.2	212.5	212	221.3	221	220.3	222.2	224.5	223.6	226.8	212
Khagaul_220 kV	224	225.6	226.5	226.7	226.5	226.6	225.5	226.5	226.2	225.4	224.5	225.1	225.6	225.5	226.2	227.3	227.5	225.4	224.3	216.9	217.1	219	222.1	223.6	227.5	216.9
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182	185	0	0	0	0	0	0	0	185	0
Patna (PG)-Sipara	218	219	216	215	216	217	233	223	194	203	213	199	197	205	275	117	121	269	300	309	291	276	250	233	309	117
28-03-2017																										
Ara_PG_220 kV	231.036	233.4719	229.256	231.5631	231.5631	229.1801	229.1422	231.5798	229.2564	229.2076	226.8923	224.6118	227.0204	227.0204	231.7072	229.3634	229.3634	227.066	224.7798	219.0398	223.9655	226.217	230.9367	230.9367	233.4719	219.0398
Khagaul_220 kV	225.3	226.2	225.5	225.4	226	226.2	225.4	225.3	225.2	223.6	223.1	221.5	224.4	226.2	225.8	222.5	222.2	222	219.4	216.8	216.3	223	223.2	223	226.2	216.3
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	210	216	210	209	205	202	230	230	214	223	231	216	208	213	205	209	202	262	289	296	288	261	245	228	296	202
29-03-2017																										
Ara_PG_220 kV	228.589	232.0008	231.9453	231.6556	233.9295	231.5623	231.5013	231.7454	231.741	229.4014	229.4015	227.2736	229.578	231.9207	234.2455	231.4283	233.9304	231.5377	229.1688	219.9131	218.8479	223.3045	227.948	227.8938	234.2455	218.8479
Khagaul_220 kV	223	224.7	226	226.2	225.4	225.8	225.9	225.8	225.1	224	223.2	221.6	223.5	225	224.9	225.7	225.1	225.4	222.3	217.7	217.1	219.5	223.2	222.9	226.2	217.1
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	227	224	211	218	214	213	221	220	215	226	232	238	232	236	229	222	219	269	300	308	312	273	243	246	312	211
30-03-2017																										
Ara_PG_220 kV	227.746	227.7459	230.0982	230.0982	232.4201	230.0239	230.0031	232.3388	229.9624	229.0545	229.0545	231.3639	233.7154	238.3862	250.0376	244.3471	227.4527	225.2385	222.9179	216.3697	218.5758	221.2259	221.5202	223.9202	250.0376	216.3697
Khagaul_220 kV	222	221.9	224.6	225.5	225.9	226.2	226.3	225	224.7	223.4	222.3	222.7	225	228.5	230	229.1	228.3	225.1	221.2	214.8	215.6	217.2	218	219.1	230	214.8
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-42	-43	-100	-99	0	0	0	0	0	0	-100
Patna (PG)-Sipara	227	232	225	230	207	216	233	231	215	212	227	220	206	204	201	221	235	322	348	312	303	292	272	249	348	201
31-03-2017																										
Ara_PG_220 kV	223.92	224.4382	225.7104	228.0017	230.5105	228.1995	228.0076	232.7489	227.014	229.6933	227.466	225.1867	229.7218	227.2844	229.3207	229.4207	219.7605	224.5784	222.8609	202.2753	222.6516	220.3316	224.6808	224.8342	232.7489	202.2753
Khagaul_220 kV	220.1	221.5	223.1	224.3	223	224.2	224.2	225.2	225.4	223.4	222.3	223.2	224.4	224.3	224.5	222.8	222.2	221.3	221.4	214.1	214.5	212.7	214.9	216	225.4	212.7
Ara (PG)-Khagaul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Patna (PG)-Sipara	232	243	231	232	217	217	236	218	198	220	217	222	218	233	227	209	218	259	310	309	301	300	271	244	310	198

Annexure- B.13.1

RIO (E)::KOLKATA

MINUTES OF MEETING TO DISCUSS THE ISSUE OF CROSSINGS OF EXISTING 400KV D/C LINES OF IBEUL OVER THE PROPOSED MGR LINES OF OPGC HELD ON 29.03.2017 AT JHARSUGUDA

On 29.03.2017 the same locations were again inspected by representatives of IBEUL, OPGC & RIO (East), the following 4 points of crossing were jointly inspected by the above parties and the following points were discussed and agreed upon:

1. **At CH:16.941Km. between tower no:18 & 19**: IBEUL representative agreed to relocate tower No 19 and increase the height tower no 19 suitably as per the report of RITES mentioned above. OPGC representative agreed to the proposal.
2. **At CH 17.800Km. between tower no 14 & 15 and CH 17.399 Km. between tower no 16 & 17**: The proposed MGR corridor of OPGC and existing 400KV Transmission Line of IBEUL will cross between the above two locations. IBEUL representative proposed to dismantle towers no 15 & 16 and erect one new tower outside the rail corridor of OPGC between tower no 14 & 17, so that both the crossings are avoided. OPGC representative agreed to the proposal.
3. **At CH 20.216Km. between tower no 7A and 8**: IBEUL has proposed to dismantle existing towers 7A and 8 and erect one new tower of DD+25 nearby 7A and connect it directly to tower no 9, so as to maintain statutory clearance as per RITES report mentioned above. OPGC representative agreed to the proposal.

As per the realistic assessment of the site condition after joint inspection, it was felt it may take three months to complete the above work in all respect. Accordingly, IBEUL representative committed to complete the work on or before 30th June 2017 in all respect.

In this regard IBEUL representative intimated that they have already placed a work order to take up this work and shared the same with OPGC.

After completion of the above work the inspection of rectification work done by IBEUL in their line will be again carried out by RITES as per railway guidelines. The observation will be submitted to Dy. Director, RIO East for final clearance.

Since the railway line of OPGC is under construction and yet to be built over the four crossing points, IBEUL may be allowed to charge their dedicated line upto 30.06.2017. The commercial transaction shall be discontinued from 00.00 hrs of 01.07.2017 in case IBEUL fails to meet their commitment by 30th June, 2017.

7/4/17

(S. KEJRIWAL)
Deputy Director
RIO(E), KOLKATA

Annexure- B.13.2A

Sl No	Details of the activity	Resource Status	Target date of Completion	Remarks
A	**TOWER ERECTION(4 Nos are to be Completed)**	**Manpower/Material Availability**		
	Location 9/0	Manpower is available, last lot of material is in transit and will be received by 10.03.2017.	25.03.2017	Foundations for all the 64 towers are complete and 59 towers have been erected. Erection work of three more towers is in progress. All the erection work will be completed by 29.03.2017
	Location 36/0		29.03.2017	
	Location 38/0		25.03.2017	
	Location 39/0		29.03.2017	
B	**STRINGING OF CONDUCTOR ALONG WITH OPGW CABLE**			9 Kms of stringing completed and 2 Kms is in progress. Stringing will be completed by 04.04.2017
	GANTRY - Loc 1/0	Stringing gangs are available.	25.03.2017	
	Loc 1/0 - Loc 3/0		25.03.2017	
	Loc 3/0 - Loc 6/0		28.03.2017	
	Loc 6/0 - Loc 9/0		25.03.2017	
	Loc 9/0 - Loc 11/0		22.03.2017	
	Loc 11/0 - Loc 15/0		22.03.2017	
	Loc 23/0 - Loc 24/0		21.03.2017	
	Loc 24/0 - Loc 25/0		21.03.2017	
	Loc 25/0 - Loc 26/0		22.03.2017	
	Loc 29/0 - Loc 30/0		26.03.2017	
	Loc 30/0 - Loc 31A/0		25.03.2017	
	Loc 31A/0 - Loc 32/0		28.03.2017	
	Loc 32/0 - Loc 33/0		28.03.2017	
	Loc 33/0 - Loc 36/0		04.04.2017	
	Loc 36/0 - Loc 39/0		04.04.2017	
	Loc 39/0 - Loc 42/0 - LILO LOC 008		04.04.2017	
C	**SUBSTATION BAY ACTIVITIES**	Work is in progress.		Information is already sent to M/s SIEMENS the OEM for testing and commissioning of C & R panels. CEA will be intimated for inspection after completion of the testing.
	Erection Of Control & Relay Panel		15.03.2017	
	Cabling. Termination and loop checking		25.03.2017	
	Establishment of voice communication and intertripping.		10.04.2017	
	Testing & Commissioning		31.03.2017	
	Intimation to CEA for bay inspection & charging clearance.		01.04.2017	
D	**Application to CEA for inspection and charging clearance of the transmission line.**	**Application to CEA for inspection and accord charging clearance for the line.**	**05.04.2017**	**CEA will be intimated for inspection after completion of the stringing.**

Annexure- B.13.2B

GRIDCO Limited

(A Govt. of Odisha Undertaking)

Regd. Office : Janpath, Bhubaneswar-751 022, Odisha
Phone : 0674-2541127 Fax : 2543452,
E-mail :dircommercial@yahoo.com, website : gridco.co.in
CIN NO - L40109OR1995SGC003960

By E-Mail/Fax

No. Sr.GM (PP)-54/2012/Part-IV/ 55(6) Dated/ 13/ 04/, 2017

To

Shri A.K.Bandyopadhyay
Member Secretary,
Eastern Regional Power Committee (ERPC)
14, Golf Club Road, Tollygunge
Kolkata, West Bengal-700033.

Sub:-Opening of interim connectivity arrangements/lines of M/s. Vedanta Limited-Odisha-Regarding.

Ref:- 1) Letter of M/s. Vedanta Ltd addressed to CMD, GRIDCO dated 11-04-2017.
2) Letter of PGCIL to ERPC dated 11-04-2017.
3) Minutes of 35th ERPC meeting held on 25-02-2017.

Sir,

Inviting reference to the subject cited above, it is to intimate you that GRIDCO has been availing State entitlement of power from the State dedicated IPP-Unit#2(600MW) of M/s. Vedanta Ltd through the LILO connectivity to one circuit of Rourkela-Raigarh 400kV D/C line and the 400kV D/C Vedanta-Meramundali line. Further, as per the decision taken in the 35th ERPC meeting and recorded in the minutes of meeting under ref (3), the said interim connectivity arrangement with ISTS of M/s. Vedanta Ltd was extended upto 15-04-2017. In case of failure on the part of Vedanta to complete the dedicated line from their generating station to the CTU pooling station as per the extended time line, the CTU is authorised to disconnect the LILO connectivity with effect from 16-04-2017.

However, it is to bring to your notice that, disconnection of the aforementioned interim arrangement of M/s. Vedanta Ltd (LILO) as per the decision taken in the 35th ERPC meeting shall seriously affect the availability of IPP power to the tune of 550MW from M/s. Vedanta Ltd to GRIDCO during this ensuing summer. The demand of the State during summer season comparatively shoots up and remains

GRIDCO
Empowering Odisha

GRIDCO Limited
(A Govt. of Odisha Undertaking)
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CIN NO-L40109OR1995SGC003960

high. Also, hydro power is being utilized judiciously and accordingly reserviour levels of hydro stations of the State are being maintained for catering the State demand upto the end of summer. It is also to be noted here that shortage of power shall severely affect the essential services like emergency power supply to hospitals, supply of water to the general public etc. Moreover, as informed by M/s. Vedanta Ltd vid letter under ref (1), the construction work of 400kV radial line is under full swing and they are expected to complete the same along with statutory clearances by 31st May, 2017. The latest progress report of the said construction work is as submitted by M/s. Vedanta Ltd is enclosed herewith for your reference.

In view of the aforementioned facts and as assured by M/s. Vedanta Ltd to complete aforesaid construction work by 31st May, 2017, it will be in the overall interest of all if the work gets completed by the committed time line. However, it is requested to kindly consider to extend the aforesaid LILO Connectivity of M/s. Vedanta Ltd upto **30th June, 2017** to avoid any kind of eventuality in availability of power to GRIDCO during the summer season and thus demand of the State consumers can be meted out comfortably. It is further emphasized that, the extended time line may not be disturbed under any circumstances.

Therefore, looking at public interest of the State, the interim LILO connectivity of M/s. Vedanta Ltd may please be allowed to continue **till 30-06-2017**.

Encl: As Above

Yours faithfully,

MKDas

Director (Commercial)

C.C to:-1) Shri Ashok Pal, General Manager (CTU-Planning), PGCIL, Fax No: 0124-2571762/011-26601081.
2) The General Manager, ERLDC, 14- Golf Club Road, Tollygunge, Kolkata.
3) Sri. Pankaj Sharma, Plant Head (SSL-Jharsuguda), Vedanta Ltd, Burkhamunda, Kalimandir, Jharsuguda-768202.
3) The CGM (O & M), OPTCL/4) The Chief Load Despatcher, SLDC, Odisha.
5) EA to CMD, for kind information of CMD, GRIDCO.

Weekly Progress report on Construction of Dedicated Transmission Line:

As on dt. 8th April, 2017

Name of Applicant: Vedanta Ltd

1.	Dedicated Connectivity Line	Vedanta Switchyard to PGCIL Pooling station Sundargarh. 400KV D/c Line
2.	Length of Dedicated Connectivity Line	20.345 KM
3.	Type of Conductor	AL 59
4.	Conductor configuration	Twin Conductor
5.	Total Nos. of Transmission line towers	64 Nos.
6.	Tower Foundations Completed	64 Nos.
7.	Tower Erection Completed	61Nos.(Two nos tower erection is in progress)
8.	Stringing Completed	Stringing completed 11.6Km. (Stringing under progress 2.9Km)
9.	Completion Schedule of Dedicated transmission line along with the associated bay at Both ends.	15th April, 2017

Sl No	Details of the activity	Resource Status	Remarks
A	**TOWER ERECTION(3 Nos are to be Completed)**	**Manpower/Material Availability**	
	Location 36/0	Manpower and material are available. Total 3 gangs comprising of 72 persons are working at site.	Foundations for all the 64 towers are complete and 61 towers have been erected. Erection work of balance three towers is in progress.
	Location 38/0		
	Location 39/0		
B	**STRINGING OF CONDUCTOR ALONG WITH OPGW CABLE**	Currently 2 gangs (total 44 persons) are working at site. One more gang of 30 persons will reach site on 16.04.2017 i.e Sunday.	11.6 Kms of stringing completed and 3 Kms is in progress.
	GANTRY - Loc 1/0		
	Loc 1/0 - Loc 3/0		
	Loc 3/0 - Loc 6/0		
	Loc 23/0 - Loc 24/0		
	Loc 24/0 - Loc 25/0		
	Loc 25/0 - Loc 26/0		
	Loc 29/0 - Loc 30/0		
	Loc 30/0 - Loc 31A/0		
	Loc 31A/0 - Loc 32/0		
	Loc 32/0 - Loc 33/0		
	Loc 33/0 - Loc 36/0		
	Loc 36/0 - Loc 39/0		
	Loc 39/0 - Loc 42/0 - LILO LOC 008		
C	**SUBSTATION BAY ACTIVITIES**	Work is in progress	Equipment erection and cabling is complete. Loop checking and commissioning is under progress.
	Erection Of Control & Relay Panel		
	Cabling. Termination and loop checking		
	Establishment of voice communication and intertripping.		
	Testing & Commissioning		

Annexure-B.18

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

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

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

Annexure-B.26

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

Long term issues with real time data availability in eastern region:-

- Another 31 days gone but JITPL data yet be restored by JITPL.(JITPL Stopped reporting to ERLDC since Dec 13,2016)
- No redundant Communication channel in eastern region for real time telemetry over IEC 101, IEC 104 as well as over ICCP protocol.

No VOICE over VOIP

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

Non availability of Unit side data

- Farakka Unit #6, Unit #5 (erroneous data).
- Barh Unit #5 HV data.
- Sagardighi Unit #3.
- Teesta V HPS unit data.
- Rangit HPS GT Data.

OLTC

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

OLTC

19. RANCHI @ 315 MVA 400/220 kV ICT 2
20. RENGALI @ 315 MVA 400/220 kV ICT 2
21. ROURKELA @ 315 MVA 400/220 kV ICT 3
22. CHAIBASA @ 315 MVA 400/220 kV ICT 1
23. CHAIBASA @ 315 MVA 400/220 kV ICT 2
24. CHAIBASA @ 315 MVA 400/220 kV ICT 3
25. SUBHASGRAM @ 315 MVA 400/220 kV ICT2
26. KISHANGUNJ @ 500 MVA 400/220 kV ICT 1
27. KISHANGUNJ @ 500 MVA 400/220 kV ICT 3
28. BARH @ 200 MVA 400/132 kV ICT 1
29. BARH @ 200 MVA 400/132 kV ICT 2
30. LAKHISARAI @ 200 MVA 400/132 kV ICT 3
31. ARRAH @ 100 MVA 220/132 kV ICT 1
32. ARRAH @ 100 MVA 220/132 kV ICT 2

NTPC

- Lalmatia: Partial data is coming.
- Farakka STPS:
  - Unit #5 MW and MVAr data not matching with site data (As per inputs from NTPC, This will be done during overhauling of Unit#5)
  - Unit # 6 LV side not available.
- Nabinagar NTPC :
  - Alternate Data channel not provided.
  - Unit HV side data.
  - **No VOIP.**
- **Barh STPS:**
  - MW/MVAr flow of Patna – 1,Patna – 2 , Gorakhpur – 2, Kahalgaon –2, HV side of Unit #5.

POWERGRID

- **Data Intermittent /not available:**
  - Purnea 400kV (Frequent Failure of RTU)
  - Ranchi 400kV, Baripada, Gaya, Angul, Chaibasa,Banka, Lakhisarai.
- **VOIP for following station not yet provided:**
  - Bolangir , Indravati , Jeypore , Keonjhar
- **VOIP not Working:**
  - Purnea 220 , Baharampur 400kV , Rourkela , Lakhisarai, Rengali,, Dalkhola , Birpara, Kishanganj, ,Pandiabili.

IPP

- **IBEUL :** Data and Voice is not available after opening LILO connection. Stand by channel upto Back up ERLDC not provided.
- **JITPL** : No data as well voice communication available between JITPL and ERLDC.
- TEESTA #3 : VOIP started working. Stand by channel not yet provided.

WBSETCL

- Following station data not available:
  - Dharampur 220,
  - Krishnanagar 220,
  - Hura 220,
  - Foundry Park 220.
  - Dalkhola
  - Bantala
  - Lakshmikantapur
  - New Town
- Sagardighi :
  - Data intermittent.
- **Kolaghat TPS** : Kharagpur #1 MW/MVAR flow not available.

BSPHCL

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

JSUNL

- Data Intermittent /not available:
  - Hatia New 220,
  - Dumka 220.
  - Patratu
  - Deoghar
  - Garwh
  - Goelkera
  - Jamtarta
  - Kendoposi

DVC

- Data Intermittent /not available:
  - Kolaghat
  - Kharagpur
  - Jamuria
- Data Not provided:
  - Giridhi 220,
- Durgapur TPS (DSTPS): Highly intermittent.

GRIDCO

- MW/MVAr flow of Meeramandali – GMR line.
- NALCO Data is not available.

Annexure- B.33

PMU Installation and commissioning status of ER as on 16.02.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
			78			286	175	59	59	42	35	31	31	16	27	
1	ER-II	West Bengal	Arambagh	WBSETCL	CR	3	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
2	ER-II	West Bengal	BAKRESHWAR TPS	WBSETCL	CR	4	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Panel erected. Cable laying pending due to permission issue.
3	ER-II	West Bengal	Bidhannagar	WBSETCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	Panel erected. Cable laying and termination at PMU panel completed. CT/ PT/ DI interfacing pending due to permission issue.
4	ER-II	West Bengal	JEERAT	WBSETCL	CR	2	1	Yes	Yes	done	pending	pending	pending	Pending	pending	After stoppage of work for 2 months due to permission issue, WBSETCL has peovided interfacing point details on 16.02.17. CT cable shortage issue may arise as star point CT connection not available at Jeerat.
5	ER-II	West Bengal	Kolaghat TPS	WBSETCL	CR	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
6	ER-II	West Bengal	KASBA	WBSETCL	CR	3	1	Yes	Yes	done	pending	pending	pending	Pending	pending	After stoppage of work for 2 months due to permission issue, WBSETCL has peovided interfacing point details on 15.02.17. But sub-station in-change informed us that they will not allow us to work from 10.02.17 to 03.03.17.
7	ER-II	DVC	DSTPS	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
8	ER-II	DVC	Kodarma TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	Communication panel does not exist.
9	ER-II	DVC	MEJIA-B	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	Integrated on 07.12.2016
10	ER-II	DVC	Maithon RB TPS	DVC	CR	2	1	Yes	Yes	pending	pending	pending	pending	Pending	pending	Work started on 04.07.2016. Panel shifted. Team demobilised due to access issue and panel location issue.
11	ER-II	DVC	Raghunathpur TPS	DVC	CR	3	1	Yes	Yes	done	done	done	done	Pending	done	Communication link was not available during work.
12	ER-II	DVC	MEJIA	DVC	CR	5	2	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
13	ER-II	DVC	Bokaro	DVC	CR	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.06.2016
14	ER-II	DVC	CTPS(Chanderpura)	DVC	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
15	Odisha	Orissa	Budhipadar	OPTCL	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
16	Odisha	Orissa	MENDHASAL	OPTCL	CR	2	1	Yes	Yes	done	under progress	pending	pending	Pending	pending	
17	Odisha	Orissa	MERAMANDALI	OPTCL	CR	6	2	Yes	Yes	done	under progress	pending	pending	Pending	pending	
18	Odisha	Orissa	RENGALI	OPTCL	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Integration delayed because CAT-6 cable is faulty.
19	Odisha	Orissa	U.KOLAB	OPTCL	CR	2	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
20	Odisha	Orissa	BALIMELA(H)	OPTCL	CR	3	1	Yes	Yes	done	done	pending	pending	Pending	pending	DC supply issue resolved. CT/ PT/ DI interfacing permission required.
21	ER-II	West Bengal	Durgapur	Powergrid	CR	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.05.2016.
22	ER-II	West Bengal	FARRAKA	NTPC	CR	5	2	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	Road permit requested for cable.
23	Odisha	Orissa	Indrawati	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
24	Odisha	Orissa	Indrawati HPS	OPTCL	CR	1	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
25	Odisha	Orissa	JEYPORE	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
26	ER-II	West Bengal	MAITHON	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.06.2016.
27	ER-II	West Bengal	MALDA	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 24.06.2016
28	Odisha	Orissa	Rengali	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 04.05.2016

PMU Installation and commissioning status of ER as on 16.02.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
29	Odisha	Orissa	ROURKELA	Powergrid	Kiosk	5	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 21.04.2016
30	ER-II	West Bengal	Binaguri	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 28.07.2016
31	ER-II	West Bengal	SUBHASHGRAM	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 22.06.2016
32	Odisha	Orissa	Baripada	Powergrid	CR	3	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 30.01.2017.
33	Odisha	Orissa	Bolangir	Powergrid	CR+Kiosk	2	3	Yes	Yes	done	done	done	done	Pending	done	Communication Link not available.
34	Odisha	Orissa	ANGUL	Powergrid	Kiosk	10	11	Yes	Yes	done	under progress	pending	pending	Pending	pending	Work started from 31.01.2017.
35	Odisha	Orissa	Keonjhar	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	done	done	PMU integrated on 18.01.2017.
36	Odisha	Orissa	Jharsuguda	Powergrid	Kiosk	8	9	Yes	Yes	done	done	done	done	done	done	PMU integrated on 29.07.2016
37	Odisha	Orissa	GMR	GMR	Kiosk	3	4	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
38	ER-II	Sikkim	RANGPO	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	Pending	done	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mtrs. Will be integrated on Mar 2017.
39	ER-II	West Bengal	Baharampur	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	done	done	PMU integrated on 10.05.2016
40	ER-II	West Bengal	Birpara	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 15.07.2016.
41	ER-II	DVC	CTPS B	DVC	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
42	ER-II	DVC	KALYANESWARI	DVC	CR	4	1	Yes	Yes	done	done	done	done	done	done	PMU integrated on 02.01.2017.
43	ER-II	DVC	PARULIA	DVC	CR	5	2	Yes	Yes	done	done	under progress	pending	Pending	pending	Work started again from 31.01.2017.
44	ER-II	West Bengal	Purulia PSP	WBSETCL	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
45	ER-II	Jharkhand	Bokaro TPS	DVC	CR	1	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
46	ER-II	West Bengal	Durgapur TPS	DVC	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
47	Odisha	Orissa	TTPS(Talcher)	OPTCL	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
48	Odisha	Orissa	TALCHER	NTPC	CR	5	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
49	ER-II	Sikkim	TEESTA	Powergrid	CR	1	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
50	Odisha	Orissa	Uttara	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	pending	Communication link from s/s to ERLDC and NTAMC to be provided by PGCIL.
51	Odisha	Orissa	Jindal	JITPL	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
52	Odisha	Orissa	Monnet	Monnet	CR	1	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
53	Odisha	Orissa	Strelite	Strelite	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
54	Odisha	Orissa	Ind barath	Ind barath	Kiosk	1	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
55	ER-II	Sikkim	New Melli	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
56	ER-II	Sikkim	TT Pool	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
57	ER-II	West Bengal	Alipurduar	Powergrid	CR	6	7	Yes	Yes	partially done	partially done	pending	pending	Pending	pending	Work started on 22.12.2016. 4 PMU panels and network panel installed. Rest 2 PMU panels could not be erected because location not finalised. Cable laying and termination at PMU panel completed for 6 feeders. CT/PT interfacing pending due to unavailability of shutdown. PGCIL is asking to take DI points from field, which is not in scope. Work is held up. Team demobilised.
58	ER-II	West Bengal	Rajarhat	Powergrid	CR	2	1	Yes	Yes	done	pending	pending	pending	Pending	pending	Work withheld due to localite agitation issue.
59	ER-I	Jharkhand	JAMSHEDPUR	Powergrid	CR	6	2	Yes	Yes	done	done	done	done	done	done	PMU integrated on 14.02.2017
60	ER-I	BIHAR	Kahalgaon(KHSTPP)	NTPC	CR	6	2	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Scheduled to start from 20.02.2017
61	ER-I	BIHAR	Purnea	Powergrid	CR	6	2	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
62	ER-I	BIHAR	PATNA	Powergrid	Kiosk	6	7	Yes	Yes	pending	pending	pending	pending	Pending	pending	Work started from 16.02.2017.

PMU Installation and commissioning status of ER as on 16.02.2017

S.No	Region	State	Sub-Station	Owner/ Utility	S/S type	PMU	TOTAL PANEL QTY	PMU Delivery status	Cable Delivery status	Erection	Cable laying	CT/PT/DI termination	Commissioning	Integration	SAT	Remarks
63	ER-I	Jharkhand	RANCHI	Powergrid	Kiosk	12	13	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	1 panel not delivered. Way bill requested.
64	ER-I	BIHAR	SASARAM(Pusauli)	Powergrid	CR+Kiosk	9	3	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Panel not delivered due to road permit issue.
65	ER-I	BIHAR	BARH	NTPC	CR	4	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	Panel delivered. Road permit for cable pending.
66	ER-I	BIHAR	LakhiSarai	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	done	SAT completed. PMU not integrated because FO cable was not delivered due to road permit issue.
67	ER-I	BIHAR	BANKA	Powergrid	Kiosk	4	5	Yes	Yes	done	done	done	done	Pending	pending	SAT pending. PMU not integrated because switch was not delivered to site. Switch in transit.
68	ER-I	Jharkhand	Chaibasa	Powergrid	Kiosk	4	5	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Road permit pending for FO cable and switch.
69	ER-I	BIHAR	765kv Gaya	Powergrid	Kiosk	11	12	Yes	Yes	done	done	done	done	Pending	pending	Splicing of FO is under progress.
70	ER-I	Jharkhand	765/400kV Ranchi (N)	Powergrid	Kiosk	8	9	Yes	Yes	done	done	under progress	pending	Pending	pending	CT interfacing was allowed from 15.02.2017.
71	ER-I	Bihar	Biharshariff	Powergrid	CR	9	3	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Panel not delivered due to road permit issue.
72	ER-I	Bihar	MUZAFFAPUR	Powergrid	CR	5	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
73	ER-I	Jharkhand	Daltonganj	Powergrid	Kiosk	2	3	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Road permit for Switch is pending.
74	ER-I	Bihar	Kishanganj (karandegh	Powergrid	CR	4	1	Yes	Yes	done	done	done	done	Pending	under progress	S/S couldn't be integrated because distance between PMU panel and SDH is more than 100 mts.
75	ER-I	Jharkhand	Jharkhand Pool (Chand	Powergrid	Kiosk	4	1	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	Scheduled to start from 22.02.2017
76	ER-I	Jharkhand	Patratu	Jharkhand	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
77	ER-I	Jharkhand	Tenughat	Jharkhand	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
78	ER-I	Bihar	Barauni PP	Bihar	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.

ER PMU site activity Summary:

Sl. No.	Region	Utility	As per approved BOQ		Supplied		Installed		Commissioned		Integrated to ERLDC/ SLDC	
			No. of Substations	No. of PMU	S/S	PMU	S/S	PMU	S/S	PMU	S/S	PMU
1	ER-I	Powergrid	15	94	12	71	6	37	5	29	1	6
2	ER-I	NTPC	2	10	2	10	0	0	0	0	0	0
3	ER-I	Jharkhand	2	5	0	0	0	0	0	0	0	0
4	ER-I	Bihar	1	0	0	0	0	0	0	0	0	0
	ER-I	**Total**	**20**	**109**	**14**	**81**	**6**	**37**	**5**	**29**	**1**	**6**
1	ER-II	Powergrid	13	42	10	41	10	39	8	33	7	29
2	ER-II	NTPC	1	5	1	5	0	0	0	0	0	0
3	ER-II	DVC	13	37	11	31	9	28	8	23	3	8
4	ER-II	WBSETCL	7	21	6	19	4	12	0	0	0	0
	ER-II	**Total**	**34**	**105**	**28**	**96**	**23**	**79**	**16**	**56**	**10**	**37**
1	Odisha	Powergrid	10	38	10	38	10	38	9	28	5	20
2	Odisha	OPTCL	8	19	6	16	4	13	1	2	0	0
3	Odisha	NTPC	1	5	0	0	0	0	0	0	0	0
4	Odisha	IPP	5	10	1	3	0	0	0	0	0	0
	Odisha	**Total**	**24**	**72**	**17**	**57**	**14**	**51**	**10**	**30**	**5**	**20**
	ER	**Total**	**78**	**286**	**59**	**234**	**43**	**167**	**31**	**115**	**16**	**63**

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

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

Annexure – B.34

AVAILABILITY STATUS OF EVENT LOGGER, DISTURBANCE RECORDER & GPS

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

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

Eastern Regional Power Committee

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

1) As per 100th OCC meeting held on 22.08.2014, the status of ERS towers as available in Powergrid is as given below:

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

2) As informed by OPTCL, the present status of ERS towers in OPTCL system is as follows:

- 220 kV ERS towers: 42 nos located at Mancheswar, Chatrapur & Budhipadar
- 400 kV ERS towers: 2 nos located at Mancheswar.
- 12 nos. of new 400 kV ERS towers have been approved by Board of Director for procurement in the current financial year. Purchase order has been placed.
- Another, 16 nos of 400 kV towers accompanied with 6 sets of T&P are required.

3) WBSETCL informed that they have placed order for 2 sets of ERS towers on 31.10.2014 and expected by June, 2015.

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

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

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

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

Annexure-C.1

Anticipated Power Supply Position for the month of
May-17

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	3800	2200
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	258	143
		- Central Sector	2938	1662
	iii)	SURPLUS(+)/DEFICIT(-)	-604	-395
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1250	810
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	360	258
		- Central Sector	630	342
	iii)	SURPLUS(+)/DEFICIT(-)	-260	-211
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2760	1681
	ii)	NET POWER AVAILABILITY- Own Source	4876	2685
		- Central Sector	568	364
		Long term Bi-lateral (Export)	1300	967
	iii)	SURPLUS(+)/DEFICIT(-)	1384	401
4		**ORISSA**		
	i)	NET MAX DEMAND	4450	2641
	ii)	NET POWER AVAILABILITY- Own Source	3253	1985
		- Central Sector	1253	740
	iii)	SURPLUS(+)/DEFICIT(-)	56	84
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	5980	3557
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	5980	3557
	iv)	NET POWER AVAILABILITY- Own Source	3649	2138
		- Import from DPL	0	0
		- Central Sector	2722	1400
	v)	SURPLUS(+)/DEFICIT(-)	391	-19
	vi)	EXPORT (TO B'DESH & SIKKIM)	5	4
5.2		**DPL**		
	i)	NET MAX DEMAND	275	194
	ii)	NET POWER AVAILABILITY	426	187
	iii)	SURPLUS(+)/DEFICIT(-)	151	-7
5.3		**CESC**		
	i)	NET MAX DEMAND	2095	1092
	ii)	NET POWER AVAILABILITY - OWN SOURCE	750	489
		FROM HEL	530	339
		FROM CPL/PCBL	0	0
		Import Requirement	815	264
	iii)	TOTAL AVAILABILITY	2095	1092
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	8350	4843
	ii)	NET POWER AVAILABILITY- Own Source	4825	2815
		- Central Sector+Others	4067	1739
	iii)	SURPLUS(+)/DEFICIT(-)	542	-289
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	35
	ii)	NET POWER AVAILABILITY- Own Source	5	3
		- Central Sector+Others	148	88
	iii)	SURPLUS(+)/DEFICIT(-)	68	56
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	20092	12210
		Long term Bi-lateral by DVC	1300	967
		EXPORT BY WBSEDCL	5	4
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	23181	12822
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	1784	-359

Annexure- C.2

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

System	Station	Unit	Size (MW	Period		No. of Days	Reason
				From	To		
DVC	MTPS	7	500	20.05.17	04.06.17	15	Burner Replacement