Minutes

of

126th OCC Meeting

Date: 07.11.2016

Eastern Regional Power Committee

14, Golf Club Road, Tollygunge

Kolkata: 700 033

Eastern Regional Power Committee

Minutes of 126th OCC Meeting held on 21st October, 2016 at ERPC, Kolkata

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

Item no. 1: Confirmation of minutes of 125th OCC meeting of ERPC held on 20.09.2016

The minutes of 125th OCC meeting were uploaded in ERPC website and circulated vide letter dated 06.10.2016 to all the constituents.

Members may confirm the minutes.

Deliberation in the meeting

ENICL vide mail dated 20.10.16 requested for modification in Item No. B.30 (f) which is as given below:

"ENICL updated that the detail assessment for restoration work is under progress and the same will be submitted to ERPC and ERLDC."

With the above amendments, members confirmed the minutes of 125th OCC Meeting.

PART A

(List of Items to be discussed for which the details are given at "Part B")

B.1. Commissioning of new transmission elements in Eastern Region
B.2. Status of projects funded under PSDF schemes
B.3. PSDF funding for the schemes of State utilities for installation of capacitors in their respective network
B.4. Operational load flow study for Off-peak period
B.5. Data for Electricity Generation Targets for the year 2017-18
B.6. Preparation of Load Generation Balance Report (LGBR) of ER for 2017-18
B.7. Persistent under-generation in NTPC plants
B.8. Status of UFRs healthiness installed in Eastern Region
B.9. Healthiness of SPS existing in Eastern Region
B.10. Status of Islanding Schemes of Eastern Region
B.11. Restoration of PLCC system of important lines
B.12. Status update of previous decisions/follow up actions
B.13. Third Party Protection Audit
B.14. Inspection of UFR relays
B.15. Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN
B.16. Certification through BIS as per IS 18001:2007 to all generating/ transmission units
B.17. Formulation of a Skill Plan for Power Sector based on the assessed skill gap in the sector
B.18. Energy Generation data management from Renewable Energy Sources
B.19. Compilation of data for meeting Renewable Energy targets of 175 GW by 2020 -- Reference from MNRE
B.20. Reporting of Energy generated from renewable resources on daily basis
B.21. Data of Peak Demand – Submission of hourly power cut data
B.22. Recovery Procedures of ER Constituents – ERLDC
B.23. Implementation of Automatic Demand Management Scheme (ADMS)
B.24. Transfer capability determination by the states -- Agenda by NPC

B.25. Reasons for demand –supply gap and its variation -- Agenda by NPC
B.26. Long outage of important transmission lines
B.27. Partial commissioning of switchyard equipments at BRBCL, Nabinagar end
B.28. Update on status of telemetry
B.29. Interruption of real time data due to all control centres in ER
B.30. Installation of PMUs in Eastern Region under URTDSM project
B.31. Status of Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipment.
B.32. Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents
B.33. Pollution mapping for Eastern Region
B.34. Mock Black start exercises in Eastern Region
B.35. Restricted Governor Mode of Operation
B.36. Reactive Power performance of Generators and GT tap position optimization
B.37. Consideration of 400kV lines/line segments owned and maintained by DVC as ISTS lines
B.38. Erroneous recording/Non-receipt of data by Interface Meters

PART B: ITEMS FOR DISCUSSION

(Items to be discussed as listed in "Part A")

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 **September, 2016** as informed by ERLDC is given below:

1. 220kV GIS Bays No-211 & 212 of 220kV Gaya-Sonenagar-I & II at Gaya were charged for the first time at 20:20Hrs of 03/09/16.
2. 400/220kV, 315MVA ICT-I & II at Gokarna S/s (WB) were charged for the first time at 18:44Hrs and 19:02Hrs respectively of 15/09/16 from 220kV side no load.
3. 400/220kV, 500MVA ICT-II at New Purnea was charged for the first time on no load at 13:13Hrs of 20/09/16 from HV side and subsequently loaded at 19:58Hrs of 28/09/16.
4. 400/220kV, 500MVA ICT-I at Patna was charged for the first time on no load at 00:18Hrs of 21/09/16 from HV side and subsequently loaded at 02:02Hrs of 22/09/16.
5. Opening of LILO of 400kV Sasaram-Varanasi at Saranath and charging of 400kV Sasaram-Varanasi (direct ckt) was done at 16:17Hrs of 28/09/16.
6. 400/220kV, 500MVA ICT-III at Baripada was charged for the first time on no load at 14:28Hrs of 29/09/16 and subsequently loaded at 22:48Hrs of 30/09/16.
7. 125MVAr B/R-I at Maithon was charged for the first time at 19:59Hrs of 29/09/16.
8. 125MVAr B/R at Baripada was charged for the first time at 05:52Hrs of 30/09/16.

JUSNL informed that following has been charged on September, 2016:

9. 132/33 KV GSS Manoharpur charged on dated: 08/09/2016 with
    a. 132 KV, Goelkera-Manoharpur TL charge on dated 08/09/2016, time-1:02PM.
    b. 50 MVA, T/F No-1,charge on dated 08/09/2016, time-1:55PM
    c. 50 MVA, T/F No-2,charge on dated 08/09/2016, time-5:40PM
    d. 33Kv, bay no-302, charge on dated 08/09/2016, time-6:50PM
    e. Load taken by supply Manoharpur on dated 09/09/2016, time-7:05PM.

Other constituents may update (if any).

Deliberation in the meeting

It was informed that NHPC vide letter dated 17.08.16 declared the COD of Unit #4 (40 MW) of Teesta Low Dam HEP, Stage-IV & COD of Power Station as a whole w.e.f. 00:00 Hrs of 19.08.16.

It was also informed that WBPDCL has declared the COD of Unit-III (500 MW) of Sagardighi Thermal Power Station Extension project w.e.f. 00:00 Hrs of 01.07.16.

Members noted.

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

In the PSDF review meeting held on 29.04.16 at N. Delhi, 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 by WBSETCL, OPTCL & ERPC is as given below:

SN	Name of Constituent	Name of Project	Date of approval from PSDF	Target Date of Completion	Amount approved (in Rs.)	Amount drawn till date (in Rs.)	Status as updated in 125th OCC
1	WBSETCL	Renovation & up-gradation of protection system of 220 kV & 400 kV Substations in West 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.	11.05.15	10.05.17	162.5 Cr.	4.91 Cr.	Erection work of the already procured equipment is going on. LOA for eight different types of Testing equipment already placed worth about Rs.4 Cr. Placement of LOA for balance equipment is under process.
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.	1st Milestone completed
5	*BSPTCL*	*Renovation and up-gradation of 220/132/33 KV GSS Biharsharif,Bodhgaya, Fatuha, Khagaul Dehri-on-sone & 132/33 Kv GSS Kataiya*	*11/5/2015*	*Feb'2017*	*64.22 crore*	*1.219 crore*	*Project is on going*
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.*

In 124th OCC, OHPC informed that they have also applied for PSDF funding for Renovation and up-gradation of protection and control system of OHPC in 2014 and resubmitted again.

OCC also advised JUSNL to prepare a DPR for renovation and up-gradation of Protection & control system as per the recommendations of ERPC team report and submit their proposals to PSDF appraisal committee.

In 125th OCC, MS, ERPC informed that as approved in 124th OCC & 46th PCC the following two DPRs for training of ER constituents are ready for submission to PSDF Appraisal Committee for PSDF funding.

1) Training for Power System Engineers
2) Training on Integration of Renewable Energy resources

Subsequently, the DPR for the above projects are submitted on 22.09.2016.

Other constituents may update.

Deliberation in the meeting

MS, ERPC informed that a DPR for training on Power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents is also under preparation.

OCC appreciated the initiatives taken by ERPC Secretariat and recommended for TCC approval for further submission to PSDF Secretariat.

Item No. B.3: PSDF funding for the schemes of State utilities for installation of capacitors in their respective network

MS, PSDF Appraisal Committee vide letter dated 22.06.16 & 30.09.16 intimated that the Assessment of the Capacitor requirement may be carried out at regional level by the utilities or by engaging expert agency (like CPRI). Letters from PSDF Secretariat are attached at **Annexure- B.3**.

The outcome may be intimated to the PSDF Secretariat on urgent basis for consideration of these projects.

WBSETCL may respond.

Deliberation in the meeting

MS, ERPC informed that outcome of the assessment study as submitted by SLDC, WBSETCL has already been submitted to the PSDF Secretariat as per the decision of 2nd SSCM for consideration of the project.

OCC advised WBSETCL to approach PSDF Secretariat for the latest status.

Item No. B.4: OPERATIONAL LOAD FLOW STUDY FOR OFF-PEAK PERIOD

Under PSDF funded project for Creation of protection database M/s PRDC have carried out an operational load flow study based on peak data of 26.05.2016. The report is available in ERPC website. During discussions on the study a need was felt for a similar study based on Off-peak conditions.

In 124th OCC, after detailed deliberation, OCC decided that all constituents should provide the relevant data as per the format available in ERPC website for two instances:

- 13:00hrs on 27th August, 2016 &
- 03:00hrs on 28th August, 2016

OCC advised all the constituents to update the Network Data format with network augmentation from 31st May 2016 to 31st of August 2016 in the given format.

Constituents noted and assured to provide the requisite information.

In 125th OCC, PRDC presented the status of the project. PRDC informed that they need snap shot of off-peak data of each sub-station for carrying out off-peak load flow analysis similar to peak load analysis.

Off peak Data are not yet submitted by Powergrid, DVC, BSPTCL & JUSNL.

OCC requested the respective utilities to submit the off-peak data as collected during 27th & 28th August, 2016 and also the changes in network during the period of May-August, 2016.

PRDC/ Members may update.

Deliberation in the meeting

PRDC presented the status of the data received for 27th & 28th August, 2016 and the following information was shared by M/s PRDC:

i) Data availability from WB was scanty. WBSETCL representative committed to give the data
ii) ERLDC SCADA data for off peak times considered appeared to be on the higher side.
iii) It was suggested that off peak load of a different day may be considered and load may be apportioned among states based on SCADA data of 27/08/2016 at 13:00 Hrs. or 28/08/2016 at 03:00 Hrs. However, it may not be possible to match SCADA line flows.
iv) After much deliberation members decided that the off peak load flow study will be carried out with load generation scenario of 27/08/2016 at 13:00 hours as per the generation demand scenario data given by ERLDC on 4th. October 2016.
v) The data for 28/08/2016 at 03:00 Hrs. will not be considered as off peak condition as the regional demand is at this hour is very high
vi) It was also decided that a second study on off peak load flow may be carried out in winter for a better estimation of light load scenario
vii) PRDC will interact with respective SLDCs to collect remaining data for operational load flow.

Further, PRDC informed that 27th & 28th August, 2016 the total regional demand figures are almost equals to peak load scenario of previous study and it cannot be treated as off-peak scenario.

OCC felt that another set of data may be collected during lean winter for simulation of off-peak load flow scenario.

Further, OCC advised PRDC to complete the study with the data of 27th & 28th August, 2016.

*PRDC also gave a General Update regarding Data collection and Network modeling activities completed. The status as on 30.09.2016 is given at **Annexure-B.4**. PRDC informed the following regarding the progress of the project:*

- *1st Training on Protection setting calculation was successfully completed in first week September (5th-9th).*
- *Delivery of 32 licenses as per contract was preponed for enabling training, familiarization & capacity building.*

- *A Blog has been made operational for users of PSCT who were given license during training program. This forum will be utilized for technical discourses and sample studies with PSCT software.*
- *Hardware delivery is expected in 1st week of November,2016.*
- *An access will be given to Odisha within the next 10 days to enable online checking of relay data.*
- *Pilot state (i.e. Odisha) full readiness is expected by 15th November, 2016.*

Item No. B.5: Data for Electricity Generation Targets for the year 2017-18

The annual exercise of assessment and finalization of the generation targets and the planned maintenance schedules of the generating units for the year 2017-18 is being initiated by CEA. **As decided by Ministry of Power and CEA, this activity needs to be preponed by two monthsfor some Planning and Managerial activity**. Although the generation performance of the various stations and their planned & forced outages are regularly monitored in CEA but for a more realistic projection of month-wise generation targets the respective Station Authorities are requested to tweak their maintenance schedule.

While monitoring the generation performance during the current financial year, it has been observed that power utilities are facing the problem of loss of generation due to no / low schedules, high fuel costs and other technical and commercial and transmission etc. issues. Accordingly, it is requested that the following inputs may kindly be submitted to this office as per the enclosed **formats (given at Annexure-B.5)**:

i) The unit wise yearly generation (with unit -wise monthly breakup) proposed during 2017-18 as per the format given along with the fuel availability, the anticipated loss of generation on account of various reasons such as grid constraint, low schedule/ reserve shut down due to high cost, poor quality coal/lignite etc, if any, may also be furnished (**Annex-I (2 to 6))**

ii) Utilities who have their Power Purchase Agreement (PPA) with various Discoms, Trader, States etc, details may be furnished in MW for Long, Medium and Short term to enable us to assess the expected generation for next year (**Annex –I (point no 7)**).

iii) The details of coal linkage from coal agencies and availability of secondary fuel oil/gas/ liq fuel may also please be furnished (**Annex- I (point no 8 (a) and (b)**). Production cost, Unit wise cost of generation and rate of sale of power may also be furnished. **(Annex – I (point 9))**

iv) Details of unit-wise schedule of Planned Maintenance as approved by the respective RPCs (Regional Power Committees), unit-wise R&M planned to be carried out during 2017-18, may also be considered for deciding the generation targets (**Annex- II**).

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

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

1. Sarita Sewak, Director, sewak_sarita@nic.in - 9810506491
2. Anil Kawrani, Deputy Director, anilkawrani@nic.in -01126732650

ERPC vide fax message dated 31.08.16 has requested all the respective utilities to submit the desired information.

125th OCC requested all the utilities to furnish the desired data in the format **(given at Annexure-B.5)** *to CEA at the email address* ***targetopmcea@gmail.com*** *with a copy to ERPC (e-mail:* ***mserpc-power@nic.in****).*

Subsequently, CEA vide letter dated 26.09.16 intimated that the following information is required at the earliest for realistic assessment of Generation targets from all utilities:

- Maintenance schedule of various power stations during the year 2017-18.
- Statewise Energy requirement in the following format:

State Name	Energy Requirement during 2016-17 (MU)	Energy Requirement during 2017-18 (MU)	% growth in Energy Requirement

Also please note that above data is required for the Annual Exercise of assessment and finalization of Generation Target for the year 2017-18 and in this regard all generating utilities / power stations in your region has already been sent the data formats for submission of the required data by CEA.

CEA vide letter dated 28.09.16 intimated that the assessment and finalization of generation targets is the annual exercise of CEA which is going on for year 2017-18. Since this exercise has been pre-poned by two months as per instructions of MoP, the demand assessment and maintenance schedule of each generating units for the year 2017-18 has to be assessed on the basis of actual demand and actual machine position of generating stations upto September,2016.

It is requested to all the State Load Dispatch Centre of Eastern region to arrange data in regard to energy requirement and the demand growth of their respective state and submit in the monthly OCC meeting to be held in October,2016.

Members may furnish the above data. CEA may elaborate.

Deliberation in the meeting

WB and DVC informed that they have submitted the requisite data to CEA.

Further it was informed that NHPC (Teesta-V & Rangit), NTPC, Kurichhu & Chhukha HEP Bhutan, WBPDCL, DPL, OPGC, OHPC, DVC, JITPL, GMR have submitted the requisite data.

House was informed that a separate meeting will be held at ERPC, Kolkata on 4th November, 2016 for assessment and finalization of generation targets.

OCC advised all other generating units to communicate the requisite data to CEA with a copy to ERPC.

Item No. B.6: Preparation of Load Generation Balance Report (LGBR) of ER for 2017-18.

As per the IEGC under Clause 5.7.4 of Principal Regulations, first amendment in 2012 under sub-Regulation (a), (b), (c) and (d) states that

a) "The RPC Secretariat shall be primarily responsible for finalization of the Annual Load Generation Balance Report (LGBR) and the annual outage plan for the following financial year by **31st December of each year**. The LGBR shall be prepared by the respective RPC Secretariat for Peak as well as Off-peak scenarios".

b) "Each SLDC shall submit LGBR for its control area, for Peak as well as Off-Peak scenario, by **31st October** for the next financial year, to respective RPC Secretariat".

c) "RPC Secretariat shall then come out with draft LGBR and draft outage plan for the next financial year by **30th November** of each year for the regional grid taking …."

d) "The outage plan shall be finalized in consultation with NLDC and RLDCs. The final LGBR after considering comments/observations of the stakeholders shall be prepared by RPC Secretariat by **31st December of each year**. The……"

So, the planning of maintenance of generating units of various generating companies of the region as well as outage of transmission system on annual basis in respect of Eastern Region for the year 2017-18 is to be finalised by **31st December, 2016**. To facilitate the preparation of LGBR of Eastern Region by ERPC Secretariat within the above schedule period, the following data/ information for the year **2017-18** in respect of the constituents/ generators of Eastern Region is required:

State and Central Sector Generators/ IPPs/CPPs

i) The unit wise and station wise monthly energy generation proposed from existing units during 2017-18 (thermal/hydro/RES).
ii) Annual maintenance programme for each of the generating units (thermal and hydro both).
iii) Generating units under R&M/ long outage indicating date of outage and reasons of outage and expected date of return (thermal and hydro both).
iv) Partial and forced outage figures (in %) of generating units for the last 3 years.
v) Month wise peak demand (MW) – restricted and unrestricted peak demand.
vi) Month wise energy requirement (in MU).
vii) Schedule of commissioning of new generating units during 2017-18 and unit-wise monthly generation programme (in MU).
viii) Allocation of power from new generating units.

CTU / STU / Powerlinks / ENICL/CPTC/PKTCL

Month wise annual planned outage of transmission systems (Transmission lines 220kV and above/ICTs/Reactors/other elements).

It is therefore requested to please send the above information (as applicable) on or before **31.10.2016** for compilation of data and preparation of **LGBR of ER for the year 2017-18.**

Information should be submitted in the form of soft copy through email (mail ID: **rpc.erpc@gov.in / mserpc-power@nic.in**).

Members may submit the data for LGBR by 31.10.2016.

Deliberation in the meeting

ERPC requested all concerned members to submit the data by first week of November, 2016.

Item No. B.7: Persistent under-generation in NTPC plants

It has been observed that NTPC stations(specially FSTPP/KhSTPP) in ER are resorting to persistent under-generation with no generation increase even after issual of messages. At times even when the full DC was scheduled, NTPC has continued under-generation and has hence failed to demonstrate DC even after messages from ERLDC Control room. Also, in several occasions, there was failure in achieving scheduled generation even when schedule of the NTPC stations was increased vide Regulation Up Ancillary services. It may be noted that the above

matters had already been brought to the notice of the OCC forum in the 123rd OCC meeting and it was confirmed that NTPC would need to follow the schedule strictly. However, NTPC has continued such under-generation and in case of failure to generate uptoDC(when full DC is scheduled), NTPC is resorting to downward revision of DC stating reasons as wet coal,etc. Instances depicting above violations would be presented by ERLDC for discussions/suggestions and for conclusion regarding the corrective actions. It may be noted that in case of such continued under-generation, ERLDC may be constrained to resort to classifying such cases as incorrect declaration of DC and proceed as per Clauses of 6.4.19 and 6.4.20 of IEGC. ERLDC may also be compelled to file a petition before CERC in this regard.

In 125th OCC, NTPC explained that the under generation is because of wet coal in the monsoon periods.

OCC took serious note of under generation by NTPC stations of Eastern Region and advice NTPC to strictly follow the schedule. After detail discussion it was decided that ERLDC will monitor the performance of NTPC stations for 15 days and even if the generation does not improve, ERLDC may file a petition before CERC.

ERLDC/NTPC may update.

Deliberation in the meeting

ERLDC presented the SCADA data for NTPC generating stations and explained that the problem of under-generation was continuing even after the advice by 125th OCC.

ERLDC informed that NTPC was consistently declaring high DC, and whenever they were asked to demonstrate DC, they were revising their schedule immediately. Therefore, this could be taken as a failure of DC demonstration.

NTPC explained that there was significant improvement in the schedule compared to last month. They had still some technical problems, which they are trying to address.

OCC took serious note of the situation and advised NTPC to strictly follow the schedule.

OCC advised ERLDC to monitor the performance of NTPC stations till 31st October, 2016 and advised ERLDC to file a petition before CERC if NTPC fails to adhere the schedule.

Item No. B.8: Status of UFRs healthiness installed in Eastern Region

UFR Healthiness Certification for the month of September, 2016 has been received from JUSNL, WBSETCL and CESC only.

Other constituents (DVC, BSPTCL & OPTCL) may submit.

Deliberation in the meeting

*UFR healthiness certification for the month of September, 2016 has been received from all constituents. The same is given at **Annexure-B.8**.*

Item No. B.9: Healthiness of SPS existing in Eastern Region

JITPL, Vedanta & CESC have submitted the healthiness certificate for the month of September, 2016.

GMR, Chuzachen, Powergrid-Odisha & Powergrid ER-II & NTPC may submit the healthiness certificate for September, 2016.

Respective members may update.

Deliberation in the meeting

*SPS healthiness certification for the month of September, 2016 has been received from all constituents. The same is given at **Annexure-B.9**.*

Item No. B.10: Status of Islanding Schemes of Eastern Region

B.10.1: 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 September, 2016 has been received from BkTPS, Tata Power and CESC.

CTPS, DVC may submit.

Deliberation in the meeting

*CTPS, DVC submitted the healthiness certificate. The healthiness certificates are placed at **Annexure-B.10.1**.*

B.10.2: 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 125th OCC, Powergrid informed that PLCC installation work has been completed and commissioning is under progress.

NTPC/Powergrid may update.

Deliberation in the meeting

Powergrid informed that the PLCC installation work has been completed and commissioning will be done by 1st week of November, 2016.

NTPC informed that after the commissioning of PLCC, they may require another 30-40 days to complete the cable termination and integration work. After the completion of installation work a special meeting may be convened to co-ordinate the complete implementation of the Islanding scheme.

OCC decided that a special meeting may be convened in after the completion of all installation and cable termination work by NTPC so that the Islanding scheme could be commissioned by December, 2016.

B.10.3: Bandel Islanding Scheme, WBPDCL

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

In 124th OCC, it was informed that PSDF appraisal committee meeting will be held in September, 2016.

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.

WBPDCL may update the latest status.

Deliberation in the meeting

WBPDCL was advised to submit the reply to PSDF Secretariat at the earliest so that the project may be considered in next Appraisal Committee meeting.

WBPDCL informed that they are preparing the reply to the queries and they may require some information from WBSLDC (WBSETCL). OCC advised WBPDCL to prepare the reply in co-ordination with WBSLDC and submit to PSDF Secretariat at the earliest with a copy to ERPC.

Item No. B.11: Restoration of PLCC system of important lines

In 119th OCC, JUSNL informed that the following:

a) In 220 KV Chandil –Ramchandrapur line auto-reclosure has been enabled and linked with PLCC panels on 09.03.16.
b) In 220 KV Chandil –Ranchi line auto-reclosure has been enabled and termination done in PLCC panels (Auto-reclosure will be in service after testing of PLCC scheduled on 22.03.16)
c) In 220 KV Chandil –Santaldih line auto-reclosure has been enabled and termination done in PLCC panels at Chandil end but due to non-availability of PLCC panels at Santaldih(WBPDCL) end the A/R and PLCC scheme could not be activated.
d) In 220 KV Ramchandrapur-Joda line auto-reclosure has been enabled and termination done in PLCC panels at Ramchandrapur end but due to non-availability of PLCC panels at Joda (OPTCL) end the A/R and PLCC scheme could not be implemented.

Further, it was informed that JUSNL is ready to share their standby PLCC panels (BPL make) with WBPDCL (for Snataldih end) and OPTCL (for Joda end) to complete the PLCC schemes of both the above lines.

In 33rd ERPC Meeting, WBPDCL and OPTCL agreed to settle the issue bilaterally with JUSNL. JUSNL was advised to resolve the AMC related issues with West Bengal & Odissa. All are requested to inform the development to CERC .

Subsequently, a special meeting was convened by JUSNL on 11.07.2016 at Ranchi to resolve the issue at the earliest.

In 125th OCC, OPTCL informed that the order has been placed for PLCC panels without 5 years AMC.

WBPDCL informed that PLCC panels are expected to be delivered by September, 2016.

JUSNL/OPTCL/WBPDCL may update.

Deliberation in the meeting

OPTCL informed that the order has been placed for PLCC panels and supply is expected by December, 2016.

WBPDCL informed that PLCC panels are expected to be delivered by mid November, 2016 and installation by December, 2016.

Item No. B.12: Concerned members may update the latest status.

B.12.1: Commissioning of 400 kV Ind-Bharath to Jharsuguda D/C (dedicated line)

In 121st OCC, IBEUL updated the status as follows:

- All the 125 towers foundations have been completed and 125 have been erected.
- Due to route alignment one tower (i.e. 126th tower) has been increased which is under construction.
- Stringing work of 36.81 km out of 39.74 km line has been completed.
- The bay work at 400 kV Jharsuguda (Kenapalli) S/s has also been completed.
- The line will be commissioned by end of June, 2016.

In 33rd TCC/ERPC it was decided that in line with the direction from CERC (in CERC vide order dated 07.I0.2015 on Petition No. 112/TT'/2013) the LILO may be removed if the target (i.e. July, 2016) is not adhered by Ind-Barath on and from 1st August, 2016 IBEUL will not be permitted to do any transaction—Infirm or firm through the LILO.

In 125th OCC, Ind-Bharath informed that the stringing work for the last stretch is going on and will be completed by October, 2016.

MS, ERPC advised IBEUL to submit all the clearances (CEA clearance etc) by 12th October, 2016 so that a special meeting may be convened within a week after getting the desired information as decided in CEA meeting held on 16.09.16 for issues related to commercial power transaction from IBEUL.

Further, on concurrence from GRIDCO, OCC accepted the COD of Unit-1 of IBEUL with derated capacity of 339.6 MW with effective from 00.00 hours of 20.07.16.

IBEUL may update.

Deliberation in the meeting

Ind-Bharath informed that the CEA inspection for the line has been completed on 17.10.16 and PLCC work is In progress. They are expected to complete the line in all respect by first week of November, 2016.

OCC advised IBEUL to submit all the clearances (CEA clearance etc.) along with completion of line and communication system so that a special meeting could be convened before starting the commercial power transaction from IBEUL for final consideration of all aspects.

B.12.2: Status of construction of 400 kV Sterlite-Jharsuguda D/C sections

In 31st TCC/ERPC followed by 115th OCC Vedanta informed that out of 66 tower foundations, 21 have been completed and rest is expected to be completed by December, 2015. Commissioning of line is expected by 15 April, 2016.

32nd TCC advised Vedanta to strictly adhere to the schedule.

33rd ERPC extended the dead line for removal of LILO till November, 2016 as a last extension.

As a final measure, ERPC decided that Vedanta should give an undertaking in affidavit form to CTU and ERPC stating that the dedicated line will be completed by 30.11.2016. Failing which, CTU/ERLDC is authorized to open the LILO with effect from 01.12.2016. No further discussion would be entertained in ERPC forum on extension/disconnection of LILO after 01.12.2016 and then onwards no power transaction will be allowed through LILO on commercial purpose.

In 123rd OCC, *Vedanta updated that 56 out of 66 foundations and installation of nine towers out of 64 have been completed.*

In 125th OCC, Vedanta updated that 57 out of 66 foundations and installation of 26 towers out of 64 have been completed.

MS, ERPC advised Vedanta to submit the weekly progress report on regular basis.

Vedanta vide mail dated 10.10.16 has submitted the weekly report on progress of line which is given at **Annexure- B.12.2.**

Vedanta may update.

Deliberation in the meeting

Vedanta updated that that 59 out of 64 foundations and installation of 35 towers out of 64 have been completed. They are planning to start the stringing work from this month and the line is expected to be completed by November, 2016.

Regarding charging of 400kV Meramundali-Vedanta line I&II through one main & tie CB from Vedanta end due to incomplete dia, TCC felt that this is violation of CEA regulations.

Vedanta informed that bay extension work is in progress and dia would complete by November, 2016. TCC advised the Secretariat to review the progress in monthly OCC meetings.

In 123rd OCC, Vedanta informed that the scheme was approved by CEA and bay extension work would be completed by November, 2016.

OCC advised Vedanta to submit a copy of the CEA Inspectorate's approval.

Vedanta vide mail dated 26.07.2016 submitted a copy of CEA approval but without the list of equipment for which the approval was granted.

In 124th OCC, Vedanta informed that bay extension work is in progress and dia would be completed by October, 2016.

In 125th OCC, Vedanta informed that bay extension work is in progress and dia would be completed by November, 2016.

Vedanta may update the latest status.

Deliberation in the meeting

Vedanta informed that bay extension work is in progress and dia would be completed by November, 2016.

Subsequently, a special meeting, on the issues related to Vedanta Ltd. was held on 14.10.2016 in the presence of CEA, CTU, OPTCL, GRIDCO, Vedanta, ERLDC & ERPC.

Vedanta may update the latest development.

Deliberation in the meeting

The house was informed of the decision taken in the special meeting held on 14.10.2016. The minutes of the meeting is given at ***Annexure-B.12.2A****.*

Vedanta informed that they are in the process to comply with the decisions taken by the members in the special meeting.

OCC advised Vedanta to comply with all the decisions of the special meeting of 14.10.16 and accordingly it was concurred that the control area jurisdiction of Vedanta Ltd will be shifted from ERLDC to SLDC, Odisha w.e.f 00.00 hrs of 24th October, 2016.

B.12.3: Status of construction of Chuzachen bay at Rangpo S/s.

In 125th OCC, Powergrid informed that the tender document has been submitted to Sikkim in last week. The tender will be floated by Sikkim on e-tender portal of NIC.

Sikkim/Powergrid may update.

Deliberation in the meeting

It was informed that the tender has been floated by Sikkim on 07.10.2016 with opening date of 11.11.2016.

B.12.4: Status of Bus Splitting schemes in Eastern Region

A. Bus Splitting of Powergrid Sub-stations

In 11th SCM held on 20.09.2010 the bus-splitting arrangement with tie line breaker for the following 400kV substations in Eastern Region was agreed to contain the short circuit level below 40kA.

- Maithon
- Durgapur
- Biharshariff
- Kahalgaon

In 118th OCC, Powergrid updated the status as follows:

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

In 121st OCC, Powergrid informed that they are not getting shutdown to complete the work at 400kV Biharshariff S/s.

BSPTCL informed that shutdown for 400kV Biharshariff S/s is not possible before September, 2016.

In 125th OCC, Bihar informed that Biharshariff shutdown can be given after the agumentation of Patna and Purnea ICTs

Powergrid/BSPTCL may update.

Deliberation in the meeting

Powergrid informed that they are not getting shutdown to complete the work at 400kV Biharshariff S/s.

Bihar informed that Biharshariff shutdown can be given after the augmentation of Patna and Purnea ICTs.

In 33rd TCC/ERPC, TCC advised CTU to carry out a final study post bus-splitting and inform ERLDC and ERPC.

In 125th OCC, Powergrid informed that CTU has done the study and they will submit the report soon.

CTU/Powergrid may update.

Deliberation in the meeting

Powergrid informed that CTU has done the study and they will submit the report before TCC meeting scheduled to be held on 19th November 2016.

B.12.5: Bus Splitting of Kahalgaon STPS Stage I&II, NTPC

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

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

In 33rd TCC, 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 package awarded, expected to be completed by August, 2016.
- Transformer package and Shunt reactor– Will be awarded by July, 2016.

In 123rd OCC, NTPC updated that transformer package and Shunt reactor will be awarded within 10 to 15 days.

In 124th OCC, NTPC updated that transformer package and Shunt reactor have been awarded.

NTPC may update.

Deliberation in the meeting

NTPC updated that the status is same.

B.12.6: Maintenance (AMC) of RTU panel installed at Rangit Power Station for Data Telemetry

NHPC vide letter dated 28.07.16 submitted that Rangit Power Station has one no.RTU panel (Make-Alstom, Model-S900) which is being used for telemetering of generation data from Rangit Power Station to ULDC & ERLDC Control Rooms. M/s. PGCIL supplied this RTU panel at Rangit Power Station under ULDC Project at ISGS Station in year 2004. Presently, maintenance of RTU

panel is being carried out by M/s PGCIL (owner of said panel) which is going to be expired by July, 2016.

As per 33rd TCC meeting M/s PGCIL has informed that they are not going to do maintenance of above RTU and NHPC has to take care of maintenance / procurement of RTUs. However, M/s PGCIL is agreed to extend the AMC of these RTUs for further one year. Therefore, NHPC has requested Powergrid to extend the AMC of these RTUs for further one year till the issue gets resolved bilaterally

In 125th OCC, Powergrid informed that AMC for Rangit RTU has been approved by their authorities and the order will be placed shortly.

NHPC/Powergrid may update.

Deliberation in the meeting

Powergrid informed that AMC for Rangit RTU has been approved by their authorities.

B.12.7: 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 125th 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 Dec, 2016.
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)	December, 2016

OPTCL may update.

Deliberation in the meeting

OPTCL updated the status as above.

B.12.8: 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	December, 2016
2.	**Daltonganj 400/220/132kV S/s: Expected by Mar'17**	
a.	Daltonganj (POWERGRID) – Latehar 220kV D/c	By 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.

Deliberation in the meeting

JUSNL representatives were not available in the meeting.

B.12.9: 220 kV inter-connecting lines of WBSETCL with 400/220 kV, 2x315 MVA Alipurduar & 2x500 MVA Rajarhat sub-stations

In 125th 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***)	**Mar, 2017**
2.	**2x500MVA, 400/220kV Rajarhat West Bengal S/S- Expected by Oct, 2016**	
a.	Rajarhat-N. Town-3 (WBSETCL) 220 kV D/C line	Matching
b.	Rajarhat-N. Town-2 (WBSETCL) 220 kV D/C line	*June, 2018*
c.	Rajarhat- Barasat (WBSETCL) 220 kV D/C line	*June, 2018*

WBSETCL may update.

Deliberation in the meeting

OPTCL updated the status as above.

Item No. B.13: Third Party Protection Audit

1. Status of 1st Third Party Protection Audit:

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

Name of Constituents	Total Observations	Complied	% of Compliance
Powergrid	54	37	68.52
NTPC	16	14	87.50
NHPC	1	1	100.00
DVC	40	26	65.00
WB	68	27	39.71

Odisha	59	38	64.41
JUSNL	34	16	47.06
BSPTCL	16	5	31.25
IPP (GMR, Sterlite and MPL)	5	5	100.00

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

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

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

Members may comply.

Deliberation in the meeting

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

2. Schedule for 2nd Third Party Protection Audit:

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

1)	Jeerat (PG)	Completed on 15th July 2015
2)	Subashgram (PG)	Completed on 16th July 2015
3)	Kolaghat TPS (WBPDCL)-	Completed on 7th August 2015
4)	Kharagpur (WBSETCL) 400/220kV -	Completed on 7th August 2015
5)	Bidhannagar (WBSETCL) 400 &220kV	Completed on 8th September, 2015
6)	Durgapur (PG) 400kV S/s	Completed on 10th September, 2015
7)	DSTPS(DVC) 400/220kV	Completed on 9th September, 2015
8)	Mejia (DVC) TPS 400/220kV	Completed on 11th September, 2015
9)	400/220/132kV Mendhasal (OPTCL)	Completed on 2nd November, 2015
10)	400/220kV Talcher STPS (NTPC)	Completed on 3rd November, 2015
11)	765/400kV Angul (PG)	Completed on 4th November, 2015
12)	400kV JITPL	Completed on 5th November, 2015
13)	400kV GMR	Completed on 5th November, 2015
14)	400kV Malda (PG)	Completed on 23rd February, 2016
15)	400kV Farakka (NTPC)	Completed on 24th February, 2016
16)	400kV Behrampur(PG)	Completed on 25th February, 2016
17)	400kV Sagardighi (WBPDCL)	Completed on 25th February, 2016
18)	400kV Bakreswar (WBPDCL)	Completed on 26th February, 2016

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.

In 125th OCC, it was decided to carry out the Third Party Protection audit of 765 kV Gaya, 400 kV Bihar Sharif of PGCIL, 400 kV Nabinagar and 220 kV Bihar Sharif of BSPTCL in Sept/Oct, 2016.

Further, it was also decided that the audit team will be comprised of one member each from DVC, West Bengal, Powergrid, ERLDC and ERPC.

Subsequently, the team has planned to carry out the audit from 01.11.2016.

Members may note.

Deliberation in the meeting

Members noted.

Item No. B.14: 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.

DVC may update the status.

Deliberation in the meeting

DVC informed that the UFR relays at 220/132/33 KV Ramgarh S/s will be replaced by November, 2016.

The proposed UFR audit schedule for second quarter of 2016-17 is placed below:

Sl No	Proposed Date	Substation/feeder inspected by the sub-group
1	Sep/Oct, 2016	132/33 KV Bari Pahari (Bihar Sharif) of BSPTCL
2		132/33 KV Purnea of BSPTCL
3		220/132/33 KV Sampatchak of BSPTCL
4	Nov, 2016	220/132/33 KV Kalyaneswari of DVC
5	NOV, 2016	220/132/33 KV New Bishnupur of WBSETCL
6		132/33 KV Old Bishnupur of WBSETCL
7	Dec , 2016	BRS (Liluah S/Stn.) of CESC

In 125th OCC, it was decided that the third party audit team will carry out the UFR inspection along with third party audit of 132/33 KV Bari Pahari (Bihar Sharif), Nalanda and Rajgir sub-stations of BSPTCL in Sept/Oct, 2016

Subsequently, the team has planned to carry out the audit from 01.11.2016.

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.15: Preparation of crisis management plan for Cyber Security in Power Sector in line with CERT-IN.

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

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

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

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

Members may note and comply.

Deliberation in the meeting

Members noted.

Item No. B.16: Certification through BIS as per IS 18001:2007 to all generating/ transmission units.

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

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 also received certification of IS 18001:2007 from BIS on 29.04.2016.

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

Members may note and update the status.

Deliberation in the meeting

Members noted.

Item No. B.17: FORMULATION OF A SKILL PLAN FOR POWER SECTOR BASED ON THE ASSESSED SKILL GAP IN THE SECTOR

CEA vide letter dated 04.07.16 intimated that a meeting on the above subject was held in the Ministry of Power, New Delhi on 1st July,2016. The meeting was Chaired by the Additional Secretary Shri B.P.Pandey. Power Sector Skill Council (PSSC) made a presentation on the subject. The meeting was attended by the representatives of BEE, PSUs, CEA, PGCIL, NPTI, PFC etc.

The main emphasis made by the Additional Secretary are as follows:

- The Report has to be submitted by PSSC by 10th of July, 2016 clearly indicating the needs of training and sill gaps in power sector.
- All the data captured, analysis made and other facts in the draft skill plan have to be validated by CEA before finalization of the Report.

In this regard officials from PSSC may visit various formations of CEA and / or circulate the Draft Report for obtaining the relevant inputs and validation of the data gathered by them. Chairperson CEA has been appraised of the same.

Further to this, MoP vide their letter No.7/5/2015-T&R dated 01.07.2016 have sought information in the matter. Based on the letter of MoP a proforma has been prepared. It is requested that the relevant information pertaining to the sector/sub-sector as per the attached proforma (Attached at **Annexure-B.17**) may please be sent to CEA (by mail: ceahrd@gmail.com).

124th *OCC advised all the constituents to send the relevant information as per the proforma.*

Constituents may note and comply.

Deliberation in the meeting

Members noted for compliance.

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.

Deliberation in the meeting

Members noted.

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.

In 120th OCC, Concerned State Utilities /Generating companies are requested to submit data of their respective control areas.

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.20: Reporting of Energy generated from renewable resources on daily basis--- ERLDC

Government of India has set an ambitious target to achieve 175 GW of renewable generation by year 2022. Renewable energy sources(RES) development division of CEA alongwith MNRE is continuously monitoring the progress in installation of renewable resources and also collecting actual generation data on monthly basis. However the energy injected from the renewable generating plants into the grid also needs to be monitored on daily basis and incorporated in the reports by NLDC, to determine the correct percentage of energy mix for whole country on any particular day. Thus the renewable generators/ concerned SLDC may furnish following data on daily basis:

a) Grid connected RES whose scheduling and metering is done as regional entity :

   Maximum/Time and energy injected(MWh) for the previous day (from the SEM meters on a daily basis till the AMR is commissioned/working)

b) Grid connected RES which is under state purview:

   Maximum/Time and energy injected(MWh) for the previous day. Concerned SLDCs to compile station wise / connection point wise energy injected into the state grid and send it RLDC on a daily basis.

The above data may be sent by mail to erldc.cal@gmail.com positively by 01:00hrs of the day i.ro data for the previous day. This is essential as the power supply report has to be sent by early morning hours for the previous day.

NTPC Kaniha and All SLDCs may kindly confirm.

Deliberation in the meeting

ERLDC informed that the data for renewable generation on daily basis is required from the constituents.

SLDC Odisha informed that generation data for renewable energy sources connected at 132 kV is possible but at lower voltage level connected to the distribution network is difficult to get. Moreover, the data on monthly basis is possible instead of daily basis.

WBSEDCL informed they will look into the matter and submit the renewable generation data to ERLDC.

OCC advised all the respective constituents to submit the data along with their comments, if any.

Item No. B.21: 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 September, 2016 data has been received from OPTCL, BSPTCL, WBSETCL, CESC.

DVC, JUSNL may furnish the data.

Deliberation in the meeting

It was informed that DVC has furnished the data.

Item No. B.22: Recovery Procedures of ER Constituents – ERLDC

As per IEGC clause 5.8 (b) "Detailed plans and procedures for restoration after partial/total blackout of each user's/STU/CTU system within a Region, will be finalized by the concerned user's/STU/CTU in coordination with the RLDC. The procedure will be reviewed, confirmed and/or revised once every subsequent year".

In 117th OCC, ERLDC informed that all STUs have to develop their own restoration plan and procedure of their state in coordination with ERLDC/ERPC.

If such restoration plans are already available, it may be shared with ERLDC.

The restoration procedure received from DVC, JUSNL and WBPDCL.

In 122nd OCC, ERLDC requested DVC & West Bengal to include restoration plan for priority loads mentioning quantum of load and restoration procedure.

In 123rd OCC, *West Bengal, OPTCL and BSPTCL agreed to submit the restoration procedure within 15 days.*

In 124th OCC, ERLDC informed that OPTCL has submitted the restoration procedure.

Bihar informed that they are preparing the restoration procedure.

ERLDC may update.

Deliberation in the meeting

OCC advised BSPTCL to submit the restoration procedure at the earliest.

Item No. B.23: Implementation of Automatic Demand Management Scheme (ADMS)

Regulation 5.4.2 (d) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code) provides for implementation of demand management schemes by State Load Despatch Centre through their respective State Electricity Boards/Distribution Licensees. This is a basic measure towards ensuring grid security. Due to non-implementation of this scheme so far, CERC vide order dated 31-12-15 on **Petition No. 5/SM/2014** had directed all constituents as follows:

*"However, considering the request of the respondents to grant time to implement ADMS, we grant time till **30.6.2016** to the respondents to implement ADMS, failing which they will be liable for action under Section 142 of the Act for noncompliance of the Regulation 5.4.2 (d) of the Grid Code and order of the Commission. RLDCs are directed to submit the report in this regard by 31.8.2016."*

In 120th OCC meeting, *Powergrid informed that it is possible to implement in new SCADA system. After detailed deliberation, OCC referred the issue to 7th PRM meeting for further course of action.*

In 7th PRM meeting, m*ember Secretary, ERPC briefed the members about the need for compliance of the CERC directive for implementing Automatic Demand Management scheme (ADMS) in their respective systems.*

While discussing the issue in detail, it emerged that this feature can be implemented in ER constituent systems (WB, DVC, BSPTCL, JUSNL and Sikkim), upto 33 kV side as the telemetry of 33kV side has also been included in the SCADA project just implemented.

Regarding implementation of the ADMS in OPTCL, OPTCL informed that they will discuss the matter with appropriate management and will intimate the same at the earliest.

124th OCC advised all the utilities to give the latest status to ERLDC so that a report could be submitted to CERC.

The latest status submitted to CERC on 26.08.2016.

In 125th OCC, ERLDC informed that letters from JUSNL and BSPTCL has been received on implementation of ADMS. However, the detail scheme along with list of feeders as incorporated in ADMS scheme may be prepared and furnished.

OPTCL informed that they have visited Gujrat and collected the desired information regarding the implementation of ADMS and they are proceeding.

OCC advised all the utilities to update the latest status to ERLDC/ERPC.

Members may update.

Deliberation in the meeting

ERLDC informed that they have submitted the report on status of implementation of ADMS to CERC.

Item No. B.24: 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.

In 120th OCC, DVC informed that they are providing the monthly TTC/ATC on their website.

WBSETCL informed that they are calculating the TTC/ATC but their website is under construction.

Bihar and OPTCL agreed to implement.

JUSNL informed that they are unable to compute the TTC/ATC for their state.

OCC advised JUSNL to interact with ERLDC to get acquainted with the ATC/TTC calculation.

In 33rd TCC Meeting, respective members updated the status as follows:

- All the states are computing TTC/ATC except Sikkim and JUSNL.
- DVC is calculating and uploading in DVC website.
- BSPTCL is calculating and uploading through a link in BSPHCL website.
- WBSLDC is calculating but they could not upload due to non-readiness of website.
- OPTCL is calculating and uploading in website.

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.

TCC advised JUSNL to send their representatives to ERLDC so that they could get acquainted with the ATC/TTC calculation procedure. Representative from JUSNL informed that they are ready to send three officers to ERLDC, the names of officers would be shared in tomorrow's ERPC meeting.

123rd OCC advised all the SLDCs to mention the constraints along with ATC/TCC figures.

124th OCC advised all the SLDCs to mention the constraints along with ATC/TCC figures.

Members may note and update.

Deliberation in the meeting

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

Item No. B.25: 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.

125th OCC advised all the constituents to comply.

Members may update.

Deliberation in the meeting

OCC advised all the constituents to comply.

Item No. B.26: Long outage of important transmission elements

a) Non availability of Line Reactor-1 of 400KV Malda-Purnea D/C

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

In 125th OCC, Powergrid informed that it will be commissioned by November, 2016.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that it will be commissioned by November, 2016.

b) 400kV Meramundali-Mendhasal S/C

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

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

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

In 125th OCC, OPTCL informed that the line will be restored by December, 2016.

OPTCL may update.

Deliberation in the meeting

OPTCL informed that the line will be restored by December, 2016.

c) 220kV Gaya-Dehri

Tower collapsed at loc. No275 from Gaya end.

In 122nd OCC, BSPTCL informed that the line will be in service after 4 months.

In 124th &125th OCC, BSPTCL informed that the line will be in service by November 2016.

BSPTCL may update.

Deliberation in the meeting

BSPTCL informed that the line will be in service by November 2016.

d) 400kV Patna-Kishengunj D/C

Tower collapsed at Loc.51.

Powergrid informed that due to water logging problem the work is getting delayed however work is expected to be completed by 15th October, 2016.

In 125th OCC, Powergrid informed that line will be restored by 15th October, 2016.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that line will be restored by March, 2017.

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

Three Nos.Tower(mid river) collapsed.

ENICL may furnish the latest status.

Deliberation in the meeting

ENICL informed that the final assessment is under progress. The same will be submitted to ERPC and ERLDC.

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

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

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

Powergrid/NTPC may update.

Deliberation in the meeting

Powergrid informed that Bus-I has been charged, but Bus-II could not be completed due to non-availability of line shutdown.

g) Main bays at Maithon of 400kV Maithon-Durgapur I & II(Tie elements-Maithon-MPL-I&Maithon-Ranchi respectively)

Powergrid had taken initially shutdown of the bays reportedly due to induction effect in process of commissioning of GIS bay for 3rd 125MVAR Bus Reactor. However, the bays have remained under outage for a significantly long time. Non availability of the bays is leading to tripping/outage of the above mentioned lines in case of shutdown/outage of the lines in the same dia.

In 125th OCC, Powergrid informed that line will be restored by 25/26th September, 2016.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that the lines have been restored.

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 125th OCC, Powergrid informed that reactor will be charged by end of October, 2016.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that reactor will be charged by November, 2016

i) 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.

Powergrid/OHPC may update.

Deliberation in the meeting

OPTCL informed that a CB is being shifted from Mendhasal for replacement of the subjected CB. The installation work will be completed by November,2016.

Item No. B.27: Partial commissioning of switchyard equipments at BRBCL, Nabinagar end-- ERLDC

BRBCL, Nabinagar has been injecting infirm power starting w.e.f March,2016 and subsequently have been granted extension by CERC upto 31/03/17. However, it has been observed that their switchyard equipments have not been completely commissioned. Telephonically it has been intimated that only one 400kV Bus at BRBCL, Nabinagarhas been commissioned. Also, 400kV Sasaram-Nabinagar-I has only been commissioned while the status of Ckt-II is not clear. Also there is some confusion regarding nomenclature of the bays at Sasaram/Nabinagar ends. Accordingly, BRBCL, Nabinagar may kindly present the SLD of switchyard at their end and confirm regarding the present status of Line/equipments(including Line-II). Powergrid may also state regarding the status of bays and the status of the line-II at their end.

Powergrid may update.

Deliberation in the meeting

BRBCL, Nabinagar presented the switchyard SLD (same is given at **Annexure-B.27***), confirming that there was a problem of nomenclature mismatch with Powergrid which has been resolved. Accordingly, the nomenclature of 400kV Sasaram-Nabinagar-II at Nabinagar end has been changed to ckt-I at both Sasaram, Powergrid and BRBCL,Nabinagar ends. Further it was informed that till date the following elements have been commissioned at BRBCL, Nabinagar switchyard:*

i) 400kV Main Bus-I
ii) 400kV Sasaram-Nabinagar-I [Presently connected to Bus-I only through Main bay-411(Future element) and Tie bay-410]
iii) 400/132kV, 200MVA ATR connected to Main Bus-I (through Main bay-407)
iv) GT-I Bay No.401 (Main bay) has been commissioned.
v) Certain other bays have also been completed but could not be completely commissioned due to non-availability of 400kV Bus-II.

On query, Powergrid confirmed that 400 kV Sasaram-Nabinagar-II was idle charged from the designated bays at Sasaram end upto Nabinagar end (last Tower). BRBCL, Nabinagar confirmed that they would soon be completing the balance works for charging the line.

On query, BRBCL furnished the schedule of the balance works to be commissioned which is as given below:

Description	Bay No	Status / Pending Work	Target	Remarks
400kV BUS	BUS-I	commissioned		
	BUS-II	Erection completed; Busbar protection checking pending	25.10.16	Line Shutdown required
GT-1	401	commissioned	27.10.16	
	402	Erection- CT & CB		
		Cable laying & Termination		
		Testing & Pre-Commissioning checks		
	403	Equipment Testing completed only Pre-Commissioning checks yet to be done	27.10.16	
SASARAM Line-1	412	commissioned		
SASARAM Line-2	416	Fdn = 1 set Isolator; Erection = 1set Isolator & 2 no Wave Trap; Line Jumpering	10.11.16	Jumpering at DEAD End Tower by PGCIL (Line Shutdown required)
		Testing & Pre-Commissioning checks		
SCADA		Partially completed	29.10.16	
Speech Communication		Terminal TB to be provided by PGCIL at both end installed PLCC		PGCIL

.
It was intimated to M/S BRBCL, Nabinagar that considering the partial completion of their switchyard and non-commissioning of complete dias of lines/ICTs, the reliability of the evacuation system is being compromised and power evacuation from BRBCL, Nabinagar would be restricted to 50MW maximum.

OCC advised BRBCL, Nabinagar to complete the commissioning of remaining line/bays and ensure availability of data upto ERLDC Control room with establishment of voice communication at the earliest.

BRBCL, Nabinagar informed that Bus-I has been commissioned. Bus-II and ICT-II will be commissioned by end of October, 2016. BRBCL, Nabinagar also assured that availability of data upto ERLDC control room would be established including voice communication at the earliest.

Item No. B.28: Update on status of telemetry

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

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

In 125th OCC, ERLDC presented the updated telemetry status and informed that every month they were posting the updated status at ERLDC website. The updated status is enclosed at Annexure-B.28.

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

Members may update.

Deliberation in the meeting

*OCC advised all the respective constituents to ensure the availability of telemetry data to ERLDC. The updated status is enclosed at **Annexure- B.28**.*

Item No. B.29: Interruption of real time data due to all control centres in ER

There was a total failure of real time SCADA data to all control centres from 05:53 Hrs of 08-August-16. As an interim arrangement, real time SCADA data was restored on 10-August-16 at 03:19Hrs. The root cause is yet to be arrived and fixed. We always talking about the route redundancy in the communication links but it is noticed that redundancy to the communication equipment is also not available.

Presently, with the implementation of new SCADA systems at all the control centres, RTUs has to report to both the control centers i.e. Main as well as Backup control centre.

At a time, only one control centre will act as main and other will be on standby (Hot/Standby architecture)

All communication link i.e. RTU links as well as ICCP data link with constituents may be provided at backup control centre also at the earliest so that real time SCADA data could be available to Backup ERLDC in case of any communication / machine failure at Main Control centre.

It is being requested POWERGRID to provide the redundancy for communication equipment system / route diversity of communication link / redundancy at both the control centres.

In 124th OCC, Powergrid informed that there was some problem in Patna SLDC due to which one ICCP link failed which caused the interruption of data.

OCC advised Powergrid to provide redundancy for communication equipment system / route diversity of communication link / redundancy at both the control centres. Powergrid was also advised to submit a report on the incident and action taken.

In 125th OCC, Powergrid submitted the report which is enclosed at **Annexure-B.29**.

OCC advised all the constituents to go through the report and give their feedback, if any.

Members may update.

Deliberation in the meeting

OCC raised that in case of failure of ICCP link/other communication equipment, how the data availability can be assured at Back-up control centres.

OCC advised Powergrid to submit their detail plan for data redundancy in case of failure of any one communication system at either of the control centres (Main & Back-up).

OCC referred the issue to TCC for further guidance.

Item No. B.30: Installation of PMUs in Eastern Region under URTDSM project

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

In 124th OCC, it was informed that out of 247 PMUs 46 have been installed.

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

In 125th OCC, Powergrid submitted the latest status which is given at Annexure- B.30.

POWERGRID may update the status.

Deliberation in the meeting

*Powergrid submitted the updated status given at **Annexure- B.30.***

OCC advised POWERGRID to share the future installation and substation visit schedule with the members.

Item No. B.31: Status of Disturbance Recorder, Stand alone Event Logger and Time Synchronization equipment.

The status of DR/EL and GPS as updated in previous OCCs is enclosed at **Annexure-B.31**.

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

Members may update.

Deliberation in the meeting

Members noted.

Item No. B.32: Status of Emergency Restoration System (ERS Towers) for Eastern Region constituents

The latest status of Emergency Restoration System (ERS towers) as well as the future plan of procurement was given at **Annexure- B.32**.

Members may update the latest status.

Deliberation in the meeting

Members noted.

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

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

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

In 123rd OCC, members updated the latest status as follows:

Utility	Scope	Installed Locations	Number of locations where 1st set of Measurements Completed	Number of locations where 2nd set of Measurements Completed
JUSNL	67	27	**21**	**19**
BSPTCL	59	52	**52**	**40**
WBSETCL	73	70	**43**	
OPTCL	164	102	**102**	**42**
Sikkim	12	9	**6**	**6**
Powergrid ER 1	99	99	**99**	**47**
Powergrid ER 2	40	40	**40**	**40**
Powergrid Odisha	42	42	**42**	**42**

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

Members may update.

Deliberation in the meeting

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.

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

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

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

Sl no	Name of Hydro Station	Schedule	Tentative Date	Schedule	Tentative Date
		Test-I		Test-II	
1	U.Kolab	Last week of May, 2016	*Completed on 16th July 2016*	Last Week of January 2017	
2	Maithon (To be tested in islanded mode)	1st week of June 2016	*July 2016*	1st Week of February 2017	
3	Rengali	2nd week of June 2016	*Completed on 23rd Sept, 2016*	Last week of November 2016	
4	U. Indarvati	3rd week of June 2016	*Completed on 16th July 2016*	2nd week of February 2017	
5	Subarnarekha	1st week of October 2016	***Completed on 19.10.16***	1st week of January 2017	
6	Balimela	3rd week of October 2016		1st week of March 2017	
7	Teesta-V	2nd week of Nov 2016		Last week of February 2017	
8	Chuzachen	Last Week of May 2016	***Dec, 2016 (after consent from Sikkim)***	January 2017	
9	Burla	Last Week of June 2016	*28th August 2016*	Last week of February 2017	
10	TLDP-III	1st Week of June 2016	Nov, 2016	2nd Week of January 2017	
11	TLDP-IV	Last Week of June 2016	Nov, 2016	1st Week of February 2017	

WBSETCL vide letter dated 27.09.16 on the issue of exemption from Black Start mode and RGMO operation of Purulia Pump Storage Project (PPSP), communicated the system modification around PPSP and requested for conducting studies regarding the Black start at PPSP with the proposed connectivity with all reactors as per the direction of CERC (Copy of letter attached at **Annexure-B.34**).

Members may discuss.

<u>Deliberation in the meeting</u>

*It was informed that JUSNL vide letter dated 20.10.16 informed that mock black start of unit #1 of SRHP has been conducted successfully on 19.10.2016. The black start report as submitted is given at **Annexure-B.34A**.*

ERLDC informed that the PPSP can be run into Black Start mode with the present loading scenario and the future modification of system network may be considered after the commissioning of future elements.

WBSETCL was advised to submit the reasons for not performing the black start operation of PPSP with all the justifications.

OCC refer the issue to TCC for further guidance.

ii) Testing of DG sets meant for Black start

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

Constituents may kindly ensure compliance.

Deliberation in the meeting

Members noted.

Item No. B.35: Restricted Governor /Free Governor Mode Operation of generators in ER

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

In 108th OCC, ERLDC informed that the RGMO/FGMO response of the generators needs monitoring on continuous basis.

OCC advised ERLDC to intimate the event of sudden drop in frequency to the generators and requested all generators to provide the RGMO/FGMO response data to ERLDC during the said incidents.

In 115th OCC, ERLDC informed that for effective monitoring of unit wise governor response, ERLDC proposes to create a web-group wherein SCADA data recorded by ERLDC following an event of sudden load-generation imbalance would be posted within 2-3 days of occurrence of the event. The login id and password to access the web-group would be duly intimated by ERLDC to all concerned.

Coordinators from all the concerned generating stations would post the unit wise MW response as recorded at their respective ends, for a period +/- half-an-hour of the instant, within two days of posting by ERLDC. For the purpose of analysis, wherever significant variation would be observed w.r.t. to SCADA data, generator`s data would be adopted for detailed analysis.

In this connection, SLDCs of E. Region are requested to extend cooperation by coordinating with nodal officers of generators under their respective jurisdiction, in data collection and posting in webgroup.

OCC requested all the constituents to provide their respective e-mails which can be added to the web group.

E-mails can be provided by all SLDCs, Hydro generators of having capacity 10 MW & above and Thermal generators of having capacity 200 MW & above.

SLDCs will co-ordinate with their IPPs of 10 MW & above Hydro generation and 200 MW & above Thermal generation.

Thereafter, ERLDC informed that one web group was formed for sharing governor response of various generators in ER. The url of the group is

https://in.groups.yahoo.com/neo/groups/er_gov_respons/info

ERLDC requested to send email ids where invitation will be sent. Yahoo mail ids are preferable.

In 118th OCC, it was informed that WBSETCL, JUSNL, Bihar, NTPC and NHPC are yet to join the group.

OCC advised all the other constituents to join the web group at the earliest by providing their e-mail ids (preferably yahoo ids).

In 125th OCC, ERLDC explained that the frequency response of none of the ER generators is giving full response (i.e. 70-100 %) however, some of the generators (FSTPS, KhSTPS, BkTPP) are giving responses below 37 % which is not at par.

OCC requested all the generators to look into the matter and share their governor response with ERLDC.

ERLDC may update.

Deliberation in the meeting

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

In 123rd OCC, ERLDC added that this is the best time to put all the generators in RGMO/FGMO mode as the grid frequency is stable and almost close to 50 Hz.

OCC decided that all the generators should put RGMO/FGMO in service from 15th August, 2016.

All generators agreed.

In 124th OCC, DVC informed that all units are in RGMO.

WBPDCL informed that Santaldih U#5 is in RGMO from 16th Aug 2016 and U#6 will be kept in RGMO after overhauling. WBPDCL added that other units are old and not capable to run in RGMO.

In such cases, OCC advised the respective generators to approach CERC for exemption.

In 125th OCC, ERLDC explained that there is not much improvement in the frequency response of ER generators.

WBPDCL clarified that KTPS units cannot be put into FGMO/RGMO as these units are not having Electro Hydraulic Governor (EHG) system.

OCC requested WBPDCL to put Santaldih (U#6) and Sagardighi units on FGMO/RGMO.

Members may update.

Deliberation in the meeting

OCC requested WBPDCL to put Santaldih (U#6) and Sagardighi units on FGMO/RGMO.

Item No. B.36: Reactive Power performance of Generators and GT tap position optimization

In 125th OCC, ERLDC informed that the performance of Teesta-III, DSTPS, Mejia-B and APNRL need improvement..

Generating stations have been monitored for certain sample dates in the month of September,16.

Power Plant	Max and Min Voltage observed for Sep 16 (KV)	Date for monitoring (Sep 16)
Farakka STPS	423,407	7,21
Khalgaon STPS	416,401	6,7
Talcher STPS	407,396	4,24
Teesta	405,392	2,21
Bakreshwar TPS	411,389	5,23
Kolaghat TPS	422,398	5,18
Sagardighi TPS	429,400	7,8
MPL	424,409	6,8
Mejia-B	----	6,8
DSTPS	422,410	6,8
Adhunik TPS	425,406	8,18
Sterlite	413,403	6,8
Barh	----	
JITPL	----	
GMR	412,400	5,24
HEL	----	
Kodarma	424,403	7,8

ERLDC may present the observations.

Deliberation in the meeting

ERLDC presented the response of the generators and members noted.

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.

Deliberation in the meeting

Members noted.

Item No. B.37: Consideration of 400kV lines/line segments owned and maintained by DVC as ISTS lines -- Agenda by DVC

DVC vide letter dated 11.08.2016 informed that the following 400kV lines/line segments owned by DVC and carrying inter-state power as ISTS lines:

1. LILO part (10.5 km) upto RTPS of Ranchi (PG)-Maithon (PG)
2. Termination segment (3.5 km) at DSTPS of the Jamshedpur(PG) line
3. RTPS-Ranchi(PG) line
4. DSTPS-RTPS line

The 400 kV lines under sl no. 1 & 2 are already a part of ISTS lines owned /maintained by CTU for transmitting inter-state power and hence liable to declared as ISTS lines.

In case of lines under sl no. 3 & 4 an in house study has been carried out by DVC in consultation with ERLDC to ascertain flow of ISTS Power through these linesunder different loading conditions and the preliminary study suggests that the 400 kV RTPS-Ranchi(PG) line is of vital importance in relieving the quantum of power transfer through the existing 400 kV Maithon (PG)-Ranchi(PG) line (D/C line with single ckt LILOed at RTPS, DVC) under different contingent conditions. Both the said lines also plays a vital role in evacuation of power from RTPS (2x600 MW) and DSTPS (2x500 MW) to the Central Grid relieving the existing ISTS lines from getting overloaded under contingent conditions, thereby bringing stability in the Eastern grid.

The matter was discussed in 4th SSCM held on 06.06.16 and as directed the details of above four lines along with findings on in-house study were submitted and given at **Annexure- B.37**.

Members may discuss.

Deliberation in the meeting

ERLDC explained that according to CERC regulation, for the certification of ISTS lines the load flow study should be done using WebNet software developed by IIT Bombay. As the present report submitted by DVC is not based on that software so it cannot be accepted.

DVC informed that at present time WebNet is not available to users due to some technical problem in software. So they performed the study using another software.

It was also informed that the lines of OPTCL and WBSETCL are also pending for declaration of ISTS lines because of study by WebNet software. So there should be some solution for carrying out study for declaration of ISTS lines.

OCC felt that this issue need deliberation in the presence of CTU and NLDC and referred the issue to next TCC.

Item No. B.38: Erroneous recording/Non-receipt of data by Interface Meters

A. Erroneous recording of data by Interface Meters

i. Joda(OPTCL)

SEM data received from Joda(OPTCL)endof 220 KV Joda(OPTCL) – Ramchandarpur (JUVNL) line is showing erroneous(15-20% Less recording as compared to Ramchandarpur end) since 14.01.16. Matter was intimated to official of Joda OPTCL. In 119th OCC, OPTCL informed that SEM at Joda end needs to be checked and corrected. OPTCL informed that there is no line CT, so 2 nos SEM for the bus-coupler at Joda end is required. In 121st OCC, ERLDC suggested to place one meter at B/C and to check healthiness of existing SEM at Joda end of Ramchandarpur Line. In the last Commercial Sub Committee meeting, PGCIL informed that SEMs have been arranged and the metering at B/C ofJoda would be completed subject to S/D allowed by

OPTCL. OPTCL may confirm the S/D of 220 KV Joda-Jindal Line so that the meter of the said line may be shifted at B/C.

In 124th OCC, it was informed that the meter is yet to be replaced.

OPTCL informed that the shutdown will be allowed in this week.

In 125th OCC, Powergrid informed that SEM has been provided and voltage and current inputs are to be provided at SEM terminals.

PGCIL and OPTCL may please respond.

Deliberation in the meeting

ERLDC informed that meter has been placed in bus coupler at 220kV Joda.

ERLDC informed that SEM data received from Joda (OPTCL)end of 220 KV Joda(OPTCL) – Ramchandarpur (JUVNL) line is still showing erroneous (15-20% Less recording as compared to Ramchandarpur end) and the same needs to be rectified immediately.

OCC advised OPTCL to check the meter inputs in coordination with Powergrid to settle the issue at the earliest.

ii. Karamnasa(BSPTCL)

Karamnasa end meter NP-6018-B installed for 132 KV Chandauli (UPPCL) line is recording 50 % less as compared to Chandauli end since 14.08.16. It was gathered that there had been some panel replacement work at Karamanasa creating problem to the meter data during shifting work at Karamnasa. The above problem was informed to BSPTCL and PGCIL on 18.08.16 with request to check CT and PT connection at Karamnasa end. However problem is still persisting. At present accounting of ER-NR and BSPHCL is done with Chandauli end meter with no back up meter and validation.

BSPTCL and PGCIL may please update.

Deliberation in the meeting

OCC advised BSPTCL to rectify the SEM connections and settle the issue.

B. By passing of SEMs of Tie Lines

i. Kendiposi at JUSNL

SEM is installed at both end of 132 KV Kendiposi(JUSNL)-Joda (OPTCL) Line. As per the SEM data received from 132 KV Kendiposi(JUSNL), readings of meter (Serial No. NP-6117-A) installed at Kendiposi end of 132 KV Kendiposi-Joda Line is not recording any flow compared to Joda end since long. It was gathered from Kedniposi that line is feeding load to Naumundi (JUSNL) regularly through Transfer Bus of Kendiposi by passing the SEM at Kendiposi.

Further Power from Joda is occasionally received at Main Bus of Kendiposi. In that case Meter installed at Kendiposi end of Joda Line records the energy flow through the line. In absence of non-recording of data by SEM installed at Kendiposi end of the aforesaid Tie line, data validation and energy accounting is being affected. Presently energy accounting is being done considering Joda OPTCL end meter.

Bypassing of SEM installed at Tie line is violation of CEA metering regulation 2006 and the same is needed to be restored**.** One meter at Transfer Bus is required to be installed to record energy

flow through the line. The above matter was last discussed in 33rd TCC/ERPC. Till now the details of SEM installed at Transfer Bus is not received by ERLDC.

In 123rd OCC, It was informed that one meter is to be installed at transfer bus and PGCIL informed that they will install the meter by 31st July 2016.

In 124th OCC, it was informed that JUSNL has to install CVT.

OCC advised JUSNL to install CVT at the earliest.

In 125th OCC, It was informed that the meter has been replaced. JUSNL to share the modem details.

Powergrid/JUSNL may update the status.

Deliberation in the meeting

Powergrid informed that the meter has been replaced.

C. Non Receipt of SEM data from Various Locations

i. Forbisganj at BSPTCL

Kishanganj(BSPTCL) end meter of 132 KV Purnea(PG) Line is not recording any flow compared to Purnea PGCIL end since 14:00 hrs of 29th June 2015. It was gathered that line is feeding load to Farbisganj at BSPTCL regularly through Transfer Bus of Kishanganj bypassing the SEM at Kishanganj. It was decided to place 02 nos of SEM at Forbesganj. In 31st CCM, BSPHCL representative informed that meter has been placed at Farbesgunj on 03.02.2016. In 121st OCC PGCIL informed that DCD for downloading the data has been handed over to BSPHCL. The matter was last discussed in 33rd TCC/ERPC and it was assured that the matter would be resolved at the earliest. However ERLDC has not received the SEM data till now.

In 123rd OCC, BSPHCL informed that software was not updated and they are not able to collect the meter data.

OCC advised PGCIL to look into. PGCIL agreed to look into.

BSPHCL may update.

Deliberation in the meeting

BSPTCL informed the matter will be resolved soon..

ii. Kudra at BSPTCL

SEM data of Kudra end of 132 KV Kudra –Pusauli line is not being sent by BSPTCL since last one month. Further the Kudra end meter is not connected in AMR system which is supposed to be covered in AMR 3rd phase. In absence of Kudra end meter, end to end Validation of SEM data at ERLDC end is not done. The matter is already informed to BSPTCL.

In 125th OCC advised BSPTCL to look into the matter at the earliest.

BSPHCL may please respond.

Deliberation in the meeting

BSPTCL informed the matter will be resolved soon.

D. Installation of SEMs at KBUNL MTPS Stg-II

For Drawl of startup power & injection of Infirm/firm Power from 2X195 MW KBUNL MTPS Stg-II, SEM is required to be installed. As per CEA Metering regulation, Special Energy meter on GTs, STs, all 220 KV Outgoing Feeder along with 220/132 KV Transformers at KBUNL end are to be installed by PGCIL. Meanwhile KBUNL has already installed same type energy meter (L&T Make ER-300P) in all commissioned bays as well as GT, ST and ICT. List of meters installed at KBUNL is enclosed in Annexure-B.38.D. KBUNL had requested PGCIL to use the existing meters till the installation of new meters by PGCIL.

PGCIL may please update.

Deliberation in the meeting

Powergrid informed that presently there is no stock of SEMs and new SEMs are expected to be delivered by November, 2016.

KBUNL informed that they are already having 24 nos. of SEMs installed at the locations as given in the list enclosed at ***Annexure-B.38D****.*

ERLDC informed that they need further four nos. of SEM for Darbhanga and Begusarai feeders.

OCC advised Powergrid to install these 4 SEMs by arranging from KBUNL for which KBUNL agreed to give on temporary loan basis.

Further, OCC endorsed that the 30 nos. of KBUNL SEMs installed at designated locations may be used for accounting purpose and advised ERLDC to start the accounting by using said SEMs.
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PART C:: OPERATIONAL PLANNING

Item no. C.1: Shutdown proposal of transmission lines and generating units for the month of October'16

Members may finalize the Shutdown proposals of the generating stations for the month of November'16 as placed at Annexure-C.1.

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

Deliberation in the meeting

Approved maintenance programme of generators and transmission elements for the month of October, 2016 is given at **Annexure-C.1**.

OCC advised Powergrid to submit the shutdown schedule for replacement of polymer insulators on monthly basis as a separate agenda.

Item no. C.2: Anticipated power supply position during November'16

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of November'16 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.2.

Members may confirm.

Deliberation in the meeting

Modified anticipated power supply position for the month of October, 2016 after incorporating constituents' observations is given at **Annexure-C.2.**

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
STERLITE	2	600	COAL SHORTAGE	12-Sep-16
BARH	5	660	BOILER TUBE LEAKAGE	4-Oct-16
MEJIA	1	210	LOW DEMAND	7-Aug-16
MEJIA	2	210	BOILER TUBE LEAKAGE	29-Aug-16
BOKARO B	1	210	BOILER TUBE LEAKAGE	10-Sep-16
BOKARO B	3	210	LOW DEMAND	10-Aug-16
RAGHUNATHPUR	1	600	COAL MILL PROBLEM	11-Aug-16
KODERMA	1	500	ECONOMIZER TUBE LEAKAGE	28-Sep-16
STERLITE	4	600	COAL SHORTAGE	30-Sep-16
MUZAFFARPUR	1	110	BOILER TUBE LEAKAGE	25-Jul-16
PATRATU TPS	10	110	FLAME FAILURE	2-Oct-16
TENUGHAT	1	210	LOW VACUUM	9-Jul-16
BUDGE-BUDGE	1	250	HIGH TURBINE VIBRATION	27-Sep-16
DPL	7	300	BOILER TUBE LEAKAGE	20-Sep-16
WARIA	4	210	REHEATER TUBE LEAKAGE	5-Oct-16

(ii) Transmission elements

Name of the Line/Element	Outage	Reason
400 KV MEERAMANDALI- MENDHASAL S/C	23/05/16	TOWER COLLAPSED NEAR TO MENDHASAL,LOC NO 180,181,182.
220 KV GAYA-DEHRI-D/C	27/05/16	TOWER COLLAPSED AT LOC NO 275 FROM GAYA END.
400 KV PATNA-KISHANGANJ D/C	26/07/16	TOWER COLLAPSED AT LOC NO 51
400 KV BIHARSARIFF-PURNEA-I	23.08.16	Three numbers of tower are badly damaged at location 46/9, 47/0 & 47/1 (In the mid of river Ganga).
400 KV BIHARSARIFF-PURNEA-II	23.08.16	
220KV WARIA - BIDHANNAGAR-II	10.09.16	LINE UNDER B/D

Members may update.

Deliberation in the meeting

Members noted.

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

New generating units:

S.No.	Power Plant	Plant Size	Expected date

New transmission elements:

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

Members may update.

Deliberation in the meeting

Members noted.

PART D:: OTHER ISSUES

Item no. D.1: UFR operation during the month of September'16

System frequency touched a maximum of 50.24Hz at 18:01Hrs of 02/09/16 and again on 05/09/16 at 18:32Hrs and a minimum of 49.67Hz at 18:53Hrs of 19/09/16. Accordingly, no report of operation of UFR has been received from any of the constituents.

Members may note.

Deliberation in the meeting

Members noted.

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

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

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

No report from any constituent has yet received. Hence, ERLDC would be considering 'Nil' report for all constituents for September'16.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.3: Grid incidences during the month of September, 2016

Sl no	Disturbance Place	Date	Time	Generation loss (MW)	Load loss (MW)	Remark	Category
1	NJP (WBSETCL)	01-09-16	9:41	NIL	170	Due to non-opening of HV side CB of 220/132 kV ICT I & II at NJP (WBSETCL) S/S, LBB operated for Bus I & II at 09:41 hrs. Following elements tripped due to LBBoperation. 220 KV B/C, 220/132 KV ICT I & II at NJP (WBSETCL), 220kV NJP (PG) - NJP (WBSETCL) from NJP (PG) (Breaker is available only at NJP (PG) end	GD1
2	Tenughat, Patratu, Biharshariff	02-09-16	19:32	NIL	690	After tripping of Tenughat #2 (Unit # I was not in service) &Patratu # 10 (Only one unit was in service), 400/220 kV ICT I, II, III at Biharshariff got overloaded (270 MW/ICT) and tripped. So load at Biharshariff, Fatuah, Darbhanga and its surrounded area were being supplied through 220kV Ranchi-Hatia D/c and the line got overloaded. To reduce the loading of this line 220kV Tenughat-Biharshariff S/c was manually opened and power failure occured at Biharshariff, Fatuah, Darbhanga	GD1
3	Begusarai, Biharshariff (BSPTCL)	07-09-16	3:57	NIL	300	At 03:57 hrs, 220 KV Biharshariff – Begusarai – II tripped along with 132 kV Biharshariff – Samastipur, 400/220 kV ICT – II, III and 220/132 kV ATR - I at Biharshariff. On investigation, it was found that R phase jumper of 220 KV Biharshariff – Begusarai – II was snapped at tower location 154 (7km from Biharshariff).	GD1
4	Purnea, Madhepura (PG & BSPTCL) & Nepal	12-09-16	22:40	NIL	380	At 22:40 Hrs, 132 kV Purnea (PG) – Purnea (BSPTCL) – III tripped due to snapping of Y phase jumper near gantry at BSPTCL s/s. At same time, 132 kV Purnea (PG) – Kishangunj – Forbisgunj and 132 kV Purnea (PG) – Purnea (BSPTCL) – I & II tripped from Purnea (PG) end on O/C (as per BSPTCL report). After tripping of above lines, load at adjacent area and Nepal was catered through 220 KV Purnea-Madhepura – I & II which tripped from Purnea end on O/C.	GD1
5	Begusarai, Biharshariff (BSPTCL)	18-09-16	9:28	NIL	130	At 09:28 hrs, 220 KV Biharshariff - Begusarai D/C tripped on Y-B-N fault causing power failure at Begusarai and Darbhanga. Darbhanga was radially supplied from Begusarai with the help of transfer bus of Muzaffarpur (BSPTCL).	GD1
6	Fatuha (BSPTCL)	20-09-16	15:44	NIL	210	At 15:44 hrs, R-Ph CT of 220kV Patna- Fatuah S/c (idle charged from Fatuah end) bursted at Fatuah end. However, the relay at Fatuah end of said line did not operate and 220kV Biharshariff - Fatuha D/c sensed the fault in Z-II and tripped from Biharshariff end resulting total power failure at Fatuha.	GD1
7	Tarkhera (OPTCL)	22-09-16	15:38	NIL	120	At 15:38 hrs, all the feeders connected to Bus – II i.e. 220 kV Tarkera – Rourkela II, 220 kV Tarkera – Budhipadar –II, 220 kV Tarkera - Rengali II, 220 kV Tarkera - RSP – II, 220/132 kV ATR – I, II, III and IV at Tarkera along with B/C tripped due to operation of bus bar protection.	

8	Purnea, Madhepura (PG & BSPTCL) & Nepal	27-09-16	19:00	NIL	260	Charging attempt of 132 kV Purnea - Forbisgunj resulted tripping of 132 kV Purnea - Kishangunj& 220 / 132 kV ICT at Madhepura	
9	Kahalgaon	28-09-16	6:50	-	NIL	Due to B-Phase CT burst of 400 kV KhSTPP - Farakka - II at KhSTPP end, Bus - I along with 400 KV KhSTPP - Farakka - III & IV, 400KV KhSTPP - Barh, 400 KV KhSTPP - Maithon tripped	

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.4: Any other issues.

1. Shut down of 220 KV Birpara-Salakati-D/C

Shut down of 220 KV Birpara-Salakati-D/C for energisation of Alipurduar S/S of POWERGRID. After completion the elements will be 220 KV Birpara-Alipurduar & 220 KV Alipurduar-Salakati-D/C. Similarly, 400 KV Binaguri-Bomgaigaon-3 & 4 also applied for LILO at Alipurduar. After completion the elements will be 400 KV Binaguri-Alipurduar & 400 KV Alipurduar-Bongaigaon respectively. Both the works will be carried out on November'2016.

Deliberation in the meeting

Members noted.

2. Shut down of 220 KV Binaguri-Birpara-D/C

Shut down of 220 KV Binaguri-Birpara-D/C for tower shifting work by Railway. Earlier the S/D was cancelled due to high injection for hydel generations. In view of decreasing hydel generations in November, the S/D may be given.

Deliberation in the meeting

OCC advised Powergrid to avail the shutdown at the earliest as this shutdown may not be allowed durng winter season.

3. Non availability of dedicated 11 KV supply at Berhampur (WBSEDCL) & Rangpo (SIKIM) S/S of POWERGRID.

In both cases POWERGRID has submitted required fees for connection of dedicated feeder, but till date in none of the stations the connection is established. Non-dedicated nature of feeder results in high outages of auxiliary supply which in turn affects the S/S auxiliary system.

Deliberation in the meeting

OCC advised WBSETCL/WBSEDCL to update the status.

Further, OCC referred the issue for guidance of TCC.

4. After tower collapse of 400 KV Biharsariff-Purnea & Patna-Kishanganj, any S/D related to 400 KV Malda-Farakka, 400 KV Malda-Purnea, 400 KV Binaguri-Purnea is not given by NLDC. It may be noted that after receding of high hydro (Expected wthn a Month) this corridor will be carrying high thermal power and taking s/d at that time will be more difficult.

Considering this, applied S/D for before mentioned elements may kindly be agreed for month of November such that during high thermal injection we need not to take such S/D.

Deliberation in the meeting

Members noted.

5. Under ERSS-XII package, 02 No's 220/132 KV, 100 MVA ICT has been upgraded by 160 MVA ICT at Birpara & Siliguri S/S. As off now both transformers are kept at respective S/S. If any constituents require the same the transformer may be refurbished for future use otherwise POWERGRID will decide alternatives.

Deliberation in the meeting

OCC advised all the constituents to intimate Powergrid if there is any requirement of these ICTs.

Meeting ended with vote of thanks to the chair.

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Annexure-A

Participants in 126th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 21.10.2016 (Friday)

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49	S.N. AHMAD	DGM(Comml) BRBCL	9650995147	snahmad02@gmail.com	[signature]
50	H.R. Meena	Mgr (FD) BRBCL, Nabinagar	9431005858	iitm.hemraj@gmail.com	[signature] 21.10.16
51	J. DUTTA	DCE (CE) DVC, KOLKATA	9431515717	jayanta.dutta@dvc.gov.in	[signature]
52	S. K. BOSE	CE (SPE) DVC, Kolkata	8145524994	suman_bose@dvcindia.org	[signature]
53	S.K. Naik	Ch. Mgr (AM) PG-BBSR	9437962169	onmodiszoa@gmail.com	[signature]
54	P. GHOSH	Dy. Mgr (AM)	9434748263	partha.ghosh@powergridindia.com	[signature]
55	Aditya Pyasi	Head Regulatory	9999313479	aditya.pyasi@vedanta.co.in	[signature]
56	Ninad Nigam	Asst. Mgr. Power Regulation Vedanta	9993000757	ninad.nigam@vedanta.co.in	[signature]
57	Preetam Banerjee	SE, WBSEDCL	9432140761	preeban72@gmail.com	[signature]
58	P. P. Jena	AEE ERPC	9776198991	pranayapiyusha@gmail.com	[signature]
59	C. K. Haldar	ACE, WBSLDC	9432209503		[signature]
60	S. Banerjee	SE, WBSLDC	9433437565	svkbanerjee@yahoo.com	[signature]

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

Participants in 126th OCC Meeting of ERPC

Venue: ERPC Conference Room, Kolkata Time: 11:00 hrs Date: 21.10.2016 (Friday)

Sl No	Name	Designation/ Organization	Contact Number	Email	Signature
61	A. Karmakar	Addl. CE/ WBSETCL	9434916090	arit.karmakar@wbsetcl.in	
62	Susmita Mohanty	GRIDCO. Manager	9437231456	ele.smohanty@gridco.co.in	
63	P.R. DE, EE	ERPC	9433125844	rpc.erpc@gov.in	
64	Biswajit Mandal	ERLDC	9903329271	biswajitmondal91@gmail.com	
65	Sunil Sahay	ERLDC	9432013173	Sahay.sunil@gmail.	
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"Coming together is a beginning, staying together is progress, and working together is success." –Henry Ford

Annexure- B.3

POWER SYSTEM OPERATION CORPORATION LIMITED
National Load Despatch Centre
Office Address: B-9, 1st Floor, Qutub Institutional Area, Katwaria Sarai, New Delhi - 110016
Tel: 011-26524521, 26536959 Fax: 011-26524525, 26536901

Ref: NLDC-PSDF/GENERAL/2016-17/ 740 Dated 30th September, 2016

To,

Member Secretary, NRPC, Delhi
Member Secretary, ERPC, Kolkata
Member Secretary, WRPC, Mumbai
Member Secretary, SRPC, Bengaluru

Ref: Letter No. NLDC-PSDF/GENERAL/2016-17/428 dated 22.6.2016

Subject: **PSDF - Funding of the schemes of the state utilities for installation of capacitors in the state network at transmission / distribution network**

Sir,

This is with regard to the schemes of the state utilities for installation of capacitors in the state network at transmission / distribution network for funding from PSDF. An updated list of the schemes for capacitor requirements is enclosed as annexure-I for your kind information.

Vide letter dated 22.6.2016 deliberations of the Appraisal Committee regarding assessment of capacitor requirements in the state network at the regional level to facilitate evaluation of the schemes were communicated. As decided by the Appraisal Committee, it is requested that assessment of capacitor requirement may be carried out at regional level by yourself or by engaging an expert agency.

Outcome may be intimated to the PSDF secretariat on urgent basis, as long time has passed from submission of the schemes by the entities.

Thanking you

Yours faithfully

30/9/16

(K.V.S.Baba)
MS-Appraisal Committee &
ED, NLDC

Copy for kind information to:

1. Chairperson, Central Electricity Authority
2. Joint Secretary, (Trans & OM), Ministry of Power
3. Secretary, CERC
4. CEO, POSOCO
5. Director (OM) Ministry of Power
6. Chief Engineer (NPC) Central Electricity Authority

Annexure-I

POWER SYSTEM DEVELOPMENT FUND (PSDF)

Schemes for requirement of capacitors

Sl. No	Name of State/Entity	Name of Entity & unique ID	Date of Submission of Scheme	Name of Scheme	Estimated cost by entity (Rs. Crore)
I	II	III	IV	V	VI
1	Punjab	PSTCL (60)	24-Jun-15	Installation of 35 nos.,66kV 10.86MVAR HT shunt capacitor at various 220kV substations	8.35
4	Haryana	HVPNL(65)	21-Sep-15	To improve the voltage profile in the Grid by compensating reactive power	37.25
5	Uttar Pradesh	MVVNL (068)	17-Oct-15	Installation of 11kV Auto switched capacitor bank at various 33/11kV substation	294.25
6	PDD J&K	PDD J&K(033)	18-Dec-14	Capacitors at 132/33 kV substations	223.88
2	Gujarat	MGVCL (050)	5-Mar-15	Dynamic reactive power compensation for improvement of voltage profile in the grid	37.15
3	Gujarat	UGVCL(053)	9-Mar-15	Shunt capacitors	54.80
7	Gujarat	DGVCL (071)	10-Dec-15	Installation of reactive power compensation system on 11kV feeders	21.73
4	Maharashtra	MESTCL	20-May-16	Installation of Capacitor Banks at HV & EHV level at various EHV subatations under Nashik & Pune zones in MSETCL	19.49
6	West Bengal	WBSETCL	3-Feb-16	Improvement of State transmission System by proper Reactive power Management with an objective to improve voltage profile by installation of switchable reactor & shunt capacitor in the State as well as National Grid	48.45
10	Telangana	TSTRANSCO	2-Jun-16	Installation & Commissioning of Capacitors Banks at EHT Substations in TSTRANSCO	39.87
11	rajasthan	RRVNL	8-May-16	Installation OF 33 Kv shunt Capacitors in Rajasthan system	29.3
Total					814.52

POWER SYSTEM OPERATION CORPORATION LIMITED
National Load Despatch Centre
Office Address: B-9, 1st Floor, Qutub Institutional Area, Katwaria Sarai, New Delhi - 110016
Tel: 011-26524521, 26536959 Fax: 011-26524525, 26536901

Ref: NLDC-PSDF/GENERAL/2016-17/ 428 Dated 22nd June, 2016

To,

Member Secretary, NRPC, Delhi
Member Secretary, ERPC, Kolkata
Member Secretary, WRPC, Mumbai
Member Secretary, SRPC, Bengaluru
Member Secretary, NERPC, Shillong

Subject: PSDF- Funding of the schemes of the state utilities for installation of capacitors in the state network at transmission / distribution network

Sir,

This is with regard to the schemes of the state utilities for installation of capacitors in the state network at transmission / distribution network for funding from PSDF.

After examination of the schemes submitted by UP, Haryana, Punjab and Gujarat by the Techno-Economic Subgroup in the meeting held on 7th and 8th January, 2016, vide letter dated 10.1.2016 NRPC and WRPC were requested to assess capacitor requirements in the state network at the regional level to facilitate evaluation of the schemes.

In this regard, vide email dated 27.5.2016, NRPC had informed that they were engaging CPRI for the task.

The matter was deliberated by the Appraisal Committee during the meeting held on 31.5.2016. The Committee was of the view that approach followed by NRPC may be followed by other RPCs also. It would assist in fast disposal of the schemes regarding capacitor requirements.

In view of the above, as decided by the Appraisal Committee, it is requested that assessment of capacitor requirement may be carried out at regional level by engaging expert agency like CPRI. A list of the schemes for capacitor requirements is enclosed as annexure-I for your kind information.

Thanking you

Yours faithfully

(K.V.S.Baba)
MS-Appraisal Committee &
ED, NLDC

Copy for kind information to:

Chairperson, CEA / JS (TRANS) MOP / Director (OM) MOP / Chief Engineer (NPC) CEA/ CEO-POSOCO

Annexure-B.4

List of Substations visited in Odisha

Sl.No.	Date of visit	Station name	Owner	Status
1	08-06-2016	Mendhasal	OPTCL	COMPLETED
2	08-06-2016	Chandaka	OPTCL	COMPLETED
3	09-06-2016	Meramundali	OPTCL/PGCIL	COMPLETED
4	09-06-2016	Atri	OPTCL	COMPLETED
5	09-06-2016	Khurda	OPTCL	COMPLETED
6	10-06-2016	Bidanasi	OPTCL	COMPLETED
7	10-06-2016	Nayagarh	OPTCL	COMPLETED
8	10-06-2016	Bhanjanagar	OPTCL	COMPLETED
9	11-06-2016	Narendrapur	OPTCL	COMPLETED
10	11-06-2016	Cuttack	OPTCL	COMPLETED
11	12-06-2016	Aska	OPTCL	COMPLETED
12	12-06-2016	Purusottampur	OPTCL	COMPLETED
13	13-06-2016	Angul 765	PGCIL	COMPLETED
14	13-06-2016	Angul 132	OPTCL	COMPLETED
15	13-06-2016	Berhampore	OPTCL	COMPLETED
16	14-06-2016	Chhatrapur	OPTCL	COMPLETED
17	14-06-2016	JITPL (Derang)	JITPL	NR and Generator data pending
18	15-06-2016	GMR Kamalanga TPS	GMR	COMPLETED
19	15-06-2016	Jindal steel and power Ltd. (Angul)	JSPL	COMPLETED
20	16-06-2016	Talcher(old) TPS	NTPC	COMPLETED
21	16-06-2016	Talcher STPS	NTPC	NR and Generator data pending
22	17-06-2016	Mohana	OPTCL	COMPLETED
23	17-06-2016	Daipahari(Digapandi)	OPTCL	COMPLETED
24	20-06-2016	Bhshan steel	Bhshan steel	Numerical relay data
25	20-06-2016	Rengali 220	OPTCL	COMPLETED
26	20-06-2016	Balugaon	OPTCL	COMPLETED
27	20-06-2016	Chandpur	OPTCL	numerical relay data pending
28	21-06-2016	Nandira	rungta mines	COMPLETED
29	21-06-2016	Chaipal	OPTCL	numerical relay data pending
30	21-06-2016	Rengali	OHPC	COMPLETED
31	21-06-2016	P.khemundi	OPTCL	COMPLETED
32	22-06-2016	Boinda	OPTCL	numerical relay data pending
33	22-06-2016	Akshusirgha	OPTCL	COMPLETED
34	23-06-2016	OPCL	OPCL	Generator details and Numerical relay data pending
35	23-06-2016	NBVL	NBVL	NR data pending
36	23-06-2016	ferro alloy		Closed
37	24-06-2016	BRG	BRG	numerical relay data pending
38	24-06-2016	FCI	FCI	COMPLETED
39	24-06-2016	Raygoda	OPTCL	COMPLETED
40	25-06-2016	Rairakhol	OPTCL	COMPLETED
41	25-06-2016	Rengali	PGCIL	NR data for one relay SEL relay pending
42	25-06-2016	J K pur	J K pur	COMPLETED
43	27-06-2016	Chiplima	OHPC	COMPLETED
44	27-06-2016	Rairangpur	OPTCL	data pending for 2 relays
45	27-06-2016	Theruballi	OPTCL	COMPLETED
46	28-06-2016	Burla	OHPC	COMPLETED
47	28-06-2016	Bangir	OPTCL	not charged
48	28-06-2016	Baripada	OPTCL	Micom and seimens data pending
49	28-06-2016	Laxmipur S/W	OPTCL	COMPLETED
50	29-06-2016	ACC	ACC	COMPLETED
51	29-06-2016	Bargarh	OPTCL	3 NR data to be received
52	29-06-2016	Baripada	PGCIL	17 NR data pending
53	29-06-2016	Vedanta	Vedanta	COMPLETED
54	30-06-2016	Katapalli	OPTCL	NR data pending
55	30-06-2016	Balasore	OPTCL	7 NR relays data pending
56	30-06-2016	Sunabeda	OPTCL	COMPLETED
57	01-07-2016	Barpali	OPTCL	NR data pending
58	01-07-2016	Sambalpur	OPTCL	NR data pending
59	01-07-2016	Soro	OPTCL	ABB relay data pending
60	01-07-2016	HAL	HAL	COMPLETED
61	01-07-2016	Dabugaon	OPTCL	numerical data pending

62	02-07-2016	Hindalco	Hindalco	NR relays to be received
63	02-07-2016	Birla TY	Birla TY	COMPLETED
64	04-07-2016	Aditya alluminium	Aditya alluminium	COMPLETED
65	04-07-2016	ISPAT alloys(balasore)	ISPAT alloys	Numerical relay data pending
66	04-07-2016	BLS-B s/w stn(somnathpur)	OPTCL	COMPLETED
67	04-07-2016	Upper kolab	OHPC	COMPLETED
68	05-07-2016	SF alloys	SF alloys	Station Closed
69	05.07.2016	Jharsuguda	OPTCL	COMPLETED
70		Muchkund	OHPC	COMPLETED
71	06.07.2016	Jharsuguda	PGCIL	COMPLETED
72		Emmami	Emmami	COMPLETED
73		JAYPORE	PGCIL	COMPLETED
74	07.07.2016	Vedanta	Vedanta	COMPLETED
75		Basta	OPTCL	COMPLETED
76		jaleshwar	OPTCL	COMPLETED
77	08.07.2016	SMC	SMC	COMPLETED
78		udala	OPTCL	Under Commissioning
79	09.07.2016	Action ISPAT	Action ISPAT	NR data to be received
80		Bhadrak	OPTCL	COMPLETED
81		UMERKOTE	OPTCL	COMPLETED
82		TENTULIKHUNTI	OPTCL	COMPLETED
83	11.07.2016	Shayam dri	Shayam dri	Generator Relay data to be received
84		Facor	Facor	NR data to be received
85		MEENAKSHI	OWN	COMPLETED
86	12.07.2016	Budipatar	OPTCL	COMPLETED
87		Dhamra	Adani Group	Postponed (Visiting permission not cleared)
88		UTKAL ALUMINA	UTKAL ALUMINA	COMPLETED
89	13.07.2016	IB valley	OPGC	COMPLETED
90		Anandpur	OPTCL	COMPLETED
91		BALIMELA	OHPC	COMPLETED
92	14.07.2016	Brajranagar	OPTCL	COMPLETED
93		Duburi	OPTCL	COMPLETED
94		INDIRAVATI	PGCIL	COMPLETED
95	15.07.2016	Lapanga	OPTCL	COMPLETED
96		Rohit	Rohit	COMPLETED
97		UPPER INDIRAVATI	OHPC	COMPLETED
98	16.07.2016	Bhushan steel	Bhushan steel	NR and GENERATOR DATA TO BE RECEIVED
99		Jajpur rd	OPTCL	COMPLETED
100		JFAL	JFAL	COMPLETED
101		JUNAGARH	OPTCL	RELAY DATA NOT RECIVED
102		BHAWANIPATNA	OPTCL	RELAY DATA NOT RECIVED
103	18/07/2016	Sundargarh	OPTCL	NR data to be received
104		JSL	JSL	COMPLETED
105		SAINTALA	OPTCL	COMPLETED
106		KESINGHA	OPTCL	NR data to be received
107	19/7/2016	Visa	Visa	COMPLETED
108		NUAPADA	OPTCL	COMPLETED
109		KHERIAR	OPTCL	COMPLETED
110	20/7/2016	MINL	MINL	NR data to be received
111		POWMAX	OWN	COMPLETED
112	21-07-2016	Aryan ISPAT	Aryan ISPAT	Generator Relay data to be received
113		NINL	NINL	NR data to be received
114		PADAMPUR	OPTCL	COMPLETED
115		PATNAGARH	OPTCL	COMPLETED
116		BOLANGIR (OLD)	OPTCL	COMPLETED
117	22.07.2016	NEW BOLANGIR	pgcil	NR data to be received
118		BOLANGIR	PGCIL	COMPLETED
119		IND bharat	IND bharat	NR and GENERATOR DATA TO BE RECEIVED
120		Kuchinda	OPTCL	NR data to be received
121		Kalrangi	OPTCL	COMPLETED
122		K.nagar	OPTCL	NR data to be received
123	23.07.2016	Cemco	Cemco	COMPLETED
124		MESCO	MESCO	Under Commissioning
125		SONEPUR	OPTCL	NR data to be received
126		BOUDH	OPTCL	NR data to be received
127		Rourkela 132kV	OPTCL	NR data to be received

128	25/07/2016	Chend	OPTCL	NR data to be received
129		New Duburi	PGCIL/OPTCL	NR data to be received
130	26.07.2016	Jajpur TW	OPTCL	COMPLETED
131		Rajgangpur	OPTCL	NR data to be received
132		kalunga	OPTCL	NR data to be received
133	27-07-2016	Chandiknol	OPTCL	COMPLETED
134		Kendapara		COMPLETED
135		Marsaghai		COMPLETED
136		Tarkera	OPTCL	NR data to be received
137	28.07.2016	RourkelLa	PGCIL	COMPLETED
138		BC Mohanti	BC Mohanti	COMPLETED
139		Brahmanipal/BRPL	OPTCL	COMPLETED
140		PHULNAKHARA	OPTCL	COMPLETED
141		BHUBANESWAR	OPTCL	NR data to be received
142	29.07.2016	Adhunik metals	Adhunik metals	NR and GENERATOR DATA TO BE RECEIVED
143		sri ganesh	sri ganesh	COMPLETED
144		Tata Ferocrom	Tata Group of Co.	COMPLETED
145		R.S PUR	OPTCL	NR data to be received
146		KESURA	OPTCL	NR data to be received
147	30.07.2016	OCL	OCL/OPTCL	COMPLETED
148		bppl (lilo)	bppl (lilo)	NR data to be received
149		ts alloy	ts alloy	NR data to be received
150	31.07.2016	arti steel	arti steel	COMPLETED
151		bppl	bppl	NR data to be received
152	01.08.2017	argul	OPTCL	COMPLETED
153		barkot	OPTCL	NR data to be received
154	02.08.2018	Naupanta	OPTCL	COMPLETED
155		ICCL	ICCL	COMPLETED
156		Chowduar	OPTCL	COMPLETED
157	03.08.2018	Salepur	OPTCL	COMPLETED
158		OCL	OCL	COMPLETED
159		konark	OPTCL	NR data to be received
160		nimapara	OPTCL	NR data to be received
161	04.08.2018	RSP	RSP	COMPLETED
162		Dhenkanal	OPTCL	NR data to be received
163		samuka	OPTCL	NR data to be received
164		puri	OPTCL	NR data to be received
165	05.08.2018	Pattamundai	OPTCL	COMPLETED
166		Jagatsinghpur	OPTCL	COMPLETED
167		samangara	OPTCL	NR data to be received
168	06.08.2018	JODA	OPTCL	NR data to be received
169		TSIL	TSIL	NR and GENERATOR DATA TO BE RECEIVED
170		Paradip	OPTCL	NR data to be received
171		phulbani	OPTCL	COMPLETED
172	08.08.2018	Arya	Arya	NR data to be received
173		B.k steel	B.k steel	COMPLETED
174		BRG	BRG	NR data to be received
175		BRPL	BRPL	NR data to be received
176		Misrilal	Misrilal	NR data to be received
177		kharagprasad	OPTCL	NR data to be received
178	09.08.2018	JSPL	JSPL	COMPLETED
179		ESSAR	ESSAR	NR data to be received
180		MSP	MSP	NR data to be received
181		P ponga	OPTCL	NR data to be received
182		Tata Steel	Tata Group	COMPLETED
183		nalco	nalco	COMPLETED
184	10.08.2018	kaniha hvdc	PGCIL	COMPLETED
185		Keonjhar	PGCIL	COMPLETED
186	11.08.2018	Karanjia	OPTCL	NR data to be received
187		IMFA	IMFA	COMPLETED
188	12.08.2018	Barbil	OPTCL	NR data to be received
189		Bolani	OPTCL	NR data to be received
190	13.08.2018	FAP	FAP	COMPLETED
191	16.08.2016	IFFCO	IFFCO	NR data to be received
192	17.08.2016	ESSAR steel	ESSAR steel	COMPLETED
193	18.08.2016	IOCL	IOCL	COMPLETED
194	23.08.2016	FACOR STEEL	FACOR STEEL	COMPLETED

List ofSubstations visited in Jharkhand

Sl.No.	Date of visit	Station name	Owner	Status
1	18-Aug-2016	Hatia-Old_132KV	JUSNL	Partially Collected
2	18-Aug-2016	Hatia_New_220/132kV	JUSNL	Partially Collected
3	19-Aug-2016	PTPS_1Gen	State	Pending
4	20-Aug-2016	Gumla_132KV	JUSNL	Pending
5	22-Aug-2016	Kanke_132kV	JUSNL	Partially Collected
6		TVNL	TVNL	COMPLETED
7	23-Aug-2016	Ranchi new_765kV	PGCIL	COMPLETED
8		BTPS_A/BOKARO_D 400KV	DVC	AVR & TURBINE DATA PENDING
9	24-Aug-2016	Chandwa JHK POOL	PGCIL	COMPLETED
10		BTPS-B DVC_220/132kV	DVC	NR DATA & GOVERNER DATA PENDING
11	25-Aug-2016	Ranchi_400/220 kV	PGCIL	COMPLETED
12	26-Aug-2016	Namkum_132KV	JUSNL	Partially Collected
13		CTPS-New-DVC_220kV	DVC	AVR, TURBINE AND NR DATA PENDING
14	27-Aug-2016	Usha martin 132kV_GEN	Usha Martin(CPP)	COMPLETED
15	29-Aug-2016	HEC 132	HEC 132	COMPLETED
16		CTPS-OLD-DVC_220kV	DVC	Numerical relay , TURBINE & GENERATOR data pending
17	30-Aug-2016	Lohardaga_132KV	JUSNL	Partially Collected
18		Putki-DVC_132kV	DVC	Numerical relay data pending
19	31-Aug-2016	Kamdara_132KV	JUSNL	Partially Collected
20		Biada_DVC132kV	DVC	partial Numerical relay data pending
21	1-Sep-16	JSPL	JSPL	Pending
22		Patherdih-DVC_132kV	DVC	partial Numerical relay data pending
23		Sindri-DVC_132kV	DVC	COMPLETED
24	2-Sep-16	SIKIDIRI S/S	JUSNL	Pending
25		Dhanbad-DVC_220/132kV	DVC	Numerical relay data pending
26	3-Sep-16	SIKIDIRI GEN	JUSNL	Pending
27		Giridih-DVC_220/132kV	DVC	Numerical relay data pending
28	5-Sep-2016	Nimighat-DVC_132kV	DVC	COMPLETED
29	6-Sep-2016	Hazaribagh-DVC_132kV	DVC	Numerical relay data pending
30	7-Sep-2016	Koderma_400/220/132kV	DVC	COMPLETED
31		Inland powere	JUSNL	Pending
32	8-Sep-2016	Koderma_Gen	DVC	Generation data pending
33	9-Sep-2016	Barhi-DVC_132kV	DVC	Partial Numerical relay data pending
34		Koderma-DVC-132kV	DVC	COMPLETED
35		latehar	JUSNL	Partially Collected
36	10-Sep-2016	Abcil	Aditya Birla	Pending
37		garwa	JUSNL	Partially Collected
39	12-Sep-2016	Japla	JUSNL	Partially Collected
40		Ramghar-DVC_220/132kV	DVC	COMPLETED
41		Ramghar-DVC-132kV	DVC	COMPLETED
42	13-Sep-2016	daltongunj	JUSNL	Partially Collected
43		Gola-DVC_132kV	DVC	COMPLETED
44	14-Sep-2016	Patratu	DVC	COMPLETED
45	15-Sep-2016	Jamtara	JUSNL	Pending
46		N_Karanpur	DVC	COMPLETED
47	16-Sep-2016	Mithon	PGCIL	Pending
48	19-Sep-2016	Deoghar	JUSNL	Pending
49		Mosabini-DVC_132kV	DVC	COMPLETED
50	20-Sep-2016	Madhupur	JUSNL	Pending
51		Manique_DVC_132	DVC	COMPLETED
52	21-Sep-2016	Dumka	JUSNL	Pending
53		Jamshedpur-DVC_220/132kV	DVC	Numerical relay data pending
54	22-Sep-2016	Pakur	JUSNL	Pending
55		Sahebganj	JUSNL	Pending
56	23-Sep-2016	Lalmatia	JUSNL	Pending
57		Dhankunda	NTPC	COMPLETED
58		Kalyanswari-DVC_220/132kV	DVC	Numerical relay data pending
59	24-Sep-2016	Dumka_220	JUSNL	Pending
60		Kumardhubi-DVC_132kV	DVC	Numerical relay data pending
61	26-Sep-2016	Jaduguda	JUSNL	Pending
62		Maithaon(MHPS)-DVC_132kV	DVC	Numerical relay data pending
63		MaithonDam-DVC_Gen	DVC	Numerical relay data pending
64	27-Sep-2016	adityapur_132	JUSNL	Pending
65	28-Sep-2016	chandil220	JUSNL	Pending
66	29-Sep-2016	adhunik 400	Adhunik	COMPLETED
67	30-Sep-2016	Usha Martin_Adityapur	Usha Martin	COMPLETED
68	30-Sep-2016	Panchet-DVC_Gen	DVC	Numerical relay data pending

List of Substations visited in West Bengal

Sl.No.	Date of visit	Station name	Owner	Status
1	19-Sep-2016	Waria (DTPS)	DVC	NR data Pending
2		DTPS_Waria	DVC	NR data Pending
3		Burnpur	DVC	NR data Pending
4	20-Sep-2016	Ramkanli	DVC	NR data Pending
5	21-Sep-2016	Waria TPS (DTPS)	DVC	NR data Pending
6		Durgapur steel TPS	DVC	NR data Pending
7		Raghunathpur TPS	DVC	NR data Pending
8		Raghunathpur TPS	DVC	NR data Pending
9		Kolaghat TPS	WBPDCL	COMPLETED
10	22-Sep-2016	Brjora	DVC	NR data Pending
11		Barjora	DVC	NR data Pending
12		ASP	DVC	NR data Pending
13		Kolaghat TPS	WBPDCL	COMPLETED
14	23-Sep-2016	Durgapur MUCHIPARA	DVC	NR data Pending
15		Muchipara	DVC	NR data Pending
16		Jamuria	DVC	NR data Pending
17		Parulia	DVC	NR data Pending
18		Kolaghat TPS	WBPDCL	COMPLETED
19	24-Sep-2016	Kalipahari	DVC	NR data Pending
20	26-Sep-2016	Burdwan	DVC	NR data Pending
21		Belmuri	DVC	NR data Pending
22		Santaldih TPS	WBPDCL	COMPLETED
23	27-Sep-2016	Santaldih TPS	WBPDCL	COMPLETED
24		Dum Dum	CESC	COMPLETED
25		Park lane	CESC	COMPLETED
26		Mejia TPS	DVC	NR data Pending
27	28-Sep-2016	Kharagpur	DVC	NR data Pending
28		Mejia TPS	DVC	NR data Pending
29	29-Sep-2016	Kolaghat	DVC	NR data Pending
30		How (d)	DVC	NR data Pending
31		Bandel TPS	WBPDCL	COMPLETED

List of Substations visited in Sikkim

Sl. No.	Voltage	Station Name	Owner	Status
1	400	Rangpo	PGCIL	Collected
2	220	Samardang	PGCIL	Collected
3	220	New Melli	PGCIL	Collected
4	132	Gantok	PGCIL	Collected
5	132	Melli	SIKKIM	Collected (except numerical relay)
6	132	Geyzing	SIKKIM	Collected (except numerical relay)
7	66	Bulbuley	SIKKIM	Collected (except numerical relay)
8	66	Geyzing	SIKKIM	Collected (except numerical relay)
9	66	Mangan	SIKKIM	Collected (except numerical relay)
10	66	Melli	SIKKIM	Collected (except numerical relay)
11	66	Namchi	SIKKIM	Collected (except numerical relay)
12	66	Pelling	SIKKIM	Collected (except numerical relay)
13	66	Phodong	SIKKIM	Collected (except numerical relay)
14		Pakyong	SIKKIM	Collected (except numerical relay)
15	66	Rhenock	SIKKIM	Collected (except numerical relay)
16	66	Rongly	SIKKIM	Collected (except numerical relay)
17	66	Rothak	SIKKIM	Collected (except numerical relay)
18	66	Sichey	SIKKIM	Collected (except numerical relay)
19	66	Soreng		Collected (except numerical relay)
20	66	Tadong	SIKKIM	Collected (except numerical relay)
21	66	LLHP,Ranipool	SIKKIM	Collected (except numerical relay)
22	66	Lingdok,SKPPL	SIKKIM	Collected (except numerical relay)
23	Gen	Jorethang Loop		Collected
24	Gen	Rangit HPS		Collected
25	Gen	Teesta V HPS		Collected
26	Gen	LLHP HEP		Collected (except numerical relay)
27	Gen	Meyongchu Hep		Collected (except numerical relay)

Status of Database and SLD preparation

Sl. No.	State	Substation Name (with Voltage Level)	Database Modeling			SLD Preparation		
			Start Date	End Date	Status	Start Date	End Date	Status
1	Odisha	DIGAPAHANDI(132/33kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
2	Odisha	MOHANA(132/33kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
3	Odisha	ASKA(132/33kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
4	Odisha	Khurda(220/33)	27-07-2016	########	Completed	27-07-2016	########	Completed
5	Odisha	GMR(400/20kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
6	Odisha	NAYAGARH(132/33kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
7	Odisha	CHAINPAL(220/132kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
8	Odisha	TTPS(220/132kV)	27-07-2016	########	Completed	27-07-2016	########	Completed
9	Odisha	ATRI(220/132/33kV)	08-01-2016	########	Completed	08-01-2016	########	Completed
10	Odisha	MENDHASAL(400/220/132Kv)	08-01-2016	########	Completed	08-01-2016	########	Completed
11	Odisha	BIDANASI(220/132/33kV)	08-01-2016	########	Completed	08-01-2016	########	Completed
12	Odisha	BRG STEELS(220/11kV)	08-01-2016	########	Completed	08-01-2016	########	Completed
13	Odisha	BHANJANAGAR(220/132kV)	08-01-2016	########	Completed	08-01-2016	########	Completed
14	Odisha	DUBURI (220/132/33kV)	08-01-2016	########	Completed	08-01-2016	########	Completed
15	Odisha	CHandaka(220/132kV)	08-01-2016	########	Completed	08-01-2016	########	Completed
16	Odisha	ANGUL(765/400KV)	08-05-2016	########	Completed	08-05-2016	########	Completed
17	Odisha	TSTPS(400/220kV)	08-05-2016	########	Completed	08-05-2016	########	Completed
18	Odisha	MERAMANDALI(400/220KV)	08-05-2016	########	Completed	08-05-2016	########	Completed
19	Odisha	AKUSINGHI(132KV/33KV)	08-09-2016	########	Completed	08-09-2016	########	Completed
20	Odisha	Sambalpur(132/33KV)	09-09-2016	########	Completed	09-09-2016	########	Completed
21	Odisha	NARENDRAPUR(220/132/33KV)	10-09-2016	########	Completed	10-09-2016	########	Completed
22	Odisha	SUNABEDA(132/33KV)	12-09-2016	########	Completed	12-09-2016	########	Completed
23	Odisha	Paralakhemundi(132/33KV)	13-09-2016	########	Completed	13-09-2016	########	Completed
24	Odisha	Balugaon(132/33KV)	14-09-2016	########	Completed	14-09-2016	########	Completed
25	Odisha	BONIDA(132/33KV)	15-09-2016	########	Completed	15-09-2016	########	Completed
26	Odisha	BARIPADA(132/33)	16-09-2016	########	Completed	16-09-2016	########	Completed
27	Odisha	PUROSOTTAMPUR	17-09-2016	########	Completed	17-09-2016	########	Completed
28	Odisha	KarakPrasad(132kV)	15-08-2016	########	Completed	15-08-2016	########	Completed
29	Odisha	Arti Steel(132/11kV)	15-08-2016	########	Completed	15-08-2016	########	Completed
30	Odisha	NBVL(132/11kV)	15-08-2016	########	Completed	15-08-2016	########	Completed
31	Odisha	Kuchei/Baripada(PGCIL)400/220/132kV	15-08-2016	########	Completed	15-08-2016	########	Completed
32	Odisha	Dhenkanal(132/33kV)	15-08-2016	########	Completed	15-08-2016	########	Completed
33	Odisha	New Duri (400/220kV)	15-08-2016	22/8/2016	Completed	15-08-2016	########	Completed
34	Odisha	NALCO	15-08-2016	22/8/2016	Completed	15-08-2016	########	Completed
35	Odisha	SEL	15-08-2016	22/8/2016	Completed	15-08-2016	########	Completed
36	Odisha	JSPL(400/13.8kV)	15-08-2016	22/8/2016	Completed	15-08-2016	########	Completed
37	Odisha	ML Rungtna (Nadira)132/33kV	15-08-2016	22/8/2016	Completed	15-08-2016	########	Completed
38	Odisha	Barapalli(132/33kV)	22-08-2016	26/8/2016	Completed	22-08-2016	########	Completed
39	Odisha	Basta(132/33kV)	22-08-2016	26/8/2016	Completed	22-08-2016	########	Completed
40	Odisha	Chhend(132/33kV)	22-08-2016	26/8/2016	Completed	22-08-2016	########	Completed
41	Odisha	Jaipur Town(132/33kV)	22-08-2016	26/8/2016	Completed	22-08-2016	########	Completed
42	Odisha	Jaleswar(132/33kV)	22-08-2016	26/8/2016	Completed	22-08-2016	########	Completed
43	Odisha	Kalarangi(132/33kV)	22-08-2016	26/8/2016	Completed	22-08-2016	########	Completed
44	Odisha	Cuttack(132/33)	22-08-2016	26/8/2016	Completed	22-08-2017	########	Completed
45	Odisha	Bargarh(132/33)	22-08-2016	26/8/2016	Completed	22-08-2018	########	Completed
46	Odisha	SMC	22-08-2016	########	Completed	29/8/2016	########	Completed
47	Odisha	BEEKAY STEEL_132kV	22-08-2016	########	Completed	29/8/2017	########	Completed
48	Odisha	KARANJIA	22-08-2016	########	Completed	29/8/2018	########	Completed
49	Odisha	ULTRATECH	22-08-2016	########	Completed	29/8/2019	########	Completed
50	Odisha	JSPL	22-08-2016	########	Completed	29/8/2020	########	Completed
51	Odisha	PADAMPUR	22-08-2016	########	Completed	29/8/2021	########	Completed
52	Odisha	RAJGANGPUR(132/33)	22-08-2016	########	Completed	29/8/2022	########	Completed
53	Odisha	SUNDARGARH(132/33)	22-08-2016	########	Completed	29/8/2023	########	Completed
54	Odisha	Boudh(132/33)	09-02-2016	########	Completed	16-02-2016	########	Completed
55	Odisha	Phulnakhara_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
56	Odisha	Balasore_220kV	09-02-2016	########	Completed	09-07-2016	########	Completed
57	Odisha	Chiplima_gen	09-02-2016	########	Completed	09-07-2016	########	Completed
58	Odisha	Rairangpur_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
59	Odisha	Rengali_400kV	09-02-2016	########	Completed	09-07-2016	########	Completed
60	Odisha	Angul_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
61	Odisha	Barbil_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
62	Odisha	Brajrajnagar_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
63	Odisha	Keonjhar_400kV	09-02-2016	########	Completed	09-07-2016	########	Completed
64	Odisha	Budhipadar_220kV	09-02-2016	########	Completed	09-07-2016	########	Not Completed
65	Odisha	Joda_132kV	09-02-2016	########	Completed	09-07-2016	########	Not Completed
66	Odisha	Balimela_220kV	09-02-2016	########	Completed	09-07-2016	########	Completed

67	Odisha	Rangapo_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
68	Odisha	Junagarh_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
69	Odisha	Jharsuguda_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
70	Odisha	Barkote_220kV	09-02-2016	########	Completed	09-07-2016	########	Completed
71	Odisha	Dabugaon_132kV	09-02-2016	########	Completed	09-07-2016	########	Completed
72	Odisha	Samuka_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
73	Odisha	Konark_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
74	Odisha	Kesura_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
75	Odisha	Phulabani_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
76	Odisha	Nimapara_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
77	Odisha	Argul_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
78	Odisha	Tentulikhunta_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
79	Odisha	Puri_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
80	Odisha	Kharaiar_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
81	Odisha	Rayagada_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
82	Odisha	Sonepur_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
83	Odisha	Ranasighipur_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
84	Odisha	Patanagarh_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
85	Odisha	New Bolangir_220kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
86	Odisha	New Bolangir_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
87	Odisha	Samangara_220_132kV	14-09-2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
88	Odisha	Chatrapur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
89	Odisha	Umerkote_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
90	Odisha	Kesinga_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
91	Odisha	Bhawanipatana_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
92	Odisha	Saintala_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
93	Odisha	Bhubanewar_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
94	Odisha	Nuapatha_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
95	Odisha	Marshaghai_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
96	Odisha	Pattamundai_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
97	Odisha	Nuapara_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
98	Odisha	Jagatsinghpur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
99	Odisha	Choudwar_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
100	Odisha	Anadpur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
101	Odisha	Soro_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
102	Odisha	Jajipur Road(132/33kV)	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
103	Odisha	Chandikhola_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
104	Odisha	Kamkhyanagar_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
105	Odisha	Kendrapara_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
106	Odisha	ICCL	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
107	Odisha	Chandpur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
108	Odisha	Sailpur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
109	Odisha	Somathpur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
110	Odisha	Palaspanga_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
111	Odisha	Berampur_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
112	Odisha	B.C Mohanty	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
113	Odisha	BRPL	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
114	Odisha	IND_BHARAT_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
115	Odisha	Kuchinda_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
116	Odisha	Kalunga_132kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
117	Odisha	Laxmipur_220/33kV	14/9/2016	26/9/2016	Completed	14/9/2016	26/9/2016	Completed
118	Odisha	Rourkela_132/33kV	26/9/2016	30/9/2016	Not Completed	26/9/2016	30/9/2016	Not Completed
119	Odisha	Tarkera_220/132kV	26/9/2016	30/9/2016	Not Completed	26/9/2016	30/9/2016	Not Completed
120	Odisha	Lepanga_220/132kV	26/9/2016	30/9/2016	Not Completed	26/9/2016	30/9/2016	Not Completed
121	Odisha	OCL	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
122	Odisha	IMFA	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
123	Odisha	JSL	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
124	Odisha	NINL	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
125		Facor Power Ltd	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
126	Odisha	SHYAM DRI	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
127	Odisha	ESSAR	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
128	Odisha	Tata Group/FAP	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
129	Odisha	ARYA_ISPAT	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
130	Odisha	Sri_Ganesh_Sw	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
131	Odisha	TS_ALLOY	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
132	Odisha	HAL	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
133	Odisha	Samal_Barrage_OPTCL	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
134	Odisha	Rohit_Ferro_Alloy_220kV	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
135	Odisha	FMI/C/Mahanadi load field ltd	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed
136	Odisha	Rairakhol_132kV	26/9/2016	30/9/2016	Completed	26/9/2016	30/9/2016	Completed

Annexure- B.5

Unit wise yearly generation target for the year 2017-18

Organisation:

1. Details of two contact persons:

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

2. **Units existing on 31.03.2016**

Station name	Unit No.	Capacity	Date of commissioning	2016-17 generation details (MU)						2017-18 generation details (MU)		Remarks
				Target	Actual till last month	%PLF till last month	% Availability till last month	Total Anticipated during the year	Reason for low generation(if any)	Expected Target Generation (MU)	Reason for variation in target	

3. **Units Commissioned during 2016-17**

Station name	Unit No.	Capacity	Date of commissioning	2016-17 generation details (MU)						2017-18 generation details (MU)		Remarks
				Target	Actual till last month	%PLF till last month	% Availability till last month	Total Anticipated during the year	Reason for low generation	Expected Target Generation (MU)	Reason for variation in target	

4. Units likely to be commisioned during 2017-18

Station name	Unit No.	Capacity	Expected date of commissioning	2017-18 generation details (MU)	Remarks
				Expected Target Generation (MU)	

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

5. Details of Units commissioned/likely to be commissioned*

Unit Wise Details	Unit No.	Capacity	Date of commissioning	Date of commercial Operation/ Stablisation	Boiler make / Country	Turbine Make / Country	Boiler Effeciency (design)	Turbine Heat Rate (Design)	Unit Design Heat Rate	Type of cooling Tower	Type of BFP (motor/ Turbine) Driven	Type of FGD
	1											
	2											

**Formats may be modified as per CCGT/ Nucler Power Plant*

6. Loss of Generation due to Grid Constraints/ Low schedules /high fuel cost during 2016-17

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

S No.	Details of the Constraint	Loss so far (Apr'16-Aug'16)		during 2016-17	
				Anticipated Period of constraint	Anticipated loss of generation (MU)

7. PPA details

Annex-I(2 of 2)

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

8(a)Coal Linkage for coal based plants

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

8(b)Gas availibility for gas based stations

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

9. Cost of Generation:

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

Annex-II

Planned maintenance Schedules including R&M activities

A) **R&M of Units likely to be completed during 2016-17 & 2017-18**

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

B) **Annual Overhaul/ Boiler overhaul**

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

C) **Capital Overhaul**

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

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

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

Annexure- B.8

JHARKHAND URJA SANCHARN NIGAM LIMITED
Office of the
Electrical Superintending Engineer, State Load Dispatch Centre,
Kusai Colony, Doranda, Ranchi
Phone: 0651-2490090, Fax: 0651-2490486, Email: sldcranchi@gmail.com

Letter No. 288 **SLDC, Ranchi,** **Dated, the** 07-10-2016

From,

Er. Shailesh Prakash,
Elect. Supt. Engineer
SLDC, Ranchi.

To,

Member Secretary, ERPC,
14 Golf Club Road,
Tollygunj, KolKata -700033

Sub: **Latest Status of Under Frequency Relay of JUSNL for the month of Sept. 2016.**

Sir

With reference to the subject mentioned above the latest status of Under Frequency Relay for the month of Sept. 2016 is hereunder:-

Stage	G/S/S	33 KV Feeder	Remarks
Stage – I 49.2 Hz	Kamdara	Kamdara	In Service
	Gumla	Gumla	In Service
	Deoghar	Sarath	In Service
	Lohardaga	Lohardaga	In Service
	Jamtara	Jamtara	In Service
Stage – II 49.0 Hz	Garhwa	Ranka	In Service
	Garhwa	Bhawnathpur	In Service
	Deoghar	Baidyanathpur	In Service
	Lohardaga	Tico	In Service
	Latehar	Manika	In Service
Stage – III 48.8 Hz	Hatia	Brambay	In Service
	Adityapur	Adityapur I	In Service
	Japla	Japla	In Service
Stage – IV 48.6 Hz	Namkum	Kokar (Rural)	In Service
	Hatia	Argora	In Service
	Hatia	Dhurwa	In Service
	Hatia	Harmu	In Service
	Adityapur	Adityapur II	In Service

This is for your kind information & necessary action.

Yours faithfully,

07.10.16

(Shailesh Prakash)
ESE, SLDC, Ranchi

UFR installed in different GSS of BSPTCL , Patna as listed below is in service upto 18th Oct, 2016.

SL. No.	NAME OF GRID	CONNECTED 33 KV FEEDER	LOAD IN MW	SETTING
1.	132/33 KV Gaighat grid	Saidpur	20	48.6
		City Feeder	22	48.6
2.	132/33 KV Mithapur grid	PESU V	18	48.8
		PESU II & IV	32	48.8
3.	220/132/33 KV Fatuha grid	Katra	14	48.8
		Meena Bazar	24	48.8
		Fatuha	22	49.0
		Dina Iron	12	49.0
4.	132/33 KV Digha grid	Digha - I	18	48.6
		Digha - II	7	48.6
		Patliputra	20	49.0
		Excise colony	20	49.2
5.	132/33 KV Bari Pahari (Bihar Sharif)	Bari Pahari I	11	49.2
		Bari Pahari II	5.5	49.2
		Sohsarai	10	49.2
		Ramchandrapur	15	48.6
		Noorsarai	10	49.2
		Asthama	5	49.2
6.	132/33 KV Harnaut	Line II Feeder (Charan)	1.5	49.0
		Kalyanbigha	0.5	48.6
		Harnaut	5.0	49.2
7	132/33 KV Ekangarsarai	Parwalpur	3	49.2
		Islampur	6	49.0
		Ekangarsarai	5	49.0
		Hilsa	4	49.0
8	132/33 KV Katra	Pahari	18	48.6
		Sabalpur	5	48.8
		Karmalichak	8	48.8
		Ashoknagar	14	48.8
		Kankarbag	18	48.6
9	220/132/33 KV Sampatchak	Bahadurpur	14	49.0
		Sampatchak	7	49.0
		KudaNawada	10	49.0
10	132/33 KV Purnea	Maranga	12	49.2
		Madhubani	10	49.2
11	132/33 KV Nalanda	Nalanda	6	49.2
12	132/33 KV Rajgir	Raytar	8	49.2

Sl.No.	Frequency	Total Load
1.	49.2	105.5
2.	49.0	101.5
3.	48.8	115.0
4.	48.6	118.5

AEE/CRITL EEE/CRITL

Status of UFR at Sub-stations under Transmission Dept. for the month Sept '16

Sl No	Name of sub-station	Feeder Details	CD (MVA)	In-service	Test performed	Results/Remarks
1	Burdwan	WBSEB Burdwan	48	Yes	Yes	UFR in service.
2	Durgapur	Graphite India+ Jai Balaji Industries+ Jai Balaji Sponge	74	No	Yes	1 UFR along with 3 (Three) nos VAJ relays put in service on 25.02.16.but presently kept out of service after spurious tripping of 33 Kv consumer fdrs as per instruction of CTC .
3	Durgapur	SRB Steel+ Brahma Alloy+ Venky Steel+ VSP+ Shri Gopal Hi-tech	67	No	Commissioning tests by CTC on 24.01.2014	UFR out of service since 25.01.2014 after repeated tripping of 12 nos. of 33KV consumers as per instruction of CTC.
4	Kalyaneswari	BMA+ Impex+ Hira Concast+ MPL	47	Yes	Yes	UFR in service.
5	Kumardhubi	JSEB Sanjay Chowk+ Mugma+ DPSCO Dishergarh	60	Yes	Yes	UFR in service.
6	Putki	JSEB Godhar+ Bhuli+ JSEB Ganeshpur+ JSEB Katras+ JSEB Katras Sijua	93.5	Yes	Yes	UFR in service.
7	Patherdih	JSEB Govindpur + JSEB Mukunda + JSEB Digwadi	70	Yes	Yes	UFR in service.
8	Ramgarh	JSEB Ramgarh	80	Yes	Yes	UFR Successfully installed & in service.
9	Hazaribagh	JSEB Hazaribagh	50	No	No	UFR Successfully installed & in service.
10	Giridih	JSEB Giridih	55	Yes	Yes	UFR in service.
11	Koderma	JSEB Koderma	38	Yes	Yes	UFR in service.
		Total load relieved	**682.5 MVA**			

1226

ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Government of Odisha Undertaking)
CIN-U40102OR2004SGC007553
Regd.Office:Janapath,Bhoinagar,Bhubaneswar-751022
O/O the CGM (O&M),FAX: (0674) – 2542932

NO:TW-GM(O&M)-O/O CGM(O&M) 04/2014 1464 **Dated** 18.10.2016

To

The Member Secretary,
ERPC, 14 Golf Club Road,
Tollygunge, Kolkata-700 033

Sub: **Monthly Certification for healthiness of UFR relays for the month of September'2016.**

Sir,

With reference to the above, it is to certify that all the UFR relays installed in 33kV & 132kV system of OPTCL were checked in the month of **September'2016** and are found to be working normal.

Yours faithfully

18-10-16

Chief General Manager(O&M)

CC to

1. **Chief Load Despatcher, SLDC, Bhubaneswar.**

West Bengal State Electricity Transmission Company Limited

(A Government of West Bengal Enterprise)

CIN: U40109WB2007SGC113474; Website: www.wbsetcl.in; Phone / Fax No. (033) 2334 9020

Registered Office : Vidyut Bhawan, Block-DJ, Sector-II, Bidhannagar, Kolkata - 700 091

OFFICE OF THE CHIEF ENGINEER
STATE LOAD DESPATCH CENTRE

Memo No. SLDC/HOW/18/ 986 Date 08.10.2016

To
The Member-Secretary ,
Eastern Regional Power Committee,
14, Golf Club Road,
Tollygunge,
Kolkata-700 033.

Sub: Status of UFRs installed at WBSETCL sub-stn. for September'2016

Dear Sir,

As per deliberation in the 105th OCC meeting of ERPC, report on UFRs enunciation, PT fuse connected to the UFR feeders at different WBSETCL sub-stations for the month of Sept'16 is furnished herewith for your record.

Thanking you.

Enclo: 1) 4 Nos.

Yours faithfully,

08.10.2016

(Rafikul. Islaam)
Chief Engineer
SLDC,WBSETCL

STAGE-I

U/F RELAY SETTING
49.2 HZ

Status of the feeders of WBSETCL under 1st stage U/F relay-Sept'2016

Sl. No.	Name of Sub-Station	Name of the feeders to be tripped by U/F relay Name of feeders	CERTIFICATE	REMARKS
1	NBU 132 KV	a) 33 KV TCF	D.C. Supply ON. PT fuse O.K.	
		b) 33 KV Kharibari		
		c) 33 KV Ujanu		
		d) 11 KV Teesta		
		e) 11 KV Bagdogra		
		f) 11 KV Phansidewa #2		
2	ULUBERIA 132 KV	a) 33 KV UIGC - 1	D.C. Supply ON. PT fuse O.K.	
		b) 33 KV Banitabla		
		c) 33 KV Foodpark		
		d) 33 KV Amta		
		e) 33 KV UIGC - 2		
3	KAKDWIP 132	a) 33 KV Kakdwip-1	D.C. Supply ON. PT fuse O.K.	As replacement of UFRs of KALYANI S/S which is included in BTPS ISLANDING scheme
		b) 33 KV Kakdwip-2		
		c) 33 KV Kulpi - 1		
		d) 33 KV Kulpi - 2		
		e) RudraNaga-1		
		f) RudraNagar-2		
4	LAKSHMIKANTAPUR 220KV	a) 33 KV Beliachandi	D.C. Supply ON. PT fuse O.K.	As replacement of UFRs of DHARAMPUR S/S which is included in BTPS ISLANDING scheme
		b) 33 KV Deula		
		c) 33 KV JayNagar-1		
		d) 33 KV JayNagar-2		
		e) 33 KV Patharpratima		
		f) U.LakshmiNarayanpur		
		g) 33 KV Jamtala		
5	GANGARAMPUR 132 KV	a) 33 KV Buniadpur-1	D.C. Supply ON. PT fuse O.K.	
		b) 33 KV Buniadpur-2		
		c) 33 KV Salas		
		d) 33 KV Rampur		
		e) 10 MVA (33/11) Tr#1		
		f)10MVA TR#2		
6	CESC			To be furnished by CESC
		TOTAL		

08/10/16

STAGE-2

U/F RELAY SETTING
49.0 HZ

Status of the feeders of WBSETCL under 2nd stage U/F relay-Sept' 2016

Sl. No.	Name of Sub-Station	Name of the feeders to be tripped by U/F relay Name of feeders	CERTIFICATE	REMARKS
1	DOMJUR 220 KV	a) 33 KV Jangalpur #1	DC SUPPLY ON. PT FUSE O.K.	
		b) 33KV Jaladhulaguri#1		
		c) 33 KV Munshirhat		
2	BAGNAN 231 KV	a) 33 KV Bagnan #1	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV Bagnan #2		
		c) 33 KV Amta		
		d) 33KV Mugkalyan#1&2		
3	MALDA 132 KV	a) 33 KV Narayanpur	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV Habibpur		
		c) 33KV Rabindra Bhavan		
		d) 33 KV Manikchak		
		e) 33 KV KPS		
		f) 33 KV Kaliachak		
		g) 33 KV Gazole		
		h) 1X6.3 MVA Tr#1		
		i) 1X5 MVA Tr#2		
4	NEW BISHNUPUR 220 KV	a) 33 KV Sonamukhi	DC SUPPLY ON. PT FUSE O.K.	
		c) 33 KV Patrashayar		
5	BORJORA 132 KV	a) 33 KV Borjora-II	DC SUPPLY ON. PT FUSE O.K.	
		b) 2X6.3 MVA Tr#1&2		
6	CESC			To be furnished by CESC

TOTAL

Baldar
02/10/16

STAGE-3

U/F RELAY SETTING
48.8 HZ

Status of the feeders of WBSETCL under 3rd stage U/F relay Sept'2016

Sl. No.	Name of Sub-Station	Name of the feeders to be tripped by U/F relay Name of feeders	CERTIFICATE	REMARKS
1	LILUAH 132 KV	a) 33 KV Kona	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV JNP		
		c) 33 KV KTT		
		d) 33 KV MKD		
		e) 33 KV Baltikuri-1		
		f) 33 KV Baltikuri-2		
		g) 33 KV Liluah		
2	NJP 220 KV	a) 33 KV Radhabari	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV Raninagar		
		c) 33 KV Dabgram		
		d) 33 KV Fatapukur		
		e) 6.3 MVA Tr-1 &2		
3	SALT LAKE 132 KV	a) 33 KV M5#1	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV M5#2		
4	OLD BISHNUPUR 132 KV	a) 33 KV Kotolpur	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV Jaipur		
		c) 33 KV Simlapal		
		d) 33 KV Onda		
		e) 33 KV Bankadaha		
		f) 5 MVA Tr#1 &2		
		g) 6.3 MVA Tr#3		
5	CESC			To be furnished by CESC

TOTAL

Haldar
08/10/16

STAGE-4

U/F RELAY SETTING
48.6 HZ

Status of the feeders of WBSETCL under 4th stage U/F relay-Sept'2016

Sl. No.	Name of Sub-Station	Name of the feeders to be tripped by U/F relay Name of feeders	CERTIFICATE	REMARKS
1	SILIGURI 132 KV	a) 33 KV Siliguri-I	DC SUPPLY ON. PT FUSE O.K.	
		b) 33 KV Siliguri-II		
		c) 33 KV Rabindranagar-I		
		d) 33 KV Housing Board		
		e) 33 KV Desbondhu Para		
		f) 33 KV Gangadhor		
2	DARJEELING 132 KV	a) 33 KV Lebong	"	
		b) 33 KV Happy Valley		
3	JANGIPARA 132 KV	a) 33 KV Jangipara	"	
		b) 33 KV Siakhala		
		c) 33 KV Singti		
		h) 6.3 MVA Tr#1 & Tr#2		
4	TAMLUK 132 KV	a) 33 KV Baraberia	"	
		b) 33 KV Moyna		
		c) 33 KV Gopalpur		
		d) 33 KV Tamluk		
		e) 10+10 MVA Tr#1 &2		
	RISHRA 220 KV	a) 33 KV Dankuni-I&II	"	
		b) 33 KV Kaikala-I&II		
		c) 10+10 MVA Tr#1 &2		
		d) 10MVA+6.3 MVA Tr#3 &4		
		e) 5 MVA Tr#5		
6	CESC			To be furnished by CESC

TOTAL

Haldar
08/10/16

RP - Sanjiv Goenka Group
Growing Legacies

CESC LIMITED
Energising Lives - Since 1899

Sys/Con: 689

3rd October, 2016

Member Secretary
Eastern Regional Power Committee,
14, Golf Club Road
Tollygunge
Kolkata – 700 033

Re: UNDERFREQUENCY

Dear Sir,

We hereby confirm that all U/F relays and SPS including Islanding Scheme of CESC Generating Stations installed in our system are healthy and in commission.

Please also note that there was no under frequency operation for the month of **September, 2016**.

Yours faithfully,

SR. MANAGER
SYSTEM CONTROL

Annexure- B.9

GMR Kamalanga Energy Limited

Administration Office:
Plot No. 29, Satya Nagar
Bhubaneswar 751 007
CIN U40101KA2007PLC044809
+91-0674-2572795
+91-0674-2572794
www.gmrgroup.in

Ref. GKEL/ERPC/16-17/5931

Date: 14.10.2016

The Member Secretary
ERPC, 14 Golf Club Road
Tollygunj, Kolkata: 700033

Sir,

Sub: (Declaration of Healthiness of SPS System for the month of September 2016).

We here with declare that our SPS system is running satisfactory and there will be a load rejection of 200 MW (Station wise), once the SPS signal is received from NTPC end.

This is for your information and further advice in this regard.

Thanking You.

Yours Sincerely
GMR Kamalanga Energy Limited.

(Arabinda Pani)
AVP (O&M)

Plant Office:
AT/PO: Kamalanga, PS: Kantabania
VIA: Meramundali, Dist.: Dhenkanal 759121
Odisha

Regd. Office:
25/1, Skip House, Museum Road,
Bangalore-560 025

JINDAL INDIA THERMAL POWER LIMITED
AT/PO: DERANG, VIA: KANIHA, TALCHER, DIST.: ANGUL, ORISSA-759117,
PHONE: +91- 9583040 700 / 701/ 702

Date: 03/10/2016

To,

The General Manager

Eastern Region Load Dispatch Centre

Kolkata

Sub- Status of SPS at Jindal India Thermal Power Limited, Derang, Odisha

Dear Sir,

As deliberated in OCC, w.r.t. the above subject, we would like to bring to your kind notice that SPS protection implemented at our plant is in service.

This is for your information and records.

Thanking you,

Yours Truly,

(V. C. Shukla)

Plant Head

Jindal India Thermal Power Limited

Derang, Dist-Angul, Odisha

CC: Member Secretary, ERPC, Kolkata

Subject: **SPS Healthiness for September -2016 for Vedanta Limited , Jharsuguda.**
To: "eeop.erpc@gov.in" <eeop.erpc@gov.in>
Cc: "psdas1972@gmail.com" <psdas1972@gmail.com>,
Surajit Banerjee <surojitb@gmail.com>,
Manas Kumar Panda <ManasKumar.panda@vedanta.co.in>,
Deepak Kumar Singh <Singh.Deepak@vedanta.co.in>,
Pankaj Sharma <Pankaj.Sharma@vedanta.co.in>

Date: 10/01/16 11:24 AM
From: Sudipta Chowdhury <Sudipta.Chowdhury@vedanta.co.in>

Respected Sir,

This is with reference to the SPS Healthiness for September 2016.

SPS is healthy for Vedanta Limited, Jharsuguda for September 2016.

This is for your information and record please .

Thanks and Regards,

Sudipta Chowdhury
Associate Manager (Power)
Vedanta Ltd(formerly Sesa Sterlite Ltd)
4X600MW Power Plant,Banjari,
Jharsuguda,768202,
Odisha.
Mobile:+919937294336

This email has been blocked from loading remote images.

Subject: **Confirmation of healthiness of Chuzachen SPS - October 2016**
Date: 10/17/16 03:11 PM
To: Member Secretary <mserpc-power@nic.in>
From: shailendra.gautam@gatiinfra.com
Cc: GM ERLDC <ujwalkumar.verma@gmail.com>, sanjeev.upadhyay@gatiinfra.com, niladri.mandal@gatiinfra.com

Sir,

- In compliance to ERPC communication no. ERPC/MS/2015 FAX MESSAGE : 274 Dated 30/04/2015 regarding the healthiness check of Chuzachen SPS for October 2016, it is submitted that, Chuzachen SPS signal was simulated **in real time and found to be working perfectly.**
- In view of above, **the healthiness of Chuzachen SPS for OCTOBER 2016 is hereby confirmed for information and record of the 126th OCC Meeting forum.**

With regards,

Shailendra K. Gautam
Senior Manager–Operation & EM
Chuzachen Hydro Electric Project
Gati Infrastructure Pvt Ltd.
Lower Bering Karabari, Pakyong
East Sikkim, 737106 India
Mobile : +91 8016099975

gati logo gati logo1

Visit us : www.gati.com
Toll Call : 1860-123-4284

Subject: **Healthiness of SPS for ER-II.**
To: "D K Bauri, EE(O), ERPC" <eeop.erpc@gov.in>
Cc: mserpc-power@nic.in, Surajit Banerjee <surojitb@gmail.com>, PARTHA SARATHI Das <psdas1972@gmail.com>, tushar mohapatra <tushar.mohapatra@gmail.com>

Date: 10/20/16 11:12 PM
From: Asset Management <erts2am@gmail.com>

Dear Sir,

SPS system of Berhampur Sub-station for the month of September-2016 is healthy.

Regards.

Partha Ghosh
--
पावर ग्रिड कार्पोरेशन ऑफ इंडिआ लिमिटेड / POWER GRID CORPORATION OF INDIA LIMITED
पूर्वी क्षेत्र पारेषण प्रणाली - II/ Eastern Region Transmission system-II

एसेट मैनेजमेंट / Asset Management
CF-17, Action Area-1C, New Town
Rajarhat, Near Axis Mall,
Kolkata -700156

Subject: **Fwd: Healthiness of SPS Scheme**
Date: 10/21/16 07:52 AM
To: Ankan Kumar Bandyopadhyaya <mserpc-power@nic.in>
From: AM BBSR <onmodisha@gmail.com>
Cc: Erldc POSOCO <erldc.cal@gmail.com>,
ERLDC PROTECTION <erldcprotection@gmail.com>,
victor <victor@powergridindia.com>,
"A. K. Behera" <akbehera_powergrid@yahoo.co.in>,
Odisha ASSET Management <onmodisha@gmail.com>

Dear Sir,

Please find in trailing mails the formal healthiness certificate of SPS pertaining to Talcher HVDC, Angul and Rourkela S/s under POWERGRID, Odisha Projects.

Regards.

(S.K.Naik)
Ch.Manager(AM)
POWERGRID
Odisha Projects.

Forwarded conversation

Subject: **Healthiness of SPS Scheme**

From: **AM BBSR** <onmodisha@gmail.com>
Date: Tue, Oct 18, 2016 at 3:10 PM
To: ANGUL GSS <substation.angul@gmail.com>, ROURKELA SS1 <rklsubstation@gmail.com>, HVDC Talcher <hvdctalcher@gmail.com>, Kaniha HVDC <hvdc.talcher@gmail.com>, Rourkela GSS <er_rklss@yahoo.com>
Cc: RL Panda Kaniha <pandarajiblochan@gmail.com>, "Kar S.P" <karsp123@rediffmail.com>, Dnsarangil10 <dnsarangil10@yahoo.com>, victor <victor@powergridindia.com>

Dear Sir,
Please forward healthiness certificate pertaining to your sub-station for onward submission to ERPC.

Megha Pradhan
Engineer AM

--

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
POWER GRID CORPORATION OF INDIA LIMITED

Plot No.27, Sahid nagar

Bhubaneswar-751007

From: **POWERGRID ROURKELA** <rklsubstation@gmail.com>
Date: Tue, Oct 18, 2016 at 3:23 PM
To: AM BBSR <onmodisha@gmail.com>
Cc: S K Naik <sknaikindia@gmail.com>

Dear Sir,
In reference to the above cited subject, this is to inform that the SPS system pertaining to Rourkela Substation is now in service and is in healthy condition as on 18.10.2016.

Regards
A.K.Sahu,

Dy. Manager (S/S),
PGCIL, Rourkela.
--
Regards

पावर ग्रिड कॉर्पोरेशन आफ़ इंडिया लिमिटेड
POWERGRID CORPORATION OF INDIA LIMITED,
400/220 के .वी राउरकेला उपकेन्द्र
400/220 KV, Rourkela Substation,
सेक्टर-21, नयाबाजार / Sector - 21, Nayabazar,
राउरकेला-769010 / Rourkela - 769010
ई-मेल/E-mail : rklsubstation@gmail.com

From: **AM BBSR** <onmodisha@gmail.com>
Date: Wed, Oct 19, 2016 at 10:26 AM
To: ANGUL GSS <substation.angul@gmail.com>, Dnsarangil10 <dnsarangil10@yahoo.com>, HVDC Talcher <hvdctalcher@gmail.com>, RL Panda Kaniha <pandarajiblochan@gmail.com>
Cc: victor <victor@powergridindia.com>, "A. K. Behera" <akbehera_powergrid@yahoo.co.in>

Dear Sir,

Please forward healthiness certificate of SPS pertaining to your sub-station for onward submission to ERPC.

Only Rourkela S/s has submitted the certificate. It is pending from Angul and Talcher S/s.

Regards.

(S.K.Naik)
Ch.Mgr(AM), BBSR
Plot No. 4, Unit-41, Sailashreevihar
Chandrasekharpur, Bhubaneswar-751021

From: **HVDC Talcher** <hvdc.talcher@gmail.com>
Date: Wed, Oct 19, 2016 at 10:35 AM
To: AM BBSR <onmodisha@gmail.com>
Cc: rabiroshan@powergridindia.com

Dear Sir

This is to intimate that SPS System pertaining toHVDC Kaniha station is now in service and is in healthy condition as on 18.10.2016.

Regards
--
पावरग्रिड
2000 मेगावाट एचवीडीसी तालचेर
P.No - 9437575682,06760244086

From: **ANGUL S/S** <substation.angul@gmail.com>
Date: Wed, Oct 19, 2016 at 10:52 AM
To: AM BBSR <onmodisha@gmail.com>
Cc: Dnsarangil10 <dnsarangil10@yahoo.com>

Dear Sir,
In reference to the above cited subject, this is to inform that the SPS system pertaining to Angul Substation is in service and healthy condition.

Regards

(G Mallik)
Dy. manager
Angul s/s.

पॉवर ग्रिड कारपोरेशन ऑफ़ इंडिया लिमिटेड / Power Grid Corporation of India Limited
४००/७६५ के वी पुलिंग स्टेशन / 400/765 KV Pooling Station
फुलपड़ा, अंगुल-७५९०२९ (ओडिशा) / Fulpada, Angul-759029 (Odisha)

--

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
POWER GRID CORPORATION OF INDIA LIMITED
Plot No. 4, Unit-41, Niladri Vihar
Chandrasekharpur, Bhubaneswar-751021

एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)

NTPC- KANIHA

FAX MESSAGE

Ref No. : 9501/O&M/EEMG/ 1877 **Date : 17.10.2016**

From : GM (O&M), TSTPS Fax no: 06760-243260

To : Member Secretary, ERPC, Kolkata Fax no: 033-24171358

Sub : AGENDA POINTS FOR 126th OCC MEETING OF ERPC

1. **Generation availability schedule of TSTPS Stage-I for Oct-16:**

Unit # 1 & 2 will be available for generation for the entire month of Oct-16

	STATION (Stage # I)
Hourly (Ex-bus) Generation (MU)	**0.4712 MU/Unit**
Capability (Ex-bus) for the Month (MU)	**688.0 MU**

2. **Shut down program of TSTPS Stage-I Units:**

Unit	Date of planned S/D	Planned S/D
Unit # 2	Unit-2 Overhauling is rescheduled from 21st Nov-16	21-Nov-16 to 15-Dec-16 (25 days)

3. **Shut down program of Lines planned during Nov-16: NIL**

4. **Healthiness of SPS of HVDC Talcher – Kolar : SPS Protection at TSTPS is healthy.**

17/X/16

(Laxmidhar Sahoo)
GM (O&M)

लक्ष्मीधर साहू
LAXMIDHAR SAHOO
महाप्रबंधक (प्रचा. एवं अनु.)
General Manager (O&M)
एनटीपीसी लिमिटेड / तालचेर कनिहा
NTPC Limited / Talcher Kaniha

Annexure-B.10.1

Phone : 06549-242278
Fax No.06549-242279

Damodar Valley Corporation
Chandrapura Thermal Power Station
P.O. CHANDRAPURA, DIST: BOKARO,
PIN – 828 403 :: Jharkhand

No.CT/CE/E-309/ 346 Oct 04 ,2016.

To,
The Chief Engineer (CLD)
DVC:Maithon

Sub: Healthy Certificate in respect of ''Islanding Scheme''
Ref: Your letter No:LD/25/Thermal/321 Dtd: 02/07/2015.

Dear Sir,

With reference to above, the healthiness status of islanding system as observed today (Dt: 04/10/2016) at 10.00 Hrs is furnished below:

A) System Healthy Indication –OK
B) Under Frequency Relay 181—healthy indication glowing –OK
C) Under Frequency Relay 281—healthy indication glowing –OK
D) Under Frequency Relay 381—healthy indication glowing –OK

As per the indications available, the system is healthy in line with the in built supervision provision provided by M/s ALSTOM, the Manufacturer and Erector of the ''Islanding Scheme''.

This for your kind information.

Yours faithfully,

4/10/16

(G C Chowdhury)
Electrical Superintendent-I
CTPS Units # 1,2 & 3

Copy to;
1). The CE & HOP, DVC,CTPS.
2). The CE (O&M), DVC,CTPS.
3). The Dy.CE (E), DVC,CTPS.

O/C

West Bengal State Electricity Transmission Company Limited

(A Government of West Bengal Enterprise)

CIN: U40109WB2007SGC113474; Website: www.wbsetcl.in ; Phone / Fax No. (033) 2334 9020

Registered Office : Vidyut Bhawan, Block-DJ, Sector-II, Bidhannagar, Kolkata – 700 091

OFFICE OF THE CHIEF ENGINEER
STATE LOAD DESPATCH CENTRE

Memo No.: SLDC/How/ 146 / 958 **Dated: 5 /10/ 2016.**

To
The Member Secretary,
ERPC, 14 Golf Club Road,
Tollygaunj, Kolkata-700 033.

Sub: Healthiness of UFRs under BKTPP and Tata Power islanding for September-2016.

Dear Sir,

Eenclosed herewith please find the healthiness report for September-2016 i.r.o. UFRs put into operation under (i) BKTPP Islanding Scheme at 220KV Gokarna and 220KV Satgachia S/stns. & (ii) Tata Power Islanding scheme at 132KV Haldia and 132KV NIZ S/stns. of WBSETCL system.

This is for your kind information please.

Thanking you.

Yours faithfully,

05/10/2016

(P. K. KUNDU.)
ACE, SLDC,WBSETCL.

Enclo: As stated.

❖ ANDUL ROAD ❖ P.O. DANESH SEIKH LANE ❖ HOWRAH - 711109
❖TELEPHONE : 2688-7697 ❖ FAX NO.2688-5417 / 2688-6232\
email ID:- wbsldc.hra@gmail.com

UFR Status at 132KV Haldia and NIZ S/Stn. under Tata Power-Haldia Islanding for September-2016.

Name of Sub-station	UFR	Healthiness	Remarks
Old Haldia 132KV S/stn.	UFR Stg.-I (47.90Hz, 500ms time delay).	**D.C. Supply ON & PT fuse O.K.**	
NIZ 132KV S/stn.	UFR Stg.-I (47.90Hz, 500ms time delay).	**D.C. Supply ON & PT fuse O.K.**	
Old Haldia 132KV S/stn.	UFR Stg.-II (47.70Hz, 200ms time delay).	**D.C. Supply ON & PT fuse O.K.**	
Old Haldia 132KV S/stn.	UFR Stg.-III (47.60Hz, 400ms time delay).	**D.C. Supply ON & PT fuse O.K.**	
NIZ 132KV S/stn.	UFR Stg.-III (47.60Hz, 400ms time delay).	**D.C. Supply ON & PT fuse O.K.**	

UFR Status at 220 KV Satgachia and Gokarno S/Stn. under BKTPP Islanding for September-2016.

Name of Sub-station	UFR.	Healthiness	Remarks
Gokarno 220 KV S/stn.	UFR Stg.-I (47.90Hz, 250ms time delay)	D.C. Supply ON & PT fuse O.K.	
	UFR Stg.-II (47.60Hz, 500ms time delay)	D.C. Supply ON & PT fuse O.K.	
	UFR Stg.-III (47.50Hz, 750ms time delay)	D.C. Supply ON & PT fuse O.K.	
Satgachia 220 KV S/stn	UFR Stg.-I (47.90Hz, 250ms time delay)	D.C. Supply ON & PT fuse O.K.	
	UFR Stg.-III (47.50Hz, 750ms time delay)	D.C. Supply ON & PT fuse O.K.	

Annexure- B.12.2

Weekly Progress report on Construction of Dedicated Transmission Line:

As on dt.10th October, 2016

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	58 Nos
7.	Tower Erection Completed	32 Nos
8.	Stringing Completed	0 KM
9.	Completion Schedule of Dedicted transmission line along with the associated bay at Both ends.	30th Nov, 2016

Eastern Regional Power Committee, Kolkata

Minutes of Special Meeting on "Issues related to Vedanta Limited" held on 14th October, 2016 at ERPC, Kolkata

List of participants is at **Annexure-A.** Member Secretary, ERPC welcomed CEA, CTU, Vedanta, OPTCL, GRIDCO, ERLDC and all other participants to the special meeting. He informed that this special meeting was convened on short notice to deliberate the issues related to Vedanta Limited.

He briefed the house that in the 125th OCC meeting held on 20.09.16 the Vedanta related issues were raised and OCC in its capacity deliberated in detail and decided the following:

i) Vedanta has to get a fresh connectivity from CTU for their CPP units #1, 3 & 4 (as these units were converted from IPPs to CPPs) as per the decision of 11th Connectivity and LTA meeting of ER held on 13.06.2016.

ii) Vedanta has to get NOC from SLDC Odisha for scheduling of their units through ERLDC.

iii) Vedanta will be allowed to connect to CTU system only after submission of the above two documents.

iv) ERLDC will start scheduling Vedanta CPP Units #1,3,& 4 only after getting a fresh NOC from SLDC Odissa and with grant of fresh connectivity by CTU.

v) Till then Vedanta would be treated as an embedded customer under the jurisdiction of SLDC Odisha and may remain connected to grid through STU system only (as presently its units are connected to OPTCL system) and do their STOA transaction through SLDC Odisha.

vi) In view of all of above, the NOC granted to Vedanta would stand revoked and fresh NOC could be issued subject to fulfillment of the stated conditions

vii) Vedanta has to complete the dedicated line within the schedule (i.e. November, 2016) otherwise the LILO may be removed as per the decision of 33rd ERPC and the meeting convened by CEA held on 16.09.2016.

Deliberation in the meeting

Vedanta informed that they are actively perusing for the NOC from Odisha for the purpose of getting connectivity from CTU. Rounds of discussions were going on for with GRIDCO/ OPTCL officials on the terms and conditions for the NOC and it will be finalized within 2-3 days.

Further, Vedanta clarified that their present requirement is as follows:

- Getting connectivity for their 3x600 MW CPPs along with smelter load (Maximum of 2000 MW) from CTU, with provision to draw power upto 1000 MW (maximum).
- To meet their 900 MW (approx) smelter load from the CPPs.
- To supply 550 MW power to Odisha through STU network.
- Shifting of units from ISTS to STU system and vice versa are being done as per their convenience for supply of smelter load and power supply to Odisha.

Therefore, to meet their own requirement along with their commitment to supply Odisha as per terms of PPA between them, Vedanta is compelled to connect their three (3) units to STU network, keeping one unit as standby.

GRIDCO informed that several meetings are going on with Vedanta to sort out the issues related to NOC and power supply to Odisha. They were in a process to sign a modified PPA for getting power supply from Vedanta.

Further, OPTCL viewed that all CPP units (unit #1, 3 &4) and IPP unit (#2) of Vedanta Ltd along with SEZ (smelter) load shall be kept at 400 kV bus of Vedanta Ltd Switchyard without bus splitting and shall be connected to STU network through 400 kV Vedanta Ltd-Meramundali D/C line.

CTU clarified that as per connectivity regulations Vedanta can get connectivity either as 3x600 CPP generator provided their net exportable capacity is more than 250 MW or as a Bulk Consumer with load of 1000 MW. But connectivity for both injection of more than 250 MW and drawl of 1000 MW power is not permitted as per present CERC regulation on grant of Connectivity, LTA and MTOA.

Further, it was informed that for the purpose of scheduling Vedanta generation, the control area jurisdiction of Vedanta should be decided following the principle outlined in IEGC, i.e. if a generating station is connected both to ISTS and the State network, scheduling and other functions performed by the system operator of a control area will be done by SLDC, only if state has more than 50% Share of power .The role of concerned RLDC, in such a case, shall be limited to consideration of the schedule for inter state exchange of power on account of this ISGS while determining the net drawal schedules of the respective states. If the State has a Share of 50% or less, the scheduling and other functions shall be performed by RLDC.

During deliberation it emerged that Vedanta as a 4X600 MW plant has obligation to supply power more than 50% of its capacity within the home state of Odisha itself [900 MW (50% of 1800MW) for smelter load and 550 MW to Odisha state i.e. 1450MW total]. As such, it does not qualify to be a regional entity. Therefore even if Vedanta is connected to both CTU and STU system, it should be scheduled by Odisha SLDC. After detailed deliberation the followings were decided:

1. Control area jurisdiction of Vedanta will be shifted from ERLDC to SLDC, Odisha.
2. CPP units (unit #1, 3 &4) and IPP unit (#2) of Vedanta Ltd along with SEZ (smelter) load shall be kept at 400 kV bus of Vedanta Ltd Switchyard without bus splitting and shall be connected to STU network through 400 kV Vedanta Ltd-Meramundali D/C line.

   There will be no need to operate the 400kV buses of Vedanta in split bus mode and they should be coupled by completing all the dias.
3. One unit shall be kept as standby till the completion of 400 kV Sterlite-Jharsuguda D/C line.
4. Vedanta Ltd shall be a State embedded entity for all purposes and requisite STU connection would be obtained by Vedanta Ltd i.r.o above.
5. The CTU connectivity of Vedanta may be kept in abeyance. The same may be closed/ withdrawn from the date of getting the STU connectivity.
6. On change of control area jurisdiction the NOC granted by ERLDC to Vedanta Ltd shall stand revoked.
7. After changeover of control area jurisdiction, the LILO point of 400 kV Rourkela-Raigarh at Vedanta will be interface point of Odisha STU till 30th November, 2016.
8. Subsequently, after the completion of 400 kV Sterlite-Jharsuguda D/C line the interface point of Odisha STU will be shifted to Jharsugada.

9. With the change of control area jurisdiction the status of 400 kV Sterlite-Jharsuguda D/C line will no more be a dedicated line. So, Vedanta agreed to hand over the line to OPTCL which can be treated as an ISTS tie of OPTCL.
10. Vedanta has to strictly adhere to the schedule for completion of 400 kV Sterlite– Jharsuguda D/C line (i.e. 30th November, 2016) as per the decision of 33rd TCC/ERPC and decided in the meetings held in CEA on 16.9.16. In case 400kV Vedanta-Jharsuguda D/C line is not commissioned by that date, the LILO connection to Vedanta shall be withdrawn.
11. Due to change of control area jurisdiction from ERLDC to SLDC Odisha. Vedanta Ltd has to settle the following:

    I) ERLDC fees and charges shall be paid by Vedanta Limited as applicable up to the cutoff date.
    II) Previous dues up to cut off date of the pool accounts such as DSM charges along with interest, RTDA, any others has to be settled by Vedanta.
    III) Henceforth, any deviation of Vedanta Limited will be treated as deviation of OPTCL.
    IV) After changeover of jurisdiction if in future it is found that any amount in pool account had remained unaccounted by mistake against Vedanta Limited, Vedanta Limited will have to pay the amount into the pool account.
    V) For calculation of POC charges and losses Vedanta Limited generation will be considered as generation of Odisha.
    VI) Vedanta Limited has to get registered afresh at each RLDC for Short Term Open Access as embedded entity in OPTCL.
    VII) Reconciliation of accounts is also required to be done up to the cutoff date by Vedanta.
    VIII) OPTCL in coordination with Vedanta has to send weekly SEM data to ERLDC by Tuesday Noon.

Vedanta expressed that presently the 400 kV Vedanta- Meramundali D/C line is not stable and tripping frequently. Vedanta and OPTCL were advised to look into the matter and resolve the issues related to this line expeditiously. Till carrier aided distance protection scheme is implemented, entire length of the line should be covered in Zone-1 from both ends

ERLDC stressed that the SPS for restricting power flow in 400kV Vedanta – Rourkella or Vedanta-Raigarh line within 650 MW, should be kept in service. Vedanta agreed.

After changeover of the jurisdictional authority, it was felt that closed Bus operation would ensure greater reliability. In this regard CTU stated that with such a closed bus operation, the impact of increase of short circuit MVA levels at various buses would not be significant and would remain within limits. Further, it was decided that a system study may be carried out for the above arrangement and placed in the next OCC. It was also decided that the control area jurisdiction may be handed over to SLDC, Odisha w.e.f. 24.10.2016 as under the present circumstances Vedanta is not mandated to inject to the ISTS Grid and their NOC stands revoked w.e.f 24.10.16.

Meeting ended with vote of thanks to the chair.

****

Annexure-B.17

Manpower Engaged in Power Sector (Separately for Central, State and Private sector)

As on 31st March	Regular						Non-Regular				Grand Total (Regular+ Non Regular)
	Managerial and higher executive	Technical/ scientific officers	Technical Supervisory Staff	Technicians & operating Staff	Non-Technical	Total (Regular) {col 2 to 6}	Technical Trainees and apprentices	Work charged staff	Casual/ Temporary/ Out sourced	Total (Non-Regular) {col 8 to 10}	
1	2	3	4	5	6	7	8	9	10	11	
Actual											
2012											
2013											
2014											
2015											
2016											
Projected/ Estimated											
2017											
2018											
2019											
2020											
2021											
2022											
2023											
2024											
2025											
2026											
2027											

Details Regarding No. of Consumers and Connected Load etc.

(A) Utilities

As On 31st March of Financial year end	No. of Consumers	Connected Load (kW)	Consumption (MU)	Energy Available for Supply	T&D losses(%)	Per Capita Electricity Consumption(kWh)
1	2	3	4	5	6	7
2011-12						
2012-13						
2013-14						
2014-15						
2015-16						
2016-17						
2017-18						
2018-19						
2019-20						
2020-21						
2021-22						
2022-23						
2023-24						
2024-25						
2025-26						
2026-27						

(B) Non Utilities

As On 31st March of Financial year end	No. of Consumers	Connected Load (kW)	Consumption (MU)	Energy Available for Supply	T&D losses(%)	Per Capita Electricity Consumption(kWh)
1	2	3	4	5	6	7
2011-12						
2012-13						
2013-14						
2014-15						
2015-16						
2016-17						
2017-18						
2018-19						
2019-20						
2020-21						
2021-22						
2022-23						
2023-24						
2024-25						
2025-26						
2026-27						

(C) Utilities + Non Utilities

As On 31st March of Financial year end	No. of Consumers	Connected Load (kW)	Consumption (MU)	Energy Available for Supply	T&D losses(%)	Per Capita Electricity Consumption(kWh)
1	2	3	4	5	6	7
2011-12						
2012-13						
2013-14						
2014-15						
2015-16						
2016-17						
2017-18						
2018-19						
2019-20						
2020-21						
2021-22						
2022-23						
2023-24						
2024-25						
2025-26						
2026-27						

Details Regarding Installed Capacity, No. of Consumers and Connected Load etc.

(A) Installed Capacity (MW) - Utilities

As On 31st March	Hydro	Thermal				Nuclear	Renewable					Grand Total
		Steam	Gas	Diesel	Total (Thermal)		Wind	Solar	Biomass etc	Mini/Micro Hydel	Total (Renewable)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2012												
2013												
2014												
2015												
2016												
2017												
2018												
2019												
2020												
2021												
2022												
2023												
2024												
2025												
2026												
2027												

(B) Installed Capacity (MW) - Non Utilities

As On 31st March	Hydro	Thermal				Nuclear	Renewable					Grand Total
		Steam	Gas	Diesel	Total (Thermal)		Wind	Solar	Biomass etc	Mini/Micro Hydel	Total (Renewable)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2012												
2013												
2014												
2015												
2016												
2017												
2018												
2019												
2020												
2021												
2022												
2023												
2024												
2025												
2026												
2027												

(C) Installed Capacity (MW) - (Utilities + Non Utilities)

As On 31st March	Hydro	Thermal				Nuclear	Renewable					Grand Total
		Steam	Gas	Diesel	Total (Thermal)		Wind	Solar	Biomass etc	Mini/Micro Hydel	Total (Renewable)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2012												
2013												
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2018												
2019												
2020												
2021												
2022												
2023												
2024												
2025												
2026												
2027												

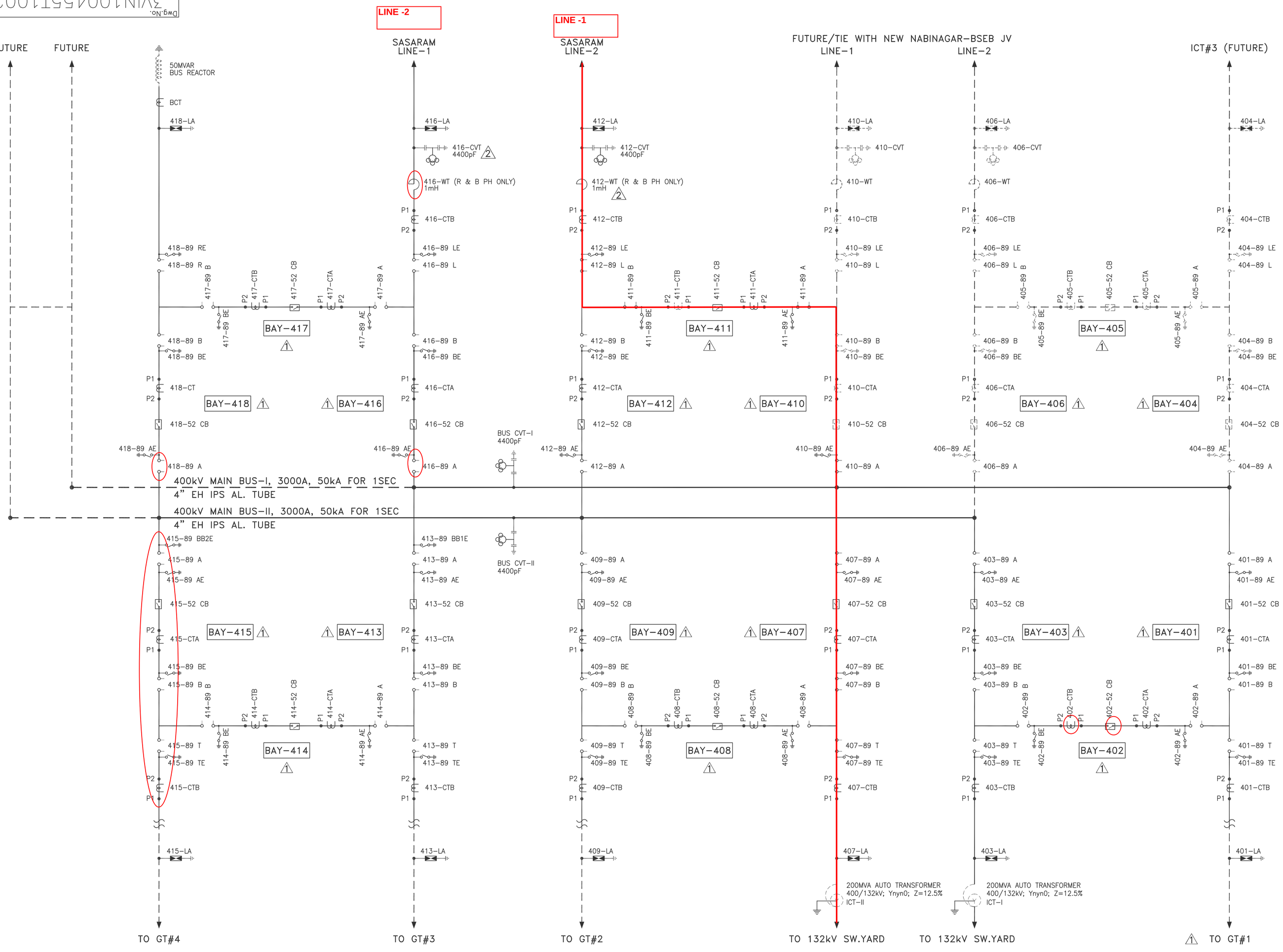
Annexure-B.18

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.27



LEGEND : 400kV EQUIPMENTS

No.	SYMBOL	DESCRIPTION	QTY.
1		420kV,2000A, 50KA FOR 1 SEC, 3ø SF6 CIRCUIT BREAKER WTHOUT P.I.R	14
2		420kV, 2000A, 50KA, FOR 1 SEC, 3ø HORIZONTAL CENTRE BREAK MOTOR OERATED ISOLATOR WITH 1 EARTH SWITCH	36
3		420kV, 2000A, 50KA, FOR 1 SEC, 3ø HORIZONTAL CENTRE BREAK MOTOR OPERATED ISOLATOR WITH 2 EARTH SWITCHES	02
4		420kV, 50KA, 5 CORE, 1–Ph. 2400A (120% EXTENDED CONTI.RATING OF 2000A) CURRENT TRANSFORMER	78
5		420kV, 3 CORE, 1–Ph., 4400pF CAPACITIVE VOLTAGE TRANSFORMER ⚠2	12
6		390kV 10kA, CL:3 GAPLESS METAL OXIDE SURGE ARRESTER	27
7		420kV, 2000A, 1.0 mH, WAVE TRAP ⚠2	04
8		420kV, 50MVAR, BUS REACTOR (NOT IN SCOPE OF S/S PACKAGE)	01
9		400/132kV, 200MVA; Ynyn0; Z=12.5% INTERCONNECTING AUTO TRANSFORMER (NOT IN SCOPE OF S/S PACKAGE)	02

LEGEND:–

———— PRESENT SCOPE

– – – – – – – – FUTURE SCOPE/NOT IN SCOPE OF S/S PACKAGE

NOTE:

1. WAVE TRAP LOCATIONS MENTIONED ARE FOR INDICATIVE PURPOSE ONLY; THE SAME SHALL BE AS PER NTPC'S DIRECTIONS.
2. ⚠1 8800pF & 4400pF CVT'S AND 0.5mH & 1.0mH WAVE TRAPS SHOWN IN SASARAM LINE–1 & SASARAM LINE–2 ARE TENTATIVE AND SHALL BE FINALIZED AS PER NTPC'S DIRECTIONS, AFTER THE RECEIPT OF CVT & WT DETAILS OF OTHER END.

REFERENCE DWG:

1. TENDER STAGE SLD. – 0270–572–POE–A–001 (REV–01)

CORE DETAILS OF 400kV CT's (120% EXTENDED RATING OF 2000A)

CORE NO.	APPLICATION	CURRENT RATIO (A)	OUTPUT BURDEN (VA)	ACCURACY CLASS AS PER IEC 185	MIN. KNEE POINT VOLTAGE (VOLTS)	MAX. CT SECONDARY WINDING RESISTANCE (OHMS)	MAX. EXCITING CURRENT (mA) AT KNEE POINT VOLTAGE
1	BUS DIFFERENTIAL CHECK	2000–1000/1	– –	PS	2000–1000	10 5	30 ON 2000/1TAP 60 ON 1000/1TAP
2	BUS DIFFERENTIAL MAIN	2000–1000/1	– –	PS	2000–1000	10 5	30 ON 2000/1TAP 60 ON 1000/1TAP
3	METERING	2000–1000–500/1	20 20 20	0.2 0.2 0.2	– – –	– – –	– – –
4	TRANSF. BACKUP/ LINE BACKUP PROTECTION	2000–1000–500/1	– – –	PS	4000–2000–1000	10 5 2.5	30 ON 2000/1TAP 60 ON 1000/1TAP 120 ON 500/1TAP
5	TRANSF. DIFFL./ LINE PROTECTION	2000–1000–500/1	– – –	PS	4000–2000–1000	10 5 2.5	30 ON 2000/1TAP 60 ON 1000/1TAP 120 ON 500/1TAP

CORE DETAILS OF 400kV CVT's

PARTICULARS	PRIMARY	SECONDARY I	SECONDARY II	SECONDARY III
RATED SECONDARY VOLTAGE	400kV/$\sqrt{3}$	110V/$\sqrt{3}$	110V/$\sqrt{3}$	110V/$\sqrt{3}$
APPLICATION		PROTECTION	PROTECTION	METERING
ACCURACY		3P	3P	0.2
OUTPUT BURDEN (MINIMUM)		75VA	75VA	75VA

REV	DATE	REMARKS	APPROVAL CAT.	APPROVAL DATE	ISSUED FOR CONSTRUC.
REV–2	10.05.2011	WAVE TRAP AND CVT RATING REVISED			
REV–1	03.06.2010	AS PER NTPC COMMENTS			
REV.NIL	15.05.2010	FIRST SUBMISSION			

BHARATIYA RAIL BIJLEE COMPANY LTD.
(A JOINT VENTURE COMPANY BETWEEN NTPC LIMITED AND MINISTRY OF RAILWAYS)

एन टी पी सी NTPC — NTPC Limited (A GOVERNMENT OF INDIA ENTERPRISE)

CONTRACT NO.

N T P C DRAWING NO. 0270–572–PVE–P–002

NABINAGAR THERMAL POWER PROJECT (4x250MW)

NOA NO.: CS–0270–572–2–FC–NOA–88A–09–10

400KV SWITCHYARD SINGLE LINE DIAGRAM

DRAWN Suresh | CHECKED DAYA | APPD. SP | SCALE NTS

ABB LIMITED

3VIN100455T1002

SHEET NO: 1 OF 1

Dwg.No. 3VIN100455T1002 Revision 2

Annexure- B.28

Generating Station

- Nabinagar NTPC :
  - No telemetry for Bus 11, Unit 2,3 and 4, Sasaram Ckt #1 and its associated Bay status. Voice communication yet to be integrated with Orange exchange.
- Sterlite IPP :
  - No telemetry for 400/220 kV ICT 1 &2 and Vedanta line , No VOIP/Express voice communication. Alternate Data channel yet to be provided.
- Haldia (2 x 300MW) :
  - Bus Voltage, Isolator Status, SOE, LV side data.
- GMR (3 x 350 MW) :
  - Express voice and VOIP integration with ERLDC.
- JITPL (2 x 600MW) :
  - Express voice and VOIP yet to be provided. Alternate Data channel yet to be provided.

Contd…

Generating Station:

- Raghunathpur TPS:
  - Frequent failure of real time data.
- IBEUL (2 x 350 MW) –
  - Unit Side data not available. VOIP/Express Voice. Alternate Channel. Alternate Data channel yet to be provided.
- Farakka NTPC:
  - Unit #5 MW and MVAr data not matching with site data, Unit # 6 LV side not available.
- Sagardighi :
  - Unit 3 LV side (Unit) data not available.
- Patratu and Tenughat :
  - data is highly unstable .
- JSPL(Meeramundali) :
  - Most of the CBs and Isolators status are not available since last 2 years.
- TLDP 3 and 4:
  - No data available at ERLDC.

Sub Station (data not available at ERLDC):

- **NTPC:**
  - Lalmatia (No data since Jan 2016).
- BSPTCL :
  - Sonenagar ,Darbhanga, Valmikinagar and koshi (Connected with Nepal)
- JUSNL :
  - Hatia New 220, Dumka 220.
- OPTCL :
  - Paradeep .
- WBSEDCL :
  - 400 kV Kolaghat – Chaibasa flow not available.
  - Gokarna 400kV (400/220 kV ICT was first charged on 15th Sept'16) , Dharampur 220, Krishnanagar 220, Hura 220, Foundry Park 220.
- DVC:
  - Giridhi 220, Barjora 220,

Sub Station (highly intermittent data):

- POWERGRID :
  - Ranchi, Purnea 400, Baripada, Gaya, Biharshariff, Angul, Muzaffarpur,Lakhisarai.
- WBSETCL:
  - Bantala ,Laxmikantapur ,New Town , Subhasgram.
- BSPHCL :
  - Dumraon, Khagaul ,Darbhanga ,Dehri , sultangaunj , Lakhisarai, Karmanasa, Kahalgaon ,Jamaui ,Banka ,Gopalganj, Kisanganj, Arrah ,Rajgir ,Sipara ,Hajipur (New), Pusauli
- DVC :
  - Parulia , Barhi.

VOIP/Express Voice not available

- GMR
- JITPL
- Sterlite
- IBEUL
- Nabinagar
- Bolangir
- Indravati
- Jeypore
- Kalabadia
- Keonjhar
- Gazuwaka HVDC
- Unit Control of all ISGS and IPP/MPP (except CHEP).

Details of Eastern Region

Annexure- B.28

A. Telemetry not provided

A.1 Generating Stations

Sl. No.	User Name	Name of Generation Stations	Date of first sysnchonisation	Total Generation Capacity (in MW)	Remarks by constituentes / ERLDC 14/10/2016
1	WBSETCL	Haldia (2 x 300)	Jan-15	600	ERLDC is not getting any real time ISOLATOR status ,SOE from HEL except Line, Unit site MW /MVAR. No response.
2		Sagardighi (2 x 300 + 1 x 500)		1100	Unit 3 LV side not available., 400 kV Bus Voltage is erronious. (340kV)
1	IPP	400 KV GMR (3X 350 MW)	Apr-13	1050	As per ERLDC guidelines no express voice / VOIP phones.
2		400 JITPL (600 x 2)	Jun-14	1200	Data are highly instable . No alternate data channel and express voice commuincation integrated with ERLDC and its Exchange
3		IBEUL (2 x 350 MW)	Jul-16	700	No alternate data channel and as per ERLDC guidelines no express voice /VOIP phones provided . LV side data not available.
		Total (Non-telemetered stations)	**5**	**4650**	

A.2 Sub - Stations (765 & 400 kV)

Sl. No.	User Name	Name of sub-Stations	Voltage level	Date of first sysnchonisation	Remarks by constituentes / ERLDC 14/10/2016
1	OPTCL	JSPL (Meramundali -400)	400 kV	Sep'10	Status are not reporting.

A.3 Sub - Stations (220 kV & 132 kV)

Sl. No.	User Name	Name of sub-Stations	Voltage level	Target date as per User	Remarks by constituentes / ERLDC 14/10/2016
1	OPTCL	OPTCL CPP : 220 KV BPSL,CONCAST,BSL,JSL,TSIL,VISSA	220 / 132 kV	Dec-13	CONCAST NO DATA , JSL NO KV/HZ. BSL NO HZ .BPSL NO Bus Kv .
1	WBSETCL	Foundary Park	220		Data not integrated at SLDC .
2		Hura	220		Data not integrated at SLDC.
1	JSEB	Hatia New	220 kV	Sept-16	No Data available . Target Missed
2		Japla	132 KV	Sept-16	No Data available . Target Missed
3		Dumka	220 KV	Sept-16	No Data available . Target Missed

B. Telemetry provided but not working / working intermittently

B.1 Generating Stations

Sl. No.	User Name	Name of Generation Stations	Total Generation Capacity (in MW)	Target date as per User	Remarks by constituentes / ERLDC 14/10/2016
1	WBSETCL	TLDP (III) (4x 33)	132	Time Schedule not submitted	Data not available .
2		TLDP (IV) (2x 40)	80	Time Schedule not submitted	Data not stable
3		Kolaghat	1260	Time Schedule not submitted	Kolaghat Chaibasa (Kharagpur Line 1) line flow and status data not available.
1	JSEB	220 KV Tenughat (2X 210 MW)	420	Time Schedule not submitted	Data highly intermittent due to faulty communication link .
2		220 KV Patratu (4x 50 + 2x100 + 4x110)	840	Time Schedule not submitted	Data highly intermittent due to faulty communication link .
1	NTPC	400 kV Farakka : (3x 200 + 2 x 500 MW + 600) Unit-6 LV side MW/MVAR not available	2100	Time Schedule not submitted	Unit 5 LV side MW/MVAr is erroneous. Unit-6 LV side MW/MVAR not available.
2		BRBCL/Nabinagar TPP (4x250 MW)	1000	Time Schedule not submitted	Communication Link was restored on 15-09-16 but Complete SCADA data yet to be restored.. As per ERLDC guidelines no express voice /VOIP phones provided . Target date 30th Aug 2016.
1	Vedanta	SEL (4 x550 MW)	2200		. As per ERLDC guidelines no express voice /VOIP phones provided .
			5832		

B.2 Sub - Stations

Sl. No.	User Name	Name of sub-Stations	Voltage level	Target date as per User	Remarks by constituentes / ERLDC 14/10/2016 Data not reporting
1	BSPHCL	Dumraon	132 kV	Oct'16	R & M Work Completed,interfacing pending
2		Khagaul	132 kV	March'17	OPGW awarded by PGCIL
3		Dehri	220 KV	Nov'16	Data stopped due to collapse of tower
4		Sonenagar	220 kV	Oct'16	R & M Work Completed,interfacing pending
5		Sultangaunj	132 kV	Aug'16	RTU installed,end to end testing pending
6		Lakhisarai	132 KV	March'17	OPGW awarded by PGCIL
7		Karmanasa	132 KV	March'18	Under rennovation and modernization .
8		Kahalgaon	132 kV	March'17	OPGW awarded by PGCIL
9		Jamaui	132 KV	March'17	OPGW awarded by PGCIL
10		Banka	220 kv	March'17	OPGW awarded by PGCIL
11		Valmikinagar	132 kV	Aug'16	RTU installed,interfacing completedend to end testing in progress.
12		Koshi	132 kV	Aug'16	RTU installed,interfacing completedend to end testing in progress.
13		Gopalganj	220 kV	March'17	OPGW awarded by PGCIL
14		Kisanganj	132 KV	March'17	OPGW awarded by PGCIL
15		Arrah	132 KV	March'17	OPGW awarded by PGCIL
16		Rajgir	132 KV	March'17	OPGW awarded by PGCIL
17		Sipara	220 KV	March'17	OPGW awarded by PGCIL
18		Hajipur (New)	220 KV	March'17	OPGW awarded by PGCIL
19		Darbhanga	220 kV		RTU commissioned and data stopped reporting since 20-08-16
20		Jagdishpur	132 KV		RTU commissioned and data intermittent
21		Pusauli	220 KV	March'17	OPGW awarded by PGCIL
1	GRIDCO	Paradeep	220		Data not Available
2		Bidanasi	220		Most of the Status and Analog, kV data not available
1	JSEB	Jamtara	132 kV	Nov'16	RTU cards for replacement of faulty cards are not availabale.
2		Deoghar	132 kV	Nov'16	RTU cards for replacement of faulty cards are not availabale.
3		Garwah	132 kV	Nov'16	RTU cards for replacement of faulty cards are not availabale.communication link has been broken due to LILO at japla GSS.
4		Goelkera	132 kV	Nov'16	RTU cards for replacement of faulty cards are not availabale.
5		Jaduguda	132 kV	Nov'16	RTU cards for replacement of faulty cards are not availabale.
6		Kendposi	132 kV	Nov'16	RTU cards for replacement of faulty cards are not availabale.

7		Ramchandrapur	220 KV		Highly Intermittent
2	WBSETCL	Asansol	220		Highly Intermittent
3		Haldia NEW	220		Highly Intermittent
4		bantala	220		Highly Intermittent
5		Laxmikantapur	220		Highly Intermittent
6		New Town	220		Highly Intermittent
7		Subhasgram	220		Highly Intermittent
8		EM Bypass(CESC)	220		Bus Voltage and Frequency Not Available
1	POWERGRID	RANCHI	400		Highly Intermittent
2		Purnea 400	400 kV		RTU is getting Hanged frequently
3		Baripada	400 kV		Highly Intermittent
4		Gaya	765 kV		Highly Intermittent
5		Biharshariff	400 KV		Highly Intermittent
6		Angul	765 KV		Highly Intermittent
7		Muzaffarpur	400 KV		RTU is getting Hanged frequently
1	DVC	TISCO	400 KV		Data highly intermittent. In case of any problem data restoration time is too much high.
2		Parulia	220 kV		Data Not available
3		Raghunathpur	400 kV		Data not stable
1	NTPC	Lalmatia	220 kV	First week of September'16	Data stoppped reporting since Jan 2016

A. Station / Sub station

S. N	S/s Name	Orange Analog Phone: Hot line	OrangeVOIP: Hot line	Main ERLDC Kolkata data Link	Back Up ERLDC Delhi Data Link
1	Angul	Not Available	20330057	Available	Not Available
2	Ara	20330539	20330039	Available	Not Available
3	Baharampur	Not Available	20330031	Available	Not Available
4	Banka CS	Not Available	20330044	Available	Not Available
5	BARH NTPC *	Not Available	20330051	Available	Not Available
6	Biharsarif 400kv	Not Available	20330034	Available	Not Available
7	Birpara	Not Available	20330053	Available	Not Available
8	Bolangir	Not Available	Not Available	Available	Not Available
9	Chaibasa CS	Not Available	20330041	Available	Not Available
10	Chandwa	20330559	20330059	Available	Not Available
11	Dalkhola	20330549	20330049	Available	Not Available
12	Daltonganj	Not Available	20330056	Available	Not Available
13	Durgapur	20330528	20330028	Available	Not Available
14	FSTPP *	Not Available	20330054	Available	Not Available
15	Gangtok	Not Available	20330022	Available	Not Available
16	Gaya	Not Available	20330037	Available	Not Available
17	Indravati	Not Available	Not Available	Available	Not Available
18	Jamshedpur CS	20330533	20330033	Available	Not Available
19	Jeypore	Not Available	Not Available	Available	Not Available
20	Jharsugura	Not Available	20330040	Available	Not Available
21	Jorthang Power House	20330141		Available	Not Available
22	Kalabadia	Not Available	Not Available	Available	Not Available
23	Kahalgaon NTPC *	Not Available	20330043	Available	Not Available
24	Keonjhar	Not Available	Not Available	Available	Not Available
25	Kishanganj	Not Available	20330061	Available	Not Available
26	Lakshisarai	Not Available	20330042	Available	Not Available
27	Maithon	Not Available	20330026	Available	Not Available
28	Malda	20330529	20330029	Available	Not Available
29	MTHRB *	Not Available	20330027	Available	Not Available
30	Mujaferpur	Not Available	20330050	Available	Not Available
31	New Malli	20330140	20330021	Available	Not Available
32	Pandiavali	Not Available	20330067	Available	Not Available
33	Patna	Not Available	20330038	Available	Not Available
34	Purnia 220 KV	20330530	20330030	Available	Not Available
35	Purnia 400 KV	Not Available	20330025	Available	Not Available
36	Ranchi 400 KV	Not Available	20330032	Available	Not Available
37	Ranchi 765 KV	Not Available	20330035	Available	Not Available
38	Rangit	Not Available	20330058	Available	Not Available
39	Rangpo	20330139	20330020	Available	Not Available
40	Rengali	Not Available	20330045	Available	Not Available
41	Rourkela	20330536	20330036	Available	Not Available
42	Sasaram	Not Available	20330046	Available	Not Available
43	Siliguri 220	20330523	20330023	Available	Not Available
44	Siliguri 400/220 (Binaguri)	20330524	20330024	Available	Not Available
45	Subashgram	Not Available	20330015	Available	Not Available
46	Teesta NHPC	Not Available	20330062	Available	Not Available
47	TSTPP, Talcher NTPC *	Not Available	20330052	Available	Not Available
48	GMR *	Not Available	Not Available	ICCP LINK	Not Available
49	JITPL*	Not Available	Not Available	Available	Not Available
50	SEL *	Not Available	Not Available	Available	Not Available
51	Ind Bharat *	Not Available	Not Available	Available	Not Available
52	BRBCL/Nabinagar TPP *	Not Available	Not Available	Not Available	Not Available

Note :* Phone at Unit Control room is yet to provided.

B. SLDC /NLDC to ERLDC protection path not provided.

S.N.	Link	Main ERLDC Delhi		Backup ERLDC Delhi	
		Main Channel	Std By Channel (Route Diversity)	Main Channel	Std By Channel (Route Diversity)
1	OPTCL -ERLDC	Yes	Not Available	Not Available	Not Available
2	BSPTCL -ERLDC	Yes	Not Available	Not Available	Not Available
3	JUSNL -ERLDC	Yes	Not Available	Not Available	Not Available
4	WBSETCL -ERLDC	Yes	Not Available	Not Available	Not Available
5	DVC -ERLDC	Yes	Not Available	Not Available	Not Available
6	Sikkim -ERLDC	Yes	Not Available	Not Available	Not Available
7	NLDC -ERLDC	Yes	Not Available	Yes	Not Available

Annexure- B.29

पावरग्रिड

Power Grid Corporation of India Limited

Communication Equipment Package IV- Eastern Region

Troubleshooting & Analysis of Ethernet Services

commtel NETWORKS

1 Introduction

PGCIL ER SDH transmission network is spread across 5 states of India (i.e. West Bengal, Orissa, Sikkim, Jharkhand and Bihar. The transmission network consists of STM-16 SDH equipment *i.e.* Coriant hiT 7080 (Qty: 43 Nos.) & STM-4 equipment *i.e.* Coriant hiT 7025 (Qty: 99 Nos.).

The SDH transmission network facilitates E1 2Mbit/s to interface with PDH equipment (*i.e.* Loop AM3440) installed at all the station. The PDH equipment provides the voice *(i.e.* 2/4 Wire E&M and FXO/FXS Subscriber dialling) and data services (*i.e.* V.24/V.28 & V.35). The SCADA RTU's communicates with SCADA Master System over the V.24/V.28 data links.

The SDH network also facilitates Layer-2 Ethernet services for point-to-point and point-to-multipoint Ethernet traffic. The ICCP data links, Video Conference, EPABX, VoIP, RTU and Phase Metering Unit data links from SLDC's reports to ERLDC Kolkata over Ethernet services of SDH.

The above E1 2Mbit/s and Ethernet services were running for more than a year.

2 Network Events

8th August 2016 05:30 AM.

Failure of ICCP data, VoIP, RTU and Phase Metering Unit data from SLDC's reporting to ERLDC Kolkata.

On 8th August 2016 5:30 AM, majority of Ethernet services like ICCP, VoIP, and RTU were not operational.

The team reached ERLDC and found that Ethernet services are not operational, however E1 2Mbit/s traffic is operational without any disruption. All other voice & data services configured on PDH system are functioning seamlessly. The RTU data is working acceptably over V.24/V.28 data links of PDH system.

There were no alarms in NMS on any of the Ethernet interface units of SDH system. The team tried to isolate the fault by switching paths of SLDC's.

Considering the urgency of the restoration of ICCP links, we decided to reconfigure the ICCP links from all SLDC to ERLDC. In the meantime we requested PGCIL to provide the standby telecom links for early restoration of ICCP links. PGCIL provided us the standby telecom links and ICCP data shifted on the standby telecom links. Concurrently the ICCP links from all SLDC's to ERLDC were reconfigured on SDH system and restored by 9th August 2016 midnight.

As the network is widely spread across 5 states and not linear in nature it was again adding to the difficulty in finding the exact fault location. While restoring the Ethernet services, our observations and analysis are as below:

3 Problem Analysis & Corrective Actions

- We performed Ethernet ping test on 10 Mbps link between ERLDC to Bhubaneshwar SLDC. The ping response was inconsistent and with high latency. We also observed request timed out frequently.
- Subsequently we performed RFC2544 Ethernet test on 10 Mbps link between ERLDC to Patna SLDC. We observed 60% throughput, high latency (i.e. ≥ 100 milliseconds) and high frame loss.
- The point-to-multipoint Ethernet services were not functioning consistently in Core ring (*i.e.* STM-16 equipment at Farakka, Durgapur, Jamshedpur, Chaibasa, Rourkela, Ranchi 400, Maithon CS and Kahalgaon).
- We observed that point-to-multipoint WAN aggregation performance is not consistent in STM-16 core-ring.
- We rebooted the Ethernet cards of all the STM-16 core-ring, but Ethernet services were inconsistent.
- At all hiT 7080 node of the STM-16 core-ring as well as STM-4 sub-rings, all the VLAN's (*i.e.* ICCP, EPABX, VoIP, RTU and PMU) were mapped on a single WAN of 100 Mbps bandwidth.
- At Farakka hiT 7080 junction node (with four STM-16 directions), the end-to-end WAN status of all four STM-16 directions was OK. In the Ethernet performance data, we observed the frame losses on WAN interfaces, WAN interface wasn't forwarding the Ethernet frames consistently.
- We observed it was creating the problem as all the VLAN services ICCP, VoIP, and PMU were mapped on the same WAN of 100 Mbps bandwidth.
- hiT 7080 at Farakka is very critical as it is a junction node with four STM-16 directions going towards ERLDC, Bhubaneshwar, Patna & Sikkim. Ethernet services across the STM-16 core-ring as well as STM-4 sub-ring were affected whenever they were added/dropped at this node. On the contrary, the services functioned properly when they were optically passed through Farakka.
- Hence, we reconfigured the Ethernet services across the network such that all the services (ICCP, VoIP, RTU, PMU, etc.) which were in a single WAN group earlier, were segregated into separate WAN groups.
- Considering the criticality of ICCP data, the main links for this service were configured as Point to Point channels so that in future, failure in any one of the link will not affect other working links.
- Subsequent to these network configuration changes, we monitored the Ethernet performance of WAN interfaces at other locations as well (*i.e.* and Durgapur, Jamshedpur, Chaibasa, Ranchi 400, Maithon CS, and Kahalgaon).

- Following these corrective actions, all point-to-point and point-to-multipoint Ethernet services started functioning steadily over the entire network even when the Ethernet traffic was added/dropped at Farakka. It is mentioned that no hardware fault was observed at any location and the system is working on the same equipment/cards/hardware on date.
- We observed the improvement in the latency which dropped from ≥ 100's of milliseconds to 20...25 milliseconds and zero frame loss.

4 Additional Observations and Suggestions

- It is observed that the additional ports configured in the networks on ad hoc request of Constituents are used for IT and ERP like services, which modifies the channel plan from the original design in an unplanned manner. It is recommended that such requests should go through proper approval of LD&C (Power Grid) for assessment of impact on the critical GRID operations traffic prior to configuration.
- Additional Standby links for very important services like ICCP etc. have to be configured from Telecom or using E1 to Ethernet converters at ERLDC and SLDC locations.
- Most of optical links were not available initially and the services have been configured through best available path. Availability of maximum optical link is very much essential to implement the Ethernet channel routing scheme in totality.

5 Preventive Actions for Future

- Periodic audit and streamlining of all Ethernet services reconfiguration in all the nodes of STM-16 core Ring and STM-4 based on future service requests.
- After adding/deleting any E1/ Ethernet traffic in the network, the node configuration backup will be taken for early restoration in the event of fault condition.
- While provisioning of new services/applications by an end-user, Ethernet patch Cables has to be inserted in designated ports of the SDH equipment only after end-to-end link testing has been performed by Commtel.
- All the services in the network are as per approved design document. No services addition or deletion or shifting has to be done without proper re-designing and approval by LD&C.

6 Conclusion

Prima facie it is observed that the network interruption incident of August 8th, 2016 occurred because Ethernet services were affected due to configuration of multiple services in one WAN. Whereas the exact network service/element affected the network could not be found, also no physical defect has been found in the hardware

as mention above. it is clearly seen that problems was found in Ethernet WAN services as one service has affect the other services shared by the same WAN, since no alarms were generated the exact reason for the malfunction in any one of the services in the Ethernet domain is very difficult to pin point. However We have addressed this issue of inter dependence of performance of various Ethernet applications by segregating the services on separate WANs, so that problems in any one service do not affect the remaining services which run over the Ethernet. Further preventive and suggested actions as delineated above have been identified so that such incidences do not occur in future.

for COMMTEL N/WS
PVT. LTD
19/07/2016.

Annexure- B.30

PMU Installation and commissioning status of ER as on 19.10.2016

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
			83			229	152	26	23	20	20	20	20	11	20	
1	ER-II	West Bengal	Arambagh	WBSETCL	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
2	ER-II	West Bengal	BAKRESHWAR TPS	WBSETCL	CR	4	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
3	ER-II	West Bengal	Bidhannagar	WBSETCL	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
4	ER-II	West Bengal	JEERAT	WBSETCL	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
5	ER-II	West Bengal	Kolaghat TPS	WBSETCL	CR	4	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	**PMU panel couldn't be delivered due to permission issue.**
6	ER-II	West Bengal	KASBA	WBSETCL	CR	3	1	Yes	No	N/A	N/A	N/A	N/A	N/A	N/A	
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	No	No	No	No	No	No	Work not started yet.
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 not available.**
12	ER-II	DVC	MEJIA	DVC	CR	5	2	Yes	Yes	No	No	No	No	No	No	Work not started yet.
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. Amendment for FO cable is awaiting.**
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	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
17	Odisha	Orissa	MERAMANDALI	OPTCL	CR	6	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
18	Odisha	Orissa	RENGALI	OPTCL	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
19	Odisha	Orissa	U.KOLAB	OPTCL	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
20	Odisha	Orissa	BALIMELA(H)	OPTCL	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
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	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
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	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
25	Odisha	Orissa	JEYPORE	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	Pending	done	**Communication Link not available.**
26	ER-II	West Bengal	MAITHON	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 21.06.2016.**
27	ER-II	West Bengal	MALDA	Powergrid	CR	2	1	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 24.06.2016**
28	Odisha	Orissa	Rengali	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 04.05.2016**
29	Odisha	Orissa	ROURKELA	Powergrid	Kiosk	5	2	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 21.04.2016**
30	ER-II	West Bengal	Binaguri	Powergrid	CR	7	2	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 28.07.2016**
31	ER-II	West Bengal	SUBHASHGRAM	Powergrid	Kiosk	2	1	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 22.06.2016**
32	Odisha	Orissa	Baripada	Powergrid	CR	3	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
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	No	No	N/A	N/A	N/A	N/A	N/A	N/A	Road Permit not available.
35	Odisha	Orissa	Keonjhar	Powergrid	CR	2	3	Yes	Yes	done	done	done	done	Pending	done	**Comminication link not available.**
36	Odisha	Orissa	Jharsuguda	Powergrid	Kiosk	8	9	Yes	Yes	done	done	done	done	done	done	**PMU integrated on 29.07.2016**

PMU Installation and commissioning status of ER as on 19.10.2016

37	Odisha	Orissa	GMR	GMR	CR	3	4	No	No	N/A	N/A	N/A	N/A	N/A	N/A	Road Permit not available.
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. Amendment for FO cable is awaiting.**
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	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
42	ER-II	DVC	KALYANESWARI	DVC	CR	4	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
43	ER-II	DVC	PARULIA	DVC	CR	5	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
44	ER-II	West Bengal	Bidhannagar 220	WBSETCL		0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
45	ER-II	West Bengal	Purulia PSP	WBSETCL	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
46	ER-II	Jharkhand	Bokaro TPS	DVC	CR	1	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
47	ER-II	West Bengal	Durgapur TPS	DVC	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
48	Odisha	Orissa	TTPS(Talcher)	OPTCL	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
49	Odisha	Orissa	TALCHER	NTPC	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
50	ER-II	Sikkim	TEESTA	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
51	Odisha	Orissa	Uttara	Powergrid	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
52	Odisha	Orissa	Jindal	JITPL	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
53	Odisha	Orissa	Monnet	Monnet	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
54	Odisha	Orissa	Lanco	Lanco	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
55	Odisha	Orissa	Navbharat	Navbharat	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
56	Odisha	Orissa	Strelite	Strelite	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
57	Odisha	Orissa	Ind barath	Ind barath	Kiosk	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
58	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.
59	ER-II	Sikkim	Mangan	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
60	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.
61	ER-II	West Bengal	Alipurduar	Powergrid	CR	6	7	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
62	ER-II	West Bengal	Rajarhat	Powergrid	CR	2	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
63	ER-I	Jharkhand	JAMSHEDPUR	Powergrid	CR	6	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
64	ER-I	BIHAR	Kahalgaon(KHSTPP)	NTPC	CR	6	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
65	ER-I	BIHAR	Purnea	Powergrid	CR	6	2	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
66	ER-I	BIHAR	PATNA	Powergrid	Kiosk	6	7	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
67	ER-I	Jharkhand	RANCHI	Powergrid	Kiosk	12	13	No	No	N/A	N/A	N/A	N/A	N/A	N/A	
68	ER-I	BIHAR	SASARAM(Pusauli)	Powergrid	CR+Kiosk	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
69	ER-I	BIHAR	BARH	NTPC	CR	4	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
70	ER-I	BIHAR	LakhiSarai	Powergrid	Kiosk	4	5	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
71	ER-I	BIHAR	BANKA	Powergrid	Kiosk	4	5	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
72	ER-I	Jharkhand	Chaibasa	Powergrid	Kiosk	4	5	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
73	ER-I	BIHAR	765kv Gaya	Powergrid	Kiosk	11	12	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
74	ER-I	Jharkhand	765/400kV Ranchi (N)	Powergrid	Kiosk	8	9	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
75	ER-I	Bihar	Biharshariff	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
76	ER-I	Bihar	MUZAFFAPUR	Powergrid	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
77	ER-I	Jharkhand	Daltonganj	Powergrid	Kiosk	2	3	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
78	ER-I	Bihar	Kishanganj (karandeghi)	Powergrid	CR	4	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
79	ER-I	Jharkhand	Jharkhand Pool (Chandwa)	Powergrid	Kiosk	4	1	No	No	N/A	N/A	N/A	N/A	N/A	N/A	PMU panel dispatched.
80	ER-I	Jharkhand	Patratu	Jharkhand	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
81	ER-I	Jharkhand	Tenughat	Jharkhand	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
82	ER-I	Bihar	Muzaffarpur	Bihar	CR	0	0	No	No	N/A	N/A	N/A	N/A	N/A	N/A	BOQ not finalized.
83	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.

PMU Installation and commissioning status of ER as on 19.10.2016

ER PMU site activity Summary:

Sl. No.	Region	Utility	As per approved BOQ		Dispatched		Installed		Commissioned		Integrated to ERLDC/ SLDC		Integrated to NTAMC	
			No. of Substations	No. of PMU	S/S	PMU	S/S	PMU	S/S	PMU	S/S	PMU	S/S	PMU
1	ER-I	Powergrid	15	71	11	59	0	0	0	0	0	0	0	0
2	ER-I	NTPC	2	10	2	10	0	0	0	0	0	0	N/A	N/A
3	ER-I	Jharkhand	2	0	0	0	0	0	0	0	0	0	N/A	N/A
4	ER-I	Bihar	2	0	0	0	0	0	0	0	0	0	N/A	N/A
	ER-I	**Total**	**21**	**81**	**13**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1	ER-II	Powergrid	14	41	9	35	8	33	8	33	7	29	0	0
2	ER-II	NTPC	1	0	0	0	0	0	0	0	0	0	N/A	N/A
3	ER-II	DVC	13	31	11	31	5	12	5	12	1	2	N/A	N/A
4	ER-II	WBSETCL	8	19	6	19	0	0	0	0	0	0	N/A	N/A
	ER-II	**Total**	**36**	**91**	**26**	**85**	**13**	**45**	**13**	**45**	**8**	**31**	**0**	**0**
1	Odisha	Powergrid	10	38	9	28	7	23	7	23	3	15	0	0
2	Odisha	OPTCL	8	16	6	16	0	0	0	0	0	0	N/A	N/A
3	Odisha	NTPC	1	0	0	0	0	0	0	0	0	0	N/A	N/A
4	Odisha	IPP	7	3	0	0	0	0	0	0	0	0	N/A	N/A
	Odisha	**Total**	**26**	**57**	**15**	**44**	**7**	**23**	**7**	**23**	**3**	**15**	**0**	**0**
	ER	**Total**	**83**	**229**	**54**	**198**	**20**	**68**	**20**	**68**	**11**	**46**	**0**	**0**

Status of PDS system Installation and commissioning at ER as on 19.10.2016

Sl. No.	Site Name	Work Progress
1	ERLDC	Installed, powered up, functioning and integrated with DVC 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 and functioning. Communication links for Control centre integration (SLDC Howrah to ERLDC) and for PMU integration are not available.

Annexure – B.31

AVAILABILITY STATUS OF EVENT LOGGER, DISTURBANCE RECORDER & GPS

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

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

Eastern Regional Power Committee

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

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

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

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

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

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

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

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

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

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

Annexure- B.34

West Bengal State Electricity Transmission Company Ltd.

(A West Bengal Government Enterprise)
CIN : U40101WB2007SGC113474
Office of the Chief Engineer
Central Planning Department

FAX : 033 2359-1955
Telephones : 033 2359-2652, 033 2319-7359
E-Mail : cpd@wbsetcl.in ; cpd.wbsetcl@gmail.com

Vidyut Bhavan (9th Floor)
Block - DJ, Sector - II
Bidhannagar, Kolkata - 700 091

Ref. No. : CE/CPD/ERPC/ 1122

Date : 27/09/2016

To,
The Member Secretary,
Eastern Regional Power Committee,
14, Golf Club Road,
Tollygunge, Kolkata -700 033

Sub. : Black start operation of Purulia Pump Storage Project (PPSP) of WBSEDCL.

Dear Sir,

In response to the petition of WBSEDCL for exempting PPSP of WBSEDCL from Black Start mode and Restricted Governor mode of operation vide petition no. 149/MP/2012, Central Electricity Regulatory Commission (CERC) directed to provide black start facility after finalizing a suitable scheme in consultation with ERLDC through WBSEDCL.

Central Electricity Authority (CEA) in its report submitted to APTEL on the subject matter pointing out that black start mode of operation can be implemented; however, it would require changes in protection philosophy. This should be done in consultation with OEM, System Operator, STU and ERPC.

The above observation was made considering the existing system configuration of PPSP. Now, one 400 kV GIS is being constructed by WBSETCL at PPSP (1.5 Km away from PPSP 400 kV switchyard) with D/C LILO of PPSP – Arambag 400 kV D/C line and one 80 MVAR 400 kV Bus Reactor. The Ranchi – Purulia 400 kV D/C line with 2x63 MVAR Line Reactor at Ranchi end will be terminated at the new 400 kV GIS. The project is likely to be completed in 2017-18.

After completion of this project, length of 400 kV lines from PPSP will be as follows:
(a) PPSP – New PPSP 400 kV D/C – 2 Km; (b) New PPSP – Arambag 400 kV D/C – 205 Km; (c) PPSP – Durgapur 400 kV D/C – 183 Km and (d) Ranchi – New PPSP 400 kV D/C – 111 Km

In view of above, you are requested to put your valued opinion conducting studies on ER network as a whole regarding implementation of Black start at PPSP with the proposed connectivity with all Reactors in circuit.

Further, Turga PSP (4x250 MW) will be connected at New PPSP 400 kV GIS by QUAD Moose D/C line (RL ≃ 5 Km). Whether black start of Turga PSP shall be implemented with this connectivity may also be looked into.

Any further information, if required, will be provided as and when necessary.

Regards,

Yours Faithfully,

27/9/16

(Arundhati Ghosh)
Chief Engineer : CPD

Annexure- B.34A

Black mock start unit No. – 1 of SRHP, Sikidiri was conducted successfully as per schedule by SLDC, Ranchi on 19.10.2016. Before starting the unit for Black Mock the following procedures were followed:

1. IPL unit of Tonagatu was desynchronized at 11:40 Hrs.
2. Sikidiri – Hatia feeder was made off from both ends at 12:00 Hrs.
3. Sikidiri – Namkum feeder was made off at 12:05 Hrs resulting no power supply at Sikidiri 11/33/132 KV Switchyard.
4. 250 KVA DG set was made "ON" at Power House – 1 to restore auxiliary power supply at unit no. – 1.
5. Unit was made ready to start.
6. Unit No. – 1 was started on no load, its voltage & frequency were made 132 KV & 50 Hz respectively.
7. Synchronizing breaker of unit no. -1 was made closed at 13:05 Hrs., the power extended automatically to Sikidiri 132/33/11 KV Switchyard, 33/11 Substation Sikidiri & IPL, Tonagatu.
8. Unit was loaded up to 7.2 MW with power factor 0.96 lagging.
9. Now, Namkum-Sikidiri feeder was made "ON" from Sikidiri end thus power was extended up to Namkum GSS.
10. Hatia – Sikidiri feeder was made "ON" from Sikidiri end thus power was extended up to Hatia GSS.
11. After running the unit in this condition for about 30 Minutes the unit was de-synchronised at 13:35 Hrs.
12. Then system normalized.
13. During all the operation the 250 KVA DG set remain in running condition.

19/10/16

E.E.E. (E/M)
SRHP, Sikidiri

19.10.2016

E.E.E. (M/M)
SRHP, Sikidiri

19.10.16

E.S.E. SLDC
Ranchi

19/10/16

Project Manager
SRHP, Sikidiri

Annexure- B.37

दामोदर घाटी निगम : *Damodar Valley Corporation*
विद्युत विभाग : ELECTRICITY DEPARTMENT
डीवीसी टावर्स, वीआईपी रोड : DVC TOWERS, VIP ROAD,
कोलकाता - 700 054 : KOLKATA – 700 054
दूरभाष/Tel : +91 33 23557939/0946 ; फैक्स/Fax : +91 33 23554841

Ref. No. ED(SYS)/PS/SPE - 10 Dated, August 11, 2016.

To

The Member Secretary,
Eastern Region Power Committee,
14 Golf Club Road,
Tollygunge, Kolkata - 700033.

Sub : Declaration of 400kV lines/line segment constructed, owned and maintained by DVC as ISTS line.
Ref : This office letter No. Dir(Sys)/PS/PSR- 05 dtd. 26.05.2016.

Dear Sir,

Kindly refer to our earlier communication wherein it was requested for arranging declaration of the following 400kV lines/line segments owned by DVC and carrying inter-state power as ISTS lines;

1. LILO part (10.5 KM) up to RTPS of the Ranchi PG – Maithon PG line.
2. Termination segment (3.5 KM) at DSTPS of the Jamshedpur PG line.
3. RTPS – Ranchi PG line.
4. DSTPS – RTPS line.

The 400kV line segments under Sl. 1 & 2 are already a part of ISTS lines owned/maintained by the CTU for transmission of inter-state power and hence, liable to be declared as ISTS lines outright.

In case of lines under Sl. 3 & 4, an in-house study has been conducted by DVC in collaboration with ERLDC to ascertain flow of ISTS power through these lines under different Loading conditions and the preliminary study suggests that the 400kV RTPS – Ranchi line is of vital importance in relieving the quantum of power transfer through the existing 400kV Maithon PG – Ranchi PG line (D/C Line with single ckt. LILO at RTPS, DVC) under different contingent conditions. Both the said lines also plays a vital role in evacuation of power from RTPS (2x600MW) and DSTPS (2x500MW) to the Central Grid relieving the existing ISTS Lines from getting overloaded, under contingent conditions, thereby bringing stability to the Eastern Grid.

The matter was discussed in the 4th. SSCM dated 06.06.2016 (Item 32.0) and as directed, details of the above 4 lines along with findings of in-house study are being submitted with a request to kindly arrange for declaration of the said lines as ISTS lines.

Yours faithfully,

Enclo : 1. DVC 400kV System.
2. 400kV Line data.
3. Finding of In-house study.

Executive Director (System)

CC : The Executive Director (Commercial), DVC, Kolkata.
CC : The Chief Engineer-I, SPE, DVC, Kolkata.

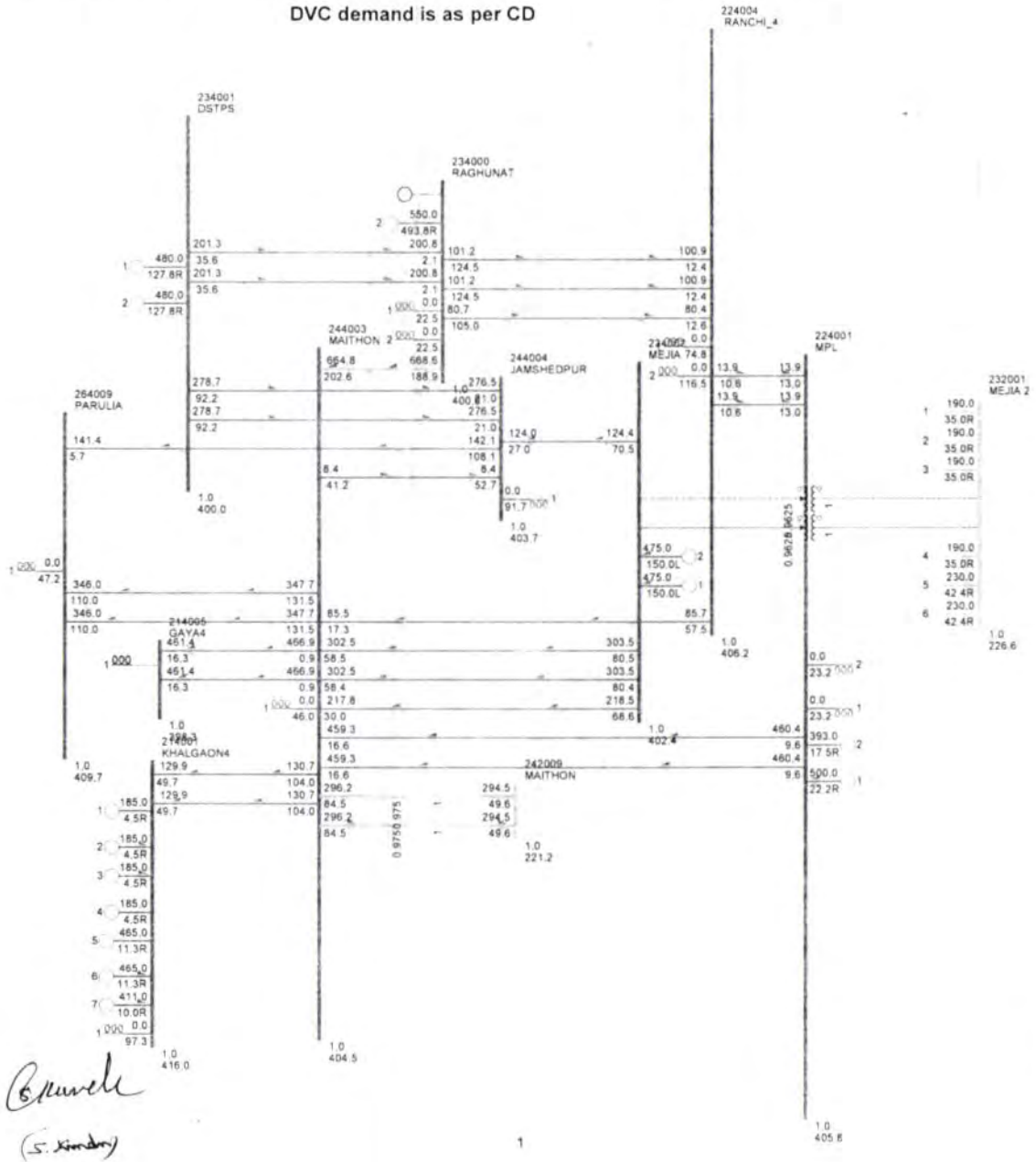
LINE DETAILS OF 400KV LINES					
Sl.No	NAME	LINE LENGTH	TYPE OF CONDUCTOR	NUMBER OF TOWERS	NUMBER OF CIRCUITS
1	LILO Part (10.5KM) upto RTPS of RANCHI {G - Maithon PG Line	10.5KM	Twin ACSR Moose	33	2
2	Termination Segment (3.5KM) at DSTPS of the DSTPS Jamshedpur Line	3.5KM	Twin ACSR Moose	14	2
3	RTPS - RANCHI PG Line	155KM	Quad ACSR Moose	437	2
4	DSTPS - RTPS Line	68.5 KM	Twin ACSR Moose	208	2

Line constants in %/km **(Base: 100 MVA & own voltage)**

tower config	conductor	r1	x1	b1	r0	x0	b0
PG 400KV	Twin ACSR Moose	0.001811	0.019946	0.603525	0.019183	0.068031	0.375422
PG 400KV	Quad ACSR Moose	0.000909	0.015551	0.759027	0.016694	0.062391	0.429811

1 unit at RTPS, 2 units at DSTPS and 400 kV RTPS-Ranchi D/C(Qd) in service

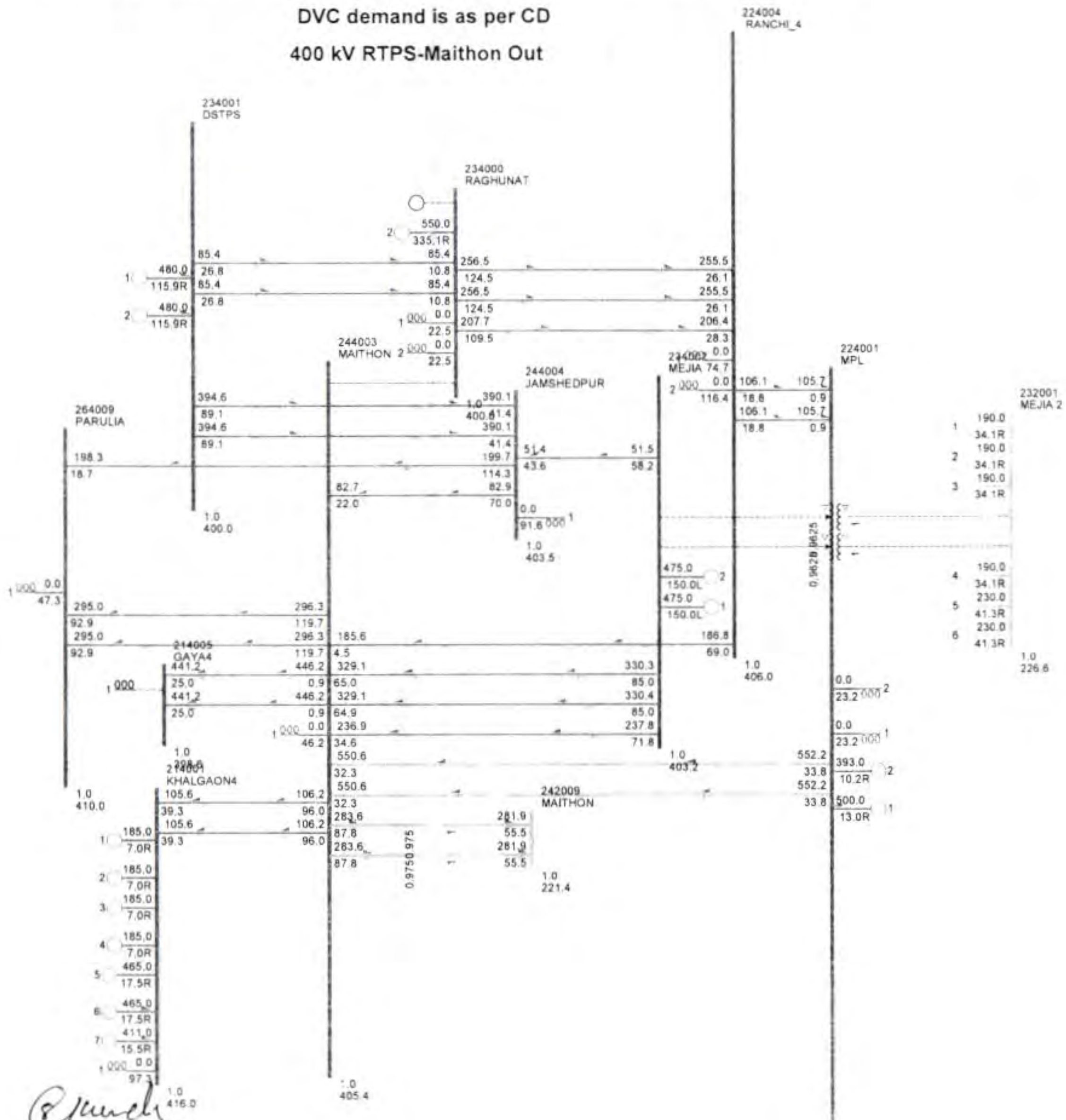
DVC demand is as per CD



1 unit at RTPS, 2 units at DSTPS and 400 kV RTPS-Ranchi D/C(Qd) in service

DVC demand is as per CD

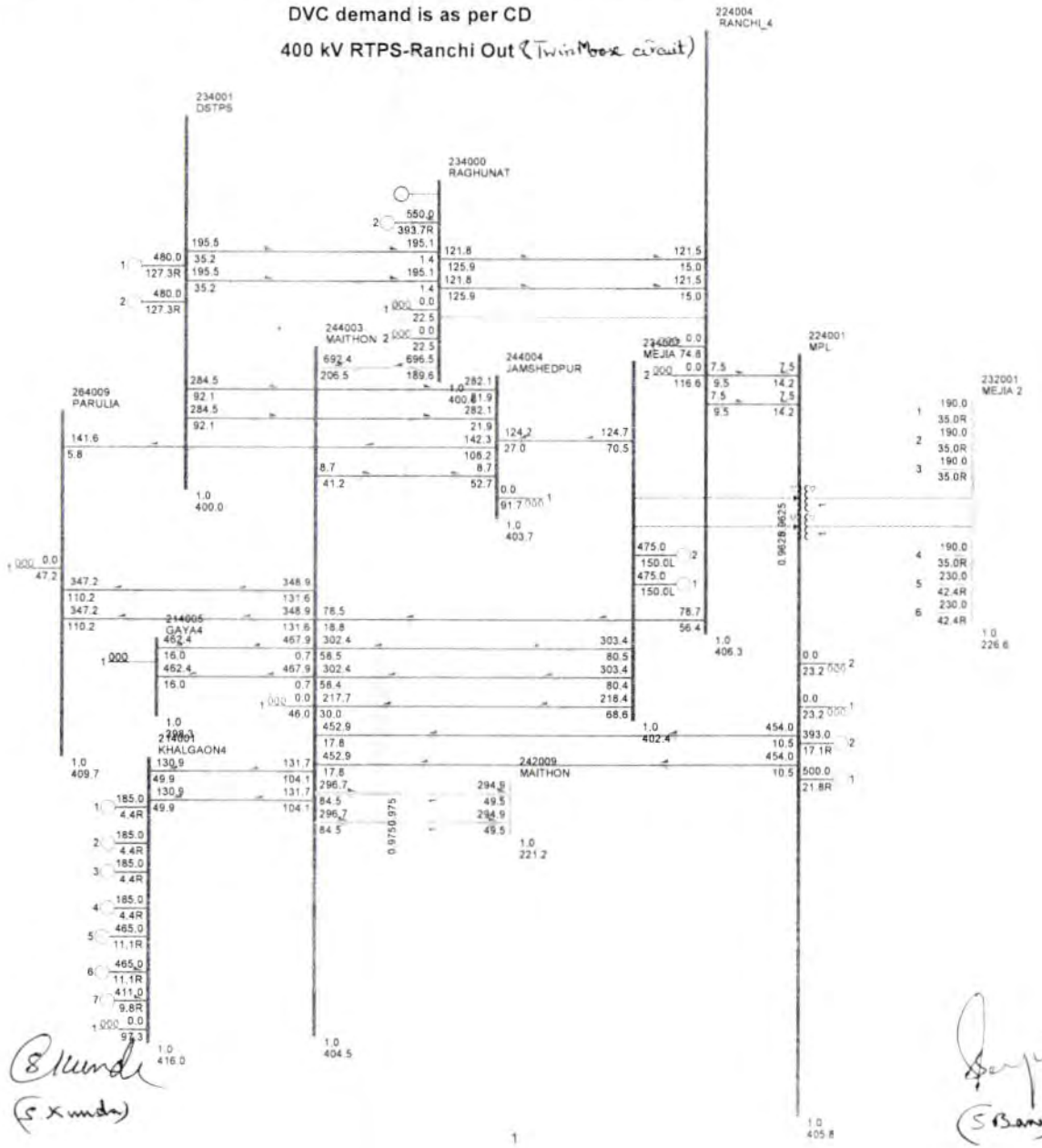
400 kV RTPS-Maithon Out



1 unit at RTPS, 2 units at DSTPS and 400 kV RTPS-Ranchi D/C(Qd) in service

DVC demand is as per CD

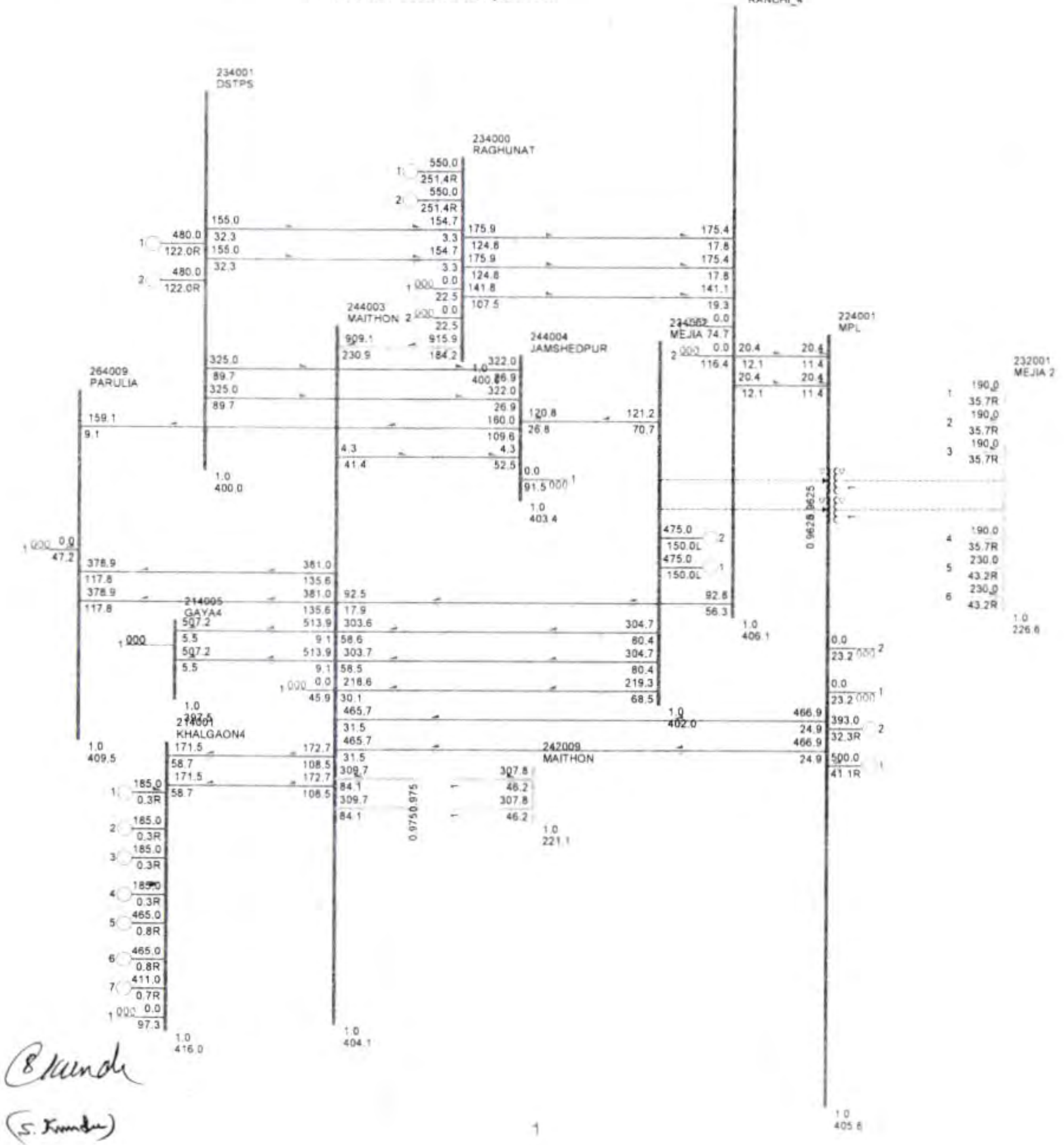
400 kV RTPS-Ranchi Out (Twin Moose circuit)



(S Ghosal) (A Maity) (S Mundra) (S Banerjee)

2 units at RTPS, 2 units at DSTPS and 400 kV RTPS-Ranchi D/C(Qd) in service

DVC demand is as per CD



(S. Ghosh) (A. Maity) (S. Kundu) (S. B. ...)

Annexure- B.38D

KBUNL-LIST OF SEM AS PROVIDED BY ERLDC.								
SL.NO.	FEEDER	METER SL.NO.	MODEL	MAKE	MFG.DATE	CTR	PTR	Remark
1	GT-1	LT-0135A	ER-300P	L&T	Sep-12	400/1A	220KV/110V	
2	GT-2	LT-0192A	ER-300P	L&T	Mar-14	400/1A	220KV/110V	
3	ST-1	LT-0129A	ER-300P	L&T	Sep-12	100/1A	220KV/110V	
4	ST-2	LT-0133A	ER-300P	L&T	Sep-12	100/1A	220KV/110V	
5	IBT-1 MAIN	LT-0093A	ER-300P	L&T	Dec-10	300/1A	220KV/110V	
6	IBT-1 Standby	LT-0127A	ER-300P	L&T	Sep-12	300/1A	220KV/110V	
7	IBT-2 MAIN	LT-0126A	ER-300P	L&T	Aug-12	300/1A	220KV/110V	
8	IBT-2 Standby	TP-0006A	ER-300P	L&T	Nov-07	300/1A	220KV/110V	
9	IBT-3 MAIN	LT-0132A	ER-300P	L&T	Sep-12	600/1A	220KV/110V	
10	IBT-3 Standby	LT-0130A	ER-300P	L&T	Sep-12	600/1A	220KV/110V	
11	BEGUSARAI-1 MAIN	Bay not commissioned	ER-300P	L&T		600/1A	220KV/110V	At both end
12	BEGUSARAI-1 CHECK	Bay not commissioned	ER-300P	L&T		600/1A	220KV/110V	
13	BEGUSARAI-2 MAIN	LT-0092A	ER-300P	L&T	Dec-10	600/1A	220KV/110V	At both end
14	BEGUSARAI-2 CHECK	LT-0128A	ER-300P	L&T	Sep-12	600/1A	220KV/110V	
15	DARBHANGA-1 MAIN	LT-0125A	ER-300P	L&T	Aug-12	600/1A	220KV/110V	At both end
16	DARBHANGA-1 CHECK	LT-0140A	ER-300P	L&T	Sep-12	600/1A	220KV/110V	
17	DARBHANGA-2 MAIN	Bay not commissioned	ER-300P	L&T		600/1A	220KV/110V	At both end
18	DARBHANGA-2 CHECK	Bay not commissioned	ER-300P	L&T		600/1A	220KV/110V	
19	GOPALGANJ-1 MAIN	LT-0131A	ER-300P	L&T	Sep-12	600/1A	220KV/110V	At both end
20	GOPALGANJ-1 CHECK	TP-0008A	ER-300P	L&T	Nov-07	600/1A	220KV/110V	
21	GOPALGANJ-2 MAIN	LT-0246A	ER-300P	L&T	Apr-15	800/1A	220KV/110V	At both end
22	GOPALGANJ-2 CHECK	LT-0219A	ER-300P	L&T	Apr-15	800/1A	220KV/110V	
23	GT-3	LT-0214A	ER-300P	L&T	Apr-15	800/1A	220KV/110V	
24	GT-4	LT-0242A	ER-300P	L&T	Apr-15	800/1A	220KV/110V	
25	ST-3	LT-0187A	ER-300P	L&T	Mar-14	200/1A	220KV/110V	
26	ST-4	LT-0215A	ER-300P	L&T	Apr-15	200/1A	220KV/110V	
27	Bus Sec-1 Main	Bay not commissioned	ER-300P	L&T		1A	220KV/110V	
28	Bus sec-1 Check	Bay not commissioned	ER-300P	L&T		1A	220KV/110V	
29	Bus Sec-2 Main	Bay not commissioned	ER-300P	L&T		1A	220KV/110V	
30	Bus sec-2 Check	Bay not commissioned	ER-300P	L&T		1A	220KV/110V	

REMARK :

1 PGCIL shall install four nos. of SEM at BSPTCL end of Begusarai-2, Darbhanga-1, Gopalganj-1 & 2.

Annexure- C.1

Approved Maintenance Schedule of Thermal Generating Units of ER for November-2016

System	Station	Unit	Size (MW)	period		No. of Days	Reason
				From	To		
DVC	MTPS	4	210	01.11.16	21.11.16	21	AOH
ODISHA	TTPS	6	60	09.11.16	13.12.16	35	Annual Overhauling
WBPDCL	Bakreswar TPS	3	210	06.11.16	11.12.16	36	B-T-G + RLA + TPR (EHG) Upgrade
CESC	Titagarh	1	60	25.11.16	09.12.16	15	Annual Overhauling
		4	60	06.11.16	20.11.16	15	Annual Overhauling
NTPC	TSTPS	2	500	21.11.16	15.12.16	25	Annual Overhauling
APRNL	APRNL	2	270	03.11.16	08.12.16	25	Gen. Overhauling

Annexure- C.1

EASTERN REGIONAL LOAD DESPATCH CENTRE

KOLKATA

TRANSMISSION ELEMENTS OUTAGE APPROVED IN 126TH OCC MEETING OF ERPC

Sr. No	NAME OF THE ELEMENTS	DATE	TIME	DATE	TIME	REMARKS	S/D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY
1	220KV TRANSFER BUS AT BARIPADA & 220KV BALASORE LINE-I AT BARIPADA (BOTH ELEMENTS TOGETHER)	22-10-2016	09:00	22-10-2016	16:00	ODB	ER-II/Odisha	FOR RECTIFICATION OF CONSTRUCTION DEFECTS OF 22OKV BAYS OF NEWLY COMSSIONED ICT-3 AT BARIPADA.	
2	400 Kv Bongaigawn- New Siliguri Transmission Line, CKT-1 &2	22-10-2016	06:00	24-10-2016	17:00	ODB	ER-II	For Stringing work between 15/0 & 16/0 (LILO of 400 KV BONG- SLG Line at Alipurduar) The above line crossing the 400 kV BONG -Siliguri Line - 1&2	NLDC
3	220/132 KV 160MVA ICT#2 SILIGURI	22-10-2016	08:00	23-10-2016	17:00	OCB	ER-II	Charging of ICT-2 through GIS	WBSETCL
4	125MVAR Bus Reactor-I at Maithon	22-10-2016	09:30	22-10-2016	17:30	ODB	ER-II		
5	A/R OF 400kv Rengali- Indravati line by Bolangir	23-10-2016	08:00	23-11-2016	18:00	ODB	ER-II/Odisha	For Online PID testing for Rengali-Indavati lne under Bolangir TLO	
6	400 KV Sundargarh #1 Main Bay (Bay No.- 418) at Rourkela	23-10-2016	09:00	25-10-2016	18:00	OCB	ER-II/Odisha	Overhauling of Driving Mechanism of ABB make Main Bay CB (41852)	
7	400 KV Raigarh #2 Main Bay (Bay No.- 419) at Rourkela	23-10-2016	09:00	23-10-2016	18:00	OCB	ER-II/Odisha	Overhauling of Driving Mechanism of ABB make Main Bay CB (41952)	
8	132kV WBSETCL-2 at Siliguri	23-10-2016	08:00	23-10-2016	17:00	ODB	ER-II	HV test of GIS Elements	NLDC
9	220/132 KV 160MVA ICT#2 SILIGUR	23-10-2016	08:00	23-10-2016	17:00	ODB	ER-II		WBSETCL
10	400 KV BUS -2 AT CHAIBASA	24-10-2016	09:00	24-10-2016	17:00	ODB	ER - I	FOR EXTENSION AND TESTING OF BUS-2	
11	400 KV BUS- I AT NEW RANCHI	24-10-2016	08:00	25-10-2016	18:00	ODB	ER - I	FOR LINE SIDE JUMPERING WORK FOR LINE SIDE EQUIPMENT UNDER BAY EXTENSION FOR PURULIA LINE	
12	125MVAR BUS REACTOR AT BARIPADA	24-10-2016	09:00	24-10-2016	18:00	ODB	ER-II/Odisha	REPLACEMENT OF GAS DENSITY MONITOR	
13	132kV Siliguri-Melli	24-10-2016	08:00	24-10-2016	17:00	ODB	ER-II	Charging of Melli Feeder through GIS	SIKKIM
14	400KV Berhampore Bheramara Ckt-II Line(404 bay)	24-10-2016	08:00	24-10-2016	17:00	ODB	ER-II	Checking healthiness of FOX515 Equipment	NLDC
15	125MVAR Bus Reactor-II at Maithon	24-10-2016	09:30	24-10-2016	17:30	ODB	ER-II		
16	400 KV BUS -1 AT CHAIBASA	25-10-2016	09:00	25-10-2016	17:00	ODB	ER - I	FOR EXTENSION AND TESTING OF BUS-2	
17	Main bay of BSF-1 line AT LAKHISARAI	25-10-2016	10:00	25-10-2016	13:00	ODB	ER - I	CHECKING OF AUXILLIARY SWITCH OF CIRCUIT BREAKER	
18	400 KV (Quad) New Purnea-Muzaffarpur Circuit # II	25-10-2016	10:00	25-10-2016	15:00	ODB	POWERLINK	For replacement of damaged & failure Insulators at Tr. No 17 & Damaged Quad Spacer damper keeper. (Middle Phase).	
19	500MVA ICT#3 at Baripada	25-10-2016	09:00	25-10-2016	18:00	OCB	ER-II/Odisha	ON LINE OPERATION OF CSD	ODISHA
20	TIE BAY (414) OF 500MVA ICT#3 & 125MVAR BUS REACTOR AT BARIPADA	25-10-2016	09:00	25-10-2016	18:00	ODB	ER-II/Odisha	REPLACEMENT OF GAS DENSITY MONITOR	
21	315 MVA ICT -I at Rengali	25-10-2016	08:00	10-11-2016	18:00	OCB	ER-II/Odisha	Complete Overhauling of ICT-I.	ODISHA
22	400 KV Raigarh #2 - 400KV Ranchi #2 Tie Bay (Bay No.- 420) at Rourkela	25-10-2016	09:00	26-10-2016	18:00	OCB	ER-II/Odisha	Overhauling of Driving Mechanism of ABB make Tie Bay CB (42052)	
23	400KV Pandiabili-Baripada & Pandiabil-Mendhasal Ckt.1	25-10-2016	08:00	25-10-2016	16:00	ODB	ER-II/Odisha	TO ATTEND CONSTRCUTIONAL DEFECTS AND PUCH POINTS.	ODISHA
24	132kV WBSETCL-1 at Siliguri	25-10-2016	08:00	25-10-2016	17:00	ODB	ER-II	Charging ofWBSETCL-1 Feeder through GIS	NLDC
25	Tie Bay (411 bay) of Berhampore -Sagardighi Ckt-II	25-10-2016	08:00	25-10-2016	17:00	ODB	ER-II	For collection Oil samples of CT's.	
26	400kV Bus-III at Maithon	25-10-2016	09:00	25-10-2016	17:00	ODB	ER-II	Reactification of pipe bend connected to air Bushing	

27	400 KV BUS-II of NTPC Farakka	25-10-2016	10:00	25-10-2016	16:00	ODB	ER-II	For connecting BUS isolator of bay no-12 to BUS-II (After augmentation of BUS Isolator from 2000A to 3150 A rating under ERSS-XIII projects).	
28	125MVAR Bus Reactor-II OF MAITHON S/S	25-10-2016	09:30	25-10-2016	17:30	ODB	ER-II	FOR CONSTRUCTION ACTIVITY.	
29	400kV Bus-III AT MAITHON	25-10-2016	09:00	25-10-2016	17:00	ODB	ER-II	Reactification of pipe bend connected to air Bushing	
30	400 KV JAMSHEDPUR - ROURKELA-2	26-10-2016	08:00	27-10-2016	18:00	OCB	ER - I	FOR MAKING LILO AT CHAIBASA	
31	400 KV BUS -1 AT PATNA	26-10-2016	09:00	27-10-2016	19:00	ODB	ER - I	AMP WORK	
32	125MVAR REACTOR AT BARIPADA	26-10-2016	09:00	26-10-2016	18:00	OCB	ER-II/Odisha	ON LINE OPERATION OF CSD	
33	765kV Bus-I at Angul	26-10-2016	07:00	27-10-2016	18:00	OCB	ER-II/Odisha	For Extension of Bus for commissioning of 765kV Angul Sriakakulam Line-1 &Line-2 bays along with Bus-Bar Protection.	NLDC
34	400KV BUS-II AT BOLANGIR	26-10-2016	09:00	26-10-2016	18:00	ODB	ER-II/Odisha	Rectification of earthswitch of 400kv Bus-II	
35	400KV Pandiabili-Duburi & Pandiabil-Mendhasal Ckt.2	26-10-2016	08:00	26-10-2016	16:00	ODB	ER-II/Odisha	TO ATTEND CONSTRCUTIONAL DEFECTS AND PUCH POINTS.	ODISHA
36	400 Kv Bongaigawn- New Siliguri Transmission Line, CKT-1 &2	26-10-2016	06:00	28-10-2016	17:00	ODB	ER-II	For Stringing work between 11/0 & 12/0 (LILO of 400 KV BONG- SLG Line at Alipurduar) The above line crossing the 400 kV BONG -Siliguri Line Ckt-1&2	NLDC
37	400 Kv Bongaigawn- New Siliguri Transmission Line, CKT-1 &2	26-10-2016	06:00	28-10-2016	17:00	ODB	ER-II	For Stringing work between 11/0 & 12/0 (LILO of 400 KV BONG- SLG Line at Alipurduar) The above line crossing the 400 kV BONG -Siliguri Line Ckt-1&2	NLDC
38	400 KV BUS-I AT JSR	27-10-2016	09:30	27-10-2016	17:30	ODB	ER - I	BAY CONSTRUCTION WORK	
39	Tie bay associated with BSF-1 & ICT-1 AT LAKHISARAI	27-10-2016	10:00	27-10-2016	13:00	ODB	ER - I	CHECKING OF AUXILLIARY SWITCH OF CIRCUIT BREAKER	
40	220 KV BUS-I AT PUSAULI	27-10-2016	10:00	27-10-2016	18:00	ODB	ER - I	REPLACEMENT OF B PHASE BUS CVT DUE TO SECONDARY VOLTAGE VIOLATION	BIHAR
41	125MVAR BUS REACTOR BAY (415) AT BARIPADA	27-10-2016	09:00	27-10-2016	18:00	ODB	ER-II/Odisha	REPLACEMENT OF GAS DENSITY MONITOR	
42	400KV Baripada-Keonjhar Liine at Baripada	27-10-2016	09:00	29-10-2016	18:00	OCB	ER-II/Odisha	MAIN 2 RELAY RETROFICATION WORK	
43	315 MVA ICT #2 at Rourkela.	27-10-2016	09:00	18-11-2016	18:00	OCB	ER-II/Odisha	For the overhauling and arresting oil leakage problem in the said ICT	ODISHA
44	220 KV ICT #2 Incomer Bay (Bay No.- 208) at Rourkela	27-10-2016	09:00	30-10-2016	18:00	OCB	ER-II/Odisha	Overhauling of CGL make CB (20852)	
45	400KV MTN-Gaya-I LR (Switchable) at Maithon	27-10-2016	09:00	27-10-2016	14:00	ODB	ER-II	CSD card replacement and on load testing of Reactor	
46	220 KV Farakka - Lalmatia TL and 315 MVA ICT	27-10-2016	10:00	27-10-2016	17:00	ODB	ER-II	1) Bay no- 12 is to be connected after completion of erection of upgraded equipments (3150 A rating) at Bay no-12.Special remarks : Bay no-12 is in permanent shutdown for upgradation of equipments (3150 A rating) since 06.05.2016.	JHARKHAND
47	400KV MTN-Gaya-I LR (Switchable)AT MAITHON S/S.	27-10-2016	09:00	27-10-2016	14:00	ODB	ER-II	CSD card replacement and on load testing of Reactor	
48	400 KV CHAIBASA - KOLAGHAT	28-10-2016	09:00	28-10-2016	17:00	OCB	ER - I	FOR COMMISSIONING OF ITS L/R AT CHAIBASA	
49	132 KV TRANSFER BUS AT PURNEA	28-10-2016	09:00	_____		PERMANENT	ER - I	PERMANENT REMOVAL OF TRANSFER BUS IS REQUIRED FOR GIS BUILDING AND ASSOCIATED CIVIL THE 132 KV TRANSFER BUS AND 132 KV TBC BAY WILL BE UNDER PERMANENT S/D FOR CONSTRUCTION WORK OF AIS TO GIS CONVERSION OF ALL LINE AND ICT 132 KV BAYS	BIHAR

50	132 KV PURNEA - PURNEA BSPTCL#3 LINE	28-10-2016	09:00	28-10-2016	17:00	ODB	ER - I	THE LINE WILL BE CHARGED DAILY AFTER 17.00 HRS. WORK OF CONSTRUCTION OF GIS BUS DUCT AND SF6 TO AIR BUSHING FOUNDATIONS. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL-3 line bay.(revised drawing is under approval) 2. dismantling of existing tandem isolators /BPI of R & B phases of BSPTCL-3 line bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
51	220 KV PUSAULI-ARA CKT-I	28-10-2016	10:00	28-10-2016	18:00	ODB	ER - I	REPLACEMENT OF Y PHASE LINE CVT DUE TO SECONDARY VOLTAGE VIOLATION	BIHAR
52	765kV Bus-2 at Angul	28-10-2016	07:00	29-10-2016	18:00	OCB	ER-II/Odisha	For Extension of Bus for commissioning of 765kV Angul Sriakakulam Line-1 &Line-2 bays along with Bus-Bar Protection.	NLDC
53	315MVA ICT-II AT BOLANGIR	28-10-2016	09:00	28-10-2016	18:00	ODB	ER-II/Odisha	AMP Work	ODISHA
54	400KV ROURKELA-SUNDARGARH LINE-I BY SUNDARGARH	28-10-2016	10:00	28-10-2016	16:00	ODB	ER-II/Odisha	FOR ATTENDING REPLACEMENT OF FLASH INSULATORS AT LO.863 OF TOP PHASE	
55	125MVAR Bus Reactor-I OF MAITHON S/S	28-10-2016	09:30	28-10-2016	17:30	ODB	ER-II	FOR CONSTRUCTION ACTIVITY.	
56	400 KV BUS-II AT JSR	29-10-2016	09:30	29-10-2016	17:30	ODB	ER - I	BAY CONSTRUCTION WORK	
57	400 KV CHAIBASA - KHARAGPUR	29-10-2016	09:00	29-10-2016	17:00	ODB	ER - I	FOR COMMISSIONING OF NGR AND TESTING OF HVWS OF LINE REACTOR AT CHAIBASA	
58	132 KV PURNEA - PURNEA BSPTCL#3 LINE	29-10-2016	09:00	29-10-2016	17:00	ODB	ER - I	THE LINE WILL BE CHARGED DAILY AFTER 17.00 HRS. WORK OF CONSTRUCTION OF GIS BUS DUCT AND SF6 TO AIR BUSHING FOUNDATIONS. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL-3 line bay.(revised drawing is under approval) 2. dismantling of existing tandem isolators /BPI of R & B phases of BSPTCL-3 line bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
59	Main bay of BSF-2 line AT LAKHISARAI	29-10-2016	10:00	29-10-2016	13:00	ODB	ER - I	CHECKING OF AUXILLIARY SWITCH OF CIRCUIT BREAKER	
60	400kV Indravati Tie Bay (Bay no-410) at Rengali	29-10-2016	08:00	31-10-2016	17:00	OCB	ER-II/Odisha	Erection of Isolator, CT for Bay Extension work.	ODISHA

61	132 KV PURNEA - PURNEA BSPTCL#3 LINE	30-10-2016	09:00	30-10-2016	17:00	ODB	ER - I	THE LINE WILL BE CHARGED DAILY AFTER 17.00 HRS. WORK OF CONSTRUCTION OF GIS BUS DUCT AND SF6 TO AIR BUSHING FOUNDATIONS. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL-3 line bay.(revised drawing is under approval) 2. dismantling of existing tandem isolators /BPI of R & B phases of BSPTCL-3 line bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
62	(220KV TBC) 210 Bay at Bolangir	31-10-2016	09:00	31-10-2016	18:00	ODB	ER-II/Odisha	AMP Work	
63	220 KV Tarkera #2 Bay (Bay No.-209) at Rourkela	31-10-2016	09:00	03-11-2016	18:00	OCB	ER-II/Odisha	Overhauling of CGL make CB (20952)	
64	315 MVA ICT-I AT RANCHI	01-11-2016	09:30	01-11-2016	17:00	ODB	ER - I	TO ATTEND HOT SPOT AT 220 KV SIDE	JHARKHAND
65	220 kV NPRN-PRN#1 line	01-11-2016	09:00	01-11-2016	17:00	ODB	ER - I	Bay AMP work. The line will be under S/d	BIHAR
66	400kV side of ICT#2 Main Bay (407) at Angul	01-11-2016	09:00	01-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	
67	400KV RANGPO- NSLG, CKT-1	01-11-2016	09:30	01-11-2016	18:00	ODB	ER-II	AMP Work	
68	400 KV MAIN BUS 3 including Bus Sectionalizer-1 CB at Durgapur	01-11-2016	10:00	01-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-3 (Final commissioning)	
69	400kV Tala-I L/R at Binaguri	01-11-2016	09:00	01-11-2016	17:00	ODB	ER-II	Repeat tan delta of 400kV R Phase Bushing & Neutral Bushing Replacement / oil leakage arrest.	
70	400kV NSLG-Bangaigaon Ckt-1	01-11-2016	07:00	01-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	NLDC
71	315 MVA ICT-I at Subhasgram	01-11-2016	09:00	01-11-2016	17:30	ODB	ER-II	220KV Bph LA inspection	NLDC
72	400KV Bus Coupler bay at Malda	01-11-2016	08:00	01-11-2016	16.00	ODB	ER-II	AMP	
73	315 MVA ICT-II AT RANCHI	02-11-2016	09:30	02-11-2016	17:00	ODB	ER - I	TO ATTEND HOT SPOT AT 220 KV SIDE	JHARKHAND
74	160 MVA ICT-1 AT PURNEA	02-11-2016	09:00	02-11-2016	17:00	ODB	ER - I	The ICT #1 will remain OFF For Tertiary bay connection work	BIHAR
75	125 MVAR B/R -1 AT PATNA	02-11-2016	09:00	02-11-2016	19:00	ODB	ER - I	FOR COMMISSIONING OF PENDING CONSTRUCTION WORK	
76	Tie bay associated with BSF-2 & ICT-2 AT LAKHISARAI	02-11-2016	10:00	02-11-2016	13:00	ODB	ER - I	CHECKING OF AUXILLIARY SWITCH OF CIRCUIT BREAKER	
77	315 MVA ICT #1 at Baripada	02-11-2016	09:00	02-11-2016	18:00	ODB	ER-II/Odisha	INSTALLATION OF INSULATION SLEEVES ON TERTIARY CONDUCTOR OF 315MVA ICT#1	ODISHA
78	400kv Talchar Line & ICT#2 TIE Bay (408) at Angul	02-11-2016	09:00	02-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	
79	400kV Keonjhar line Bay(Bay-401) at Rengali	02-11-2016	08:00	02-11-2016	17:00	ODB	ER-II/Odisha	AMP work.	
80	400KV RANGPO- NSLG, CKT-2	02-11-2016	09:30	02-11-2016	18:00	ODB	ER-II	AMP Work	
81	400 KV MAIN BUS 4 including Bus Sectionalizer-2 CB at Durgapur	02-11-2016	10:00	02-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-4(Final commissioning)	
82	WBSETCL Bus Section-1 at Binaguri	02-11-2016	09:00	02-11-2016	17:00	ODB	ER-II	AMP of NSLG	NLDC
83	220kV D/C Jeerat -newtown Tr line of WBSETCL (T No. 110 111)	02-11-2016	08:00	30-11-2016	17:00	ODB	ER-II	For Stringing work Rajarhat-Purnia 400 KV D/C line in between 3/0-4/0	NLDC
84	315 MVA ICT-I AT JSR	03-11-2016	09:30	03-11-2016	17:30	ODB	ER - I	BAY CONSTRUCTION WORK ICT - III	JHARKHAND
85	220 KV CHAIBASA - CHAIBASA -1	03-11-2016	10:00	03-11-2016	11:00	ODB	ER - I	FOR OIL SAMPLING OF 220 KV CT.	JHARKHAND

86	132 KV PURNEA KISHANGANJ LINE	03-11-2016	09:00	03-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. Dismantling of 132 kv Transfer Bus section which is above KISHANGANJ & ICT #2 bay 1.Removing of jumpers of each phase from Transfer Bus to tandem isolator. 2.Dismantling of Transfer bus Conductors of that particular section.	BIHAR
87	400KV Keonjhar Liine Main Bay(401)at Baripac	03-11-2016	09:00	05-11-2016	18:00	OCB	ER-II/Odisha	SF6 GAS LEAKAGE RECTIFICATION WORK IN 40152CB	
88	400kV Angul-Talchar Line Main Bay (409) at Angul	03-11-2016	09:00	03-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	
89	(220KV Bus Coupler) -204 Bay at Bolangir	03-11-2016	09:00	03-11-2016	18:00	ODB	ER-II/Odisha	AMP Work	
90	400KV, 125MVAR BUS REACTOR-1 AT SUNDARGARH	03-11-2016	08:00	04-11-2016	18:00	ODB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	
91	400KV RANGPO- TEESTA-V, CKT-1	03-11-2016	09:30	03-11-2016	18:00	ODB	ER-II	AMP Work	TEESTA
92	400 KV MAIN BUS 1 including Bus Sectionalizer-1 CB at Durgapur	03-11-2016	10:00	03-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-1(Final commissioning)	
93	220kV NSLG-SLG Ckt-II	03-11-2016	09:00	03-11-2016	17:00	ODB	ER-II	Relay retrofitting	
94	400kV NSLG-Bangaigaon Ckt-2	03-11-2016	07:00	03-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	NLDC
95	220 KV Bus Coupler with BUS-II at Dalkhola	03-11-2016	09:00	03-11-2016	16:00	ODB	ER-II	Jumper & dropper replacement	
96	220kV S'gram-CESC-2	03-11-2016	09:00	03-11-2016	17:30	ODB	ER-II	AMP	NLDC
97	220 KV Bus Coupler with BUS-II at Dalkhola	03-11-2016	09:00	03-11-2016	16:00	ODB	ER-II	Jumper & dropper replacement	
98	400 KV MAIN BUS - I AT BAKRESWAR	03-11-2016	07:00	03-11-2016	16:00	ODB	WBSETCL	ISOLATOR MAINTENANCE WORK	
99	400 KV RTPS - DSTPS - I	03-11-2016	08:00	23-11-2016	16:00	ODB	DVC	OPGW STRINING WORK	
100	400 kv Bolangir -Angul	03-11-2016	08:00	10-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	NLDC
101	160 MVA ICT-2 AT PURNEA	04-11-2016	09:00	05-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. Dismantling of 132 kv Transfer Bus section which is above KISHANGANJ & ICT #2 bay 1.Removing of jumpers of each phase from Transfer Bus to tandem isolator. 2.Dismantling of Transfer bus Conductors of that particular section.	BIHAR
102	200 MVA ICT-1 AT LAKHISARAI	04-11-2016	08:00	07-11-2016	18:00	ODB	ER - I	HVWS WORK AND CONSTRUCTION OF FIREWALL	BIHAR
103	400kV Angul-Jindal line-2 Main Bay (425) at Angul	04-11-2016	09:00	04-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	JITPL
104	400kV Talcher -II- Keonjhar Tie Bay(Bay-403) at Rengali	04-11-2016	08:00	04-11-2016	17:00	ODB	ER-II/Odisha	AMP work.	
105	220 KV Tarkera #1 Bay (Bay No.-210) at Rourkela	04-11-2016	09:00	07-11-2016	18:00	OCB	ER-II/Odisha	Overhauling of CGL make CB (21052)	
106	220 KV Siliguri - New Siliguril	04-11-2016	08:00	04-11-2016	17:00	ODB	ER-II	AMP	
107	400KV RANGPO- TEESTA-V, CKT-2	04-11-2016	09:30	04-11-2016	18:00	ODB	ER-II	AMP Work	TEESTA
108	400 KV MAIN BUS 2 including Bus Sectionalizer-2 CB at Durgapur	04-11-2016	10:00	04-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-2(Final commissioning)	
109	400kV Tala- 4 Line with Reactor at Binaguri	04-11-2016	09:00	04-11-2016	17:00	ODB	ER-II	CSD Commissioning	
110	400 kv Subhashgram - Jeerat tr. Line	04-11-2016	08:00	05-11-2016	17:00	ODB	ER-II	For Stringing work Rajarhat-Purnia 400 KV D/C line in between 7C/0-7D/0	NLDC
111	A/R 220 kV MTPS (Kati) - Muzaffarpur	04-11-2016	08:00	08-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	BIHAR
112	400kV ROURKELA-CHAIBASA-I AT ROURKELA	04-11-2016	08:00	04-11-2016	18:00	ODB	ER-II/Odisha	PLCC panel installation	

113	132 KV PURNEA KISHANGANJ LINE	05-11-2016	09:00	05-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. THE LINE WILL BE CHARGED ON EACH DAY AFTER COMPLETION OF WORK AT 17.00 HRS. 1.Removing of equipment jumpers and installation of suspension insulator of KISHANGANJ line bay. (revised drawing is under approval). 2. dismantling of existing tandem isolators /BPI of R & B phases of KISHANGANJ line bay 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
114	400kV GMR Line#1 & Jindal Line#2 TIE Bay (426) at Angul	05-11-2016	09:00	05-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	
115	400KV, 125MVAR BUS REACTOR-2 AT SUNDARGARH	05-11-2016	08:00	05-11-2016	18:00	ODB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	
116	220 KV Siliguri - New Siliguril	05-11-2016	08:00	05-11-2016	17:00	ODB	ER-II	AMP	
117	400 KV MAIN BUS 3 including Bus Sectionalizer-1 CB at Durgapur	05-11-2016	10:00	05-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-3(Final commissioning)	
118	BNG-IV L/R at Binaguri	05-11-2016	09:00	05-11-2016	17:00	ODB	ER-II	AMP of NSLG	
119	220kV NSLG-BRP Ckt-II	05-11-2016	09:00	05-11-2016	17:00	ODB	ER-II	Relay retrofitting	NLDC
120	400kV NSLG-Tala Ckt-1	05-11-2016	07:00	05-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	NLDC
121	400 KV Subhasgram- Jeerat Line	05-11-2016	09:00	05-11-2016	17:30	ODB	ER-II	LA and Jumper replacemnet at jeerat end.	NLDC
122	400 KV MAIN BUS - II AT BAKRESWAR	05-11-2016	07:00	05-11-2016	16:00	ODB	WBSETCL	ISOLATOR MAINTENANCE WORK	
123	400 kV Teesta-Binaguri	05-11-2016	08:00	10-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	TEESTA
124	160 MVA ICT-I AT MALDA	05-11-2016	07:00	05-11-2016	18:00	ODB	ER-II	FOR COMMISSIONING OF NIFS.	WBSETCL
125	132 KV PURNEA KISHANGANJ LINE	06-11-2016	09:00	06-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. THE LINE WILL BE CHARGED ON EACH DAY AFTER COMPLETION OF WORK AT 17.00 HRS. 1.Removing of equipment jumpers and installation of suspension insulator of KISHANGANJ line bay. (revised drawing is under approval). 2. dismantling of existing tandem isolators /BPI of R & B phases of KISHANGANJ line bay 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
126	400 KV MAIN BUS 4 including Bus Sectionalizer-2 CB at Durgapur	06-11-2016	10:00	06-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-4(Final commissioning)	
127	125 Bus Reactor-I at Binaguri	06-11-2016	09:00	06-11-2016	17:00	ODB	ER-II	CSD Commissioning	
128	160 MVA ICT-II AT MALDA	06-11-2016	07:00	06-11-2016	18:00	ODB	ER-II	FOR COMMISSIONING OF NIFS.	WBSETCL

129	132 KV PURNEA KISHANGANJ LINE	07-11-2016	09:00	07-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. THE LINE WILL BE CHARGED ON EACH DAY AFTER COMPLETION OF WORK AT 17.00 HRS. 1.Removing of equipment jumpers and installation of suspension insulator of KISHANGANJ line bay. (revised drawing is under approval). 2. dismantling of existing tandem isolators /BPI of R & B phases of KISHANGANJ line bay 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
130	765kV Angul Sundergarh Line-1 at Angul	07-11-2016	07:00	08-11-2016	18:00	ODB	ER-II/Odisha	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability&reliability.	NLDC
131	400 KV Talcher #1 A/R Switch in Non-auto mode by Rourkela	07-11-2016	09:00	21-11-2016	18:00	ODB	ER-II/Odisha	For PID Scanning	
132	400KV SUNGARGARH-ROURKELA LINE-I BY SUNDARGARH	07-11-2016	08:00	08-11-2016	18:00	ODB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	
133	220 KV Siliguri - kishanganj-1	07-11-2016	08:00	07-11-2016	17:00	ODB	ER-II	AMP	
134	132 KV RANGPO-CHUZACHEN	07-11-2016	09:30	07-11-2016	18:00	ODB	ER-II	AMP Work	
135	400 KV MAIN BUS 1 including Bus Sectionalizer-1 CB at Durgapur	07-11-2016	10:00	07-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-1(Final commissioning)	
136	220kV NSLG-BRP Ckt-I	07-11-2016	09:00	07-11-2016	17:00	ODB	ER-II	Relay retrofitting	NLDC
137	400kV NSLG-Tala Ckt-2	07-11-2016	07:00	07-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	NLDC
138	220 KV Bus Coupler with BUS-I at Dalkhola	07-11-2016	09:00	07-11-2016	16:00	ODB	ER-II	Jumper & dropper replacement	
139	315 MVA ICT-V at Subhasgram	07-11-2016	09:00	07-11-2016	17:30	ODB	ER-II	PSD commissioning	NLDC
140	220 KV Bus Coupler with BUS-I at Dalkhola	07-11-2016	09:00	07-11-2016	16:00	ODB	ER-II	Jumper & dropper replacement	
141	400 KV BINAGURI-RANGPO-I	07-11-2016	07:00	11-11-2016	17:00	ODB	ER-II	FOR ENSURING MAXM CONTINUOUS FLOW OF 750 MW FOR ACCOMODATING TEESTA URJA GENERATION.	TEESTA
142	220 KV BUS-I AT RANCHI	08-11-2016	09:30	08-11-2016	17:00	ODB	ER - I	TO ATTEND HOT SPOT IN BUS ISOLATOR	JHARKHAND
143	160 MVA ICT#2 AT PURNEA	08-11-2016	09:00	08-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. THE ICT-2 WILL BE CHARGED ON EACH DAY AFTER COMPLETION OF WORK AT 17.00 HRS. 1.Removing of equipment jumpers and installation of suspension insulator of ICT-2 bay. 2. Dismantling of existing tandem isolators /BPI of R & B phases of ICT#2 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
144	400 KV BUS -2 AT MUZAFFARPUR	08-11-2016	09:00	08-11-2016	17:00	ODB	ER - I	LBB TRIP CHECKING OF 400 KV DARBHANGA -2 TIE BAY WITH BB-2	
145	220kV Rengali PCGIL- OPTCL -II at Rengali	08-11-2016	08:00	08-11-2016	17:00	ODB	ER-II/Odisha	AMP work.	ODISHA
146	220 KV ICT #1 Incomer Bay (Bay No.- 211) at Rourkela	08-11-2016	09:00	11-11-2016	18:00	OCB	ER-II/Odisha	Overhauling of CGL make CB (21152)	
147	400 KV BONGAIGAON- N SLG Transmission Line Ckt- 3 & 4	08-11-2016	07:00	12-11-2016	18:00	OCB	ER-II	For final tapping connection between TL No-84 &85 of existing Bong-N SLG Transmission Line-3&4 -for termination at Alipurduar 800 KV SS.	NLDC

148	220 KV Birpara-Salakati-D/C	08-11-2016	08:00	10-11-2016	17:00	OCB	ER-II	For LILO at Alipurduar S/S , existing 220 KV Birpara-Salakati-D/C wil be 220 KV Birpara-Alipurduar-D/C & 220 KV Alipurduar-Salakati-D/C.	NLDC
149	220 KV Siliguri - kishanganj-2	08-11-2016	08:00	08-11-2016	17:00	ODB	ER-II	AMP	
150	132 KVRANGPO-GANGTOK-1	08-11-2016	09:30	08-11-2016	18:00	ODB	ER-II	AMP Work	SIKKIM
151	400 KV MAIN BUS 2 including Bus Sectionalizer-2 CB at Durgapur	08-11-2016	10:00	08-11-2016	18:00	ODB	ER-II	Testing of Bus bar protection for Bus-2(Final commissioning)	
152	220KV Transfer Bus coupler at Dalkhola	08-11-2016	09:00	08-11-2016	16:00	ODB	ER-II	Jumper & dropper replacement	
153	220KV Transfer Bus coupler at Dalkhola	08-11-2016	09:00	08-11-2016	16:00	ODB	ER-II	Jumper & dropper replacement	
154	400 KV BONGAIGAON- N SLG Transmission Line Ckt- 3 & 4	08-11-2016	07:00	12-11-2016	18:00	OCB	ER-II	For final tapping connection between TL No-84 &85 of existing Bong-N SLG Transmission Line-3&4 -for termination at Alipurduar 800 KV SS.	NLDC
155	220 KV Birpara-Salakati-D/C	08-11-2016	08:00	10-11-2016	17:00	OCB	ER-II	For LILO at Alipurduar S/S , existing 220 KV Birpara-Salakati-D/C wil be 220 KV Birpara-Alipurduar-D/C & 220 KV Alipurduar-Salakati-D/C.	NLDC
156	400 KV B/RI AT BAKRESWAR	08-11-2016	07:00	08-11-2016	16:00	ODB	WBSETCL	WINTER MAINTENANCE	
157	220 KV BUS-II AT RANCHI	09-11-2016	09:30	09-11-2016	17:00	ODB	ER - I	TO ATTEND HOT SPOT IN BUS ISOLATOR	JHARKHAND
158	160 MVA ICT#2 AT PURNEA	09-11-2016	09:00	09-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. THE ICT-2 WILL BE CHARGED ON EACH DAY AFTER COMPLETION OF WORK AT 17.00 HRS. 1.Removing of equipment jumpers and installation of suspension insulator of ICT-2 bay. 2. Dismantling of existing tandem isolators /BPI of R & B phases of ICT#2 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
159	200 MVA ICT-2 AT LAKHISARAI	09-11-2016	08:00	12-11-2016	18:00	ODB	ER - I	HVWS WORK AND CONSTRUCTION OF FIREWALL	BIHAR
160	500 MVA ICT -1 AT NPRN	09-11-2016	08:00	12-11-2016	18:00	OCB	ER - I	COMMISSIONING OF CSD & BUSHING MONITORING SYSTEM , COMMISSIONING TEST UNDER WARRANTY, CONNECTION OF TERTIARY AND REPLACEMENT OF PRV(03 NOS.)	BIHAR
161	50 MVAR L/R -2 AT BSF	09-11-2016	08:00	25-11-2016	18:00	OCB	ER - I	FOR OVERHAULING AND REPLACEMENT OF GASKETS.	
162	400 KV BIHARSHARIF-LAKHISARI-2	09-11-2016	08:00	09-11-2016	18:00	ODB	ER - I	FOR DISMENTALING OF BUSHING OF 50 MVAR L/R -2 FOR OVERHAULING.	
163	400 KV BIHARSHARIF-VARANASI -1 &2	09-11-2016	08:00	12-11-2016	17:30	ODB	ER - I	BUS SPLIT WORK ARRANGEMENT	NLDC
164	400kV Angul-Jindal Line#1 Main Bay at Angul	09-11-2016	09:00	09-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	JITPL
165	220kV Rengali PCGIL- OPTCL -I at Rengali	09-11-2016	08:00	09-11-2016	17:00	ODB	ER-II/Odisha	AMP work.	ODISHA
166	400KV SUNGARGARH-ROURKELA LINE-2 BY SUNDARGARH	09-11-2016	08:00	10-11-2016	18:00	ODB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	
167	132 KVRANGPO-RANGIT	09-11-2016	09:30	09-11-2016	18:00	ODB	ER-II	AMP Work	
168	220kV NSLG-SLG Ckt-I	09-11-2016	09:00	09-11-2016	17:00	ODB	ER-II	Relay retrofitting	
169	400kV NSLG-Tala Ckt-3	09-11-2016	07:00	09-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	NLDC
170	400 KV Malda- Purnea ckt-I	09-11-2016	09:00	09-11-2016	16:00	ODB	ER-II	All jumper/hardware fittings tightening works in line	
171	400 KV Malda- Purnea ckt-I	09-11-2016	09:00	09-11-2016	16:00	ODB	ER-II	Replacement of broken insulators and jumper/hardware fittings tightening works in line	
172	Biharsharif-Muzafferpur	09-11-2016	08:00	13-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	NLDC

173	160 MVA ICT#2 AT PURNEA	10-11-2016	09:00	10-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. THE ICT-2 WILL BE CHARGED ON EACH DAY AFTER COMPLETION OF WORK AT 17.00 HRS. 1.Removing of equipment jumpers and installation of suspension insulator of ICT-2 bay. 2. Dismantling of existing tandem isolators /BPI of R & B phases of ICT#2 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
174	400 KV BIHARSHARIF-MUZAFFARPUR -1	10-11-2016	10:00	10-11-2016	14:00	ODB	ER - I	FOR BUS SPLITING WORK	NLDC
175	400kV Bus-I at Angul	10-11-2016	07:00	10-11-2016	19:00	ODB	ER-II/Odisha	AMP WORK	
176	132 KV RANGPO-GANGTOK-1	10-11-2016	09:30	10-11-2016	18:00	ODB	ER-II	AMP Work	SIKKIM
177	400 KV Malda- Purnea ckt-II	10-11-2016	09:00	10-11-2016	16:00	ODB	ER-II	All jumper/hardware fittings tightening works in line	
178	400KV Haldia Line#1 and 315MVA ICT#4	10-11-2016	09:00	10-11-2016	17:30	ODB	ER-II	To check and simulate the protection scheem of ICT#4, (due to simultenious tripping of ICT#4 was observed during Haldia Line#1 protection trip)	NLDC
179	400 KV Malda- Purnea ckt-II	10-11-2016	09:00	10-11-2016	16:00	ODB	ER-II	Replacement of broken insulators and jumper/hardware fittings tightening works in line	
180	400 KV Kh -Maithon Line # 1	10-11-2016	09:30	11-11-2016	17:00	OCB	NTPC	CT replacement in Feeder and Bay	
181	765KV S/C GAYA-BALIA TL	11-11-2016	08:00	11-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
182	765 KV NEW RANCHI-DHARAMJAIGARH -2	11-11-2016	09:00	11-11-2016	17:00	ODB	ER - I	FOR PLCC FREQUENCY MODIFICATION.	NLDC
183	400 KV BIHARSHARIF-MUZAFFARPUR -2	11-11-2016	10:00	11-11-2016	14:00	ODB	ER - I	FOR BUS SPLITING WORK	NLDC
184	400 kV SASARAM - VARANASI	11-11-2016	09:00	11-11-2016	18:00	ODB	ER - I	FOR PLCC COMMISIONING WORK	NLDC
185	400 KV (Quad) Kishanganj –New Purnea Circuit # I	11-11-2016	09:00	21-11-2016	17:00	ODB	POWERLINK	For changing 160KN Porcelain Insulator Strings by 160KN Polymer Insulator Strings at 54 Nos Tension/Angle towers between Kishanganj (BR) and Purnea Section.	NLDC
186	765kV Angul Sundergarh Line-2 at Angul	11-11-2016	07:00	12-11-2016	18:00	ODB	ER-II/Odisha	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability&reliability.	NLDC
187	400kV Bus-2 at Angul	11-11-2016	07:00	11-11-2016	19:00	ODB	ER-II/Odisha	AMP WORK	
188	400KV BARIPADA- BR TIE AT KEONJHAR	11-11-2016	09:00	11-11-2016	18:00	ODB	ER-II/Odisha	For AMP Works	
189	400KV SUNGARGARH-IND BHARAT LINE BY SUNDARGARH	11-11-2016	08:00	12-11-2016	18:00	ODB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	NLDC
190	400 KV N.Siliguri-N. Purnea Ckt- I	11-11-2016	09:00	11-11-2016	16:00	ODB	ER-II	All jumper/hardware fittings tightening works in line	
191	400 KV N.Siliguri-N. Purnea Ckt- I	11-11-2016	09:00	11-11-2016	16:00	ODB	ER-II	Replacement of broken insulators and jumper/hardware fittings tightening works in line	
192	400 kV Bolangir (Lilo)-Jeypore	11-11-2016	08:00	13-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	NLDC
193	A/R 220 kV Dalkhola-Purnea	11-11-2016	08:00	15-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	

194	132 KV PURNEA - PURNEA BSPTCL#2 LINE	12-11-2016	09:00	12-11-2016	17:00	ODB	ER - I	BOTH THE LINE & ICT WILL BE UNDER S/D SIMULTANEOUSLY BUT ICT-3 WILL BE CHARGED AFTER 2 HOURS. FOR Construction of GIS bus duct & SF6 to air bushing foundation. Already will remain S/D as mentioned above in Sl No-6. Dismantling of Transfer Bus which is above TBC & BSEB- 2 bay 1.Cutting of through conductor of R,Y&B phases of Transfer bus above ICT -3 bay(this is to separate the inter connection jumper of the two transfer bus section btwn ICT -3 & BSPTCL- 2 2.Removing of jumpers of each phase from Transfer Bus to tandem isolator. 3.Dismantling of transfrer bus Conductors of that particular section.	BIHAR
195	160 MVA ICT#3 AT PURNEA	12-11-2016	09:00	12-11-2016	11:00	ODB	ER - I	BOTH THE LINE & ICT WILL BE UNDER S/D SIMULTANEOUSLY BUT ICT-3 WILL BE CHARGED AFTER 2 HOURS. FOR Construction of GIS bus duct & SF6 to air bushing foundation. Already will remain S/D as mentioned above in Sl No-6. Dismantling of Transfer Bus which is above TBC & BSEB- 2 bay 1.Cutting of through conductor of R,Y&B phases of Transfer bus above ICT -3 bay(this is to separate the inter connection jumper of the two transfer bus section btwn ICT -3 & BSPTCL- 2 2.Removing of jumpers of each phase from Transfer Bus to tandem isolator. 3.Dismantling of transfrer bus Conductors of that particular section.	BIHAR
196	765KV S/C GAYA-VARANASI-1 TL	12-11-2016	08:00	12-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
197	400kV, 125MVAR bus Reactor-1 at Angul	12-11-2016	09:00	12-11-2016	15:00	ODB	ER-II/Odisha	AMP WORK	
198	400KV BR MAIN BAY AT KEONJHAR	12-11-2016	09:00	12-11-2016	18:00	ODB	ER-II/Odisha	For AMP Works	
199	220 KV Bus Coupler Bay (Bay No.- 202) at Rourkela	12-11-2016	09:00	15-11-2016	18:00	OCB	ER-II/Odisha	Overhauling of CGL make CB (20252)	
200	400kV Tala Ckt-I	12-11-2016	09:00	12-11-2016	17:00	ODB	ER-II	Relay retrofitting	NLDC
201	400kV NSLG-Rangpo Ckt-1	12-11-2016	07:00	12-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	
202	400kV NSLG-Tala Ckt-4	12-11-2016	07:00	12-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	NLDC
203	400 KV N.Siliguri-N. Purnea Ckt- II	12-11-2016	09:00	12-11-2016	16:00	ODB	ER-II	All jumper/hardware fittings tightening works in line	
204	220kV S'gram-WBSETCL Line #2	12-11-2016	09:00	12-11-2016	17:30	ODB	ER-II	AMP	NLDC
205	400 KV N.Siliguri-N. Purnea Ckt- II	12-11-2016	09:00	12-11-2016	16:00	ODB	ER-II	Replacement of broken insulators and jumper/hardware fittings tightening works in line	
206	400 KV BINAGURI-RANGPO-II	12-11-2016	07:00	16-11-2016	17:00	ODB	ER-II	FOR ENSURING MAXM CONTINUOUS FLOW OF 750 MW FOR ACCOMODATING TEESTA URJA GENERATION.	TEESTA

207	132 KV PURNEA - PURNEA BSPTCL#2 LINE	13-11-2016	09:00	13-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL- 2 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolators /BPI of R & B phases of BSPTCL-2 bay 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
208	400KV ICT-II MAIN BAY AT KEONJHAR	13-11-2016	09:00	13-11-2016	18:00	ODB	ER-II/Odisha	For AMP Works	
209	400kV NSLG-Kishanganj-2 Line	13-11-2016	07:00	13-11-2016	17:00	ODB	ER-II	Hot spot rectification	
210	400kV Bus-I at Binaguri	13-11-2016	07:00	13-11-2016	17:00	ODB	ER-II	To facilitate hot spot rectification in Purnea-3 & 4 Line	
211	400KV ICT-II MAIN BAY AT KEONJHAR	13-11-2016	09:00	13-11-2016	18:00	ODB	ER-II/Odisha	For AMP Works	
212	315 MVA ICT-2 AT JSR	14-11-2016	09:30	14-11-2016	17:30	ODB	ER - I	BAY CONSTRUCTION WORK ICT - III	JHARKHAND
213	400 KV RANCHI-ROURKELA -II	14-11-2016	09:30	14-11-2016	17:00	ODB	ER - I	REPLACEMENT OF INSULATORS DAMAGED BY MISCRIENTS.	
214	132 KV PURNEA - PURNEA BSPTCL#2 LINE	14-11-2016	09:00	14-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL- 2 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolators /BPI of R & B phases of BSPTCL-2 bay 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
215	400 KV BUS -2 AT PATNA	14-11-2016	09:00	15-11-2016	19:00	ODB	ER - I	FOR AMP WORK	
216	80 MVAR Bus Reactor AT LAKHISARAI	14-11-2016	08:00	17-11-2016	18:00	ODB	ER - I	HVWS WORK AND CONSTRUCTION OF FIREWALL	
217	765/400 KV ICT-I AT NEW RANCHI	14-11-2016	08:00	14-11-2016	18:00	ODB	ER - I	DISMANTLING OF ICT-I B PH UNIT , LIFTING OF BUSHINGS	NLDC
218	400 KV BUS -2 AT NPRN	14-11-2016	09:00	14-11-2016	18:00	ODB	ER - I	AMP WORK	
219	Non-Auto mode of Auto-Reclosure of 765KV Angul-Jharsuguda# 1&2	14-11-2016	08:00	19-11-2016	18:00	ODB	ER-II/Odisha	OPGW rectification works (Under ULDC).	NLDC
220	315 MVA ICT#1 at Durgapur	14-11-2016	11:00	14-11-2016	12:00	ODB	ER-II	CB Retrofitting-trasfer load to transfer bus & protection testing	
221	400kV NSLG-Kishanganj-1 Line	14-11-2016	07:00	14-11-2016	17:00	ODB	ER-II	Hot spot rectification	
222	220 KV Siliguri-Kishanganj ckt -I	14-11-2016	09:00	14-11-2016	16:00	ODB	ER-II	All jumper/hardware fittings tightening works in line	
223	220 KV Siliguri-Kishanganj ckt -I	14-11-2016	09:00	14-11-2016	16:00	ODB	ER-II	Replacement of broken insulators and jumper/hardware fittings tightening works in line	
224	A/R 220 kV Biharsharif - Bodhgaya	14-11-2016	08:00	18-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	
225	400 KV TIE BAY OF RANCHI-ROURKELA -II AT RANCHI	15-11-2016	09:30	15-11-2016	17:00	ODB	ER - I	AMP WORK	
226	132 KV PURNEA - PURNEA BSPTCL#2 LINE	15-11-2016	09:00	15-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL- 2 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolators /BPI of R & B phases of BSPTCL-2 bay 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR

227	765KV S/C GAYA-VARANASI-2 TL	15-11-2016	08:00	15-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
228	MAIN BAY OF 200 MVA ICT-1 AT BANKA (400 KV SIDE)	15-11-2016	10:00	15-11-2016	18:00	ODB	ER - I	AMP WORK	
229	400 KV BUS - II AT BSF	15-11-2016	14:00	15-11-2016	20:00	ODB	ER - I	DISMENTLE THE BUS ALUMINIUM PIPE . NOW THE BUS-1 BECOME TWO PART ONE IS BUS-1 AND BUS-3. BUS-1 WILL BE TAKEN IMMIDIATELY.	
230	315 MVA ICT-1 AT BSF	15-11-2016	14:00	15-11-2016	20:00	ODB	ER - I	DISMENTLE THE BUS ALUMINIUM PIPE . NOW THE BUS-1 BECOME TWO PART ONE IS BUS-1 AND BUS-3. BUS-1 WILL BE TAKEN IMMIDIATELY.	BIHAR
231	400 KV BSF - LAKHISRAI -2 at BSF	15-11-2016	14:00	15-11-2016	20:00	ODB	ER - I	DISMENTLE THE BUS ALUMINIUM PIPE . NOW THE BUS-1 BECOME TWO PART ONE IS BUS-1 AND BUS-3. BUS-1 WILL BE TAKEN IMMIDIATELY.	
232	400 KV BSF - LAKHISRAI -1 at BSF	15-11-2016	14:00	15-11-2016	20:00	ODB	ER - I	DISMENTLE THE BUS ALUMINIUM PIPE . NOW THE BUS-1 BECOME TWO PART ONE IS BUS-1 AND BUS-3. BUS-1 WILL BE TAKEN IMMIDIATELY.	
233	400KV SUNGARGARH-RAIGARH LINE-2 BY SUNDARGARH	15-11-2016	08:00	16-11-2016	18:00	ODB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	NLDC
234	220 KV BRP-Malbase S/C	15-11-2016	08:00	20-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
235	220kV Bus-I at Binaguri	15-11-2016	07:00	15-11-2016	17:00	ODB	ER-II	Bus isolator hot spot rectification / CVT replacement	
236	220 KV Siliguri-Kishanganj ckt -II	15-11-2016	10:00	15-11-2016	16:00	ODB	ER-II	All jumper/hardware fittings tightening works in line	
237	220kV S'gram-KLC Line	15-11-2016	09:00	15-11-2016	17:30	ODB	ER-II	AMP	NLDC
238	400 KV BUS-I with Bay no-08 of NTPC Farakka	15-11-2016	10:00	15-11-2016	17:00	ODB	ER-II	To charge Bay no-09, jumper of Bay no-08 is to be opened and to be connected with isolator of Bay no-09. Then only, Bus reactor#1 with Bay no-09 will come into service.	
239	Maintenence work for 400KV Barh-Patna Line # 2 Main Bay, Bay No-33 AT BARH	15-11-2016	09:30	16-11-2016	18:00	OCB	NTPC	PM Job of Bay & Relay test.	
240	Maintenence work for 400KV Barh-Patna Line # 2 Tie Bay, Bay No-34 AT BARH	15-11-2016	09:30	16-11-2016	18:00	OCB	NTPC	PM Job of Bay & Relay test.	
241	315MVA ICT-II AT MAITHON	15-11-2016	09:00	15-11-2016	17:30	ODB	ER-II	AMP work	DVC
242	50 MVAR BR-I AT JSR	16-11-2016	09:30	16-11-2016	17:30	ODB	ER - I	AMP WORK	
243	132 KV PURNEA - PURNEA BSPTCL#1 LINE	16-11-2016	09:00	16-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. Dismantling of Transfer Bus which is above ICT 3 & BSPTCL 1 bay 1.Removing of jumpers of each phase from transfer bus to tandem isolator 2.Dismantling of transfrer bus Conductors of that particular section	BIHAR
244	220 KV KHAGAUL - ARA -1 BAY AT KHAGAUL	16-11-2016	10:00	16-11-2016	19:00	ODB	ER - I	FOR AMP WORK	BIHAR
245	400KV D/C MAITHON GAYA-I LINE	16-11-2016	08:00	16-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
246	765/400 KV ICT-I AT NEW RANCHI	16-11-2016	08:00	16-11-2016	18:00	ODB	ER - I	S/D REQUIRED FOR ERECTION OF BUSHING. AFTER ATTENDING LEAKAGE FROM BELL TANK , S/D SHALL BE REQUIRED FOR RE-ERECTION OF BUSHING	NLDC
247	220 KV BUS COUPLER AT NPRN	16-11-2016	09:00	16-11-2016	18:00	ODB	ER - I	AMP WORK	
248	MAIN BAY OF 200 MVA ICT-2 AT BANKA (400 KV SIDE)	16-11-2016	10:00	16-11-2016	18:00	ODB	ER - I	AMP WORK	
249	400 KV BIHARSHARIF-BALIA-1	16-11-2016	08:00	16-11-2016	17:30	ODB	ER - I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	NLDC

250	MAIN BAY OF 400 KV PSL-NABINAGAR LINE-I (419 BAY)	16-11-2016	09:30	16-11-2016	17:30	ODB	ER - I	AMP WORK	
251	220 KV Bus Transfer Bay (Bay No.- 205) at Rourkela	16-11-2016	09:00	19-11-2016	18:00	OCB	ER-II/Odisha	Overhauling of CGL make CB (20552)	
252	220kV Bus-II at Binaguri	16-11-2016	07:00	16-11-2016	17:00	ODB	ER-II	Bus isolator hot spot rectification	
253	400kV NSLG-Rangpo Ckt-2	16-11-2016	07:00	16-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	
254	220KV MLD-DLK BUS-I	16-11-2016	08:00	16-11-2016	16.00	ODB	ER-II	AMP & jumper change	
255	400 KV MAIN BAY OF 400 KV CHAIBASA-ROURKELA -1 AT CHAIBASA	17-11-2016	09:00	17-11-2016	17:00	ODB	ER - I	FOR AMP WORK.	
256	220 KV KHAGAUL - ARA -2 BAY AT KHAGAUL	17-11-2016	10:00	17-11-2016	19:00	ODB	ER - I	FOR AMP WORK	BIHAR
257	400KV D/C MAITHON GAYA-II LINE	17-11-2016	08:00	17-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
258	400 KV FARAKKA - KAHALGAON - 3 & 4	17-11-2016	09:00	19-11-2016	18:00	OCB	ER - I	FOR POWERLINE CROSSING OF KAHALGAON-MAITHAN AND FARAKKA - KAHALGOAN BY CONSTRUCTION OF NEW LINE FOR SHIFTING KAHALGOAN-BANKA UNDER BUS SPLIT SCHEME AT NTPC, KAHALGOAN.	
259	765KV B/R -1 AT NEW RANCHI	17-11-2016	08:00	19-11-2016	18:00	ODB	ER - I	RTV COATING OF TRENCH MAKE BUSHING	NLDC
260	MAIN BAY OF 80 MVAR B/R AT BANKA	17-11-2016	10:00	17-11-2016	18:00	ODB	ER - I	AMP WORK	
261	400 KV BIHARSHARIF-BALIA-2	17-11-2016	08:00	17-11-2016	17:30	ODB	ER - I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	NLDC
262	400kV Angul Meramundali Line-1 at Angul	17-11-2016	07:00	18-11-2016	18:00	ODB	ER-II/Odisha	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability&reliability.	ODISHA
263	400KV MAIN BUS-1 AT SUNDARGARH BY SUNDARGARH	17-11-2016	08:00	19-11-2016	18:00	OCB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	
264	220kV S'gram-Newtown Line #2	17-11-2016	09:00	17-11-2016	17:30	ODB	ER-II	AMP	NLDC
265	400 KV Kh -Maithon Line # 2	17-11-2016	09:30	18-11-2016	17:00	OCB	NTPC	CT replacement in Feeder and Bay.	
266	400 KV TIE BAY OF RANCHI-MAITHON (RB) -I AT RANCHI	18-11-2016	09:30	18-11-2016	17:00	ODB	ER - I	AMP WORK	
267	400 KV BARH - GKP -1	18-11-2016	08:00	17-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
268	TIE BAY OF KHLG -2 AND FUTURE BAY(BAY NO. 411) AT BANKA	18-11-2016	10:00	18-11-2016	18:00	ODB	ER - I	AMP WORK	
269	400 KV BIHARSHARIF-LAKHISARI-2	18-11-2016	08:00	18-11-2016	18:00	ODB	ER - I	FOR ERECTION OF BUSHING OF 50 MVAR L/R -2 AFTER OVERHAULING.	
270	400KV BUS-1 AT BSF	18-11-2016	08:00	18-11-2016	20:00	ODB	ER - I	FOR OPENING OF DROPPER FOR SHUT DOWN OF JACK BUS OF ICT - I AND LAKHISARAI - II	
271	MAIN BAY OF 400 KV BSF - LAKHISARAI - I(418 BAY)	18-11-2016	14:00	26-11-2016	20:00	OCB	ER - I	FOR OPENING OF DROPPER FOR SHUT DOWN OF JACK BUS	
272	MAIN BAY OF315 MVA ICT - I (415 BAY)	18-11-2016	14:00	26-11-2016	20:00	OCB	ER - I	DUE TO OPENING OF JACK BUS DROPPERS	
273	132 kV ASHOKNAGAR - BASHIRHAT Tr line of WBSETCL	18-11-2016	08:00	19-11-2016	17:00	ODB	ER-II	For Stringing work Rajarhat-Purnia 400 KV D/C line in between 13/0-14/0	NLDC
274	400 KV Fkk - Kahalgaon line #2	18-11-2016	09:30	18-11-2016	17:00	ODB	NTPC	Breaker CRM & timing testing.	

275	160 MVA ICT#3 & 100 MVA ICT#4 (PARALLEL) AT PURNEA	19-11-2016	09:00	19-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. Dismantling of Transfer Bus which is above ICT 3 & BSPTCL 1 bay 1.Removing of jumpers of each phase from transfer bus to tandem isolator 2.Dismantling of transfrer bus Conductors of that particular section	BIHAR
276	50 MVAR Line Reactor associated with 400 kV LKR-KHG Line-1 AT LAKHISARAI	19-11-2016	08:00	22-11-2016	18:00	ODB	ER - I	HVWS WORK AND CONSTRUCTION OF FIREWALL	
277	400kV Angul Bolangir at Angul	19-11-2016	07:00	20-11-2016	18:00	ODB	ER-II/Odisha	Improvement & strenghthening of line jumpers to prevent swing during high speed wind to avoid tripping in future & improvement of line availability&reliability.	NLDC
278	315 MVA ICT-III at Subhasgram	19-11-2016	09:00	19-11-2016	17:30	ODB	ER-II	Relay retrofit	NLDC
279	220 KV Fkk - Lalmatia Line	19-11-2016	09:30	19-11-2016	17:00	ODB	NTPC	Relay testing.	JHARKHAND
280	400 kV Patna-Barh	19-11-2016	08:00	23-11-2016	16.00	ODB	ULDC	OPGW STRINING WORK	
281	160 MVA ICT#3 & 100 MVA ICT#4 (PARALLEL) AT PURNEA	20-11-2016	09:00	20-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of ICT-3 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolators /BPI of R & B phases of 3 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
282	315MVA ICT#1 at Binaguri	20-11-2016	09:00	20-11-2016	17:00	ODB	ER-II	AMP of NSLG	NLDC
283	400kV NSLG-Purnea Ckt-1	20-11-2016	07:00	20-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	
284	400 KV MAIN BAY OF RANCHI-RAGHUNATHPUR AT RANCH	21-11-2016	09:30	21-11-2016	17:00	ODB	ER - I	AMP WORK	
285	160 MVA ICT#3 & 100 MVA ICT#4 (PARALLEL) AT PURNEA	21-11-2016	09:00	21-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of ICT-3 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolators /BPI of R & B phases of 3 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
286	22OKV BUS-I AT GAYA S/S	21-11-2016	08:00	21-11-2016	18:00	ODB	ER - I	FOR KHIJARSARAI BAY COMMISIONING WORK	BIHAR
287	765KV B/R -2 AT NEW RANCHI	21-11-2016	08:00	23-11-2016	18:00	ODB	ER - I	RTV COATING OF TRENCH MAKE BUSHING	NLDC
288	220 KV BUS -1 AT MUZAFFARPUR	21-11-2016	09:00	22-11-2016	18:00	ODB	ER - I	FOR GIS BAY EXTENSION	BIHAR
289	400KV Keonjhar-Rengali Line at Keonjhar	21-11-2016	09:00	23-11-2016	18:00	OCB	ER-II/Odisha	For OPGW Stringing Work	
290	400KV MAIN BUS-2 AT SUNDARGARH BY SUNDARGARH	21-11-2016	08:00	23-11-2016	18:00	OCB	ER-II/Odisha	TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	
291	220 KV BRP-CHP-I	21-11-2016	08:00	21-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
292	315 MVA ICT#1 at Durgapur	21-11-2016	15:00	21-11-2016	16:00	ODB	ER-II	Final commissioning of CB	
293	315MVA ICT#2 at Binaguri	21-11-2016	09:00	21-11-2016	17:00	ODB	ER-II	AMP of NSLG	NLDC
294	220kV NSLG-BRP Ckt-I	21-11-2016	09:00	30-11-2016	17:00	OCB	ER-II	PG clamp removal / Tower shifting at loc 178 by N F Railway	NLDC

295	220kV NSLG-BRP Ckt-II	21-11-2016	09:00	30-11-2016	17:00	OCB	ER-II	PG clamp removal / Tower shifting at loc 178 by N F Railway	NLDC
296	400KV Malda -Farakka CKT-I	21-11-2016	09:00	21-11-2016	14.00	ODB	ER-II	For attending punch points ERSS-XIII	
297	Sagardihgi - ICT#1 tie bay (402) at Subhasgram	21-11-2016	09:00	24-11-2016	17:30	OCB	ER-II	Yph Interrupter Unit repalcement for SF6 Leakage	
298	400 KV Farakka- Kahalgaon 3 & 4	21-11-2016	08:00	26-11-2016	18:00	OCB	ER-II	Erection of tower at Loc no. 5/0 & 5A/0 of LILO of 400 KV Rajarhat-Purnea D/c at Farakka and stringing between them (5/0 to 5A/0). Special Remarks : Span between 5/0 to 5A/0 is 80 mtrs. So, Distance between tower 5/0 & 5A/0 to 400 KV Farakka - Kahalgaon line is even less. Tower height of 5/0 and 5A/0 is approx 80 mtrs (DD+25 Mtrs with 4 m RC). So, during erection also, shutdown is required for passing stay / guy wires /ropes.	
299	220 KV CHANDIL-I BAY AT RANCHI	22-11-2016	09:30	22-11-2016	17:00	ODB	ER - I	AMP WORK	JHARKHAND
300	160 MVA ICT#3 & 100 MVA ICT#4 (PARALLEL) AT PURNEA	22-11-2016	09:00	22-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of ICT-3 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolators /BPI of R & B phases of 3 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
301	22OKV BUS-II AT GAYA S/S	22-11-2016	08:00	22-11-2016	18:00	ODB	ER - I	FOR KHIJARSARAI BAY COMMISIONING WORK	BIHAR
302	400 KV BARH - GKP -2	22-11-2016	08:00	24-11-2016	18:00	ODB	ER - I	FOR REPLACEMENT OF INSULATORS DAMAGED BY MISCREANT	NLDC
303	400 KV (Quad) –New Siliguri(Binaguri)-Kishanganj Circuit #2	22-11-2016	09:00	30-11-2016	17:00	ODB	POWERLINK	For changing 160KN Porcelain Insulator Strings by 160KN Polymer Insulator Strings at 46 Nos Tension/Angle towers between Siliguri (W.B.)and Bidhannagar (WB)Section .	NLDC
304	400 KV Talcher #2 A/R Switch in Non-auto mode at Rourkela	22-11-2016	09:00	06-12-2016	18:00	ODB	ER-II/Odisha	For PID Scanning	
305	220 KV BRP-CHP-II	22-11-2016	08:00	22-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
306	400KV Malda -Farakka D/c TL CKT-II	22-11-2016	09:00	22-11-2016	14.00	ODB	ER-II	For attending punch points ERSS-XIII	NLDC
307	400 KV Fkk - Kahalgaon line #1	22-11-2016	09:30	22-11-2016	17:00	ODB	NTPC	Breaker CRM & timing testing.	
308	220 KV TRANSFER BUS BAY AT RANCHI	23-11-2016	09:30	23-11-2016	17:00	ODB	ER - I	AMP WORK	
309	132 KV PURNEA - PURNEA BSPTCL#1 LINE	23-11-2016	09:00	23-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL- 1 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolator/ BPI of R & B phases of BSPTCL-1 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
310	3*80MVAR GAYA-VARANASI-I LINE REACTOR AT GAYA	23-11-2016	10:00	23-11-2016	18:00	OCB	ER - I	FOR HV BUSHING REPLACEMENT WORK IN Y-PHASE	NLDC

311	400 KV KAHALGOAN - MAITHAN - 1 & 2	23-11-2016	09:00	25-11-2016	18:00	OCB	ER - I	FOR POWERLINE CROSSING OF KAHALGAON-MAITHAN AND FARAKKA - KAHALGOAN BY CONSTRUCTION OF NEW LINE FOR SHIFTING KAHALGOAN-BANKA UNDER BUS SPLIT SCHEME AT NTPC, KAHALGOAN.	
312	765/400 KV ICT-I AT NEW RANCHI	23-11-2016	08:00	23-11-2016	18:00	ODB	ER - I	S/D REQUIRED TO CHANGE OVER THE SPARE WITH ICT-I , B-PH UNIT. AFTER COMPLETION OF OIL PROCESSING , 04 HRS. S/D REQUIRED TO SWITCH THE ICT-I , B-PH	NLDC
313	400 KV KAHALGAON - LAKHISARAI- 1 & 2	23-11-2016	08:00	23-11-2016	17:30	ODB	ER - I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	
314	220 KV BUS -2 AT MUZAFFARPUR	23-11-2016	09:00	24-11-2016	18:00	ODB	ER - I	FOR GIS BAY EXTENSION	BIHAR
315	220 KV BRP-CHP-I	23-11-2016	08:00	23-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
316	400kV NSLG-Rangpo Ckt-II	23-11-2016	09:00	23-11-2016	17:00	ODB	ER-II	PG clamp removal	
317	400kV NSLG-Purnea Ckt-2	23-11-2016	07:00	23-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	
318	400KV Malda -Farakka D/c TL CKT-II	23-11-2016	09:00	23-11-2016	14.00	ODB	ER-II	For attending punch points ERSS-XIII	NLDC
319	132 KV PURNEA - PURNEA BSPTCL#1 LINE	24-11-2016	09:00	24-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL- 1 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolator/ BPI of R & B phases of BSPTCL-1 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
320	765KV L/R OF 765 KV NEW RANCHI DHARAMJAYGARH -1 AT AT NEW RANCHI	24-11-2016	08:00	26-11-2016	18:00	ODB	ER - I	RTV COATING OF TRENCH MAKE BUSHING	NLDC
321	401 KV LAKHISARAI - BIHARSHARIF- 1 & 2	24-11-2016	08:00	24-11-2016	17:30	ODB	ER - I	REPLACEMENT OF INSULATORS DAMAGED BY MISCREANTS	
322	400KV Keonjhar-Baripada Line at Keonjhar	24-11-2016	09:00	24-11-2016	18:00	ODB	ER-II/Odisha	For jointing & splicing works of OPGW Stringing.	
323	765/400KV, 1500MVA ICT-I AT SUNDARGARH BY SUNDARGARH	24-11-2016	08:00	26-11-2016	18:00	ODB	ER-II/Odisha	FOR RTV COATING OF 765KV BUSHING AND TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	NLDC
324	220 KV BRP-CHP-II	24-11-2016	08:00	24-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
325	220kV SLG-Kishanganj Ckt-II	24-11-2016	09:00	24-11-2016	17:00	ODB	ER-II	PG clamp removal	
326	400KV Malda -Farakka D/c TL CKT-II	24-11-2016	09:00	24-11-2016	14.00	ODB	ER-II	For attending punch points ERSS-XIII	NLDC
327	315MVA ICT-V at Malda	24-11-2016	07:00	24-11-2016	16.00	ODB	ER-II	AMP (AMP & CT Change)	NLDC
328	400 KV Fkk - Durgapur Line #1	24-11-2016	09:30	24-11-2016	17:00	ODB	NTPC	Breaker CRM & timing testing.	
329	220 KV CHANDIL-II BAY AT RANCHI	25-11-2016	09:30	25-11-2016	17:00	ODB	ER - I	AMP WORK	JHARKHAND
330	132 KV PURNEA - PURNEA BSPTCL#1 LINE	25-11-2016	09:00	25-11-2016	17:00	ODB	ER - I	Construction of GIS bus duct & SF6 to air bushing foundation. 1.Removing of equipment jumpers and installation of suspension insulator of BSPTCL- 1 bay(revised drawing is under approval). 2. Dismantling of existing tandem isolator/ BPI of R & B phases of BSPTCL-1 bay. 3. Installing /erecting of BPI(existing) on new proposed foundation as per requirement on particular bay& then connection to CT.	BIHAR
331	A/R S/OFF 400 KV KAHALGOAN - MAITHAN - 1 & 2	25-11-2016	09:00	30-11-2016	18:00	ODB	ER - I	FOR PID WORK IN SAID LINE.	
332	400 KV BIHARSHARIF-LAKHISARI-2	25-11-2016	10:00	25-11-2016	11:00	ODB	ER - I	FOR CHARGING OF 50 MVAR L/R -2 AFTER OVERHAULING.	
333	400 KV BUS - 2 and BUS-4 AT BSF	25-11-2016	08:00	25-11-2016	18:00	ODB	ER - I	FOR INTECONNECTING OF JUMPERS WITH BUS-2 TO BUS-4 AND STABILITY TEST	

334	400KV ICT-II Main Bay at BSF	25-11-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due Opening of dropper near main bay of 315MVA ICT-2 (22-bay) f BUS-I spliting work	
335	400KV BSF-SAS#01 Main Bay at BSF	25-11-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due Opening of dropper near main bay of 315MVA ICT-2 (22-bay) f BUS-I spliting work	
336	315 MVA ICT-1 AT BSF	25-11-2016	08:00	25-11-2016	18:00	ODB	ER - I	FOR INTECONNECTING OF JUMPERS WITH BUS-2 TO BUS-4 AND STABILITY TEST	BIHAR
337	400 KV BSF - LAKHISRAI -2 at BSF	25-11-2016	08:00	25-11-2016	18:00	ODB	ER - I	FOR INTECONNECTING OF JUMPERS WITH BUS-2 TO BUS-4 AND STABILITY TEST	
338	400 KV BSF - LAKHISRAI -1 at BSF	25-11-2016	08:00	25-11-2016	18:00	ODB	ER - I	FOR INTECONNECTING OF JUMPERS WITH BUS-2 TO BUS-4 AND STABILITY TEST	
339	400KV ICT-II Main Bay at BSF	25-11-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3. and opening of dropper near ICT-2 main bay	
340	400KV BSF-SAS#01 Main Bay at BSF	25-11-2016	08:00	06-12-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3. and opening of dropper near ICT-2 main bay	
341	220 KV BRP-CHP-I	25-11-2016	08:00	25-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
342	220 KV Farakka- Lalmatia TL	25-11-2016	08:00	30-11-2016	18:00	OCB	ER-II	Erection of tower at Loc. No- 7/0 (DD+25 mtr with 4 m RC) and stringing between loc. No. 6/0 to 7/0 of LILO of 400 KV Rajarha	JHARKHAND
343	220KV Gokarna- Sagardighi Ckt. I &2	25-11-2016	08:00	25-11-2016	18:00	ODB	ER-II	Stringing between loc. No. 3/0 to 4/0 of LILO of 400 KV Rajarhat-Purnea D/c at Gokarna	NLDC
344	400 KV Fkk - Kahalgaon Line#2	25-11-2016	09:30	25-11-2016	17:00	ODB	NTPC	Breaker CRM & timing testing.	
345	400 KV BUS-1 at BSF	26-11-2016	08:00	26-11-2016	18:00	ODB	ER - I	DISMENTLE THE BUS ALUMINIUM PIPE . NOW THE BUS-1 BECOME TWO PART ONE IS BUS-1 AND BUS-3. BUS-1 WILL BE TAKEN IMMIDIATELY.	
346	315 MVA ICT-2 AT BSF	26-11-2016	08:00	27-11-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	BIHAR
347	400 KV BSF - Sasaram Ckt.-I	26-11-2016	08:00	27-11-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
348	125 MVAR Bus recator-3 at BSF	26-11-2016	08:00	27-11-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
349	50 MVAR Bus recator-1 at BSF	26-11-2016	08:00	27-11-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
350	220 KV BRP-CHP-II	26-11-2016	08:00	26-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
351	220kV SLG-Kishanganj Ckt-1	26-11-2016	07:00	26-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	
352	315 MVA ICT-II at Subhasgram	26-11-2016	09:00	26-11-2016	17:30	ODB	ER-II	AMP	NLDC
353	220 KV BRP-CHP-I	27-11-2016	08:00	27-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
354	132kV Kurseong - Rangit	27-11-2016	09:00	27-11-2016	17:00	ODB	ER-II	Insulator fitting	NLDC
355	132kV Siliguri - Melli	27-11-2016	09:00	27-11-2016	17:00	ODB	ER-II	Insulator fitting	SIKKIM
356	132kV Siliguri - Kurseong	27-11-2016	09:00	27-11-2016	17:00	ODB	ER-II	Jumper Cone Repairing	NLDC
357	765KV BUS-I AT GAYA S/S	28-11-2016	08:00	28-11-2016	18:00	ODB	ER - I	FOR ISOLATOR RECTIFICATION WORK	NLDC
358	765/400KV, 1500MVA ICT-II AT SUNDARGARH	28-11-2016	08:00	30-11-2016	18:00	ODB	ER-II/Odisha	FOR RTV COATING OF 765KV BUSHING AND TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	NLDC
359	220 KV BRP-CHP-II	28-11-2016	08:00	28-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
360	220kV SLG-Kishanganj Ckt-2	28-11-2016	07:00	28-11-2016	17:00	ODB	ER-II	Insulator replacement in crossings	
361	400 KV Farakka- Kahalgaon 1 & 2	28-11-2016	08:00	28-11-2016	18:00	ODB	ER-II	Stringing between Loc. No. 5A/0 to 6/0 of LILO of 400 KV Rajarhat-Purnea D/c at Farakka .	
362	132 KV D/C (Gokarna -Raghunathganj Ckt. & Gokarna - Lalgola 1 Ckt.) & 132 D/C (Gokarna- Lalgola Ckt.2 & Gokarna -Sonar Bangla section of Gokarna-Sonarbangla-Lalgola Ckt.)	28-11-2016	08:00	28-11-2016	18:00	ODB	ER-II	Stringing between loc. No. 5/0 to 6/0 of LILO of 400 KV Rajarhat-Purnea D/c at Gokarna. Special Remarks : All 04 CKT.s are in single span.	NLDC
363	765/400KV, 1500MVA ICT-II AT SUNDARGARH	28-11-2016	08:00	30-11-2016	18:00	ODB	ER-II/Odisha	FOR RTV COATING OF 765KV BUSHING AND TO ATTEND MECHANICAL INTERLOCK PROBLEM (CONSTRUCTIONAL DEFECT) OF ALL 400KV SIEMENS MAKE ISOLATORS.	NLDC
364	765KV BUS-II AT GAYA S/S	29-11-2016	08:00	29-11-2016	18:00	ODB	ER - I	FOR ISOLATOR RECTIFICATION WORK	NLDC
365	220 KV BRP-CHP-I	29-11-2016	08:00	29-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
366	220 KV BUS # 1 at Subhasgram	29-11-2016	09:00	29-11-2016	17:30	ODB	ER-II	AMP	
367	400 KV /132KV ICT # 1 KAHALGAON	29-11-2016	09:30	02-12-2016	17:00	OCB	NTPC	ICT PM, CT replacement in Feeder Bay & Relay retrofitting work.	BIHAR/ JHARKHAND
368	220 KV BRP-CHP-II	30-11-2016	08:00	30-11-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC

369	400kV Binaguri - Purnea Ckt-1	30-11-2016	08:00	30-11-2016	17:00	ODB	ER-II	HVDC Crossing Checking	
370	220KV MLD-DLK BUS-II	30-11-2016	08:00	30-11-2016	16.00	ODB	ER-II	AMP & jumper change	
371	220 KV BRP-CHP-I	01-12-2016	08:00	01-12-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
372	400kV Binaguri - Purnea Ckt-2	01-12-2016	08:00	01-12-2016	17:00	ODB	ER-II	HVDC Crossing Checking	
373	315 MVA ICT-2 AT BSF	02-12-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
374	400 KV BSF - Sasaram Ckt.-I	02-12-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
375	125 MVAR Bus recator-3 at BSF	02-12-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
376	50 MVAR Bus recator-1 at BSF	02-12-2016	08:00	03-12-2016	18:00	OCB	ER - I	Due to shutdown OF BUS-3.	
377	400 KV BUS -1 and BUS-3 AT BSF	02-12-2016	08:00	02-12-2016	18:00	ODB	ER - I	FOR INTECONNECTING OF JUMPERS WITH BUS-1 TO BUS-3 AND STABILITY TEST.	
378	220 KV BRP-CHP-II	02-12-2016	08:00	02-12-2016	17:00	ODB	ER-II	Insulator string to be replaced with CLR Insulatotr.	NLDC
379	400 KV BUS-4 at BSF	03-12-2016	08:00	03-12-2016	18:00	ODB	ER - I	FOR CONNECTION OF DROPPERS FOR CHARGING OF JACK BUS OF ICT-II AND SASARAM CKT-I.	
380	400 KV BUS-3 at BSF	04-12-2016	08:00	04-12-2016	18:00	ODB	ER - I	ERECTION OF NEW CVT	
	Outages proposed in other RPCs requiring ERPC approval								
1	A/R of 400 kV Jeypore-Gazuwaka-D/C	1-Oct-16	6:00	31-Oct-16	20:00	Daily basis (D)	PGCIL	For PID Testing. the Auto reclose selection of both lines to be kept in Non auto mode	SRPC
2	400kV RANCHI-SIPAT II	22-Oct-16	10:00	22-Oct-16	12:00	Daily	PGCIL	DGA sampling of line reactor bushing at Sipat	WRPC
3	765kV D'JAIGARH-RANCHI I	26-Oct-16	9:00	27-Oct-16	16:00	Daily	PGCIL	Realignment of Main CB interrupter	WRPC

Annexure-C.2

Anticipated Power Supply Position for the month of
Nov-16

SL.NO		PARTICULARS	PEAK DEMAND MW	ENERGY MU
1		**BIHAR**		
	i)	NET MAX DEMAND	3800	2141
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	436	321
		- Central Sector	2193	1426
	iii)	SURPLUS(+)/DEFICIT(-)	-1172	-394
2		**JHARKHAND**		
	i)	NET MAX DEMAND	1200	780
	ii)	NET POWER AVAILABILITY- Own Source (including bilateral)	460	365
		- Central Sector	503	284
	iii)	SURPLUS(+)/DEFICIT(-)	-237	-131
3		**DVC**		
	i)	NET MAX DEMAND (OWN)	2825	1695
	ii)	NET POWER AVAILABILITY- Own Source	4757	2524
		- Central Sector	474	302
		Long term Bi-lateral (Export)	1300	936
	iii)	SURPLUS(+)/DEFICIT(-)	1106	194
4		**ORISSA**		
	i)	NET MAX DEMAND	4100	2492
	ii)	NET POWER AVAILABILITY- Own Source	3197	1839
		- Central Sector	970	586
	iii)	SURPLUS(+)/DEFICIT(-)	67	-67
5		**WEST BENGAL**		
5.1		**WBSEDCL**		
	i)	NET MAX DEMAND (OWN)	5008	2617
	ii)	CESC's DRAWAL	0	0
	iii)	TOTAL WBSEDCL's DEMAND	5008	2617
	iv)	NET POWER AVAILABILITY- Own Source	3619	2175
		- Import from DPL	216	118
		- Central Sector	1571	899
	v)	SURPLUS(+)/DEFICIT(-)	398	575
	vi)	EXPORT (TO B'DESH & SIKKIM)	10	7
5.2		**DPL**		
	i)	NET MAX DEMAND	295	205
	ii)	NET POWER AVAILABILITY	511	323
	iii)	SURPLUS(+)/DEFICIT(-)	216	118
5.3		**CESC**		
	i)	NET MAX DEMAND	1750	715
	ii)	NET POWER AVAILABILITY - OWN SOURCE	540	413
		FROM HEL	530	250
		FROM CPL/PCBL	40	12
		Import Requirement	640	40
	iii)	TOTAL AVAILABILITY	1750	715
	iv)	SURPLUS(+)/DEFICIT(-)	0	0
6		**WEST BENGAL (WBSEDCL+DPL+CESC)** **(excluding DVC's supply to WBSEDCL's command area)**		
	i)	NET MAX DEMAND	7053	3537
	ii)	NET POWER AVAILABILITY- Own Source	4670	2911
		- Central Sector+Others	2741	1149
	iii)	SURPLUS(+)/DEFICIT(-)	358	523
7		**SIKKIM**		
	i)	NET MAX DEMAND	85	37
	ii)	NET POWER AVAILABILITY- Own Source	3	2
		- Central Sector+Others	118	63
	iii)	SURPLUS(+)/DEFICIT(-)	37	28
8		**EASTERN REGION** **At 1.03 AS DIVERSITY FACTOR**		
	i)	**NET MAX DEMAND**	18508	10682
		Long term Bi-lateral by DVC	1300	936
		EXPORT BY WBSEDCL	10	7
	ii)	**NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)**	20521	11771
	iii)	**PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)**	704	146