

Eastern Regional Power Committee **Kolkata-33**

Salient Decisions taken in 90th OCC meeting held on 25.10.13

1. OCC decided to send a team comprising of Powergrid, ERPC and ERLDC to the JSEB Sub-stations (Lalmatia, Dumka & Pakur) from 30th October to 1st November 2013 to chalk out the list of equipment required for this islanding scheme. OCC also decided to convene a separate meeting after the survey for deciding further course of action.
2. OCC decided to allow Chuzachen to increase its generation by additional 15 MW (i.e. from 70MW to 85 MW) till restoration of Rangit unit. After restoration of Rangit unit if there is margin due to less declaration of Rangit HEP (i.e. around 40 MW with two units) during off-peak hours, Chuzachen will be allowed to generate additional 15 MW during those periods.
3. OCC advised all constituents to prepare the schedule for annual generation and maintenance of transmission lines for the year 2014-15.

Status of decisions taken in previous OCC meetings, not yet resolved

Sl. No.	Particulars	Present Status
1	OCC requested to all constituents to take appropriate actions at their end to establish the existing communication system (SCADA) with ERLDC healthy by June 2013 without fail.	ERPC decision is being implemented in majority cases. But, in case of BSPHCL/JSEB, the restoration is far behind the schedule.
2	a) Testing and calibration of special energy meter in Eastern Region b) Automatic Meter Reading (AMR)	Powergrid informed that, Testing and calibration of SEMs have been completed in 305 stations out of 307; same for rest of the stations will be completed by 30 th November, 2013. Powergrid informed that, survey for AMR has been completed for all 98 stations.
3	OCC decided to implement relief through operation of UFR in four stages with total load relief of 3320 MW as per CEA direction.	WBSETCL, BSPHCL and CESC implemented. DVC implemented except Stage-IV and OPTCL implemented except 7 s/s. OCC requested all other constituents to implement the scheme immediately.
4.	Pollution mapping for Eastern Region -- Powergrid	OCC advised Powergrid to send the format to all constituents with a copy to ERPC. OCC requested all constituents to fill the formats at the earliest and send it to sksinghpg@yahoo.co.in.

Minutes of 90th OCC Meeting held on 25th Oct, 2013 at WBPDC, Bidyut Unnayan Bhaban, Salt Lake, Kolkata

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

Item no. A.1: Confirmation of minutes of 89th OCC meeting of ERPC held on 10.09.13

The minutes were circulated vide letter dated 12.09.13 to all the constituents and also uploaded in ERPC website. No comments were received till date.

Members may confirm the minutes.

Deliberation in the meeting

Minutes of 89th OCC was confirmed by the members.

PART B

Item no. B.1: Review of load relief under various stages of UFR

NPC in its 2nd meeting held on 16.07.2013 decided that total load relief based on UFR load shedding of ER is 3320 MW. Accordingly, OCC divided the total load quantum as per present proportionate for ER constituents as given below:

Control Area	Stage –I (49.2 Hz) (MW)	Stage –II (49.0 Hz) (MW)	Stage–III (48.8Hz) (MW)	Stage–IV (48.6Hz) (MW)	Total Relief by Control Area
BSEB	98	99	99	101	397
JSEB	61	62	61	62	246
DVC	134	135.5	136	137	542.5
Odisha	181.5	183.5	184	186	735
WB & CESC	345.5	350	350	354	1399.5
Total	820	830	830	840	3320

It was decided to implement the revised scheme within a month.

The status as placed in 25th TCC meeting, are as follows:

- Bihar & CESC: Implemented
- DVC & WBSETCL: Feeder identified. 80% implemented and rest will be completed by 30th September, 2013.
- JSEB & Odisha: Feeders identified. Implementation will be completed by 30th September, 2013.

Constituents agreed to implement the scheme by 30th September, 2013.

Constituents may update the status in respective control area.

Deliberation in the meeting

The latest status as updated in the meeting is follows:

- **WBSETCL, Bihar & CESC:** Implemented
- **DVC:** Implemented except stage-IV. Stage-IV will be completed by 30th October, 2013.

- **Odisha:** Implemented except 7 Sub-stations. UFRs are required to be procured for those Sub-stations and the same will be installed by November, 2013.
- **JSEB:** Latest status will be communicated within a week.

Item no. B.2: Islanding Scheme of FSTPP, NTPC

In 25th ERPC meeting, ERPC advised Powergrid to execute the work as deposit work for JSEB on which Powergrid agreed. Further on advice from ERPC, ERPC secretariat convened a separate meeting to finalize the scope of work tentatively on 25th September, 2013. Minutes of the meeting are circulated in OCC.

Powergrid, JSEB and NTPC may update the status.

Deliberation in the meeting

JSEB informed that, UFRs have been procured and they will be commissioned at 132 kV Dumka and Lalmatia S/s by 15th November, 2013. JSEB also informed that, communication equipments are made available at 132 kV Dumka S/s but yet to be commissioned. The same at 132 kV Lalmatia S/s is yet to be installed by Areva. Meanwhile, Powergrid enquired about shifting of BPL make PLCC panels from Pakur and Sahebgunj to Lalmatia and Dumka S/s respectively. JSEB informed that, PLCC panels will be shifted by 10th November, 2013. OCC advised JSEB to shift the PLCC panels on priority basis.

OCC felt that, as per the decision made in special meeting held on 25th September, 2013 a survey is to be done to the JSEB Sub-stations (Lalmatia, Dumka & Pakur) to chalk out the list of equipment required for this islanding scheme and to assess the development. Accordingly, OCC decided to send a team comprising of Powergrid, ERPC and ERLDC from 30th October to 1st November 2013. OCC also decided to convene a separate meeting after the survey for deciding further course of action.

Item no. B.3: CERC order on sharing of coal between Stage-I and Stage –II of Talcher, Kaniha

CERC issued an order on sharing of coal between Stage-I & Stage-II of Talcher, Kaniha. At para-19 of the order, it is mentioned that the coal is to be shared between Stage-I & Stage-II in the ratio of 1:2. SRPC is maintaining that on a daily basis, Talcher, Kaniha is supposed to give DC in that proportion.

Members may discuss.

Deliberation in the meeting

NTPC informed that, they are maintaining the use of coal in ratio of 1:2 for Stage-I & Stage-II of Talcher to the maximum extent possible. However, declaring DC on daily basis on the same ratio is not possible as there are many other factors which affect the DC. This view of NTPC was also concurred by OCC. Further, NTPC informed that, the same was already communicated to SRPC and SRPC members have agreed in principle.

Item no. B.4: Increase in protection CT ratio from 1000/1 to 2000/1 for 400 kV Farakka-Berhampore line- Powergrid

After commencement of power flow to Bangladesh and increase of power flow to Bangladesh in future, the power flow through Farakka-Berhampore line shall increase. At present CT ratio used or protection at Berhampore end is 1000/1. In view of increased power flow scenario, it is proposed to increase the protection CT ratio to 2000/1 from existing ratio of 1000/1.

Members may discuss.

Deliberation in the meeting

OCC agreed to change the CT ratio from 100/1 to 2000/1 for 40 kV Farakka-Berhampore line and advised CTU to co-ordinate with PGCIL & NTPC and implement the revised settings.

Powergrid and NTPC agreed.

Item no. B.5: Auxiliary Power Supply at Berhampore S/S- Powergrid

At present Auxiliary Power Supply to Berhampore S/S is fed through tapped Sukhi feeder which is not reliable. Considering the importance of auxiliary supply dedicated 11 kV feeder for auxiliary supply is required. Letter in this regard has already been sent to WBSEDCL.

ERPC Secretariat vide letter dated 17.10.2013 has requested WBSEDCL for ensuring reliability of 11 kV auxiliary power supply at Behrampur S/S of CTU.

WBSEDCL & Powergrid may update.

Deliberation in the meeting

Powergrid informed that, they have already approached WBSEDCL for the purpose and WBSEDCL assured to provide a dedicated 11 kV feeder for reliable auxiliary power supply to Berhampore S/s within 3 months. OCC advised WBSEDCL to make the Sukhi feeder as priority feeder till dedicated feeder is made available. WBSEDCL agreed.

Item no. B.6: Power Supply to Railway TSS from 132 kV Deogarh (JSEB) S/S

The issue was deliberated in Special meeting on Power supply issues to Railways and 85th OCC meeting on 22.11.2012 and 17.05.2013 respectively. It was informed that many a times 132 kV Maithon-Jamtara-Deoghar S/C line trips which leads to frequent interruption of Railway TSS. The committee as constituted by ERPC has visited Deogarh S/S on 7 & 8th August, 2013 and following observations was found:

There are 3 sources to the Deogarh S/S which are:

- (i) 132kV Maithon –Jamtara-Deogarh line (DVC system)
- (ii) 132kV Lalmatia-Dumka-Deogarh line (NTPC system)
- (iii) 132kV Sultanganj-Deogarh line (BSEB source).

The details of existing bus arrangement are shown in SLD. The Committee observed that there is a 132kV isolator on the 132kV main bus which sectionalizes the 132kV main bus. This isolates the DVC system from the NTPC system. Also the source from BSEB is charged from BSEB end but kept open at JSEB end. Rlys is normally fed from the DVC system. Whenever there is a fault on the 132kV Maithon-Jamtara-Deogarh line, an operator from the control room goes to the yard and closes the isolator and puts Rlys feeder onto NTPC system.

On analysis it is felt that keeping the isolator on the 132kV Main bus closed and closing the BSEB line closed from both ends may improve the reliability of supply to Railways.

The team has recommended the following:

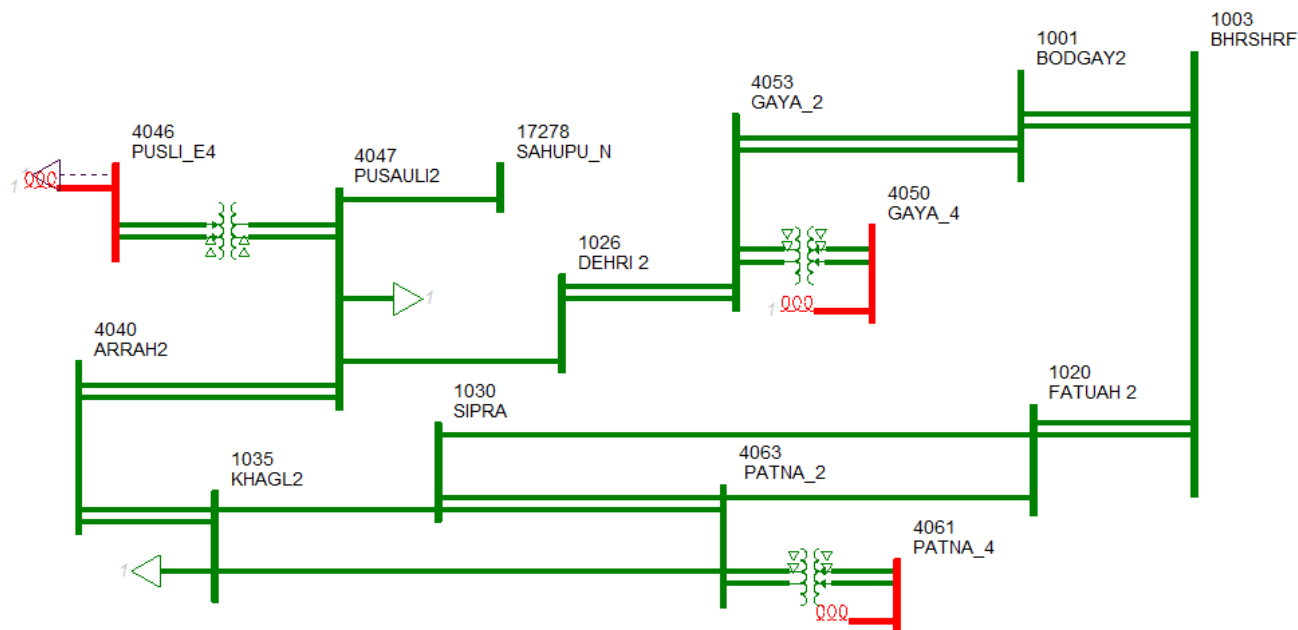
- The 132kV isolator on the main bus should be closed
- The breaker on the Sultanganj –Deogarh should be closed from Deogarh end.
- All the protective relays (which are at present not functioning) should be tested and made functional.

JSEB & Railways may update.

Deliberation in the meeting

JSEB raised several issues pertaining to closing of the 132 kV bus Isolator at Baidyanath S/S which was discussed in detail. After deliberation, OCC advised JSEB to give the sub-station wise load details as required by ERLDC for detail study of JSEB system. OCC requested ERLDC to do the system study and submit the outcome in the next OCC.

Item no. B.7: Synchronized Operation of 220 KV Grid Sub-stations of BSPTCL- BSPTCL



The issue of Synchronized Operation of 220 KV Grid S/S, specially BSF (PG)-Bodhgaya-Gaya(PG); Gaya (PG)-Dehri-Pusouli (PG); Patna(PG)-Khagaul-Ara(PG) & Patna(PG)-Fatuha-BSF(SG)-BSF(PG) loops were discussed many times in the OCC & PCC meetings.

As discussed and advised BSPTCL tried and operated grid S/S in synchronized mode with following observation:-

- A.** Synchronization of Khagaul grid S/S was achieved successfully on 8th October 2013 at 11:54 hrs. Khagaul grid S/S is presently getting power supply from:-
- 220 KV Ara (PG) – Khagaul (D/C) tr line,
 - 220 KV Patna (PG) – Khagaul (S/C) tr line,
 - 220 KV Sipara – Khagaul (S/C) tr line.

Synchronization Operation of the aforesaid grid S/S has increased system stability along with other associated benefits like improved system voltage.

- B.** Earlier also BSPTCL has successfully synchronized the following 220 KV grid S/S:-

SI No	Name of GSS	Synchronized with		Transmission line loop	Result
		First Source	Other Source		
1	Bodhgaya	Gaya (PG)	Biharsarif (SG)	220 KV BSF (SG)-Bodhgaya-Gaya (PG).	Satisfactory. Both side lines share load.
2	Fatuha	Biharsarif (SG)	Patna (PG)	220 KV Biharsarif (SG)-Fatuha-Patna(PG).	Satisfactory. Both side lines share load.
3	Dehri	Gaya (PG)	Pusouli (PG)	220 KV Gaya (PG)-Dehri-Pusouli (PG).	Satisfactory. Both side lines share load.

After synchronization of the aforesaid three BSPTCL grids, it remained fine for few months and concerned grids S/S received power from both side of the closed loop transmission lines. However, after some time, problem in synchronized operation was faced as detailed below:-

1. Bodhgaya grid S/S Case:- Power started flowing from Bodhgaya to Gaya (PG) side resulting overloading of 220 KV Biharsarif – Bodhgaya (D/C) line. In order to avoid the overloading of 220 KV Biharsarif – Bodhgaya (D/C) tr line the loop was kept open. Presently Bodhgaya is drawing power on radial mode from Gaya (PG).
2. Fatuha grid S/S Case:- Power started flowing from Fatuha to Patna (PG) side resulting overloading of 220 KV Biharsarif (SG) – Fatuha (D/C) line. In order to avoid the overloading of 220 KV Biharsarif (SG) – Fatuha (D/C) tr line the loop was kept open. Presently Fatuha is drawing power on radial mode from BSF (SG).
3. Dehri grid S/S Case:- Synchronization is working satisfactorily, except some problem being faced occasionally. Normally some power flow from Dehri grid to Gaya (PG) side takes place and when this quantum exceeds the limit, resulting overloading of 220 KV Pusouli (PG) – Dehri (S/C) tr line. At this juncture, the loop needs to be opened and Dehri is made to draw power on radial mode from Gaya (PG) or Pusouli (PG).

It has also been observed that often at the time of operation of reactors at PGCIL S/S are being high or low voltage problems result at BSPTCL Grid Sub-Stations.

Members may discuss.

Deliberation in the meeting

After detail deliberation members felt that, the problem of overloading of these lines persists due to in-sufficient generation support at Gaya 400KV S/S. The same may improve after the commissioning of 400 kV D/C Maithon-Gaya & 400 kV D/C Gaya-Koderma line; till then BSPTCL was advised to operate as is being done at present.

Item no. B.8: Restoration of important elements under long outage

i) 220 kV Tenughat – Biharshariff

The line is under break down since 12.05.13. It is an important ISTS line and essential for unrestricted and reliable evacuation of Tenughat generating station. In the 25th TCC meeting JSEB had assured that line would be restored on 25th Sep 2013. However the line is still under outage.

OCC may decide further course of action.

Deliberation in the meeting

BSPTCL informed that, 2 towers have been restored out of 3 towers. 25% of the work has been completed for restoration of 3rd tower and it will be restored tentatively by 31st October, 2013.

ii) 220 kV Meramundali - TSTPP D/C

The line is under break down since 24.08.13 due to CB problem at Meramundali. The line is essential for meeting the total load supplied from Meramundali. Absence of this line is causing continuous overloading of 220kV TTPS-Meramundali D/C. Moreover, OPTCL is also sometimes keeping 220kV Meramundali-Bhanjanagar D/C open to prevent high power flow through the line, leading to discontinuity in the 220kV path from Meramundali to Jeynagar.

OPTCL may update.

Deliberation in the meeting

OPTCL informed that, 220kV Meramundali-Bhanjanagar circuit-II has already been restored on 23.10.2013 and Circuit breaker work of circuit-I is in progress.

iii) 315MVA ICT-I at Ranchi:

2X315 MVA, 400/220kV ICTs at Ranchi act as an alternate important source for feeding loads at Chandil/Hatia in case of low generation availability at Tenughat/Patratu. In peak, the total flow through the ICTs touch around 200-230MW. Presently, 315MVA ICT-I is out since 03/09/13 (REF & PRV protection operated) and power is being supplied to JSEB only through the 315 MVA ICT-2. Expeditious restoration of 315MVA ICT-1 is hence important.

OCC may decide further course of action.

Deliberation in the meeting

Powergrid informed that, the 315 MVA ICT-I at Ranchi was tripped on differential, REF & PRV protections on 03-09-2013. After joint internal inspection with BHEL, insulation failure in the HV lead was observed. Powergrid also informed that, during detailed discussion with BHEL it was clarified that insulation was damaged due to repeated faults in down stream system fed through the transformer.

The ICT has been restored on 21st October, 2013 at 20.25 hrs.

Item no. B.9: Schedule/generation restriction for Chuzachen HEP in view of repeated disturbances.

In 25th ERPC meeting, ERPC decided to increase Chuzachen generation by additional 20 MW from existing 50 MW from 25th September, 2013 subject to implementation of the revised protection settings by WBSETCL till further review.

Subsequently on receipt of confirmation of implementation of Protection Coordination, Chuzachen was allowed to increase their generation w.e.f. 26.09.2013.

ERLDC & Chuzachen may update.

Deliberation in the meeting

Chuzachen requested for further increase of 20 MW in their generation. It was informed that two units of Rangit HEP are generating and one unit is under shutdown for maintenance. After detail deliberation OCC decided as follows:

- i) Chuzachen will be allowed to increase its generation by additional 15 MW (i.e. from 70MW to 85 MW) till restoration of Rangit unit.*
- ii) After restoration of Rangit unit if there is margin due to less declaration of Rangit HEP (i.e. around 40 MW with two units) during off-peak hours, Chuzachen will be allowed to generate additional 15 MW during those periods.*
- iii) Chuzachen and Rangit HEP are to co-ordinate with ERLDC for smooth grid operation of South Bengal and Sikkim System.*

Item no. B.10: (Item No. B1 of 84th OCC meeting)

a) Testing and calibration of special energy meter in Eastern Region--Powergrid

In 88th OCC Powergrid updated the latest status as given below:

- Total special energy meters in Eastern Region: 307
- Testing and calibration Completed: 189

- Expected date of completion: 30th November, 2013

b) Automatic Meter Reading (AMR) --Powergrid

In 88th OCC Powergrid updated the latest status as given below:

- Total stations in Eastern Region: 92
- Survey Completed: 80
- Expected date of completion: 30th November, 2013

Server installation at ERLDC, Kolkata is in progress.

Powergrid may update the latest status.

Deliberation in the meeting

Powergrid updated the latest status as given below:

a) Testing and calibration of special energy meter

- Total special energy meters in Eastern Region: 307
- Testing and calibration Completed: Completed except Teesta and Jaynagar
- Expected date of completion: 30th November, 2013

b) Automatic Meter Reading (AMR)

- Total stations in Eastern Region: 98
- Survey Completed: 98
- DCU supply started and will be completed by November, 2013.

Server installation at ERLDC, Kolkata is in progress.

Item no. B.11: Evacuation arrangement of DSTPS and Mejia B - ERLDC

In 87th OCC DVC informed that DSTPS-Ragunathpur line was synchronised from DSTPS end on 16th July, 2013 (at 19:20 Hrs) and Ragunathpur-Ranchi line would be completed by Sep'13.

In 89th OCC DVC informed the Ragunathpur-Ranchi line will be completed by Dec'13.

Powergrid and DVC may update the status.

Deliberation in the meeting

DVC informed that the status is same.

Item no. B.12: Bus strengthening at Malda and Birpara consequent to augmentation of transformation capacity at North Bengal – ERLDC
(Item No. B2 of 82nd OCC meeting)

In 88th OCC WBSETCL informed that, bus strengthening at Birpara has been completed and the same at Malda would be completed after Puja.

In 89th OCC WBSETCL informed that work of bus strengthening at Malda will be started after Puja and expected to be completed within December, 2013.

WBSETCL may update the latest status.

Deliberation in the meeting

WBSETCL informed that bus strengthening at Malda is in progress and expected to be completed within December, 2013.

Item no. B.13: Commissioning of 220 kV bus bar protection at Ramchandrapur & Chandil substations (JSEB) – (Item No. B13 of 22nd TCC meeting)

In 25th TCC/ERPC meeting, JSEB informed that, the bus bar protection at Ramchandrapur GSS will be commissioned by September, 2013 and LBB at Chandil will be brought into service by October, 2013.

JSEB may update the latest status.

Deliberation in the meeting

JSEB informed that, testing of trip relay for bus bar protection at Ramchandrapur GSS has been completed and it is under observation. The same will be in operation within a week.

Regarding LBB at Chandil JSEB informed that it will take another 45 days to make the LBB operational.

Item no. B.14: Procurement of spare transformers by Powergrid

The procurement of following spare transformer and reactors by Powergrid as a part of disaster management plan in Eastern Region has been discussed and approved in various ERPC meetings (13th to 18th meeting):

- 4 number 400/220 kV, 315 MVA transformers
- 2 number 220/132 kV, 160 MVA transformers
- One 132/66 kV, 50 MVA transformer
- One 80 MVAR shunt reactor

In 89th OCC Powergrid updated the latest status as given below:

- 315 MVA spare transformers at Biharshariff and Jamshedpur were already installed, while the same at Rourkella was already reached the site. The 315 MVA spare transformer installed at Durgapur has been diverted to Farakka to replace the failed ICT of NTPC, Farakka. The ICT will be reaching the site by 11.09.2013.
- One 80 MVAR reactor at Rourkella was already commissioned.
- 1 number of 150/160 MVA, 220/132 kV ICTs of Baripada was diverted to Purnea and commissioned on 02.08.2013.
- 1 number of 160 MVA, 220/132 kV ICT at Siliguri was already commissioned.
- 1 number of 50 MVA, 132/66 kV ICT of Gangtok is at Siliguri. Unable to dispatch to Gangtok due to road clearance problem.

Powergrid may update the latest status.

Deliberation in the meeting

Powergrid informed that, 50 MVA, 132/66 kV ICT of Gangtok is not possible to dispatch to Gangtok because of precarious road conditions and will therefore be shifted to Rangpo.

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 88th OCC, constituents requested for another workshop on this issue. OCC agreed and requested NTPC and CESC to share their scheme in the workshop.

Members may note and comply.

Deliberation in the meeting

Members noted.

Item no. B.16: Status of “Third Party Protection Audit”

List of the observations along with updated compliances received from the constituents made available in ERPC website (www.eastrpc.org).

Members may note and ensure compliance on observations.

Deliberation in the meeting

Members noted.

Item no. B.17: Collection of Daily Energy Data – ERLDC (Item No. B4 of 82nd OCC meeting)

In 88th OCC ERLDC informed that, all constituents are sending the relevant information. However, WBSETCL has to give consolidated data as per the prescribed format.

JSEB informed that, Tisco and Jusco raised several queries and those queries have been replied. Action from Tisco and Jusco is awaited. OCC requested JSEB to pursue the issue.

In 89th OCC, WBSETCL was requested to give station wise data. WBSETCL agreed.

JSEB informed that, response from Tisco and Jusco is awaited. OCC requested JSEB to pursue the issue.

ERLDC may update the latest status.

JSEB may update on status of monitoring Tisco and Jusco.

Deliberation in the meeting

JSEB informed that Tisco and Jusco are directly under Ministry of Energy, Govt. of Jharkhand and not in the preview of JSEB. OCC requested JSEB to pursue with Govt. of Jharkhand as they are within JSEB system. DVC mentioned that TISCO although being a consumer of DVC, never shares their system details. OCC advised DVC also to pursue the case with TISCO.

Item no. B.18: Restricted Governor Mode of Operation --- ERLDC

The latest status of units of ER under RGMO are circulated in the meeting.

Members may update.

Deliberation in the meeting

Members noted.

Item no. B.19: Mock Black start exercises in Eastern Region --- ERLDC

i) The status of black start exercises

Schedule of the Mock Black start exercises prepared in 85th OCC meeting is circulated in the meeting.

Only mock blackstart of Upper Indravati HEP and Maithon HEP could be successfully done. The status as given in 89th OCC is as indicated below:

- a) Maithon HEP: Report submitted by DVC.
- b) Rengali HEP: Revised date proposed after October'13
- c) Upper Kolab HEP: Due to non-commissioning of DG set the revised date for the exercise has been given as October, 2013

Members may update the status.

Deliberation in the meeting

Member updated the status as indicated below:

- a) Rengali HEP: November'13
- b) Upper Kolab HEP: November'13
- c) Subarnarekha HEP: November'13

OCC requested ERLDC to reschedule the programme of mock black start for other generating stations also for 2013-14 and the same will be finalized in next OCC.

ii) Testing of DG sets meant for Black start

Report regarding test run of DG sets for the month of August, 2013 has not been received from any constituent except Rangit. All test reports may be forwarded to erldc.cal@gmail.com & psdas_psd@yahoo.com.

In 89th OCC it was brought to the notice of all members that as per previous decision of OCC if test run report is not submitted by a particular utility, DG set of that utility will be considered as healthy and the onus of healthiness would lie with the utilities. Members noted and agreed to comply.

Constituents may kindly ensure compliance.

Deliberation in the meeting

Members noted.

Item no. B.20: Energy Generation data management from Renewable Energy Sources

As per Electricity Act, 2003, CEA has been entrusted with the task of collecting electricity generation data. CEA is monitoring all the existing generating stations with capacity more than 25 MW (Conventional sources only). In recent years there has been appreciable growth in generation from Renewable Energy Sources (RES).

In view of above it was decided to monitor all the generating stations under RES connected to the grid and also to bring out month wise, state wise and sector wise report on RES generation in MU including peak generation from RES.

CEA already requested to nominate Nodal officers at the level of SLDC for the above purpose. However, only few states have responded.

Those SLDCs who have not yet nominated the nodal officers for Energy Generation Data management from RES are requested to furnish the details at following email/Fax:

Email: ceaopmwind@gmail.com
with a copy to rishika.engineer@gmail.com and s.sewak@cea.nic.in

Nodal officers from CEA:

Mrs. Rishika Sharan, Director, CEA, 011-26732663 and 26102263(Fax), Mobile: 9868021299

Mrs. Sarita Sewak, Dy. Director, 011-26732656

SLDCs may note and nominate their Nodal officers as advised.

Members may note and comply.

Deliberation in the meeting

Members noted.

Item no. B.21: Certification through BIS as per IS 18001:2007 to all generating/ transmission units. (Item No. B9 of 84th OCC meeting)

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, CESC informed that their stations are certified with IS18001.

Members may note and update the status.

Deliberation in the meeting

The status is same.

Item no. B.22: Commissioning of 400kV Baripada-Jamshedpur(Direct)

Presently one circuit of 400kV Baripada-TISCO D/C has been extended to Jamshedpur (PG) to form 400kV Jamshedpur(PG)-TISCO-Baripadack. The other line has been kept open at TISCO end and is to be extended to Jamshedpur(PG) to form Jamshedpur(PG)-Baripada direct ckt. Pending commissioning of the direct ckt, the loading of 400kV Jamshedpur(PG)-TISCO section remains very high at more than 500MW and the TISCO-Baripada section also remains considerably loaded. To mitigate the transmission constraint it is essential that 400kV Jamshedpur-Baripada(direct) be put into service at the earliest. Accordingly, Powergrid is requested to intimate the reasons for delay in commissioning of the same along with the expected date of commissioning.

In 89th OCC Powergrid informed that there is a problem in right of way and the line will be commissioned by 12th September, 2013.

Powergrid may update.

Deliberation in the meeting

Powergrid informed that, the line has been charged on 16th September, 2013.

Item no. B.23: Pollution mapping for Eastern Region -- Powergrid

In 89th OCC Powergrid submitted the work flow chart and list of sites along with the necessary formats to be filled up by the constituents.

OCC requested all constituents to fill the formats at the earliest and send it to sksinghpg@yahoo.co.in.

In case of any query members could contact Shri S. K. Singh, 9434740009 or Shri Virendra Kumar 9434748239.

Powergrid may update.

Deliberation in the meeting

OCC advised Powergrid to send the format to all constituents with a copy to ERPC by e-mail. Powergrid agreed.

Item no. B.24: Procurement of Emergency Restoration System (ERS Towers) for Eastern Region constituents-- Powergrid.

In 25th TCC/ERPC Powergrid 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.

TCC/ERPC felt that ERS are essential for early restoration of transmission lines during emergency and agreed for procurement.

Members agreed to discuss Cost sharing for the procurement of ERS in Commercial Committee of ERPC.

Members may note.

Deliberation in the meeting

Members noted.

Item no. B.25: Procurement of Circuit Breaker, CT, CVT, LA for Eastern Region as O&M spare-- Powergrid.

In 89th OCC, OCC advised Powergrid to interact with constituents to the satisfaction of their various queries and subsequently it could be placed again in OCC for further deliberation. Powergrid agreed.

Powergrid /constituents may update their respective position.

Deliberation in the meeting

OCC again advised Powergrid to interact with constituents for clearing the position to their various queries so that it could be placed again in OCC for further deliberation. Powergrid agreed.

Item no. B.26: Heavy loading of 315MVA ICTs at Jeypore and 220KV Jaypore-Jaynagar D/C line & Over Loading of 315MVA ICT at Muzaffarpur

On the issue 89th OCC advised ERLDC to design a SPS for OPTCL system on which discussions could be held in 90th OCC.

ELRDC may update.

Powergrid may update the status of augmentation of ICT at Muzaffarpur.

Deliberation in the meeting

*ERLDC gave a presentation on SPS for OPTCL system (enclosed at **Annexure-B.26**). After detail deliberation, OCC decided to send the SPS scheme to OPTCL and advised OPTCL to do further analysis and give their views/comments. Further, OCC felt that if second Jaypore-Jaynagar D/c line, which is expected to be commissioned shortly, comes then SPS is not required.*

Regarding ICT at Muzaffarpur, Powergrid informed that, NIT is expected in November, 2013 and subsequently order will be placed in January, 2014 and after that it will take 14 months to complete the work.

Item no. B.27: Depletion in OPTCL network due to impact of cyclone “Phailin”

Restoration status of OPTCL network is circulated in the meeting.

OPTCL may kindly update regarding latest status.

Deliberation in the meeting

*OPTCL updated the latest status; updated status is given in **Annexure-B27**.*

Item no. B.28: Reactive Power performance of Generators

a) Review of reactive power generation/drawal of generators vis-à-vis 400kV station bus voltage of units

Maximum and minimum voltage observed (data taken from SCADA)
Generating stations have been monitored for the following sample dates in the month of Sep 13, during which the maximum and minimum voltages observed

Power Plant	Max and Min Voltage observed for Sep 13 (KV)	Date for monitoring (Sep 2013)
Farakka STPS	427,409	1,3
Khalgaon STPS	435,410	1,7
Talcher STPS	414, 400	Voltage within IEGC Band
Teesta	423,397 (Binaguri)	27,29
Bakreshwar TPS	412,384	Voltage within IEGC Band
Kolaghat TPS	420,391	Voltage within IEGC Band
Sagardighi TPS	427,409 (Farakka)	1,3
MPL	431,415 (Maithon)	1,27
Mejia-B	431,415 (Maithon)	1,27
DSTPS	434,420 (Jamshedpur)	22,27
Adhunik TPS	434,420 (Jamshedpur)	22,27
Sterlite	430,417 (Rourkela)	1,22

Performance analysis:

- I. Farakka: Both 210MW & 500MW units at FSTPP, absorbed VAR or injected zero VAR into the Grid for most of the time and hence performance of the units was satisfactory.
- II. Kahalgaon : Both 210MW & 500MW units at khSTPP, absorbed VAR or injected zero VAR into the Grid for most of the time and hence performance of the units was satisfactory.
- III. Sagardighi: Reactive performance of sagardighi was satisfactory.
- IV. MPL: MPL absorbing VAR during High voltage condition and performance was satisfactory.
- V. Sterlite: The VAR absorption by SEL units during high voltage condition was not adequate.
- VI. Performance of Mejia-B, DSTPS and Adhunik TPS were not adequate.

Members may note.

Deliberation in the meeting

Members noted.

b) Optimization of GT tap position at Adhunik, Mejia-B and DSTPS

In the 88th OCC it was decided to change the relevant taps of identified units as follows:

DSTPS GT-1 and 2		MEJIA'B' GT - 1 & 2	
Present tap position & voltage ratio	Suggested tap position & voltage ratio	Present tap position	Suggested tap position
5 (21kV/420 kV)	7 (21kV /399 kV)	4 (21kV /430.5 kV)	7 (21kV /399 kV)

Adhunik GT-1 & 2	
Present tap position & voltage ratio	Suggested tap position & voltage ratio
8 (16.5kV /420kV)	12 (16.5kV /400.68 kV)

In 89th OCC meeting, members noted the presentation given by ERLDC on performance and assured to take all necessary steps as per requirement of grid.

DVC informed that it will be done.

Adhunik informed that they have tried to change the tap position during ensuing shutdown but they cannot do due to some technical reason. OCC advised Adhunik to discuss with ERLDC and resolve it.

SEL informed that, Unit#3 is under O&M, it will be put in grid after adopting the adequate tap position. After that, tap position of unit#1 will be changed.

DVC, Adhunik and SEL may update.

Deliberation in the meeting

Adhunik informed that, they are unable to synchronize their generator with GT tap position at 12 as voltage difference is becoming very high at this condition. ERLDC suggested Adhunik to check with GT tap position at 10. Adhunik agreed.

c) **Schedule for reactive capability tests**

As discussed in the 88th OCC meeting, the status of reactive capability testing of identified generators is as follows:

- a) Adhunik TPS: In Sep, 13
- b) DSTPS: In Sep, 13
- c) Mejia TPS: Date will be given after consulting with BHEL
- d) Koderma TPS: Date will be given after consulting with BHEL
- e) Maithon RB
Unit #1: Under Shutdown
Unit #2: Date will be communicated within a week.

DVC, MPL and Adhunik may confirm final dates.

In 89th OCC meeting, MPL informed that, reactive capability test for Unit#2 will be communicated shortly. Status of the others remains same.

Concerned members may update.

Deliberation in the meeting

Members updated the dates as given below:

- a) Adhunik TPS: In Nov, 13
- b) DSTPS: As only one unit is running, test may be conducted on opportunity basis when second unit in service.
- c) Mejia & Koderma TPS: Test may be conducted on opportunity basis when second unit in service.
- d) Maithon RB
Unit #1: Under Shutdown
Unit #2: Date will be communicated.

MPL informed that they have carried out reactive capability test during PG test (In January/ March, 2013) of their machines; the report will be submitted to ERLDC/ERPC.

PART C:: OPERATIONAL PLANNING

Item no. C.1: Shutdown proposal of transmission lines and generating units for the month of Nov' 13

Members may finalize the Shutdown proposals of the generating stations and transmission lines for the month of Nov'13 circulated in the meeting.

Members may finalize.

Deliberation in the meeting

Members finalized the shutdown proposals for the month of Nov'13. Approved list is given at Annexure-C.1.

OCC advised all constituents to prepare the schedule for annual generation and maintenance of transmission lines for the year 2014-15.

C.1.1 Non-accordance of shutdown of 132KV main and transfer bus at Siliguri

The shutdown of 132KV Main & Transfer bus at 220 KV Siliguri S/s has been discussed and approved in last OCC 89th meeting of ERPC for 20.10.13 to 21.10.13 on continuous basis. Based on which around 200 fitters and labours has been arranged and camped at site. All required T&P, crane are also arranged. However, at the last moment, the shutdown was cancelled by

WBSETCLIERLDC. Further in consultation with ERLDC and WBSETCL the revised date of shutdown was proposed for 22.10.13 to 23.10.13 and the same was accorded by both WBSETCL & ERLDC. But again the shutdown was not possible because of VVIP's visit in North Bengal area.

Members may discuss & finalize the suitable dates.

Deliberation in the meeting

OCC noted the difficulties in allowing the S/D as scheduled in 89th OCC meeting. OCC advised all concerned to take initiatives for all critical Shut downs few days prior to the day of shutdown with proper intimation to ERPC/ERLDC. However a fresh concurrence was given for shutdown of the line from 16th to 17th November, 2013.

Item no. C.2: Anticipated power supply position during Nov'13

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of Nov'13 were prepared by ERPC Secretariat on the basis of LGBR for 2013-14, keeping in view that the units are available for generation and expected load growth etc. and circulated in the meeting for discussion.

Members may confirm.

Deliberation in the meeting

Modified anticipated power supply position for the month of November, 2013 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)	Date of Outage	REASONS FOR OUTAGE	Date of restoration
STERLITE	3	600	27.06.13	OVERHAULING	
IBTPS	1	210	24.08.13	OVERHAULING	
TSTPP	1	500	16.09.13	OVERHAULING	
ANDAL(DSTPS)	2	500	23.09.13	DESYN FOR LOW DEMAND	
MEJIA	7	500	02.10.03	FURNACE PRESSURE HIGH	
CTPS	8	250	06.10.13	SHORTAGE OF COAL	
WARIA	4	210	05.10.13	WATER LOGGING	

(ii) Transmission elements

220 KV JEERAT - SATGACHIA D/C	15.06.10	DUE TO LAND SLIDE OF GANGES RIVER BANK	Date of restoration
315 MVA ICT - II AT BIDHANNAGAR	29.12.10	DUE TO PROFUSE OIL LEAKAGE FROM DIVERTER TANK	
220 KV TENUGHAT - BIHARSHARIFF	12.05.13	3 NO. TOWER COLLAPSE	
400 KV ARAMBAG-BAKRESWAR	13.10.13	TL NO 89 COLLAPSE, TL NO 88 TWISTED.	
220 KV MEERAMUNDALI - KANIHA D/C (OPTCL)	24.08.13	CB PROBLEM AT MEERAMUNDALI	
765 KV SASARAM - FATHEPUR	25.08.13	TOWER COLLAPSE AT LOC 61/A AND TOWER BENT AT LOC 61/A0	

315 MVA ICT - I AT RANCHI	03.09.13	REF AND PRV PROTECTION OPTD.	
220 Kv Mendhasal- Narendrapur -I	12.10.13	BREAKDOWN	
220 Kv Mendhasal- Narendrapur -II	12.10.13	BREAKDOWN	
220 KV Therubali- Narendrapur- I & II	12.10.13	BREAKDOWN	
220 KV Bhanjangan- Nayagarh	12.10.13	BREAK DOWN	
220 KV Bhanjangan- Mendasal	12.10.13	BREAK DOWN	
220 KV JEERAT - SATGACHIA D/C	15.06.10	DUE TO LAND SLIDE OF GANGES RIVER BANK	

Members may update.

Deliberation in the meeting

Members updated the latest status.

Item no. C.4: Information regarding commissioning of new transmission element – ERLDC

1. 400kv Behrampore-Bheramara-I was extended from Behrampore and 400kV Bus-I & II and one No. 91MVAR filter bank at Bheramara were charged for the first time on 11/09/13. Prior to this the line-I had been extended upto Bheramara gantry only.
2. 400kv Purnea-Biharshariff-I & II were taken into service for the first time on 13/09/13 and 16/09/13 respectively.
3. 400kv Jamshedpur-Baripada(direct circuit) was taken into service for the first time at 21:30 Hrs of 16/09/13.
4. Power flow started from India to Bangladesh for the first time with 50MW at 10:16Hrs of 27/09/13 vide de-blocking of 1 x 500MW HVDC Back to back Station at Bheramara. The power level was subsequently ramped up to 175MW at 11:54 Hrs.
5. Reverse power flow of 50MW from Bangladesh to India was carried out through 1 x 500MW HVDC back to back station at Bheramara at 13:01 Hrs of 29/09/13.
6. 220kv Lohardanga-Latehar D/C line of JSEB was taken idle charged for the first time on 30/09/13 and subsequently loaded.
7. Unit #2 of Kamalanga Thermal Power Project (3x350 MW) was commissioned to full load on 28.09.2013 at 16:03 Hrs.

All constituents are requested to intimate details of commissioning of new elements/generating units(if any) positively by the first working day of the current month for the previous month.

All members are also requested to verify above and also intimate regarding details of any other new elements commissioned but not included in the above list.

OCC members were informed that the following lines were declared in Commercial Operation:

- i) Ckt-I of 400 kV Purnea- Biharshariff D/C line- Commissioned on 13.09.13
- ii) Ckt-II of 400 kV Purnea- Biharshariff D/C line- Commissioned on 16.09.13

Status of commissioning of generating station and transmission elements are as follows:

New generating units:

S.No.	Power Plant	Plant Size	Expected date as updated in 90 th OCC
1	GMR Unit#3	4x350MW	15 th Nov, 2013
2	Koderma Unit#2	2x500MW	Oct, 2013
3	Corporate Power Unit#1	2x270MW	
4	Teesta-III Unit#1	1x200MW	

5	Raghunathpur Unit#1	2x600MW	Nov, 2013
6	TLDP-IV	1x40MW	
7	Barh-IV	660 MW	Oct, 2013

New transmission elements:

SI No.	Name of Element	Expected date as updated in 90 th OCC
1	400 kV Maithon-Gaya D/C	After December, 2013
2	400 kV Gaya-Koderma D/C	After December, 2013
3	LILO of 400kV Kahalgaon-Biharshariff 1& 2 at Lakhisarai	Nov, 2013
4	400kV Sasaram-Daltonganj D/C &Daltonganj S/Stn	
5	400 kV Ranchi-Raghunathpur D/C	Mar, 2014
6	400 kV Meramandali-Dubri D/C	
7	400 kV Corporate- Ranchi D/C	
8	400 kV IB-Meramandali D/C	December, 2013
9	220 kV TLDP-IV – NJP ckt-2	2014
10	220 kV Kharagpur-Midnapur D/C	After Puja
11	220 kV Jeerat-Rishra D/C	
12	220 kV Latehar-Daltonganj D/C	December, 2013
13	220 kV Lohardaga-Lathehar D/C	December, 2013
14	220 kV Bidhansai-Cuttack D/C	June, 2014
15	220 kV Girdih-Koderma D/C	Mar, 2014

Members may update.

Deliberation in the meeting

Members updated the latest status.

PART D:: OTHER ISSUES

Item no. D.1: UFR operation during the month of Sep'13

System frequency touched 49.21 Hz in September'13. However, no report of operation has yet been received from any of the constituents. Constituents may confirm regarding any UFR operation in their respective systems.

Members may note.

Deliberation in the meeting

Members noted.

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

Vide clause no 5.5.1.c)(h) of IEGC, non-compliance of SLDC direction by SEB/Distribution licenses/bulk consumers to curtail overdrawal is 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 over drawal, within two days after the day of operation.

No report from any constituent received. Hence ERLDC consider 'Nil' report for all Constituent for Sep'13.

Members may note

Deliberation in the meeting

Members noted.

Item no. D.3: Grid incidences during the month of Sep'13

ERLDC may present the list of grid incidences during September, 2013.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.4: Eastern Region grid performance during the month of Sep'13

In the month of Sep,13, the percentage of time frequency was more than 50.2 Hz decreased significantly to 11.95% as compared to 23.52% in the previous month (July13). The percentage of time frequency remained in the IEGC band increased to 86.63% as compared to 75.74% in the previous month.

Members may note.

Deliberation in the meeting

Members noted.

Item no. D.5: SCADA data availability to ERLDC.

It was directed that all utilities should take appropriate actions at their end to establish the existing communication system (SCADA) with ERLDC healthy by June 2013 without fail.

The latest status as updated in 25th TCC is as circulated in the meeting.

Concerned members may update the latest status.

Deliberation in the meeting

The updated status is given at Annexure D5.

Item no. D.6: Bhutan voice communication with ERLDC:

In 23rd ERPC meeting held on 22nd December, 2012, POWERGRID informed that they are working for voice communication between Backup NLDC, India at ERLDC, Kolkata & NLDC, Bhutan.

POWERGRID may update the status.

Deliberation in the meeting

Powergrid informed that work order has already been placed and will be completed by November, 2013.

Item no. D.7: Any other point

Meeting ended with thanks to the chair.

Annexure-A

Participants in 90th OCC Meeting

Venue: Bidyut Unnayan Bhavan, Salt Lake

Time: 11:00 hrs

Date: 25.10.13 (Friday)

Sl No	Name	Designation	Organization	Contact Number	Email	Signature
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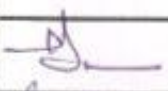
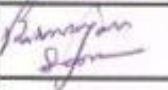
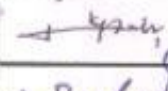
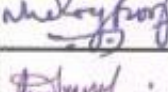
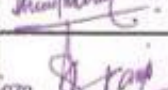

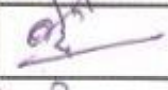
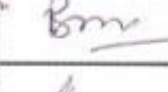

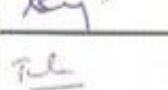
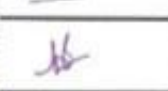
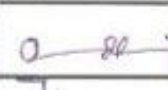
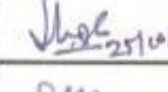
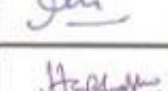
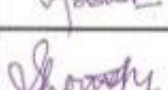
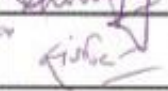
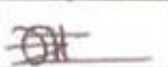
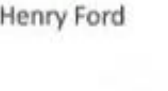


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Participants in 90th OCC Meeting

Venue: Bidyut Unnayan Bhaban, Salt Lake

Time: 11:00 hrs

Date: 25.10.13 (Friday)

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36	G. Bose	ARE/E.Ry	E. Ry	9002020309	gopalbose.raipur@gmail.com	
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40	Jiten Das	Ch. MGR	POWERGRID, ERLDC	9431815705	er-osl@yahoo.com	

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Participants in 90th OCC Meeting

Venue: Bidyut Unnayan Bhaban, Salt Lake

Time: 11:00 hrs

Date: 25.10.13 (Friday)

Sl No	Name	Designation	Organization	Contact Number	Email	Signature
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52	G. Maji	SM(PS)	WBPDCL			
53	B. Saha	AM(PS)	WBPDCL			
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"Coming together is a beginning, staying together is progress, and working together is success." -Henry Ford

Annexure-B.26

Suggested SPS for Jeypore-Jeynagar 220kV D/C line

Objective

- To allow each circuit carry power of the order of 160-170 MW, without risking complete outage of the D/C link by cascade tripping of one circuit following fault outage of the other
- To ensure better utilisation of HVDC Gajuwaka for transferring power from ER to SR

Sensitivity of Balimela, U.Kolab, Indravati and Gazuwaka HVDC on 220KV Jaypore-Jayanagar D/C flow has been analysed through simulation studies and the results are summarised below:

	HVDC	Generation				Line Flow	%sensitivity
	Gazuwaka	Balimela	U Kolab	Indravati	Jeypore-Jayanagar	per ckt	
	MW	MW	MW	MW			%
Sensitivity to HVDC set point variation	700	180	240	450	117.1		
	600	180	240	450	109		8.1
	500	180	240	450	100.9		8.1
	400	180	240	450	92.9		8.0
	300	180	240	450	84.9		8.0
	200	180	240	450	76.9		8.0
	Average sensitivity						8.0
Sensitivity to Balimela generation variation	500	180	240	450	100.9		
	500	80	240	450	69.7		31.2
	Average sensitivity						31.2
Sensitivity to U.Kolab generation variation	500	180	240	450	100.9		
	500	180	140	450	69.9		31.0
	500	180	40	450	38.9		31.0
	Average sensitivity						31.0
Sensitivity to UIHEP generation variation	500	180	240	450	100.9		
	500	180	240	350	95.3		5.6
	500	180	240	250	89.6		5.7
	Average sensitivity						5.7

Suggested SPS logic

- Case1:- Both lines are in service
 - HVDC Gazuwaka $\geq 600\text{MW}$ AND
 - Power flow through each ckt $\geq 160\text{MW}$
 - Action:- Generation reduction at Balimela/U.Kolab + Ramp down of Gazuwaka HVDC, so as to bring down power flow within 110 MW / ckt
- Case2:- Both lines are in service
 - HVDC Gazuwaka $< 600\text{MW}$ AND
 - Power flow through each ckt $\geq 160\text{MW}$
 - Action:- Generation reduction at Balimela/U.Kolab so as to bring down power flow within 110 MW / ckt

Suggested SPS logic

- Case3:- one ckt tripped
 - HVDC Gazuwaka $\geq 600\text{MW}$ AND
 - Power flow through remaining ckt $\geq 160\text{MW}$
 - Action:- Tripping of units at Balimela/U.Kolab + Rapid run-back at Gazuwaka HVDC so as to bring down power flow within 120 MW
- Case4:- one ckt tripped
 - HVDC Gazuwaka $< 600\text{MW}$ AND
 - Power flow through remaining ckt $\geq 160\text{MW}$
 - Action:- Tripping of units at Balimela/U.Kolab so as to bring down power flow within 120 MW

Note: Allowable upper and lower values of Jeypur-Jeynagar flow would depend on O/C protection setting and extent of generation reduction / HVDC power order reduction actually possible

- Case5:- Two ckts tripped
 - PDO will take care the above situation

Power Reduction at Balimela/U kolab and Gazuwaka HVDC by 4:1 ratio

-for example 50MW relief required on 220KV Jeypore-Jaynagar S/C

$40 \times 3 = 120\text{ MW}$ Reduction at Balimela/U kolab (3 is sensitivity)

$10 \times 10 = 100\text{ MW}$ Reduction at Gazuwaka HVDC (10 is sensitivity)

Due to cyclonic effect demand of Odisha state reduced drastically with demand touching as low as 600MW at around 18:30 hrs (at around the time of impact). Several 220/132kV substations such as Berhampore, Chatrapur, Narendrapur, Ganjam, Dighapahandi, Mohna, Aska, Bhanjanagar, Phulbani, Paralkhemundi, Akhusing, Kesura, Nimapara, Khurda, Puri, Nayagarh, Jaleswar, Choudwar, Basta, Dhenkanak, Bargarh, Rairakhol, Balugaon, Purushottampur mostly along and near the Odisha coast line suffered total outages. However, the cyclone did not impact deeper into Odisha, but caused significant damages to EHV and distribution system along and near Odisha Coast. Many of the Grid substations were not majorly impacted and could be restored shortly after the cyclonic impact.

Currently all the Grid substations have been charged except at 220/132kV Narendrapur s/s where only the 132kV bus has been charged.

Presently the following lines are under outage:

220kV Theruballi-Narendrapur D/c	14Nos Tower collapsed; Restoring with ERS in progress
220kV Narendrapur-Mendhasal D/C	57Nos. Tower Collapsed; Work yet to be started
132kv Narendrapur-Chatrapur D/c	9Nos. Tower collapsed; Work yet to be started
132kV Chatrapur-IRE D/C	01Nos. Tower Collapsed; Will be restored shortly using ERS
132kV Narendrapur-Berhampore-II	01Nos. tower Collapsed(circuit-I charged vide ERS); Will be restored shortly using ERS
132kV Balasore-Baripada	Work yet to be started
132kv Aska-Berhampore	01Nos. Tower Collapsed; Work yet to be started
132kV Chatrapur-Balugaon	Work yet to be started

Traction supply has been restored at all points from OPTCL network.

Annexure C1**Approved Maintenance Programme of Generating units during Nov, 2013.**

SYSTEM	POWER STATION	Unit NO.	Effective Capacity	Maintenance Programme	Remarks	No.of Days
DVC	CTPS	Unit No. 8	250	10.11.2013 to 25.11.2013	Annual Overhauling	15
WBPDC	KTPS	Unit No 4	210	01.11.2013 to 05.12.2013	BTG	35
WBPDC	BTPS	Unit No 5		04.11.2013 to 04.04.2014	R & M	150
WBPDC	STPS	Unit No 5		10.11.2013 to 20.11.2013	Boiler Licence	10
WBPDC	BKTPP	Unit No 5	210	16.11.2013 to 21.12.2013	Boiler Maint.	35
CESC	Titagarh TPS	Unit No 2	60	17.11.2013 to 07.12.2013	Boiler Insp + Turbine	21
CESC	Titagarh TPS	Unit No 3	60	02.11.2013 to 16.11.2013	Boiler Insp + Turbine	15
DPL	DPL	Unit No. 5	75	01.11.2013 to 31.03.2014	As a standby	

**EASTERN REGIONAL LOAD DESPATCH CENTRE
KOLKATA**

TRANSMISSION ELEMENTS OTAGE REQUSET APPROVED IN 90TH OCC MEETING OF ERPC

Sr. No	S/D APPROVED IN OCC					REMARKS	S/D availed BY	Reason	SUBJECT TO CONSENT FROM AGENCY
	NAME OF THE ELEMENTS	DATE	TIME	DATE	TIME				
1	400 KV BUS BAR - I AT NPRN	10/25/2013	10:00	10/26/2013	18:00	ODB	ER-I	FOR REPLACEMENT OF BUS BAR PROTN.	
2	132 KV PRN - KISHANGANJ	10/26/2013	9:00	10/26/2013	17:00	ODB	ER-I	FOR ANNUAL MAINTENANCE	BIHAR
3	400 KV Malda-Farakka-I	10/27/2013	9:00	11/1/2013	18:00	OCB	ER-II	For Construction work under ERSS-IV.	NLDC
4	125 MVAR BUS REACTOR AT RNC	10/28/2013	9:00	10/29/2013	18:00	ODB	ER-I	FOR COSTN. OF FIRE WALL.	
5	400 KV Malda-Purnea-I	10/28/2013	9:00	10/28/2013	17:00	ODB	ER-II	For AMP.	NLDC
6	400KV Rourkela - Jamshedpur Ckt.-II	10/28/2013	10:00	10/28/2013	14:00	ODB	ER-II	Adaptation of Controlled Switching of Line Reactor	
7	50 MVAR Bus Reactor at Rourkela	10/28/2013	10:00	10/28/2013	14:00	ODB	ER-II	Adaptation of Controlled Switching of Line Reactor	
8	400 KV ROURKELA - JHARSUGUDA - I	10/28/2013	8:00	11/27/2013	18:00	ODB	ER-I	FOR OPGW STRINGING UNDER ULDC PROJECT	SHUTDOWN TO BE CLEARED FOR 7 DAYS AND FURTHER CLEARANCE WOULD BE ISSUED WEEKLY BASIS
9	400 KV Rourkela - SEL -I	10/29/2013	10:00	10/29/2013	14:00	ODB	ER-II	UPGRADATION OF SEL - 670 RELAY	NLDC/SEL
10	400 KV ROURKELA - RANCHI -I	10/31/2013	10:00	10/31/2013	14:00	ODB	ER-II	UPGRADATION OF SEL - 670 RELAY	NLDC/SEL
11	400 KV ROURKELA - RANCHI -II	11/1/2013	10:00	11/1/2013	14:00	ODB	ER-II	UPGRADATION OF SEL - 670 RELAY	NLDC/SEL
12	400 KV PATNA - BARH - 3	11/1/2013	7:00	11/30/2013	18:00	ODB	ER-I	FOR OPGW STRINGING UNDER ULDC PROJECT	SHUTDOWN TO BE CLEARED FOR 7 DAYS AND FURTHER CLEARANCE WOULD BE ISSUED WEEKLY BASIS
13	400 KV BSF - SSRM - 3 WITH ITS LINE REACTOR	11/1/2013	8:00	11/3/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	NLDC
14	400 kv Binaguri - Punea - 1	11/1/2013	0:00	11/30/2013	24:00:00	OCB	ER-II	For Recondctoring works	
15	400 KV ARAMBAG - DURGAPUR	11/1/2013	7:00	11/1/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
16	315 MVA TR#1 AT JERAT	11/3/2013	7:00	11/3/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
17	400kVJeerat-Baharampur	11/4/2013	06:00	11/5/2013	16:00	ODB	ER-II	CT / LA Replacement at Jeerat	NLDC/WBSETCL
18	400 kv Talcher-Meramundali II & I	11/4/2013	08:00	11/7/2013	17:00	ODB	ER-II	Completion of LILO tapping arrangement at Meramundali s/s end	OPTCL/NLDC
19	400 KV BUS BAR - II AT NPRN	11/4/2013	10:00	11/5/2013	18:00	ODB	ER-I	FOR REPLACEMENT OF BUS BAR PROTN.	
20	400KV Maithon-Kahalgaon-I	11/4/2013	9:00	11/4/2013	17:00	ODB	ER-II	OTI installation under NTAMC project	NLDC
21	TIE BAY OF 400 KV BSF - SSRM - 3 & 125 MVAR B/R - 2 AT SSRM	11/4/2013	8:00	11/5/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	
22	400KV Rourkela - Jamshedpur Ckt.-I	11/4/2013	10:00	11/4/2013	14:00	ODB	ER-II	Retrofitting of Numerical Relay REL670	
23	400KV Maithon-Kahalgaon-II	11/5/2013	9:00	11/5/2013	17:00	ODB	ER-II	OTI installation under NTAMC project	NLDC
24	132 kv Siliguri - Kurseong	11/5/2013	8:00	11/7/2013	17:30	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	WBSETCL
25	400 kv Meramundali-JSPL D/C (OPTCL)	11/5/2013	08:00	11/6/2013	17:00	ODB	ER-II	For completion of stringing for Power crossing span. Crossing Loc. 11/0, 12/0	OPTCL
26	400 KV BUS REACTOR AT BAKRESWAR	11/5/2013	7:00	11/6/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
27	315 MVA TR#3 AT JERAT	11/6/2013	7:00	11/6/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
28	400KV Rourkela - SEL Ckt.-I	11/8/2013	10:00	11/8/2013	14:00	ODB	ER-II	Retrofitting of Numerical Relay REL670	NLDC/SEL
29	400 KV ICT#1 at Durgapur	11/8/2013	9:00	11/9/2013	18:00	OCC	ER-II	245KV and 52KV Bushing Replacement of ICT#1	
30	315MVA ICT-I at Binaguri	11/8/2013	8:00	11/8/2013	16:00	ODB	ER-II	OLTC overhauling	
31	125 MVAR REACTOR-III at Angul	11/9/2013	9:00	11/10/2013	17:00	OCB	ER-II	Replacement of corona sheild of Bushing	
32	400 kv Sundargarh - Raigarh Ckt.-II	11/9/2013	9:00	11/9/2013	17:00	ODB	ER-II	Tension Insulator replacement work damaged by miscreants	NLDC

33	400 KV TALA-Binaguri - II	11/10/2013	11:00	11/10/2013	17:00	ODB	ER-II	Replacement of Conductor for Rly crossing	NLDC
34	400 KV, 125 MVAR Bus Reactor-1 & 2 at Sundargarh	11/10/2013	8:00	11/10/2013	18:00	ODB	ER-II	For removal of Shuttering plate of FIRE WALL between Reactor-1 & 2	NLDC
35	400 KV Rourkela-Sundargarh-Raigarh-2	11/10/2013	8:00	11/10/2013	18:00	ODB	ER-II	For balance costruction work and rectification of Puch Points	NLDC
36	220 KV SUBHASGRAM - CESC - 1	11/10/2013	7:00	11/10/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
37	220 kv Subhasgram-CESC - 1	11/10/2013	09:00	11/10/2013	17:00	ODB	ER-II	AMP before expiry of warranty	WBSETCL
38	400 KV Malda-Farakka-II	11/10/2013	9:00	11/10/2013	17:00	ODB	ER-II	For Relay retrofitting at Farakka end and AMP at Malda End.	NLDC
39	400 kv SEL - Raigarh -I	11/11/2013	9:00	11/11/2013	18:00	ODB	ER-II	Tension Insulator replacement work damaged by miscreants	NLDC/SEL
40	125 MVAR B/R - 1 AT SSRM	11/11/2013	8:00	11/12/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	
41	400 KV Malda-Purnea-II	11/11/2013	9:00	11/11/2013	17:00	ODB	ER-II	For AMP.	NLDC
42	220 KV Malda- Dalkhola-I	11/12/2013	9:00	11/12/2013	18:00	ODB	ER-II	For CT replacement under ADDCAP. (Subjected to connector availability)	
43	400kv Fkk-Durgapur ckt-1	11/12/2013	9:30	11/12/2013	16:30		NTPC	PM & RELAY TESTING	
44	400KV Rourkela - Talcher Ckt.-I	11/12/2013	9:00	11/12/2013	18:00	ODB	ER-II	Tension Insulator replacement work damaged by miscreants	NLDC
45	400 KV KHLG - BSF - I	11/12/2013	8:00	11/12/2013	17:30	ODB	ER-I	FOR REPLACEMENT OF B-PH LINE CT	NLDC
46	400 KV BUS REACTOR AT ARAMBAG	11/12/2013	7:00	11/12/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
47	400 KV BSF - BANKA - I	11/13/2013	9:00	11/13/2013	18:00	ODB	ER-I	FOR RETROFITTING OF NUMERICAL DIST. PROTN. IN PLACE OF STATIC ONE	NLDC
48	400 KV SSRM - BALIA LINE WITH ITS L/R	11/13/2013	8:00	11/15/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	NLDC
49	220KV Maithon-Dhanbad-II	11/13/2013	9:00	11/13/2013	13:00	ODB	ER-II	AMP	DVC
50	400KV Rourkela - Talcher Ckt.-II	11/13/2013	9:00	11/13/2013	18:00	ODB	ER-II	Tension Insulator replacement work damaged by miscreants	NLDC
51	400 KV BSF - BANKA - II	11/14/2013	9:00	11/14/2013	18:00	ODB	ER-I	FOR RETROFITTING OF NUMERICAL DIST. PROTN. IN PLACE OF STATIC ONE	NLDC
52	220 KV HATIA - PATRATU D/C	11/14/2013	7:00	11/14/2013	18:00	ODB	ER-I	FOR STRINGING OF 400 KV D/C RANCHI - RANCHI TL - I	JSEB
53	220 KV Malbase-Birpara	11/14/2013	9:00	11/14/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	NLDC
54	400 kv Meramundali-IB D/C (OPTCL)	11/14/2013	08:00	11/15/2013	17:00	ODB	ER-II	For completion of stringing for Power crossing span. Crossing Loc. 7/0, 7A/0	OPTCL/Line not yet commissioned/only bay sd at Meramundali required
55	315 MVA ICT 2 at OHPC S/Y	11/14/2013	09:00	11/14/2013	14:00	ODB	ER-II	For changing Y-ph bushing	OPTCL
56	315 MVA TR#4 AT JERAT	11/14/2013	7:00	11/14/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
57	400 KV, 125 MVAR Bus Reactor-1 at Sundargarh	11/15/2013	8:00	11/16/2013	18:00	OCB	ER-II	For erection of Pylon Support and formation of Ring of FF system	
58	400 KV Rourkela-Sundargarh-Raigarh-1	11/15/2013	8:00	11/16/2013	18:00	OCB	ER-II	For balance costruction work and rectification of Puch Points	NLDC
59	220KV Chukha-Birpara-I	11/15/2013	9:00	11/15/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	NLDC/BHUTAN
60	220 KV Malda- Dalkhola-II	11/15/2013	9:00	11/15/2013	18:00	ODB	ER-II	For CT replacement under ADDCAP. (Subjected to connector availability)	
61	400kv Barh-Patna ckt-1	11/15/2013	9:00	11/15/2013	17:00		NTPC	PM & RELAY TESTING	NLDC
62	400 KV ARAMBAG - KOLAGHAT	11/15/2013	7:00	11/15/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
63	400 KV BINAGURI - TEESTA - I	11/15/2013	9:00	12/15/2013	18:00	ODB	ER-II	OPGW STRINGING WORK	TEESTA
64	132 KV MAIN & TRANSFER BUS AT SILIGURI	11/16/2013	6:00	11/17/2013	16:00	OCB	ER-II	REPLACEMENT & RETROFITTING OF CVT & REPLACEMENT OF TRANSFER BUS CONDUCTOR FROM	WBSETCL
65	132 KV GANGTOK - CHUZACHEN - MELLI	11/16/2013	8:00	11/16/2013	16:00	ODB	CHUZACHEN	TREE CUTTING WORK	
67	125 MVAR BUS REACTOR - 2 AT SSRM	11/16/2013	8:00	11/17/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	
68	220KV Chukha-Birpara-II	11/16/2013	9:00	11/16/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	NLDC/BHUTAN
69	L/R of 400kv Balangir - Angul.	11/16/2013	10:00	11/16/2013	14:00	ODB	ER-II	C & Tan delta testing	

70	400 KV RANCHI - SIPAT - D/C	11/16/2013	7:00	11/17/2013	18:00	ODB	ER-I	FOR STRINGING OF 400 KV D/C RANCHI- RANCHI - II AT 69/0 TO 70/0	NLDC
71	315 MVA TR#2 AT JERAT	11/16/2013	7:00	11/16/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
72	L/R of 400KV Balangir - Jaypore .	11/17/2013	10:00	11/17/2013	14:00	ODB	ER-II	C & Tan delta testing	
73	400 KV, 125 MVAR Bus Reactor- 2 at Sundargarh	11/17/2013	8:00	11/19/2013	18:00	OCB	ER-II	For erection of Pylon Support and formation of Ring of FF system	
74	400KV Durgapur - Jamshedpur	11/17/2013	10:00	11/17/2013	13:00	ODB	ER-II	Replacement of R Ph CVT	
75	220 KV HATIA - PATRATU D/C	11/17/2013	7:00	11/17/2013	18:00	ODB	ER-I	FOR STRINGING OF 400 KV D/C RANCHI- RANCHI - TL -II	JSEB
76	220 KV SUBHASGRAM - CESC - 2	11/17/2013	7:00	11/17/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
77	220 kv Subhasgram-CESC - 2	11/17/2013	09:00	11/17/2013	17:00	ODB	ER-II	AMP before expiry of warranty	WBSETCL
66	132 kv Kurseong - Rangit	11/18/2013	8:00	11/25/2013	17:30	ODB	ER-II	Insulator replacement work damaged due to flash over/miscrrent	NHPC/WBSETCL
78	400kv Kahalgao - Barh -2	11/18/2013	9:30	11/18/2013	17:30		NTPC	PM & RELAY TESTING	NLDC
79	TIE BAY OF 400 KV BSF - SSRM - 2 & 125 MVAR B/R - 1 AT SSRM	11/18/2013	8:00	11/19/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	
80	220KV Birpara-Salakati -I	11/18/2013	9:00	11/18/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscrrent	NLDC
81	400 KV KOLAGHAT - JERAT	11/18/2013	7:00	11/18/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
82	400KV BUS-I & 125 MVAR REACTOR-II at Anugul	11/19/2013	9:00	11/19/2013	17:00	ODB	ER-II	Extension of 400kv Bus-I in 400 kv Reactor	
83	315 MVA ICT#1 at Subhasgram	11/19/2013	09:00	11/19/2013	17:00	ODB	ER-II	OTI installation under NTAMC project	
84	125 MVAR REACTOR-II at Angul	11/19/2013	9:00	11/24/2013	17:00	OCB	ER-II	Replacement of Corona shield of bushing	
85	315 MVA ICT - I AT BSF	11/19/2013	9:00	11/19/2013	17:00	ODB	ER-I	FOR ANNUAL MAINTENANCE WORK AND REPLACEMENT OF OLTC TC HEAD.	
86	220KV Birpara-Salakati -II	11/19/2013	9:00	11/19/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscrrent	NLDC
87	400 KV ARAMBAG - PPSP - 1	11/19/2013	7:00	11/19/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
88	765 KV /400 KV ICT AT SSRM	11/20/2013	8:00	11/21/2013	18:00	ODB	ER-I	FOR ISOLATOR RECTIFICATION WORK AT SSRM	
89	400 kv Meramundali-Angul	11/20/2013	08:00	11/21/2013	17:00	ODB	ER-II	For completion of stringing for Power crossing span. Crossing Loc. 6A/0, 7/0	NLDC
90	315 MVA TR#2 AT ARAMBAG	11/20/2013	7:00	11/20/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
91	400 KV MERAMUNDALI - ANGUL - BOLANGIR	11/20/2013	9:00	11/20/2013	17:00	ODB	ER-II	Extension of Bus-I to Talcher Bays	NLDC
92	315 MVA ICT#3 at Subhasgram	11/21/2013	09:00	11/21/2013	17:00	ODB	ER-II	Checking of On load Bus Transfer Scheme	WBSETCL
93	220 KV Dalkhola-Purnea-I	11/21/2013	8:00	11/21/2013	18:00	ODB	ER-II	Retrofitting of CTs (under ADDCAP 2009-14)	
94	400 KV BAKRESWAR - ARAMBAG	11/21/2013	7:00	11/21/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
95	50 MVAR BUS REACTOR - 2 AT JSR	11/22/2013	9:30	11/22/2013	13:30	ODB	ER-I	FOR ANNUAL MAINTENANCE WORK	
96	132 KV PRN - PRN - I	11/22/2013	9:00	11/22/2013	17:00	ODB	ER-I	FOR ANNUAL MAINTENANCE	BIHAR
97	400kv Baripada-Keonjhar	11/22/2013	10:00	11/22/2013	15:00	ODB	ER-II	Inspection and repairing of Isolator for remote operation by supplier	NLDC
98	400 KV Main Bus-II & ICT-V AT MALDA	11/22/2013	9:00	11/22/2013	17:00	ODB	ER-II	For jumpering of old bus and extension area.	
99	400 kv Meramundali-JSPL D/C (OPTCL)	11/22/2013	08:00	11/23/2013	17:00	ODB	ER-II	For completion of stringing for Power crossing span. Crossing Loc. 16/0, 17/0	OPTCL
100	200 MVA ICT - I AT BANKA	11/22/2013	9:30	11/22/2013	12:30	ODB	ER-I	FOR ANNUAL MAINTENANCE	BIHAR
101	765 KV GAYA - FATEHPUR LINE	11/22/2013	9:00	11/22/2013	17:00	ODB	ER-I	FOR DIAMOND FORMATION FOR RECTIFICATION OF CLEARANCE PROBLEM BETWEEN 765 KV GAYA - FATEHPUR (LOC. 376 - 377) & 132 KV PSL - DEHRI LINE (LOC. NO. 184-185)	NLDC
102	132 KV PSL - DEHRI LINE	11/22/2013	9:00	11/22/2013	17:00	ODB	ER-I	FOR DIAMOND FORMATION FOR RECTIFICATION OF CLEARANCE PROBLEM BETWEEN 765 KV GAYA - FATEHPUR (LOC. 376 - 377) & 132 KV PSL - DEHRI LINE (LOC. NO. 184-185)	BIHAR
103	220KV Birpara-N.Siliguri -I	11/22/2013	9:00	11/22/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscrrent	
104	315 MVA TR#1 AT ARAMBAG	11/22/2013	7:00	11/22/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
105	132 KV PRN - PRN - 2	11/23/2013	9:00	11/23/2013	17:00	ODB	ER-I	FOR ANNUAL MAINTENANCE	BIHAR

106	3*110 MVAR MID POINT REACTOR OF 765 KV GAYA - FATEHPUR LINE AT SSRM	11/23/2013	8:00	11/27/2013	18:00	ODB	ER-I	FOR CONSTN.OF FIRE WALL	NLDC
107	200 MVA ICT - II AT BANKA	11/23/2013	9:30	11/23/2013	12:30	ODB	ER-I	FOR ANNUAL MAINTENANCE	BIHAR
108	220KV Birpara-N.Siliguri -II	11/23/2013	9:00	11/23/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	
109	220 KV Dalkhola-Purnea-II	11/23/2013	8:00	11/23/2013	18:00	ODB	ER-II	Retrofitting of CTs (under ADDCAP 2009-14)	
110	315 MVA TR#3 AT ARAMBAG	11/23/2013	7:00	11/23/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
111	400KV S'Gram-Sagardighi	11/24/2013	08:00	11/25/2013	16:00	ODB	ER-II	Line Jumper Tightening	WBSETCL
112	132 kv Siliguri - Melli	11/24/2013	8:00	12/4/2013	17:30	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	SIKKIM
113	400 KV Durgapur - Bidhannagar with Reactor	11/24/2013	9:30	11/24/2013	17:30	ODB	ER-II	Replacement of NGR LA, MOG and SFRA Testing of	
114	400 KV Main Bus-I & ICT-Vat Malda	11/24/2013	09:00	11/24/2013	17:00	ODB	ER-II	For jumpering of old bus and extension area.	
115	400 KV Binaguri- Bongaigaon-I	11/24/2013	9:00	11/24/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	NLDC
116	132 KV PRN - PRN - 3	11/25/2013	9:00	11/25/2013	17:00	ODB	ER-I	FOR ANNUAL MAINTENANCE	BIHAR
117	400 KV Binaguri- Bongaigaon-II	11/25/2013	9:00	11/25/2013	17:00	ODB	ER-II	Insulator replacement work damaged due to flash over/miscreant	NLDC
118	400 KV KHLG - BSF - II	11/26/2013	8:00	11/26/2013	17:30	ODB	ER-I	REPLACEMENT OF DEFECTIVE INSULATOR FOUND IN PID	NLDC
119	ICT-2 (315 MVA) at Jeypore	11/26/2013	9:00	11/26/2013	15:00	ODB	ER-II	OTI installation under NTAMC project	
120	400 KV PATNA - BARH - I	11/26/2013	9:30	11/26/2013	12:30	ODB	ER-I	FOR ANNUAL MAINTENANCE	NLDC
121	220 KV Dalkhola-Siliguri-I	11/26/2013	8:00	11/26/2013	18:00	ODB	ER-II	Retrofitting of CTs (under ADDCAP 2009-14)	
122	50 MVAR BUS REACTOR - 1 AT JSR	11/26/2013	9:30	11/26/2013	13:30	ODB	ER-I	FOR ANNUAL MAINTENANCE WORK	
123	ICT-1 (3X105MVA Plus one spare) at Jeypore	11/27/2013	8:00	11/27/2013	17:00	ODB	ER-II	OTI installation under NTAMC project	
124	400 KV PATNA - BARH - II	11/27/2013	9:30	11/27/2013	12:30	ODB	ER-I	FOR ANNUAL MAINTENANCE	NLDC
125	63 MVAR Bus Reactor at Jeypore	11/27/2013	9:00	11/27/2013	15:00	ODB	ER-II	OTI installation under NTAMC project	
126	400KV Maithon-Kahalgaon-I	11/27/2013	9:30	11/27/2013	17:30		NTPC	PM & RELAY TESTING	NLDC
127	315 MVA TR#4 AT ARAMBAG	11/27/2013	7:00	11/27/2013	16:00	ODB	WBSETCL	MAINTENANCE WORK	
128	Bolangir Reactor at Jeypore	11/28/2013	9:00	11/28/2013	15:00	ODB	ER-II	OTI installation under NTAMC project	
129	220 KV Dalkhola-Siliguri-II	11/28/2013	8:00	11/28/2013	18:00	ODB	ER-II	Retrofitting of CTs (under ADDCAP 2009-14)	
130	Rengali - Indravati Line	11/29/2013	9:00	11/29/2013	17:00	ODB	ER-II	AMP	
131	400kv S'Gram-Jeerat	12/1/2013	08:00	12/1/2013	16:00	ODB	ER-II	Line Jumper Tightening	WBSETCL

Annexure-C.2

**Anticipated Power Supply Position for the month of
Nov-13**

SL.NO	PARTICULARS	PEAK DEMAND MW	ENERGY MU
1	BIHAR		
	i) NET MAX DEMAND	2430	1230
	ii) NET POWER AVAILABILITY- Own Source	265	181
	- Central Sector	1595	865
	iii) SURPLUS(+)/DEFICIT(-)	-570	-184
2	JHARKHAND		
	i) NET MAX DEMAND	1130	700
	ii) NET POWER AVAILABILITY- Own Source	669	332
	- Central Sector	666	376
	iii) SURPLUS(+)/DEFICIT(-)	205	8
3	DVC		
	i) NET MAX DEMAND (OWN)	2715	1630
	ii) NET POWER AVAILABILITY- Own Source	4596	2645
	- Central Sector	466	312
	Long term Bi-lateral (Export)	1400	1008
	iii) SURPLUS(+)/DEFICIT(-)	947	319
4	ORISSA		
	i) NET MAX DEMAND	3300	2250
	ii) NET POWER AVAILABILITY- Own Source	2715	1466
	- Central Sector	1108	641
	iii) SURPLUS(+)/DEFICIT(-)	523	-143
5	WEST BENGAL		
5.1	WBSEDCL		
	i) NET MAX DEMAND (OWN)	4920	2520
	ii) CESC's DRAWAL	770	138
	iii) TOTAL WBSEDCL's DEMAND	5690	2658
	iv) NET POWER AVAILABILITY- Own Source	3488	1906
	- Import from DPL	0	29
	- Central Sector	2668	1536
	v) SURPLUS(+)/DEFICIT(-)	466	813
5.2	DPL		
	i) NET MAX DEMAND	300	191
	ii) NET POWER AVAILABILITY	300	220
	iii) SURPLUS(+)/DEFICIT(-)	0	29
5.3	CESC		
	i) NET MAX DEMAND	1650	776
	ii) NET POWER AVAILABILITY - OWN SOURCE	1010	638
	FROM WBSEDCL	770	138
	iii) TOTAL AVAILABILITY	1780	776
	iv) SURPLUS(+)/DEFICIT(-)	130	0
6	WEST BENGAL (WBSEDCL+DPL+CESC) (excluding DVC's supply to WBSEDCL's command area)		
	i) NET MAX DEMAND	6870	3487
	ii) NET POWER AVAILABILITY- Own Source	4798	2765
	- Central Sector	2668	1536
	iii) SURPLUS(+)/DEFICIT(-)	596	814
7	SIKKIM		
	i) NET MAX DEMAND	80	52
	ii) NET POWER AVAILABILITY- Own Source	16	5
	- Central Sector	133	66
	iii) SURPLUS(+)/DEFICIT(-)	69	19
8	EASTERN REGION At 1.03 AS DIVERSITY FACTOR		
	i) NET MAX DEMAND	16044	9348
	Long term Bi-lateral	1400	1008
	ii) NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)	17762	10181
	iii) PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)	1719	833

Annexure-D5

List of RTU supplied under ULDC Project but data is faulty/ intermittent:

SL no	Name of Utility	kV	Name station of	Reason for not reporting	Status as on 25.10.2013
1	WBDCL	400	Sagardighi TPS	RTU data is very intermittent, Voltage data not available, MW and MVAR intermittent.	RTU is reporting satisfactorily.
1	DVC	220	220 KV CTPS – B (2 x 250 MW)	Except GT MW & line flow no data available	DVC informed that it will be rectified during up gradation of SCADA scheme and will be completed by March, 2014. DVC informed that it will be resolved shortly.
2		400	DSTPS	U #1: MW, MVAR & Bus kV not available. Voltage and Frequency data not updating	
3		400	Mejia –B	Except Voltage & frequency data rest data available.	

List of additional elements/feeders whose data is not available – station under ULDC project:

SL no	Name of Utility	KV	Name of station	Reason for non reporting	Status as on 25.10.2013
1	NTPC	400	400 kV Farakka : (3x 200 + 2 x 500 MW)	GT -3 MVAR not available. MW, MVAR of primary (LV) side of All GT is not available.	GT -3 MVAR data is available. <i>NTPC informed primary (LV) side of GT data will be made available by March, 2014.</i>
		400	400 kV Kahalgaon STPS : (4X 210 + 3X 500 MW) primary (LV) side of GT is not available.	MW, MVAR of primary (LV) side of All GT is not available.	<i>NTPC informed that primary (LV) side of GT data schedule:</i> Stage-I: 30.11.2013 Stage-II: Cable installation by 30.11.2013 & implementation will be done on opportunity S/D.
2	OPTCL	220	220 KV Vedanta (9 x 135 MW)	No status points are available.	OPTCL informed Vedanta has taken up the matter with ABB and the problem will be resolved by December, 2013.
3	WBSETCL	220	DPL	Unit -7 data never reported to SLDC.	WBSETCL informed that order placed to Powergrid and will be completed by end of October, 2013. WBSETCL advised to interact with Powergrid and report the status in 25 th ERPC meeting.

The updated status of telemetry of BSEB Sub-Stations is as given below:

S/n	Name of RTU locations	BSPHCL action plan for RTU supplied during ULDC project and restoration by June 2013
1	Khagaul RTU	Powergrid informed that, integration of RTUs through GPRS scheme will be implemented by end of Sep, 2013 on receipt of advance amount of around Rs. 6 Lakhs from BSPHCL.
2	Koshi	
3	Purnea	
4	Kamarnasa	
5	Barauni TPS	
6	Dehri	The PLCC panels of Pasauli(PG) have been shifted to Gaya (PG) and Dehri-Bodhgaya link made operational. In addition BSPTCL requested Powergrid for OPGW rectification of Biharshariff-Bhodgaya. Powergrid informed that, OPGW will be restored by 30-09-2013.
7	Sultanganj	RTU is reporting to SLDC.

The updated status of telemetry of JSEB Sub-Stations is as given below:

S/n	Name of RTU Locations	JSEB action plan for RTU supplied during ULDC project and restoration.
1	Ramchadrapur RTU	JSEB informed that there is problem in PLCC link between Chandil – Ramchadrapur. AMC to M/s PUNCOM for PLCC link will be placed within 2-3 days.
2	Jamtara RTU	JSEB informed that, RTU has been shifted to new control room and requested Powergrid to reintegrate the feeders in RTU as integration of additional feeder (new element) in the existing RTU. Work order is to be placed to POWERGRID for which file is under process. Powergrid informed that, implementation of the same will be initiated on receipt of advance amount from JSEB.
3	Deoghar RTU	JSEB informed that RTU will report after rectification of Deoghar –Jamtara PLCC link. AMC to M/s PUNCOM for PLCC link will be placed within 2-3 days.
4	Garwarah RTU	JSEB informed that RTU may report after it get connected from Ranchi end through Hatia-Loherdaga-Latehar- Daltanganj – Garwah transmission line.
5	Patartu RTU	JSEB informed that, reporting of RTU is frequently interrupted because of frequent damages in UGFO. POWERTEL looking after the maintenance of this link. It was informed that UGFO link is damaged at 2-3 points within one Km. span and POWERTEL has been hanged on 11 kV pole in the effected portion for restoration of the link. JSEB informed that, SLDC getting data however, ERLDC informed that, they are not getting data.
6	Tenughat RTU	JSEB informed that, PLCC link could not be made up even after replacement of co-axial cable. There may be problem in LMU/LMDU, the replacement of which requires shutdown of PTPS-TTPS line. Due to break down of 220 kV TTPS-B'shariff line shutdown is not being allowed. JSEB informed that, replacement of LMU/LMDU could be done in 5 days after the restoration of 220 kV TTPS-B'shariff line.

The updated status of telemetry of Sikkim is as given below:

S/n	Name of RTU Locations	SIKKIM action plan for RTU supplied during ULDC project and restoration.
1	Melli 132 KV	Powergrid informed that RTUs are under manufacturing and will be completed by Nov, 2013.

The updated status of telemetry of OPTCL Sub-Stations is as given below:

S/n	Name of RTU Locations	OPTCL action plan for RTU supplied during ULDC project and restoration by June 2013.
1	Nalco	Work has been awarded and wiring is in progress. RTU will be commissioned by January, 2014.
2	Machkund HPS	OPTCL informed that RTU will be commissioned by end of September, 2013.

1. Non Availability of SCADA data from critical sub-stations

New IPP

- I. Chuzachen HPS: Gati's gateway is not configured as per ERLDC guideline. Data fails daily. Data are highly intermittent since connectivity with grid. Data updation is not proper. No stand by channel provided for data reporting. SOE of Chuzachen SAS and their S/s are not matching.
- II. Sterlite Enegry Limited:- Gateway at SEL end yet to be configure for dual reporting. SOE signals, OLTC tap. ICT 1 & 2 (400/220kV) MW, Mvar not available.
- III. Maithon Right Bank Power Ltd.:- Unit & GT Data is not proper updating at ERLDC. Generation voltage, SOE, OLTC tap potion, protection signals yet to be made available to ERLDC Kolkata also gateway at MPL end yet to be configure for dual reporting. At present maithon right bank data is not available since 01-Oct-2013.
- IV. Mejia 'B' TPS:- 400 KV Bus -1 KV, HZ and MW/MVAR before GT not available.
- V. DSTPS (Andal):- MW/MVAR before GT for unit#1 is not available.
- VI. NTPC Barh:- Data available except 80 MVAR bus reactor & Voice facility is not available.

Pending issue

- I. Sasaram(NEW) 765 KV Bus 2 HZ, Fathepur line MW, MVAR, and Line reactor MVAR , 765KV bus reactor MVAR ,765/400KV ICT OLTC and MVAR are not available.
- II. Baripada:- Voice communication not ok.
- III. Gaya 765 KV: Voice communication not provided.
- IV. Bidhanagar 400 Kv (W.B): No real time data is available.
- V. Kharagpur - 400 KV (WBSETCL). Baripada -Kharagpur-Kolaghat charged on 28/04/12. No real time data is available from Kharagpur.
- VI. Subhasgram (WB) –No real time data available.
- VII. Farakka NTPC:
Alstom attended the site jointly with NTPC on 03rd Dec 12 and rectified the CB points. Following SOE point are yet to rectified: Sagardighi line ,GT-2 & 3 CB, Station Transformer-III CB , Tie CB of Unit- IV status.220 KV Lalmatia line CB, ICT 400/220 KV LV site CB. Many isolators status also not available
None of station transformers MW/MVAR, Unit Site LV Generations are available. GT-3 MVAR values are not available.
- VIII. Kahalgaon NTPC: Following CB SOE point are not coming to ERLDC 400 KV: Gen-1 & ICT-1 Tie , Gen-1 Main,Tie of Gen-2 & Reactor-1,Gen-3 Main,Gen-4 Main, Gen-5 Main, Gen-6 Main, .
Following analog points are not coming to ERLDC:
MW/MVAR of 132 KV: Stn Xformer -3,4 &5, Colony Xformer 1 & 2, Unit LV side Generation of all Unit.
- IX. Talcher NTPC :
OLTC tap position of 400/220 KV ICT-I, II & 400/11 stn Xfmr are not available .Also Stn Xfmr (220/11 KV) MW/MVAR /OLTC Tap position are not available
- X. Lalmatia NTPC:
Tap position of 220/132 KV ICT –I & 132 /11 KV Stn Xfmr -1 & 2 not available
- XI. Lalmatia JSEB: MW / MVAR/ OLTC tap of 220/132 KV ICT –II not available
- XII. Jeypore: 400/220 KV ICT 1 MW and MVAR incorrect.

- XIII. Mendhasal: 400 KV Baripda 1 & 2 line flow and Reactors data, Tap position of both 400 ICTs not available
- XIV. Meeramundali: Tap position of both 400 ICT. JSPL 1 & 2, ICT-2 MW and MVAR value are not available.
- XV. Jeerat: Tap position of 400/220 KV ICT#1 and ICT#2 , not available.
- XVI. Kolaghat: Tap position of both 400/220 KV ICT not available.
- XVII. Indravati HPS: Main CB of ICT- II line not correct. ICT-I &II OLTC Tap positions not available.
- XVIII. Jhasurguda: Data reporting is intermittent.
- XIX. Angul: Bolangir & Meeramundali lines flows doesn't match.