

## Eastern Regional Power Committee

### MINUTES OF 70<sup>TH</sup> OCC MEETING HELD ON 20.01.12 AT ERPC, KOLKATA

List of participants is at Annexure-A.

Sh. Joydeb Bandyopadhaya, Superintending Engineer (Commercial), ERPC welcomed the participants of the 70<sup>th</sup> OCC. He requested Sh. U. K. Verma, General Manager, ERLDC to share his thoughts.

Sh. Verma conveyed his best wishes to participants & their family members on the occasion of New Year. He thanked members for extending their cooperation in the year gone by in running the grid in safe and secure manner. He informed that theme of this year (2012) would be "Reliability" and sought cooperation from the members in maintaining reliability of the grid.

Then agenda items were taken up.

#### **Item no. A.1: Confirmation of minutes of 69<sup>th</sup> OCC meeting of ERPC held on 28.12.11**

The minutes were circulated vide letter dated 06.01.12 to all the constituents and also uploaded in ERPC website. Since then no comment was received.

Members may confirm the minutes.

#### **Deliberation in the meeting**

ERLDC drew attention on para 2 of item no. B2 of the MoM and requested to incorporate following sentences for bringing out more clarity:

*"Based on the joint studies carried out by DVC and ERLDC, it was inferred that SPS may not be required for operation of only one unit each at Mejia Ph-II, DSTPS and Maithon-RB, provided the following 400kV transmission system is available prior to their COD :*

*Mejia Ph-II – Maithon(PG) D/C*

*Maithon-RB – Ranchi(PG) D/C*

*Maithon(PG) – Jamshedpur(PG) D/C, with one ckt LILO at Mejia Ph-II*

*Maithon(PG) – Parulia(PG) D/C*

*DSTPS – Jamshedpur(PG) D/C*

*DSTPS – Raghunathgunj D/C*

*LILO of one circuit of Maithon(PG) – Ranchi(PG) at Raghunathgunj*

*However, the requirement of SPS may be reviewed after COD of second unit of any of these stations or after observing the transmission system loading till March, 2012, whichever is earlier. "*

Members agreed with ERLDC's observation and MoM was confirmed with the addition of above comments of ERLDC.

## **PART B :: NEW ISSUES**

### **Item no. B1: Frequent tripping of Tenughat-Biharshariff & Tenughat-Patratu line -- TVNL**

Both the outgoing transmission lines of Tenughat TPS are tripping frequently and total power failure occurs whenever both the line trips simultaneously. Recently, both the lines tripped on 29.12.11 and 08.01.12. This is the 10<sup>th</sup> case of total power failure condition at Tenughat TPS during FY 2011-12. Tenughat-Patratu transmission line is being maintained by JSEB & Tenughat, whereas Tenughat-Biharshariff line is being maintained jointly by BSEB & JSEB.

TVNL may explain.

#### **Deliberation in the meeting**

*TVNL circulated the list of above 10 grid incidences, which affected generation at Tenughat Power Station. Members expressed their concerns on the loss of generation due to such incident.*

*After deliberation, Members decided that BSEB, JSEB and TVNL would furnish the details of grid incidences including relay details within a week to ERPC Secretariat, so that the same could be analyzed and placed in the next Protection sub-Committee meeting for further discussion.*

### **Item no. B2: Reactive Capability Testing of generators -- ERLDC**

Testing of reactive capability of one unit carried out in following stations:

- i. FSTPP
- ii. KhSTPP
- iii. TSTPP
- iv. Mejia-B
- v. Bakreswar TPP
- vi. Teesta HPS

It is now proposed to carry out testing of reactive capability of one unit in Sterlite, Unit#1 of MPL and one unit in Sagardighi in January/1st week of February

Sterlite, MPL and WBPDCCL may comment.

#### **Deliberation in the meeting**

*At the outset, ERLDC presented the VAR responses of above generating stations (Farakka and Kahalgaon STPS), which had already been tested for reactive capability. From the presentation, it was seen that VAR absorption during high voltage condition was not up to the demonstrated level and there is scope for further absorption of VAR.*

*OCC took note of the above and requested all the concerned generators to increase the VAR absorption to the extent possible. OCC further decided that performance of the tested stations would be closely monitored and in case of persistent shortcoming, the matter could be brought into the notice of ERPC.*

*Besides, following schedule was also agreed upon for reactive capability testing*

- i. Sterlite Energy ( U#1 or U#3) ---- 1<sup>st</sup> Week of Feb'12*
- ii. Maithon Power --- during PG Test*
- iii. Sagardighi ----- 1<sup>st</sup> week of Feb'12*

**Item no. B3: Information regarding coal shortage --- ERLDC**

Ministry of Power is closely monitoring loss of generation due to shortage of coal in all generating station. In order to give proper feedback to MOP, it is requested to all SLDCs , all NTPC stations and all IPPs to furnish loss of generation in MU(million unit) on daily basis to ERLDC for keeping record for onward transmission to MOP/other authority.

Generating stations may note and submit the information to ERLDC on regular basis.

**Deliberation in the meeting**

*ERLDC stated that information on generation loss due to coal shortage is required for replying various references from MOP and therefore requested coal based thermal generators to furnish the information on daily basis to ERLDC.*

*Some of the constituents informed that the information is being regularly sent to CEA. ERLDC requested them to send a copy of the same to ERLDC.*

**Item no. B4: Procedure for coordinated transmission outage planning – ERLDC**

Appropriate coordination of transmission outages is presently one of the key aspects in order to ensure reliability in system operation. With formation of NEW grid, planned outage of such key elements have major phenomenal impact on the security of the adjoining regional networks. As such, proper coordination of such shut down of key elements is extremely important from the point of view of the following:-

- Reliability of operation of the NEW grid
- Certainty to the electricity market
- Proper resource mobilization and ensuring minimized outage timing.

Under these circumstances, NLDC has come up with draft outage planning procedure. Keeping in view to the above, RLDC and NLDC in coordination have come up with a outage procedure and identified such important key elements which is enclosed in **Annexure-I**. The aspects of the outage procedure are summarized as below:-

- ✓ List of planed shut downs approved in the OCC shall be forwarded by each RLDC to the Reliability Coordinator of each RLDC and NLDC.
- ✓ On a daily basis ( say day D), by 1030 hours each RLDC would forward a list of outages planed for their respective regions for the D + 3rd day by email to the Reliability Coordinators of each RLDC / NLDC along with the study results.
- ✓ The NLDC Reliability Coordinators would further assess the impact of these outages on the overall reliability of the all India grid and concurrence of outages under categories listed at Annexure-II would be conveyed by NLDC within a day.
- ✓ All planned shutdowns on the next day would be reviewed a day in advance of the shutdown. RLDCs would endeavor that no new element gets added to the list

provided three days in advance at Sl. No. (2) above as far as possible, unless the outage is of an emergency nature.

- ✓ A list of all the outages approved for the next day would be readily available at each RLDC / NLDC Control room along with simulation results, if any and the precautions required to be taken.
- ✓ In case of any contingency arising out during the period of shut down, all Reliability Coordinators of RLDC and NLDC would coordinate amongst each other for proper action.

In view to the above, all concerned transmission owners are requested to forward their outage requests as approved in the OCC at least 4 days in advance so that the aforesaid procedure is complied with.

ERLDC may brief the development.

### **Deliberation in the meeting**

*ERLDC explained the grid has become interconnected and outage of following categories of transmission elements needs to be taken in a coordinate manner at NLDC level.*

- i. Inter-regional transmission line*
- ii. Transnational transmission line*
- iii. HVDC lines*
- iv. Intra-regional line with impact on inter regional links*

*ERLDC requested above transmission element owners (Powergrid, Powerlink, BSEB, OPTCL etc) to forward their outage plan as approved in the OCC at least 4 days in advance. Transmission owners agreed.*

### **Item no. B5: Restoration procedure and Reactive document– ERLDC**

Vide clause No 5.8(a) of IEGC, ERLDC is to review Black Start and Restoration procedure by 31st January every year. The Black Start and Restoration procedure has been reviewed at ERLDC and updated. The procedure is being circulated to all the concerned utility members for their review and comment. Further, ERLDC has come up with Reactive Power Management Documents. The same will be circulated in the OCC meeting.

After perusing, constituents are requested to submit their views and comments.

### **Deliberation in the meeting**

*ERLDC circulated a CD containing documents on “Black Start and Restoration Procedure” and “Reactive Power Management”.*

*OCC requested constituents to submit their comments on “Black Start and Restoration Procedure” by 31<sup>st</sup> January 2012, other wise the circulated document would be taken as final.*

*OCC also took note of the “Reactive Power Management Documents” prepared by ERLDC. Any suggestion, if any, would be duly incorporated in the document.*

## **PART C :: ISSUES REFERRED FROM LAST OCC**

### **Item no. C1: Non- availability of SCADA data from Powergrid sub-stations**

After deliberation in the last OCC,

- i. Powergrid agreed to provide all the pending SCADA data to ERLDC before next OCC.
- ii. Powergrid assured to restore both way communications at Subhashgram s/s with ERLDC by 10<sup>th</sup> January 2012.
- iii. Voice communication facility at other substations, viz. Purnea, Ranchi and Patna would be restored by end of January 2012.
- iv. Powergrid agreed to complete the re-routing of communication link at Maithon by 15<sup>th</sup> January 2012 to ensure data availability.

Latest status of SCADA data availability & voice communication with ERLDC are as below:

<b>Sl. No.</b>	<b>Substation</b>	<b>Availability of real time data</b>	<b>Availability of voice communication</b>
1	Purnea	Available from 25 <sup>th</sup> Nov'11 (OLTC, MW, MVAR data not available from ICT-2)	Not available
2	Maithon	Data available from 12 <sup>th</sup> Jan'12	Not available
3	Ranchi	Available from 24 <sup>th</sup> Nov'11 except OLTC data from ICT-2	Not available
4	Patna	Available except since 13 <sup>th</sup> Nov'11 except OLTC data from ICT-1	Not available
5	Subhashgram	Available from 1 <sup>st</sup> Dec'11	voice facility that has been provided stopped functioning since 11 <sup>th</sup> Dec 2011

Powergrid may comment.

### **Deliberation in the meeting**

*Powergrid informed that*

- *Remaining data from Purnea S/s, Ranchi S/s and Patna s/s would be available by 1<sup>st</sup> week of February'12.*
- *Data from Maithon s/s was made available to ERLDC by rerouting of the link. However, voice communication would be established once Maithon-Jamshedpur line gets restored.*
- *Both way voice communication of Subhasgram s/s with ERLDC established on 19.01.12*
- *Voice communication facility at other substations, viz. Purnea, Ranchi and Patna would be restored by end of January 2012.*

*ERLDC pointed out that data of newly commissioned lines from Maithon s/s were not available. Powergrid assured to look into it and resolve the problem by 1<sup>st</sup> week of Feb'12.*

## Item no. C2: Implementation of SPS & availability of SCADA data from upcoming IPPs

Latest status of SPS, SCADA data availability & voice communication with ERLDC are as below:

Sl. No.	IPPs	SPS	Availability of real time data	Availability of voice communication with ERLDC
1	Sterlite	Partially Implemented	Only partial available is available through RTU. Unit-3 data not available, SOE is also not available	Not available
2	MPL	Not required at the moment	Only 10 analog data started reporting out of 36 since 11/01/2012 . Unit generation , reactor values and all status , protection signals yet to be provided to ERLDC	Available
3	Mejia RB	Not required at the moment	Partial data are available through SLDC,DVC. Values of DSTPS ,Maithon 1 and 2 bay are not correct . Data reporting is very erratic.	Not available
4	DSTPS	Not required at the moment	Partial data available through SLDC ,DVC. Data reporting is very erratic .	Available

After deliberation in the last OCC, deadlines for making SCADA data & voice communication available at ERLDC by the above IPPs were extended upto 15<sup>th</sup> January 2012.

In the meeting, ERLDC also raised the non-availability of SCADA data from Teesta HEP. Teesta HEP informed that there was some RTU problems and would be resolved by next OCC.

All data and voice discrepancies at ERLDC are given at **Annexure- II**.

Concerned IPPs and Teesta HEP may share the latest status.

### **Deliberation in the meeting**

*Sterlite informed that most of the operational data would be available within 2-3 days and voice communication with ERLDC would be established within 10 days.*

*MPL informed that all operational data were made available to ERLDC. Protection and relay data would be made available once SCADA capacity is increased. The matter was taken up with ABB and would take 3 months time.*

*DVC informed that GRP data were made available from Mejia and DSTPS to ERLDC. DVC further informed that they were working on making other data available to ERLDC by end of*

*this month. DVC assured that all operational data would be made available before lit up of Mejia. DVC stated that voice communication of Mejia had been established with ERLDC.*

*It was also noted that the issue of non-availability of SCADA data from Teesta HEP due to RTU problems was resolved. NHPC raised the issue of non availability of direct voice communication of Teesta HEP with ERLDC (Presently, the communication is done through Binaguri s/s). As the project is not covered under ULDC, NHPC was requested to approach Powergrid.*

*All data and voice discrepancies as given in Annexure-II were also noted and utilities were requested to take remedial measures.*

### **Item no. C3: Metering arrangements of Sterlite Energy Limited (SEL)**

ERLDC raised about non-compatibility of data formats generated by L&T make ABT meters installed at 220 kV side of Sterlite Energy. Presently, 400 kV side of SEL is connected with CTU network and 220 kV side is connected with STU network. 400 kV side and 220 kV sides are segregated.

ERLDC informed that unless non compatibility issue is addressed, integrated operation of 400 kV & 220 kV sides of SEL would pose accounting problem. SEL assured that the problem would be rectified by next OCC scheduled to be held on 28.12.2011 and the updated status would be confirmed therein.

In the last OCC, Sterlite informed that meters were sent to manufacturer (L&T) and rectification was expected within 3 weeks. It was decided to review the status in next OCC.

SEL may update the status.

#### **Deliberation in the meeting**

*Sterlite informed that the issue would be resolved within next 10 days.*

### **Item no. C4: Closing of loops in BSEB system**

In the last OCC, ERLDC shared the study results on closing of 220 kV Fatau-Patna-Khagul-Ara loop and opined that closing of the loop would help BSEB system. BSEB also agreed with ERLDC's opinion and assured that necessary steps would be taken for closing of 220 kV Fatau-Patna-Khagul-Ara loop.

BSEB may share actions taken by them for closing the loop.

#### **Deliberation in the meeting**

*BSEB informed that they were trying to first charge the 220 kV Ara-Khagul-Patna section. OCC impressed upon BSEB to charge the section at least on trial basis as a confidence building measure. BSEB agreed to the same.*

#### **Item no. C5: Synchronization facility at various ER substations**

ERLDC circulated a list of substations (**Annexure-III**), which in ERLDC's opinion, should have synchronization facility.

In the last OCC, constituents commented as under:

- i. DVC : Synchronization facility available at all s/s except at Maithon & Panchet
- ii. BSEB: Synchronization facility available only at Begusarai. BSEB is taking action to procure the facility on priority at Fatuah, Khagual s/s.
- iii. JSEB: Synchronization facility available at Patratu, Tenughat and Hatia. JSEB is taking action to procure the facility at Chandil & Ramchandrapur.
- iv. OPTCL: Synchronization facility available at all s/s
- v. West Bengal: Will inform the status within 7 days.

Constituents may share their action plans for providing synchronizing facility at those places, which do not have synchronization facility.

#### **Deliberation in the meeting**

- *DVC informed that PT at Maithon would be replaced within 2-3 days and synchronization facility would be available at Maithon within a week. Regarding Panchet, DVC would inform later.*
- *WBSETCL informed that the matter was under progress and relevant information would be given by next OCC.*
- *BSEB and JSEB informed that the matter of installing synchronization facility at key substations were under progress. It was decided that ERLDC would write letters to the concerned top authorities impressing upon the need for installation of synchronization facility at their substations.*

#### **Item no. C6: Mock Black start exercises in Eastern Region --- ERLDC**

- i. As per clause no 5.8(b) of IEGC, mock exercise for Blackstart facilities is required to be carried out in every six months. In the last OCC, following schedule was adopted for mock black start exercise

Sl No	Name of Generating Station	Date of Mock drill
1.	Teesta-V HEP	Before 15 <sup>th</sup> Feb'12
2.	Subarnarekha HEP	February 2012
3.	Rengali HEP	Jan'12
4.	Indravati HEP	Jan'12

Concerned generating stations may update the status.

#### **Deliberation in the meeting**

*As Powergrid had suggested shutdown of Teesta-Binaguri line#1, which is the now only evacuation link for Teesta, for restoration of the towers, it was noted that mock*

*black start for the station would not be feasible before 15<sup>th</sup> Feb'12. Therefore, it was decided to discuss the issue in next OCC.*

*JSEB informed that there is no adequate water level for conducting the mock black start of Subarnarekha HEP. Therefore, JSEB was requested to inform the mock black start schedule accordingly.*

*OPTCL had submitted a draft mock black start procedure for Upper Indravati HEP with 50 MW machine load and the procedure was approved by ERLDC. OPTCL also informed that the mock black start for Rengali and Upper Indravati HEP would be carried out in Jan'12.*

- ii. Only Teesta and Rangit HEP have submitted test run report for December 2011 of existing DG sets meant for black start. For others, DG sets are taken as healthy and the onus of healthiness would lie with the utilities.

Members may note.

**Deliberation in the meeting**

*Members noted.*

- iii. Quarterly report from constituents regarding mock drill for crisis management for onward transmission to MOP/CEA is yet to be received except CESC and KTPP.

**Remaining utilities may submit the same.**

**Deliberation in the meeting**

*All other utilities were requested to submit the quarterly report to ERLDC.*

**Item no. C7: Feedback on shutdown approved for the month of December'11**

Approved S/D during the month of December 2011 is placed for discussion.

Concerned utilities may check the annexure and submit exception report, if any.

**Deliberation in the meeting**

*Updated feedback is given at **Annexure-IV**.*

**PART D:: OPERATIONAL PLANNING**

**Item no. D 1: Anticipated power supply position for the month of Feb'12**

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of February'12 were prepared by ERPC Secretariat on the basis of finalized LGBR for 2011-12, keeping in view that the units are available for generation and expected load growth etc. The details are placed for discussion.

Members may confirm.

### Deliberation in the meeting

Members deliberated. Modified anticipated power supply position for the month of February 2012 after incorporating constituents' observation is given at **Annexure-V**.

### **Item no. D 2: Prolonged outage of power system elements in Eastern Region**

Concerned utilities may share the latest status on outage of above elements:

Name	Date of Outage	Reason	Restoration Status	
			Original	Latest
Mejia-B U#8	08/11/11	Coal Shortage/Fire Hazard		To be restored by mid of February 2012
Kahalgaon STPS Uni#3	22/12/11	Coal Shortage		To be restored by February 2012
400 kV Maithon-Jamshedpur	10/05/11	Erection of multi circuit tower	Original maintenance 10.08.11	Planned upto Jan 12 <i>To be restored by 31<sup>st</sup> Jan 12</i>
400 kV Teesta- New Siliguri ckt#2	15/09/11	Restoration of tower	Original planned from 20.08.11 to 22.08.11	<i>To be restored by 20<sup>th</sup> Feb'12</i>
50MVAR Line Reactor of 400KV KhSTPP- Maithon- II at Maithon end	August'09	Fire Hazard	June 2011	<i>Restored on 16<sup>th</sup> January 2012</i>
132 kV CT i.r.o. 132 kV NBU (WBSETCL)-Siliguri (PG)#1 at Siliguri end	10/12/10	----	Powergrid informed that action for procurement of CT would be taken. Would take 6 months.	<i>Likely to be restored by February'12</i>

Utilities may update the status.

### Deliberation in the meeting

Updated restoration status is given in above table.

### **ITEM NO. D 3: SHUTDOWN PROPOSAL OF TRANSMISSION LINES AND GENERATING UNITS FOR THE MONTH OF FEB'12**

Shutdown proposals of the generating stations for the month of Feb'12 as agreed during preparation of LGBR for the year 2011-12 are placed for discussion. Shutdown proposals of transmission elements as received are also placed for discussion. Deviations, if required, may please be intimated along with reasons.

Members may finalize the programme.

### Deliberation in the meeting

Approved programme of generating stations and transmission elements during the month of February'12 is at **Annexure-VI**.

## **PART E:: OTHER ISSUES**

### **Item no. E1: Restricted Governor Mode of Operation**

The present status of unit of ER under RGMO is enclosed at **Annexure-VII**.

- i. Constituents may update the status.
- ii. Status of implementation of RGMO in Sterlite unit #1,2&3, Maithon Right Bank unit #1 and Mejia unit #7 may be submitted.

### **Deliberation in the meeting**

*OCC requested all generating stations to update the status given in Annexure-VII within next 7 days.*

*Besides, following schedule for bringing their machines under RGMO was committed by respective IPPs*

- *Sterlite---- on this month on trial basis*
- *MPL----- before next OCC*
- *Mejia – mid Feb'12*

### **Item no. E2: Non-compliance of directions issued by SLDC --ERLDC**

ERLDC has not received any comments from any of the ER constituents for the month of Dec '11.

Members may note.

### **Deliberation in the meeting**

*Members noted.*

### **Item no. E3: UFR operation during the month of December'11**

As system frequency remained above 48.5 Hz, no UFR operation took place in ER grid during the month.

Members may note.

### **Deliberation in the meeting**

*Members noted.*

### **Item no. E4: Important events during the month of December'11**

- i. 400 KV Mejia-B-Maithon(PG) ckt-I(60 km) first time charged on 02/12/11 at 19:02 hrs.

- ii. 400 KV Ranchi-Maithon Right Bank(MPL)-I first time charged on 25/12/11 at 11:32 hrs and loaded on 29/12/11 at 17:58 hrs.
- iii. 400 KV Ranchi-Maithon Right Bank(MPL)-II first time charged on 25/12/11 at 10:35 hrs and loaded on 29/12/11 at 22:25 hrs.
- iv. 132 KV Jamui-Jhajha D/C (Railway traction transmission line) first time charged on 18:00 hrs of 27.12.11 and closed on 11.01.12 at 14:45 hrs

Members may note.

**Deliberation in the meeting**

*Members noted.*

**Item no. E5: Review of grid performance during the month of December 2011**

A list of grid disturbances is given at **Annexure-VIII**.

ERLDC may kindly present the salient features of grid along with grid disturbances.

**Deliberation in the meeting**

*ERLDC presented the grid performance (**Annexure-VIII(a)**).*

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**INTER REGIONAL LINK**

LINK	Voltage	Inter Regional Lines	OWNER	No. of Circuit
WR-NR	HVDC Link	Vindhyachal Back to Back (500 MW)	PG	-
	765KV	Agra-Gwalior	PG	Double Circuit
	400KV	Kankroli-Zerda	PG	Single Circuit
		Bhinmal-Zerda	PG	Single Circuit
	220KV	Kota-Badod	RAJ-MP	Single Circuit
		Morak-Badod	RAJ-MP	Single Circuit
		Auraiya-Mehgaon	MP-MP	Single Circuit
		Auraiya-Malanpur	MP-MP	Single Circuit
	132KV	Neemuch-Udaipur	MP-RAJ	Single Circuit
		Seopar Kalan-Sawai Madhopur	MP-RAJ	Single Circuit
		Ranapratap Sagar-Gandhi Sagar	RAJ-MP	Double Circuit
Rihand-Morwa		UP-MP	Single Circuit	
Rajghat-Lalitpur		MP-UP	Single Circuit	
WR-SR	HVDC Link	Bhadravati Back to Back (2x500 MW)	PG	-
		Barsur-L. Sileru HVDC Monopole	CH-AP	-
	220kV	Chikkodi- Kolhaphur	KAR-MAH	Double Circuit
		Ambewadi-Ponda	KAR-GOA	Single Circuit
Ambewadi-Xeldem		KAR-GOA	Single Circuit	
WR-ER	400KV	Rourkela-Raigarh	PG	Circuit I
		Rourkela-Raigarh	PG	Circuit III & IV
		Raigarh-Sterlite	PG	Single Circuit
		Ranchi-Sipat	PG	Double Circuit
	220KV	Budhipadar-Raigarh	OR-CH	Single Circuit
		Budhipadar-Korba(East)	PG	Circuit I
	Budhipadar-Korba(East)	PG	Circuit III	
ER-NR	HVDC Link	Sasaram Back to Back (500 MW) <b>By passed</b>	PG	-
		Sasaram-Saranath (400KV)	PG	Single Circuit
		Sasaram-Allahabad (400KV)	PG	Single Circuit
	400KV	Muzaffarpur-Gorakhpur	PG	Double Circuit
		Patna-Balia	PG	Double Circuit
		Barh-Balia	PG	Double Circuit
		Biharshariff-Balia	PG	Double Circuit
	220KV	Pusauli-Sahupuri	BR-UP	Single Circuit
	132KV	Sone nagar-Rihand	BR-UP	Single Circuit
		Garwah-Rihand	BR-UP	Single Circuit
Karmanasa-Sahupuri		BR-UP	Single Circuit	
Karmanasa-Chandauli		BR-UP	Single Circuit	
ER-SR	HVDC Link	Jeypore-Gazuwaka Back to Back (2x500MW)	PG	-
		Talcher-Kolar Bipole	PG	-
	220kV	Balimela-Upper Sileru	OR-AP	Single Circuit
ER-NER	400KV	Binaguri-Bongaigaon	PG	Double Circuit
	220KV	Birpara-Salakati	PG	Double Circuit
	132KV	Alipurduar-Gosaigaon	WB-AS	Single Circuit

**TRANS NATIONAL LINK**

NR-Nepal	132 KV	Tanakpur-Mahendernagar	UT-NEP	Single Circuit
NER-BHUTAN	132 KV	SalaKati - Geylegphug	AS-BHU	Single Circuit
	132 KV	Rangia -Matonga	AS-BHU	Single Circuit
ER-BHUTAN	400KV	Binaguri -Tala-I & II	PG	Double Circuit
	400KV	Binaguri -Tala- IV	PG	Single Circuit
	400KV	Binaguri -Malbase - III	PG	Single Circuit
	220KV	Birbara - Chukha - I & II	PG	Double Circuit
	220KV	Birpara - Malbase	PG	Single Circuit

**HVDC AND 765KV LINES ( EXCLUDING INTER REGIONAL LINKS)**

REGION	Voltage Level	Inter Regional Lines	OWNER	No. of Circuit
NR	+/- 500KV HVDC	RIHAND-DADRI BIPOLE	PG	-
NR	+/- 500KV HVDC	BALIA-BHIWADI BIPOLE	PG	-
WR	+/- 500KV HVDC	CHANDRAPUR-PADGE BIPOLE	MSEB	-
WR	765KV	SIPAT-SEONI 1	PG	SINGLE
WR	765KV	SIPAT-SEONI 2	PG	SINGLE

**IMPORTANT ELEMENTS HAVING IMPACT ON INTER REGIONAL LINK**  
**NORTHERN REGION**

SL NO	FROM	TO	VOLTAGE KV	LINE LENGTH CKMs	NO.OF CIRCUIT	Remarks
1	KANKROLI	RAPP - C- I & II	400	199	2	
2	SINGRAULI STPS	HVDC VINDHYACHAL	400	3	2	

**WESTERN REGION**

SL NO	FROM	TO	VOLTAGE KV	LINE LENGTH CKMs	NO.OF CIRCUIT	Remarks
1	Bina	Gwalior I & II	765	235	2	Charged at 400 kV
2	Raipur	Bhadravati I	400	333	1	
3	Raipur	Bhadravati II & III	400	345	2	
4	Bhadravati	Bhilai	400	322	1	
5	Soja	Zerda	400	135	1	State Sector
6	Ranchodpura	Zerda	400	135	2	State Sector

**SOUTHERN REGION**

SL NO	FROM	TO	VOLTAGE KV	LINE LENGTH CKMs	NO.OF CIRCUIT	Remarks
1	RAMAGUNDAM	BHATRAVATI I & II	400	178	2	
2	JEYPORE	GAJUWAKA I & II	400	220	2	

**EASTERN REGION**

SL NO	FROM	TO	VOLTAGE KV	LINE LENGTH CKMs	NO.OF CIRCUIT	Remarks
1	PURNEA	MUZAFFARPUR	400	240	2	
2	BIHARSHARIFF	SASARAM - I & II	400	195	2	

**NORTH EASTERN REGION**

SL NO	FROM	TO	VOLTAGE KV	LINE LENGTH CKMs	NO.OF CIRCUIT	Remarks
1	Balipara	Bongaigaon I & II	400	290	2	
2	BTPS	Salakati I & II	220	3	2	

## Annexure-III

S. N.	CONSTITUTE	RTU/ SAS exist but not reporting / Reporting intermitently	RTU / SAS not exist	REMARKS
1	<b>DVC</b>	Kolaghat *CTPS-B *Mejia -B * DSTPS ( Andal )	Burnapur -220 Manique -132 Dhanbad - 220	* Most of the values are suspected. * Only partial Data are coming via SLDC Maithon. * Only partial Data are coming via SLDC Maithon.
2	<b>OPTCL</b>	Machkund ( Burnt) -132 Bhubaneswar ( Burnt ) -132 Bolangir ( N) - 220 BPSL -JHARSUGUDA - 220 ACC -132 HINDALCO -132 IMFAA -132 OCL -132 PURI -132 ANGUL -132 PARADEEP -220 TSIL -132 VISA -132 JABAMAI -132 EMAMI -132 MISHRILAL LTd -132 SHYAM DRI CPP -132 ARYAN BIRAJ -132	NALCO - 220 JSL ( Meeramundali -400) KHARG GR -132 MUNGILAL -132 BRG LTD. -132 MAHESWARI LTD. -132	
3	<b>BSEB</b>	BARAUNI TPS 132 BODHGAYA 220 DARBHANGA 132 DEHRI 132 DUMRAON 132 JAKKANPUR 132 KARMANASHA 132 KHAGAUL 220 KOSHI132 LAKHISARAI 132 LOCAL 132 MOTIHARI 132 MUZAFFARPUR 132 PURNEA 132 RAMDALU GRID 132 SABOUR 132 SAMASTIPUR 132 SITAMARHI 132 SIWAN 132 SONENAGAR 132 SULTANGANJ 132 VALMIKINAGAR 132	Arrah - 132 Kisanganj - 132 Rajgir - 132 Darbhaga - 220 Begusarai - 220 GOPALGUNG -220	
4	<b>JSEB</b>	RAMCHANDRAPUR -220 JAMTARA-132 DEOGHAR -132 GARWAH -132 GOELKERA -132 JADUGODA -132 KENDPOSI -132 RAJKHARSWAN -132	Hatia (N)- 220 kV Manique -132 kV	
5	<b>WBSETCL</b>	PPSP ( Generation data after GT)	Bidhan Nagar - 400 Subhasgram - 220 Bantala - 220 Rajarahat - 220 Kalingpong - 66	
6	<b>CESC</b>	All generating stations Budge Budge, Titagarh, Southern, New Cossinore CESC : S/s :Kasba-132 kV, EM 220 kV, EM-132 kV ,Jadavpur, Chakmir, Majerhat and CESC Belur.		
7	<b>NTPC</b>	*Kahalgaon ,*Farakka,*Talcher S TPS * TTPS	Barh NTPC -400 Farakka Unit # 6 .	*Unit site MW & MVAR not available. Most of the CB status from unit site are incorrect. * Most of the values are coming wrong.
8	<b>POWERGRID</b>	Baripada -400 , Gangtok -132, Indravati - 400 ,Arrah -220		Maithon-400 KV started reporting since 12/01/2012
9	<b>NHPC</b>	Teesta -400		
10	<b>Sikkim</b>		Melli ( 132 KV & 66 KV)	
11	<b>IPP</b>	Sterlite -400, Maithon Right Bank - 400 : Only partial Data are coming through RTU .	,Koderma -400.	

**VOICE COMMUNICATION STATUS****Status as on date 09-Jan-2012**

Sl no	Phone number	(Location)	Break down date	Restoration date	Remarks
1	521111 ,500433	Birpara	03/05/2010,19/12/2011		Not OK
2	501111 , 501112	Durgapur	06/09/2010		Not OK
3	500429, 527401	Indravati	10/1/2011		Not OK
4	527112	Jeypore	06/09/2010		Not OK
5	500428 , 528401	Baripada (Kalabadia)	03/05/2010		Not OK
6	525402, 500437	Maithon	15/10/2008, 10/05/11		Not OK
7	501403	Lalmatia	30/05/2011		Not OK
8	528111/112 ,500427	Rengali	8/8/2011 , 02/01/2012		Not OK
9	53627/28	Muzaffarpur	20/08/2008		Not OK
10	500431 ,529401	Purnea	23/04/2010		Not OK
11	500436 ,523402	Purnea New	24/07/2009		Not OK
12	520111/112	Siliguri 220	1/11/2009		Not OK
13	524111 ,500404	Biharsharif	21/02/2011, 16/11/11		Not OK
14	524401, 500430	Sasaram	08/08/2011, 14/11/11		Not OK
15	500414	Melli	1/1/2008		Not OK
16	500435 ,522111/ 112	Rangit NHPC	Jan-10		Not OK
17	70164	Tala	Jan-11		Not OK
18	529111	Dalkhola	14/11/11		Not OK

**SLDC**

1	134-500111/112	SLDC ,PATNA	05/01/2009		Not OK-No telephone set available at the site
2	500426, 500425	SLDC ,HOWRAH	05/01/2009 , 02/01/2012		500426-No channel provided
3	500424	SLDC,RANCHI	03/01/2011		Not OK-No telephone set available at the site

**VOICE COMMUNICATION YET TO BE PROVIDED**

Sl No	Location
1	400 kV Patna
2	400 kV Ranchi
3	Arrah
4	400 kV Teesta
5	Gangtok
6	Subhasgram
7	Sterlite

List of locations where line synchronising facility should be in service

Annexure-III

**Orissa system**

Location	220kV	400kV
Meramundali		
Mendhasal		
Balasore		
N. Duburi		
Duburi		
Joda		
TTPS		
Rengali HPS		
Rengali (OPTCL)		
Bhanjanagar		
Narendrapur		
Theruvalli		
Jeynagar		
U.Kolab		
Balimela		
Indravati(OHPC)		
Katapalli		
Budhipadar		
IBTPS (OPGC)		
Tarkera		

**W. Bengal System**

Location	220kV	400kV
Jeerat		
Kolaghat TPS (WBPDCL)		
Sagardighi TPS (WBPDCL)		
Bakreswar TPS (WBPDCL)		
Santalidih TPS (WBPDCL)		
Bidhannagar		
Arambagh		
PPSP (WBSEDCL)		
Gokarnao		
Satgachia		
Howrah		
Domjur		
N. Haldia		
Laxmikantapur		
Subhasgram		
Kasba		
New Town		
N. Jalpaiguri		
DPL		
Asansol		
Midnapur		
Rammam HPS		

**DVC system**

Location	220kV
Bokaro TPS	
Chandrapura-B TPS	
Chandrapura-A TPS	
Mejia TPS	
Waria TPS	
Burnpur	
Kalyaneswari	
Parulia	
Muchipara	

Maithon HPS, Panchet HPS

**JSEB system**

Location	220kV
Patratu TPS	
Tenughat TPS	
Hatia	
Chandil	
Ramchandrapur	

Subarnarekha HPS

**BSEB system**

Location	220kV
Biharshariff	
Muzaffarpur TPS	
Fatuah	
Khagaul	
Dehri	
Bodhgaya	
Begusarai	
Darbhanga	
Gopalganj	

Barauni TPS

**ANNEXURE- IV****Feedback on Maintenance Of Transmission Lines and Generating Units for December '11****(A) GENERATING UNITS :**

Agency	Station	Unit no.	Capacity (MW)	Approved Programme	Reason of S/d	Actual
WBPDC	Bandel	5	210	15.12.11-31.12.11	Boiler OH	Taken
WBPDC	Kolaghat	3	210	23.11.11 to 27.12.11	Annual Maintenance	Taken
WBPDC	Kolaghat	5	210	To be taken after restoration of Kolaghat Unit#3	Boiler Maintenance	Would be taken after restoration of Bakreswar U#5, which is expected by 26.01.12

**(B) TRANSMISSION ELEMENTS:**

Organization	Name of the Element	From		To		Actual
		Date	Time hrs	Date	Time hrs	
<b>Farakka, NTPC</b>						
	400 kV Farakka-Durgapur-2	13.12.11	0930	13.12.11	1630	13.12.11
	400 kV Bus reactor-2	20.12.11	0930	20.12.11	1630	Not done
<b>Talcher, NTPC</b>						
	400 kV Bus-VI	07.12.11	0930	07.12.11	1630	Not done
<b>Kahalgaon, NTPC</b>						
	400 kV Kahalgaon-Biharshariff line-3	14.12.11	OCB	14.12.11	OCB	Not done
	400 kV Kahalgaon-Biharshariff line-1	21.12.11	OCB	22.12.11	OCB	Not done
	400 kV Kahalgaon-Biharshariff line-2	27.12.11	OCB	28.12.11	OCB	As per program
<b>ER-II, PGCIL</b>						
	400 kV Baripada-Rengali line	21.11.11	0900	27.11.11	1700	13.12.11
		02.12.11 @@	0900	03.12.11	1700	
(Complete s/d of Baripada s/s from 0900 hrs 1700 hrs on ODB basis & no power flow to OPTCL)						

	05.12.11	OCB	14.12.11	OCB	
	15.12.11	ODB	20.12.11	ODB	
400 kV Baripada-Kolaghat line	28.11.11	OCB	03.12.11	OCB	No information
	09.12.11 @@ (Complete s/d of Baripada s/s from 0900 hrs 1700 hrs on ODB basis & no power flow to OPTCL)	0900	10.12.11	1700	
315 MVA ICT-1 at Baripada s/s	21.11.11	OCB	22.11.11	OCB	No information
100 MVA ICT of Siliguri	25.11.11	OCB	11.12.11	OCB	No information
50 MVA ICT-1 at Malda s/s	13.12.11	1000	13.12.11	1500	No information
50 MVA ICT-2 at Malda s/s	14.12.11	1000	14.12.11	1500	No information
132 kV Patna-Gaya	20.11.11	0700	20.11.11	1800	No information
<b>ER-I, PGCIL</b>					
315 MVA ICT at Muzzaffarpur	02.12.11	ODB	02.12.11	ODB	No information
100 MVA ICT at Purnea ##	13.12.11	ODB	13.12.11	ODB	No information
315 MVA ICT -II at Jamshedpur	21.12.11	ODB	22.12.11	ODB	No information
100 MVA ICT-1 at ARA	20.12.11	ODB	20.12.11	ODB	No information
100 MVA ICT-2 at ARA	21.12.11	ODB	21.12.11	ODB	No information
<b>WBSETCL</b>					
400 kV Sagardihi-Parulia	21.11.11	0800	25.11.11	1700	No information

@@ to be taken after charging of 400 kV Baripada-Mendhashal line

## Subject to system constraints

OCB: On Continuous basis, ODB: On Daily Basis

## REVISED ANTICIPATED POWER SUPPLY POSITION FOR THE MONTH OF FEB-12

SL.NO	PARTICULARS	PEAK DEMAND MW	ENERGY MU
1	<b>BIHAR</b>		
	i) NET MAX DEMAND	2090	1050
	ii) NET POWER AVAILABILITY- Own Source	139	87
	- Central Sector	1203	754
	iii) SURPLUS(+)/DEFICIT(-)	-749	-209
2	<b>JHARKHAND</b>		
	i) NET MAX DEMAND	1160	620
	ii) NET POWER AVAILABILITY- Own Source	786	326
	- Central Sector	344	209
	iii) SURPLUS(+)/DEFICIT(-)	-30	-86
3	<b>DVC</b>		
	i) NET MAX DEMAND (OWN)	2500	1427
	ii) NET POWER AVAILABILITY- Own Source	2900	1698
	- Central Sector	52	23
	Long term Bi-lateral	600	403
	iii) SURPLUS(+)/DEFICIT(-)	-148	-110
4	<b>ORISSA</b>		
	i) NET MAX DEMAND	3680	2070
	ii) NET POWER AVAILABILITY- Own Source	2456	1146
	- Central Sector	906	579
	iii) SURPLUS(+)/DEFICIT(-)	-318	-345
5	<b>WEST BENGAL</b>		
5.1	<b>WBSEDCL</b>		
	i) NET MAX DEMAND (OWN)	4518	2187
	ii) CESC's DRAWAL	332	22
	iii) TOTAL WBSEDCL's DEMAND	4850	2208
	iv) NET POWER AVAILABILITY- Own Source	3358	1801
	- Import from DPL	-69	-67
	- Central Sector	693	421
	v) SURPLUS(+)/DEFICIT(-)	-868	-54
5.2	<b>DPL</b>		
	i) NET MAX DEMAND	300	218
	ii) NET POWER AVAILABILITY	231	150
	iii) SURPLUS(+)/DEFICIT(-)	-69	-67
5.3	<b>CESC</b>		
	i) NET MAX DEMAND	1435	639
	ii) NET POWER AVAILABILITY - OWN SOURCE	1070	632
	FROM WBSEDCL	332	22
	iii) TOTAL AVAILABILITY	1402	654
	iv) SURPLUS(+)/DEFICIT(-)	-33	15
6	<b>WEST BENGAL (WBSEDCL+DPL+CESC)</b> (excluding DVC's supply to WBSEDCL's command area)		
	i) NET MAX DEMAND	6585	3044
	ii) NET POWER AVAILABILITY- Own Source	4659	2584
	- Central Sector	693	421
	iii) SURPLUS(+)/DEFICIT(-)	-1233	-39
7	<b>SIKKIM</b>		
	i) NET MAX DEMAND	75	45
	ii) NET POWER AVAILABILITY- Own Source	16	6
	- Central Sector	99	52
	iii) SURPLUS(+)/DEFICIT(-)	40	13
8	<b>EASTERN REGION</b> At 1.03 AS DIVERSITY FACTOR		
	i) NET MAX DEMAND	15622	8256
	Long term Bi-lateral	600	403
	ii) NET TOTAL POWER AVAILABILITY OF ER (INCLUDING C/S ALLOCATION)	14253	7885
	iii) PEAK SURPLUS(+)/DEFICIT(-) OF ER (ii)-(i)	-1969	-775

**ANNEXURE- VI****Final Programme of Maintenance Of Transmission Lines and Generating Units for Feb'12****(A) GENERATING UNITS :**

Agency	Station	Unit no.	Capacity (MW)	Approved Programme in LGBR	Reason of S/d	Agreed Programme
NTPC	Kahalgaon @@	2	210	01.11.11-25.11.11	Boiler OH	10.02.12-29.02.12

@@ During the above s/d of Kahalgaon STPS, all other units of Kahalgaon stage-I STPS would be running.

**(B) TRANSMISSION ELEMENTS:**

Organization	Name of the Element	From		To		Remarks
		Date	Time hrs	Date	Time hrs	
<b>Farakka, NTPC</b>						
	400 kV Farakka-Kahalgaon line-2	22.02.12	0930	22.02.12	1630	Relay Testing
<b>Kahalgaon, NTPC</b>						
	400 kV Kahalgaon-Patna line-1	08.02.12	ODB	08.02.12	ODB	Preventive Maintenance, LA replacement & Testing
	400 kV Kahalgaon-Maithon line-1	20.02.12	ODB	20.02.12	ODB	
	400 kV Kahalgaon-Maithon line-2	21.02.12	ODB	21.02.12	ODB	
	400 kV Kahalgaon-Farakka line-1	23.02.12	ODB	23.02.12	ODB	
	400 kV Kahalgaon-Farakka line-2	22.02.12	ODB	22.02.12	ODB	
	400 kV Kahalgaon-Biharshariff line-1	24.02.12	ODB	24.02.12	ODB	
	400 kV Kahalgaon-Biharshariff line-2	25.02.12	ODB	25.02.12	ODB	
<b>Talcher STPS, NTPC</b>						
	400 kV TSTPS-Rourkela # 1 @@	07.02.12	OCB <sup>#</sup>	09.02.12	OCB <sup>#</sup>	
	400 kV TSTPS-Rourkela # 2 @@	14.02.12	OCB <sup>#</sup>	16.02.12	OCB <sup>#</sup>	
	400 kV TSTPS-Rengali # 1	21.02.12	ODB	22.02.12	ODB	
	400 kV TSTPS-Rengali # 2	28.02.12	ODB	29.02.12	ODB	

<b>Powerlink</b>					
400 kV Siliguri-Purnea ckt-III	21.02.12	ODB 0900	22.02.12	ODB 1600	Annual Maintenance
400 kV Siliguri-Purnea ckt-IV	23.02.12	ODB 0900	24.02.12	ODB 1600	Annual Maintenance
<b>ER-I, PGCIL</b>					
220 kV Sasaram -Sahupuri line	07.02.12	ODB 0930	07.02.12	ODB 1330	Annual Maintenance
220 kV Sasaram -Dehri line	08.02.12	ODB 0930	08.02.12	ODB 1330	Annual Maintenance
100 MVA ICT-1 at Purnea S/s	25.02.12	ODB 0600	25.02.12	ODB 1800	OLTC overhauling
100 MVA ICT-2 at Purnea S/s	26.02.12	ODB 0600	26.02.12	ODB 1800	OLTC overhauling
100 MVA ICT-3 at Purnea S/s	27.02.12	ODB 0600	27.02.12	ODB 1800	OLTC overhauling
400 kV Jamshedpur-Durgapur line ##	07.02.12	ODB 0800	08.02.12	ODB 1800	Bay construction work of 400 kV Durgapur- Jamshedpur new line
<b>ER-II, PGCIL</b>					
400 kV Binaguri-Purnea ckt-II	25.01.12	OCB	08.02.12	OCB	Reconductoring work from SLG to loc no. 578
400 kV Binaguri-Purnea ckt-I	09.02.12	OCB	18.02.12	OCB	Reconductoring work from SLG to loc no. 578
400 kV Teesta-Siliguri ckt-I	08.02.12	ODB	16.02.12	ODB	Erection of loc 105 and 105A, the shutdown of ERS line is required in hills for safety due to space constraints
400 kV Teesta-Siliguri ckt-I ###	17.02.12	OCB	19.02.12	OCB	String of conductor
400 kV Subhashgram-Sagardhighi line	21.01.12	ODB 0900	21.01.12	ODB 1600	Replacement of insulators broken by miscreants
400 kV Baripada-Kolaghat line @@@	6 days (OCB)			Erection of tower, beam, destringing of existing conductor, earthwire and restringing on the new gantry for bus reactor	
400 kV Baripada-Rengali line @@@	2 days (ODB)			Erection of tower, beam, destringing of existing conductor, earthwire and restringing on the new gantry for bus reactor of Kolaghat line	
400 kV Baripada-Rengali line @@@	10 days (OCB)			Erection of tower, beam, destringing of existing conductor, earthwire and restringing on the new gantry, shifting & erection of isolator, CVT, WT, PLCC at new location, cable termination, jumpering on EQPTs etc	
400 kV Baripada-Kolaghat line @@@	2 days (OCB)			Erection of tower, beam, destringing of existing conductor, earthwire and restringing on the new gantry Rengali line	

Note:

OCB: On Continuous basis, ODB: On Daily Basis

### It was apprehended that there might be generation loss of Teesta HEP during the above shutdown period. OCC agreed to compensate Teesta HEP for the above generation loss as per regulatory provisions.

@@@ All 4 shutdown related to Baripada S/s were discussed in detail and OPTCL requested Powergrid to defer the shutdown till restoration of Rengali-Baripada line, which is expected within another 7 days. In view of OPTCL's request, Powergrid was given the go-ahead for above 4 shutdown and requested to reschedule the shutdown w.e.f. 27.01.12. Before availing the actual shutdown, consent of OPTCL & ERLDC must be taken.

@@ Subject to system condition

## Subject to restoration of Maithon-Jamshepur line

# Last day of the shutdown period will be taken on ODB basis

STATUS OF RGMO IN ER

ANNEXURE-VII

( Pg 1 of 3)

LIST OF GENERATING UNITS PARTICIPATING IN RGMO

CONSTITUENT	STATION	UNIT	CAPACITY	STATUS OF RGMO AS INFORMED BY STATIONS	ERLDC Obeservation
NTPC	FARAKKA	1	200	Running under RGMO mode	Intermittent response observed
		2	200	Running under RGMO mode	
		3	200	Running under RGMO mode	
		4	500	Kept in RGMO at 12:09hrs of 01.08.10	
		5	500	Taken in at 11:30hrs of 04.08.10	
	KAHALGAON	1	210	Taken in at 00:00hrs of 01.08.10	Intermittent response observed
		2	210	Taken in at 00:00hrs of 01.08.10	
		3	210	Running under RGMO mode	
		4	210	Running under RGMO mode	
		5	500	Running under RGMO mode	
		6	500	Taken in at 00:00hrs of 01.08.10	
		7	500	Running under RGMO mode	
	TALCHER	1	500	All units are running under RGMO mode	Intermittent response observed
		2	500		
		3	500		
4		500			
5		500			
6		500			
TEESTA	TEESTA	1	170	Taken in RGMO mode at 00:00hrs of 01.08.10	Response satisfactory
		2	170		
		3	170		
DVC	MEJIA	4	210	Implemented(56Th OCC meeting)	Response not satisfactory
		5	250	Implemented(69Th OCC meeting)	
		6	250	Implemented(69Th OCC meeting)	
WBPCL	BAKRESWAR	1	210	RGMO implemented & in Service(56th OCC meeting)	Response not satisfactory
		2	210		
		3	210		
		4	210		
		5	210		
CESC	BUDGE BUDGE	1	250	Unit # 1,2 in FGMO & 3 in RGMO	Response satisfactory
		2	250		
		3	250		
<b>TOTAL CAPACITY</b>			<b>9960</b>		

STATUS OF RGMO IN ER

LIST OF THERMAL GENERATING UNITS NOT PARTICIPATING IN RGMO

CONSTITUENT	STATION	UNIT	CAPACITY	STATUS OF RGMO AS INFORMED BY STATIONS
	CHANDRAPURA TPS	7	250	RGMO detail is n't available
	BOKARO 'B'	1	210	Difficulties in implementing RGMO & exemption not applied(56th OCC meeting)
		2	210	
		3	210	
DVC	MEJIA	1	210	Not Implemented & exemption not applied(56th OCC meeting)
		2	210	
		3	210	
	WARIA	4	210	Difficulties in implementing RGMO & exemption not applied(56th OCC meeting)
JSEB	TENUGHAT	1	210	Difficulties in implementing RGMO & exemption not applied(56th OCC meeting)
		2	210	
OPGC	IBTPS	1	210	Not adequate response in RGMO(56th OCC meeting)
		2	210	
WBDCL	KOLAGHAT	1	210	Old Units,difficulties in implementing RGMO and exemption applied(60th OCC meting)
		2	210	
		3	210	
		4	210	
		5	210	
		6	210	
	BANDEL	5	210	Exemption applied from CERC
	SANTALDIH	5	250	RGMO detail is n't available
	DPL	7	300	Implemented but not yet tested(56Th OCC meeting)
	SAGARDIGHI	1	300	Not tested(56th OCC MEETING)
2		300		
<b>TOTAL CAPACITY</b>			<b>5180</b>	

Updated on 16.01.12

**STATUS OF RGMO IN ER**  
**LIST OF HYDRO GENERATING UNITS NOT PARTICIPATING IN RGMO**

ANNEXURE-VII

( Pg 3 of 3)

CONSTITUENT	STATION	UNIT	CAPACITY	STATUS OF RGMO AS INFORMED BY STATIONS	ERLDC Observation
NHPC	RANGIT	1	20	Pondage capacity is to generate power upto 3 hours only.Hence not under the perview of RGMO	
		2	20		
		3	20		
DVC	MAITHON HPS	1	20	RGMO detail is n't available	No response
		2	20		
		3	20		
	PANCHET HPS	1	40	RGMO detail is n't available	No response
2		40			
JSEB	SUBARNREKHA	1	65	RGMO in place,But due to less availability of water ,RGMO could not tested	
		2	65		
OHPC	BURLA	1	49.5	Applied for exemption(56th OCC meeting)	
		2	49.5		
		3	24		
		4	24		
		5	37.5		
		6	37.5		
		7	37.5		
	CHIPLIMA	1	24	Applied for exemption(56th OCC meeting)	
		2	24		
		3	24		
	BALIMELA	1	60	Applied for exemption(56th OCC meeting)	
		2	60		
		3	60		
		4	60		
		5	60		
		6	60		
		7	75		
		8	75		
	UPPER KOLAB	1	80	Applied for exemption(56th OCC meeting)	
		2	80		
		3	80		
		4	80		
	RENGALI	1	50	Applied for exemption(56th OCC meeting)	
		2	50		
		3	50		
		4	50		
		5	50		
	INDRAVATI	1	150	Applied for exemption(56th OCC meeting)	
2		150			
3		150			
4		150			
WBSEDCL	RAMMAM	1	12.5	RGMO detail is n't available	No response
		2	12.5		
		3	12.5		
		4	12.5		
	PPSP	1,2,3,4	900	Not yet implemenetd & exemption not applied(56th OCC meeting)	
<b>TOAL CPACITY</b>			<b>3292</b>		

**Grid Disturbance in December 2011**

**a Disturbance in JSEB system**

Date & Time of occurrence: 26/12/11 at 12:38 hrs.

Load loss : 130 MW in JSEB System.

**Incidence of events:**

At 12:38 hrs due to reportedly jumper breakdown on 132 KV side at Chandil S/s following lines tripped (all feeders):

220 kv Chandil-Ramchandrapur

220 kv Chandil-Ranchi.

220 kv Chandil - Santaldih

132 kv Chandil -Rajkharswan

132 kv Chandil -Hatia

132 kv Chandil- Adityapur

Power Supply affected in Adityapur, Rajkharsawan & Maniqui area.

**System Normalisation**

<b><u>Line</u></b>	<b><u>Time</u></b>
220 KV Chandil- Ramchandrapur	13:05
220 kv Chandil-Ranchi.	14:20
220 kv Chandil - Santaldih	13:49
132 kv Chandil -Rajkharswan	13:45
132 kv Chandil -Hatia	
132 kv Chandil- Adityapur	13:58

**This disturbance is categorized as GD-I**

**b) Disturbance in JSEB (Chandil S/S) system**

Date & Time of occurrence : 28.12.11 at 15:33hrs.

Load loss : 130MW

### **Incidence of events:**

At 15:33hrs total power failure occurred at Chandil S/S due to jumper snapping at 220KV side of Transformer-II (Breaker to CT of R -phase). 220KV Chandil-Ramchandrapur tripped at Ramchandrapur end on zone-3 relay. 220KV Chandil-Santaldih, 220KV Ranchi (PG)-Chandil also tripped. All the 132KV feeders tripped with the tripping of both transformers. Power Supply affected in Adityapur, Rajkharsawan & Maniqui area.

### **Restoration**

Chandil availed power through 220KV Chandil-Ramchandrapur at 16:36hrs.

220KV Chandil-Santaldih normalized at 16:40hrs.

Transformer-II normalized at 17:58hrs & subsequently 132KV feeders charged.

**This disturbance is categorised as GD-1**

### **c. Disturbance in JSEB (Tenughat) system**

Date & Time of occurrence: 29.12.11 at 12:40 hrs.

Generation loss : 400 MW

Load loss : N/A

### **Incidence of events:**

At 12:40Hrs of 29.12.11, both the units of Tenughat (210MW each) tripped along with 220KV Tenughat-Biharsariff line & 220KV Patratu-Tenughat line. Tenughat Unit-I tripped due to flashing in terminal box at Boiler feed pump-1B & Unit-II tripped due to diaphragm of turbine bursted.

### **Restoration**

220KV Patratu-Tenughat synchronised at 13:08hrs

220KV Tenughat-Biharsariff synchronised at 13:08hrs

Tenughat U#1 synchronised at 18:40hrs

Tenughat U#2 synchronised at 02:40hrs of 30.12.11.

**This disturbance is categorized as GD-I**