## Eastern Regional Power Committee Kolkata-33

#### Salient Decisions taken in the 82<sup>nd</sup> OCC meeting held on 18.02.13

- 1. All the utilities agreed to submit relevant information as desired by ERLDC for Identification of feeders for distress load shedding ERLDC by next OCC. (Item no. B1)
- OCC advised ERLDC to circulate the format for Collection of Daily Energy Data once again and all utilities were requested to send their report in the format over e-mail. (Item no. B4)
- 3. JSEB agreed to give feedback by next OCC on review of settings of the relays for proper protection coordination needed to avoid Uncoordinated tripping of lines from Chandil/Hatia Substations of JSEB. (Item no. B5)
- OCC advised ERLDC to circulate the format once again and all utilities were requested to submit the grid incidence report in the format with in stipulated time in compliance of section 5.2(r)of IEGC. Status report will be placed by ERLDC in OCC meetings. (Item no. C1)
- 5. OCC advised JSEB & DVC to charge one circuit of 132 kV PTPS (DVC)-PTPS (JSEB) line by 25<sup>th</sup> February, 2013 and communicate the status to ERPC secretariat. **(Item no. C2)**
- 6. It was agreed that all SLDCs/STUs yet to submit the status report should take up with their embedded captive plants for compliance to provide required help to Load Despatch Centres for restoration of the grid during any disturbance and confirm their status to ERPC Secretariat by 25 February , 2013. In case compliance remains pending, then it would be communicated to TCC/ERPC. (Item no. C3 (i))
- 7. NTPC agreed to place the final islanding scheme for Farakka after assesing the load by next OCC. (Item no. C3 (ii))
- 8. Powergrid was requested to complete the anti theft charging work needed by them for Restoration of 400 kV Sagardighi-Parulia line-1 and inform the latest status positively by 25<sup>th</sup> of February. (Item no. C4)
- 9. OPTCL agreed to operate the CBs of the line at Mendhasal S/s and assured OCC of timely restoration of the same by avoiding switching operation delay. **(Item no. C5)**
- 10. OCC requested all the constituents to send their views on NLDC document of "Automatic Defense Plans for the All India Electricity Grids" to CERC with a copy to ERPC positively by 28-02-2013. (Item no. C14)
- 11. OCC requested all constituents to place the compliance/action plan for the balance "Third Party Protection Audit" observations at the earliest. **(Item no. C21)**

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

SI.	Particulars	Present Status
1	It was agreed that as per ERPC direction, all SLDCs/STUs to take up the issue with their embedded captive plants for compliance to provide required help to Load Despatch Centres for restoration of the grid during any disturbance and confirm their status to ERPC Secretariat by 25 January, 2013. (81 <sup>st</sup> OCC)	Till date no compliance received except Haldia Power Station of Tata Power Co. Ltd and BSPHCL. It was decided that, all SLDC/STU yet to submit should confirm their status and communicate to ERPC Secretariat by 25th February, 2013. Accordingly it would be communicated to ERPC.
2	On existing Islanding schemes ERPC advised OPTCL to submit the status of healthiness of existing islanding schemes of CPPs under their control area to ERPC Secretariat. Same is yet to be received from OPTCL. (81 <sup>st</sup> OCC)	OPTCL vide their letter No.Sr.GM(PP)- 88/2012/36 dated 04.02.2013 communicated that all the major CPPs under their control area are in operation.
3	OCC requested all constituents to share the details of existing islanding schemes under each control area with ERPC Secretariat and ERLDC positively by 25 January, 2013. (81 <sup>st</sup> OCC)	Except CESC the same is yet to be received from other constituents. WBPDCL, WBSETCL, JSEB & DVC informed that, no islanding schemes are present in their control area. OPTCL informed that, details of existing islanding schemes under their control area had been forwarded to ERLDC in last year. However, OPTCL agreed to send it again to ERLDC/ERPC.
4	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. To monitor the status of progress OCC advised ERLDC to convene SCADA committee meeting every month starting from February, 2013.	Accordingly SCADA meeting for the month of February was held on 14 <sup>th</sup> February. ERLDC presented the reporting status of existing communication system (SCADA) with ERLDC which needs to be restored by June, 2013. During deliberation Powergrid informed that, utilities were asked for priority list of their installation of RTUs. But till date no one communicated to Powergrid. OCC requested all utilities to give the priority list of RTUs to Powergrid by 25 February, 2013 and directed all utilities to take appropriate actions at their end to establish the existing communication system (SCADA) with ERLDC healthy by June 2013 without fail.
5	It was agreed that all utilities including Powergrid should submit the grid incidence report as per specified format, otherwise it would be treated as non-compliance of section 5.2 (r) of IEGC (80th OCC).	ERLDC informed that, proper format and time frame of grid incidence reports are being monitored from last month. It was found that, NTPC Barh, BSEB, JSEB, Sterlite are not submitting the reports in proper format. It was decided that, ERLDC once again circulate the

		format and all utilities were requested to submit the grid incidence report in the format with in stipulated time in compliance of section 5.2(r)of IEGC. Status report will be placed by ERLDC in OCC meetings.
6	OCC requested all utilities to submit the information on GT and ICT tap coordination as given in agenda item B5 latest by next OCC (80th OCC).	ERLDC informed that, NTPC Kaniha, OPTCL, BSEB and Sterlite submitted the relevant information. ERLDC added that, station wise data will be compiled and placed in next OCC.
7	Transmission utilities (viz. Powergrid, Powerlink, OPTCL, DVC, WBSETCL etc) would send their annual outage plan for the year 2013-14 (80th OCC).	It was informed that, most of the utilities submitted the outage plan of transmission elements. The draft LGBR was prepared and placed in ERPC website. Separate meeting will be held at ERPC secretariat in March, 2013 for finalization.
8	All utilities should submit their proposal on automatic demand management measures to ERPC Secretariat by next OCC (80 <sup>th</sup> OCC).	Constituents principally agreed for the implementation of Automatic Demand Management System & GSES. Constituents felt that without effective automation in SLDC control area the implementation would not be feasible and unless exact schemes with objective set-up are finalized/placed it would not be possible to assess the fund requirement for this automation. OCC felt that under present day complex grid scenario automatic operation is must but before finalizing detail deliberation is needed considering technical feasibilities along with the cost-benefit analysis of Automatic Demand Management System & GSES. OCC requested all the constituents to send their views on NLDC document of "Automatic Defense Plans for the All India Electricity Grids" to CERC with a copy to ERPC positively by 28-02-2013.
9	OCC felt the need of identifying some radial feeders in each of the constituents system which can be disconnected at the direction of ERLDC to prevent overdrawal. (77 <sup>th</sup> OCC)	OPTCL submitted the relevant information. All the utilities requested to comply with the OCC decision and submit relevant information by next OCC.
10	As per decision taken in 75 <sup>th</sup> OCC meeting, all constituents, ISGS, IPP and POWERGRID are to submit daily energy data as per format developed and circulated by ERLDC by 01:00 hrs for the preceding day.	ERLDC informed that, BSEB and JSEB are not submitting the data in specified format and MPL and Adhunik Power are not submitting the data. MPL and Adhunik Power agreed to send the relevant data from 1st Mar, 2013. Further, ERLDC mentioned that large DISCOs like Tisco and Jusco are not being monitored and requested JSEB to take up the issue. ERLDC requested all SLDCs to take appropriate action to monitor large Discos in their control area

a	and give feedback in next OCC. OCC advised
E	ERLDC to circulate the format once again and
а	all utilities were requested to send their report
ir	n the format over e-mail. It was also informed
t	hat, all SLDCs should send the report of their
r	espective control area after compilation.

### Minutes of 82<sup>nd</sup> OCC Meeting held on 18.02.13 at ERPC, Kolkata

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

Member Secretary I/c, ERPC greeted the participants in the 82<sup>nd</sup> OCC meeting and highlighted the major decisions taken in the 81<sup>st</sup> OCC meeting updating their status of implementation. OCC members were requested to take utmost care in executing the OCC decisions in time. After that the agenda items were taken up one by one.

#### Item no. A.1: Confirmation of minutes of 81<sup>st</sup> OCC meeting of ERPC held on 18.01.13

The minutes were circulated vide letter dated 23.01.13 to all the constituents and also uploaded in ERPC website. ERLDC requested the following addendum to writings in item no. B2 (iii) Para (5).

"PGCIL informed that, establishment of voice communication with Back-up NLDC, India at ERLDC, Kolkata and NLDC Bhutan was in progress and will be completed shortly."

Members may please consider the amendment of the minutes.

#### Deliberation in the meeting

*Members agreed for the amendment. MOM of 81<sup>st</sup> OCC was confirmed with this amendment.* 

#### PART B :: NEW ISSUES

#### Item no. B1: Identification of feeders for distress load shedding - ERLDC

In 77th OCC meeting ERLDC had given the following agenda

Quote

While analysing the disturbances occurred on 30th and 31st July,12, it was noted that one of the reasons for above said disturbances is overdrawal of power from the grid. In order to avoid recurrence of such disturbance due to overdrawal, it is felt essential to identify some radial feeders in each of the constituents system which can be disconnected at the direction of ERLDC to prevent overdrawal.

ERLDC will direct the SLDC of the violating constituent/s through written message to disconnect above said identified feeders in case overdrawal persist even after issuing 'C' type message or message issued to relieve system constraints. Constituents, after compliance of ERLDC direction, will confirm their action by written message.

*Further following information are needed for the above said identified feeders* 

1. Quantum of load(both peak and off-peak) and area covered

While selecting such feeders, constituents need to consider the quantum and nature of essential load connected to that feeder. Further feeders in which UFRs are connected must not be included the list of those identified feeders.

Unquote

Constituents had agreed to look into the matter and revert back in 78th OCC meeting. The same is yet to receive.

Members may please discuss and advise.

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

*OPTCL* submitted the relevant information. All the utilities requested to comply with the OCC decision and submit relevant information by next OCC.

# Item no. B2: Need for Bus strengthening at Malda and Birpara consequent to augmentation of transformation capacity at North Bengal - ERLDC

220/132KV 160MVA ICT at Birpara has been taken into service on 22/01/13. Proposed augmentation at Malda is also scheduled and works are in progress. After augmentation of the ICTs, peak load of WDSEDCL presently touches around 120MW to 130MW. In future the peak load is expected to cross over 150MW. In view of above it is necessary to review regarding any system strengthening as may be required for 132KV Buses at Birpara(PG) / Birpara(WB) and 132KV Birpara-Birpara D/C.

Members may please discuss and advise.

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

Powergrid informed that, CTs of Siliguri-NBU D/C line are replaced and old relays are to be replaced with numerical relays, order has been placed to Alstom. Powergrid added that, the line would be in service by March, 2013.

Powergrid also informed that, reconductoring work at siliguri was completed. The same is in progress at Birpara and Malda. WBSETCL also informed that, reconductoring is in progress at Birpara(WB) and would be completed by March' 2013. The same at Malda would be completed by March' 2013.

It was informed that at Malda one 50 MVA ICT is already replaced with 160 MVA ICT and other will be replaced by 23 February, 2013. 160 MVA Transformers were already installed at Siliguri and Birpara.

#### Item no. B3: Review of over-voltage Stage-I settings at 400KV Patna S/s - ERLDC

Name of the Line	Over Voltage Stage I	
	Voltage setting	Time Delay
400 KV PATNA - BARH - I	112%	6 sec
400 KV PATNA - BARH - II	110%	7 sec
400 KV PATNA - BARH - III	110%	5 sec
400 KV PATNA - BARH - IV	110%	6 sec
400 KV PATNA - BALIA - I	110%	5 sec
400 KV PATNA - BALIA - II	112%	5 sec
400 KV PATNA - BALIA - III	110%	5 sec
400 KV PATNA - BALIA - IV	110%	6 sec

The present stage-I over-voltage settings at 400KV Patna S/S are as follows:

One 50MVAR line Reactor is connected to 400KV Patna-Barh-I & II (each circuit) and time gradation needs to be differentiated sufficiently to enable delayed tripping of the above circuits. Also, in view of repeated trippings of 400KV lines from Patna, the settings need to be lowered for some circuits to enable tripping of these lines on over-voltage on priority basis. Considering all of above and power flows on the various lines, it is proposed to trip one circuit each of 400KV Patna-Balia-I and 400Kv Patna-Barh-III simultaneously in case of rise of voltage. Subsequently, another circuit each for the above sections could be tripped. Considering above, the proposed revised over-voltage settings are as follows:

Name of the Line	Over Voltage Stage I	
	Voltage setting	Time Delay
400 KV PATNA - BARH - I	112%	6 sec
400 KV PATNA - BARH - II	112%	7 sec
400 KV PATNA - BARH - III	110%	4 sec
400 KV PATNA - BARH - IV	110%	5 sec
400 KV PATNA - BALIA - I	110%	4 sec
400 KV PATNA - BALIA - II	110%	5 sec
400 KV PATNA - BALIA - III	112%	6 sec
400 KV PATNA - BALIA - IV	112%	7 sec

Members may please deliberate for implementation.

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

Powergrid and NTPC in principle agreed for the implementation of the same. Both the utilities added that, this would be implemented after approval from their respective corporate office. ERLDC advised to change the settings at both ends with proper coordination.

#### Item no. B4: Collection of Daily Energy Data - ERLDC

As per decision taken in 75<sup>th</sup> OCC meeting, all constituents, ISGS, IPP and POWERGRID are to submit data as per format developed and circulated by ERLDC by 01:00 hrs for the preceding day. Following are the status

- 1. BSEB-data being collected over phone.
- 2. JSEB- data being collected over phone
- 3. DVC-data are sent by fax.
- 4. OPTCL- not implemented
- 5. WBSETCL-not implemented. However Santhaldi, Bakreswar and CESC are sending data in specified format
- 6. NTPC Implemented
- 7. IPP- Only SEL is sending data in the specified format but the same has not been implemented by MPL.
- 8. POWERGRID- Implemented

It is once again requested to send data in prescribed format and before 01:00 AM.

Members may share their position for non compliance of OCC decision.

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

*ERLDC informed that, BSEB and JSEB are not submitting the data in specified format and MPL and Adhunik Power are not submitting the data at all. MPL and Adhunik Power agreed to send the relevant data from 1<sup>st</sup> Mar, 2013.* 

OPTCL informed that, their generating stations are located at remote areas and it is not possible to collect the preceding day data at 01:00 hrs, in case of communication link failure. Therefore, OPTCL requested to communicate the data in the morning. ERLDC considered the request.

Further, ERLDC mentioned that large DISCOs like Tisco and Jusco are not being monitored and requested JSEB to take up the issue. ERLDC requested all SLDCs to take appropriate action to monitor large Discos in their control area and give feedback in next OCC.

OCC advised ERLDC to circulate the format once again and all utilities were requested to send their report in the format over e-mail. It was also informed that, all SLDCs should send the report of their respective control area after compilation.

The format is enclosed in Annexure-I.

#### Item no. B5: Uncoordinated tripping of lines from Chandil/Hatia Substations of JSEB - ERLDC

Repeated tripping of lines from Chandil/Hatia substations has been occurring in the recent past. On discussions it was pointed out that, such faults were mostly of transient nature, as in majority of occasions all the tripped lines could be taken back into service signifying that

there were no permanent faults. It may kindly be noted that such repeated trippings show the need for protection coordination in JSEB system. The need for protection coordination has been deliberated in various forums of ERPC, but there has been no visible improvement with regard to protection coordination in form of reduced unwarranted trippings from the above substations. Specifically, even in case of any transient faults on a line or a fault in a remote substation, all lines from Chandil/Hatia are getting tripped, signalling a clear need for review of coordination of protection.

Accordingly, JSEB is requested to carry out a detailed analysis, listing the reasons for such uncoordinated trippings of all lines from Chandil/Hatia in form of a preliminary report and forward a copy of the same to this end at the earliest. Subsequently a detailed report could jointly be developed after site inspection if required, recommending actions to be taken for ensuring proper protection coordination and reduction of such un-warranted trippings.

Members may please discuss and advise.

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

JSEB informed that, review of settings of the relays for proper protection coordination is in progress. It assured of informing the status by next OCC.

#### PART C :: ISSUES REFERRED FROM LAST OCCs

# Item no. C1: Submission of Grid Incidence Report as per specified format - ERLDC (Item No. B3 of 80<sup>th</sup> OCC meeting)

In 80<sup>th</sup> OCC meeting, it was noted that tripping report/s received from constituents was not as per requisite format. OCC in its 80<sup>th</sup> & 81<sup>st</sup> meeting impressed upon all utilities including Powergrid to submit the grid incidence report as per specified format, otherwise it would be treated as noncompliance of section 5.2 (r) of IEGC.

ERLDC may update constituent wise latest status.

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

ERLDC informed that, proper format and time frame of grid incidence reports are being monitored from last month. It was found that, NTPC Barh, BSEB, JSEB, Sterlite are not submitting the reports in proper format. Powergrid, WBPDCL, WBSETCL and OPTCL are submitting the reports in proper format. No incidence was occurred in DVC and NHPC control area since last month.

It was decided that, ERLDC once again circulate the format and all utilities were requested to submit the grid incidence report in the format with in stipulated time in compliance of section 5.2(r)of IEGC. Status report will be placed by ERLDC in OCC meetings.

The format is enclosed in Annexure-II.

# Item no. C2: Charging of one circuit of 132 kV PTPS (DVC)-PTPS (JSEB) line- DVC (Item No. B.1 of 81<sup>st</sup> OCC meeting)

DVC informed that there are two nos of 132 kV interstate tie lines between DVC (Patratu) and JSEB (Patratu) viz. Line#84 and Line#85. The replacement work of the bay and breaker for line#84 has been completed from JSEB end and JSEB is ready to charge the line from their end. PGCIL has also completed the commissioning of required nos of meters both at JSEB and DVC end for registering the tie flow energy. But till date Line #84 is not charged from JSEB end.

In the last OCC meeting it was decided to charge the Line #84 from both ends and it was also advised by OCC to install separate CTs so that separate check meter's arrangement could be provided.

DVC & JSEB may update the status.

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

JSEB informed that, Bay is ready for charging the line. It was decided to charge the line by 25<sup>th</sup> February, 2013 and communicate the status to ERPC secretariat.

# Item no. C3: Grid disturbances in NEW grid on 30<sup>th</sup> and 31<sup>st</sup> July 2012- recommendation of ERPC (Item No. B.2 of 81<sup>st</sup> OCC meeting)

In the 23<sup>rd</sup> ERPC meeting it was decided that:

i. All captive power plants in Eastern Region, which are connected to Eastern Grid, should provide required help to Load Dispatch Centres for restoration of the grid during any disturbance; otherwise, the Captive Plants will not be allowed to remain connected with Grid. Each SLDC/STU should take up the issue with their embedded captive plants for compliance of the aforesaid direction and confirm their status to ERPC Secretariat.

In the last OCC, members directed all SLDC/STU to confirm their status and communicate to ERPC Secretariat by 25<sup>th</sup> January, 2013. In case compliance remains pending, then it would be communicated to TCC/ERPC.

Till date no compliance received except Haldia Power Station of Tata Power Co. Ltd and BSPHCL.

Members may explain their position.

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

DVC informed that, Tisco is agreed for providing required help to Load Dispatch Centres for restoration of the grid during any disturbance. Confirmation letter is yet to be received from DVC. It was decided that, all SLDC/STU yet to submit should confirm their status and communicate to ERPC Secretariat by 25th February, 2013. Accordingly it would be communicated to ERPC.

ii. More islanding schemes should be planned in Eastern Region for ensuring adequate start up power during grid disturbance. It was decided to take the implementation of new islanding scheme in Bakreswar TPS and Chandrapura TPS in first phase and WBPDCL and DVC were advised to place road map for the same.

In the last OCC meeting WBPDCL presented the road map for the implementation of islanding scheme of Bakreswar TPS.

DVC submitted the schedule of the implementation of islanding scheme of Chandrapura TPS vide their letter No. LD/19/comml/650 Dated 22<sup>nd</sup> January, 2013

WBPDCL & DVC may share the latest status.

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

WBPDCL & DVC informed that, implementation of respective islanding schemes is in progress as per the given road map.

On existing Islanding schemes ERPC advised OPTCL to submit the status of healthiness of existing islanding schemes of CPPs under their control area to ERPC Secretariat.

OPTCL vide their letter No.Sr.GM(PP)-88/2012/36 dated 04.02.2013 communicated that all the major CPPs under their control area are in operation.

ERPC also advised PTC to collect the information on existing islanding scheme in Bhutan Grid and forward the same to ERPC Secretariat and ERLDC.

PTC vide their letter C/PTC/M&TFG/ERPC/17426 dated 18.01.2013 had given the details about the islanding/load shedding scheme in Bhutan Grid.

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

OCC was informed that, PTC had given the load shedding scheme and so PTC was advised to collect the information on existing islanding schemes. Meanwhile, DGPC informed that no existing islanding scheme is available at present in Bhutan and planning for new islanding schemes is in progress.

Further ERPC advised constituents to share the details of existing islanding schemes under each control area with ERPC Secretariat and ERLDC so that, a composite document could be prepared for future reference.

In the last OCC meeting OCC requested all other constituents once again to share the details of existing islanding schemes under each control area with ERPC Secretariat and ERLDC positively by 25 January, 2013.

Except CESC the same is yet to receive from other constituents.

#### Members may updated their position

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

WBPDCL, WBSETCL, JSEB & DVC informed that, no islanding schemes are present in their control area. OPTCL informed that, details of existing islanding schemes under their control area had been forwarded to ERLDC in last year. However, OPTCL agreed to send it again to ERLDC/ERPC..

ERPC advised WBSETCL to take up the issue of islanding scheme with Tata Power (Haldia). In this regard, WBSETCL suggested that an islanding scheme for DPL system could also be conceived. WBSETCL and DPL were requested to submit a proposal in this regard to ERPC Secretariat for further discussion in sub-committee meetings.

In the last OCC meeting, WBSETCL informed that, Tata Power (Haldia) had submitted the islanding scheme and WBSETCL will present the scheme in next OCC. DPL also prepared the islanding scheme in discussion with WBSETCL and it will also be placed in next OCC.

WBSETCL & DPL may please present their scheme

#### Deliberation in the meeting

Islanding scheme of DPL with unit#7 and local loads is under finalization and it will be placed in next OCC.

On queries NTPC informed the islanding scheme for Farakka was already envisaged and it is in the final stage of clearance from engineering wing. Once finalized it would be placed before next OCC. However the draft scheme was handed over to ERPC Secretariat and ERLDC.

NTPC may please present their scheme.

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

NTPC representative presented the islanding scheme for Farakka. Presentation is enclosed in **Annexure-III**. OCC in principle agreed to the islanding scheme of NTPC Farakka and suggested NTPC to assess the load and placed the final scheme in next OCC. NTPC agreed to look into it.

On DVC's proposal for designing an islanding scheme with DVC as a whole DVC was advised to place their proposal to ERPC Secretariat for discussion in subcommittee meetings.

In the last OCC meeting, DVC informed that DVC will submit the islanding scheme of the DVC as a whole to ERPC Secretariat by next OCC.

DVC may share their scheme with the house

#### Deliberation in the meeting

DVC informed that, the islanding scheme of the DVC taking DVC as a whole would be placed in next OCC.

iii. All concerned stakeholders should take immediate measures to ensure total 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.

In the last OCC meeting it was decided that to monitor the status of progress ERLDC would convene SCADA committee meeting every month starting from February, 2013. Accordingly SCADA meeting for the month of February was held on 14<sup>th</sup> February.

Concerned members may update OCC on Existing Communication System (SCADA) with ERLDC.

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

ERLDC presented the reporting status of existing communication system (SCADA) with ERLDC which needs to be restored by June, 2013. During deliberation Powergrid informed that, utilities were asked for priority list of their installation of RTUs. But till date no one communicated to Powergrid. OCC requested all utilities to give the priority list of RTUs to Powergrid by 25 February, 2013 and directed all utilities to take appropriate actions at their end to establish the existing communication system (SCADA) with ERLDC healthy by June 2013 without fail.

#### Item no.C4: Restoration of 400 kV Sagardighi-Parulia line-1

400 kV Sagardighi-Parulia-1 line of WBPDCL is out since 25<sup>th</sup> April'12 due to tower failures caused by Norwester. The restoration work has been given to Powergrid on consultancy basis. The restoration of the line is regularly monitored in the OCC meeting and the line is expected to be restored by March 2013.

However, in the 79<sup>th</sup> & 80<sup>th</sup> OCC meeting, Powergrid pointed out that around 25 km of the line spanning mid sections (Location 191-246) of the same was not covered under any antitheft charging and conductors were getting stolen. Powergrid informed that it had made several communications/deliberations with WBPDCL It was understood that, it was decided in the joint meeting with WBPDCL, WBSETCL and Powergrid to keep this section under anti theft charging by extending power supply from nearby WBSETCL lines. However, the same is yet to be done. Now, any conductor theft of healthy section would delay the restoration of the line. OCC took serious note of the matter and referred the matter to ensuing TCC/ERPC meeting.

In its 23<sup>rd</sup> meeting TCC members felt the need for urgent restoration of the line. In TCC WBSETCL assured to look into the issue and extend all possible help for anti-theft charging of the healthy section of the line.

In last OCC meeting Powergrid informed that anti theft charging of the line would complete by 31<sup>st</sup> January, 2013 and the line would be restored by March, 2013.

WBSETCL and Powergrid may update the latest status.

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

WBSETCL informed that, till date no requisition received from Powergrid end and anti theft charging of the line is not done. Powergrid was requested to complete the anti theft charging of the line as per their need and inform the latest status positively by 25<sup>th</sup> of February.

#### Item no. C5: Switching of 400 KV Baripada-Mendhasal D/C

One ckt of 400 KV Baripada-Mendhasal D/C is generally kept open due to high voltage at Baripada end. It is observed that whenever there is need for switching off ckt, lot of time is taken for affecting the switching at Mendhasal. It was gathered that OPTCL personnel in the Mendhasal s/s do not attend switching operation of the line and PGCIL personnel from nearby s/s has to come and do the switching operation causing delay in switching operation.

The issue was discussed in the 73<sup>rd</sup> OCC meeting. OPTCL informed that they had requested PGCIL to hand over the control panel and related schematic diagram of their 400 kV Baripada-Mendhasal D/c. The handing over process was under progress and after completion of the same, OPTCL personnel in the Mendhasal S/s would attend the switching operation of the line.

The issue was again discussed in the 80<sup>th</sup> OCC meeting. In the meeting, Powergrid pointed out that two bays at Mendhasal substation belongs to Powergrid. As per normal practice, Powergrid had submitted a draft MOU to OPTCL in the month of September 2011 for maintenance of these two bays. However, in the pretext of one or another, the MOU is not getting signed by OPTCL. As MOU is not signed, OPTCL is not attending switching operation for these bays at Mendhasal s/s.

80<sup>th</sup> OCC took note of the matter, and consequential delay in switching operation of Baripada-Mendhasal line at Mendhasal and referred the matter to TCC.

In 23<sup>rd</sup> TCC\_OPTCL and Powergrid agreed to sort out the issue bilaterally and TCC advised both the parties to place the development status before OCC.

In last OCC, Powergrid informed that, while discussing the matter OPTCL had raised several pending issues which are not related to the signature of MoU & subsequent operation of the CBs by OPTCL personnel.

As a follow up Member secretary I/C already communicated the problems being faced by PGCIL to The Director (Commercial), OPTCL vide letter no. ERPC/MS/Correspondence/ 2013/6661-62 dated 29<sup>th</sup> January, 2013.

OPTCL and Powergrid may update.

#### Deliberation in the meeting

OPTCL informed that, Powergrid had given training to OPTCL O&M personnel for operating the CBs of line. OPTCL agreed to operate the CBs of the line at Mendhasal S/s and assured OCC of timely restoration of the same by avoiding switching operation delay.

Item no. C6: Commissioning of 220 kV bus bar protection at Ramchandrapur & Chandil substations (JSEB) – (Item No. B.13 of 22<sup>nd</sup> TCC meeting)

In the last OCC meeting, JSEB informed that material will reach the site within a week and work will be completed by 1<sup>st</sup> week of February, 2013.

JSEB may update the status.

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

JSEB informed that, material has already been procured at site and work is in progress. It would be completed by 15<sup>th</sup> Mar, 2013.

# Item No. C7: Procurement and installation of numerical relays by JSEB for Lalmatia substations

(Item No. B.14 of 22<sup>nd</sup> TCC meeting)

In the last OCC meeting, JSEB informed that work will be completed by 1<sup>st</sup> week of February, 2013.

JSEB may update the status.

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

JSEB informed that, installation of relays is in progress and it would be completed by Mar, 2013.

#### Item no. C8: GT and ICT Tap coordination throughout the Easter Region --- ERLDC

A large number of 400KV substations in Eastern Region such as Ranchi, Maithon, amshedpur, Rourkela etc. experiencing over voltage most of the time. This leads to frequent tripping of number of 400KV lines on over voltage with consequent reduction of network redundancy. To prevent such over voltage problem, a review of the present tap position of all GTs and ICTs throughout the region is necessary. The present tap details with corresponding transformation ratio of GTs and ICTs available with ERLDC were circulated and all utilities are requested to check and inform the following for each GT/ICT:

	GT	ICT	
1	No of Taps and corresponding voltage ratio	No of Taps and corresponding voltage ratio	
2	Present Tap position	Present Tap position	
3	MVA rating	MVA rating	

4	Over load capacity	Over load capacity		
5	Reactance and Resistance at nominal	Reactance and Resistance at nominal		
	tap (in % of the transformer rating)	tap (in % of the transformer rating)		

In the last OCC meeting, Powergrid, BSEB (Partly), Tista-V, Rangit, WBPDCL, NTPC Farakka and Khahalgaon had submitted the relevant information. Rest of the utilities and IPPs were requested to submit the same by 25<sup>th</sup> January, 2013.

Since Last OCC WBSETCL submitted the relevant information.

Members of constituents from where the information is still pending may share with OCC their problems, if any, in submitting the information.

#### Deliberation in the meeting

*ERLDC informed that, NTPC Kaniha, OPTCL, BSEB and Sterlite submitted the relevant information. ERLDC added that, station wise data will be compiled and placed in next OCC.* 

#### Item no. C9: Annual Outage plan of transmission element--- ERLDC

Section 5.7.1 © of IEGC 2010 mandates preparation of annual outage plan of transmission element and generating unit as per process elaborated in section 5.7.4 of IEGC 2010.

Eastern Region does not have annual outage plan of transmission element at present and in absence of the same, it is becoming difficult to assess Total Transfer Capability (TTC) in interregional link to be declared three months in advance for the purpose of approval of STOA.

In 79<sup>th</sup> OCC ERPC Secretariat informed that section 5.7.4 mandates preparation of annual outage plan for both generating stations and transmission elements and all concerned utilities are mandated to submit their outage plan to RPC Secretariat by 30<sup>th</sup> November each year. However, transmission utilities never send their outage plans.

In 80<sup>th</sup> OCC It was decided that transmission utilities (viz. Powergrid, Powerlink, OPTCL, DVC, WBSETCL etc) would send their outage plan for the year 2013-14 by third week December, 2012.

In last OCC, Powergrid and WBSETCL had submitted the outage plan. DVC representative informed that DVC will submit the same by 25th January, 2013. ERLDC informed that IPPs and Sterlite don't have separate outage plan. OCC requested rest of the utilities to submit the same immediately.

House may get appraised with the latest status.

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

Member secretary (I/C), ERPC informed that, most of the utilities submitted the outage plan of transmission elements. The draft LGBR was prepared and placed in ERPC website. Separate meeting will be held at ERPC secretariat in March, 2013 for finalization.

#### Item no. C10: Damage of 63 MVAR shunt reactor bay at Tala end – DGPC

In last OCC meeting, DGPC representative informed that the reactor will be in service by February, 2013.

DGPC may update the status.

#### Deliberation in the meeting

DGPC informed that, work order has been placed and the reactor would be in service by Mar, 2013.

#### Item no. C11: Review of load relief under various stages of UFR

As per decision taken in 77th OCC meeting, following are status of implementation of frequency setting and quantum of load to be shed through UFR to be adopted in ER grid. In the 81st OCC, BSEB and JSEB have updated the actual quantum of load relief. The revised table indicating the details of planned vis-a-vis actual UFR quantum are depicted below:

States	Stage-I	Stage-I (48.8 Hz)		Stage-II (48.6 Hz)		Stage-III (48.2 Hz)	
	Agreed	Actual	Agreed	Actual	Agreed	Actual	
BSEB	80	87	80	67	115	40	
JSEB	50	58	50	51	70	70	
DVC	110	132.4	110	142.7	155	166.1	
Odisha	150	160.5	150	158.5	208	209.5	
WB (including CESC)	285	313	285	285	397	430	
Total	675	750.9	675	704.2	945	915.6	

Scheme for Emergency setting at 47.6 Hz will remain unchanged

From the above table it is observed that quantum of load relief for BSEB for Stage-II & III are less than that planned. Also it was decided that to obtain proper load relief, actual load amounting to twice the amount of planned load for shedding through UFR should be connected, to obtain proper relief at the time of emergency.

- *i.* Bihar may intimate status of implementation of revised load relief in Stage-II & Stage-III.
- *ii.* Further, all constituents are requested to inform ERLDC feeder wise operation of UFR for each stage, whenever operates.

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

BSEB informed that, new panels are erected and feeders are being identified to achieve the target load relief in Stage-II & Stage-III. Expected to meet the target by next OCC.

#### Item no. C12: Reactive Capability Testing of generators – ERLDC

#### a) Review of reactive power generation/drawal performance of generators

Reactive power generation vis-à-vis 400kV station bus voltages of units at the following generating stations were monitored.

Plant	Maximum and Minimum voltage observed for Jan 13 (KV)
Farakka STPS	428, 413
Khalgaon STPS	432, 415
Talcher STPS	419, 402
MPL	426,415
Sterlite	435,423
Mejia B	430, 422
Bakreshwar TPS	412, 390

#### Maximum and minimum voltage observed (data taken from SCADA)

#### Generating stations have been monitored for sample dates in the month of Jan '13

Power Plant	Date for monitoring
Farakka STPS	6 <sup>th</sup> , 21 <sup>st</sup> , 24 <sup>th</sup>
Khalgaon STPS	6 <sup>th</sup> , 10 <sup>th</sup> ,27 <sup>th</sup>
Talcher STPS	10 <sup>th</sup> , 13 <sup>th</sup> , 17 <sup>th</sup>
Bakreshwar TPS	21 <sup>st</sup> , 24 <sup>th</sup> 27 <sup>th</sup>
Sagardighi TPS	10 <sup>th</sup> , 21 <sup>st</sup>
Teesta HPS	Voltage Data was very unstable

Performance analysis:

i. Farakka : Though there was absorption of reactive power through 400/220kV GTs, but the 200 MW unit starts injecting VAR in the system whenever voltage fall below 419 kV. MVAR data of unit 3 is not reporting since long.

ii. Kahalgaon : Both 210MW & 500MW unit installed at absorbed VAR or injected zero VAR in system for most of the time and hence performance of unit is satisfactory.

iii Talcher :- Though there was absorption of reactive power through 400/220 kV GT. But it was observed that the reactive capability of unit is not fully utilized.

iv. Sagardighi : Performance of unit 1 of sagardighi was unsatisfactory as it was continuously generating VAR even in high voltage condition.

v. Bakreswar:- Performance of units at Bakreswar TPS was satisfactory

Accurate Data from Mejia B, MPL and Sterlite was not available for verifying the reactive capability performance of their units.

Defaulting generators may respond.

#### Deliberation in the meeting

#### ERLDC presented the performance of the generators. Presentation is placed in Annexure-B

#### b) Schedule for reactive capability tests

In the last OCC meeting FSTPP and DVC expressed their inability to carry out reactive capability test due to coal shortage. Also reactive capability test for Santaldih Unit#5, #6 was not done by WBPDCL on 3rd and 4th February, as planned in the last OCC meeting. WBPDCL may intimate the latest status.

#### NTPC, WBPDCL and DVC update their status.

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

Coal Problem persists and so attempts will be made to chalk out fresh schedule in the next OCC

#### Item no. C13: Auto Reclosure Facility at Tala end

Enabling of single phase Auto reclosure facility at Tala end of all DGPC feeders connected with Indian grid was discussed in number of OCC meetings. In the 71<sup>st</sup> OCC meeting, DGPC informed that BHEL, in a meeting with DGPC in Bhopal, cleared the enabling of auto reclosures of all DGPC feeders connected to Indian Grid.

In the 78<sup>th</sup> OCC meeting, DGPC informed that they had test charged single phase auto reclosure features in Feeder-I on 6<sup>th</sup> November 2012, but it was not successful. DGPC informed the following target dates for enabling the auto-reclosures in Tala Feeders:

<u>Feeder No.</u>	Target Date		
Feeder-I	By November 2012		
Feeder-II	By December 2012		
Feeder-III	By January 2013		
Feeder-II	By February 2013		

In the last OCC Meeting, DGPC representative informed that, Auto reclosing scheme of Feeder-II was tested successfully on 14 January, 2013 but approval from competent authority for commissioning of the same is still waited. DGPC added that, testing of rest of the feeders will be completed by March, 2013.

DGPC may update the status.

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

DGPC informed that, on approval from their authority it may take one month for commissioning of the Feeder-II. ERLDC requested DGPC to put the Feeder –II auto reclosing feature in service by next OCC. DGPC added that, testing of rest of the feeders will be done after April, 2013.

#### Item no. C14: Automatic demand management measures

The issue of Automatic Demand Management was discussed in the 77<sup>th</sup> OCC meeting. The issue is also elaborately covered under section 5.4.2 of IEGC. Section 5.4.2 (e) of IEGC is reproduced below:

"In order to maintain the frequency within the stipulated band and maintaining the network security, the interruptible loads shall be arranged in four groups of loads, for scheduled power cuts/load shedding, loads for unscheduled load shedding, loads to be shed through under frequency relays/ df/dt relays and loads to be shed under any System Protection Scheme identified at the RPC level. These loads shall be grouped in such a manner that there is no overlapping between different Groups of loads. In case of certain contingencies and/or threat to system security, the RLDC may direct any SLDC/ SEB/distribution licensee or bulk consumer connected to the ISTS to decrease drawal of its control area by a certain quantum. Such directions shall immediately be acted upon. SLDC shall send compliance report immediately after compliance of these directions to RLDC."

In view of recent grid disturbances, the issue of demand management has assumed greater significance and needs attention from all stakeholders. In this regard, loads for scheduled power cuts/load shedding will be decided by each SLDCs and need not be identified in advance. Loads to be shed under UFR mechanism has already been identified and implemented by all the states in Eastern Region. Apart from above, loads to be shed under SPS will be taken care, as and when, ERPC decides so. The only category of load, which remains to be identified from your side, is the feeders/loads for unscheduled load shedding, which can be controlled for demand management purposes. Identification of these feeders will help you to manage your drawal from the central grid in more meaningful manner and thus avoid any unwarranted action, like demand disconnection, by RLDC.

Accordingly, ERPC Secretariat vide FAX message dated 10.10.2012 and 19.11.2012 requested all SLDCs to submit a draft proposal identifying various feeders/loads, which can be controlled from demand management purposes for further deliberation.

CESC had already expressed their inability to identify additional feeders for automatic demand management measures.

In the last OCC meeting, it was informed that, CERC on Petition No.249/MP/2012 issued an order on 14<sup>th</sup> January, 2013 wherein RPCs were directed to discuss the issue of "Implementation of the Automatic Demand Management Scheme at the SLDC/Distribution company level". Accordingly, OCC advised all SLDCs/Distribution companies to send their views on this issue to ERPC secretariat/ERLDC by 5<sup>th</sup> February, 2013. Also, a separate meeting was convened on 5<sup>th</sup> February, 2013 at ERPC secretariat to have a detailed deliberation on the views, queries on this subject.

As per decision taken in the last OCC meeting, separate meeting was held on 5<sup>th</sup> February, 2013 at ERPC secretariat. ERLDC and Powergrid representatives gave presentations on Automatic Demand Management System and GSES scheme.

• During presentation speakers elaborated the importance of Automatic Demand Management System for grid security and requested significance attention from all stakeholders. It was understood that Automatic Demand Management System and GSES are more or less synonymous terms.

- Threadbare deliberations were held. Several queries/doubts constituents raised were answered/cleared by honourable speakers. Constituents in principle agreed for the implementation of Automatic Demand Management System & GSES
- ERPC Member Secretary I/c informed all the utilities to go through the NLDC document on "Automatic Defense Plans for the All India Electricity Grids" (already uploaded in ERPC web site) and communicate their views by 17-02-2013. Therefore, the same will be discussed in ensuing OCC meeting to be held on 18-02-2013
- ERPC Member Secretary I/c requested Powergrid to present case studies on the subject in ensuing OCC meeting to be held on 18-02-2013 to appreciate the benefits of Automatic Demand Management System. Powergrid agreed for the presentation.

Powergrid may please give a presentation.

Members may decide the further course of action.

#### Deliberation in the meeting

ERLDC gave the presentation on behalf of Powergrid. Constituents principally agreed for the implementation of Automatic Demand Management System & GSES. Constituents felt that without effective automation in SLDC control area the implementation would not be feasible and unless exact schemes with objective set-up are finalized/placed it would not be possible to assess the fund requirement for this automation. OCC felt that under present day complex grid scenario automatic operation is must but before finalizing detail deliberation is needed considering technical feasibilities along with the cost-benefit analysis of Automatic Demand Management System & GSES. OCC requested all the constituents to send their views on NLDC document of "Automatic Defense Plans for the All India Electricity Grids" to CERC with a copy to ERPC positively by 28-02-2013.

#### Item no. C15: Procurement of spare transformers by Powergrid

The procurement of 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 (13<sup>th</sup> to 18<sup>th</sup> meeting). The latest status as informed by Powergrid is given below:

- Order for 4 number of spare transformers placed on : 19<sup>th</sup> July 2011
- Order for 1 number of spare reactor placed on: 11<sup>th</sup> July 2011
- o Delivery is expected by 14 months from date of placement of order
- 315 MVA spare transformers at Biharshariff and Jamshedpur were already installed, while the same at Durgapur and Rourkella would be installed by March 2013
- One 80 MVAR reactor was already supplied to Rourkella.

In the last OCC meeting, Powergrid informed the status of the following spare elements:

a. 315 MVA transformer at Durgapur would be installed by Jan'13

- b. 1 number of 150/160 MVA, 220/132 kV ICTs at Baripada would be installed by within a week
- c. 1 number of 50 MVA, 132/66 kV ICT at Gangtok would be installed by March 2013.

Powergrid may update the status.

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

Powergrid informed the status of the following spare elements:

- a. 315 MVA transformer at Durgapur was reached the site.
- b. 1 number of 150/160 MVA, 220/132 kV ICTs at Baripada would be installed by within a week
- c. 1 number of 50 MVA, 132/66 kV ICT at Gangtok could not reach the site. Therefore, the same will be shifted to Rangpo.

# Item No. C16: Permanent connectivity of Dalkhola (WB)-Dalkhola(PG) and dismantling of ERS in Dalkhola(WB)-Dalkhola(PG) section

In the last OCC meeting, Powergrid informed that XLPE cable will reach the site within a week and permanent connectivity of Dalkhola(PG)-Dalkhola(WB) would be completed by March 2013.

Powergrid may update the status.

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

Powergrid informed that XLPE cable reached the site and permanent connectivity of Dalkhola(PG)-Dalkhola(WB) would be completed by March 2013.

#### Item no. C17: Procurement of ICTs for Chukha Transmission system by Powergrid

The following augmentation works under the scope of PGCIL (for which transmission charges would be borne by WBSETCL) were already concurred by the Standing Committee Meeting (20-09-10) on Power System Planning for Eastern Region:

- i. Additional 1X160 MVA, 220/132kV Transformer with associated bays at 220/132kV Siliguri Substation.
- ii. Replacement of 1X50 MVA, 220/132kV Transformer by 1X160MVA, 220/132kV Transformer at 220/132kV Birpara Substation.
- iii. Replacement of 2X50 MVA, 220/132kV Transformer by 2X160MVA, 220/132kV Transformer at 220/132kV Malda Substation.

In the last OCC, Powergrid informed that

- i. 160 MVA transformer at Siliguri would be commissioned by 31<sup>st</sup> December 2013.
- ii. 160 MVA transformer at Birpara would be commissioned by 20<sup>th</sup> January 2013.
- iii. One 160 MVA transformer at Malda is in advanced stage of commissioning and other 160 MVA transformer expected to be commissioned by 15<sup>th</sup> March, 2013.

Powergrid may update the status.

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

Powergrid informed that

- *i.* 160 MVA transformer was installed at Siliguri.
- *ii.* 160 MVA transformer was installed at Birpara.
- *iii.* One 160 MVA transformer at Malda was already commisiioned and other 160 MVA transformer expected to be commissioned by 23<sup>rd</sup> February, 2013.

#### Item no. C18: Status of PLCC channel in 400 kV Farakka-Jeerat line and 400 kV Farakka-Sagardighi

Channel-2 of PLCC link in 400 kV Farakka-Jeerat line at Jeerat end is not working since 01.09.10. PLCC at 400 kV Farakka-Sagardighi is also not working since long time.

In the last OCC meeting, Powergrid informed that new PLCC panels were dispatched to the site and would be commissioned by February 2013.

Powergrid may update the status.

#### Deliberation in the meeting

Powergrid informed that new PLCC panels had reached the site and would be commissioned by March, 2013.

#### Item no. C19: Restricted Governor Mode of Operation --- ERLDC

In 80<sup>th</sup> OCC, DVC informed that BHEL representative did not turn up and the issue could not be sorted out. However, DVC assured to take it up further and hoped that Mejia#8 would be put into RGMO by 1<sup>st</sup> week of January 2013. In the 79<sup>th</sup> OCC meeting, MPL informed that they had put their units on RGMO on 6<sup>th</sup> and 9<sup>th</sup> November 2012 and put the units in RGMO on continuous basis w.e.f. mid of December 2012.

In last OCC, DVC representative informed that Mejia#8 would be put into RGMO by 1st week of January 2013. MPL informed that they had put their units in RGMO mode but digital signal is not working and it would be available by April 2013.

The present status of units of ER under RGMO is enclosed in **Annexure-IV**.

All concerned are requested to update the status of RGMO to ERLDC and ERPC.

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

DVC informed that, Mejia#8 could not put into RGMO. MPL informed that, digital signal would be made available by April 2013.

#### Item no. C20: Mock Black start exercises in Eastern Region --- ERLDC

i. As per clause no 5.8(b) of IEGC, mock exercise for Blackstart facilities to be carried out in every six months. In the last OCC meeting it was decided to carry out mock blackstart of Teesta after restoration of Birpara ICT. Mock Black Start on Upper Kolab HEP, OHPC is also due.

In last OCC, NHPC informed that Teesta is ready for the Mock Black start exercise and it was decided to conduct the same on 24th February, 2013

OHPC informed that, DG set of Upper Kolab HEP is now available and the Mock Black start exercise would be carried out the 1st/2nd week of February, 2013.

NHPC and OHPC may update the status.

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

OHPC informed that, DG set of Upper Kolab HEP was installed and tested, yet to be commissioned. Mock Black start exercise would be carried out after March, 2013.

ii. It is mandatory for DG sets meant for black start to conduct test run on monthly basis and submit report to ERLDC. It was earlier decided that 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. Test report for Dec'12 is yet to be received from Constituents except Rangit and Teesta. WBSETCL sent report up to Oct'12. OPTCL, JSEB yet to send any report.

Members may note.

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

Members noted.

#### Item no. C21: Status of "Third Party Protection Audit"

In reference to previous communications in this regard members please note the following:

- i) 20 nos of 400 KV Sub-stations, one 220 kV Sub-station & one HVDC Sub-station are covered under phase 1
- ii) 19 nos of 400 KV Sub-stations & 12 nos of 220 kV Sub-stations and one 132 kV Substation are covered under phase 2

List of observations of phase 1 & 2 are enclosed in Annexure-V and VI respectively.

Compliance/action plan on observations till date received from constituents are enclosed in Annexure-VII

Three 400 kV Sub-stations (Sterlite, Teesta-V and Sasaram) and two 220 kV Sub-stations (Biharshariff and Howrah) are yet to be Audited.

Members may please note and constituents are requested to place the compliance/action plan for the balance observations at the earliest.

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

Members noted and requested all constituents to place the compliance/action plan for the balance observations at the earliest.

#### PART D:: OPERATIONAL PLANNING

#### Item no. D1: Prolonged outage of power system elements in Eastern Region

Name	Agency	Date of	Reason	Restor	ation Status
		Outage		Original	Latest
400 kV Sagardighi-Parulia -1	WBPDCL	25.04.12	11 no tower collapse	March'13	March'13
315MVA, 400/220 kV ICT –IV at Arambag	WBSETCL	14.06.12	Fire Hazard	March'13	March'13
132 kV CT i.r.o. 132 kV NBU (WBSETCL)-Siliguri (PG)#1 at Siliguri end	Powergrid	10.12.10	Old relay needs to be replaced	February'12	CT already replaced. Old relay scheduled to be replaced by Mar'13.
132KV Rangit-Melli	Sikkim	1.9.12	Tower tilting at Loc.128		No progress reported by NHPC. Sikkim representative is not present.
132KV Lalmatia-Sabour	JSEB	2.1.13	R-Ph CT burst at Lalmatia		CT replaced on on Jan'13
400 KV DURGAPUR – SAGARDIGHI		25.04.12	3 Nos Tower collapsed		Mar'13
400 KV BINAGURI - PURNEA – II	Powergrid	01.12.12	S/D availed by Powergrid for reconductoring work		70 km of 170 km line was completed and the rest will be completed by June'13
400 KV BINAGURI - TALA - IV	DGPC	13.12.12	AMP work at TALA		Mar'13

Concerned utilities may share the latest status.

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

Concern utilities updated the dates and Members noted.

#### Item no. D2: Information regarding commissioning of new transmission element -- ERLDC

(i) Scheduling and accounting for GMR, Kamalanga (3 x 350MW) project in Orissa

The first unit of GMR Kamalanga Energy(350MW) was synchronized to the grid at 08:50 hrs of 27/01/13. GMR is at present connected to the ISTS grid vide LILO of 400KV TSTPP-Meramundali-I at GMR. For scheduling and accounting purposes GMR is being considered as an embedded entity in OPTCL STU system and 400KV TSTPP-GMR and GMR-Meramundali are being considered as Tie lines with OPTCL system.

Members may note.

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

Members noted and directed GMR to interact with OPTCL and settle the issue.

#### (ii) First time Synchronization of 400KV Maithon - Koderma D/C -major events

400Kv Maithon-Koderma-I and 400Kv Maithon-Koderma-II were synchronized for the first time on 05/02/13 and 06/02/13 respectively. The impact of above regarding realignment of power flows and its impact on voltages in the ER Grid system are depicted at **Annexure-VIII** during first time charging of Koderma-Maithon-I.

Members may note.

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

#### Members noted.

(iii) Latest status of commissioning of following generating station and transmission elements may please be furnished.

#### New generating units:

S.No.	Power Plant	Unit size	Expected date
2	GMR	1x350MW	February'13
3	Koderma	2x500MW	U#1 March'13
4	Corporate Power	1x257MW	
5	Teesta-III	1x200MW	
6	Raghunathpur	1x600MW	Mar'13

#### New transmission elements

SL No.	Transmission Line	Expected date
1	400 kV Maithon-Gaya D/C	June'13
2	400 kV Gaya Koderma D/C	June'13
3	400 kV DSTPS – Raghunathpur D/C	Mar'13
4	400 kV Raghunathpur-Ranchi D/C	
5	400 kV Meramandali-Dubri D/C	Pending in court
6	400 kV Corporate-Ranchi D/C	
7	220 kV Begusari-Purnea D/C	
8	220 kV Purnea(pg) Madhepur D/C	Mar'13
9	220 kV Dalkhola-Dalkhola (WB) D/C	Mar'13

10	220 kV Dhanbad-Girdih D/C	Feb'13
11	220 kV Girdih-Koderma D/C	ROW problem

Concerned utilities may update the likely date of synchronization and inform commissioning of other new generating station and transmission element which are not included in above said list.

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

Concern utilities updated the dates and Members noted.

#### Item no. D3: Anticipated power supply position during March-13

The abstract of peak demand (MW) vis-à-vis availability and energy requirement vis-à-vis availability (MU) for the month of March-13 were prepared by ERPC Secretariat on the basis of finalized LGBR for 2012-13, 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**

Modified anticipated power supply position for the month of March, 2013 after incorporating constituents' observations is given at **Annexure- IX**.

# Item No. D4: Shutdown proposal of transmission lines and generating units for the month of March-13

Members may finalize the Shutdown proposals of the generating stations and transmission elements for the month of March'13 as placed.

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

Approved maintenance programme of transmission elements during the month of March, 2013 is at **Annexure-X**. OCC requested ERLDC to allow Shut down as per this programme but before allowing all the concerned affected utilities should be suitably informed.

#### PART E:: OTHER ISSUES

#### Item no. E1: UFR operation during the month of January'13

Since system frequency did not touch 48.8 Hz in January'13, UFR did not operate. Report of UFR operation from constituents except WBSETCL and CESC is yet to be received.

Members may note.

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

Members noted

# Item no. E2: Commissioning of new units/transmission elements during the month of January 2013

- 1. 315MVA ICT-III at Subhasgram first time charged on no load at 10:16 hrs of 01/01/13 and loaded for the first time at 14:04 Hrs of 07/01/13.
- 132KV ULUBERIA-KTPP ckt # 1 was LILOed at BAGNAN GIS 132Kv Sub Station at 21.12 Hrs of 01.01.13.
- 3. 400/220Kv 315 MVA ICT-IV at Jeerat charged and loaded at 19.14 Hrs of 04.01.13.
- 4. 220KV NJP(WB)-TLDP-III(Rambi) S/C (Teesta Lower Dam project-III) 220Kv single ckt was commissioned at 1933Hrs of 15.01.13.
- 5. Unit # 2(33MW) of Teesta Lower Dam Project-III(TLDP-III) has been synchronized at 1130Hrs of 16.01.13 (test synchronization).
- 6. At KASBA 220Kv S/Stn. of WBSETCL ,160 MVA ICT-IV(220/132KV) was commissioned & loaded at 16:31 Hrs of 16.01.13.
- 220Kv Sipara S/S of BSPHCL was commissioned on 17/01/13. The Sipara S/s has connectivity with Patna(PG) vide 220Kv Patna-Sipara D/C. The transformation capacity of the substation is 2 x150MVA 220/132Kv ICTs and 2 x 50MVA 132/33KV ICTs.
- 8. 132KV Lakshmikantapur-Kakdeep #1, 2 commissioned at 1640Hrs of 18.01.13 and Kakdeep 132 S/Stn. of WBSETCL commissioned at 1640Hrs of 18.01.13.
- 9. Unit#1(270MW) of Adhunik Power and Natural Resources Ltd was declared under Commercial Operation w.e.f 21/01/13(COD).
- 10. 220KV Budhipadar-Aditya Aluminium D/C was taken into service on 21/01/13.
- 11. 220/132KV 160MVA ICT at Birpara charged on no load for the first time at 20:26 Hrs of 21/01/13 and loaded for the first time at 21:15 Hrs of 22/01/13.
- 12. GMR Unit#1 synchronized for the first time at 08:50 Hrs of 27/01/13.
- 13. 50MVAR L/R of 400KV Biharshariff-Banka-I charged at Banka charged for the first time at 17:19 Hrs of 28/01/13.
- 14. 50MVAR L/R of 400Kv Biharshariff-Banka-II at Banka charged for the first time at 13:54 Hrs of 29/01/13.
- 15. 80MVAR B/R at Banka charged for the first time at 20:31 Hrs of 30/01/13.
- 16. LILO of 400KV Baripada-Rengali at Keonjhar taken into service for first time at 18:51 Hrs of 31/01/13.
- 17. 315MVA ICT-I at Keonjhar charged on no load for the first time at 20:20 hrs of 31/01/13.
- 18. 80MVAR B/R at Keonjhar charged for the first time at 21:35 Hrs of 31/01/13.
- 19. 400KV Maithon-Koderma-I charged for the first time at 23:47 Hrs of 31/01/13 but tripped immediately on over-voltage. The line was subsequently charged from Maithon end and taken into service for the first time on 05/02/13 at 12:02 Hrs.
- 20. 400KV Maithon-Koderma-II charged for the first time at 21:58 Hrs of 31/01/13 but tripped immediately on over-voltage. The line was subsequently taken into service on 06/02/13 at 18:12 Hrs.
- 21. 160MVA ICT-II at Malda charged on no load for the first time on 31/01/13 and loaded for the first time at 19:40 hrs of 01/02/13.

Members may note.

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

Members noted

#### Item no. E3: 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 overdrawal, within two days after the day of operation.

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

Members may note.

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

Members noted

#### Item no. E4: Grid incidences during the month of January'13

Disturbance Place	Date & Time of occurrence	Generation loss (MW)	Load loss (MW)	Remark	Category
Disturbance in Patna & Barh substations	09.01.13, 01:46hrs	0	0	Due to bursting of B-ph CT of main bay of 400kV Patna-Balia-II at Patna S/S 400kV Patna-Balia-II, III & IV ckts tripped. At the same time 400kV Patna-Barh-III line also tripped on O/V as direct trip sent from Barh S/S	GD-1
Disturbance in OPTCL system	11.01.13, 11:07hrs	0	200	All the 400Kv, 220kV & ICTs connected Meeramundali S/s tripped on LBB protection.	GD-1
Disturbance in Barh substations	16/01/2013 09:37Hrs	0	0	While opening of Isolator of 400kV Bus-III (connected with 400kV Bus-I) at Barh S/s bus differential protection operated & all the feeders connected to Barh S/s tripped from Barh.	GD-1
Disturbance in Sikkim system	27.01.13, 17:40hrs	0	67	132kV Rangit-Gangtok tripped at Rangit end at 17:40hrs due to operation of O/C relay at Rangit end leads to total power failure in Sikkim.132kV Rangit-Melli under B/D since 08-10-12 due to tilting of tower.132kV Siliguri-Melli & 132kV Rangit-Kurseong were under S/D	GD-1

#### (i) Tripping of 400 kV Malda-Purnea and 400 kV Purnea-Binaguri lines on 29-Jan-2013

400kV Purnea-Binaguri -I & III and 400kV Malda-Purnea-I lines tripped at 16:18 Hrs of 29-1-13, while the following lines were already under outage / switched-off condition:

- 400kV Purnea-Binaguri –II : Under planned shutdown
- 400kV Purnea-Binaguri- IV : Under planned shut down
- 400kV Tala Binaguri-IV : Under planned shutdown
- 400kV Tala Binaguri-I : Under planned shutdown
- 400kV Teesta-Binaguri I : Under planned shutdown
- 400kV Teesta-Binaguri II : was in switched-off condition as there was no schedule for Teesta-V generation
- The occurrence of 3 simultaneous faults along Malda-Purnea-Binaguri corridor has raised serious concern regarding the reliability of the ISTS system.

•	On the basis of some reports received so far from POWERGRID, the relay indications
	obtained at Malda, Purnea and Binaguri S/Stns are tabulated as follows:

LINE	MAIN-I	MAIN-II
400kV Binaguri –		
Purnea-III		
Binaguri end	Did not operate	Did not operate (but from DR,
		Zone-2 start, B-phase)
Purnea end	Zone-4 R-ph started	Zone-1, Carrier received, R-ph, 190
		km, A/R operated successfully
400kV Binaguri –		
Purnea-I		
Binaguri end	Did not operate	C-N Fault. C-ph current 1447.4A
		A/R successfully operated
Purnea end	Loop L3, Trip 1L3, Dist – 0km,	Did not operate
	A/R did not operate	
400kV Malda – Purnea-		
1		
Malda end	BN, Z2, Z3	BN, Z2, Carrier received
Purnea end	BN fault (Active Group-1)	DistProt BN, Z-1 (3.2 km), 1-pole
		tripped, PSB

For Binaguri-Purnea –I, the snapping of B-phase jumper had occurred very close to Purnea while the fault in Binaguri-Purnea-III had occurred 190km away from Purnea that is even beyond Binaguri. Whereas, In case of Malda-Purnea-I line, the fault was located 3.2 km away from Purnea.

On perusing the reports made available to ERLDC, it is felt that the following points require further clarification:

- 1) Tripping of Purnea-Binaguri-II
- 2) Tripping of Purnea-Binaguri-I
- 3) Tripping of Purnea-Malda-I

Members may note.

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

Members noted

Item no. E5: Review of grid performance during the month of January'13

ERLDC may present the salient features of grid parameters during the month.

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

#### Members noted

#### Item no. E6: Any other point

#### (i) Power supply failures of Railway Traction Sub-stations – South Eastern Railway

- Simultaneous power supply interruption at Balasore, Bhadrak & Jaleswar at 12.47 hrs, 13.38 hrs and 14.03 hrs on 18.12.12. Finally supply was restored at 14.08 hrs. It is also to mention that almost 1hr and 15 min was taken for restoration of power supply which completely paralyses Train service in Kharagpur-Bhadrak trunk route. Exact reason was not yet communicated.
- Power supply tripped simultaneously at JSEB fed traction sub-stations at Chakradharpur division due to bursting of 220 kV line CT at Chandil S/s. Power supply remained suspended at Manikui, Slagajhari from 5.05 hrs to 5.57 hrs and Chakradharpur, Goilkera, Rajkharswan & Kendposi from 5.05 to 6.04 hrs on 02.02.2013 which adversely effected movements of trains.
- Power supply remained suspended from 4.20 hrs to 4.44 hrs at Chakradharpur, Goilkera, Rajkharswan & Kendposi due to failure of 132 kV incoming supply from chandil s/s. Also, the incoming supply failed at Manikui, Slagajhari from 4.35 hrs to 4.50 hrs which adversely effected movements of trains.

#### May please discuss and advice.

#### Deliberation in the meeting

As no representative from Railways was present, the point was not discussed.

#### Meeting ended with thanks to the chair

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#### पावर सिस्टम ऑपरेशन निगम लिमिटेड पूर्वी क्षेत्रीय भार प्रेषण केंद्र



Day Energy

FOR DATE :

E-MAIL: erldc.cal@gmail.com erldc\_cal@rediffmail.com DATE OF REPORTING :

Station/

Fax: 24235809/5029/5704

Day Peak

	Station/	Day	Peak	Day Energy
	Constituents	MW	Hrs	(MU)
	Farakka STPS - I & II			
	Farakka STPS - III			
	Kahalgaon STPS - I			
NTPC	Kahalgaon STPS - II			
	Talcher STPS - I			
	Talcher STPS - II			
	Sub Total Thermal			0.00
	Teesta			
NIFC	Rangit			
	Sub Total Hydro			0.00
	Kurichu			
BULITAN	Tala			
BIIGIAN	Chukha			
	Sub Total Hydro			0.00
IPP	Sterlite			
	MPL			
	APNRL			
	Sub Total IPP Therma	al		0.00
<b>Total Regio</b>	nal Entities			0.00

	Station/	Day Peak		Day Energy
	Constituents	MW	Hrs	(MU)
	Chandrapura TPS			
	Bokaro'B TPS			
	Waria TPS			
	Mejia TPS			
	Mejia'B TPS			
	Durgapur STPS			
	Thermal (Total)			0.00
DVC	Maithon			
	Panchet			
	Tilaiya			
	Hydro (Total)			0.00
	Others (Total)			
	Total DVC Generation	า		0.00
	DVC Drawal			
	DVC Demand			0

	Station/	Day Peak		Day Energy
	Constituents	MW	Hrs	(MU)
	Santaldih TPS			
	Bandel TPS			
	Kolaghat TPS			
	Bakreswar TPS			
	DPL TPS			
	SAGARDIGHI TPS			
	Thermal (Total)			0.00
	Purulia PSP(G)			
WEST	Purulia PSP(P)			
BENGAL	Jaldhaka			
	Ramam			
	Tista			
	Hydro (Total)			0.00
	Total CPP Import			
	Others			
	Total WEST BENGAL	Gen		0.00
	WEST BENGAL Draw	val		
	WEST BENGAL Dema	nd		0

\* FILL UP NET GENERATION IN DAY ENERGY.

	Constituents	NW	Hrs	(MU)
	Baruni TPS			
	Muzaffarpur TPS			
	Thermal (Total)	-	-	0.00
	Hydro (Total)			
DINAK	Others (Total)			
	<b>Total BIHAR Generation</b>			0.00
	BSEB Drawal			
	BSEB Demand			0
	Station/	Day	Peak	Day Energy
	Station/ Constituents	Day MW	Peak Hrs	Day Energy (MU)
	Station/ Constituents Patratu TPS	Day   MW	Peak Hrs	Day Energy (MU)
	Station/ Constituents Patratu TPS Tenughat TPS	Day MW	Peak Hrs	Day Energy (MU)
	Station/ Constituents Patratu TPS Tenughat TPS Thermal (Total)	Day   MW	Peak Hrs	Day Energy (MU) 0.00
	Station/ Constituents Patratu TPS Tenughat TPS Thermal (Total) Subernrekha	Day MW	Peak Hrs	Day Energy (MU) 0.00
JHARKHAND	Station/ Constituents Patratu TPS Tenughat TPS Thermal (Total) Subernrekha Hydro (Total)	Day MW	Peak Hrs	Day Energy (MU) 0.00
JHARKHAND	Station/ Constituents Patratu TPS Tenughat TPS Thermal (Total) Subernrekha Hydro (Total) Total JHARKHAND Gen.	Day   MW	Peak Hrs	Day Energy (MU) 0.00 0.00 0.00
JHARKHAND	Station/ Constituents Patratu TPS Tenughat TPS Thermal (Total) Subernrekha Hydro (Total) Total JHARKHAND Gen. JSEB Drawal	Day MW	Peak Hrs	Day Energy (MU) 0.00 0.00 0.00

	Station/ Day Peak		Day Energy	
	Constituents	MW	Hrs	(MU)
	Talcher TPS			
	IB Valley TPS			
	GMR			
	Thermal (Total)			0.00
	Burla			
	Chipilima			
	Balimela			
	Rengali			
ODISHA	Upper Kolab			
	Indravati			
	Machkund Share			
	Hydro (Total)			0.00
	Total CPP Import			
	Others			
	Total Odisha Generation	n		0.00
	ODISHA Drawal			
	ODISHA Demand			0

	Station/	Day Peak		Day Energy
	Constituents	MW	Hrs	(MU)
	Budge-Budge TPS			
	Titagarh TPS			
	Southern TPS			
CESC	New Cossipore TPS			
	Thermal (Total)			0.00
	Others			
	Total CESC Generation			0.00

### Annexure-II FORMAT FOR REPORTING SYSTEM DISTURBANCES ( Detailed Report )

### **OCCURRENCE REPORT**

- (1) Date & Time of Occurrence
- (2) Name of the Sub Station / Generating Station
- (3) Details of Occurrence

At the time of occurrence the disposition of the feeders was as below

Bus B

BUS COUPLER BREAKER WAS "ON" /"OFF"

### For one and half breaker scheme

	Feeder I	Feeder II	Tie-breaker (On/Off
Diameter 1			
Diameter 2			
Diameter 3			

### (4) Sequence of Trippings

Time	Event
1 mie	
(hh mm	SS )
(	55 /

# (5) Relay Indication for Faulted Line/Transformer/Bus

(A)			<b>Relay Indication</b>
SI. No.	Name of Bay / Line	Local End Relay type / Make And Indications	Remote End Relay type / Make And Indications
1.			
2.			
3.			
4.			

### (6) Location and nature of Fault

### (7) PLCC counter readings

	Local end		Remote end	
	Before	After	Before	After
CH I				
СН ІІ				

# (8) Analysis

### (9) **Restoration**

Sl.No.	From	То	Duration

**Remedial Measures / Lesson Learnt** 

**Enclosure ::-**

- 1) Schematic Diagram showing position of (ON/OFF) breakers, Isolators and Relay Indications.
- 2) DR Charts.
- 3) **Event Logger outputs.**

Annexure-III

# Islanding Scheme of FSTPP

The scheme has been formed with DATA provided by ERLDC and based on Islanding Scheme for FARAKKA forwarded by ERLDC
- NTPC Farakka is having 3 Units of 200 MW and 3 Units of 500 MW with one and half breaker scheme (Two main bus) at 400 KV Bus Bar arrangements.
- Scheme is based on keeping one 200 MW unit (U I) with 400/220 KV auto transformer along with 220 KV Farakka Lalmatia Line and common station load of NTPC Farakka through 400 / 33 KV Tie Transformers on Bus II.
- Units II, III and VI on houseload.
- Units IV & V and all lines along with Bus Reactors will remain part of larger grid with 400 KV Bus – I.







- Once the frequency falls to say 47.6 Hz the PLC should give signal to appropriate CBs to open from 400 KV Bus – II to enable make an Island of Farakka Unit (one of the 200 MW unit, say U-I) with the 315 MVA Auto Transformer & 220 KV Farakka Lalmatia Lone with the following mentioned loads at Lalmatia S/S with Bus – II.
- Breakers No. to open from Bus II
   752, 3152, 1552, 1852, 2152, 2452, 3452, 3652, 4052, 2552, 2852.

In addition to above, Unit – I main breaker 352 is to get open from Bus – I; Tie Breaker 552 to open in order to keep Tie Transformer – 2 load on Islanded Bus – II and Tie Breaker 1152 in order to keep Auto Transformer connected to only Bus – II.

At 33 KV level – Auto changeover of Tie Transformer – 3 load to Tie Transformer – 1 & 2.

Thus on Bus – II, Unit – I will remain connected with Tie Tranformer 1 & 2 alongwith Auto Transformer

- Units II, III and VI to remain on house load.
- Following Units and Lines will remain connected to Bus I
   Unit 4 & 5 ; Lines Malda 1 & 2, Bus Reactor 1 & 2, Sagardighi, Jeeart, Durgapur Line 1 & 2, Kahalgaon line 1. 2. 3 & 4.
- At Lalmatia end:- Simultaneously following Lines are to get opened to form an island Lalmatia Sabour 132 KV

Lalmatia – Kahalgaon 132 KV OR ALTERNATIVELY these two lines are to be isolated from Kahalgaon end with under frequency relay.

 In Jharkhand, if any feed other than radial load is connected to 132 KV Dumka line or 33 KV Godda line ; those lines are to be disconnected simaltaneously with the help of Under Frequency Relay at appropriate. Locations (To be confirmed by JSEB and ERLDC)

### **ISLANDING SCEME OF FSTPP**

Lines and breakers shown in red are Islanded portion, Breakers in white colour are in OFF condition. Lines and breaker in Blue colour will remain with the GRID (non islanded portion)



SI Number	Name of Substation	Peak load	Off Peak Load
1	FSTPP	Plant load	Plant Load
2	Khalgaon	13	12
3	Sabour	43	39
4	Banka	10	9
5	Sultanganj	15	14
6	Lalmatia	29	26
7	Dumka	23	21
8	Sahebganj	14	13
9	Total	147	124

## Load Generation mismatch

 Once the island forms PLC will take care for load generation mismatch. Depending upon whether the island has surplus generation or excess load, PLC will decide whether to go for generation backing down (by fast ramping down or by HP/LP bypass) or to go for further load shedding within the island by tripping appropriate 33 kV feeders with Frequency dropping below a pre decided value. Since the power number of formed island will be very low a very precise load generation matching technique is needed

#### STATUS OF RGMO IN ER

ANNEXURE-IV (Pg 1 of 3)

#### LIST OF GENERATING UNITS PARTICIPATING IN RGMO

CONSTITUENT	STATION	UNIT	CAPACITY	STATUS OF RGMO AS INFORMED BY STATIONS	ERLDC Obeservation
		1	200	Running under RGMO mode	
		2	200	Running under RGMO mode	Intermittent response observed
	FARAKKA	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	
		1	210	Taken in at 00:00hrs of 01.08.10	
		2	210	Taken in at 00:00hrs of 01.08.10	Intermittent response observed
		3	210	Running under RGMO mode	
NTPC	KAHALGAON	4	210	Running under RGMO mode	
		5	500	Running under RGMO mode	
		6	500	Taken in at 00:00hrs of 01.08.10	1
		7	500	Running under RGMO mode	
	TALCHER	1	500		
		2	500		Intermittent response observed
		3	500	All units are running under RGMO mode	
		4	500		
		5	500		
		6	500		
		1	170		
TEESTA	TEESTA	2	170	Taken in RGMO mode at 00:00hrs of 01.08.10	Response satisfactory
		3	170		
DVC	ME IIA	4	250	Implemented(56Th OCC meeting)	Response not satisfactory
		6	250	Implemented(69Th OCC meeting)	
		1	210	implemented (05111 000 incetting)	
		2	210		
	BAKRESWAR	3	210	RGMO implemented & in Service(56th OCC meeting)	Response observed on 31.01.12
WBPDCL		4	210		
		5	210		
	SANTALDIH	6	250	RGMO implemented & in Service(72nd OCC meeting)	Under Obsevation
		1	250		
CESC	BUDGE BUDGE	2	250	Unit # 1,2 in FGMO & 3 in RGMO	Response satisfactory
		3	250		
Storlito	Storlito	1	600	PGMO implemented & in Service(72nd OCC meeting)	Linder Observation
Sternite	Sterille	2	600	Kowo implemented a moervice(/2nd Occ meeting)	Under Obsevation
MPI	MPI	1	525	RGMO implemented & in Service(73rd OCC meeting)	Linder Observation
			12535		

#### 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	
FSTPP	FARAKKA	6	500	Not Implemented	
	CHANDRAPURA TPS	7	250	RGMO detail is n't available	
	CHANDRAPURA TPS	8	250		
		1	210	Difficulties in implementing RGMO & exemption not applied (56th	
	BOKARO 'B'	2	210	OCC meeting)	
		3	210		
DVC		1	210		
	MEJIA	2	210	Not implemented & exemption not applied(56th OCC meeting)	
		3	210		
	MEJIA-B	7	500	Not Implemented & exemption not applied	
	WARIA	4	210	Difficulties in implementing RGMO & exemption not applied(56th OCC meeting)	
ISER TENUCHAT 1 210 Difficulti		210	Difficulties in implementing RGMO & exemption not applied(56th		
JJEB	JSEB TENUGHAT 2 210		OCC meeting)		
OPGC	IRTPS	1	210	Not adequate response in RGMO(56th OCC meeting)	
0100	ыно	2	210	Not adequate response in RGMO(56th OCC meeting)	
		1	210		
		2	210		
	KOLAGHAT	3	210	Old Units, difficulties in implementing RGMO and exemption	
		4	210	applied(60th OCC meting)	
		5	210		
WRDDCI		6	210		
WBFDCL	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)	
		1	300		
		2	300		
ТОТ	AL CAPACITY		6430		

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

ANNEXURE-IV

( Pg 3 of 3)

CONSTITUENT	STATION	UNIT	CAPACITY	STATUS OF RGMO AS INFORMED BY STATIONS	ERLDC Obeservation
		1	20	Pondage capacity is to generate power upto 3 hours	
NHPC RANGIT		2	20	only.Hence not under the perview of RGMO	
		3	20	,	
		1	20		
	MAITHON HPS	2	20	RGMO detail is n't available	No response
DVC		3	20		
	PANCHET HPS	1	40	RGMO detail is n't available	
		2	40		No response
ISEB	SUBARNREKHA	1	65	RGMO in place, But due to less availability of water , RGMO	
JOLD	SUBARNIKERITA	2	65	could not tested	
		1	49.5		
		2	49.5		
		3	24		
	BURLA	4	24	Applied for exemption(56th OCC meeting)	
		5	37.5		
		6	37.5		
		7	37.5		
		1	24		
	CHIPLIMA	2	24	Applied for exemption(56th OCC meeting)	
		3	24		
		1	60		
		2	60		
		2	60	Applied for exemption(56th OCC meeting)	
	BALIMELA	3	00		
		4	60		
		5	60		
OHPC		6	60		
		7	75		
		8	75		
	UPPER KOLAB	1	80		
		2	80	Applied for exemption(56th OCC meeting)	
		3	80	· + + · · · · · · · · · · · · · · · · ·	
		4	80		
		1	50		
		2	50		
	RENGALI	3	50	Applied for exemption(56th OCC meeting)	
		4	50		
		5	50		
		1	150		
		2	150		
	INDRAVATI	3	150	Applied for exemption(56th OCC meeting)	
		4	150		
		1	12.5		
		2	12.5		No response
	RAMMAM	2	12.0	RGMO detail is n't available	NU LESPOLISE
WBSEDCL		3	12.5		
		4	12.5		
	PPSP	1,2,3,4	900	Not yet implemenetd & exemption not applied(56th OCC meeting)	
TO	AL CPACITY		3232		

			Annexure-V		
SI. No.	Name of Sub-station	Date of Audit	Third Party Protection Phase-I Observations/Remarks		
1	1 Subhashgram 400 kV- Powergrid 18-12-2012		1. PLCC channel-II (BPL-9505 property of WBPDCL) of 400 kV Subhashgram-Sagardighi line is not working 2. PLCC of 220 kV Subhashgram(PG)-Subhashgram (WBSETCL) for protection is not commissioned. (Property of WBSETCL)		
			<ol> <li>Static relays of Subhashgram-Sagardighi 50 MVAR line reactor protection are expected to be replaced with numerical relays by January 2013.</li> </ol>		
			1. Time Synchronizing Equipment is installed, yet to be commissioned.		
	Kharagpur 400 kV-		2. Stand alone Event Logger is installed, but not commissioned.		
2	WBSETCL	19-12-2012	3. Zone reach and trip delay settings of Main-I and Main-II Distance relays of line protection are different.		
			4. Directional IDMT type earth fault protection is not activated in numerical relays of line protection.		
			1. Event Logger is not synchronized with GPS clock.		
			2. Bus Bar protection is not available for all voltage levels		
з	Kolaghat 400 kV-	19-12-2012	3. Static relays may be replaced with numerical relays		
5	WBPDCL	15 12 2012	4. Available numerical relays are not synchronized with GPS clock		
			<ol> <li>Directional IDMT type earth fault protection is not activated in numerical relays of line protection.</li> <li>Over fluxing protection for all 150 MVA, 220/132 kV transformers is not installed</li> </ol>		
			1. Event Logger is not available.		
			2. Synchronizing trolley is under repair		
			3. Two sets of batteries not available for 220 kV and 132 kV protection system		
4	Jeerat 400 kV -WBSETCL	20-12-2012	4. Bus Bar protection not available at 200 kV and 132 kV levels		
			5. Static relays may be replaced with numerical relays		
			6. Time synchronizing equipment is not available		
			7. LOCAL BREAKER BACKUP PROTECTION IS NOT AVAILABLE AT 20 KV and 132 KV REVERS		
5	Mejia TPS 400 kV - DVC	20-12-2012	(Primary values)		
6	Durgapur STPS 400 kV - DVC	20-12-2012	1. PSB unblocking time needs to be reviewed		
7	Durgapur 400 kV - Powergrid	19-12-2012	1. Static relays may be replaced with numerical relays		
		10 12 2012	1. RTU is not available		
8	Bidhannagar 400 kV - WBSETCL				
Ŭ		19 12 2012	2. Directional IDMT type earth fault protection is not activated in numerical relays of line protection.		
			4. Time Synchronizing Equipment is installed, yet to be commissioned.		
			1. Event Logger is under repair		
	Malda 400 kV		2. Static relays may be replaced with numerical relays		
9	Powergrid	29-12-2012	3. Some numerical relays are not synchronized with GPS clock		
	roweight		4. BPL made PLCC panels are being replaced with ABB made PLCC panels		
			5. 50 MVA ICT-I and II are being replaced with 160 MVA for capacity enhancement		
			1. Static relays may be replaced with numerical relays		
	Farakka STRD 400 kV		2. Time synchronizing equipment is not available		
10	NTPC	28-12-2012	Keplacement of PLUC panels by PGCIL Is in progress     A Voice communication to RLDC is not available		
			5. Farakka-Durgapur 400 kV line-II and Farakka-Kahalgaon 400 kV line-I and II are not connected to Event		
			Logger		
11	Bakreswar 400 kV -	27 12 2012			
11	WBPDCL	27-12-2012	1. Directional IDMT type earth fault protection is not activated in numerical relays of line protection.		
			1. Main-I and II distance relays for line protection are of same make and model		
12	Sagardighi 400 kV -	20.42.2042	2. Voice communication to RLDC is not available		
	WBPDCL	28-12-2012	3. PLCC channel-I of Sagardighi-Subashgram 400 kV line not working		
			4. PLCC of Sagardighi-Farakka 400 kV line not working		
			1. Auto reclosing and carrier aided tripping features for 220 kV lines are not in service due to problem at		
	Gaya 765 kV -		remote end (BSPTCL).		
13	Powergrid	28-12-2012	2. PLCC panels for channel-II are not available. Order has been placed.		
			3. Voice communication to RLDC is not available		
	Patna 400 W/-		1. Auto reclosing feature for 220 kV lines is not in service due to problem at remote end (BSPTCL).		
14	Powergrid	29-12-2012	2. PLCC for 220 kV lines not in service due to problem at remote end (BSPTCL).		
	. encipila		3. Voice communication to RLDC is not available		

15	Biharsharif 400 kV - Powergrid	30-12-2012	1. Static relays may be replaced with numerical relays
16	Muzaffarpur 400 kV - Powergrid	30-12-2012	1. Voice communication to RLDC is not available
17	Meeramundali 400 kV - OPTCL	30-12-2012	Event Logger is not available for 220 kV lines     Event Logger for 400 kV lines is not synchronized with GPS clock     Static relays may be replaced with numerical relays     A. Auto reclosing feature is not enabled for all 220 kV lines     SPLCC channel-IL is not available for all 220 kV lines
			1. Event Logger is not available
18	Mendhasal 400 kV -	28-12-2012	<ol> <li>Bus Bar protection is not in service for 220 kV level</li> <li>Mendhasal-Baripada 400 kV line-I &amp; II relays are not synchronized with GPS clock and carrier aided inter tripping feature is disabled.</li> </ol>
	OFICE		4. Operation aspects of Mendhasal-Baripada 400 kV line-I & II are not being looked after by OPTCL. During tripping of the line, line charging is being delayed as Powergrid staff coming from Bhubaneswar for charging the line
			5. PLCC facility is not available for all 220 kV lines
19	TSTPS, Kaniha 400 kV - NTPC	29-12-2012	PLCC facility for protection is not available for 220 kV lines     Auto reclosing feature not available in all 220 kV lines     Static relays may be replaced with numerical relays     Factboard Teleboard Teleboard Teleboard Teleboard Teleboard Teleboard Teleboard
			4. Earth switches are provided for Faicher-Kourkeia 400 kV line I & II and Faicher-Kengali 400 kV line I & II to facilitate earthling during maintenance
20	GMR 400 kV - GMR	29-12-2012	1. Voice communication to RLDC is not available
			1. Local Breaker Backup is not available
			2. Event Logger is not available
			3. Synchronizing facility is not available
	Bodhgaya 220 kV -		4. Voice and data communication to RLDC is not available
21	BSPTCL	28-12-2012	
			6. Earthling switches are not provided to facilitate earthling of outgoing transmission lines for maintenance
			7. Auto reclosing feature is not available.
			8. PLCC is not installed.
			9. Time Synchronizing Equipment is not installed.
22	Talcher HVDC - Powergrid	29-12-2012	

SI. No.	Name of Sub-station	Date of Audit	<b>Observations/Remarks</b>		
1	Tisco (BPRS) 400 kV -	28-01-2013	1. Voice and Data communication to RLDC is not available		
	DVC		2. Event Logger is commissioned but not in service due interfacing problem		
			3. Overload alarm for 315 MVA, 400/138/34.5 kV ICTs are not available		
2	Jamshedpur 400 kV-	29-01-2013	1. Main-I Static relays available for line protection may be replaced with numerical relays		
	PGCIL		2. PLCC speech channels of Rourkela line-1 and Durgapur line are not working		
			3. Remote Oil Temperature Indicators of 315 MVA, 400/138/34.5 kV ICTs and 50 MVAR bus reactors are		
			not available in control room		
3	Ranchi 400 kV-PGCIL	30-01-2013	1. Overload alarm for 315 MVA, 400/138/34.5 kV ICTs are not available		
4	Koderma 400 kV -DVC	31-01-2013	1. Data and Voice communication to RLDC is not available		
			<ol> <li>Directional IDMT type earth fault protection is not activated in numerical relays of line protection.</li> <li>Remote Winding and Oil Temperature Indicators of 315 MVA, 400/138/34.5 kV ICTs and 50 MVAR bus reactors are not available.</li> </ol>		
			4. Overload alarm for 315 MVA, 400/138/34.5 kV ICTs is not available		
5	Arambag 400 kV -	24-01-2013	1. Event Logger is not available		
	WBSETCL		2. DG set is not available		
			3. Static relays may be replaced with numerical relays		
			4. Single set of 220 V DC battery supply is available and relays are not segregated into two groups for 22 kV line protection		
			5. Bus bar protection is not available for 220 kV level		
			6. Auto reclosing feature is disabled		
			7. Time Synchronizing Equipment is not available.		
			8. Directional IDMT type earth fault protection is not activated in numerical relays of line protection.		
			9. Only one PLCC protection coupler is provided for 220 kV lines		
			10. LBB is not provided for 132 kV level		
			11. Overload alarm for 315 MVA, 400/138/34.5 kV ICT-I and 160 MVA, 220/132/33 kV ICT-I and II are not		
			available		
6	Maithon RB 400 kV -	22-01-2013			
	MPL		1. PLCC channel-II of protection is not working		
7	Maithon 400 kV -	21-01-2013			
	Powergrid		1. Static relays may be replaced with numerical relays		
8	Raghunathpur 400 kV -	22-01-2013	1. Static relays may be replaced with numerical relays		
	DVC		2. ABB REL 670 installed as a main protection for Ranchi 400 kV line is not in service		
9	Bolangir 400 kV -	31-01-2013			
	Powergrid		1. Directional IDMT type earth fault protection is not activated in numerical relays of line protection.		
10	Jaypore 400 kV -	28-01-2013	1. Static relays may be replaced with numerical relays		
	Powergrid		2. PLCC of 220 kV lines is not working		

11	Indravati 400 kV -	30-01-2013			
	Powergrid		1. Static relays may be replaced with numerical relays		
12	Rengali 400 kV -	1/2/2013	1. Static relays may be replaced with numerical relays		
	Powergrid		2. PLCC for 220 kV lines is not available		
			3. Auto reclosing feature not available in 220 kV lines		
			4. Disturbance recorder and fault locator not available for 220 kV lines		
			5. Overload alarm for 315 MVA ICTs is not available		
13	Rourkela 400 kV -	22-01-2013	1. Static relays may be replaced with numerical relays		
	Powergrid		2. Only one PLCC channel is available for 220 kV line protection		
14	Indravati 400 kV - OHPC	30-01-2013	1. Static relays may be replaced with numerical relays		
			2. Main-II of Indravati(PG) line is not in service		
			3. Event logger is installed but not working		
			4. Auto reclosing feature is not in service		
			5. Overload alarm for 315 MVA ICT is not available		
15	Baripada 440 kV -	23-01-2013			
	Powergrid		1. Static relays may be replaced with numerical relays		
16	Theruvali 220 kV -	29-01-2013	1. Auto reclosing feature is not in service		
	OPTCL		2. Static relays may be replaced with numerical relays		
			3. Restricted earth fault and over fluxing relays are not available for all 100 MVA, 220/132/33 kV ICTs		
			4. Pressure Relieve Device, Low Oil level alarm, Overload alarm are not available for all 100 MVA,		
			220/132/33 kV ICTs		
			5. Event Logger is not available		
			6. Synchronizing facility is not available		
17	Jaynagar 220 kV -	28-01-2013	1. Event Logger is not available		
	OPTCL		2. LBB not available		
			3. Static relays may be replaced with numerical relays		
			4. Auto reclosing feature is not available		
			5. PLCC facility for protection is not available		
			6. Synchronizing facility is not available		
			7. Over fluxing relay and overload alarm are not available for 100 MVA, 220/132/33 kV ICTs		
18	Bidhannagar 220 kV -	21-01-2013	1. Event Logger is not available		
	WBSETCL		2. Bus Bar protection is not in service for 220 kV level		
			3. DG set not available		
			4. Synchronizing facility is not available		
			5. Only single set of 220 V DC source is available and protection relays are not segregated into two groups		
			6. Static relays may be replaced with numerical relays		
			7. LBB not available		
			8. Auto reclosing feature not in service		
			9. PLCC equipment for line protection is not available		
			10. Time synchronizing equipment is not available		

			11. Only one numerical relay is available, no backup relay is available for Santaldih, Waria and Bakreswar			
			220 kV line protection			
			12. Over fluxing relay and Overload alarm are not available for 160 MVA, 220/132/33 kV Transformer-I			
			and II			
19	Santaldih 220 kV -	23-01-2013	1. PLCC facility for protection is not available			
	(WBPDCL)		2. Auto reclosing feature not available in all 220 kV lines			
			2. Event Logger is not available			
			3. Synchronizing facility is not available			
			4. Voice and data communication to SLDC is not available			
			5. Single set of 220 V DC battery supply is available.			
			6. Static relay of 100 MVA, 220/132 kV ICT may be replaced with numerical relays			
			7. Time Synchronizing Equipment is not available.			
			8. Overload alarm not available for 130 MVA and 100 MVA ICTs			
			9. LBB is not provided for 132 kV level			
20	Ramchandrapur 220 kV -	29-01-2013	1. Local Breaker Backup is not available			
	JSEB		2. Event Logger is not available			
			3. Synchronizing facility is available, but not in service			
			4. Voice and data communication to SLDC is not available			
			5. Bus Bar protection is not available			
			6. Earthling switches are not provided to facilitate earthling of outgoing transmission lines for maintenance			
			7. Auto reclosing feature is not available.			
			8. PLCC panels are not in service			
			9. Static relays may be replaced with numerical relays			
			10. Only single set of 220 V DC source is available and protection relays are not segregated into two groups			
			11. Only one numerical relay is available for Chandil 220 kV line protection, No backup.			
			12. Remote indicators of Winding and Oil temperature for all three ICTs of 150 MVA, 220/132/33 kV are			
			not available			
			13. Low oil level alarm and over load alarm are not available for all three 150 MVA, 220/132/33 KV ICIS			
			14. Time Synchronizing Equipment is not installed.			
			15 High voltage (228 kV to 248 kV) observed from August 2012 reported by Sub-station representative			
21	Chandil 220 W/ ISEP	20 01 2012	1. Local Broaker Backup is not available			
21	Chanuli 220 KV - JSED	29-01-2013	1. Local Diedkei Backup is not available			
			2. Event Logger is not available			
			4. Voice and data communication to SLDC is not available			
			F. Pus Par protection is not available			
			6. Earthling switches are not provided to facilitate earthling of outgoing transmission lines for maintenance			
			7. Auto reclosing feature is not available.			
1	1 1					

			8. PLCC panels are not available			
			9. Static relays may be replaced with numerical relays			
			10. Only single set of 220 V DC source is available and protection relays are not segregated into two groups			
			11. Remote indicators of Winding and Oil temperature for all three ICTs of 100 MVA, 220/132/33 kV are			
			not available			
			12. Low oil level alarm and over load alarm are not available for all three 100 MVA, 220/132/33 kV ICTs			
			13. Oil leakage observed in ICT-I and II; oil level indicator for ICT-I is not working			
			14. Time Synchronizing Equipment is not installed.			
			15. No line protection is available for Chandil-Ramchandrapur 220 kV line			
			16. Restricted earth fault and over fluxing relays for are not available all three 100 MVA, 220/132/33 kV			
			ICTs			
22	Tarkera 220 kV - OPTCL	21-01-2013	1. Local Breaker Backup is not available			
			2. Event Logger is not available			
			3. Synchronizing facility is not available			
			4. Static relays may be replaced with numerical relays			
			5. Bus Bar protection is not available			
			6. Circuit breakers are not suitable auto reclosing.			
			7. PLCC equipment for line protection is not available			
			8. Over fluxing relay and Restricted earth fault relay are not available for 100 MVA, 220/132 kV			
			Transformer I and III			
			9. Pressure relieve device and Overload alarm are not available for all 100 MVA. 220/132 kV Transformers			
			10. Time synchronizing equipment is available but relays are not time synchronized			
23	loda 220 kV - OPTCI	22-01-2013	1 Local Breaker Backup is not available			
23	JOUR 220 KV OFFICE	22 01 2015	2 Event Logger is not available			
			3 Synchronizing facility is not available			
			4 DG set not available			
			5. Earthling switches are not provided to facilitate earthling of outgoing transmission lines for maintenance			
			6. Static relays may be replaced with numerical relays			
			7. Bus Bar protection is not available			
			8. Over fluxing relay, Restricted earth fault relay, Low oil level alarm, Pressure relieve device and Overload			
			alarm are not available for 100 MVA, 220/132 kV Transformers			
			9. Auto reclosing feature is not available.			
			10. Time synchronizing equipment is available but relays are not time synchronized			
			11. PLCC equipment is not available			

#### **Annexure-VII**

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DATE: 25.01.2013

REF: ER-11/OS/F06

#### FAX:-033-24171358, 24221802

TO

The Member Secretary, ERPC, 14 GOLF CLUB ROAD, TOLLYGUNGE, KOLKATA - 700033

### Sub: Action Plan to the Observation of 3rd Party Protection Audit of NTPC/Kaniha.

With reference to the observation of the 3rd party Audit observations, the status/Action plan is mentioned below.

SLNo	Observations	Status/Action Plan
1.	PLCC facility for protection is not available for 220 kV Lines.	<ul> <li>&gt; OPTCL is the owner of the associated PLCC system of the 220 kV Lines. Presently the protection coupler is not available in the existing PLCC system.</li> <li>&gt; The scheme for PLCC aided tripping for 220 kV Lines is in place at Kaniha but this is non functional due to absence of protection coupler in associated PLCC system.</li> <li>&gt; If the protection coupler is provided in the PLCC system, the PLCC aided tripping can be put into service at Kaniha end.</li> <li>&gt; Peature of PLCC aided tripping at remote end substation may be confirmed from respective remote end station.</li> </ul>
2.	Auto Reclosing feature is not available for 220 Kv lines.	<ul> <li>The scheme of Auto raciosing function for 220 kV lines is in place at Kaniha end. This feature is non-functional due to absence of protection coupler in the associated PLCC system.</li> <li>If the protection coupler is provided in PLCC system, Auto Reclosing function can be made functional at Kaniha end.</li> <li>Auto reclosing feature at remote end may be confirmed from the respective remote end substation.</li> </ul>

फ्लोट में. -- एग 17/2, जो फ्ल काई सी विलिधेन, डॉसरी एवं चौकी वंजील, नवल्परली, भुप्रवेश्वर -- 761012, क्रुपाथ : 0674-2500016, फैक्स : 0674-2601018 Plot No. N-1772, OLIC Building, 3rd & 4th Floor, Nayapali, Bhubanaawar-761012, Tale : 0874-2800918, Pax : 0874-2801918 মঠবান্ধুল আবাধিন্দ : হৰ্মহীনীয়া মান্দ্ৰ, ক্ষাঁয় মান্দ্ৰবিদ্ধা, 7, ফুলচীৱস্থানক হৰিবা, জাম্বা হৈব, বহু বিদেশা – 110003 Regd. Office : NTPC Bhawen, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi - 110003 grent/Tei : 011-24360100, Steel/Fax: 011-24361016, /Remit/Website : www.ntpo.co.in



Pg. 1/2

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This is for your information & necessary action at your end.

Regards.

2013 (S.Nayak) AGM(OS)

प्लीह नं. – एन 17/2, ओ घुल आई को सिण्डिंग, जीवरी पूर्व चीनी मंत्रील, मधायरली, सुबवेत्रास – 751012, पुरमाय : 0674-2500918, फैल्ला : 0674-2501019 Plot No. N-17/2, OLLC Building. 3rd & 4th Ploor, Neyapalli, Shubaneswar-781012, Tels : 0674-2600818, Pac : 0674-2601918 धेवीम्हारा सालांसिय : युवदीपीसी म्वान, डसोन काल्यलेका, 7, इनवीटकुरानल पुरिषा, लोभी रोस, मई विश्वनी – 110003 Regd. Office : NTPC Bhawan, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Dehi - 110003 grane/Tel : 011-24380100, faret/Fex : 011-24381018, / faretrier/Webaite : www.stpo.co.in

19.2/2-

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200 C 100 C

### Powergrid:

SL No.	Name of Sub- station	Date of Audit	Observations/Remarks	Status / Action Plan
			1. PLCC channel-II (BPL-9505 property of WBPDCL) of 400 kV Subhashgram-Sagardighi line is not working	Panel belongs to WBPDCL, rectification to be done by WBPDCL
1	Subhashgram 400 kV-	18-12-2012	2. PLCC of 220 kV Subhashgram(PG)-Subhashgram (WBSETCL) for protection is not commissioned. (Property of WBSETCL)	Panel belongs to WBSETCL, commissioning to be done by WBSETCL
	rowergna	rowengna 3.5 pro Jan	<ol> <li>Static relays of Subhashgram-Sagardight 50 MVAR line reactor protection are expected to be replaced with numerical relays by January 2013.</li> </ol>	Relay delivered at Site. To be comissionied by Mar'13
7	Durgapur 400 kV - Powergrid	19-12-2012	1. Static relays may be replaced with numerical relays	Procurement under progress. Replacement by May'12
			1. Event Logger is under repair	Received at site after repair, shall be commissioned with 15 days
			2. Static relays may be replaced with numerical relays	Procurement under progress. Replacement by May'12
9	Malda 400 kV - Powergrid	da 400 kV - owergrid 29-12-2012	3. Some numerical relays are not synchronized with GPS clock	LOA for TDR placed. To be done by Mar'13
			<ol> <li>BPL made PLCC panels are being replaced with ABB made PLCC panels</li> </ol>	equipment delivery under progress. To be commissioned by Mar'13
			<ol> <li>50 MVA ICT-I and II are being replaced with 160 MVA for capacity enhancement</li> </ol>	ine on by WBPDCL anel belongs to WBPDCL anel belongs to WBSETCL, ommissioning to be done by WBSETCL alay delivered at Site. To be amissionied by Mar'13 rocurement under progress. epiacement by May'12 ecvived at site after repair, shall be ommissioned with 15 days rocurement under progress. epiacement by May'12 DA for DR placed. To be done by tar'13 automent delivery under progress. To a commissioned by Mar'13 fork in Progress. Expected completion y Feb'12 automent delivery under progress. To a commissioned by Mar'13
10	Faraikka STPP 400 kV - NTPC	28-12-2012	3. Replacement of PLCC panels by PGCIL is in progress	Equipment delivery under progress. To be commissioned by Mar'13

### FSTPP, NTPC:

### Compliance/Action Plan on Observations of TPA (Protection)

Point	Compliance/Action Plan
Static Relays may be replaced with numerical relays	Purchase Indent for the same will be prepared by January-2013.
Time synchronizing equipment is not available	Available for 400KV FKK-Kahalgaon Line -3 & 4. For rest of the lines, budgetary offer invited from the party. The same is expected by January-2013.
Replacement of PLCC panels by PGCIL is in progress	PGCIL may please be contacted regarding the latest status.
Voice communication to RLDC is not available	Voice communication available and already in service. This point may please be deleted from the list.
400KV FKK-DGP Line-2, 400KV FKK- Kahalgaon Line-1 & 2 are not connected to Event Logger	Connection available but M/s Hathaway make EL is presently our of service. Expected to be put back in operation by April-2013.

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To

The Member Secretary,

Eastern Regional Power Committee

14, Golf Club Road, Tollygunj, Kolkata- 700033

Sub: Compliance/ Action plan on observation of "Third Party Protection Audit"

Ref: ERPC/ SE (OPRN)/ OPERATION/ 2012-13/ 6295-6317 dated 11.01.2013

Sir,

Following are our compliance/ action plan towards the observation of the Third party Protection Audit Committee

Substation of WBSETCL	Observation / Remarks of Third Party Protection Audit Committee	Our compliance/ Action plan
Kharagpur 400kV	<ol> <li>Time Synchronising Equipment is installed, yet to be commissioned</li> </ol>	Will be commissioned shortly.
	<ol><li>Stand alone event logger is installed, but not commissioned.</li></ol>	Do
	<ol> <li>Zone reach and trip delay settings of Main- I and Main-II Distance relays of line protection are different.</li> </ol>	Will be rectified, if required, shortly.
	<ol> <li>Directional IDMT type earth fault protection is not activated in numerical relays of line protection.</li> </ol>	We do not recommend such protection for 400kV feeder.
leerat 400kV	1.Event logger is not available.	Stand alone event logger is absent. But event logger is present in individual numerical relays.
	2. Synchronising Trolley is under repair.	Under process
	3. Two sets of batteries not available for 220kV and 132kV protection system.	As per our convention.
	<ol> <li>Bus Bar protection not available for 220kV and 132kV levels.</li> </ol>	Under consideration
	5. Static relays may be replaced with numerical relays.	May be taken up.
	<ol><li>Time synchronizing equipment is not available.</li></ol>	Under consideration
	<ol><li>Local breaker backup protection is not available at 220kV and 132kV levels.</li></ol>	Under process
Bidhannagar 400kV	1. RTU not available	Under process
	<ol> <li>Directional IDMT type earth fault protection is not activated in numerical relays of line protection.</li> </ol>	We do not recommend such protection for 400kV feeder.
	3. Auto reclosing not in service.	Auto reclosing ready for use at local end, but not in service due to problem in other end.
	<ol> <li>Time synchronizing equipment is installed, yet to be commissioned.</li> </ol>	Will be commissioned shortly

	Substation of WBSETCL	Observation / Remarks of Third Party Protection Audit Committee	Our compliance/ Action plan
	Kharagpur 400kV	<ol> <li>Time Synchronising Equipment is installed, yet to be commissioned</li> </ol>	Will be commissioned shortly.
-	Jeerat 400kV	2. Stand alone event logger is installed, but not commissioned.	Do The second
		<ol> <li>Zone reach and trip delay settings of Main- I and Main-II Distance relays of line protection are different.</li> </ol>	Will be rectified, if required, shortly.
		<ol> <li>Directional IDMT type earth fault protection is not activated in numerical relays of line protection.</li> </ol>	We do not recommend such protection for 400kV feeder.
		1.Event logger is not available.	Stand alone event logger is absent. But event logger is present in individual numerical relays.
		2. Synchronising Trolley is under repair.	Under process
		<ol> <li>Two sets of batteries not available for 220kV and 132kV protection system.</li> </ol>	As per our convention.
	10 A.C.	<ol> <li>Bus Bar protection not available for 220kV and 132kV levels.</li> </ol>	Under consideration
		<ol> <li>Static relays may be replaced with numerical relays.</li> </ol>	May be taken up.
		<ol><li>Time synchronizing equipment is not available.</li></ol>	Under consideration
-		<ol> <li>Local breaker backup protection is not available at 220kV and 132kV levels.</li> </ol>	Under process
	Bidhannagar 400kV	1. RTU not available	Under process
		<ol> <li>Directional IDMT type earth fault protection is not activated in numerical relays of line protection.</li> </ol>	We do not recommend such protection for 400kV feeder.
		3. Auto reclosing not in service.	Auto reclosing ready for use at local end, but not in service due to problem in other end.
		<ol> <li>Time synchronizing equipment is installed, yet to be commissioned.</li> </ol>	Will be commissioned shortly

**Annexure-VIII** 

# Charging of 400 kV Maithon-Koderma S/C

Date:- 05<sup>th</sup> Feb 2013 Time:- 12:03 Hrs

























# Voltage Profile


Annexure-IX

#### Revised Anticipated Power Supply Position for the month of Mar-13

		P A R T I C U LA R S	PEAK DEMAND	ENERGY		
:	SL.NO		MW	MU		
1		BIHAR				
	i)	NET MAX DEMAND	2500	1300		
	ii)	NET POWER AVAILABILITY- Own Source	157	88		
		- Central Sector	1341	833		
	iii)	SURPLUS(+)/DEFICIT(-)	-1002	-379		
2		JHARKHAND				
	i)	NET MAX DEMAND	1260	730		
	ii)	NET POWER AVAILABILITY- Own Source	540	276		
		- Central Sector	360	212		
	iii)	SURPLUS(+)/DEFICIT(-)	-360	-242		
3		DVC				
	i)	NET MAX DEMAND (OWN)	2625	1625		
	ii)	NET POWER AVAILABILITY- Own Source	3681	2311		
	,	- Central Sector	274	186		
		Long term Bi-lateral (Export)	1030	766		
	iii)	SURPLUS(+)/DEFICIT(-)	300	106		
4		ORISSA				
	i)	NET MAX DEMAND	3400	2280		
	ii)	NET POWER AVAILABILITY- Own Source	2400	1400		
	,	- Central Sector	969	623		
	iii)	SURPLUS(+)/DEFICIT(-)	-31	-257		
	,		5.			
5		WEST BENGAL				
5.1		WBSEDCL				
	i)	NET MAX DEMAND (OWN)	5208	3283		
	ji)	CESC's DRAWAL	590	198		
	iji)	TOTAL WBSEDCL'S DEMAND	5798	3481		
	iv)	NET POWER AVAILABILITY- Own Source	3978	2065		
	.,,	- Import from DPL	100	-5		
		- Central Sector	1074	669		
	V)	SURPLUS(+)/DEFICIT(-)	-646	-752		
	•,		540	, 52		
5 2		DPI				
3.4	i)	ΝΕΤ ΜΑΧ DEMAND	300	266		
	i) ji)	NET POWER AVAILABILITY	400	260		
	iii)		100	-5		
	)		100	-J		
5 2		CESC				
5.5	i)		1660	804		
	i) ji)	NET POWER AVAILABILITY - OWN SOURCE	1070	696		
	,	FROM WBSEDCI	590	198		
	iji)		1660	894		
	iv)	SURPLUS(+)/DEFICIT(-)	0	0		
	,		0	Ŭ		
6		WEST BENGAL (WBSEDCI +DPI +CESC)				
v		(excluding DVC's supply to WBSEDCI's command area)				
		(				
	i)	ΝΕΤ ΜΑΧ DEMAND	7168	4443		
	ji)	NET POWER AVAILABILITY- Own Source	5448	3022		
	,	- Central Sector	1074	669		
	iji)	SURPLUS(+)/DEFICIT(-)	-646	-752		
	,		510	. 52		
7		SIKKIM				
'	i)	NET MAX DEMAND	120	49		
	ii)	NET POWER AVAILABILITY- Own Source	16	4		
	,	- Central Sector	106	57		
	iji)	SURPLUS(+)/DEFICIT(-)	2	12		
	,		2	12		
8		EASTERN REGION				
0						
	i)		16576	10427		
	"		103/0	766		
		eens eens brinder di	1050	/00		
	**/		1 / 9 9 0	9015		
	- 11)		14007	0713		
	)		-1686	-1512		
	,		- 1000	-1312		
	1	( <sup>11</sup> ) ( <sup>1</sup> )				

### EASTERN REGIONAL LOAD DESPATCH CENTRE KOLKATA

#### SHUTDOWN ALLOWED IN 82nd OCC MEETING OF ERPC

51		DATE							
JI.		DATE		D.475		DEMANDING	C/D and the LDV	B	Constitution of
NO	NAME OF THE ELEMENTS		TIME	DATE	TIME	REMARKS	S/D availed BY	Reason	Condition
1	400kv Maithon- MPL # I	2/19/2013	9:00	2/19/2013	17:00	ODB	POWERGRID ER - II	400 KV D/C Maithon (RBTPS ) -Maithon 5 nos. (in each string) 120kn broken glass insulator havebeen observed at loc. no. 44 and 45 bottom phase in ckt I damaged by miscreants	SUBJECT TO MPL CONSENT
2	160 MVA ICT-I at Baripada	2/19/2013	9:00	2/19/2013	17:00	ODB	POWERGRID ER - II	AMP	SUBJECT TO OPTCL CONSENT
3	400 KV BSF – MUZ - I	2/20/2013	10:00	2/20/2013	14:00	ODB	POWERGRID ER - I	AMP	
4	315 MVA ICT-II at Binaguri	2/20/2013	9:00	2/20/2013	17:00	ODB	POWERGRID ER - II	CT oil sampling as per program given by CGL Engineer	
5	400 KV BUS - I AT BSF	2/20/2013	8:00	2/20/2013	18:00	ODB	POWERGRID ER - I	BAY CONSTRUCTION OF 400 KV BSF - PURNEA	
6	315 MVA ICT - II JAMSHEDPUR	2/20/2013	15:00	2/20/2013	16:00	ODB	POWERGRID ER - I	B-PH CT NITROGEN VALVE REPLACEMENT WORK	SUBJECT TO JSEB CONSENT
7	315 MVA ICT-I at Binaguri	2/21/2013	9:00	2/21/2013	17:00	ODB	POWERGRID ER - II	Winding Tan delta measurement of ICT-II and 220 kV Bus pipe replacement	
8	400 KV Barh - Patana - D/C	2/21/2013	9:00	2/21/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	SUBJECT TO NLDC CONSENT
9	315 MVA ICT#1 at Durgapur	2/22/2013	9:30	3/22/2013	17:30	ODB	POWERGRID ER - II	AMP works	
10	400 KV Barh - Patana - D/C	2/22/2013	9:00	2/22/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	SUBJECT TO NLDC CONSENT
11	400 KV JSR - RKL - I	2/22/2013	9:30	2/22/2013	13:30	ODB	POWERGRID ER - I	CT NITROGEN VALVE REPALCEMENT WORK	
12	400 KV BARIPADA - KENOJHAR - RENGALI	2/22/2013	8:00	2/26/2013	18:00	OCB	POWERGRID ER - II	Balance construction work & shifting of ERS tower to normal tower.	SUBJECT TO NLDC CONSENT
13	400 KV BSF – BALIA - I	2/23/2013	10:00	2/23/2013	14:00	ODB	POWERGRID ER - I	AMP	SUBJECT TO NLDC CONSENT
14	400 KV BSF – MUZ - II	2/23/2013	10:00	2/23/2013	14:00	ODB	POWERGRID ER - I	AMP	
15	315 MVA ICT - II JAMSHEDPUR	2/23/2013	9:30	2/22/2013	13:30	ODB	POWERGRID ER - I	Y-PH CT NITROGEN VALVE REPLACEMENT WORK	SUBJECT TO JSEB CONSENT
16	400 KV BSF – MUZ - II	2/24/2013	10:00	2/24/2013	14:00	ODB	POWERGRID ER - I	AMP	
17	220 kV Siliguri-Binaguri-I	2/24/2013	9:30	2/24/2013	16:30	ODB	POWERGRID ER - II	AMP of CB & other maintenance work	
10	220 IA/ TROUGH 1008 AVA ICT II at Ciliauri	2/24/2012	0.20	2/24/2012	10.20	000		1. At present 160 MVA ICT-II is charged through TBC	Subject to wbsetcl consent& 160 MVA ICT
18	220 KV TBC WITH 160/WIVA ICI-II at Siliguri	2/24/2013	9:30	2/24/2013	16:30	ODB	POWERGRID ER - II	2. AMP of CB & other maint. Work	WILL BE OUT
19	400 KV BKTPP-ARMBAG	2/24/2013	6:00	3/24/2013	16:00	ODB	WBSETCL	AMP Work	
20	400 KV BUS – II AT PATNA	2/25/2013	9:00	2/25/2013	18:00	ODB	POWERGRID ER - I	FOR COMMISSIONING WORK OF 125 MVAR BUS REACTOR AT PATNA.	
21	220 kV Siliguri-Binaguri-II	2/25/2013	9:30	2/25/2013	16:30	ODB	POWERGRID ER - II	AMP of CB & other maintenance work	
22	400 KV BSF – BALIA - II	2/26/2013	10:00	2/26/2013	14:00	ODB	POWERGRID ER - I	AMP	SUBJECT TO NLDC CONSENT
23	400kv Maithon - Mejia-II	2/26/2013	9:00	2/26/2013	17:00	ODB	POWERGRID ER - II	Bay & Line equipment AMP (POWER interruption ) MTN- Meiia-II line should be switched of	SUBJECT TO DVC CONSENT
24	220 KV ARA - SASARAM	2/26/2013	10:00	2/26/2013	14:00	ODB	POWERGRID ER - I	AMP WORK	BSEB MAY SHIFT KHAGOL LOAD.
25	400KV SSRM-BSF-III	2/27/2013	8:00	2/27/2013	18:00	ODB	POWERGRID ER - I	BAY CONST. WORK OF 400 KV PSL – DALTENGANG LINE	SUBJECT TO NLDC CONSENT
26	132 kV Siliguri(PG) - Siliguri(WB) - II	2/27/2013	9:30	2/27/2013	16:30	ODB	POWERGRID ER - II	AMP	SUBJECT TO WBSETCL CONSENT
27	50 MVA ICT-I at Gantok	2/27/2013	9:00	2/27/2013	15:00	ODB	POWERGRID ER - II	AMP	SUBJECT TO SIKKIM CONSENT
28	50 MVAR LINE REACTOR OF 400 KV BSF – GAYA LINE AT BSF( INCLUDING REACTOR CB )	2/28/2013	9:00	2/28/2013	17:00	ODB	POWERGRID ER - I	АМР	
29	400KV SSRM - BALIA	2/28/2013	8:00	2/28/2013	18:00	ODB	POWERGRID ER - I	BAY CONST. WORK OF 400 KV PSL - DALTENGANG LINE	SUBJECT TO NLDC CONSENT
30	132 kV Rangit - Kurseong	2/28/2013	9:30	2/28/2013	16:30	ODB	POWERGRID ER - II	AMP	SUBJECT TO WBSETCL CONSENT
31	400 kV Binaguri-Purnea -II	2/28/2013	18:00	3/31/2013	18:00	ОСВ	POWERGRID ER - II	This is in continuation to earlier shutdown for re-conductoring work with GTACSR conductor in 400 kV Binaguri-Purnea Ckt- II. During the period of s/d of Ckt-II, ckt-I will be available	
32	125 MVAR BR-II at Binaguri	3/1/2013	9:00	3/1/2013	17:00	ODB	POWERGRID ER - II	Bushing Tan delta measurement and AMP work	
33	765KV GAYA - FATEHPUR	3/1/2013	8:00	3/4/2013	18:00	ODB	POWERGRID ER - I	BAY CONST. WORK OF 765 KV SSRM – FATHPUR LINE	SUBJECT TO NLDC CONSENT
34	400 KV ARMBAG-DGP	3/2/2013	6:00	3/2/2013	16:00	ODB	WBSETCL	AMP Work	
35	400 kv Sagardighi - Subhasgram Line	3/3/2013	9:00	3/3/2013	17:00	ODB	POWERGRID ER - II	changing of suspension insulators at locs 385 and 386 damaged by Miscreants	SUBJECT TO WBSETCL CONSENT
36	400 KV JSR – MEJIA LINE	3/4/2013	9:30	3/4/2013	17:30	ODB	POWERGRID ER - I	REPLACEMENT OF B – PH LINE CT PLUS ISOLATOR BLADE REPLACEMENT	
37	315 MVA ICT-II at Rengali	3/4/2013	9:00	3/4/2013	17:00	ODB	POWERGRID ER - II	AMP	
38	220kV Jeypore- Jayanagar-II	3/4/2013	9:00	3/4/2013	13:00	ODB	POWERGRID ER - II	01 no. 220 kV CVT is to be replaced in R -ph of Line CVT due to more drift in secondary volatage .	SUBJECT TO OPTCL CONSENT

SI.		DATE							
No	NAME OF THE ELEMENTS		TIME	DATE	TIME	REMARKS	S/D availed BY	Reason	Condition
39	400 KV Kahalgaon - Biharsariff - I	3/5/2013	9:30	3/7/2013	17:30	OCB	NTPC/KHSTPP	LINE CT & CVT REPLACEMENT	MAITHON - KODERMA D/C & ER - NR TTC MAY BE REVISED
40	132 KV DEHARI – PSL LINE	3/5/2013	10:00	3/5/2013	16:00	ODB	POWERGRID ER - I	AMP WORK	
41	400 kV BONG-NSLG-I	3/5/2013	9:00	3/11/2013	17:00	ODB	POWERGRID ER - II	For replacement of damaged insulator strings detected during	SUJECT TO NLDC CONSENT & ER-NER TTC REV REQUIRED
42	400 KV NEWPURNEA - BIANAGURI - III	3/5/2013	9:00	3/25/2013	17:00	ODB	POWERLINK	ISOLATER CHANGE AT VARIOUS LOCATION	
43	50 MVAR BUS REACTOR – II AT JSR	3/6/2013	9:30	3/6/2013	17:30	ODB	POWERGRID ER - I	REFURBISHED ISOLATOR BLADE REPLACEMENT WORK	
44	220 KV PSL – SAHUPURI	3/6/2013	10:00	3/6/2013	16:00	ODB	POWERGRID ER - I	AMP WORK	
45	400 KV BARH - PATNA - III, BAY - 8	3/7/2013	9:00	3/7/2013	17:00	ODB	NTPC/BARH	PM JOB OF CTs, CVTs, LINE ISOLATOR, CB, LONE OUTAGE	400 KV BARH - PATNA - III WILL BE OUT
46	400 KV Purnea - Muzaffarpur - D/C	3/8/2013	9:00	3/9/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	SUBJECT TO AVAILABILITY OF 400 KV MAITHON - KODERMA D/C & ER - NR TTC MAY BE REVISED
47	400 KV BARH - PATNA - III, BAY - 9	3/8/2013	9:00	3/8/2013	17:00	ODB	NTPC/BARH	PM JOB OF CTs, CVTs, LINE ISOLATOR, CB, LONE OUTAGE NOT REQUIRED	
48	220 KV startup Transformer - I at kaniha	3/9/2013	9:00	3/9/2013	18:00	ODB	NTPC/TALCHER	AMP	
49	400 KV BKTPP-JEERAT	3/10/2013	6:00	3/10/2013	16:00	ODB	WBSETCL	AMP Work	
50	400 KV JSR – MAITHON LINE	3/12/2013	9:30	3/12/2013	17:30	ODB	POWERGRID ER - I	03 NOS. CT REPLACEMENT WORK IN LINE AND MAIN BAY	
51	125 MVAR BR-I AT NPRN	3/12/2013	10:00	3/12/2013	18:00	ODB	POWERGRID ER - I	FOR CONSTN. WORK OF400KV BSF - PRN AT NPRN .	
52	400 KV PSL- ALLAHABAD	3/12/2013	8:00	3/14/2013	18:00	ODB	POWERGRID ER - I	BAY CONST. WORK OF 765 KV SSRM – FATHPUR LINE	SUBJECT TO NLDC CONSENT
53	400 KV Kahalgaon - Biharsariff - II	3/12/2013	9:30	3/14/2013	17:30	OCB	NTPC/KHSTPP	LINE CT & CVT REPLACEMENT	SUBJECT TO AVAILABILITY OF 400 KV MAITHON - KODERMA D/C & ER - NR TTC MAY BE REVISED
54	315 MVA ICT - II JAMSHEDPUR	3/12/2013	10:30	3/12/2013	18:30	ODB	POWERGRID ER - I	FOR ISOLATOR BLADE REPLACEMENT	SUBJECT TO JSEB CONSENT
55	400 kV BONG-NSLG-II	3/12/2013	9:00	3/18/2013	17:00	ODB	POWERGRID ER - II	For replacement of damaged insulator strings detected during patrolling damaged by miscreants	SUJECT TO NLDC CONSENT & ER-NER TTC REV REQUIRED
56	100 MVA ICT & Bays at Siliguri	3/13/2013	9:00	3/13/2013	16:30	ODB	POWERGRID ER - II	AMP	SUBJECT TO WBSETCL CONSENT
57	315 MVA ICT - II JAMSHEDPUR	3/13/2013	10:30	3/13/2013	18:30	ODB	POWERGRID ER - I	FOR ISOLATOR BLADE REPLACEMENT	
58	400 KV BUS – II AT JSR	3/14/2013	9:30	3/14/2013	17:30	ODB	POWERGRID ER - I	REFURBISHED ISOLATOR REPLACEMENT WORK	
59	100 MVA ICT & Bays at Siliguri	3/14/2013	9:00	3/14/2013	16:30	ODB	POWERGRID ER - II	AMP	SUBJECT TO WBSETCL CONSENT
60	132 KV MAIN BUS AT PURNEA	3/14/2013	10:00	3/14/2013	18:00	ODB	POWERGRID ER - I	FOR AMP WORK & CHECKING OF ELECTRICAL OPERATION , ALIGNMENT OF 05 NOS. BIMCO MAKE ISOLATORS AND FARTH SWITCH	SUBJECT TO BSEB CONCURRANCE
61	400 KV Talcher - Rengali - I	3/14/2013	9:00	3/15/2013	16:00	OCB	NTPC/TALCHER	AMP Work.	
62	125 MVAR BR-II AT NPRN	3/14/2013	10:00		18:00	ODB	POWERGRID ER - I	Construction of Purnea - Biharsariff D/C	
63	400 KV Purnea - Muzaffarpur - D/C	3/15/2013	9:00	3/15/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	SUBJECT TO AVAILABILITY OF 400 KV MAITHON - KODERMA D/C & ER - NR TTC MAY BE REVISED
64	400 KV Purnea - Muzaffarpur - D/C	3/16/2013	9:00	3/16/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	MAITHON - KODERMA D/C & ER - NR TTC MAY BE REVISED
65	400 KV PSL- SARNATH	3/17/2013	8:00	3/18/2013	18:00	ODB	POWERGRID ER - I	BAY CONST. WORK OF 765 KV SSRM – FATHPUR LINE	SUBJECT TO NLDC CONSENT
66	400 KV ARMBAG-PPSP # 1	3/17/2013	6:00	3/17/2013	16:00	ODB	WBSETCL	AMP Work	
67	400kv Maithon-Kahalgaon-I	3/18/2013	9:00	3/18/2013	17:00	ODB	POWERGRID ER - II-clubbed with NTPC	Bay AMP plus Line equipments AMP (Power interruption) MTN-KHG-Lline should be switched off	
68	400kv Maithon-Kahalgaon-I	3/18/2013	9:30	3/20/2013	16:30	OCB	NTPC/KHSTPP	CT & CVT REPLACEMENT	
69	400 KV BUS - II AT JSR	3/18/2013	9:30	3/18/2013	17:30	ODB	POWERGRID ER - I	FOR ISOLATOR BLADE REPLACEMENT	
70	400/220 KV ICT - I AT KANIHA	3/19/2013	9:00	3/21/2013	16:00	OCB	NTPC/TALCHER	AMP Work	
71	132 KV KHSTPP - Sabor	3/19/2013	9:00	3/19/2013	17:30	odb	NTPC/KHSTPP	PM works & relay testing	
72	50 MVAR BR - II AT JSR	3/20/2013	9:30	3/20/2013	17:30	ODB	POWERGRID ER - I	FOR ISOLATOR BLADE REPLACEMENT	
73	400 KV Koderma - Biharsriff - D/C	3/21/2013	9:00	3/21/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	SUBJECT TO NLDC CONSENT
74	400kv Rourkela-Jamshedpur-I	3/21/2013	9:00	3/21/2013	14:00	ODB	POWERGRID ER - II	LA replacement work	
75	50 MVAR BR - II AT JSR	3/21/2013	9:30	3/21/2013	17:30	ODB	POWERGRID ER - I	FOR ISOLATOR BLADE REPLACEMENT	
76	400 KV Koderma - Biharsriff - D/C	3/22/2013	9:00	3/22/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	SUBJECT TO NLDC CONSENT
77	400kv Rourkela-Jamshedpur-II	3/22/2013	9:00	3/22/2013	14:00	ODB	POWERGRID ER - II	LA replacement work also will be carried out along with AMP	
78	315 MVA TR#1 at Arambag	3/24/2013	6:00	3/24/2013	16:00	ODB	WBSETCL	AMP Work	
79	400 KV TSTPP - Rengali - II	3/26/2013	9:00	3/27/2013	16:00	OCB	NTPC/TALCHER	AMP Work	
80	220 KV TSTPP - Meramundali - I	3/29/2013	9:00	3/30/2013	16:00	OCB	NTPC/TALCHER	AMP Work	SUBJECT TO OPTCL CONSENT

SI.		DATE									
No	NAME OF THE ELEMENTS		TIME	DATE	TIME	REMARKS	S/D availed BY	Reason	Condition		
	SHUTDOWN DEFFERED IN 82nd OCC MEETING OF ERPC										
1	400KV Durgapur Jamshedpur Line, 400KV Durgapur	2/20/2013	0.20	2/20/2013	17:20	OCP		Realignment work of 400 Durgapur Jamshedpur Line &			
1	Durgapur	2/20/2015	5.50	2/20/2015	17.50	008	POWERGRID ER - II	consultancy work.			
2	220kV/ Binaguri-Birnara -I	2/20/2013	9.00	2/26/2013	17:00	ODB		For replacement of damaged insulator strings detected during	SD MAY BE ALLOWED WHEN HYDRO		
		2,20,2015	9.00	2,20,2015	17.00	000	rowending en in	patrolling damaged by miscreants	AVAILABILITY IN CHUKHA & NER WILL		
3	220 kV Binaguri-Birpara -II	2/27/2013	9:00	3/5/2013	17:00	ODB	POWERGRID ER - II	For replacement of damaged insulator strings detected during	CONSENT.		
4	400 kV Malda-New Purnea-I*	3/1/2013	10:00	3/4/2013	18:00	ОСВ	POWERGRID ER - I	FOR CONSTN. WORK OF400KV BSF – PRN AT NPRN .	Shutdown may be be allowed in JUNE as		
5	400 kV Malda-New Purnea-I*	3/8/2013	10.00	3/8/2013	18.00	ODB	POWERGRID ER - II	AMP	BHUTAN /TEESTA & NER hydro availability		
		5,0,2015	10.00	5/0/2015	10.00	000			will improve.		
7	400 KV Biharsariff - Banka - D/C**	3/9/2013	9:00	3/9/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C			
8	400 KV Bibarsariff - Banka - D/C**	3/8/2013	9:00	3/8/2013	18:00	ODB	FNICL	Construction of Purnea - Bibarsariff D/C	400 KV BANKA - BIHARSARIFF -D/C		
		-,-,		-,-,					NR LTA may be curtailed) & These		
9	400 KV Biharsariff - Banka - D/C**	3/14/2013	9:00	3/14/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	shutdown are to be approved when NR LTA		
10	400 KV Biharsariff - Banka - D/C**	3/15/2013	9:00	3/15/2013	18:00	ODB	ENICL	Construction of Purnea - Biharsariff D/C	availability from ER ISGS/DVC LTA are low to avoid NR LTA curtailement or during end		
L									of April. One week advance notice would		
11	400 KV BIHARSARIFF - BANKA - II	2/19/2013	10:00	2/19/2013	16:00	ODB	POWERGRID ER - I	BAY CONSTRUCTION OF 400 KV BSF - PURNEA	be given for availing the shutdown.		

Annexuse - A

### Participants in the 82<sup>nd</sup> OCC Meeting

Venue: ERPC Conference Room, Kolkata

Time: 11:00 hrs

Date: 12.02.13 (Monday)

Sl No	Name	Designation	Organization	Contact Number	Email	Signature
1	Axtandyspolle	merle	ERPC	9433068533	mserpe-power Cnicin	Hanily .
2	U.K. Verune	GM	ERLOC	089-2496220	lej Walkieurs. Veres Ogwail . com	lenone.
3	P. Mukhopartugay	an	Exele	9433241810	priticit practice	the file Ca
4	Stat Stars-ac	37. 5. 4.	Je H	9433041802	dkshrivasten 53 @ yehoo.ca in	39 & Kilanter
5	BUILDIG MEN-E	37 59-015	भावरन्गिङ	94318 2021 8	Kunarnikhile Bowergerdindiaco	Brizellang
6	C. KARMAKAR	·CE, CLD.	DVC	9831954298	Karmanauc Romfan Sj @ gmail . com	- CKamme
7	B. Pan	DUE (CLU)	DVC	990324702	@ dwc. zwr. i'n	Bm
8	R. V. Patnaik	AGM (03)	NTPC, ER-I, BBSR	9438233243	rupatnaik@ ntpc. w.in	Ang
9	RAICESH KUMAN	- Agm (05)	NTPC	9431011344.	Oakesh Kumarz Ontpc co in	Pakishoung
10	K.N. Nath	Dy.Mgr (m)	Rangit-P.S. NHPC	8716087080	relluisangara yahw. coin	Nya
11	U.K. Nand	er. upr(E)	Teeta-X l.s. Norpe	980003804	uknand @gmail	-com Dy
12	Kencho Gyeltsha	SE(OSM)	DAPC	17902947	Kenchozoll@gre	il. con 3/2
13	Cheni Dozi.	EE(00)	DGPC, THP	1716 39 29	chemi-dogieho	huail was on
14	C. B. Saman	ta Sr. 2M	Pownlinks	94340529	78 clonante	" i dannet
15	STASHWATA	Head	ENICL	356030005	9 Shashwald. The Storlin	Dulle Jos
	Sur plin	Allo. nye	501	001937294	Divertin chouse	1 Shrachy
17	Himadri Shekyare Bhath	Sr-Manager.	MPL	9204853168	Wimadri. bhatta @ tataposer. com.	HERShall
18	Sausav K Sahay	Elaginees	ERLDC	9432013173	Sahay- Sayson -	fahery.
19	Pipengery Kunnor	And . Manger	APNRZ	9007098131	na pun py kumar a adtunikoning co in	Lip.
20	R. Biswas	SM/ALDC	APL	9434735985	ranjanbiswasi	Pt=>

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

## Participants in the 82<sup>nd</sup> OCC Meeting

Venue: ERPC Conference Room, Kolkata

Time: 11:00 hrs

Date: 18.02.13 (Monday)

Sl No	Name	Designation	Organization	Contact Number	Email	Signature
21	P.K.DE_	A-D	RPSO, CEA Rotkafor	23340135		Re:
22	N. Saka -	5 m ( PS)	wBPDel corp.	799320(53 15	Ng Dalo ( whydd	An
23	P. Banozyw	DE	WBSLDUL	9432140768	-preiban72 @ gmail.cu	h
24	V. Kalyawanan	23	ERP(	24235015		Col
25	S.K. Sergupta	Tech Heuten	B.S.P.H.CL	983602012		Was-
26	S:P. Datta	AGIM (NTPC)	ERPC	9433067022		spd_
27	S. Roy	AFE	ERPC			6B14
28	APhbhra	AVE	Cherry energy	98013732	mintre garge	y-Abr-
29	P.K.Das	Manager(Eld)	SLDG OPTCL Bhubanelur	943 <b>890740</b> 8	PrashantK-das @yahoo.co.in	b
30	S.K.Das	Tech Contribution	SLDL Bhubane.swa	9437000261	S_Sondokhders@ Rediffonail . Com	Sealth.
31	S.K.Hota	Gm(eleu)	SIDC BBSR	9438907401	hota Sanjar C gman. com	chk
32	R.K Das	A. m (sleet	Gride B.P. Bhubanemi	9438907611	gonait . cem	B.
33	P. K. Basu	DGM (oprn)	WBPdCL KTPS	9432013369	pkbose & Whydel.co.in	Ju-
34	T.K.DÊ	A. C.E ALOL	WBSEDCL	9433870748.	Kumar tajan de Ogmail, com.	Max
35	A. Biswas	C.E., SLDC	WBSETCL	9831093513	amitovo, birwos 22 @ guroil . Com	Abimmu.
36	R CHAKRANAR MY	DGM, CGSL	CEIL	9831654679		Rup
37	D. DE	AM, CESC	VELC	9163312742		Ass.
38	Akshay Kleman	E.S.E	JSEB	9431917973	sldcranchie gmailicom	Patruse
39	4 Raichaudhui	ACESLDC	WBSETCL	9433419696	Richardhuri 2017 Ofmail. Com	0 di
40	G. 200	AEE	ERPC		V	Citrada

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

## Participants in the 82<sup>nd</sup> OCC Meeting

Venue: ERPC Conference Room, Kolkata

Time: 11:00 hrs

Date: 13.02.13 (Monday)

Sl No	Name	Designation	Organization	Contact Number	Email	Signature
41	Shristohangh,	E.E.	ERPL		zza z teoremine v radyon v ostan v na veza veza veza konstruinte da senie vy veza veza veza	Shryohigh
42	B. SARKHEL	SE(PS)	ERAL	9433065729		51872
43	JOT DEB BANDY OPADAT	ry se	11			Joursevenge
44	S.R.SINGH	cmlos)	POWERGRAD) ER-II	9434740009		22
45	T-R. Mohapatra	h Engr	ERLDC	9933041873	zan-wagang banaka yang sa pang sa na bahag sa pang sa bahag sa bahag sa bahag sa bahag sa bahag sa bahag sa ba	Dele
46	P.S. pas	Ch Manager	ERUDL	9433041837		U-
47	S. Konar	Manager	ERLDC	9433041854	, konar-se hotmail.com	Bowars
48	SUNN KUMAN	ch. Mg 2	POWTER GRIN	2991004532	EPOWERLENDEND	in Jongen
49	R.P. Singh.	DGn	NTPC, ER-H	P, 9431011366	spsinghete atpc-co.in	Kinden
50	B. KAR	AGMCEEMA	NTPC, Talcher	945709350	debahratakar Q Npe. Co. M	Stu
51	Ugyen Ishenip	Head, OL	KHP DGPC Kurichhu.	17610624	Ogentsha.dgpce Gimaul.com	Our;
52	North Dingi	Dee	CHP. DWC	009751761034	ndinizzel ydhoo-com	at the
53	Phulo Drops	AE	KHP DAPC	0097577809412	p. dorji 1602@ g mail cor	- K
54	SUPRIT PRADHAN	AE	CHP, DGPC	00975-1742-8241	suprit 1988@ gmail.com	Supert.
55	Grayleg Zangmo	Dee	THP, DGPC	00975-1729712	gay legzangmol yahoo .com	atolique .
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**Annexure-B** 

# REACTIVE CAPABILITY PERFORMANCE OF UNITS IN THE MONTH OF JANUARY 2013

# Reactive Performance of Farraka STPS Units on 6<sup>th</sup> Jan 2013













## Reactive Performance of Kahalgaon STPS Units on 6<sup>th</sup> Jan 2013













# Reactive Performance of Talcher St –l STPS Units on 24<sup>th</sup> Jan 2013





## Reactive Performance of Bakrewar TPS Units on 24<sup>th</sup> Jan 2013





## Reactive Performance of Sagardighi TPS Units on 24<sup>th</sup> Jan 2013





## Reactive Performance of Mejia – B TPS Units on 24<sup>th</sup> Jan 2013





# Reactive Performance of Sterlite TPS Units on 27<sup>th</sup> Jan 2013


TIME

**Thank You**