

# EASTERN REGIONAL POWER COMMITTEE

14, GOLF CLUB ROAD, TOLLYGUNGE  
KOLKATA-700033

## MINUTES OF 46<sup>th</sup> OCC MEETING TO BE HELD AT ERPC, KOLKATA ON 12.01.2010 (FRIDAY) AT 11:00 HRS

*Sh. A. K. Rampal, Member Secretary, ERPC chaired the meeting. List of participants is at Annexure-I.*

*Member Secretary, ERPC welcomed the participants of 46<sup>th</sup> OCC meeting. He again requested members to kindly get their names sent in advance to enable host to make proper infrastructure (Logistics) arrangements. He stressed the need for pursuing various decisions taken in OCC meetings. He then requested Sh. A. K. Bandyopadhyaya, Superintending Engineer (Operation), ERPC to take on the agenda items.*

*Agenda items were then taken up one by one by SE (O).*

### ITEM NO. 1: CONFIRMATION OF MINUTES OF 45<sup>th</sup> OCC MEETING OF ERPC HELD AT ERPC, KOLKATA ON 18.12.2009

The minutes were circulated vide letter no. ERPC/SE(OPRN)/ OPERATION/2009/1715-62 dated 24.12.09. No observation was received from the constituents on the minutes.

Members may kindly confirm the minutes.

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

*All the members confirmed the above minutes without any modification.*

### ITEM NO. 2: ACTION TAKEN ON DECISIONS OF EARLIER MEETING

#### 2.1 OPERATIONALISATION OF BALIMELA-UPPER SILERU LINE

In the 45<sup>th</sup> OCC meeting held on 18.12.09, it was intimated that the proposed meeting with representatives from OPTCL, OHPC, APGENCO, APTRANSCO and others on the issue would be held in 3<sup>rd</sup> week of January'10. However, before convening the meeting, Members desired to have confirmation of the healthiness of the line equipment of the said line within Orissa portion. Accordingly, ERPC Secretariat vide FAX message no. M-1687 dated 31<sup>st</sup> December 09 has requested OPTCL to confirm the healthiness of line equipment within Orissa portion. However, response from Orissa in this regard is yet to be received.

OPTCL may kindly intimate.

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

*Representative from OPTCL intimated that line patrolling work would be taken up shortly and would be completed by 31<sup>st</sup> January'10. He suggested that the said meeting could be convened after completion of line patrolling work. In this regard, representative from GRIDCO stated that the line was kept idle because of some commercial disputes. Representative from ERLDC mentioned that the line would be useful for inter-regional transfer of power.*

*It was agreed that the proposed meeting would be convened after completion of line patrolling work subject to confirmation of healthiness of line equipment by OPTCL. Gridco was requested to settle the commercial dispute, bi-laterally.*

## **2.2 LILO OF 220 KV JODA-JAMSHEDPUR AT JINDAL END**

The issue was discussed in the 45<sup>th</sup> OCC meeting held on 18.12.09, members opined that adequacy of communication system, proper Protection and metering arrangement need to be ensured before LILO of the said line and the matter might be again discussed in the appropriate forum before energizing the LILO of the said line.

Subsequently, a meeting was held on 30/12/09 at ERPC between DVC, OPTCL, ERPC, ERLDC to discuss the above issue. In the meeting, it was agreed that till construction of 220/132KV Lohanda S/s is completed, as an interim measure, 220 kV Joda-Jamshedpur would be LILOed at JSPL.

The following activities are to be complied with/noted before energizing the LILO:

- a. 220KV Joda-JSPL would be considered as an ISTS tie-line between DVC and OPTCL. Accordingly, ABT compliant meter at JSPL side for the above line is to be installed within a week.
- b. OPTCL would ensure suitable arrangement for getting the JSPL end meter read and communicating the same to ERLDC for energy accounting purposes.
- c. Protection co-ordination of JSPL-Jamshedpur line at both ends to be carried out.
- d. Adequate voice communication between JSPL and Jamshedpur to be also set up.

The following may also be taken care of by OPTCL:

- a. OPTCL shall adhere to operational modalities of Grid and take requisite permissions from RLDCs/SLDCs.
- b. OPTCL may provide synchronization facility at JSPL Bus.
- c. OPTCL may initiate action for installation of RTU at JSPL for telemetry of real time data.

OPTCL/Powergrid may confirm latest status/progress on the above.

### **Deliberation in the meeting**

*Representative from PGCIL intimated that an ABT compliance meter was installed on 09.01.10 at Jindal end of proposed 220 kV Jindal-Jamshedpur line segment.*

*Representative from DVC pointed out that Jamshedpur area is low voltage area, and any outage of Jindal-Joda line would transfer the entire load at Jindal bus on Jamshedpur, which may further aggravate the low voltage situation prevailing in Jamshedpur area.*

*Regarding protection co-ordination setting of DVC w.r.t. changed line configuration, members decided that it was clarified to OPTCL that the onus is upon them to co-ordinate with DVC for sharing information necessary for changing protection setting at DVC end.*

*Representative from OPTCL confirmed that they had firmed up necessary arrangement for sending meter reading data to ERLDC on regular basis.*

## 2.3 IMPLEMENTATION OF FREE GOVERNOR MODE OF OPERATION OF GENERATING UNITS

The above subject matter was discussed in the 38<sup>th</sup> OCC meeting, wherein all the constituents were requested to furnish the details of their respective machines and preparedness for putting them under Free Governor Mode operation. The format for furnishing details/preparedness for FGMO was already circulated vide letter from MS, ERPC (**Annexure-II**). Response has been received from OPGC, WBPDC, CESC, OHPC, CHPC. From the responses, it has been observed that in some places dead bands have been inserted and load limiters at all places have not been kept at 105%.

The matter was again discussed in 43<sup>rd</sup> OCC meeting of ERPC held on 14.10.09 wherein members were apprised on CERC order dated 20/08/09 on FGMO, which directed implementation of only restricted governor operation in various types of thermal and hydro units(excluding those with zero pondage) as per the following schedule:

- “(a) KWU & LMZ turbines for thermal sets of 200 MW and above:
  - (i) *Software based EHG system* : 1.3.2010
  - (ii) *Hardware based EHG system where boiler controls are in “auto”* : 1.6.2010
- (b) *Hydro units of 10 MW and above* : 1.3.2010

Further CERC directed all the generating companies to place before the Commission, within a month, their action plan in line with the above schedule and furnish monthly progress reports to the Commission in this regard.”

CERC has further stated that the restricted governor mode operation shall essentially have the following features:

- a) Load change may be limited to 5 % of Maximum Continuous Rating of the unit in case of a fall in frequency.
- b) Overall droop characteristic is to be kept in the range of 3% to 6%.
- c) No intentional dead bands are to be introduced.
- d) There should not be any reduction in generation in case of improvement in grid frequency below 50.0 Hz. (for example if grid frequency changes from 49.5 to 49.6 Hz., then there shall not be any reduction in generation). Accordingly, suitable control logic would have to be developed to limit the governor response to situations when frequency is rising and the grid frequency is below 50 Hz. However, even if the above requirement is yet to be complied with, generators would have to implement FGMO without the same.
- e) In case of fall in system frequency, generation from the unit should increase upto a maximum of 105 % of the MCR of the unit.
- f) Other requirements as recommended by CEA in its Report of not allowing the generators to operate in the critical zone as recommended by manufacturers or as determined from experience and taking into account the scheduled requirement of irrigation and drinking water are to be complied with.
- g) Nuclear and gas turbine/combined cycle power plants are exempted from FGMO.

It may be noted that FGMO is also mandated as per Clauses 4.8 ( c), (d) and 5.2(e), (f), (g), (h) of IEGC.

ERPC vide FAX message no. M-1699 dated 7<sup>th</sup> January 2010 have already brought to notice of all concerned of the target implementation date and necessary steps for implementation of FGMO as per CERC order.

In light of the above,

- All constituents may note the target implementation date of 01.03.10 and take necessary steps in advance to ensure smooth implementation of FGMO as per the above recommendations.

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

*Representative from ERLDC suggested that like other regions, Eastern Region might undertake a mock FGMO exercise of its generating stations preferably before 1<sup>st</sup> March'09 (the deadline set in CERC order). It shall enable us to have a feel of the situation. Members agreed that experience of such mock exercise would be helpful.*

*All concerned generating stations are to obey above CERC order on implementation of restricted FGMO. It was emphasized that status report in respect of their preparedness to implement this and monthly progress reports in this regard should be furnished to the Commission .*

*All generating stations, which were not ready for implementing the restricted FGMO w.e.f. CERC stipulated deadline, were requested to seek exemption from CERC in this regard.*

*It was decided that each generating company would furnish unit-wise date by which it would be ready to participate in the mock exercise to ERPC and ERLDC by 28<sup>th</sup> January 2010. ERLDC would decide the date for mock exercise accordingly.*

#### **ITEM NO. 3: REVIEW OF GRID PERFORMANCE DURING DECEMBER, 2010**

Provisional power supply position, frequency, voltage profile, UFR operation, reservoir level and coal stock position is given in **Annexure-III (a)**. ERLDC informed that during the reporting period there were overdrawal by DVC and OPTCL/GRIDCO to the tune of 500 MW and 800 MW respectively even under low frequency conditions.

- ERLDC may kindly give a brief on performance of ER grid during December 2009 touching the issues of these types of overdrawal.

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

*Representative of ERLDC made a presentation on ER grid performance during December'09 (Copy at Annexure II(b)). He particularly mentioned about overdrawal by DVC and OPTCL and requested them to curtail their overdrawal when frequency is below 48.5 Hz. It was also noted that OPTCL was furnishing load restriction data for last few days.*

#### **ITEM NO. 4: POWER SUPPLY INTERRUPTION FROM JSEB AT RAILWAY TRACTION SUB-STATION/FEEDING STATIONS**

Chief Electrical Distribution Engineer, SE Railway vide his letter dated 21.12.09

intimated that SE Railway is facing severe power supply interruption under JSEB fed supply points, which adversely affects movement of mail/express and freight traffic. There were 292 cases of interruption involving 122 hrs during 2009-10 (April-November'09). On some occasion, where 3 to 4 traction substations failed simultaneously, caused total supply failure in the feed zone of JSEB (These supply points are fed from Chandil S/s).

JSEB may kindly opine.

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

*The railway's contribution to the country and society was duly acknowledged. Representative from SE Railway stated that traction sub station of Rajkhaswan, Chakradharpur, Kendposi and Goelkera are fed from Chandil S/s and any fault in outgoing feeders from Rajkhaswan are cleared from Chandil end due to non-functioning of distance protection at Rajkhaswan end. He requested JSEB to check distance protection at Rajkhaswan end.*

*He also pointed out that OPTCL is imposing load restriction on Railways, which is affecting railway activities. Representative from OPTCL informed that OERC is contemplating load restriction on the consumers; however Railways are exempted from any load restriction.*

*After deliberation, it was decided that JSEB and OPTCL would get such failures investigated at their respective ends by 31<sup>st</sup> January 2010 and share a copy of the report with ERPC. Subsequently, a separate meeting with Railways, JSEB and OPTCL would be convened to explore possible remedies.*

#### **ITEM NO. 5: FREQUENT IMPOSITION OF RESTRICTION ON DRAWAL OF POWER BY DVC TO SAIL PLANTS --- SAIL**

In the current fiscal, the availability of power from DVC is a major cause of concern for SAIL. Out of 5856 hours elapsed in the current year till 30<sup>th</sup> November'09, DVC has imposed restriction on drawal ranging from 10-25% for 3207.75 hours which is about 54.71% of the total time. Integrated steel plants have very little non-essential loads to shed and restriction on drawal of power results in stoppage of some production facility in the plants has a cascading effect on entire production line.

SAIL apprehends that power supply situation is not likely to improve in near future because of inordinate delay of the ongoing projects together with huge export commitment of DVC.

DVC may kindly opine.

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

*Representative from DVC intimated that due to dismal performances of Mejia Generating stations due to various reasons, load restrictions were imposed on SAIL; however load restrictions were kept at minimum level.*

*It was decided that SAIL would communicate all the incidences of grid supply restrictions to DVC by 28<sup>th</sup> January 2010; DVC would get such restrictions investigated by 10<sup>th</sup> February 2010 and share a copy of the report with ERPC. Subsequently a separate meeting with DVC and SAIL would be convened to explore possible remedies.*

**ITEM NO. 6: DECLARING OF PEAK HOURS FOR SCHEDULING PURPOSES UNDER FUEL SHORTAGE CONDITIONS --- ERLDC**

For purposes of scheduling under fuel shortage conditions prior declaration of peak hours needs to be done on a month ahead basis. Considering advancement of Sunset timings, it is proposed that peak Hours for the month of February'10 may be considered from 17:30 hrs to 20:30 hrs.

Members may deliberate & confirm.

**Deliberation in the meeting**

***Members agreed that peak Hours for the month of February'10 would be considered from 17:30 hrs to 20:30 hrs***

**ITEM NO. 7: GRID INCIDENCES IN ER SYSTEM DURING DECEMBER 2009**

Grid incidences in ER System during the month of December 09 are placed for discussion.

Concerned constituents may kindly apprise the grid incidences.

**Deliberation in the meeting**

*Deliberations on grid incidences are at Annexure-IV.*

**ITEM NO. 8: OPERATIONAL PLANNING**

**(A) MAJOR GENERATING UNIT AND TRANSMISSION LINES/ELEMENTS OUTAGES IN ER GRID**

Concerned constituents may share the latest status on outage of following transmission elements:

- i. 400 kV Malda-Purnea D/C (One circuit restored on ERS)
- ii. 220 kV Meramundali-Bhanjanagar D/C (One circuit restored on ERS)
- iii. 80MVAR Line Reactor of 400KV Ranchi-Sipat-I at Ranchi end
- iv. 50MVAR Line Reactor of 400KV KhSTPP-Maithon-II at Maithon end

**Deliberation in the meeting**

*Status of the elements are as under:*

Sl.No.	Transmission Element	Status
1	400 kV Malda-Purnea D/C	Circuits on normal tower are expected by May'10
2	220 kV Meramundali-Bhanjanagar D/C	One circuit already restored through ERS. It was decided to reroute a portion of the above line. The line is expected by January'10.
3	80MVAR Line Reactor of 400KV Ranchi-Sipat-I at Ranchi end	The element is expected by February'10.
4	50MVAR Line Reactor of 400KV KhSTPP-Maithon-II at Maithon end	The element is expected by March'11.

**(B) SHUTDOWN PROPOSAL OF TRANSMISSION LINES AND GENERATING UNITS FOR THE MONTH OF FEBRUARY'10.**

The shut down proposals which are received by ERPC for the month of January'10 are placed for discussion.

**Members may please discuss and finalize the proposed programme.**

**Deliberation in the meeting**

*The approved shutdown programme is at Annexure V.*

*In this regard, attention was drawn to shutdown of 400kV Maithon -Jamshedpur line-I to construct line LILO at Mejia. It was noted that Maithon-Mejia would be charged on 20.01.10 and Mejia-Jamshedpur would be charged on 25.01.10. ERLDC informed that 4 new meters would be required for said LILO. Members decided that DVC shall nominate a nodal officer in this regard.*

**ITEM NO. 9: PROCUREMENT OF TWO NOS OF 315 MVA, 400/220 KV AUTOTRANSFORMER AND ONE NO OF 50 MVAR SHUNT REACTOR AS O&M SPARE -- PGCIL**

Powergrid Eastern Region Transmission System is about 20 years old and the failure rate of equipment is increasing. Although EHV class equipment is meant for expected life span of about 25 years, it has been felt on the basis of operating experience that some of the equipments are failing prematurely resulting in losses to the power utility. Presently Powergrid Eastern Region is maintaining about 35 nos of 315 MVA, 400/220 kV ICTs and 22 nos of 50 MVAR shunt reactor. Along with ageing the ICTs and shunt reactors are having problems of gases. As per our experience, in case of failure of ICT, the time consumed in repair/supply of new transformer takes minimum one year time which severely affects the downstream power supply. Considering the vulnerability of transformer and geographical approach, two number of 315 MVA, 400/220 Autotransformer one at Biharshariff and another at Durgapur S/s and one no 50 MVAR shunt reactor at Rourkela as O&M spare will ensure quick restoration in case of failure of ICT and Reactor.

The issue was discussed in the 41<sup>st</sup> OCC meeting of ERPC held on 18.08.09. In the meeting detailed deliberation took place and beneficiary States in principle agreed for the requirement of 2 nos of spare Autotransformer and one reactor. However, as the matter involves additional capital expenditure and may have commercial implications on transmission availability calculation, members decided that PGCIL might refer the matter to CERC.

Meanwhile, NRPC constituents have already agreed for similar type of proposal of POWERGRID in the 13<sup>th</sup> TCC and 14<sup>th</sup> NRPC meeting held on 18<sup>th</sup> and 19.09.2009, wherein sharing of cost has been pooled in Regional transmission charges of NR. The relevant extract of NRPC minutes is given below:

***Quote***

**C.21.1 Procurement of 315 MVA, 400/220 kV ICTs as spare  
*TCC deliberation***

MS, NRPC informed that in the 27th meeting of the Standing Committee on Transmission System Planning of Northern Region of CEA held on 30th May, 2009 it was decided that one spare ICT should be available as failure of any ICT results into

overloading of existing ICTs/restrictions of supply. Further, it takes about 15 months for repair of the failed transformer.

During the 41st OCC meeting held on 7th August, 2009, Members of OCC were of the view that in light of the operational criticality, the States should have adequate margin of transformer capacity in the substation or keep a spare transformer within the state or collectively by STUs at 220 kV level and by CTU at 400 kV level.

POWERGRID proposed to have two spare ICTs, one for Delhi, UP, Uttarakhand & Rajasthan and other for rest of the States of NR at Rs. 10 crore each.

TCC members agreed to the proposal of POWERGRID. As regard to sharing of cost, it was decided that the same shall be pooled in the Regional Transmission Charges of NR.

#### ***NRPC deliberation***

Members approved the decision of TCC.

#### ***Unquote***

In view of above it is proposed to procure two number of 315 MVA, 400/220 Autotransformer and one no 50 MVAR shunt reactor at strategic location as mentioned above so that in case of any failure fast restoration is assured. It is proposed that ERPC constituents may kindly agree for procurement of spare transformers and reactor and capitalization of its expenditure.

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

*The proposal of PGCIL was considered by the members.*

*After deliberation, PGCIL was advised to submit detailed report justifying the need for such transformers on the basis of their operational experience, failure rate of existing transformers, the number of transformer envisaged, the cost of such transformer and how it would yield benefits. It might also consider to include the requirement of constituents also within the same proposal.*

*It was decided that PGCIL might get a copy of this report sent to the constituents for their perusal, so that they are fully aware of the usefulness. Thereafter, the issue could be taken up in the next OCC meeting.*

### **ITEM NO. 10: ANY OTHER POINT**

#### **a. MOCK BLACKSTART EXERCISES IN EASTERN REGION**

*SE(O), ERPC informed that Purulia Pumped Storage Plant had intimated that at present they were not able carry out mock black start exercise. On a query from SE(O), ERPC, representative from WBSETCL informed that they would provide necessary 100 MW radial load at Binaguri for carrying out mock black start exercise of Teesta HEP and nitty-gritty in this regard would be worked out after getting the detailed mock exercise plan of Teesta HEP.*

- ***Members decided that mock black start exercise for Teesta HEP would be carried out tentatively in the 2<sup>nd</sup> week of February'10.***

*Representative from DVC informed that report on mock black start exercise of Maithon was ready and would be submitted shortly. Regarding 2<sup>nd</sup> mock black start*

*exercise of Maithon HEP in front of OCC members, he informed that due to logistics problems, date for 2<sup>nd</sup> mock exercise could not be finalized.*

- *After discussion, DVC agreed to carry out the 2<sup>nd</sup> mock black start exercise of Maithon HEP tentatively in the 2<sup>nd</sup> week of February 10.*

**b. UNREQUISITIONED SURPLUS POWER OF NTPC - NTPC**

*Representative from NTPC pointed out that during December'10, constituents like BSEB, JSEB and DVC overdrew from grid, whereas Farakka STPS of NTPC was running near technical minimum level due to surrender of West Bengal share. He further stated that revised schedule was finalized at 1130 hrs and surrender share was for 0000 -0500 hrs of following day. This gives NTPC very little time to arrange for any commercial arrangement for sale of surrendered power. He requested members to ponder over the issue.*

- *After discussion, it was agreed that WBSETCL, DVC and NTPC would mutually explore the issue.*

**c. COMMERCIAL IMPLICATION OF REVISION OF DC FOR FSTPP ON 21.10.09 --- NTPC**

*On a query raised by NTPC, SE(O) informed that NTPC vide FAX message no. M-1702 dated 08.01.10 was requested to furnish supplementary information in this regard and on receipt of such information, the issue would be placed in appropriate ERPC forum.*

**ITEM NO. 11: DATE AND VENUE OF THE NEXT MEETING**

*Date and venue of the next meeting would be intimated separately.*

*Meeting ended with thanks to the Chair.*

\*\*\*\*\*

GRID INCIDENTS IN ER SYSTEM IN THE MONTH OF DECEMBER'09i) TRIPPING OF ALL UNITS AT CHPC ON 11/12/09

At 09:25 Hrs of 11/12/09 220 kV CHPC-Birpara-I & II and 220 kV Birpara-Malbase tripped. Due to non availability of evacuation path running units at CHPC (Units#1 & 3) tripped. 220 kV CHPC-Birpara-II was subsequently declared under breakdown.

CHPC/Powergrid may furnish further details.

Deliberation in the meeting

As representative from CHPC was not present, the matter could not be discussed.

ii) TRIPPING OF LINES FROM MERAMUNDALI S/S ON 15/12/09

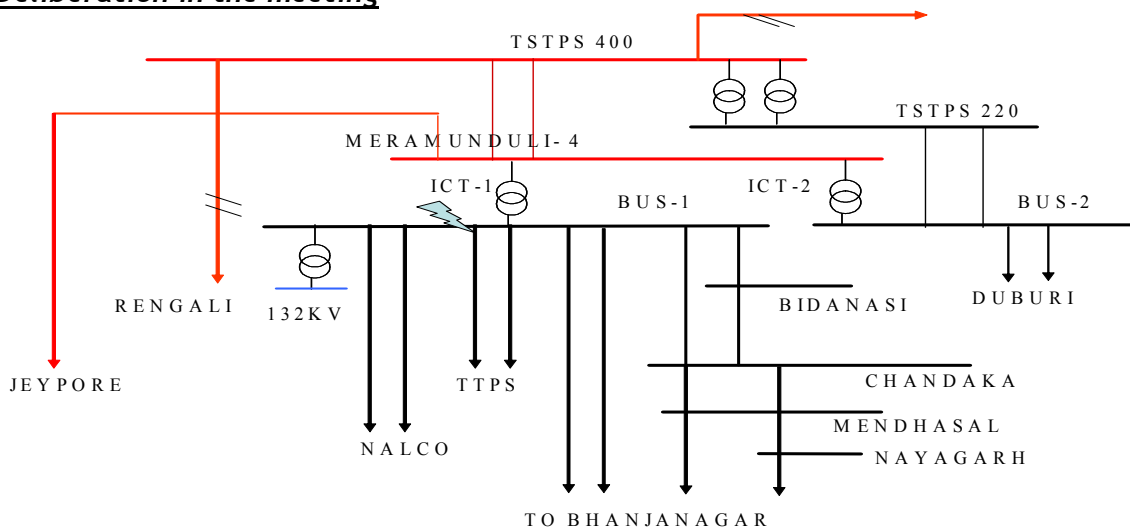
At 19:09 hrs of 15/12/09, snapping of 220 kV Bus drop jumper from Bus-I to isolator of 220 kV Meramundali-TTPS-I occurred resulting in 220 kV Bus-I fault. As the 220 kV Bus at Meramundali is run in a segregated manner, the following line/ICTs connected to Bus-I only tripped:

- 220 kV TTPS-Meramundali D/C
- 220 kV Meramundali-Nalco D/C
- 220 kV Meramundali-Bhanjanagar D/C
- 220 kV Meramundali-Chandaka
- 220 kV Meramundali-Bidanasi
- 400/220 kV ICT-I at Meramundali also tripped on both sides E/F and LBB trip.
- Also 400 kV TSTPP-Meramundali-II reportedly tripped on LBB protection while ckt-I tripped on Master trip.
- 400/220 kV ICT-II, was hand-tripped at 19:30 Hrs while 400 kV Meramundali-Jeypore remained charged from Jeypore end.

Lines connected to 220 kV Bus-II reportedly survived.

OPTCL may furnish further details and explain

- Outage of 400 kV TSTPP-Meramundali D/C due to 220KV Bus fault.
- Reason for hand-tripping ICT-II as 400 kV Bus at Meramundali was expected to be in service with 400 kV Meramundali-Jeypore and 220 kV Bus-II feeders.

Deliberation in the meeting

During deliberation, representative from OPTCL intimated that due to suspected maloperation of LBB relay, all elements connected with 400 kV Meeramundali bus-I got tripped.

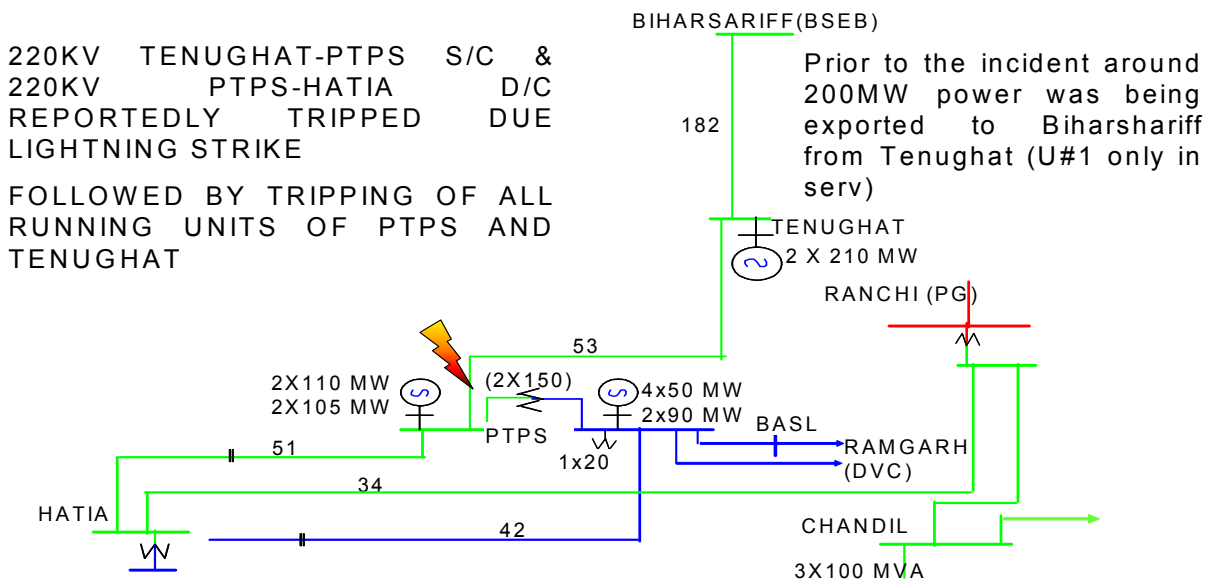
With tripping of 400 kV Meeramunda-IB circuit-II tie breaker, the only connectivity between 400 kV bus-I and bus-II was lost and thus bus-I and bus-II got separated. Further, the subsystem at Meeramundali, which survived were 400 kV Meeramundali-Jeypore, 400/220 kV ICT-II, 220 kV Meeramundali-TSTPP D/C and 220 kV Meeramundali-Duburi D/C. Anticipating, reverse flow through the ICT from 220 kV sources, ICT-II was hand-tripped.

### iii) TRIPPING OF ALL UNITS IN JSEB SYSTEM ON 18/12/09

At 16:30 Hrs of 18/12/09, 220 kV Tenughat-PTPS, 220 kV PTPS-Hatia D/C tripped due to lightning strike on 220 kV Tenughat-PTPS line. Tripping of 132 kV lines from PTPS/Hatia/Chandil was also reported. All running units at PTPS (Unit#1,4,7) tripped due to loss of evacuation path and Tenughat (Unit#1) also tripped leading to entire loss of generation in JSEB system.

JSEB may explain tripping of Tenughat#1 and the cascade line trippings.

#### Deliberation in the meeting



Sequence of cascaded line tripping could not be established. Representative from TVNL informed that 220 kV Tenughat-Patru tripped from Tenughat end with zone-3 relay indication and unit# 1 was out due to electrical jerk experienced by unit auxiliary system. He pointed out that Tenughat units were out many a time due to fault external to TVNL system.

Tenughat TPS was requested to furnish relay indication of all such incidences to ERPC Secretariat and if required, the matter could be referred the matter to Protection sub-Committee.

\*\*\*\*\*

## ANNEXURE- IV

**Approved Programme of Maintenance Of Transmission Lines**  
for  
**FEBRUARY'10**

**(A) TRANSMISSION ELEMENTS:**

Organization	Name of the Element	From		To		Remarks
		Date	Time hrs	Date	Time hrs	
<b>FARAKKA STPP, NTPC</b>						
	400/220 kV Auto Transformer	10.02.10	0930	10.02.10	1630	Relay Testing
	400 kV Farakka-Sagardighi	04.02.10	0930	04.02.10	1430	Preventive maintenance and testing
	400 kV Farakka-Kahalgaon line-1	12.02.10	0930	12.02.10	1430	Preventive maintenance and testing
<b>KAHALGAON STPP, NTPC</b>						
	400 kV Kahalgaon-Biharshariff line-III	10.02.10	ODB	10.02.10	ODB	Preventive maintenance and testing
	400 kV Kahalgaon-Maithon line-II	17.02.10	ODB	17.02.10	ODB	
<b>ER-II, PGCIL</b>						
	400 kV Maithon-Jamshedpur ckt-1	17.01.10	OCB	25.01.10	OCB	For making line LILO at Mejia construction work
	63 MVAR bus reactor at Binaguri	10.02.10	ODB	11.02.10	ODB	Annual Maintenance
<b>ER-I, PGCIL</b>						
	220 kV Ranchi-Hatia-II LILO	12.02.10	ODB	12.02.10	ODB	Annual Maintenance
	220 kV Ranchi-Chandil-I LILO	15.02.10	ODB	15.02.10	ODB	Annual Maintenance
	220 kV Ranchi-Chandil-II LILO	16.02.10	ODB	16.02.10	ODB	Annual Maintenance
	400 kV Durgapur-Jamshedpur line	15.02.10	ODB	16.02.10	ODB	Annual Maintenance
	400 kV Jamshedpur-Rourkela-II	19.02.10	ODB	20.02.10	ODB	Annual Maintenance
	220 kV Pusauli-Dehri line	17.02.10	1000	17.02.10	1500	Annual Maintenance
	220 kV Pusauli-Sahupuri line	16.02.10	ODB	16.02.10	ODB	Annual Maintenance
	315 MVA ICT-1 at Pusauli	23.02.10	ODB	24.02.10	ODB	Annual Maintenance
	315 MVA ICT-II at Pusauli	25.02.10	ODB	26.02.10	ODB	Annual Maintenance
	160 MVA ICT-1 at Baripada	27.01.10	ODB	31.01.10	ODB	Commission of 2 <sup>nd</sup> 160 MVA ICT at Baripada
<b>WBSETCL</b>						
	400 kV Farakka-Jeerat	17.01.10	ODB	17.01.10	ODB	Preventive maintenance and testing

OCB: On Continuous basis, ODB: On Daily Basis Note: All shutdowns are cleared on tentative basis and concurrence from ERLDC needs to be taken before availing actual shutdown.