

Orissa Power Transmission Corporation Ltd.  
Bhubaneswar.



*Agenda  
for  
58<sup>th</sup> Power System Operational  
Coordination Meeting*

Date: 30.07.2009

Venue: OPTCL Power Training Center, Chandaka, Bhubaneswar

**AGENDA FOR THE 58<sup>th</sup> POWER SYSTEM OPERATIONAL CO-ORDINATION MEETING  
TO BE HELD AT OPTCL POWER TRAINING CENTER, CHANDAKA, BHUBANESWAR ON  
30.07.2009 (THURSDAY) AT 11.30 HOURS**

**ITEM NO: 1 Confirmation of the minutes of the 57<sup>th</sup> Operational Coordination Meeting held at, PTC, CHANDAKA, OPTCL, Bhubaneswar on 27.05.09.**

The minutes of meeting was circulated vide letter No. SGM (PS)-PI-15/2007(Vol.-V)-1362<sup>(28)</sup>, Dated 10.07.2009. No comment has been received from any of the members.

*Members may offer their comments. If there is no comment, the minutes of the meeting may please be confirmed.*

**ITEM NO: 2 REVIEW OF GRID PERFORMANCE FOR JUNE'09.**

**(A) Frequency:**

**Hourly frequency variation for the month of May & June'09**

Month	% of time frequency remained					
	<49.2	49.2-49.5	49.5-50.0	50.0-50.3	>50.3	49.2-50.3
May-09	5.40	21.34	53.44	17.05	2.78	82.86
June-09	19.55	30.08	40.78	8.94	0.64	79.80

**Maximum & Minimum frequency during the month of May & June'09**

Month	Freq (Hz)	Date	Time
May-09	Maximum – 50.86	24.05.2009	17:49 Hrs
	Minimum – 48.82	01.05.2009	00:02 Hrs
June-09	Maximum – 50.62	03.06.2009	8:03 Hrs
	Minimum – 48.73	25.06.2009	14:38 Hrs
June-08*	Maximum – 50.61	08.06.2008	16:09 Hrs
	Minimum – 48.67	25.06.2008	20:07 Hrs

The details of frequency profile for the month of **June'09** are enclosed as **Annexure-I**.

**(B) Grid Demand for the month of May & June'09**

Month	Demand	Maximum Consumption		Maximum Demand			Minimum Demand		
	MU	MU	Date	MW	Date	Time	MW	Date	Time
May-09	1624	69.72	29.05.09	3129	30.05.09	21:00	1414	25.05.09	14:00
<b>June-09</b>	1594	62.71	01.06.09	2997	01.06.09	21:00	1554	24.06.09	18:00
June-08*	1564	55.64	26.06.08	2811	04.06.08	21:00	1531	05.06.08	23:00

The Hrly average demand on daily basis for the month of **June'09** is enclosed as **Annexure-II**.  
**Members may please discuss.**

*\*\*The grid demand is calculated from the generation-exchange figures basing on instantaneous meter readings at STPS-TTPS, STPS-Duburi, STPS-Rengali & Indravati Generation and average meter reading of the rest.*

**(C) Voltage Profile of 220 KV Buses in OPTCL system for the month of June '09**

S/s Name	Maximum (KV)	Minimum (KV)	S/s Name	Maximum (KV)	Minimum (KV)
Jayanagar	250	227	Budhipadar	228	214
Theruvalli	248	220	Duburi	235	216
Bhanjanagar	233	200	Balasore	230	195
Chandaka	230	<b>170</b>	Meramundali	222	209
Narendrapur	<b>259</b>	204	Bidanasi	232	206
Joda	228	205	Katapalli	225	206
Tarkera	227	222	Nayagarh	235	192
Bhadrak	225	195			

The maximum voltage at Narendrapur Grid S/s was 259kV occurring during off peak hours due to under loading of long transmission lines.

The minimum Voltage at Chandaka is occurring most of the days during peak load hours due to over loading of transmission lines.

**(D) Energy Generation / Import during the month of June'09**

Source of Power	Energy (MU)
Thermal (TTPS+IB)	477.037
OHPC Stations including Machhkund share	217.498
CGP Support	246.259
ISGS drawal	737.325

**(E) DISCO Drawal during the month of June '09**

Name of DISCO	Approved Energy drawal Prorated up to June'09 in MU	Actual Energy Drawal upto June'09 in MU	Difference (MU) (Prorated Vs. Actual)
CESU	1511.25	1608.27	-97.02
NESCO	1071.24	1145.34	-74.1
WESCO	1607.49	1575.44	32.05
SOUTHCO	540.24	578.28	-38.04

*\*The above figures are as per EBC data and Pool Cost data.*

*Energy drawal by SOUTHCO are excluding of energy consumed by NALCO, Damanjodi and IMFA, Theruvalli*

**(F) Major Events in the month of June'09.**

06.05.09- At 20:40 hrs newly constructed 220/132kV Paradeep Grid S/s charged with an one no. of 100MVA Auto.

**(G) Under Frequency Relay operation in OPTCL System during the month of June'09.**

There is no UF Relay operation occurred during the month of June'09.

The Sub stations to be isolated during rate of falling frequency higher than the set limit (0.125 Hz/Second at frequency 49.9 Hz) has already been finalized.

**CGM (O&M) may please deliberate the status.**

## **(H) Important Grid Incidences during the month of June'09**

The important Grid incidents occurred during the month of June'09 is annexed as Annexure-III.

### ***Members may discuss***

The incidents occurred on 11.06.2009 ( at Joda Grid S/s) , on 19.06.2009 (South Orissa tripping) and on 24.06.2009 (Meramundali Grid S/S) were discussed in the 40<sup>th</sup> OCC meeting of ERPC at Kolkatta hold on 22.07.2009. The deliberations in the meeting are as under

Deliberations in the OCC meeting by Members

#### **Joda-11.06.2009**

Members stated that even though the fault was transient, instead of tripping of the faulty feeder all the 220 kV feeders pulled out at Joda S/S, probably due to improper coordination of Relay / Breaker operation time setting.

#### **S.Orissa-19.06.2009**

ERLDC stated that there is a mismatch in tripping timings. The sequence of tripping is required for analysis of the disturbance and establishment of the reason. SLDC was agreed to furnish the time sequences from SCADA.

#### **Meramundali**

G.M. ERLDC stated that, at present there is only one tie breaker available at 400 kV side for coupling of 400 kV Bus-I & II. At present TSTPP-Meramundali feeder-II is connected to Bus-I. Meramundali-TSTPP-feeder-I, Meramundali-Jeyapure-feeder along with ICT-I & II are connected to Bus-I.

In case of tripping of 400 kV Meramundali-Jayapur PG feeder the two buses get de-linked and 400 kV TSTPP feeder-II remain in hanging condition.

It was suggested in the meeting that, till installation of another tiebreaker, one of the ICTs may be kept at bus-II.

Member Secretary suggested to hold a meeting by ERPC representative with Director (Engg) and O&M official of OPTCL to discuss the above issue during the month of August.

### ***Members may discuss***

**(I) Outage of major transmission Lines/ Elements during the month of June'09 (for more than 10 hours.**

Sl No.	Lines/Elements under Outage	Date & Time of Outage	Date & Time of Restoration	Reason
1	220kV Budhipadar-Korba Ckt-I.	01.06.09/ 17:35	04.06.09/ 7:24	Over loading
2	220kV Meramundali-Chandaka Ckt.	02.06.09/ 18:09	03.06.09/ 11:33	'Y' ph jumper snapped at Loc No.- AP-6.
3	220kV U.Kolab-Theruvai Ckt.- III	03.06.09/ 21:45	04.06.09/ 19:53	Breaker problem at U.Kolab PH.
4	220kV TTPS-Kaniha Ckt.	04.06.09/ 20:02	05.06.09/ 17:35	Tripped on E/F & O/C relay indication.
5	220kV Meramundali-Chandaka Ckt.	04.06.09/ 21:01	05.06.09/ 19:18	Insulator damaged and conductor snapped at loc. No. 606.
6	132kV Chandaka-Bhubaneswar Ckt.-II	04.06.09/ 21:38	05.06.09/ 18:55	'B' ph insulator damaged at loc no.-17
7	220kV TTPS-Kaniha Ckt.	05.06.09/ 18:45	07.06.09/ 17:47	Ground wire between loc. No.-94 &95 snapped and fall on 'B' phase conductor.
8	132kV Kesinga-POWMEX	06.06.09/ 22:04	08.06.09/ 18:00	'Y' ph LA burst at POWMEX.
9	220kV Duburi-New Duburi Ckt.- II	09.06.09/ 17:10	10.06.09/ 15:56	Sparking of 'Y' ph CT at old Duburi S/s.
10	220kV Budhipadar-Korba Ckt.-II	10.06.09/ 16:52	15.06.09/ 12:18	Insulators damaged at loc no. 94 & 150.
11	132kV Paradeep-PPL Ckt.-II	16.06.09/ 20:10	17.06.09/ 20:38	Insulator problem at loc. No.-30,31,32.
12	132kV Theruvai-Kesinga Ckt.	19.06.09/ 4:40	19.06.09/ 13:30	'Y' ph jumper snapped at Loc No.- 275.
13	220kV Theruvai-Bhanjanagar Ckt.-I	19.06.09/ 14:54	21.06.09/ 16:16	'R' & 'B' ph conductor snapped between loc no.-527 & 528.
14	132kV Narendrapur-Khurda Ckt.	19.06.09/ 18:02	21.06.09/ 09:45	Jumper of antitheft charged line snapped at loc. No.-527.
15	220kV Bhanjanagar-Mendhasal-Chandaka Ckt.	24.06.09/ 17:35	25.06.09/ 13:23	'R' ph insulator damaged at loc no.- 405.
16	220kV TTPS-Kaniha Ckt.	28.06.09/ 12:25	29.06.09/ 18:10	'R' & 'B' ph insulator damaged at loc no.- 07.

From the above data it is noticed that, most of the tripping are due to failure of insulators, jumper snapping.

***C.G.M.(O&M) may please deliberate.***

**ITEM NO: 3 Drawal of Machhakund Power**

The hourly drawal of Machhakund power during the month of June'09 is annexed herewith as Annexure-IV. The average drawal during June 2009 was 24 MW. Present drawal from Machhkund is to the tune of 30 MW in average. At present only three nos. of Machhakund units are available in the bus, generating 57 MW.

It was decided in the last meeting that Gridco shall take up Machhakund issue with APGENCO for fulfilling of their commitments in the meeting. In case they fail, the issue may be taken up with CERC.

*Sr. G.M (PP), Gridco Ltd. may please deliberate the status.*

**Display of Machhkund generation:**

It was deliberated in the last meeting that, OHPC has already been taken procurement action for the RTU to be installed at Machhakund.

*OHPC may please deliberate the status.*

**ITEM NO: 4 Review of Outage Program of State Generators / Transmission elements for the month of May & August'09:**

Outage programme of EHT lines and S/S for the year 2009-10 is yet to be finalized by C.G.M.(O&M).

Tentative Outage programme for State Generators for July & August'09 are as follows:

Sl.	Station	Unit	July'09		August'09	
1	Rengali	# 1	18.08.08 to Continue	Winding Problem	18.08.08 to Continue	Winding Problem
2	Balimela	# 7 & 8	12.06.09 to 31.07.09	Transformer problem	-	-

The detailed unit outage during the month of June'09 is annexed as Annexure-V.

*OHPC to deliberate.*

C.G.M.(O&M) may please deliberate the status outage programme for the FY 2009-10.

**ITEM NO: 5 Generation Program for the month of July & August'09.**

Generation schedule for the month of July & August'09 furnished by OHPC are given in the table.

Name of Hydro Gen. Station	Generation Programme (MW)		Reservoir Level as on 01.06.09	Reservoir Level as on 01.07.09	MDDL	High Flood Reservoir Level
	July'09	August'09				
HPS, Burla	200+30	N/A	598.00ft	595.08ft	590 ft.	630 ft.
U.Indravati	400		625.61mtr	625.20mtr	625mtr	642 mtr
Balimela	130		1441.80ft	1437.50ft	1440 ft.	1516 ft.
U.Kolab	80		844.86mtr	844.51mtr	844 mtr	858 mtr.
Rengali	160		110.12mtr	109.47mtr	109.2mtr	123.5 mtr.
MKD (O/D)	25	25	2708.20ft	2702.35ft	2685 ft.	2750 ft.
<b>TOTAL</b>	<b>1025</b>					

**ITEM NO: 6 Status of New Lines funded by WB/ADB / Deposit work / OPTCL's own funding**

Sl. No	Details of project	Status as on last meeting	Need to be deliberated by
1	132 kV Burla-Sambalpur SC line	The construction is under progress and expected to be charged during August 2009.	Sr.GM (TP &C)
2	of 220/132 kV Bolangir S/S and 220 kV Katapali – Bolangir SC line	The construction is under progress and expected to be charged during August 2009.	Sr.GM (TP &C)

*Sr.GM.(TP&C), OPTCL may please deliberate the present status*

**ITEM NO:7 Communication issues**

**(I) Integration of NALCO & RSP CGPs with OPTCL –Present status May be intimated.**

In the last meeting NALCO has stated that the procurement action for RTU has already been initiated. The contract is expected to be awarded by 15<sup>th</sup> June 2009.

*NALCO may please deliberate the status.*

Installation of RTU and associated equipments for RSP.

*G.M (Telecom) may please deliberate the present status*

**(II) Installation of communication equipment by CGPs/ Industries.**

As stated by A.G.M (Telecom), in the last meeting, the status of installation of SCADA/PLCC equipments of some of the major CGPs is as follows.

Sl. No	Name of CGP	Status of procurement of RTU and equipments
1	M/S BSSL, Meramunduli	All equipments commissioned. Data is not displaying due to problem in digital system. Breaker status is yet to come.
2	M/S Hind Metals, Meramunduli	ABB engineers to rectify the problem.
3	M/s Bhushan Power & Steel Ltd, Jharsuguda	RTUs procured by Bhusan are not compatible to our system. They need to be replaced. It is already intimated to Bhusan.
4	M/S EMAMI	Already commissioned, but still under observation.

*G.M (Telecom) may please deliberate the present status.*

**(III) Non- displaying of data of the transmission elements / generating units.**

It was deliberated in the last meeting that a proposal has been made by PGCIL to integrate the remaining elements in the SCADA system

*G.M (Telecom) may please deliberate the present status.*

**ITEM NO:9 Other issues:**

**(I) Synchronisation of Timings with GPS**

It is noticed that due to non synchronization of Grid S/S timings with the GPS, there are wide difference in tripping timings of transmission elements in case of disturbances. This lead confusion while analysing the disturbances. All the 220/132 kV S/Ss may be instructed to match their Clocks with SLDC at least once in a week and intimate to all the 132/33 kV S/Ss in the down stream.

*CGM (O&M) may please take necessary action*

**(II)** In case of communication failure to important S/Ss it is not possible to communicate messages and informations. It may be considered to provide mobile phones to all the 220 kV S/Ss and Machhakund P.H.

*CGM (O&M) may please take necessary action*

**(III)** It is noticed that in holidays the data error in SCADA system is not being rectified due to absence of counterpart telecom staff in the field S/Ss.

*GM (Telecom) may please take necessary action*

**ITEM NO:10 Date and Venue of the next (59<sup>th</sup>) PSOC meeting:**

The members may decide the Venue and date of the 59<sup>th</sup> Power System Operational Co-ordination meeting.

## **Important Grid Incidences during the month of June-2009**

### **1. Power supply interruption to Chandaka and Bidanasi command area.**

On 04.06.09 at 21:01 hrs all the 220 kV outgoing and incoming feeders from Chandaka & Bidanasi S/S tripped interrupting power supply to Chandaka and Bidanasi command area. On investigation it is noticed that at Loc No-606 insulator damaged and 'R' phase conductor snapped and fell on 'B' phase conductor of 220 kV Meramundali-Chandaka Ckt. It is also noticed that, insulator of 132 kV Chandaka-Bhubaneswar Ckt-II damaged at Loc. No-16 and 17. The system normalized by 21:53 hrs.

### **2. Power supply interruption to Joda command area.**

On 11.06.09 at 21:37 hrs all the 220 kV lines emanating from Joda S/S tripped interrupting power supply to Joda, Tensa, FMP, Polasponga, Bolani, Nalda(T), Arya Steel. At 23:45 hrs Joda availed station supply through 132 kV Polasponga-Rairangpur Ckt from Baripada PG end and subsequently system normalised.

### **3. Power supply interruption to Baripada S/S.**

On 12.06.09 at 08:48 hrs, some public forcibly entered into 132/33 kV Grid S/S, Baripada and hand tripped all 33kV outgoing feeders and 132/33 kV, 31.5 MVA Transformer-I and II from 132 kV side interrupting power supply to Baripada S/S. At 10:15 hrs transformer-I was charged and 33 kV feeders at Baripada S/S charged after reaching to an understanding with public in presence of OIC, Baripada town.

### **4. Power supply interruption to Phulbani S/S.**

On 17.06.09 at 15:55 hrs 132 kV Bhanjanagar-Phulbani Ckt tripped at Bhanjanagar end on relay indication D/P, 'B' phase E/F, Zone-I, Dist-5.56 km at Bhanjanagar end interrupting power supply to Phulbani S/S. On investigation it was found that 'B' phase 132 kV CT of 132 kV Bhanjanagar- Phulbani Ckt burst at Bhanjanagar end. On 17.06.09 at 22:33 hrs 132 kV Bhanjanagar- Phulbani Ckt charged after bypassing the faulty CT.

### **5. System Disturbance in Southern Orissa.**

- i) On 19.06.09 at 14:46 hrs 220 kV Theruvali- Bhanjanagar Circuit-II tripped at Bhanjanagar S/S on relay indication, E/F, Zn-I, Dist-27.70 kM. The line also tripped at Theruvali end on E/F relay indication.
- ii) At 14:48 hrs Voltage dip (180 KV) noticed at Balimela bus and units #2, #4 & #6 at Balimela PH tripped. The rest units were hand tripped.
- iii) At 14:49 hrs Indravati PH-Indravati PG line tripped at Indravati PH end on over Voltage and Unit # 1 of Indravati PH tripped.
- iv) At 14:52 hrs 400 kV Meramundali- Jeypore (PG) Ckt tripped at Meramundali end on relay indication DTT.
- v) At 14:54 hrs 220 kV Theruvali-Bhanjanagar Ckt-I tripped at Theruvali on E/F relay indication. 220 kV Theruvali- U. Kolab Ckt, 220 kV Theruvali- Jaynagar Ckt-I & II also tripped at Theruvali with E/F relay indication. 220 kV Theruvali- Narendrapur Ckt-II tripped at Narendrapur end on D/P relay indication. At Jaynagar S/S all the 220 kV feeders hand tripped due to high Voltage (280 kV) noticed.

Power supply interrupted to Theruvali, Narendrapur, Jaynagar command area.

System normalized by 16:40 hrs.

On investigation it was found that conductor snapped between location No-527-528 of 220 kV Theruvali- Bhanjanagar Ckt-I and charged on 21.06.09 at 16:16 hrs.

## **6. Power supply interruption to Bhanjanagar command area.**

On 24.06.09 at 17:35 hrs 220 kV Bhanjanagar-Mendhasal- Chandaka Ckt tripped at Bhanjanagar end on relay indication 'B' phase, E/F, Zn-I, Dist-118.4 km.

At 19:00 hrs 220 kV Meramundali-Bhanjanagar Ckt-I & II tripped at Bhanjanagar end on relay indication E/F. 220 kV bus-I at Bhanjanagar become dead and Auto-I could not be kept in service due to tie breaker problem.

At 19:05 hrs heavy spark was observed in 'Y' phase 220 kV side bus isolator of 220/132 kV, 100 MVA Auto-II at Bhanjanagar.

220/132 kV, 100 MVA Auto-II was hand tripped at 19:10 hrs and power supply interrupted to Bhanjanagar command area. On investigation it was found that 'R' phase insulator of 220 kV Bhanjanagar- Mendhasal- Chandaka line was damaged at Loc. No-405.

At 20:00 hrs 100 MVA Auto-II at Bhanjanagar S/S was charged.

At 21:28 hrs 220 kV Bhanjanagar-Meramundali Ckt-II was charged.

At 21:43 hrs 160 MVA Auto-I was charged.

At 21:56 hrs 220 kV Bhanjanagar- Meramundali ckt-I was charged.

On 25.06.09 at 13:23 hrs 220 kV Bhanjanagar-Mendhasal- Chandaka Ckt was charged after replacement of damaged insulator.

## **7. Power supply interruption to Meramundali and Bidanasi Command area.**

On 24.06.09 at 18:55 hrs 220 kV Meramundali- Chandaka Ckt tripped at Meramundali on relay indication D/P, 'R' phase, 'Y' phase, E/F, Dist-99 %. The line also tripped at Chandaka end on relay indication 'B' phase, E/F, Zn-III.

At 19:00 hrs while charging 220 kV Chandaka Ckt from Meramundali end the line tripped again on same fault followed by tripping of

i. 220 kV Meramundali-Bidanasi Ckt on relay indication O/C, E/F.

ii. 220 kV TTPS Ckt-I & II tripped at TTPS end. 220 kV TTPS Ckt-I at Meramundali end master trip relay indication.

iii. 220 kV NALCO Ckt-I & II on E/F.

iv. 220 kV Bhanjanagar Ckt-I & II on E/F relay indication.

v. 220 kV Bhusan Ckt on O/C relay indication.

vi. 220/132 kV, 100 MVA Auto-I on E/F relay indication.

vii. 400/220 kV, 315 MVA ICT-I& II on overflux relay.

viii. 400 kV Kaniha Ckt-I & II on over voltage relay indication.

ix. 400 kV Meramundali- Jeypore Ckt on DTT.

220 kV Bus-I, 132 kV bus at Meramundali become dead. Power supply interrupted to Meramundali traction, Rungta, BRG Steel and Bidanasi Auto.

At 19:25 hrs 220 kV Bhusan Ckt charged.

At 19:45 hrs 220 kV TTPS Ckt-I charged.

At 19:45 hrs Auto-I was charged on 220 kV side through Bus-II.

At 19:48 hrs 132 kV side of Auto-I was charged.

At 19:50 hrs 220 kV Bidanasi Ckt was charged.

At 20:11 hrs 220 kV NALCO Ckt-I charged.

At 20:14 hrs 220 kV TTPS Ckt-II charged.

At 20:35 hrs while charging 220 kV Chandaka Ckt it tripped pulling out 220 kV Bidanasi Ckt.

At 20:45 hrs 220 kV Bidanasi Ckt charged.

At 21:24 hrs NALCO Ckt-II charged.

At 21:28 hrs 220 kV Bhanjanagar Ckt-II charged.

At 21:56 hrs Bhanjanagar Ckt-I charged.

At 23:22 hrs 400 kV Kaniha Ckt-I charged.

On 25.06.09 at 01:44 hrs 220 kV Chandaka Ckt charged after replacement of damaged insulator.