



No.07-05/SG-9B-II/1017

Jabalpur, dated 16.05.2012

To

**As per distribution list**

Sub: Minutes of 28<sup>th</sup> meeting of Operation and Coordination Committee of MP..

Please find enclosed herewith 28<sup>th</sup> meeting of the Operation and Coordination Committee of MP **scheduled on 21<sup>st</sup> April 2012 at 11.00 AM** at State Load Despatch Centre, MPPTCL, Jabalpur. The Minutes is also available on the website of SLDC '[www.sldcmpindia.com](http://www.sldcmpindia.com)'.



**( P.A.R. Bende )**  
**Member Secretary, OCC**  
**Addl. C.E.(LD), SLDC**  
**MPPTCL, Jabalpur**

**Encl : As above.**

## Distribution List

<p>The Chief Engineer (T&amp;C), MP Power Transmission Co. Limited, Jabalpur. <b>Fax No- 0761-266593</b></p>	<p>The Superintending Engineer (DCC-WZ), DISCOM Control Centre, MP Paschim Kshetra Vidyut Vitaran Co. Limited, Near Polo Ground, Jail Road, Indore <b>Fax No- 0731-2421554.</b></p>
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<p>The Chief General Manager (S), MP Power Management Company, Jabalpur. <b>Fax No- 0761-2664749</b></p>	<p>The General Manager, Omkareshwar Power Station, Prashnik Bhawan, Urja Vihar, Sidhwarkut, Distt : Khandwa (MP) – 450 554. <b>Fax No- 07280-271703</b></p>
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<p>The President, Shree Maheshwar Hydel Power Corporation Limited, “Abhyanchal Parisar”, Mandleshwar Distt : Khargone 451 221 (<b>Fax 07283-233830</b>)</p>	<p>Shri Rajiv Keskar, E. A. to Chairman MPPMCL, Energy Department, Vallabh Bhawan, Bhopal. <b>Fax No- 0755-2441691 / 2441642</b></p>
<p>The Director (Projects), BLA Power Limited, At : Niwari, PO: Khorsipan, Tah : Gadarwara, Distt ; Narsinghpur 487 551 <b>Fax No. 07791-243667</b></p>	

**MINUTES OF 28<sup>TH</sup> MEETING OF OPERATION & COORDINATION COMMITTEE OF MP HELD ON  
21<sup>ST</sup> APRIL 2012 AT STATE LOAD DESPATCH CENTRE, JABALPUR**

28<sup>th</sup> meeting of Operation & Co-ordination Committee of MP was held on 21.04.2012 at State Load Despatch Centre, Jabalpur. The list of participants is enclosed at Ann.-1.0.

Shri A.P. Bhairve, Chief Engineer, SLDC & Chairman OCC, welcomed the participant from various entities attending the meeting. He stated that the important issues like system jerks reported by Sanjay Gandhi Thermal Power Station and record of less unrestricted demand during April 2012 as compared to previous year shall be discussed by the committee to resolve the same. He further stated that during the period March to April 2012, the system frequency remained within operating limits for almost 95 % of the time which as a result of better performance of NEW grid. He expressed his concern for continuous underdrawal by DISCOMs at high frequency during 07:00 to 09:00 and 17:00 to 18:00 hrs even when frequency is above 50.2 Hz which should be avoided for maintaining grid discipline.

Thereafter, Chairman, OCC requested Shri P.A.R. Bende, Member Secretary (OCC) to take up the agenda items for discussion.

**ITEM NO. 1 : CONFIRMATION OF MINUTES** : Minutes of 27<sup>th</sup> meeting of Operation & coordination committee of MP held on 27.02.2012 at Banquet Hall, Board Room, Shakti Bhawan, Jabalpur were forwarded to the committee members vide No. No.07-05/SG-9B-II/560 dated 15-03-2012. No comments have been received from the members. The committee confirmed the minutes of 27<sup>th</sup> meeting.

**ITEM NO. 2 : REVIEW OF SYSTEM OPERATION DURING THE MONTHS FEB & MARCH 2012.**

**2.1 Frequency Particulars** : The committee noted the detailed frequency particulars for the month of Feb & March 2012 as enclosed at **Annexure-2.1**. The brief details of frequency profile are given hereunder:

Month	Average frequency	minimum integrated frequency over an hour	maximum integrated frequency over an hour	instantaneous minimum frequency	Instantaneous maximum frequency
Feb 2012	49.84 Hz	49.54 Hz	50.35 Hz	49.05 Hz	50.48 Hz
Mar 2012	49.85 Hz	49.58 Hz	50.26 Hz	49.04 Hz	50.61 Hz

**2.2 Operational Matters**

**2.2.1 Operational Discipline** : The Member Secretary apprised the committee that the system frequency was within the permissible range of 49.5-50.2 Hz for 95.18 % of the time during March 2012 as against 95.33 % of time during February 2012, which is a good indicator. He further stated that during March 2012 the system frequency was below 49.5 Hz for 2.30 % of time against 2.86 % of time during February 2012. The frequency remained Above 50.2 Hz for 2.51 % of the time in March 2012 as compared to 1.81 % of the time in February 2012.

The Committee noted the system operation in terms of frequency profile for the months November 2011 to January 2012 as given below:

Month	% of time Frequency Below 49.5 Hz	% of time Frequency above 50. 2 Hz	% of time frequency within the permissible range of 49.5-50.2 Hz	Average monthly frequency	No. of times frequency dipped below 48.8 Hz
Feb 2012	2.86 %	1.81%	95.33%	49.84 Hz	0
Mar 2012	2.30 %	2.52%	95.18%	49.85 Hz	0

The Member Secretary, OCC presented the 15 minutes average frequency for Feb & March '12 and also DISCOM wise hourly average schedule versus drawal. He pointed out that as per trends available, East DISCOM generally overdraws at low frequency during evening peak and underdraws at high frequency during night hours, whereas West DISCOM overdrawn during day time at low frequency during February and March '12 pattern indicated improved performance. The drawal pattern of Central DISCOM was almost matching with its schedule.

As regards to anticipated demand estimation by DISCOMs, Member Secretary stated that though the demand estimation process has improved over the period, there is still scope for improvement as there is considerable gap between weekly demand estimation and actual hourly average demand.

Member Secretary further presented that there is wide gap between weekly hourly average availability of MPPGCL thermal as compared to actual hourly average generation and there is also considerable variation in daily availability. The C.E.(LD) has expressed his concern over considerable shortage in availability in MPPGCL thermal and requested MPPGCL representatives to pay proper attention while furnishing the anticipated availability as wide variation results in maintaining the supply plan.

**2.2.2 REDUCTION IN UNRESTRICTED DEMAND AS COMPARED TO PREVIOUS YEAR :** The Chief Engineer(LD) has pointed out that there during April 2012 the unrestricted demand has been registered less as compared to previous year. Member Secretary has presented graphs indicating unrestricted demand for the period 1<sup>st</sup> to 15<sup>th</sup> April for current and previous year which shown that there is considerable reduction of UR demand in West and East DISCOM whereas in Central DISCOM the reduction is marginal. The CE (LD) stated that though about 11% energy input has been increased and also supply has been given for more duration as compared to previous year, the reduction in unrestricted demand is not justified. He expressed his concern and requested DISCOMs to pay proper attention while computing the demand estimation and also the load relief quantum.

**2.2.3 HIGHLIGHTS OF THE YEAR 2011-12 :** The Member Secretary through presentation informed the committee about the milestones achieved during the year 2011-12, which is given below :

<b>Highlights : 2011-12</b>			
<b>A</b>	<b>Demand in MW</b>		
<b>1</b>	<b>Maximum Unrestrcited Demand : MW</b>	<b>8946</b>	<b>at 20.25 Hrs on 03.03.2012</b>
<b>2</b>	<b>Maximum Demand Met : MW</b>	<b>8546</b>	<b>at 20.25 Hrs on 03.03.2012</b>

<b>B Energy Supply in MU</b>			
1	Yearly Energy Supply	42931	
2	Monthly Energy Supply	4693.9	on December 2011
3	Daily Energy Supply	154.1	on 05.11.2011
<b>C Generation in MU &amp; PLF %</b>			
1	MPPGCL Thermal	15811	
2	Daily Generation	59.355	on 31.03.12
3	MPPGCL Hydel	3230.1	Annual 2011-12
4	% Annual PLF	61.38	
<b>C NHDC Ex Bus Generation in MU</b>			
1	Indira Sagar	3277.6	
2	Omkareshwar	1365.8	

**Note : Indicates highest ever.**

**2.2.4. Messages for drawal curtailment:** The total number of messages of significant violation of IEGC by the DISCOMs by overdrawing at frequency below 49.7 Hz or under drawing above 50.00 Hz is as given hereunder:

MONTH	East DISCOM	Central Discom	West DISCOM	Total
Feb 2012	33	42	51	126
Mar 2012	35	39	22	96

Member Secretary requested DCCs to take prompt action whenever SLDC sends message for drawal curtailment at low frequency or taking load when frequency is high.

**2.3.1 Voltage Profile :** The Committee noted the date wise voltage profile at some of the important 400 KV and 220 KV substations during the months February and March 2012 as enclosed at **Annexure - 2.3.1.**

During the months February and March 2012, the deviation of voltage from the accepted limit on either side was recorded at following important 400 KV s/s in MP Grid.

Sr No	Name of 400 KV Substation	FEBRUARY 2012				MARCH 2012			
		Max. Voltage observed		Min. Voltage observed		Max. Voltage observed		Min. Voltage observed	
		Voltage	Date	Voltage	Date	Voltage	Date	Voltage	Date
1	Indore	426	03.02.12	---	---	427	08.03.12	---	---
2	Itarsi	426	29.02.12	---	---	427	06.03.12	---	---
3	Bina	426	26.02.12	---	---	431	03.03.12	---	---
4	Gwalior	424	29.02.12	---	---	434	14.03.12	---	---
5	Nagda	428	22.02.12	---	---	428	06.03.12	---	---

The suggestion of including 400 KV Birsinghpur, Satpura, Seoni, Rajgarh and Khandwa substations is accepted by the committee. The CE(LD) has stated that about 39 EHV lines were kept open during high voltage problems. He expected that after commissioning of Bus reactors at 400 KV Rajgarh s/s, the voltage profile in Western MP would improve. He requested MPPGCL to expedite the replacement of Bus reactor at Satpura TPS and explore possibility of installing Bus reactor of adequate capacity at SGTPS Birsinghpur.

**Problems reported at SGTPS, Birsinghpur:** The Member Secretary informed the Committee that despite commissioning of 400 KV Birsinghpur-Korba and Birsinghpur-Balco lines with reactive compensation, the leading reactive loading of SGTPS 500 MW Unit is not resolved. He also stated that SE(ET&I) PH-III, SGTPS Birsinghpur has reported 2/3 instances of system jerks at SGTPS Birsinghpur switchyard, however on investigation by SLDC no any system event has been reported from nearby substations. In order to investigate the event, Committee agreed for constitution of a committee comprising of Members from SGTPS, Birsinghpur, MPPGCL, Jabalpur, MPPTCL and SLDC.

**2.3.2 Status of Capacitor Banks in sub-transmission system :** The Committee noted the updated information of the status of capacitor banks in sub-transmission system as on 31<sup>st</sup> March 2012 as submitted by DISCOMs and detailed below :

DISCOM	Capacitor bank installed in good condition (No)		Capacitor bank installed but defective & are repairable (No)			Requirement of repair against each unit (No)	Requirement against non-repairable capacitor banks		Capacitor banks already covered under ADB T-V		Balance capacitor banks to be covered in other schemes	
	600 KVAR	1200 KVAR	600 KVAR	1200 KVAR	2400 KVAR	No of 100 KVAR Units required	600 KVAR	1200 KVAR	600 KVAR	1200 KVAR	600 KVAR	1200 KVAR
WZ	616	442	28	96	--	225	38	46	52	57	101	82
CZ	8	721	3	34	-	24	3	16	0	588	0	441
EZ	415	237	12	18	-	94	18	38	--	--	--	--

DISCOMs have also furnished the updated additional information as detailed below.:

**Figures are in MVAR**

SN	Particulars	WZ	CZ	EZ
1	MVAR capacity of connected capacitors in good condition	900	806.4	533.4
2	MVAR capacity of connected capacitors in partially good condition	109.5	42.6	14
3	MVAR capacity of connected capacitors in good condition including partially good condition.	1009.5	849.0	547.4
4	MVAR capacity of connected capacitors covered under ADV T-V Scheme.	99.6	705.6	Nil
5	Grand total MVAR of capacitors including that are proposed in ADB T-V scheme	1109.1	1554.6	Nil

East DISCOM also intimated that during 2012-13 8 Nos capacitor banks of 1200 KVAR each (9.6 Mvar) at 8 Nos new coming up substations shall be installed.

**2.3.3 Status of Shunt Capacitor Banks in installed at various EHV Transmission Substation :** The committee noted the updated information of the status of Installed capacitor banks (in MVAR) and requirement in EHV transmission system as on 31<sup>st</sup> March 2012 as submitted by MPPTCL is given below

Voltage Class	Capacitor bank installed in good condition (No/Mvar)	Capacitor bank installed but defective & are repairable (No/Mvar)	Requirement of repair against each unit (No/Mvar)	Requirement against non-repairable capacitor banks	Capacitor banks already covered under ADB T-V	Balance capacitor banks to be covered in other schemes
220 KV	2 No / 62 MVAR	All in Service	---	---	---	
132 KV	36 Nos / 1182.34 MVAR		---	---	---	
33 KV	366 Nos / 3319 MVAR		---	---	---	-
<b>Total</b>	<b>404 nos / 4563.34 MVAR</b>		---	---	---	

MPPTCL representative informed that all capacitor banks at EHV substations are in healthy condition and in service which is a record.

**2.4.1 Status of completion of on going Transmission Schemes being executed by MPPTCL :** The Committee noted the latest status of completion of various ongoing Transmission Schemes for the financial year 2011-2012 and progress of various ongoing Transmission Schemes as submitted by MPPTCL and enclosed as annexure **2.4.1(i) & 2.4.1(ii)**.

Member Secretary, OCC requested MPPTCL to furnish the details of ongoing transmission schemes for the year 2012-13.

#### **2.4.2 U/F and df/dt Relay Operation**

(i) **U/F and df/dt Relay Operation :** The Committee noted that there was no under frequency operation as frequency did not touch 48.8 Hz during February and March 2012.

(ii) **Defective u/f, df/dt relays :** The Committee noted that there are no defective u/f and df/dt relays.

**2.5 Power Cuts / Load restrictions/Differential Load Shedding by DISCOMS & group allocation to 33 KV feeders :**

- (i) The committee noted the details of DISCOM wise Power supply given to various domestic categories during February and March 2012 as enclosed at **Annexure 2.5(i)**.
- (ii) **Group Allocation to Newly Commissioned existing EHV substations :-**The committee noted the region wise list of 33 KV feeders emanating from various newly commissioned/existing EHV substations for which groups have not been allocated. The list is enclosed at **Annexure 2.5 (ii)**. The DISCOM wise details of pending group allocation to 33 KV feeders is given below :

SN	DISCOM	Region	No of 33 KV feeders for which groups to be allocated
01	EAST	Jabalpur	03
02		Sagar	01
03		Rewa	03
04		<b>Total</b>	<b>07</b>
05	WEST	Indore	15
06		Ujjain	05
07		<b>Total</b>	<b>20</b>
08	CENTRAL	Bhopal	03
09		Gwalior	01
10		<b>Total</b>	<b>04</b>
<b>TOTAL</b>		<b>Grand Total</b>	<b>31</b>

The S.E.(DCC), West DISCOM informed the Committee that they have taken up the group allocation activity as agreed in the last OCC.

**ITEM NO. 3 : OPERATIONAL PLANNING**

- 3.1 Anticipated availability for the Month of March 2012 to June 2012.:** The committee noted Details of Source wise anticipated availability for the period May 2012 to March-2013 which is enclosed at **Annexure-3.1**
- 3.2 Generating Units under planned outage and proposed maintenance programme :** The Committee noted the generating units under planned outages for the period April 2012 to June 2012 based on Maintenance Programme of MPPGCL is as detailed here under :

SN	Description	Capacity	From	To	Reason
01	Satpura # 1	62.5 MW	01.05.2012	31.05.2012	AOH
02	Satpura # 2	62.5 MW	01.06.2012	21.06.2012	AOH
03	Satpura # 3	62.5 MW	22.06.2012	12.07.2012	AOH

The representative of MPPGCL confirmed that there is no change in AOH programme of MPPGCL Thermal units.

- 3.3 Proposed shutdown programme of Transmission lines / Transformers:** The Committee noted the proposed shutdown of transmission elements for the period 01.05.2012 to 30.06.2012 submitted by MPPTCL which is enclosed in annexure 3.4. The Member Secretary intimated the Committee that compiled information for proposed shutdown data of EHV lines and Transformer for OCCM of MP is received from T&C section, however, despite repeated requests the compiled information for LGBR & OCCM of WR is not being furnished by T&C, MPPTCL though the same was agreed in 26th OCCM



of MP. It was agreed that T&C, MPPTCL and O&M:Gen MPPGCL shall furnish the compiled information for LGBR & OCCM of WR and also for OCCM of MP.

The Member Secretary, stated that the outage information for OCC is required to be furnished to WRPC by 4<sup>th</sup> of every month and hence the information from CE(T&C) and CE(O&M:Gen) office should be available to SLDC latest by 3<sup>rd</sup> of every month.

**3.5 Long Outages of transmission elements/protections :** The committee noted the status of long outages of transmission elements/EHV transformers as detailed below :

<b>S N</b>	<b>Line/Transformer/Breaker/ Reactor etc under long outage</b>	<b>Outage date</b>	<b>Reason</b>	<b>Expected date of restoration as intimated.</b>
1	63MVAR Bus-I Reactor at Satpura TPS	24.05.2005	Damage of all three limbs along with reactor tank	Received at site & will be installed in bay no 17 after commissioning of new switch yard in Oct,12
2	220KV Breaker of 220 KV Tons-Rewa line-II at Tons HPS	30.06.2011	R & Y Phase pole out	Order placed on M/s. ABB, delivery expected date as 30.06.2012.
3	16 MVA, 15.75/6.6 KV UAT-1B at SGTPS, Birsinghpur	25.02.2008	Bursting of incomer breaker of 6.6 KV bus 1SB	New CT received at site on 09.04.12. Erection / commissioning work shall be carried out on unit shut down n next opportunity
4	UAT 6-B at Satpura TPS	15.07.2010	Overheating noticed and during inspection core of transformer found damaged.	The transformer is in service charged on 29 march .
5	UAT 7-B at Satpura TPS	29.11.2011	Tripped on differential & Bucholtz relay protection due to internal fault in the transformer	Tender for inspection/ repair is under finalization
6	16MVA UAT of Unit # 4 at Amarkantat TPS	17.11.2011	Heavy oil leakage	After attending the leakage, put back into service by July,12
7	16MVA UAT 5-A at Amarkantat TPS	Since commissioning of unit	Charged from HT side (Changeover scheme is to be commissioned by BHEL)	Shall be kept in service after AOH in July '12
8	16MVA UAT 5-B at Amarkantat TPS	Since commissioning of unit	Changed from HT side (Changeover scheme is to be commissioned by BHEL)	Shall be kept in service after AOH in July '12

9	Bus bar Differential protection scheme at Amarkantak TPS	Since installation	Not commissioned.	M/s ABB is not responding, further exploring the possibilities of supply by another source
10	Carrier protection of 400 KV Sarni-Seoni line Channel-1 at Satpura TPS	26.06.2007	Problem in PLCC system at Seoni end, since LILO of 400 KV Sarni-Bhilai at Seoni	Procurement of new PLCC under progress.
11	220 KV Bus bar protection scheme at SGTPS Birsinghpur	Since commissioning of 220 KV switch yard	The scheme not available	Procurement of new numerical bus bar protection scheme is in tendering process. Bidders are not responding
12	400 KV Bus bar protection scheme at SGTPS Birsinghpur	Since commissioning of 220 KV switch yard	Under commissioning state	BHEL engineers have been called for commissioning.
13	UAT No. 1 at RABS Bargi HPS.	JUNE 2008	Not mentioned	Manually ready. Where as in next AOH the same shall be put under automation.
14	UAT No. 3 at RAJGHAT HPS.	JULY 2011	Not mentioned	Expected date 30.06.2012
15	220 KV Bus bar differential protection at TONS HPS	Since commissioning	Not mentioned	New Scheme with digital relays is required to be procured & commissioned.
16	UAT No. 1 at Gandhi Sagar	Since 2008	Not mentioned	Cabling work is under progress. expected by May ' 2012
17	UAT No. 2 at Gandhi Sagar	Since 2008	Not mentioned	Cabling work is under progress. expected by May ' 2012
18	400KV Nagda-Rajgarh Line-I circuit breaker at 400KV Nagda s/s.	03.12.2011	Due to outage of R & Y phase poles. Line can be charged from tie breaker.	M/s BHEL has furnished the charges for rectification of circuit which are very much on higher side. The possibility to replace the circuit breaker has been explored and as soon as the 400KV Circuit Breaker is received the same shall be replaced. (MPPTCL)

Member Secretary stressed the need of availability of transfer bus along with breaker and isolators so that in case of outage of main breaker the line could be available through transfer bus. He requested MPPGCL to confirm the availability of the same at all thermal and Hydel power stations.

**TEM NO. 4 : OPERATIONAL STATISTICS FOR THE MONTH OF NOVEMBER 2011 TO JANUARY 2012:**  
The committee noted the details of actual generation, Schedule from Central Sector demand etc. which are given in the following Annexures:

**Annex. 4.1** Unit wise actual Generation of MPPGCL thermal Units and station wise Generation of MPPGCL & NHDC Hydel Units.

**Annex. 4.2** Power Supply Position.

**Annex. 4.3** Hourly Average of Availability and Demand.

**Annex. 4.4** Hourly average schedule Vs Drawal of DISCOMs.

**ITEM NO. 5 : SYSTEM DISTURBANCE IN MP DURING NOVEMBER 2011 TO JANUARY 2012:** Member Secretary informed the Committee that there was no major grid disturbance in MP during February & March 2012. However the Grid Disturbance and Grid Incidents in MP given in **Annexure 5.0** have been noted by the committee.

**ITEM NO. 6.0 : BLACK-START MOCK DRILL OF HYDEL POWER STATIONS :**

**6.1 (i) Availability of DG set at Pench HPS :** MPPGCL informed that some of the spares are still not available with the OEM and as soon as the spares are available, the DG set shall be put into operation. Member Secretary, OCC requested MPPGCL to expedite the same and if spares are not available at all, then possibility of replacement of DG set may be explored.

**6.1 (ii) Black Start mock drill at Bargi HPS:** The MPPGCL representative informed that the order for replacement of 48 VDC battery has been placed and the same shall be replaced within next 6 months. The Member Secretary requested MPPGCL to carryout periodic checking of battery at Power Stations by taking batteries on load. This will ensure timely action for replacement of decaying battery sets or battery elements. MPPGCL also confirmed that the defective ampere meter in Bus Coupler panel shall be replaced. On the issue of hunting of Generator output (Unit 2) in GT control panel while black start, Member Secretary stated that one more Black Start activity shall be carried out to ascertain the cause.

**6.1 (iii) Black Start mock drill at other HPS:** As discussed and agreed the black start mock drill of Pench and Omkareshwar Hydel Power Station shall be taken up after outset of coming Monsoon. However, the exercise at Tons shall be taken up after maintenance of Unit 3 is completed.

**7.0 SOME IMPORTANT MATTERS REQUIRED IMMEDIATE ATTENTION :**

**7.1 Quarterly Review of Crisis Management Plan :** Member Secretary requested MPPTCL, MPPGCL and NHDC to furnish quarterly information for fourth quarter (Jan 12 to Mar12) on CMP/Mock drills, directly to the Chief Engineer (GM), CEA New Delhi under intimation to SLDC Jabalpur and WRPC Mumbai.

**7.2 Status of Physical & Cyber Security in Power Sector regarding :** Member Secretary requested MPPTCL, MPPGCL and NHDC to furnish quarterly information for fourth quarter (Jan 12 to Mar12) on status of Physical and Cyber Security, directly to the Chief Engineer (GM), CEA New Delhi under intimation to SLDC Jabalpur and WRPC Mumbai.

**8.0 OTHER IMPORTANT OPERATIONAL ISSUES :**

**8.1 Nomenclature of 400 KV Birsinghpur – Damoh lines:** Member Secretary, OCC informed the Committee that WRPC in its 434<sup>th</sup> OCC meeting has adopted following nomenclature of 400kV Birsinghpur – Damoh lines :

Sr.No	Description of Feeder	Proposed nomenclature	
		At Damoh end	At Birsinghpur end
01	400kV Damoh – Birsinghpur (PGCIL) line # 1	400kV Birsinghpur Ckt.1	400KV Damoh Ckt.1
02	400kV Damoh – Birsinghpur (PGCIL) line # 2	400kV Birsinghpur Ckt.2	400KV Damoh Ckt.2
03	400kV Damoh - Birsinghpur (MPPTCL) line	400kV Birsinghpur Ckt.3	400kV Damoh Ckt.3

The suggestion of SE(Engineering), MPPGCL that bay number at either end should also be indicated has been accepted. Member Secretary requested MPPGCL representative to furnish the bay details so that same could be incorporated.

**8.2 : Standard Operating Procedure for DCCs :** The member Secretary informed the committee that the consultant appointed by SLDC for preparation of Standard Operating procedure for Distribution Control Centres has submitted the final SOP which has been forwarded to CMDs of DISCOMs and MD, MP Tradeco. (A copy of the same is also handed over to DISCOM representatives in the OCC meeting.) The CE(LD) informed that as directed by Energy Department, GoMP in the meeting held at Bhopal on 16.03.2012, the SOP should be implemented w.e.f 01.05.2012 by the DCCs, and action on following key points have to be ensured by DISCOMs within the timeline fixed by Energy Department, GoMP

Action Point	Timeline
Feeder grouping, prioritization and mapping	30.04.2012
Formation of NDCC and DEAG	30.04.2012
Set-up communication channel (DCC – NDCC)	30.04.2012
Set-up communication channel (NDCC- SS)	30.06.2012
Setting of systematic outage planning protocol	30.04.2012
Complete implementation of DAS on 33 kV feeders	31.12.2012
Develop incentive mechanism for DCC, NDCC, SS staff	31.12.2012
Infrastructure to obtain weekly data from interface meters	30.04.2012
Implementation to obtain weekly data from interface meters	30.06.2012
Implementation and compliance of SOP	01.05.2012
Implementation schedule to be uploaded on SLDC site	Done
Implementation of IT tools for DCC	31.12.2012
Technical proposal for development of IT tools	31.03.2012

**8.3 Day ahead availability and demand estimation at 15 minute time block :** The Committee noted that in compliance to IEGC and 15 minute trading in Power Exchanges, SLDC has started issuing day ahead availability, estimated demand and shortage/surplus in 15 minute time block.

## **9.0 SCADA/EMS RELATED ISSUES :**

### **9.1 PROGRESS OF INSTALLATION OF NEW RTUS ALONG WITH PLCC DATA LINKS AT EHV S/S**

The progress of installation and commissioning of RTU's was reviewed and it was assured by MPPTCL to complete commissioning of communication channels for S/s where RTU has already been delivered, shortly. Further, it was also assured by MPPTCL to ensure commissioning of telemetry of 40 No. new RTUs, as per the schedule submitted to CERC.

### **9.2 Maintenance of RTU's and Availability of spares:-**

**MPPGCL:-** It was informed by MPPGCL that ordered spares for D-20 RTU's has already been received by MPPGCL and stored at Bargi HPS and SGTPS for Hydel and thermal power respectively. It was also informed by MPPGCL that order for transducers has also been placed to M/s

Elster Ltd. And material is expected to be received shortly. Regarding ABB RTU spare the matter is being taken up with the firm.

**MPPTCL:-** Member Secretary requested MPPTCL to give the status of additional spare CPU along with D20 ME rack required to be arranged. MPPTCL assured to arrange the spares

### **9.3 Arrangement of telemetry equipments for Birsingpur HPS and Jhinna HPS ;**

Member Secretary asked about the present status of installation of RTU at Bansagar-IV (Jhinna) and Birsingpur HP S. MPPGCL intimated that details are being collected and will revert back shortly.

### **9.4 DISCREPANCY IN TELEMETRERED VALUES RECEIVED FROM DIFFERENT EHV S/S & POWER STATIONS & UPGRADATION OF EXISTING RTUS**

Member Secretary asked MPPGCL and MPPTCL to take up the work of telemetry discrepancy & upgradation of RTU's immediately so that the work gets completed as per the schedule submitted to CERC. MPPTCL & MPPGCL assured to complete the work within the time frame submitted to CERC

### **9.5 Long Outage of RTU's & Unreliable functioning of some of the RTUs:**

MPPGCL and MPPTCL assured to take up necessary action on priority basis for avoiding long outage of telemetry and improving reliability of communication channels

### **ITEM NO. 10 : Additional agenda points :**

**10.1 Further discussion on AMR of interface points.** : The Executive Assistant to Chairman, MPPMCL has requested SLDC to explore the possibility of Discom wise demand display at Discom periphery in Real time and to compute the circle wise energy on daily basis as complete data from interface meters (ABT) will be available to SLDC, he further requested to discuss the required software applications for getting it done and to include it in the tender process being done by Transco. The CE(LD) stated that SLDC's requirement is not to capture ABT meter data in real time and the AMR is required on weekly basis only, i.e. capturing of data on-line periodically would serve the purpose of Energy and UI accounting. The AMR is also not required directly at SLDC. Further, there is no plan to include meter data in SCADA system as it would increase the cost exorbitantly. The MPPTCL has also stated that if real time data capturing is included, there is possibility that the cost of AMR system would be very much; however MPPTCL shall obtain the estimate for the same.

**10.2 Feeder Grouping on 33 KV and 11 KV** : The Executive Assistant to Chairman, MPPMCL informed that two meetings have been held to decide the criteria for feeder grouping as suggested in SOP and third meeting is scheduled on 26<sup>th</sup> April. District wise re-grouping of 33 KV feeders has been done by the Discoms by allotting unique code for every individual District. The Discoms have been directed to propose the supply plan for May 2012 in the revised district grouping scheme.

**10.3 Monitoring Implementation of SOP** : It has been agreed that as per the directives issued by Energy Department, SOP is to be implemented from 1<sup>st</sup> May 2012 for which the Discoms and SLDC should ensure its implementation.

**10.4 Display of Average time block wise schedule, drawal and frequency with corresponding UI on SLDC Web site/ULDC Scada.** :The Member Secretary, OCC explained the technical limitations of the existing SCADA system to handle additional tasks in real time operations and assured the committee that the same could be included in the technical scope of new SCADA system scheduled to

be installed within next two years. He further assured that SLDC shall also give DISCOM wise 15 minutes instantaneous schedule and demand on the SLDC website and also on Remote VDU through command script (the same has since **been** made available).

**ITEM No 11 : DATE AND VENUE OF NEXT OCC MEETING :** It is proposed to hold 29<sup>th</sup> OCC meeting of Operation and Coordination Committee of MP on 23<sup>rd</sup> June 2012 at SLDC, Jabalpur.

Member Secretary, OCC also proposed the roaster for hosting of OCC meeting, which is given hereunder :

OCC meeting	Name of the host	Month & year
29 <sup>th</sup>	SLDC JABALPUR/BLA	June 2012
30 <sup>th</sup>	CZ Discom	August 2012
31 <sup>st</sup>	ISP	October 2012
32 <sup>nd</sup>	SLDC, Jabalpur	December 2012
33 <sup>rd</sup>	MPPGCL	Feb 2013
34 <sup>th</sup>	West DISCOM	April 2013
35 <sup>th</sup>	SLDC JABALPUR	June 2013
36 <sup>th</sup>	East Discom	August 2013
37 <sup>th</sup>	NHDC, Bhopal	October 2013
38 <sup>th</sup>	SLDC JABALPUR	December 2013
39 <sup>th</sup>	MPPTCL	Feb 2014
40 <sup>th</sup>	MPPMCL	April 2014
41 <sup>st</sup>	SLDC JABALPUR	June 2014
42 <sup>nd</sup>	OSP	August 2014
43 <sup>rd</sup>	Maheshwar HPS	October 2014
44 <sup>th</sup>	SLDC JABALPUR	November 2014

The roster shall be finalised in the next OCC meeting.

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**LIST OF PARTICIPANTS IN THE 28TH OCC MEETING OF MADHYA PRADESH**

Sr. No.	Name of Participants S/Shri	Designation	Office
1	A.P. Bhairve	Chairman, OCC and CE(LD)	SLDC, MPPTCL, JBP
2	P.A.R.Bende	MS, OCC & Addl CE (LD)	
3	S.K.Gaikwad	Superintending Engineer	
4	K.K.Prabhakar	Superintending Engineer	
5	S.S.Patel	Executive Engineer	
6	Anurag Mishra	Executive Engineer	
7	Jayant Agasty	Assistant Engineer	
8	Ravi Sethi	Chief Engineer	Plg & PS, MPPTCL, JBP
9	A.K.Choubey	Addl CE	Plg & PS, MPPTCL, JBP
10	S.S.Nigam	Addl CE	CRA Cell, MPPTCL
11	Shailja Mishra	Executive Engineer	Plg & PS, MPPTCL, JBP
12	Kihama Shukla	Assistant Engineer	Plg & PS, MPPTCL, JBP
13	Vincent D'Souza	Executive Engineer	Plg & PS, MPPTCL, JBP
14	M.S.Rghuwanshi	Assistant Engineer	Plg & PS, MPPTCL, JBP
15	F.D. Thakur	Superintending Engineer	T&C, MPPTCL, JBP
16	Siddarth Pandey	Executive Engineer	T&C, MPPTCL, JBP
17	Rajeev Keshkar	DGM	Regional Office, MPPMCL, Bhopal
18	A.S.Pasarkar	Manager	MPPMCL, JBP
19	P.C.Soni	Superintending Engineer	CE(Engg), MPPGCL
20	P.K.Saxena	Executive Engineer	GCC, MPPGCL
21	R.S.Sharma	Executive Engineer	CE(O&M), Hydrel
22	Girish Dixit	Assistant Engineer	GCC, MPPGCL
23	S.K.Bhagwatkar	Director (DCC)	MPPKVCL, JBP
24	Kamal Katthar	SE (WDLCC)	CMD Office, WZ, Indore
25	P.C.Narware	Assistant Engineer	DCC, CZ, Bhopal
26	Pradeep Sachan	Executive Engineer	Sub SLD, Bhopal
27	Jagdish Chouhan	Assistant Engineer	Sub SLDC, Indore
28	Anurage Sethi	CE (PM&C)	NHDC, Bhopal
29	Amit Katiyar	Assistant Manager	NHDC, Bhopal
30	Anupam Jayaswal	Assistant Manager	OSP, NHDC

### FREQUENCY PARTICULARS

S. No.	Particulars	Feb-12		Mar-12	
<b>1 INTEGRATED OVER AN-HOUR</b>					
1.1	Maximum Frequency	50.35 Hz	Between 03.00 hrs & 04.00 Hrs on 13.02.12	50.26 Hz	Between 1600 Hrs & 1700 Hrs on 08.03.12
1.2	Minimum Frequency	49.54 Hz	Between 08.00 hrs & 09.00 Hrs on 03.02.12	49.58 Hz	Between 23.00 hrs & 24.00 Hrs on 29.03.12
1.3	Average Frequency	49.84 Hz		49.85 Hz	
<b>2 INSTANTANEOUS FREQUENCY</b>					
2.1	Maximum Frequency	50.48 Hz	AT 17.02 HRS ON 19.02.12	50.61 Hz	AT 17.02 HRS ON 03.03.12
2.2	Minimum Frequency	49.05 Hz	AT 06.52 HRS ON 27.02.12	49.04 Hz	AT 19.10 HRS ON 02.03.12

#### 3 Percentage of time when frequency was :-

	%age of time when frequency was	Feb-12	Mar-12
3.1	Below 48.5 Hz	0.00	0
3.2	Between 48.50 Hz and 48.8 Hz	0.00	0
3.3	Between 48.80 Hz and 49.2 Hz	0.03	0.07
3.4	Between 49.20 Hz and 49.5 Hz	2.83	2.23
3.5	Between 49.50 Hz and 49.7 Hz	19.62	15.83
3.6	Between 49.70 Hz and 50.2 Hz	75.71	79.35
3.7	Between 50.20 Hz and 50.3 Hz	1.35	1.9
3.8	Between 50.30 Hz and 51.0 Hz	0.46	0.62
3.9	Between 51.0 Hz AND 51.5 Hz	0.00	0
3.1	Above 51.5 Hz	0.00	0
4.1	No. of times frequency touched 48.80 Hz	0	0
4.2	No. of times frequency touched 48.60 Hz	0	0
4.3	No. of times frequency touched 51.0 Hz	0	0



### Voltage Profile During the Month of February-2012

Date	Indore		Itarsi		Bina		Gwalior		Nagda	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	424	407	423	406	422	403	423	388	426	407
2	425	404	422	406	423	402	423	393	426	405
3	426	407	423	407	421	404	422	398	427	409
4	424	404	421	405	421	403	420	381	427	406
5	423	403	423	406	423	408	421	395	424	402
6	423	403	423	403	419	406	419	385	425	403
7	424	400	423	400	422	404	421	399	426	400
8	424	400	423	400	422	410	420	396	426	400
9	422	402	420	403	419	406	417	397	424	399
10	424	403	421	404	424	406	417	387	426	402
11	423	400	420	404	419	406	418	401	425	400
12	421	403	424	404	422	408	421	398	425	400
13	422	397	418	397	420	402	421	394	425	398
14	425	404	422	402	421	405	423	394	427	405
15	424	399	421	402	420	399	420	388	426	400
16	425	402	424	405	424	409	421	397	428	404
17	424	407	423	407	420	406	420	393	426	407
18	421	400	422	403	420	404	420	390	424	400
19	422	402	421	402	419	405	420	397	424	402
20	424	399	421	401	419	403	421	398	427	400
21	422	398	419	399	418	401	418	395	428	400
22	426	400	423	401	420	402	420	393	428	400
23	423	399	424	402	422	409	422	401	426	399
24	423	400	421	402	421	408	420	399	426	399
25	426	402	424	404	419	393	423	406	427	402
26	426	406	424	408	426	401	420	396	427	408
27	424	408	421	406	419	404	418	390	425	405
28	424	403	422	405	420	403	418	387	425	404
29	425	402	426	406	425	410	424	396	427	403
30										
31										
<b>Max / Min</b>	<b>426</b>	<b>397</b>	<b>426</b>	<b>397</b>	<b>426</b>	<b>393</b>	<b>424</b>	<b>381</b>	<b>428</b>	<b>398</b>

### Voltage Profile During the Month of March- 2012

Date	Indore		Itarsi		Bina		Gwalior		Nagda	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	425	405	425	404	426	406	425	389	427	406
2	424	406	424	402	431	408	425	395	426	407
3	425	402	425	405	425	403	423	386	427	402
4	425	402	424	404	426	400	422	396	426	399
5	423	402	423	403	424	406	420	396	425	399
6	426	409	427	410	425	402	420	394	428	408
7	425	406	425	406	405	423	399	426	403	436
8	427	405	425	410	421	402	423	396	427	403
9	426	405	424	408	423	409	424	400	427	405
10	427	406	425	410	423	408	425	398	427	403
11	423	404	425	407	426	405	425	398	427	404
12	424	400	423	406	421	405	425	392	425	402
13	420	401	419	406	418	398	426	394	423	402
14	421	400	421	403	427	406	434	398	424	403
15	420	399	416	402	418	407	420	403	423	399
16	418	396	415	399	418	399	419	395	421	396
17	417	399	415	401	413	400	418	390	420	400
18	419	390	415	400	415	401	417	399	422	391
19	420	401	417	399	416	401	418	395	424	403
20	422	391	419	394	419	403	418	393	424	391
21	421	395	417	395	421	405	422	403	425	397
22	421	404	417	405	421	407	426	400	426	406
23	419	412	421	405	425	407	424	399	423	416
24	419	409	421	401	423	406	422	396	422	411
25	424	403	421	403	424	408	432	402	427	408
26	422	403	420	401	421	402	423	394	426	406
27	422	402	418	401	418	400	420	394	425	406
28	422	404	419	402	415	403	416	397	426	409
29	418	399	414	400	415	399	418	393	421	400
30	423	396	421	399	420	405	419	397	426	396
31	424	407	422	407	430	411	420	402	426	409
<b>Max</b>	<b>427</b>	<b>390</b>	<b>427</b>	<b>394</b>	<b>431</b>	<b>398</b>	<b>434</b>	<b>386</b>	<b>428</b>	<b>391</b>

ANNEXURE - 2.4.1(i)											
M.P. POWER TRANSMISSION COMPANY LIMITED											
TRANSMISSION WORKS COMPLETED DURING 2011-12 (UP TO 31.03.2012)											
S. No.	NAME OF THE TRANSMISSION LINE / (FINANCED BY)	TYPE OF CIRCUITS	ROUTE LENGTH	CIRCUIT KMS.	DATE OF COMPLETION	DATE OF COMMISSIONING	ESTIMATED COST (Rs. In lacs)	TSP	SCSP	TSP / SCSP	GEN
<b>I.</b>	<b>EHV TRANSMISSION LINES</b>										
<b>A.</b>	<b>400 KV TRANSMISSION LINES</b>			<b>NIL</b>							
	<b>Sub-Total (A)</b>										
<b>B.</b>	<b>220 KV TRANSMISSION LINES</b>										
1	LILO of one ckt of 220kv Bina - Shivpuri line at 765KV S/s Bina of PGCIL (2x0.83) (GoMP)	DCDS	0.83	1.66	APRIL'11	14.04.2011	143		1.66		
2	Diversion of 220kv Jabalpur (220kv) - Jabalpur (Sukha) line due to Guage Conversion of Jabalpur - Gondia Rly line (from NG to BG (2x6.18) (D/W)	DCDS	6.18	12.36	JULY'11	29.07.2011	858				12.36
3	LILO of 220 kv Satna (PGCIL) - Katni line for Maihar 220 kv S/s (2x0.66)	DCDS	0.66	1.32	NOV'11	28.11.2011	145		1.32		
4	Shifting of 220kv Sarni - Pandhurna line due to Coal Handling Plant (2x1.50) (D/W)	DCDS	1.50	3.00	JAN'12	06.01.2012	184				3.00
5	Maheshwar - Pithampur line (ADB)	DCDS	57.44	114.88	JAN'12	25.01.2012	2845	114.88			
6	Malwa TPS - Chhegaon DCDS line (2x47.85) (PFC)	DCDS	47.85	95.70	FEB'12	23.02.2012	2845		95.7		
	<b>Sub-Total (B)</b>		<b>114.46</b>	<b>228.92</b>			<b>7020.00</b>	<b>114.88</b>	<b>98.68</b>	<b>0</b>	<b>15.36</b>
<b>C.</b>	<b>132 KV TRANSMISSION LINES</b>										
1	Modification/Shifting of 132 kv Vindhyachal - Waidhan line due to Stage - IV VSTPP Extn project of NTPC, Singrauli (2x6.71)(D/W)	DCDS	6.71	13.42	MAY'11	03.05.2011	432				13.42
2	Power supply to M/s Bhilai JP Cement, Satna from Kotar 220kv S/s (17.49) (D/W)	DCSS	17.49	17.49	MAY'11	26.05.2011	614				17.49
3	Second Circuiting of 132 KV Sabalgarh - Sheopurkalan line (ADB - II)	2nd Ckt		88.97	JULY'11	13.07.2011	600			88.97	
4	Shahdol - Dindori DCSS line (GoMP)	DCSS	61.76	61.76	AUG'11	28.08.2011	2041	61.76			
5	Sironj - Maksoodangarh DCSS line (PFC)	DCSS	59.33	59.33	AUG'11	29.08.2011	1543		59.33		
6	LILO of 2nd ckt of 132 kv Betul - Multai line at Betul 220 kv S/s (2x3.75)(ADB - II)	DCDS	3.75	7.50	SEPT'11	21.09.2011	186			7.5	
7	Power supply to M/s SEL, Mehetwara, from 132kv Ashta - Sonekatch line (DCSS - 7.14 Km) (D/W)	DCSS	7.14	7.14	OCT'11	05.10.2011	60				7.14
8	Power supply to M/s Prism Cement, Satna from Kotar 220kv S/s (22.60) (D/W)	DCSS	22.60	22.60	NOV'11	23.11.2011	750				22.60
9	LILO of Gadawada - Pipariya line for Bankhedhi DCDS (2x3.08) (PFC)	DCDS	3.08	6.16	DEC'11	14.12.2011	292			6.16	
10	Power supply to M/s BLA Power from Gadawara 132 kv S/s (7.14) (D/W)	DCSS	7.14	7.14	DEC'11	1.12.2011	398				7.14
11	Power supply to M/s KJS Cement, Maihar from Maihar (220kv) S/s (DCSS - 0.62 Km + 2nd Ckt. - 8.09) (D/W)	DCSS	8.09	8.71	DEC'11	24.12.2011	313				8.71
12	Sabalgarh (220 kv) - Vijaypur DCSS line (ADB)	DCSS	31.43	31.43	JAN'12	31.01.2012	813			31.43	
13	Satna - Nagod DCSS (DCSS - 4.12) (PFC)	DCSS	4.12	4.12	FEB'12	07.02.2012	453			4.12	
14	LILO of both ckts of 132 kv Amarkantak - Morwa / Waidhan line for Rajmilan 132KV S/s (4x0.9 + 2x0.3)	DCDS	2.10	4.20	FEB'12	24.02.2012	103			4.2	
15	Power supply to RTS Bareth, from Sironj 132kv S/s (DCSS - 12.59 Km + 2nd Ckt. - 60.97) (D/W)	2nd Ckt	12.59	73.56	MAR'12	29.03.2012	773				73.56
16	Second Circuiting of 132 KV Sidhi - Mouganj line	2nd Ckt		7.30	MAR'12	31.03.2012	58			7.3	
	<b>Sub-Total (C)</b>		<b>247.33</b>	<b>420.83</b>			<b>9429.00</b>	<b>61.76</b>	<b>59.33</b>	<b>149.68</b>	<b>150.06</b>
	<b>Total (EHV LINES) (A + B + C)</b>		<b>361.79</b>	<b>649.75</b>			<b>16449</b>	<b>176.64</b>	<b>158.01</b>	<b>149.68</b>	<b>165.42</b>

<b>II. EHV SUB - STATIONS</b>											
S. No.	NAME OF SUBSTATION / (DISTRICT) / (FINANCED BY)	VOLTAGE RATIO (KV)	No.OF X-mer & Cap.(MVA)	EFFECTIVE CAPACITY MVA	DATE OF COMPLETION	DATE OF COMMISSIONING	ESTIMATED COST (Rs. In lacs)	TSP	SCSP	TSP / SCSP	GEN
<b>A.</b>	<b>400 KV SUBSTATIONS</b>			<b>NIL</b>							
	<b>Sub Total (B) (220KV S/s)</b>			<b>0</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>B.</b>	<b>220 KV SUBSTATIONS</b>										
<b>a.</b>	<b>NEW SUBSTATIONS</b>										
1	Maihar (Distt.Satna) (D/W)	220/132/33	1x160	160	JULY'11	31.07.2011	2188				160
2	Daloda (Distt.Mandsaur) (PFC)	220/132/33	1x160	160	MAR'12	16.03.2012	1905		160		
<b>b.</b>	<b>ADDITIONAL TRANSFORMERS</b>										
1	Ashra (Addl Trans) (Distt. Sehore) (PFC)	220/132	1x160	160	JULY'11	09.07.2011	1147			160	
2	Chhegaon (Addl Trans) (Distt. Khandwa) (ADB)	220/132	1x160	160	MAR'12	14.03.2012	1230			160	
3	Seoni (Addl Trans) (Distt. Seoni) (ADB)	220/132	1x160	160	MAR'12	27.03.2012	1263			160	
	<b>Sub Total (B) (220KV S/s)</b>			<b>800</b>			<b>7733</b>	<b>0</b>	<b>160</b>	<b>480</b>	<b>160</b>
<b>C.</b>	<b>132 KV SUBSTATIONS</b>										
<b>a.</b>	<b>NEW SUBSTATIONS</b>										
1	Chicholi (Distt. Betul) (ADB - II)	132/33	1x40	40	APRIL'11	21.04.2011	851			40	
2	Shamsabad (Distt. Vidisha) (GoMP)	132/33	1x40	40	MAY'11	30.05.2011	958		40		
3	Vijaypur (Distt. Shepur) (ADB - II)	132/33	1x40	40	AUG'11	24.08.2011	841			40	
4	Dindori (Distt. Dindori) (GoMP)	132/33	1x20	20	AUG'11	29.08.2011	602	20			
5	Nagod (Distt. Satna) (PFC)	132/33	1x40	40	FEB'12	09.02.2012	957			40	
6	Rajmilan (Distt. Singrauli) (GoMP)	132/33	1x40	40	MAR'12	05.03.2012	1180			40	
	<b>Sub Total (C.a) (NEW S/s)</b>			<b>220</b>			<b>5389</b>	<b>20</b>	<b>40</b>	<b>160</b>	<b>0</b>
<b>b.</b>	<b>ADDITIONAL TRANSFORMERS</b>										
1	Rewa (Addl) (Distt. Rewa) (ADB - II) (S)	132/33	1x40	40	JUNE'11	12.06.2011	578			40	
2	Pithampur (Addl) (Distt. Dhar) (GoMP)	132/33	1x40	40	AUG'11	30.08.2011	630	40			
3	Katni (400kv) (Addl) (Distt. Katni) (GoMP)	132/33	1x40	40	SEPT'11	29.09.2011	630	0		40	
4	Manglia (Addl) (Distt. Indore) (GoMP)	132/33	1x40	40	JAN'12	31.01.2012	630	0	40		
5	Katra (Addl) (Distt. Rewa) (GoMP)	132/33	1x20	20	JAN'12	31.01.2012	160	0		20	
6	Lakhnadaun (Addl) (Distt. Seoni) (GoMP)	132/33	1x20	20	FEB'12	28.02.2012	160	0		20	
7	Aron (Addl) (Distt. Guna) (GoMP)	132/33	1x40	40	FEB'12	28.02.2012	630	0		20	
8	Dindori (Addl) (Distt. Dindori) (GoMP)	132/33	1x20	20	MAR'12	29.03.2012	(*)	20			
	<b>Sub Total (C.b) (ADDITIONAL TRANSFORMER)</b>			<b>260</b>			<b>3418</b>	<b>60</b>	<b>40</b>	<b>140</b>	<b>0</b>
<b>c.</b>	<b>AUGMENTATION OF CAPACITY</b>										
1	Bhopal (MACT) (Aug from 20 to 63 MVA) (Distt. Bhopal) (ADB - II)(S)	132/33		43	JUNE'11	06.06.2011	499		43		
2	Jabalpur (VB) (Aug from 40 to 63 MVA) (Distt. Jabalpur) (GoMP)	132/33		23	AUG'11	09.08.2011	629			23	
3	Kymore (Aug from 20 to 40 MVA) (Distt. Katni) (GoMP)	132/33		20	NOV'11	02.11.2011	470			20	
4	Multai (Aug from 20 to 40 MVA) (Distt. Betul) (ADB - IIS)	132/33		20	NOV'11	06.11.2011	585			20	
5	Mansakara (Aug from 20 to 63 MVA) (Distt. Jabalpur) (GoMP)	132/33		43	DEC'11	09.12.2011	630			43	
6	Damoh (Aug from 20 to 40 MVA) (Distt. Damoh) (ADB - II) (S)	132/33		20	JAN'12	01.01.2012	524			20	
	<b>Sub Total (C.c) (AUGMENTATION OF CAPACITY)</b>			<b>169</b>			<b>3337</b>	<b>0</b>	<b>43</b>	<b>126</b>	<b>0</b>
	<b>Sub-Total (C) (132 kv Sub-stations)</b>			<b>649</b>			<b>12144</b>	<b>80</b>	<b>123</b>	<b>426</b>	<b>0</b>
	<b>Total (EHV SUB - STATIONS) (A+B+C)</b>			<b>1449</b>			<b>19877</b>	<b>80</b>	<b>283</b>	<b>906</b>	<b>160</b>

III CAPACITOR BANKS									
S. No.	NAME OF THE SUBSTATION	District	RATED CAPACITY MVAR	EFFECTIVE CAPACITY MVAR	DATE OF COMPLETION	DATE OF COMMISSIONING			
<b>A. 33 KV SHUNT CAPACITORS (MVAR)</b>									
1	Ashta 220 kv S/s. (2x12 MVAR)	Sehore	24	20	APRIL'11	01.04.2011			
2	Badnagar 220 kv S/s. (2x12 MVAR)	Ujjain	24	20	APRIL'11	22.04.2011			
3	Betul 220 kv S/s. (1x12 MVAR)	Betul	12	10	JULY'11	07.07.2011			
4	Chicholi 132 kv S/s. (1x12 MVAR)	Betul	12	10	JULY'11	12.07.2011			
5	Indore (East) 220 kv S/s. (1x12 MVAR)	Indore	12	10	AUG'11	02.08.2011			
6	Amrawad Khurd 132 kv S/s. (1x12 MVAR)	Bhopal	12	10	SEPT'11	21.09.2011			
7	Polaikalan 132 kv S/s. (1x12 MVAR)	Shajapur	12	10	SEPT'11	23.09.2011			
8	Shyampur 132 kv S/s. (1x12 MVAR)	Sehore	12	10	SEPT'11	26.09.2011			
9	Petlawad 132 kv S/s. (1x12 MVAR)	Jhabua	12	10	SEPT'11	26.09.2011			
10	Vijaypur 132 kv S/s. (1x12 MVAR)	Sheopur	12	10	SEPT'11	26.09.2011			
11	Ichhwar 132 kv S/s. (1x12 MVAR)	Sehore	12	10	SEPT'11	29.09.2011			
12	Dhamnood 132 kv S/s. (1x12 MVAR)	Dhar	12	10	OCT'11	01.10.2011			
13	Kotar 220 kv S/s. (1x12 MVAR)	Satna	12	10	OCT'11	03.10.2011			
14	Bhopal (Chambal) 220 kv S/s. (2x12 MVAR)	Bhopal	24	20	OCT'11	29.10.2011			
15	Garhakota 132 kv S/s. (2x12 MVAR)	Sagar	24	20	OCT'11	10.10.2011			
16	Lakhnadon 132 kv S/s. (1x12 MVAR)	Seoni	12	10	OCT'11	11.10.2011			
17	Ganjbasoda 132 kv S/s. (1x12 MVAR)	Vidisha	12	10	OCT'11	15.10.2011			
18	Zarda 132 kv S/s. (1x12 MVAR)	Ujjain	12	10	OCT'11	18.10.2011			
19	Sleemabad 132 kv S/s. (1x12 MVAR)	Katni	12	10	OCT'11	21.10.2011			
20	Amarpatan 132 kv S/s. (1x12 MVAR)	Satna	12	10	OCT'11	21.10.2011			
21	Khategaon 132 kv S/s. (2x12 MVAR)	Dewas	24	20	OCT'11	22.10.2011			
22	Jatara 132 kv S/s. (1x12 MVAR)	Tikamgarh	12	10	OCT'11	25.10.2011			
23	Ratadia 132 kv S/s. (2x12 MVAR)	Ujjain	24	20	OCT'11	22.10.2011			
24	Katra 132 kv S/s. (1x12 MVAR)	Satna	12	10	NOV'11	5.11.2011			
25	Mahidpur 132 kv S/s. (2x12 MVAR)	Ujjain	24	20	NOV'11	26.11.2011			
26	Makshi 132 kv S/s. (1x12 MVAR)	Dewas	12	10	DEC'11	24.12.2011			
27	Piparia 220 kv S/s. (1x12 MVAR)	Hoshangabad	12	10	NOV'11	24.11.2011			
28	Hata 132 kv S/s. (1x12 MVAR)	Damoh	12	10	NOV'11	29.11.2011			
29	Panwadi 132 kv S/s. (1x12 MVAR)	Shajapur	12	10	DEC'11	30.12.2011			
30	Seoni-Malwa 132 kv S/s. (1x12 MVAR)	Harda	12	10	DEC'11	07.12.2011			
31	Porsa 132 kv S/s. (1x12 MVAR)	Morena	12	10	NOV'11	30.11.2011			
32	Bairagarh 220 kv S/s. (1x12 MVAR)	Bhopal	12	10	NOV'11	30.11.2011			
33	Pawai 132 kv S/s. (1x12 MVAR)	Panna	12	10	DEC'11	30.12.2011			
34	Gaurjhamar 132 kv S/s. (1x12 MVAR)	Sagar	12	10	DEC'11	16.12.2011			
35	Lahar 132 kv S/s. (1x12 MVAR)	Bhind	12	10	DEC'11	26.12.2011			
36	Gairatganj 132 kv S/s. (1x12 MVAR)	Vidisha	12	10	DEC'11	23.12.2011			
37	Makdone 132 kv S/s. (1x12 MVAR)	Ujjain	12	10	JAN'12	04.01.2012			
38	Ron 132 kv S/s. (1x12 MVAR)	Bhind	12	10	JAN'12	09.01.2012			
39	Gudgaon 132 kv S/s. (1x12 MVAR)	Betul	12	10	JAN'12	10.01.2012			
40	Chhindwara 220 kv S/s. (1x12 MVAR)	Chhindwara	12	10	JAN'12	12.01.2012			
41	Bagdi 132 kv S/s. (1x12 MVAR)	Dhar	12	10	JAN'12	14.01.2012			
42	Majhgawan 132 kv S/s. (1x12 MVAR)	Satna	12	10	JAN'12	22.01.2012			
43	Nagod 132 kv S/s. (1x12 MVAR)	Satna	12	10	FEB'12	28.02.2012			
44	Jabalpur 220 kv S/s. (2x12 MVAR)	Jabalpur	24	20	MAR'12	16.03.2012			
<b>Total (33 KV SHUNT CAPACITORS)</b>			<b>624</b>	<b>520</b>					
<b>Total Cost of Trans. Works Completed in 2011-12</b>							<b>36326.00</b>		
(*) : Cost included in respective 220 & 132 kv New Sub-stations .							<b>02.04.2012</b>		

PROPOSED EHV TRANSMISSION LINES UNDER PROGRESS DURING 2012-13 ONWADS (AS ON 31.3.2012)						Annexure - 2.4.1(ii)		
S. No.	NAME OF THE TRANSMISSION LINE	TYPE OF CIRCUITS	ROUTE LENGTH	CKT.KMS.	(Rs.in Lakhs)	FUNDING AGENCY	ESTIMATED COST	PROGRESS IN %
					COMPLETION PROGRAMME			
<b>A. 400 KV TRANSMISSION LINES</b>								
1	400KV DCDS Indore (PGCIL) - Pithampur line (2x65)	DCDS	65	130	Sep-12	PFC	9551.00	30%
2	400KV DCDS Malwa TPS - Pithampur line (2x150)	DCDS	150	300	Sep-12	PFC	20464.00	36%
3	400KV DCDS Malwa TPS - Chhegaon line (2x65)	DCDS	65	130	Sep-12	PFC	9325.00	52%
4	400KV DCDS Chhegaon - Julwania line (2x115)	DCDS	115	230	Jun-13	PFC	16088.00	21%
<b>Sub Total (A)</b>			<b>395</b>	<b>790</b>			<b>55428</b>	
<b>B. 220 KV TRANSMISSION LINES</b>								
1	Second Circuiting of 220 kv Satpura - Pandhurna line	2nd ckt		83	Jun-12	ADB - II	1705.00	75%
2	220KV DCDS Interconnector between 400 & 220KV Sub-stations at Pithampur (Two Lines)(4x6 + 2x21)	DCDS	27	66	Sep-12	PFC	2439.00	49%
3	LILO of 220KV Nagda - Neemuch line for Daloda 220kV S/S. (2x4.41)	DCDS	4.41	8.82	Mar-12	PFC	555.00	81%
4	Ashta (400) - Indore - II (Jaitpura) (2x100)	DCDS	100	200	2013-14	PFC	5603.00	2%
5	Ratlam - Daloda	DCSS	72	72	2013-14	PFC	3704.00	1%
6	LILO of Itarsi - Narsinghpur 220 DCDS line at Chichali S/S. (DCDS) (2x2.06)	DCSS	2.06	4.12	Mar-13	PFC	178.00	10%
7	LILO of both ckts Of 220KV Amarkantak - Korba DCDS line at Amarkantak 220kv S/s (4x3.87)	DCDS	7.74	15.28	Mar-13	PFC (S)	704.00	5%
<b>Sub Total (B)</b>			<b>213.21</b>	<b>449.22</b>			<b>14888</b>	
<b>C. 132 KV TRANSMISSION LINES</b>								
1	132kv Sidhi - Deosar DCDS line (2x50)	DCSS	50	100	Dec-12	ADB - II (S)	2198.00	39%
2	Birsinghpur - Shahdol DCSS	DCSS	48	48	2013-14	PFC	994.00	3%
3	2nd Ckt of Satna - Pawai section for Nagod 132kv S/s (19.50)	2nd ckt		19.5	Jun-12	PFC		90%
4	Shivpuri - Mohna DCSS	DCSS	65	65	2013-14		1963.00	15%
5	Handiya220 - Sultanpur (Rolgaon) 132KV DCSS line	DCSS	31.3	31.3	Mar-13	PFC	1203.00	11%
6	LILO of 132 kv Rewa - Sidhi line for Rewa - II (Sagra) 132KV S/s (2x20)	DCDS	20	40	Dec-12		734.00	17%
7	Sagar - Banda	DCSS	40	40	Dec-12	PFC	1368.00	6%
8	Chhegaon - Moondi	DCSS	44.27	44.27	Dec-12	PFC	1675.00	13%
9	Barman - Gadarwara second ckt.	2nd ckt		31	Mar-13	PFC	242.00	77%
10	LILO of both ckts of 132 kv Amarkantak - Morwa / Waidhan line for Amarkantak 220KV S/s (2x2.36)	DCDS	2.36	4.72	Mar-13	PFC (S)	402.00	13%
11	Mandsaur - Neemuch DCDS line (2x65 Kms)	DCDS	65	130	Mar-13	PFC	2410.00	1%
12	Chhatarpur - Nowgaon DCSS line (35Kms)	DCSS	35	35	Mar-13	PFC	1120.00	1%
<b>Sub Total (C)</b>			<b>400.93</b>	<b>588.79</b>			<b>14309</b>	
<b>Grand Total (A+B+C)</b>			<b>1009.14</b>	<b>1828.01</b>			<b>84625.00</b>	

EHV SUB STATIONS UNDER PROGRESS DURING 2011-12 (AS ON 31.3.2012)								
S.No.	NAME OF THE SUBSTATION	VOLTAGE RATIO (KV)	No.OF X-mer & Cap. (MVA)	EFFECTIVE CAPACITY MVA	COMPLETION PROGRAMME	FUNDING AGENCY	ESTIMATED COST (Rs.in Lakhs)	PROGRESS IN %
<b>A.</b>	<b>400 KV SUBSTATIONS</b>							
1	Ashta (New S/s) (Distt. Sehore)	400/220	2x315	630	Jan-13	PFC - II	8844.00	25%
2	Pithampur (New S/s) (Distt. Dhar)	400/220	2x315	630	Sep-12	PFC - II	8989.00	26%
3	Julwania (New S/s) (Distt. Badwani)	400/220	2x315	630	Jun-13	PFC - II	8620.00	5%
4	Chhegaon (New S/s) (Distt. Khandwa)	400/220	1x315	315	Sep-12	PFC - II	5101.00	30%
	<b>Sub Total (A) (400 kv)</b>			<b>2205</b>			<b>31554</b>	
<b>B.</b>	<b>220 KV SUBSTATIONS</b>							
1	Amarkantak (New S/s) (Distt. Anooppur)	220/132	1x160	160	Dec-12	PFC	3060.00	22%
2	Chichli (New S/s) (Distt. Narsinghpur)	220/132	1x160	160	Mar-13	PFC	2885.00	5%
3	Mehgaon (ADDL) (Distt. Bhand)	220/132	1x160	160	Jun-12	ADB - II	1064.00	90%
4	Sabalgarh (ADDL) (Distt. Morena)	220/132	1x160	160	Mar-13	ADB - II (S)	1217.00	60%
5	Tikamgarh (ADDL) (Distt. Tikamgarh)	220/132	1x160	160	Dec-12	ADB - II (S)	1268.00	60%
	<b>Sub Total (B) (220kv)</b>			<b>800</b>			<b>9494</b>	
<b>C.</b>	<b>132 KV SUBSTATIONS</b>							
<b>(a)</b>	<b>NEW SUBSTATIONS</b>							
1	Mohna (Distt. Shivpuri)	132/33	1x40	40	2013-14	GoMP	403.00	36%
2	Moondi (Distt. Khandwa)	132/33	1x40	40	Dec-12	PFC - II	957.00	47%
3	Deosar (Distt. Sidhi)	132/33	1x40	40	Dec-12	PFC - II	987.00	20%
4	Nowgong (Distt. Chhatarpur)	132/33	1x40	40	Mar-13	PFC - II	957.00	31%
5	Banda (Distt. Sagar)	132/33	1x40	40	Dec-12	PFC - II	957.00	37%
6	Sultanpur (Distt. Harda)	132/33	1x40	40	Mar-13	PFC - II	957.00	12%
7	Bankhedi (Distt. Hoshangabad)	132/33	1x40	40	Dec-12	PFC - II	973.00	7%
8	Indore (RAU) (Distt. Indore)	132/33	1x63	63	Mar-13	PFC - II	1061.00	5%
9	Rewa-II (Sagra) (Distt. Rewa)	132/33	1x40	40	Dec-12	GoMP	794.00	15%
	<b>Sub Total (a)</b>			<b>383</b>			<b>8046</b>	
<b>(b)</b>	<b>Additional/ Augmentation of Transformers</b>							
1	220 KV Damoh (Addl) (Distt. Damoh)	132/33		40	Jun-12	ADB - II (S)	370.00	40%
2	132 KV Indore (Chambal) (Addl) (Distt. Indore)	132/33		63	Dec-12	GoMP	487.00	60%
3	Ghosla (Addl.) (Distt. Ujjain)	132/33		40	Sep-12	ADB - II (S)	606.00	60%
4	Dabra (Aug from 20 to 40 MVA) (Distt. Gwalior)	132/33		20	Dec-12	GoMP	526.00	40%
	<b>Sub Total (b)</b>			<b>163</b>			<b>1989</b>	
	<b>Grand Total (a+b+c) (132 kv)</b>			<b>546</b>			<b>10035</b>	
	<b>Grand Total (A+B+C)</b>			<b>3551</b>			<b>51083</b>	
	<b>Total Cost of EHV Lines and Substations under progress (A+B+C)</b>						<b>135708.00</b>	<b>02.04.2012</b>

(\*) : Cost included in respective estimate for New Sub-station.

### Discoms wise Average Supply Hours

PARTICULARS	East Zone		Central Zone	
	Feb-12	Mar-12	Feb-12	Mar-12
Commissinary HQ	22:42	22:50	23:06	23:01
District HQ	20:24	20:36	20:25	22:06
Tehsil HQ	15:42	16:15	15:59	19:37
Rural -3Phase	12:02	12:26	11:03	13:52
Rural -1Phase	0:00	0:00	0:00	0:00
Total Rural	12:02	12:26	11:03	13:52
PARTICULARS	West Zone		MP	
	Feb-12	Mar-12	Feb-12	Mar-12
Commissinary HQ	24:00	23:58	23:07	23:08
District HQ	22:05	22:50	20:55	21:43
Tehsil HQ	15:54	17:15	15:52	17:36
Rural -3Phase	10:50	12:17	11:23	12:51
Rural -1Phase	0:00	0:00	0:00	0:00
Total Rural	10:50	12:17	11:23	12:51

**LIST OF 33KV FEEDERS FOR WHICH GROUP TO BE ALLOCATED**

<b>Name of EHV Substation</b>	<b>Name of 33KV feeder</b>
<b>EAST DISCOM</b>	
<b>JABALPUR REGION</b>	
<b>132KV</b>	
132KV Marhotal	33kV Kathonda
	33kV Sewage
<b>220KV</b>	
220KV Pipariya	33kV Panagar
<b>SAGAR REGION</b>	
<b>132KV</b>	
132KV Khajuraho	33KV Airport
<b>220KV</b>	
<b>REWA REGION</b>	
<b>132KV</b>	
132KV Waidhan	33 KV Rajmilan
132KV Maihar	33KV Reliance
<b>220KV</b>	
220KV Satna	33KV Bhilai JP
<b>WEST DISCOM</b>	
<b>INDORE REGION</b>	
<b>Name of EHV Substation</b>	<b>Name of 33KV feeder</b>
<b>132KV</b>	
132KV Indore West	33KV Gandhi Nagar
	33KV Airport Director
132KV Betma	33KV Chiklonda
	33KV Industrial
	33KV Gohan
132KV Dhamnod	33KV NVDA
	33KV BPCL
132KV Manawar	33KV NVDA
132KV Jamli	33KV MES
<b>220KV</b>	
220KV South Zone(Indore)	33KV Datoda
	33KV Tillore
220KV Jetpura (Indore)	33KV Rama Phosphate
	33KV BPCL
220KV Pithampur	33KV Nalrip Water Works
	33KV MPAKVN



**LIST OF 33KV FEEDERS FOR WHICH GROUP TO BE ALLOCATED**

Name of EHV Substation	Name of 33KV feeder
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**UJJAIN REGION**

132KV	
132KV Manasa	33KV Kukdewshawar
132KV Malhargarh	33KV Vishniya Pipliya
132KV Petlawad	33KV Bamniya
132KV Ratangarh	33KV Jathala
220KV	
220KV Ratlam	33KV Raj Solvex

**CENTRAL DISCOM****BHOPAL REGION**

Name of EHV Substation	Name of 33KV feeder
132KV	
132KV Ayodhyanagar	33kv BMC
220KV	
220KV Ashta	33KV Amla Majju
	33KV Kajlas

**GWALIOR REGION**

132KV	
132KV Vijaypur	33kv Vijaypur

### Anticipated Hourly Average Availability MP : 2012-2013 WITH BILATERAL

Figures in MW

Particulars						May-12					Jun-12				
						0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU
Thermal (R-05)						1915	1915	1915	1915	1425	1915	1915	1915	1915	1379
Hydel						420	340	210	380	251	270	160	280	440	207
CSS						2110	2110	2110	2110	1570	2100	2100	2100	2100	1512
ISP						210	0	0	300	95	300	0	0	300	108
SSP						40	80	80	410	113	40	40	40	340	83
Omkareshwar						10	50	50	140	47	100	100	100	100	72
Maheshwar										0					0
DVC						270	270	270	270	201	270	270	270	270	194
Rihand +Matatila						10	10	10	10	7	15	15	15	15	11
Sugen						70	70	70	70	52	70	70	70	70	50
Banking						20	200	200	170	110	-240	-60	-60	-90	-81
BLA Powe						16	16	16	16	12	16	16	16	16	12
<b>Total</b>						<b>5091</b>	<b>5061</b>	<b>4931</b>	<b>5791</b>	<b>3883</b>	<b>4856</b>	<b>4626</b>	<b>4746</b>	<b>5476</b>	<b>3547</b>
<b>Unres. Demand</b>	<b>6080</b>	<b>5900</b>	<b>5900</b>	<b>7330</b>	<b>4538</b>	<b>6220</b>	<b>6020</b>	<b>6020</b>	<b>7350</b>	<b>4763</b>	<b>5240</b>	<b>4740</b>	<b>5000</b>	<b>6190</b>	<b>3811</b>
<b>Resl. Demand</b>	<b>5400</b>	<b>4970</b>	<b>4770</b>	<b>6410</b>	<b>3879</b>	<b>5270</b>	<b>4940</b>	<b>4690</b>	<b>6160</b>	<b>3917</b>	<b>4620</b>	<b>4120</b>	<b>4330</b>	<b>5510</b>	<b>3344</b>
<b>Shortgae(+)/ Surplus(-) (wrt Unres)</b>	<b>769</b>	<b>949</b>	<b>1139</b>	<b>1249</b>	<b>764</b>	<b>1129</b>	<b>959</b>	<b>1089</b>	<b>1559</b>	<b>881</b>	<b>384</b>	<b>114</b>	<b>254</b>	<b>714</b>	<b>273</b>
<b>Shortgae(+)/ Surplus(-) (wrt res)</b>	<b>89</b>	<b>19</b>	<b>9</b>	<b>329</b>	<b>80</b>	<b>179</b>	<b>-121</b>	<b>-241</b>	<b>369</b>	<b>35</b>	<b>-236</b>	<b>-506</b>	<b>-416</b>	<b>34</b>	<b>-202</b>
Particulars	Jul-12					Aug-12					Sep-12				
	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU
Thermal (R-03)	1418	1418	1418	1418	1055	1233	1233	1233	1233	917	1607	1607	1607	1607	1157
Hydel	360	30	30	270	128	240	210	240	660	251	520	360	320	680	338
CSS	2010	2010	2010	2010	1495	1980	1980	1980	1980	1473	1970	1970	1970	1970	1418
ISP	180	0	0	350	99	250	110	110	600	199	350	80	410	730	283
SSP	40	80	50	370	100	40	380	270	450	212	100	60	100	400	119
Omkareshwar	100	0	10	230	63	120	50	50	280	93	200	90	190	290	139
BLA Power	16	16	16	16	12	16	16	16	16	12	16	16	16	16	12
DVC	270	270	270	270	201	270	270	270	270	201	270	270	270	270	194
Rihand +Matatila	15	15	15	15	11	15	15	15	15	11	15	15	15	15	11
Sugen	70	70	70	70	52	70	70	70	70	52	70	70	70	70	50
Banking+sale	-270	-110	-120	-130	-117	-70	-100	-130	-70	-69	-60	-70	-90	-60	-50
<b>Total</b>	<b>4209</b>	<b>3799</b>	<b>3769</b>	<b>4889</b>	<b>3100</b>	<b>4164</b>	<b>4234</b>	<b>4124</b>	<b>5504</b>	<b>3353</b>	<b>5058</b>	<b>4468</b>	<b>4878</b>	<b>5988</b>	<b>3670</b>
<b>Unres. Demand</b>	<b>4740</b>	<b>4270</b>	<b>4530</b>	<b>5600</b>	<b>3560</b>	<b>4720</b>	<b>4250</b>	<b>4340</b>	<b>5630</b>	<b>3523</b>	<b>5120</b>	<b>4590</b>	<b>4680</b>	<b>6040</b>	<b>3677</b>
<b>Resl. Demand</b>	<b>4260</b>	<b>3790</b>	<b>3880</b>	<b>4960</b>	<b>3142</b>	<b>4560</b>	<b>4230</b>	<b>4110</b>	<b>5320</b>	<b>3389</b>	<b>5040</b>	<b>4380</b>	<b>4310</b>	<b>5710</b>	<b>3499</b>
<b>Shortgae(+)/ Surplus(-) (wrt Unres)</b>	<b>531</b>	<b>471</b>	<b>761</b>	<b>711</b>	<b>460</b>	<b>556</b>	<b>16</b>	<b>216</b>	<b>126</b>	<b>170</b>	<b>62</b>	<b>122</b>	<b>-198</b>	<b>52</b>	<b>7</b>
<b>Shortgae(+)/ Surplus(-) (wrt res)</b>	<b>51</b>	<b>-9</b>	<b>111</b>	<b>71</b>	<b>42</b>	<b>396</b>	<b>-4</b>	<b>-14</b>	<b>-184</b>	<b>36</b>	<b>-18</b>	<b>-88</b>	<b>-568</b>	<b>-278</b>	<b>-171</b>
Particulars	Oct-12					Nov-12					Dec-12				
	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU
Thermal (R-03)	2005	2005	2005	2005	1492	2040	2040	2040	2040	1469	2042	2042	2042	2042	1519
Hydel	620	450	340	730	398	490	420	410	740	371	340	260	300	620	283
CSS	2070	2070	2070	2070	1540	2150	2150	2150	2150	1548	2140	2140	2140	2140	1592
ISP	210	0	150	830	221	210	0	270	830	236	160	250	270	680	253
SSP	100	60	100	510	143	100	60	100	540	144	160	80	130	430	149
Omkareshwar	100	100	100	340	119	100	100	130	340	121	70	100	110	310	110
BLA Power	16	16	16	16	12	16	16	16	16	12	32	32	32	32	24
DVC	270	270	270	270	201	270	270	270	270	194	270	270	270	270	201
Rihand +Matatila	15	15	15	15	11	15	15	15	15	11	15	15	15	15	11
Sugen	70	70	70	70	50	70	70	70	70	50	70	70	70	70	50
Banking+sale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5476</b>	<b>5056</b>	<b>5136</b>	<b>6856</b>	<b>4188</b>	<b>5461</b>	<b>5141</b>	<b>5471</b>	<b>7011</b>	<b>4155</b>	<b>5299</b>	<b>5259</b>	<b>5379</b>	<b>6609</b>	<b>4192</b>
<b>Unres. Demand</b>	<b>7170</b>	<b>6800</b>	<b>6900</b>	<b>8310</b>	<b>5427</b>	<b>8380</b>	<b>8040</b>	<b>7920</b>	<b>9030</b>	<b>6007</b>	<b>8420</b>	<b>8460</b>	<b>8770</b>	<b>9090</b>	<b>6462</b>
<b>Resl. Demand</b>	<b>6020</b>	<b>5280</b>	<b>5540</b>	<b>7170</b>	<b>4466</b>	<b>7190</b>	<b>6470</b>	<b>6650</b>	<b>7960</b>	<b>5089</b>	<b>7380</b>	<b>7200</b>	<b>6420</b>	<b>6990</b>	<b>5206</b>
<b>Shortgae(+)/ Surplus(-) (wrt Unres)</b>	<b>1694</b>	<b>1744</b>	<b>1764</b>	<b>1454</b>	<b>1238</b>	<b>2919</b>	<b>2899</b>	<b>2449</b>	<b>2019</b>	<b>1913</b>	<b>3121</b>	<b>3201</b>	<b>3391</b>	<b>2481</b>	<b>2268</b>
<b>Shortgae(+)/ Surplus(-) (wrt res)</b>	<b>544</b>	<b>224</b>	<b>404</b>	<b>314</b>	<b>278</b>	<b>1729</b>	<b>1329</b>	<b>1179</b>	<b>949</b>	<b>933</b>	<b>2081</b>	<b>1941</b>	<b>1041</b>	<b>381</b>	<b>1014</b>
Particulars	Jan-13					Feb-13					Mar-13				
	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU	0 to 06	06 to 12	12 to 18	18 to 24	Energy in MU
Thermal (R-03)	2042	2042	2042	2042	1519	2042	2042	2042	2042	1372	2042	2042	2042	2042	1519
Hydel	260	130	130	670	221	210	50	90	640	166	100	40	80	480	130
CSS	2210	2210	2210	2210	1644	2180	2180	2180	2180	1465	2220	2220	2220	2220	1652
ISP	320	160	80	580	212	40	200	150	660	176	150	110	130	680	199
SSP	50	260	220	410	175	20	140	110	330	101	100	110	120	310	119
Omkareshwar	150	70	30	240	91	20	90	80	280	79	70	50	60	310	91
BLA Power	32	32	32	32	24	32	32	32	32	22	32	32	32	32	24
DVC	270	270	270	270	201	270	270	270	270	181	270	270	270	270	201
Rihand +Matatila	15	15	15	15	11	15	15	15	15	10	15	15	15	15	11
Sugen	70	70	70	70	50	70	70	70	70	47	70	70	70	70	50
Banking+sale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>5419</b>	<b>5259</b>	<b>5099</b>	<b>6539</b>	<b>4149</b>	<b>4899</b>	<b>5089</b>	<b>5039</b>	<b>6519</b>	<b>3620</b>	<b>5069</b>	<b>4959</b>	<b>5039</b>	<b>6429</b>	<b>3997</b>
<b>Unres. Demand</b>	<b>7970</b>	<b>8140</b>	<b>8090</b>	<b>8550</b>	<b>6092</b>	<b>7210</b>	<b>7850</b>	<b>7910</b>	<b>8620</b>	<b>5307</b>	<b>6720</b>	<b>6990</b>	<b>6950</b>	<b>7710</b>	<b>5277</b>
<b>Resl. Demand</b>	<b>7060</b>	<b>7250</b>	<b>6830</b>	<b>7590</b>	<b>5344</b>	<b>6320</b>	<b>6950</b>	<b>6710</b>	<b>7630</b>	<b>4638</b>	<b>5980</b>	<b>6290</b>	<b>5910</b>	<b>6900</b>	<b>4665</b>
<b>Shortgae(+)/ Surplus(-) (wrt Unres)</b>	<b>2551</b>	<b>2881</b>	<b>2991</b>	<b>2011</b>	<b>1940</b>	<b>2311</b>	<b>2761</b>	<b>2871</b>	<b>2101</b>	<b>1687</b>	<b>1651</b>	<b>2031</b>	<b>1911</b>	<b>1281</b>	<b>1278</b>
<b>Shortgae(+)/ Surplus(-) (wrt res)</b>	<b>1641</b>	<b>1991</b>	<b>1731</b>	<b>1051</b>	<b>1194</b>	<b>1421</b>	<b>1861</b>	<b>1671</b>	<b>1111</b>	<b>1019</b>	<b>911</b>	<b>1331</b>	<b>871</b>	<b>471</b>	<b>668</b>

**Proposed shut down of transmission elements during 01-05-12 to 30-06-12 Annexure-3.4**

S.No	Name of Sub station	Details of Transmission Element	Date of Maintenance	Time	Remark
<b>Nagda</b>					
1	Nagda 400	315MVA BHEL-III	01-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
	Nagda 400	315MVA BHEL-III	02-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
2	Nagda 400	400KV Indore - line	08-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
3	Nagda 400	400KV ISP Main Bay	17-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
4	Nagda 400	400KV ISP Tie Main Bay	19-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
5	Nagda 400	400KV Nagda – Rajgarh - I Line Bay	28-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
6	Nagda 400	Nagda – Rajgarh - I 50MVAR Reactor	31-May-12	08:00hrs-17:00hrs	For pre monsoon maintenance
7	Nagda 400	Nagda – Rajgarh - I 50 MVAR Reactor Bay	02-Jun-12	08:00hrs-17:00hrs	For pre monsoon maintenance
8	Nagda 400	400KV Rajgarh Tie Bay	08-Jun-12	08:00hrs-17:00hrs	For pre monsoon maintenance
9	Nagda 400	Nagda – Rajgarh – II Main Bay	13-Jun-12	08:00hrs-17:00hrs	For pre monsoon maintenance
10	Nagda 400	400KV Nagda – Rajgarh - II 50MVAR Reactor	21-Jun-12	08:00hrs-17:00hrs	For pre monsoon maintenance
11	Nagda 400	400KV Rajgarh – II Main bay	25-Jun-12	08:00hrs-17:00hrs	For pre monsoon maintenance
<b>Bhopal</b>					
NIL					
<b>Indore</b>					
NIL					
<b>Sagar</b>					
1	Bina 400	400KV BINA -BHOPAL-I	08-May-12	09:00hrs to 17:00hrs	For pre monsoon maintenance. Load will be managed through 400kv Bina Bhopal-II
2	Bina 400	400KV BINA -BHOPAL-II	10-May-12	09:00hrs to 17:00hrs	For pre monsoon maintenance. Load will be managed through 400kv Bina Bhopal-I
3	Bina 400	315MVA BHEL-III	21-May-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer I,II
4	Bina 400	315MVA BHEL-III	22-May-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer I,II
5	Bina 400	400KV MAIN BUS - I	23-May-12	09:00hrs to 17:00hrs	Load will be managed through 400 kv main Bus - II
6	Bina 400	400KV MAIN BUS - II	24-May-12	09:00hrs to 17:00hrs	Load will be managed through 400 kv main Bus - I
7	Bina 400	315MVA BHEL-II	25-May-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer I,III
8	Bina 400	315MVA BHEL-II	26-May-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer I,III
9	Bina 400	400KV BHOPAL-I	29-May-12	09:00hrs to 17:00hrs	Load will be managed through 400kv Bina Bhopal-II
10	Bina 400	400KV BHOPAL-II	31-May-12	09:00hrs to 17:00hrs	Load will be managed through 400kv Bina Bhopal-I
11	Bina 400	315MVA BHEL-I	04-Jun-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer II, III
12	Bina 400	315MVA BHEL-I	05-Jun-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer II, III
13	Bina 400	315MVA BHEL-I	06-Jun-12	09:00hrs to 17:00hrs	Load will be managed through 315MVA transformer II, III
14	Bina 400	400KV BHOPAL-II	30-Jun-12	09:00hrs to 17:00hrs	Load will be managed through 400kv Bina Bhopal-I
<b>Jabalpur</b>					
1	Katni 400	400KV ,Birsinghpur feeder	02-May-12	09:00hrs to 18:00hrs	For pre monsoon maintenance
2	Katni 400	400KV ,Birsinghpur feeder	03-May-12	09:00hrs to 18:00hrs	For pre monsoon maintenance
3	Katni 400	400KV ,Birsinghpur feeder	04-May-12	09:00hrs to 18:00hrs	For pre monsoon maintenance

<b>Unitwise / Stationwise Generation in MU</b>				
<b>A. Thermal</b>				
Stn. Name	UNIT No.	Capacity MW	Feb-12	Mar-12
<b>AMARKANTAK</b>	3	120	0.777	40.77
	4	120	66.24	53.08
	<b>PH II</b>	<b>240</b>	<b>67.01</b>	<b>93.85</b>
	<b>PH III</b>	<b>210</b>	<b>144.76</b>	<b>149.45</b>
	<b>TOT</b>	<b>450</b>	<b>211.77</b>	<b>243.31</b>
<b>SATPURA</b>	1	62.5	27.63	30.34
	2	62.5	27.80	30.05
	3	62.5	25.48	28.33
	4	62.5	31.28	33.72
	5	62.5	25.35	28.49
	<b>PH I</b>	<b>312.5</b>	<b>137.54</b>	<b>150.94</b>
	6	200	116.26	110.29
	7	210	102.61	107.03
	<b>PH II</b>	<b>410</b>	<b>218.86</b>	<b>217.32</b>
	8	210	111.25	111.41
	9	210	0	49.03
<b>PH III</b>	<b>420</b>	<b>111.25</b>	<b>160.44</b>	
<b>TOT</b>	<b>1142.5</b>	<b>467.65</b>	<b>528.69</b>	
<b>SANJAY GANDHI</b>	1	210	87.975	111.94
	2	210	119.53	120.33
	<b>PH I</b>	<b>420</b>	<b>207.51</b>	<b>232.27</b>
	3	210	108.28	131.65
	4	210	119.15	126.27
	<b>PH II</b>	<b>420</b>	<b>227.43</b>	<b>257.93</b>
	<b>PH III</b>	<b>500</b>	<b>268.25</b>	<b>345.97</b>
	<b>TOT</b>	<b>1340</b>	<b>703.19</b>	<b>836.16</b>
<b>MPPGCL THERMAL Total Gen</b>		<b>2932.5</b>	<b>1382.61</b>	<b>1608.15</b>
<b>MPPGCL Thermal PLF %</b>			<b>65.16</b>	<b>74.58</b>
AMARKANTAK POWER HOUSE-I RETIRED FROM SERVICE WEF 01.04.2009				
<b>B. Hydel</b>				
Station Name	Capacity MW	Feb-12	Mar-12	
GANDHISAGAR	115.0	52.91	29.91	
R.P.SAGAR	172.0	72.49	52.22	
J.SAGAR	99.0	48.76	35.87	
CHAMBAL	386.0	174.16	118.00	
M.P.CHAMBAL	193.0	87.08	59.00	
PENCH	160.0	42.29	34.18	
M.P.PENCH	107.0	28.19	22.78	
BARGI	90.0	36.23	45.37	
TONS	315.0	137.75	147.59	
BIRSINGHPUR	20.0	0.32	0.01	
B.SGR(DEOLONDH)	60.0	0.00	0.00	
B.SGR(SILPARA)	30.0	13.28	13.97	
RAJGHAT	45.0	17.12	2.46	
M.P.RAJGHAT	22.5	8.56	1.23	
B.SGR(JINHA)	20.0	14.21	13.43	
MADIKHEDA	60.0	4.90	11.35	
TOTAL HYDEL	1186.0	440.24	386.4	
MPPGCL Hydel	915.0	318.99	298.3	
MPSEB HYDEL Share	917.5	330.50	314.7	
<b>C. NHDC (Ex-Bus)</b>				
Station Name	Capacity MW	Feb-12	Mar-12	
Indira Sagar Hydel Project	1000	198.295	189.448	
Omkareshwar Hydel Project	520	84.055	81.291	

**Hourly Average Own Generation, Schedule Drawal , Actual Drawal & Demand**  
**Month :- March 2012**

**FIGURES IN MW**

Hrs.	FREQ.	Own Generation										Schedule from										Tot Avl.	Act. Drl	UI	Other Imp/Exp	DEMAND MET	Load Shedding			REST. DEMAND	UNRES. DEMAND
		Ther. Incl	Ther. Excl Aux	HYD.	ISP	OSP	BLA Power	Injection from STOA	Total	CSS	DVC ER	Sug n	SSP	SEZ	Banking	Sale	Pur	Exchange	STO A	Transmission and Matat	Total						SCH	UNSCH	TOTAL		
1:00	49.86	2166	1971	327	59	35	11	-4	2387	2169	160	59	32	10	407	-52	0	0	4	21	2811	5199	2443	-369	-1	4839	1154	0	1154	4859	6013
2:00	49.92	2164	1969	308	55	32	11	-5	2359	2169	160	59	32	10	407	-87	0	0	5	21	2777	5137	2404	-373	-1	4772	1055	0	1055	4784	5839
3:00	49.97	2169	1973	303	55	30	11	-7	2354	2169	160	59	32	10	407	-87	0	0	7	21	2779	5134	2360	-419	-1	4724	896	0	896	4729	5625
4:00	50.00	2164	1969	307	55	27	11	-8	2350	2169	160	59	32	10	407	-87	0	0	8	21	2780	5129	2394	-385	-1	4753	833	0	833	4753	5586
5:00	49.86	2153	1959	314	58	23	11	-8	2346	2169	160	59	32	10	407	-92	0	0	8	21	2775	5121	2473	-301	-1	4828	816	0	816	4849	5665
6:00	49.98	2155	1961	351	145	60	10	-5	2512	2169	161	59	32	10	373	-43	0	0	5	21	2788	5300	2531	-257	-1	5046	907	18	925	5068	5975
7:00	49.96	2152	1959	384	145	67	10	-5	2549	2169	171	59	32	10	49	-68	0	0	5	21	2450	4999	2090	-360	-1	4630	1343	39	1382	4676	6019
8:00	49.99	2152	1958	365	137	67	10	-3	2523	2169	172	59	32	10	59	-140	0	0	3	21	2386	4909	1894	-492	-1	4412	1604	17	1620	4430	6034
9:00	49.93	2144	1951	353	142	67	11	-5	2508	2169	173	59	32	10	59	-169	0	0	5	21	2359	4867	1869	-490	-1	4376	1677	0	1677	4385	6062
10:00	49.96	2148	1955	335	145	67	11	-5	2497	2169	170	59	170	10	59	-172	0	0	5	21	2492	4989	1932	-560	-1	4432	1765	20	1785	4458	6222
11:00	49.87	2120	1930	401	142	67	11	-5	2534	2169	170	59	170	10	83	-76	0	0	5	21	2613	5147	2402	-211	-1	4929	1377	114	1492	5062	6440
12:00	49.90	2109	1919	388	149	67	11	-5	2518	2168	170	59	170	10	83	-115	0	0	5	21	2573	5091	2140	-433	-1	4652	1565	56	1621	4722	6287
13:00	49.99	2115	1925	360	106	67	10	-5	2453	2168	170	59	173	10	83	-132	0	0	5	21	2559	5012	2024	-535	-1	4472	1658	24	1682	4498	6155
14:00	49.96	2121	1930	360	92	59	10	-5	2436	2168	170	59	173	10	83	-42	0	0	5	21	2649	5085	2504	-145	-1	4934	1334	15	1349	4955	6289
15:00	49.91	2134	1942	369	82	38	10	-5	2426	2169	170	59	99	10	86	-49	0	0	5	21	2571	4997	2341	-230	-1	4764	1245	48	1293	4826	6071
16:00	49.96	2141	1948	301	51	27	11	-5	2322	2169	170	59	32	10	86	-118	0	0	5	21	2435	4757	1883	-552	-1	4211	1544	17	1561	4234	5778
17:00	50.08	2145	1952	268	60	25	9	-5	2301	2169	170	59	32	10	86	-166	0	0	5	21	2387	4688	1714	-673	-1	4021	1479	29	1509	4040	5519
18:00	50.15	2145	1952	329	183	80	10	-4	2541	2169	170	59	32	10	155	-171	0	0	4	21	2450	4991	1939	-511	-1	4488	702	5	706	4472	5174
19:00	49.83	2163	1969	575	543	229	10	-2	3314	2169	309	59	394	10	148	-66	0	0	2	21	3046	6360	2877	-169	-1	6170	840	0	840	6201	7041
20:00	49.85	2188	1991	636	760	309	11	-4	3692	2169	309	59	520	10	124	-39	57	0	4	21	3234	6926	3135	-98	-1	6788	831	50	881	6870	7700
21:00	49.83	2201	2002	652	757	322	10	0	3733	2169	309	59	529	10	124	0	261	0	0	21	3483	7215	3743	260	-1	7434	144	351	495	7823	7968
22:00	49.81	2194	1997	643	756	321	12	-1	3716	2169	309	59	507	10	124	-10	234	0	1	21	3425	7141	3343	-82	-1	7021	239	329	569	7391	7630
23:00	49.82	2189	1992	594	449	231	12	-4	3262	2169	252	59	127	10	369	-13	0	0	4	21	2999	6261	2820	-179	-1	6049	1184	55	1240	6137	7322
24:00	49.87	2195	1998	414	165	95	13	-4	2667	2169	252	59	35	10	369	-13	0	0	4	21	2907	5575	2773	-135	-1	5434	1293	18	1311	5474	6767
Avg.	49.93	2155	1961	401	221	100	11	-5	2679	2169	198	59	144	10	193	-84	23	0	5	21	2717	5418	2418	-321	-1	5091	1145	50	1196	5154	6299
00 TO 06 HRS.	49.93	2162	1967	318	71	34	11	-6	2385	2169	160	59	32	10	402	-75	0	0	6	21	2785	5170	2434	-351	-1	4827	944	3	947	4840	5784
06 TO 12 HRS.	49.94	2138	1945	371	144	67	10	-5	2522	2169	171	59	101	10	65	-123	0	0	5	21	2479	5000	2054	-424	-1	4572	1555	41	1596	4622	6177
12 TO 18 HRS.	50.01	2134	1942	331	96	49	10	-5	2413	2169	170	59	90	10	97	-113	0	0	5	21	2508	4922	2067	-441	-1	4482	1327	23	1350	4504	5831
06 TO 18 HRS.	49.97	2136	1943	351	120	58	10	-5	2467	2169	171	59	95	10	81	-118	0	0	5	21	2494	4961	2061	-433	-1	4527	1441	32	1473	4563	6004
18 TO 24 HRS.	49.83	2188	1991	586	572	251	11	-3	3397	2169	290	59	352	10	209	-23	92	0	3	21	3182	6580	3115	-67	-1	6483	755	134	889	6649	7405

**Hourly Average Own Generation, Schedule Drawal , Actual Drawal & Demand**  
**Month :- February 2012**

**FIGURES IN MW**

Hrs.	FREQ.	THER. Incl Aux	Own Generation						Schedule from													Tot Avl.	Act. Drl	UI	Other Imp/Exp	DEMAND MET	Load Shedding			REST. DEMAND	UNRES. DEMAND
			THER. Excl Aux	HYD.	ISP	OSP	Injection from STOA	Total	CSS	DVCE	Supern	SSP	SEZ	Banking	Sale	Pur	Exchange	STOA	Kind+Mata	Total	SCH						UNSCH	TOTAL			
1:00	49.92	2003	1823	318	24	11	-15	2161	1938	212	57	36	11	729	0	0	0	15	25	3022	5182	3458	436	1	5615	802	0	802	5628	6430	
2:00	49.99	2009	1828	312	24	11	-16	2158	1939	212	57	36	11	732	0	0	0	16	25	3027	5185	3326	299	1	5481	802	14	816	5496	6297	
3:00	50.03	2011	1830	290	24	11	-17	2138	1939	212	57	36	11	732	0	0	0	17	25	3028	5166	3111	83	1	5249	805	0	805	5243	6048	
4:00	50.07	2002	1822	289	32	12	-18	2137	1939	212	57	36	11	729	0	0	0	18	25	3025	5163	3202	176	1	5339	810	0	810	5328	6138	
5:00	49.98	1996	1816	292	96	41	-18	2227	1939	212	57	36	11	729	0	0	0	18	25	3026	5253	3094	68	1	5321	899	0	899	5323	6222	
6:00	49.93	1997	1817	376	142	63	-7	2391	1939	212	57	36	11	729	0	0	0	7	25	3014	5405	2961	-53	1	5349	925	0	925	5360	6285	
7:00	49.92	2004	1824	484	143	63	-5	2509	1939	246	57	36	11	0	0	0	0	5	25	2317	4827	2663	346	1	5157	1305	149	1454	5319	6624	
8:00	49.94	2005	1825	482	143	62	-4	2509	1939	246	57	36	11	0	0	0	0	4	25	2317	4826	2485	168	1	4979	1604	43	1647	5030	6633	
9:00	49.79	1991	1812	470	147	64	-4	2490	1939	244	57	42	11	0	0	0	0	4	25	2321	4812	2678	356	1	5154	1877	0	1877	5186	7063	
10:00	49.84	1995	1815	504	277	113	-4	2706	1939	244	57	184	11	0	0	0	0	4	25	2463	5169	2625	162	1	5312	1758	161	1920	5498	7256	
11:00	49.79	1990	1811	537	283	123	-4	2750	1939	247	57	198	11	0	0	14	0	4	25	2494	5244	2842	349	1	5564	1732	242	1974	5841	7573	
12:00	49.81	1962	1785	553	291	125	-4	2750	1939	247	57	201	11	0	0	14	0	4	25	2497	5247	2826	329	1	5540	1794	164	1958	5735	7529	
13:00	49.95	1963	1787	566	291	126	-5	2765	1939	246	57	201	11	0	0	14	0	5	25	2497	5262	2863	366	1	5592	1554	149	1703	5749	7303	
14:00	49.92	1965	1788	568	289	126	-6	2767	1939	248	57	201	11	0	0	14	0	6	25	2500	5267	3093	593	1	5825	1407	119	1527	5958	7366	
15:00	49.85	1962	1786	548	270	118	-7	2715	1939	248	57	123	11	0	0	0	0	7	25	2410	5124	2808	399	1	5490	1464	68	1532	5583	7047	
16:00	49.92	1947	1772	487	265	116	0	2640	1939	250	57	56	11	0	0	0	0	0	25	2338	4977	2548	210	1	5171	1644	0	1644	5183	6827	
17:00	50.05	1938	1763	412	253	111	0	2539	1939	250	57	39	11	0	0	0	0	0	25	2321	4860	2333	12	1	4871	1590	0	1590	4863	6454	
18:00	50.05	1955	1779	418	374	153	3	2727	1939	247	57	39	11	82	0	0	0	-3	25	2397	5124	2377	-20	1	5101	1396	4	1400	5097	6493	
19:00	49.85	1964	1787	634	628	267	6	3323	1939	247	57	422	11	79	0	34	0	-6	25	2807	6130	3260	453	1	6533	1544	17	1560	6579	8122	
20:00	49.89	1986	1808	644	719	332	7	3509	1939	247	57	550	11	89	0	34	0	-7	25	2944	6453	3535	590	1	6992	1325	114	1439	7129	8454	
21:00	49.90	1993	1813	631	713	310	5	3473	1939	250	57	550	11	89	0	34	0	-5	25	2949	6421	3463	514	1	6885	1061	371	1432	7278	8338	
22:00	50.02	2002	1822	555	322	182	-4	2877	1939	250	57	523	11	89	0	34	0	4	25	2932	5808	3581	650	1	6412	1530	75	1605	6483	8013	
23:00	49.94	1995	1816	420	52	50	-5	2333	1939	227	57	133	11	539	-4	0	0	5	25	2933	5266	3235	302	1	5552	1842	7	1849	5568	7411	
24:00	49.92	1997	1817	338	24	11	-9	2181	1939	227	57	36	11	739	-5	0	0	9	25	3037	5218	3212	175	1	5390	1520	44	1564	5446	6966	
Avg.	49.93	1985	1806	464	243	108	-5	2616	1939	237	57	158	11	253	0	8	0	5	25	2668	5308	2982	290	1	5578	1375	73	1447	5663	7037	
00 TO 06 HRS.	49.99	2003	1823	313	57	25	-15	2202	1939	212	57	36	11	730	0	0	0	15	25	3024	5226	3192	168	1	5392	840	2	843	5396	6237	
06 TO 12 HRS.	49.85	1991	1812	505	214	92	-4	2619	1939	246	57	116	11	0	0	5	0	4	25	2402	5021	2686	285	1	5284	1678	127	1805	5435	7113	
12 TO 18 HRS.	49.96	1955	1779	500	290	125	-2	2692	1939	248	57	110	11	14	0	5	0	2	25	2411	5102	2671	260	1	5342	1509	57	1566	5406	6915	
06 TO 18 HRS.	49.90	1973	1796	503	252	108	-3	2656	1939	247	57	113	11	7	0	5	0	3	25	2406	5062	2678	272	1	5313	1594	92	1685	5420	7014	
18 TO 24 HRS.	49.92	1990	1811	537	410	192	0	2949	1939	242	57	369	11	270	-1	23	0	0	25	2934	5883	3381	448	1	6294	1470	104	1575	6414	7884	

**Hourly Average Own Generation, Schedule Drawal , Actual Drawal & Demand**  
**Month :- February 2012**

**FIGURES IN MW**

Hrs.	FREQ.	THER. Incl Aux	Own Generation						Schedule from													Tot Avl.	Act. Drl	UI	Other Imp/Exp	DEMAND MET	Load Shedding			REST. DEMAND	UNRES. DEMAND
			THER. Excl Aux	HYD.	ISP	OSP	Injection from STOA	Total	CSS	DVCE	Supern	SSP	SEZ	Banking	Sale	Pur	Exchange	STOA	Kind+Mata	Total	SCH						UNSCH	TOTAL			
1:00	49.92	2003	1823	318	24	11	-15	2161	1938	212	57	36	11	729	0	0	0	15	25	3022	5182	3458	436	1	5615	802	0	802	5628	6430	
2:00	49.99	2009	1828	312	24	11	-16	2158	1939	212	57	36	11	732	0	0	0	16	25	3027	5185	3326	299	1	5481	802	14	816	5496	6297	
3:00	50.03	2011	1830	290	24	11	-17	2138	1939	212	57	36	11	732	0	0	0	17	25	3028	5166	3111	83	1	5249	805	0	805	5243	6048	
4:00	50.07	2002	1822	289	32	12	-18	2137	1939	212	57	36	11	729	0	0	0	18	25	3025	5163	3202	176	1	5339	810	0	810	5328	6138	
5:00	49.98	1996	1816	292	96	41	-18	2227	1939	212	57	36	11	729	0	0	0	18	25	3026	5253	3094	68	1	5321	899	0	899	5323	6222	
6:00	49.93	1997	1817	376	142	63	-7	2391	1939	212	57	36	11	729	0	0	0	7	25	3014	5405	2961	-53	1	5349	925	0	925	5360	6285	
7:00	49.92	2004	1824	484	143	63	-5	2509	1939	246	57	36	11	0	0	0	0	5	25	2317	4827	2663	346	1	5157	1305	149	1454	5319	6624	
8:00	49.94	2005	1825	482	143	62	-4	2509	1939	246	57	36	11	0	0	0	0	4	25	2317	4826	2485	168	1	4979	1604	43	1647	5030	6633	
9:00	49.79	1991	1812	470	147	64	-4	2490	1939	244	57	42	11	0	0	0	0	4	25	2321	4812	2678	356	1	5154	1877	0	1877	5186	7063	
10:00	49.84	1995	1815	504	277	113	-4	2706	1939	244	57	184	11	0	0	0	0	4	25	2463	5169	2625	162	1	5312	1758	161	1920	5498	7256	
11:00	49.79	1990	1811	537	283	123	-4	2750	1939	247	57	198	11	0	0	14	0	4	25	2494	5244	2842	349	1	5564	1732	242	1974	5841	7573	
12:00	49.81	1962	1785	553	291	125	-4	2750	1939	247	57	201	11	0	0	14	0	4	25	2497	5247	2826	329	1	5540	1794	164	1958	5735	7529	
13:00	49.95	1963	1787	566	291	126	-5	2765	1939	246	57	201	11	0	0	14	0	5	25	2497	5262	2863	366	1	5592	1554	149	1703	5749	7303	
14:00	49.92	1965	1788	568	289	126	-6	2767	1939	248	57	201	11	0	0	14	0	6	25	2500	5267	3093	593	1	5825	1407	119	1527	5958	7366	
15:00	49.85	1962	1786	548	270	118	-7	2715	1939	248	57	123	11	0	0	0	0	7	25	2410	5124	2808	399	1	5490	1464	68	1532	5583	7047	
16:00	49.92	1947	1772	487	265	116	0	2640	1939	250	57	56	11	0	0	0	0	0	25	2338	4977	2548	210	1	5171	1644	0	1644	5183	6827	
17:00	50.05	1938	1763	412	253	111	0	2539	1939	250	57	39	11	0	0	0	0	0	25	2321	4860	2333	12	1	4871	1590	0	1590	4863	6454	
18:00	50.05	1955	1779	418	374	153	3	2727	1939	247	57	39	11	82	0	0	0	-3	25	2397	5124	2377	-20	1	5101	1396	4	1400	5097	6493	
19:00	49.85	1964	1787	634	628	267	6	3323	1939	247	57	422	11	79	0	34	0	-6	25	2807	6130	3260	453	1	6533	1544	17	1560	6579	8122	
20:00	49.89	1986	1808	644	719	332	7	3509	1939	247	57	550	11	89	0	34	0	-7	25	2944	6453	3535	590	1	6992	1325	114	1439	7129	8454	
21:00	49.90	1993	1813	631	713	310	5	3473	1939	250	57	550	11	89	0	34	0	-5	25	2949	6421	3463	514	1	6885	1061	371	1432	7278	8338	
22:00	50.02	2002	1822	555	322	182	-4	2877	1939	250	57	523	11	89	0	34	0	4	25	2932	5808	3581	650	1	6412	1530	75	1605	6483	8013	
23:00	49.94	1995	1816	420	52	50	-5	2333	1939	227	57	133	11	539	-4	0	0	5	25	2933	5266	3235	302	1	5552	1842	7	1849	5568	7411	
24:00	49.92	1997	1817	338	24	11	-9	2181	1939	227	57	36	11	739	-5	0	0	9	25	3037	5218	3212	175	1	5390	1520	44	1564	5446	6966	
Avg.	49.93	1985	1806	464	243	108	-5	2616	1939	237	57	158	11	253	0	8	0	5	25	2668	5308	2982	290	1	5578	1375	73	1447	5663	7037	
00 TO 06 HRS.	49.99	2003	1823	313	57	25	-15	2202	1939	212	57	36	11	730	0	0	0	15	25	3024	5226	3192	168	1	5392	840	2	843	5396	6237	
06 TO 12 HRS.	49.85	1991	1812	505	214	92	-4	2619	1939	246	57	116	11	0	0	5	0	4	25	2402	5021	2686	285	1	5284	1678	127	1805	5435	7113	
12 TO 18 HRS.	49.96	1955	1779	500	290	125	-2	2692	1939	248	57	110	11	14	0	5	0	2	25	2411	5102	2671	260	1	5342	1509	57	1566	5406	6915	
06 TO 18 HRS.	49.90	1973	1796	503	252	108	-3	2656	1939	247	57	113	11	7	0	5	0	3	25	2406	5062	2678	272	1	5313	1594	92	1685	5420	7014	
18 TO 24 HRS.	49.92	1990	1811	537	410	192	0	2949	1939	242	57	369	11	270	-1	23	0	0	25	2934	5883	3381	448	1	6294	1470	104	1575	6414	7884	

**MP SUPPLY EXCLUDING AUXILIARY CONS.  
in Million Units**

S.No.	Particulars	Feb-12	Mar-12
1	MPSEB Thermal Availability	1205.70	1403.55
2	MPSEB Hydel Availability	327.47	311.42
3	Indira Sagar	161.61	155.38
4	Omkareshwar	72.81	71.55
5	Schedule / Drawal From Central Sector	1512.24	1477.37
6	Schedule of DVC	169.92	152.12
7	Schedule of Sujen	41.17	45.67
8	Sardar Sarovar	109.86	100.43
9	Additional Power Purchase	5.49	17.10
10	Sale of Power	-0.25	-62.21
11	Banking of Power	176.33	143.95
12	Energy Exchange	0.00	0.00
13	Unschedule Interchange	97.45	-22.63
14	Other Imp / Exp	87.23	101.12
15	Total MPSEB Supply excl. Aux. Cons.	3967.02	3894.83
16	Average Supply per Day	152.72	125.64
17	Maximum Daily M.P. Supply	136.42	138.33
18	Minimum Daily M.P. Supply	130.26	114.66
19	Registered Demand : MW	7477	<b>8546</b>
24	Unrestricted Demand : MW	8808	<b>8946</b>



**Hourly Average Schedule Drawal , Actual Drawal &Over(+)/Under(-) Drawal**  
**Month :- February 2012**

**FIGURES IN MW**

Hrs.	FREQ.	CZONE			EZONE			WZONE		
		SCH	ACTUAL	O/U DRL	SCH	ACTUAL	O/U DRL	SCH	ACTUAL	O/U DRL
1:00	49.92	1712	1946	233	1604	1685	81	2027	1984	-43
2:00	49.99	1716	1910	194	1610	1601	-9	2035	1970	-65
3:00	50.03	1709	1820	112	1606	1477	-129	2030	1952	-78
4:00	50.07	1710	1846	136	1605	1448	-158	2029	2046	16
5:00	49.98	1723	1868	144	1621	1370	-251	2049	2083	34
6:00	49.93	1769	1830	60	1664	1483	-181	2107	2036	-70
7:00	49.92	1597	1488	-110	1495	1520	26	1890	2149	260
8:00	49.94	1580	1378	-202	1494	1477	-17	1888	2124	236
9:00	49.79	1572	1386	-186	1489	1515	26	1882	2253	371
10:00	49.84	1677	1542	-135	1586	1550	-36	2005	2220	215
11:00	49.79	1713	1620	-92	1608	1538	-69	2036	2405	368
12:00	49.81	1655	1581	-73	1612	1361	-251	2037	2597	560
13:00	49.95	1720	1735	15	1621	1365	-256	2049	2492	443
14:00	49.92	1722	1801	79	1622	1672	50	2049	2351	303
15:00	49.85	1678	1677	0	1581	1657	76	1998	2156	158
16:00	49.92	1632	1477	-155	1538	1684	146	1944	2009	65
17:00	50.05	1600	1534	-67	1508	1451	-57	1907	1886	-21
18:00	50.05	1666	1807	141	1570	1297	-273	1984	1997	12
19:00	49.85	1978	2017	39	1854	2084	229	2343	2432	89
20:00	49.89	2081	2108	27	1962	2532	570	2479	2351	-128
21:00	49.90	2063	2301	238	1945	2419	474	2458	2165	-293
22:00	50.02	1873	2130	257	1765	2194	429	2231	2088	-144
23:00	49.94	1723	1823	101	1623	1862	239	2049	1867	-182
24:00	49.92	1714	1756	42	1615	1840	225	2034	1794	-240
<b>Avg.</b>	<b>49.93</b>	<b>1733</b>	<b>1766</b>	<b>33</b>	<b>1633</b>	<b>1670</b>	<b>37</b>	<b>2064</b>	<b>2142</b>	<b>78</b>
<b>00 TO 06 HRS.</b>	49.99	1723	1870	147	1618	1511	-108	2046	2012	-34
<b>06 TO 12 HRS.</b>	49.85	1632	1499	-133	1547	1493	-54	1956	2291	335
<b>12 TO 18 HRS.</b>	49.96	1670	1672	2	1573	1521	-52	1989	2149	160
<b>06 TO 18 HRS.</b>	49.90	1651	1586	-65	1560	1507	-53	1972	2220	248
<b>18 TO 24 HRS.</b>	49.92	1905	2023	117	1794	2155	361	2266	2116	-150

**Hourly Average Schedule Drawal , Actual Drawal &Over(+)/Under(-) Drawal**  
**Month :- March 2012**

**FIGURES IN MW**

Hrs.	FREQ.	CZONE			EZONE			WZONE		
		SCH	ACTUAL	O/U DRL	SCH	ACTUAL	O/U DRL	SCH	ACTUAL	O/U DRL
1:00	49.86	1584	1704	120	1492	1481	-12	1886	1655	-232
2:00	49.92	1563	1650	88	1473	1469	-3	1861	1652	-209
3:00	49.97	1563	1502	-61	1473	1531	58	1862	1691	-171
4:00	50.00	1562	1598	36	1472	1499	28	1860	1655	-205
5:00	49.86	1556	1624	68	1466	1550	83	1853	1655	-199
6:00	49.98	1589	1615	26	1498	1675	177	1893	1756	-137
7:00	49.96	1515	1706	191	1427	1510	82	1804	1415	-389
8:00	49.99	1488	1644	155	1399	1283	-116	1769	1485	-284
9:00	49.93	1472	1401	-71	1387	1424	36	1754	1551	-203
10:00	49.96	1513	1316	-197	1425	1479	54	1802	1637	-165
11:00	49.87	1559	1351	-207	1469	1479	10	1857	2098	241
12:00	49.90	1534	1386	-148	1446	1357	-89	1828	1908	81
13:00	49.99	1515	1276	-239	1427	1351	-76	1804	1845	41
14:00	49.96	1538	1195	-343	1449	1520	71	1832	2219	387
15:00	49.91	1507	1198	-308	1420	1479	59	1795	2087	292
16:00	49.96	1436	1127	-310	1353	1413	60	1711	1671	-39
17:00	50.08	1415	1193	-222	1333	1198	-135	1685	1629	-56
18:00	50.15	1501	1559	59	1414	1173	-242	1788	1756	-32
19:00	49.83	1933	2027	94	1822	1817	-5	2303	2326	23
20:00	49.85	2117	2130	13	1995	2319	323	2522	2340	-182
21:00	49.83	2207	2273	66	2080	2490	410	2629	2671	43
22:00	49.81	2174	2111	-63	2049	2437	388	2589	2473	-116
23:00	49.82	1902	1848	-54	1792	2161	369	2260	2040	-220
24:00	49.87	1695	1717	22	1598	1822	225	2011	1895	-116
<b>Avg.</b>	<b>49.93</b>	<b>1643</b>	<b>1590</b>	<b>-54</b>	<b>1548</b>	<b>1622</b>	<b>73</b>	<b>1957</b>	<b>1880</b>	<b>-77</b>
<b>00 TO 06 HRS.</b>	49.93	1569	1615	46	1479	1534	55	1869	1677	-192
<b>06 TO 12 HRS.</b>	49.94	1513	1467	-46	1426	1422	-4	1802	1682	-120
<b>12 TO 18 HRS.</b>	50.01	1485	1258	-227	1400	1356	-44	1769	1868	99
<b>06 TO 18 HRS.</b>	49.97	1499	1363	-137	1413	1389	-24	1786	1775	-11
<b>18 TO 24 HRS.</b>	49.83	2005	2018	13	1889	2174	285	2385	2291	-95

**SYSTEM DISTURBANCE IN MP DURING FEBRUARY AND MARCH 2012**

**1.0 System occurrence at 400KV S/s Indore on 22.02.2012-**

At about 10.39 Hours 220KV South Zone ckt-II tripped on B-ph, Zone-1 indication, simultaneously 220KV Bus-II Busbar protection operated hence all connected feeder to 220KV Bus-II tripped at 400KV S/s Indore. Same was charged by availing supply through Barwaha Ckt-II at 11.15 hrs. and there after system normalized. Due to this occurrence 10 to 20 Min interruption occurred in 220KV s/s Indore SZ and 132KV s/s Chamble, Satya-Sai, Mangliya, Indore-West & Ghatabillod

**2.0 Tripping of 220 KV lines on 12.03.2012 at around 19.45 hrs**

On dated 12.03.2012 at 19.40 hrs, MP system was running normal at frequency 49.9 Hz. At around 19.45 hrs, it has been reported that 220 KV Birsinghpur-Jabalpur line II was tripped and auto-reclosed at Jabalpur end and tripped from Birsinghpur end on ABC phase, Zone I & II indications.

Further to the tripping mentioned as above, 220 KV IC No. 1, 2 & 4 between Birsinghpur Power House and 220 KV sub-stations also tripped from Power House end. A single line diagram indicating tripping and relay indications is enclosed herewith which is self explanatory.

The line fault of 220 KV Birsinghpur-Jabalpur II was cleared from Birsinghpur 220 KV sub-station end, hence the tripping of 220 KV IC No. 1, 2 & 4 appears to be due to over reach of protection. It is therefore necessary that DPR settings provided on 220 KV Birsinghpur-Birsinghpur inter connectors may be checked and corrected at SGTPS Birsinghpur end so that the unwanted trippings of lines could be avoided. Results of the DPR testing may also be intimated by the SGTPS, Birsinghpur to this office at an earliest.

**3.0 System disturbance on 19.03.2012 at 11.02 hrs at 220 KV Satna, S/s.**

On dated 19.03.2012 at 11.00 hrs, M.P. system was running normal at frequency 49.90 Hz.

At around 11.02 hrs, it has been reported that at 220 KV Satna sub-station R-phase over head conductor between gantry to gantry of 220 KV Satna-Chhatarpur line snapped and fall on 220 KV Main bus-I.

There was a bus fault occurred due to snapping of conductor as detailed above. All 220 KV & 132 KV line emanating from 220 KV Satna sub-station tripped, hence total supply failed. 105 MW Tons machine No. 1 & 2 also tripped. There is provision of Bus-bar protection scheme which is under commissioning, hence total supply was failed on both the bus.

A single line diagram indicating trippings and tripping report received from concerned Testing Division in the prescribed format alongwith relay indications and restoration timings are enclosed herewith for information needful please.