

**MINUTES OF 17TH MEETING OF OPERATION & COORDINATION COMMITTEE OF MP HELD ON
16TH NOVEMBER 2009 AT SLDC, MPPTCL, JABALPUR**

The 17th meeting of Operation & Co-ordination Committee of MP was held on 16th November 2009 at SLDC, MP Power Transmission Co. Ltd., Jabalpur. The list of participants is enclosed at Annexure-1.0.

Shri R.P. Sharma, OSD (SLDC) and Chairman OCC welcomed the members and participants in the 17th OCCM of MP. While highlighting power situation in the MP, he expressed SLDC's concern on discontinuing the load regulatory measures by the West DCC. It has been reiterated that looking to the implementation of Balancing and Settlement Code in the State, the demand side management is essentially required to be taken up by the West Discom and hence the DCC West Discom may commence enforcing the load regulatory measures without further delay.

The OSD, SLDC informed that during September and October 2009, the system frequency of the combined grid was within the permissible range of 49.2 to 50.3 Hz for 83.19% and 94.67% of time. The net unscheduled interchange by MP during these months was -215.38 MU and -113.52 MU respectively.

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

ITEM NO. 1 : CONFIRMATION OF MINUTES

The Superintending Engineer(On), SLDC stated that the Minutes of 16th meeting of Operation & coordination committee of MP held on 16.09.2009 at Bhopal were posted on the SLDC website and informed to the committee members vide letter no. 07-05/SG-9B-II/1824 dated 05.11.2009. No comments have been received. The minutes of the 16th meeting of Operation & coordination committee of MP have been confirmed by the Committee.

**ITEM NO. 2 : REVIEW OF SYSTEM OPERATION DURING THE MONTH OF SEPTEMBER 2009
AND OCTOBER 2009**

2.1 Frequency Particulars

The detailed frequency particulars for the month of September-2009 & October-2009 are enclosed at Annexure-2.1. It was informed that one hour integrated average frequency during September & October 2009 was recorded at 49.59 Hz and 49.66 Hz respectively. The minimum integrated frequency over an hour was 48.93 Hz and 48.70 Hz for the respective months with the maximum integrated frequency over an hour at 50.24 Hz and 50.26 Hz. The instantaneous maximum and minimum frequency recorded for September & October 2009 was 50.49 Hz, 50.50Hz and 48.65 Hz, 48.70 Hz respectively. The committee noted the same.

2.2 Operational Matters

2.2.1 Operational Discipline

During September & October 2009, the system frequency of the combined grid was within the permissible range of 49.2-50.3 Hz for 83.19 % & 94.67 % of the time respectively. The net unscheduled

interchange by MP during the months September & October 2009 was -215.38 MU and -113.52 MU respectively.

The instances of significant violation of IEGC by the DISCOMs by overdrawing at frequency below 49.2 Hz during the month of September and October 2009 as per operational reports is as detailed in the Annexure 2.2.1. It was intimated by OSD, SLDC that the matter of overdrawing by the NR from WR at low frequency duration in the month of September 2009 was taken up with WRPC and WRLDC and subsequently WRLDC and WRPC have taken up the matter with NRLDC and CEA, as a result significant improvement has been seen. The OSD, SLDC has informed that significant violations of IEGC for overdrawal during the month of September and October by MP as a WR constituent was very negligible, however the significant violations by DISCOMs as intrastate entities are on higher side. He further reiterated that after coming into effect of the Balancing and Settlement Code, the UI bills shall be raised to DISCOMs and hence the DCCs need to take necessary steps to avoid the overdrawal as surcharge for overdrawing at 49.2 Hz and below shall not be allowed under the ARR.

2.3.1 Voltage Profile

Committee noted the voltage profile at some of the important 400 KV and 220 KV substations of MP during the month of September & October 2009 is enclosed at Annexure -2.3.

During the month of September & October 2009, the deviation of voltage from the accepted limit on either side was recorded at following location in MP Grid.

Sr .N o.	Name of Substation	SEPTEMBER 2009				OCTOBER 2009			
		Max. Voltage observed		Min. Voltage observed		Max. Voltage observed		Min. Voltage observed	
		Voltage	Date	Voltage	Date	Voltage	Date	Voltage	Date
1	Indore	No deviation observed		No deviation observed		No deviation observed		No deviation observed	
2	Itarsi	428	09,10.09.09			428	9,10.10.09		
3	Bina	426	10,13.09.09			426	13.10.09		
4	Gwalior	432	12.09.09	357	30.09.09	432	12.10.09	349	25.10.09
5	Nagda	428	20.09.09	-	-	428	20.10.09	No deviation observed	

The problem of overvoltage conditions at Nagda 400 KV s/s has been discussed. The C.E.(PD), MPPTCL and OSD, SLDC has suggested that the line reactors of 400 KV Nagda–Rajgarh line may be converted to Bus reactors to utilize the same for voltage control. The Planning Cell may work out necessary modification required for the same.

2.3.2 Status of Capacitor Banks in sub-transmission system

The Central DISCOM has informed that out of 588 11 KV Capacitors (Total MVAR capacity – 705.6), 496 capacitors with total MVAR capacity of 595.2 MVAR have been installed 11-11-2009 and balance 92 Nos Capacitor banks will be installed by December 2009.

The East Discom has informed that capacitor banks have not been installed during October 2009. It has also been informed that 49 Nos capacitor banks of 1200 KVAR capacity each and 27 Nos of 600 KVAR capacity each have been ordered of which 27 Nos Capacitors of 600 KVAR capacity each shall be installed in November 2009.

The West Discom has informed that the capacitor bank installation is completed in Indore zone and in Ujjain Zone 41 Nos capacitor banks each of 600 KVAR capacity and 31 Nos of 1200 KVAR capacity are balance for installation. It is also informed that 30 Nos capacitor banks shall be installed in November 2009 and balance in December 2009.

The DISCOMs have to submit the progress of the capacitor bank installation and commissioning as on 31st December 2009 in the first week of January 2009.

2.4.1 Status of completion of on going Transmission Schemes being executed by MPPTCL

The committee noted the updated status of various ongoing transmission schemes for the current year as per the available information furnished by MPPTCL.

2.4.2 U/F and df/dt Relay Operation and Black start facility at HPS :

The committee noted that the frequency touched, 48.80 Hz for 481 and 155 times during September & October 2009 respectively. During this period the system frequency remained below 49.2 Hz for 16.30 % and 5.03 % of the time respectively. The consolidated information about UFLS operation for September and October 2009 was enclosed at Annexure-2.4.2 of the agenda.

The representative from CE(T&C), MPPTCL has confirmed that there are no defective u/f or df/dt relays in the system. The OSD, SLDC has informed that the Member Secretary and SE, WRPC have recently conducted inspection of 220 KV s/s Jabalpur and 132 KV s/s Marhotal and found the u/f relay working satisfactory and they have expressed their satisfaction.

The OSD, SLDC has informed the committee that the expected load relief on operation of df/dt relays could not be achieved mainly due to the fact that most of the radial feeders on which df/dt relays are installed have come in the ring main. As a result, even in case of tripping from one side the supply is available from other end and the expected load relief required to safeguard the system is not achieved. He further informed that the proposal submitted by SLDC to review the df/dt relay was not taken seriously by T&C and same has been submitted to CE(PS) with the remark that df/dt relays are working satisfactorily. He stressed the need for review of the df/dt relay feeders and advised the T&C and Power System representatives to work out a plan for reallocating the df/dt relays from ring-main feeders to radial feeders and 132/33 KV transformers. The MPPTCL representatives agreed to work out and submit the same at the earliest.

OSD (SLDC) has advised the representative of MPPGCL to perform the mock drill exercise for black start on Hydel Power Stations. This will ensure proper functioning of DG sets, batteries etc and is also required as per disaster management guidelines of CEA. The representatives of MPPGCL agreed for the same. However, the Representatives of Omkareshwar HPS informed that though the black start of units is available, the dead bus charging is not possible as per existing scheme. The OSD (SLDC) advised that OSP may carryout necessary modifications for black start facility with the dead bus as this

will be needed for startup power in case of system disturbance. The OSP representative assured to do the same.

The SE(Opn), SLDC has intimated the committee that SLDC would also undertake selective and surprise inspection of the substations for inspecting u/f and df/dt relay operation and Hydel Power stations for inspection of black start facility. He urged the need of conducting periodical testing of u/f, df/dt relays and black start procedures by the local authorities.

2.4.3 Confirmation of Healthiness status of SERs/DRs equipment in the system

The SE(Opn), SLDC has informed the committee that despite repeated persuasion by SLDC and assurance by concerned utilities, the consolidated information regarding status of healthiness of DRs & SERs is not being received by SLDC. He further stated that the information is required for the OCCM of WRPC on monthly basis and to limit large data collection, the information should be limited to all power stations, all 400 KV substations and those 220 KV & 132 KV substations where interstate lines or lines with other utilities like PGCIL, NTPC, MPPGCL terminates. He emphasised the need for furnishing the consolidated information of healthiness of DR's & SER's alongwith confirmation on GPS time stamping facility. MPPGCL & MPPTCL have agreed to furnish the same by 5th of every month.

2.5 Power Cuts / Load restrictions/Differential Load Shedding by DISCOMS

- (i) Details of Discom wise power cuts & regulatory measures during September & October 2009 are enclosed at Annexure 2.5.

SE(Opn), SLDC intimated that the DCCs were requested vide letter No. 07-05/PM-56/1822 dated 05.11.2009 to furnish to SLDC the hourly load relief data in the prescribed format daily at 24.00 Hrs to work out the unrestricted demand. However, the information is being received from central DISCOM only. He reiterated SLDC's stand that the hourly load relief information is essentially required for computation of unrestricted demand. The DCCs have agreed to start furnishing the data at 24:00 Hrs each day.

ITEM NO. 3 : OPERATIONAL PLANNING

3.1 Anticipated Power Supply Position for the Month of October-2009 to March 2009

- (a) Details of anticipated demand and source-wise availability for the period October 2009 to March 2010 is enclosed in Annexure 3.1.
- (b) **Year ahead demand estimation data** : It was explained by the Member Secretary, OCC that as per MPEGC, the SLDC is responsible to do the demand estimation for period up to one year ahead for which the DISCOMs have to provide to SLDC their estimates of demand for the year ahead on month basis for the next financial year by 15th November each year. The DISCOMs shall also provide daily demand on month ahead by 25th for the next month. The West and Central DISCOMs have furnished the information of estimates of anticipated restricted & unrestricted demand for the year 2010-11 on month basis. The Director, East DCC has assured the committee to furnish the same by end of November 2009.

Later on scrutinizing the demand estimation figures as provided by West and Central DISCOMs it is found that the Central DCC has not furnished the hourly demand estimation data for each month for which they have been requested to furnish the same. The demand estimate data from East DCC is also not received. The East and Central DCCs may furnish the desired information without further delay to SLDC.

3.2 Generating Units under planned outage and proposed maintenance programme-

The details of outage of generating units under planned outage proposed maintenance programme for **November 2009 to March 2010 (R-5/6)** is as given in Annexure 3.2 of agenda items. Only ATPS Unit No. 4 is under planned maintenance till 15-01-2010.

3.3 Proposed shutdown programme of Transmission lines / Transformers -

The proposed maintenance programme for the period **November-2009 to December-2009** was discussed in the meeting and found in order.

3.4 Long Outages of transmission elements :

The transmission elements as detailed below are under long outages.

SrNo	Line/Transformer/Breaker/Reactor etc under long outage	Outage date	Reason	Expected date of restoration as intimated in the 16 th OCCM
1	63 MVAR Reactor-II at Satpura TPS	24.05.2005	Damage of all three limbs along with reactor tank	Estimate approval is under progress.
2	Tie Breaker of 315 MVA, 400/220 KV X'mer –II at 400 KV Bina S/S	23.10.2008	Gas Leakage from PIR	Matter has been taken up with manufacturer and is expected to be rectified within a month.

The SLDC desired that MPPTCL and MPPGCL may expedite the efforts to put back the faulty transmission elements at Bina and Satpura in the shortest possible time. OSD, SLDC has expressed the need of restoration of Bus reactor at Satpura TPS before onset of monsoon. The progress of the same shall be reviewed in the next OCC meeting.

ITEM NO. 4 : OPERATIONAL STATISTICS FOR THE MONTH OF SEPT & OCT 2009.

The details of actual generation, schedule from Central Sector, demand etc. as given in Annexure 4.1 to 4.5 of the agenda of 17th OCC meeting has been noted by the Committee.

ITEM NO. 5 : SYSTEM DISTURBANCE IN MP FOR THE MONTH OF SEPTEMBER & OCTOBER 2009

There was no significant system disturbance reported during the period Sep & Oct 2009.

ITEM NO. 6 : REVIEW OF SYSTEM OPERATION & MANAGEMENT

6.1 Progress of functioning of Discom Control Centre (DCC)

The East and Central DCCs are functioning in all three shifts and the load management is also being done accordingly. However, despite constant persuasion from SLDC, the West DISCOM has not taken up the load management functions. It was apprised to the Committee that the MPERC has implemented the Balancing & Settlement code in the state from 1st November 2009 and all three DISCOMs have come under intrastate ABT regime. Under this situation it is the prime responsibility of each DISCOM to comply with the Balancing and Settlement code. The load management function by West DCC is a mandatory requirement. The OSD, SLDC has informed the committee that matter has already been apprised to Secretary (Energy), GoMP, Bhopal and if West DCC does not take up the load management work, SLDC shall have to inform the MPERC.

The West Discom representative was asked to give the commitment to the Committee to start performing the load management function in all three shifts, he has not given any commitment for the same.

6.2 PREPAREDNESS OF MPPGCL FOR IMPLEMENTATION OF BALANCING & SETTLEMENT CODE -

The MPERC has implemented the Balancing & Settlement code in the state from 1st November 2009. The matter of establishing full fledged ABT monitoring cells at thermal power stations and providing adequate communication facility at thermal and hydel power stations has been discussed in the last two OCC Meetings. The MPPGCL was asked to give the progress of establishing the ABT monitoring cells at thermal power stations as the SLDC has to submit the report to MPERC in this regard.

Member representative of GCC has given their commitment for proper functioning of ABT monitoring Cells at Thermal Power Stations and Hydel Stations.

ITEM NO 7 : SCADA/EMS RELATED ISSUES :

7.1 PROGRESS OF INSTALLATION OF NEW RTUS ALONG WITH PLCC DATA LINKS AT EHV S/S :

The SE o/o ED (T&P-PMU), MPPTCL has informed that the demonstration of RTUs has been given by the bidders with SLDC SCADA system. He further informed that price bid opening for RTU's would be done in 1st week of Dec'09 and tender notification for PLCC equipment shall be issued in Dec'09.

7.2 MAINTENANCE OF TELEMETERING EQUIPMENTS AT EHV STATIONS AND POWER STATIONS :

It has been informed by MPPGCL that the offer for AMC of Remote Terminal Units has been received and is under process. M/s. HAIL has also submitted the AMC offer to MPPTCL. The MPPTCL and MPPGCL have been requested to finalise the maintenance planning of RTUs within the reasonable time period. The progress in this regard shall be reviewed in the next OCC meeting.

GCC representatives have also informed that site coordinators at Power Stations for maintaining RTUs has been communicated to SLDC. The list of site coordinators for most of the RTU sites in

MPPTCL has been received. MPPTCL has agreed to inform to SLDC the site coordinators for remaining RTU locations.

7.3 DISCREPANCY IN TELEMETERED VALUES RECEIVED FROM DIFFERENT EHV S/S & POWER STATIONS :-

Some of the telemetered values do not match with the actual real time values at Power Stations & EHV Substations which was brought to the notice of the concerned officials from time to time by SLDC and a list of faulty telemetered values/process connections was also detailed in annexure-7.3(i) & 7.3(ii) of the agenda of 17th OCC meeting.

The Committee has been apprised that though few of the field offices have action for restoration of some of the parameters, many telemetered values are still not received correctly in SCADA system and some of the processes are not extended to the RTUs. The SLDC advised MPPTCL & GENCO that site coordinators nominated by respective companies should initiate action on target basis, for which MPPTCL and MPPGCL representatives agreed.

7.4 UPGRADATION OF EXISTING RTUS :-

It has been informed by Member Secretary, OCC that in last two meetings the representatives of T&C, MPPTCL had assured to obtain the information from Jabalpur, Satna, Gwalior and Sagar testing circles and information of all testing circles shall be compiled for working out the requirement for upgradation of the existing RTUs., but so far the required information is not available. It was requested that looking to the necessity of system operation in a reliable manner the real time data of new additions to the grid elements is required and MPPTCL may give a deadline for the same. The representatives of T&C, MPPTCL assured to furnish the information within 15 days.

7.5 SHIFTING OF OPGW IN PROPOSED DIVERTED ROUTE FROM 220 KV JABALPUR TO 400 KV SUKHA S/S

The representatives from Planning, MPPTCL has informed that the price bids are opened and it is expected that the material would be received by February 2010.

ITEM NO. 8: OTHER ISSUES :

8.1 GROUP ALLOCATION OF 11/33 KV FEEDERS :

The representative from Power System, MPPTCL pointed out that the proposals for group allocation of new 33 KV feeders are not being received in time from East and West Discoms and in some cases the proposals are not routed through proper administrative channel. The OSD, SLDC have advised the representatives of East and West Discoms that in view of round the clock working of DISCOM control rooms, they may take necessary approval from the competent authority for making group allocation of 33 KV and 11 KV feeders at their end as being done by the Central Discom.

8.2 NHDC RELATED ISSUES :

The representatives from NHPC/Omkareshwar HPS requested to consider their concerns on the following points :

- (i) The energy meters installed on 220 KV OHP-Khandwa line-II are not communicating through RS-485/RS-232 interface due to which remote communication feature could not be enabled and data of the meters not being accessed in Control Room for which the matter is already taken up with MPPTCL in September 2009. The OHP representative requested that MPPTCL may take up this problem for rectification with M/s. Elester-Daman.
- (ii) NHDC vide letter No. 3/J/3/01/9/1165 dated 27-06-2009 had requested MPPTCL for time synchronisation of energy meters installed on transmission lines at OHP with the Global Positioning System and requested to expedite appropriate action in the matter.
- (iii) The energy meters at OSP were installed in 2007 and since then calibration check is not performed. OHP requested for adequate action for calibration of the meters.

The representative from T&C, MPPTCL assured the OHP to take up the matter of meter communication port and GPS time synchronization problem with M/s. Elester, Daman as it may involve additional software support in the energy meters. Regarding calibration of meters, it was informed that as per CEA notification No. 502/70/CEA/DP&D dated 17th March 2006, the testing of the interface is to be done once in five years. The meter may be tested using NABL accredited mobile laboratory or at any accredited laboratory and calibrated if required at manufacturer's works.

- (iv) The NHPC stated that the releases from ISP as submitted in last SSRRC meeting were based on the assumption that sufficient water shall also be released from Bargi reservoir. The releases from Bargi reservoir are just inadequate and hence it would be difficult to maintain 10 daily reservoir levels at ISP unless water releases from Bargi is not increased.

OSD(SLDC) advised MPPGCL to coordinate with Hydel O&M section and GoMP Irrigation Department to work out a solution to the problem.

ITEM No. 9 : DATE AND VENUE OF NEXT OCC MEETING ::

It is proposed to hold 18th meeting of Operation and Coordination Committee of MP on 18th January 2010 at NHDC, Bhopal.

LIST OF PARTICIPANTS OF 17TH OCC MEETING OF MP HELD ON 16.11.09

Sr.No.	Name S/Shri	Desgn.	Company
1	R.P. Sharma	OSD & Chairman, OCC	SLDC, MPPTCL, JBP
2	A.P. Bhairve	Addl.CE	
3	P.A.R. Bende	S.E.(Opn.) & Member Secy., OCC	
4	S.K. Gaikwad	SE(LD:E&T)	
5	Anurag Mishra	EE (ABT)	
6	O.P. Jaiswal	CE(PS)	CE(PS), MPPTCL, JBP
7	S.S. Nigam	SE	
8	R.C.Chakroborty	EE	
9	M.K. Raghuvanshi	AE	CE(T&C), MPPTCL, JBP
10	D.G.Dandvate	SE	
11	Siddharth Pandey	EE	CE(SSD), MPPTCL, JBP
12	A.K. Das	SE	
13	V.K. Naidu	SE	MPPGCL, JBP
14	Subhash Deshpande	EE	
15	Surya Bali	AGM	MPTRADECO,JABALPUR
16	Pradeep Sachan	EE,Sub LDC	Sub LDC, MPPTCL, BHOPAL
17	Shyamji Tiwari	Director (DCC)	MPPKVVCL, JABALPUR
18	Pradeep Goyal	SE (WDLCC)	MPPKVVCL,INDORE
19	S.J. Marathe	AEE	MPMKVVCL, BHOPAL
20	Anurag Seth	Sr, Manager	NHDC LTD, BHOPAL
21	Subhash Pagare	Sr, Manager	Omkareshwar HPS, NHDC
22	Harish K. Sharma	Dy. Manager	
23	Jay Prakash Katiyar	Asstt. Manager (E)	Indirasagar HPS, NHDC

FREQUENCY PARTICULARS

S. No.	Particulars	Sep-09		Oct-09	
1	INTEGRATED OVER AN-HOUR				
1.1	Maximum Frequency	50.24 Hz	Between 02.00 hrs & 03.00 Hrs on 04.09.09	50.26 Hz	Between 10.00 hrs & 11.00 Hrs on 04.10.09
1.2	Minimum Frequency	48.93 Hz	Between 22.00 hrs & 23.00 Hrs on 26.09.09	48.92 Hz	Between 05.00 hrs & 06.00 Hrs on 01.10.09
1.3	Average Frequency	49.59 Hz		49.66 Hz	
2	INSTANTANEOUS FREQUENCY				
2.1	Maximum Frequency	50.49 Hz	AT 00.04 HRS ON 18.09.09	50.5 Hz	AT 08.07 HRS ON 19.10.09
2.2	Minimum Frequency	48.65 Hz	AT 21.35 HRS ON 29.09.09	48.7 Hz	AT 05.46 HRS ON 01.10.09

3 Percentage of time when frequency was :-

		Sep-09	Oct-09
3.1	Below 48.5 Hz	0.00	0
3.2	Between 48.50 Hz and 48.8 Hz	0.37	0.07
3.3	Between 48.80 Hz and 49.2 Hz	15.93	4.96
3.4	Between 49.20 Hz and 49.5 Hz	23.79	23.21
3.5	Between 49.50 Hz and 49.8 Hz	28.41	41.68
3.6	Between 49.80 Hz and 50.2 Hz	29.29	28.63
3.7	Between 50.20 Hz and 50.3 Hz	1.70	1.15
3.8	Between 50.30 Hz and 51.0 Hz	0.51	0.3
3.9	Above 51.0 Hz	0.00	0
4.1	No. of times frequency touched 48.80 Hz	481	155
4.2	No. of times frequency touched 48.60 Hz	0	0
4.3	No. of times frequency touched 51.0 Hz	0	0

Discoms wise Average Supply Hours

PARTICULARS	East Zone		Central Zone		West Zone		MP	
	Sep-09	Oct-09	Sep-09	Oct-09	Sep-09	Oct-09	Sep-09	Oct-09
Commissinary HQ	23:23	23:40	23:30	23:45	23:23	23:45	23:42	23:25
District HQ	22:22	22:23	22:32	23:25	21:47	22:10	22:38	22:12
Tehsil HQ	17:55	16:09	18:37	17:07	17:49	17:56	16:58	18:08
Rural -3Phase	8:24	9:52	8:26	10:19	8:01	8:53	9:45	8:19
Rural -1Phase	7:27	3:19	7:39	3:33	7:44	3:39	3:30	7:36
Total Rural	15:51	13:11	16:05	13:52	15:45	12:32	13:15	15:55

Anticipated Average Availability at MP Periphery: 2009-10

Figures in MW

Particulars	Oct-09					Nov-09					Dec-09				
	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-5)	1674	1674	1674	1674	1245	1920	1920	1920	1920	1382	1957	1957	1957	1957	1456
Hydel	240	60	30	480	151	240	110	40	410	144	240	70	20	475	150
CSS	1606	1606	1606	1606	1195	1581	1581	1581	1581	1139	1530	1530	1530	1530	1138
ISP	500	330	230	430	277	590	100	100	600	250	550	100	100	600	251
SSP	200	150	150	450	177	200	150	100	450	162	200	110	110	450	162
Omkareshwar	150	150	150	200	121	130	100	100	300	113	100	150	150	200	112
DVC	75	75	75	75	56	75	75	75	75	54	75	75	75	75	56
Total	4445	4045	3915	4915	3221	4736	4036	3916	5336	3245	4652	3992	3942	5287	3324
Avg Unres. Demand	5200	5000	5000	5800		6500	6300	6000	7000		6600	6500	6200	7100	
Particulars	Jan-10					Feb-10					Mar-10				
	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-5)	1993	1993	1993	1993	1483	1975	1975	1975	1975	1327	1975	1975	1975	1975	1469
Hydel	30	0	10	420	86	0	0	10	330	57	0	0	10	310	60
CSS	1651	1651	1651	1651	1228	1567	1567	1567	1567	1053	1646	1646	1646	1646	1225
ISP	500	0	0	580	201	500	140	0	400	175	200	150	150	150	121
SSP	200	30	30	450	132	200	30	0	450	114	170	0	0	250	78
Omkareshwar	100	90	90	200	89	130	50	50	230	77	90	50	50	100	54
DVC	75	75	75	75	56	75	75	75	75	50	75	75	75	75	56
Total	4549	3839	3849	5369	3275	4447	3837	3677	5027	2854	4156	3896	3906	4506	3062
Avg Unres. Demand	6400	6300	5900	6900		5800	5700	5400	6400		5200	5000	4800	5800	

Basis of Anticipated Availability for 2009-2010

- 1 Central Sector :- Computed on the basis of EX-Bus Generation Availability (Excluding Auxiliary Cons.) furnished by WRPC & deducting WR Losses (4%)
- 2 Thermal :- As furnished by O&M : Generation, MPPGCL. & excluding Aux. Cons.
- 3 Hydel :- As per actual Availability of Water
- 4 ISP,OSP and SSP : As furnished by NHDC
- 5 DVC : Considering Availability of two units i.e. unit 5 & 6 as informed by MP Tradeco.
- 6 Lanco Amarkantak : not Considered as informed by MP Tradeco