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No.07-05/SG-9B-II/882 Jabalpur, dated 21-03-2013

To

As per distribution list

Sub: Minutes of 32nd meeting of Operation and Coordination Committee of MP.

Please find enclosed herewith the Minutes of 32nd meeting of the Operation and Coordination Committee of MP held **on 18th February 2013 at 11.00 AM** at **State Load Despatch Centre, Jabalpur.** The Minutes is also available on the website of SLDC 'www.sldcmpindia.com'.

(K.K.Prabhakar)
Member Secretary, OCC
S. E. (LD), SLDC
MPPTCL, Jabalpur

Encl : As above.

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MINUTES OF 32ND MEETING OF OPERATION & COORDINATION COMMITTEE OF MP HELD ON 18TH FEBRUARY 2013 AT 11.00 AM AT STATE LOAD DESPATCH CENTRE, JABALPUR

32nd meeting of Operation & Co-ordination Committee of MP was held on 18TH February 2013 at SLDC, MPPTCL, Jabalpur. The list of participants is enclosed at Annexure-1.0.

The meeting commenced with welcoming the participants in the meeting by Shri P.A.R.Bende, Chief Engineer (SLDC) & Chairman OCC. He stated that system frequency never gone below 49.0 Hz during the months December 2012 and January 2013. As per new criteria followed by WRLDC for system operation, over drawl / under drawl beyond 150 MW is not allowed irrespective of system frequency. The frequency prevailed around 50.0 Hz during most of the time in the month of December 2012 and January 2013. He further informed that the percentage of time frequency below 49.7 Hz was 4.39% and 4.63% during December 2012 and January 2013, respectively, and the percentage of time frequency above 50.2 Hz was 11.51% and 14.42% for the same period. He stated that after the twin blackouts on 30.07.2012 and 31.07.2012, it is observed that large quantum of over drawal / under drawl by the constituents irrespective of the system frequency would be major threat to the reliability and security of grid. During December 2012 and January 2013 the frequency remained in the IEGC recommended frequency band i.e. 49.7 Hz to 50.2 Hz for more than 80% of the time.

He also stated that the average frequency during the stipulated period was around 50.0 Hz. The SLDC has issued 65 to 75 messages to DISCOMs to restrict over drawal at frequency below 49.7 Hz and though on many occasions DISCOMs take actions the expected results are not seen.

He intimated that due to wide spread rains in the state during last few days the system demand of the state crashed drastically. There have been surplus power in the state and MP SLDC has to curtail its requisition in the ISGS, SSGS and even some units of thermal power stations were taken out of the bar and also generation from hydel power stations minimized. SLDC has been following merit order while surrendering its share in ISGS or revising generation schedule of thermal generators of SSGS. DISCOMs have been requested repeatedly for normalization of all types of load shedding including that from 11 KV level. It is observed that DISCOMs have not completely followed the instructions. This situation is not conclusive for reliable and safe operation and maintenance of grid security.

He stated that the voltage profile in the state grid is on higher side. There is acute problem of high voltage at some of the pockets in the state grid. This situation has arisen due to inadequate reactive compensation at some locations and lightly loading of some lines. This results in opening of some important transmission lines which affects the security of the integrated grid. He requested STU (MPPTCL) for carrying out study for identifying the locations for providing reactive compensation to arrest high voltage problem.

The Chairman, OCC further informed that as per the decision taken in 21st WRPC meeting held in Raipur on 9.11.2012, WRLDC has convened a meeting on 29th November 2012 to formulate / discuss an Action Plan for implementing recommendations of Grid Disturbance (30th & 31st July 2012) Enquiry Committee. Apart from various recommendations, it is decided to prepare Islanding Scheme for major cities of MP with nearby generating stations. MP SLDC has taken initiative to form Islanding Scheme of

Bhopal Town with Unit No.1 of Jaypee Bina TPS. Regarding u/f relays setting the quantum of relief given by the MPPTCL, SLDC had requested to furnish the details of feeder wise list in last meeting. He requested MPPTCL to furnish requisite information within 2-3 days, so that a meeting with DISCOMs could be arranged to finalize the under frequency plan.

Regulation 5.4.2 (d) of IEGC 2010 stipulates necessity to formulate and implement state of the art demand management schemes for automatic demand management to restrict over drawal at low frequency. WRLDC has filed a petition No. 264/2012 before the CERC in the matter of Maintaining security of the inter-connected power system of India in terms of Regulations 5.2 of the Central Electricity Regulatory Commission (Indian Electricity grid code) Regulations, 2010 and compliance of Regulations 5.4.2 and 6.4.8 of the Grid Code. SLDC has prepared Automatic Demand Management Scheme and submitted to DISCOMs for consideration and implementation.

Thereafter, Chairman, OCC requested Shri K.K Parbhakar, Member Secretary (OCC) to take up the agenda items for discussion**.**

ITEM NO. 1 : CONFIRMATION OF MINUTES : Member Secretary, OCC stated that minutes of 31st meeting of Operation & coordination committee of MP held on 18.12.2012 at Hotel Narmada Jackson, Civil Lines, Jabalpur were forwarded to the committee members vide No**.** 07-05/SG-9B-II/256 dated 23.01.2013**.** No comments have been received from the members. The minutes of the 31st meeting of Operation & coordination committee of MP have been confirmed by the Committee**.**

ITEM NO. 2 : REVIEW OF SYSTEM OPERATION DURING THE MONTHS DECEMBER 2012 TO JANUARY 2013.0

2.1 Frequency Particulars : Member Secretary, OCC stated that during January 2013 the system frequency was below 49.7 Hz for 4.63% of time against 4.39% of time during December 2013. The system frequency was within the IEGC range of 49.7-50.2 Hz for 80.95 % of the time against 84.10 % of time during December 2012. The average monthly frequency was 50.01 Hz during January 2013 and 50.00 Hz in December 2012. Regarding operation in high frequency range, frequency during the month of January 2013 was above 50.20 Hz for 14.42% of time against 11.51% of time during December 2012. The system frequency did not touched 48.8 Hz during the above period.

The detailed frequency particulars for the month of December 2012 and January 2013 are enclosed at **Annexure-2.1**. The brief details of frequency profile is given here under :

Month	Average frequency	minimum integrated frequency over an hour	maximum integrated frequency over an hour	Instantaneous minimum frequency	Instantaneous maximum frequency
Dec 2012	50.00 Hz	49.64 Hz	50.44 Hz	49.25 Hz	50.63 Hz
Jan 2013	50.01 Hz	49.60 Hz	50.63 Hz	49.30 Hz	50.78 Hz

2.2 Operational Matters

2.2.1 Operational Discipline : Member Secretary, OCC stated that system operated in terms of frequency profile for the months December 2012 and January 2013 is as given below for discussion by the committee :

Month	% of time Frequency Below 49.7 Hz	% of time Frequency above 50. 2 Hz	% of time frequency within the permissible range of 49.7-50.2 Hz	Average monthly frequency	No. of times frequency dipped below 48.8 Hz
Dec 2012	4.39 %	11.51%	84.10%	50.00 Hz	0
Jan 2013	4.63 %	14.42%	80.95%	50.01 Hz	0

Member Secretary, OCC presented the 15 minutes average frequency graph for the month of December 2012 and January 2013. He also presented the Discom wise Hourly Average Schedule vs Actual Drawal along with hourly average frequency for month of December 2012 and January 2013. He informed the committee that it can be seen from the graph that the frequency was almost on higher side particularly during night hours. He further informed that the schedule drawl and actual drawl of MP is almost same for December 2012 and January 2013.

2.2.2 Messages for drawal curtailment : Member Secretary, OCC stated that the total number of messages of significant violation of IEGC by the DISCOMs by overdrawing at frequency below 49.7 Hz is as given hereunder:

MONTH	East Discom	Central Discom	West Discom	Total
Dec 2012	15	18	41	74
Jan 2013	16	19	30	65

2.3.1 Voltage Profile : Member Secretary, OCC stated that date wise voltage profile at some of the important 400 KV and 220 KV substations during the months December 2012 and January 2013 is enclosed at **Annexure -2.3.1.**

During the months December 2012 and January 2013, 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	DECEMBER 2012				JANUARY 2013			
		Max. Voltage observed		Min. Voltage observed		Max. Voltage observed		Min. Voltage observed	
		Voltage	Date	Voltage	Date	Voltage	Date	Voltage	Date
1	Indore	426	01,02.12.12	---	---	428	08.01.13	---	---
2	Itarsi	426	02.12.12	---	---	427	17.01.13	---	---
3	Bina	428	12.12.12	---	---	429	17.01.13	---	---
4	Gwalior	431	24.12.12	---	---	436	18.01.13	---	---
5	Nagda	427	20,25.12.12	---	---	429	07.01.13	---	---
6	Khandwa	435	10.12.12	---	---	433	17.01.13	---	---
6	Satpura	428	24.12.12	---	---	427	2,3.01.13	---	---
7	Birsingpur	428	18,19.12.12	---	---	430	07.01.13	---	---
8	ISP	431	2,17.12.12	---	---	432	3,7,17,22.01.13	---	---

2.3.2 Status of Capacitor Banks in sub-transmission system : Member Secretary, OCC informed the updated information of the status of capacitor banks in sub-transmission system as on 31st January 2013 as submitted by DISCOMs is 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	735	509	28	96	--	225	38	46	52	57	101	82
CZ	8	721	3	34	-	24	3	16	0	588	0	373
EZ	399	159	5	01	-	94	37	6	--	--	--	--

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	1051.8	810.9	430.2
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.	1161.5	853.5	444.2
4	MVAR capacity of connected capacitors covered under ADV T-V Scheme.	99.6	555	Nil
5	Grand total MVAR of capacitors including that are proposed in ADB T-V scheme	1260.9	1408.5	Nil

Member secretary informed the committee that there is no change in the status of capacitor banks as compared to last OCC meeting and only 5 number capacitor banks of 1200 KVAR is increased in West Discom. Chairman, OCC requested the DISCOM to ensure to keep all the capacitors banks in service before next rabi season. He further informed that it is very much necessary as the DISCOMs have to give 24 hours supply to all domestic households from the near future.

2.3.3 Status of Shunt Capacitor Banks installed at various EHV Transmission Substation : Member secretary informed the committee that the updated information of the status of Installed capacitor banks(in MVAR) in EHV transmission system as on 30th November 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**		**---**	**---**	**---**	**-**
Total	**404 nos / 4563.34 MVAR**		**---**	**---**	**---**	

The proposed line reactors/ bus reactors at coming up 400 KV substations and in the existing substations shall be furnished by MPPTCL along with schedule date of commissioning.

2.4.1 Status of completion of on going Transmission Schemes being executed by MPPTCL : Member secretary informed the committee the latest status of completion of various ongoing Transmission Schemes for the current financial year i.e. Year 2012-2013 upto 31.01.2013 as submitted by MPPTCL is enclosed as annexure **2.4.1**.

Chairman OCC requested the MPPTCL to furnish the updated status of completion of on going Transmission Schemes to SLDC by 2nd of each month so that the same is to be forwarded to WRPC for OCC meeting. Member Secretary requested MPPTCL to submit the list of various ongoing scheme for the year 2013-14 in the next meeting.

2.4.2 U/F and df/dt Relay Operation

(i) **U/F and df/dt Relay Operation:** Member secretary informed the committee that the frequency did not touch 48.80 Hz during December 2012 to January 2013.

(ii) **Defective u/f, df/dt relays:** Member secretary stated that the MPPTCL has informed that there are no defective u/f and df/dt relays.

(iii) **Review of df/dt and Under Frequency Relay:** Member secretary informed the committee that in the last OCC meeting, Chairman OCC stated that one of the recommendations of enquiry committee was to review the df/dt and under frequency relays. Provision of df/dt relays has already been reviewed by MPPTCL and the new plan as per WRPC guide lines has been implemented. The new plan for Company-wise District-wise scheme for under frequency relays for all 7 days was also submitted by MPPTCL. The Chairman OCC requested the MPPTCL to submit the information/data i.e. feeder wise details of under frequency relays along with monthly average load of the feeders, so that under frequency plan could be finalized by conducting a meeting with STU and DISCOMs. MPPTCL agreed to submit the same within 3 days but the same is yet to be received.

He further stated that MPPTCL should ensure that all the under frequency relay are in operating condition and should not be block in any condition. SLDC may surprisingly check the df/dt and under frequency relays by visiting any sub-station.

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

(i) Member secretary informed the committee the details of DISCOM wise Power supply given to various domestic categories during the period December 2012 and January 2013 which is detailed in **Annexure 2.5(i).**

(ii) **Group Allocation to Newly Commissioned existing EHV substations :-** Member secretary informed the committee that as per information submitted by CE (Plng. & Design), the region wise list of 33 KV feeders emanating from various newly commissioned/existing EHV substations for which groups have not been allocated is given in **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	04

03		Rewa	16
04		**Total**	**23**
05	WEST	Indore	01
06		Ujjain	00
07		**Total**	**01**
08	CENTRAL	Bhopal	07
09		Gwalior	06
10		**Total**	**13**
TOTAL		**Grand Total**	**37**

Discoms are requested to furnish the details as per list enclosed at annexure-2.5(ii)

ITEM NO. 3 : OPERATIONAL PLANNNING

3.1 Generating Units under planned outage and proposed maintenance programme : Member secretary informed the committee that all the planned outages of MPPGCL units was completed upto Oct 2012 and that there was no planned outage during the period under review.

3.2 Proposed shutdown programme of Transmission lines / Transformers : Member secretary informed the committee regarding proposed shutdown of transmission elements for the period 01.02.2013 to 31.03.2013 is submitted by MPPTCL.

3.3 Long Outages of transmission elements and protections : Member secretary informed the committee that the transmission elements as detailed below are under long outages :

SN	Line/Transformer/Breaker/ Reactor etc under long outage	Outage date	Reason	Response from Utility
1	63MVAR Bus-I Reactor at Satpura TPS	24.05.2005	Damage of all three limbs along with reactor tank	Material received. Installation and commissioning in bay no.17 shall be completed along with switchyard of unit # 10 & 11, Expected by April-May 2013.
2	Bus bar Differential protection scheme at Amarkantak TPS	Since installation	Not commissioned.	M/s ABB submitted offer. Under process.
3	220 KV Bus bar protection scheme at SGTPS Birsinghpur	Since commissioning of 220 KV switch yard	The scheme not available	One offer is received. Under process.
04	220 KV Bus bar differential protection at TONS HPS	Since commissioning	Not mentioned	New Scheme with digital relays is required to be procured & commissioned. Proposal under process.
05	400KV Main Bkr of Satpura-ISP Line	04.08.2012	Due to Lock out cable broken.	No comments received from MPPGCL.

Member secretary OCC requested MPPGCL to commission 63 MVAR Bus-I reactor as per plan submitted. In response MPPGCL informed the committee that the 63 MVAR Bus-I reactor shall be commissioned in April-May 2013.

ITEM NO. 4 : OPERATIONAL STATISTICS FOR THE MONTH OF Dec. 2012 and Jan. 2013 : The details of actual generation, Schedule from Central Sector demand etc. 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 DECEMBER 2012 TO JANUARY 2013 : Member secretary informed the committee that there was no major grid disturbance in MP during December 2012. However the Grid Disturbance occurred in January 2013 are give in **Annexure 5.0**.

Chairman OCC stated that the reports of grid disturbances are not being submitted by the entities as per timelines defined in IEGC. The flash report should be submitted immediately after the occurrence and detailed report should be submitted within 24 hours of the occurrence. SLDC has to make continuous persuasion for obtaining detailed tripping report of occurrence. He further informed that the restoration timings of occurrence at 220 KV S/s, Pithampur appears to be manipulated by the Substation staff as the same do not match with the timings recorded in the SCADA. He further informed that there was considerable delay in restoration of supply at 220 KV sub-station, Pithampur and restoration was done by Pithampur sub-station without obtaining code from SLDC. Chairman OCC stated that the flash report of occurrence shall be prepared by SLDC on the basis of timing recorded in SCADA for submission to WRPC and WRLDC, as the same is not submitted to the SLDC by the entities in time. He further pointed out that after recent blackout at 220 KV Jabalpur substation, no staff was available in substation and SLDC C/R had to take paints to know the exact cause of tripping. He suggested that in case of major fire/accident in switchyard at least one operator should be available in substation CR to take directives from SLDC and in any case the restoration bypassing the SLDC should be avoided.

ITEM NO. 6.0 : <u>OTHER IMPORTATNT OPERATIONAL ISSUES</u>

6.1 Load Curtailment Planning: Member secretary informed the committee that Clause 5.4.2 (3) of IEGC stipulates that in order to maintain the frequency within the stipulated band and maintaining the network security, the interruptible loads shall be arranged in four groups of loads, for scheduled power cuts/ load shedding, loads for unscheduled load shedding, loads to be shed through under frequency relays/ df/dt relays and loads to be shed under any system protection schemes identified at the RPC level. These loads shall be grouped in such a manner, that there is no overlapping between different groups of loads. In case of certain contingencies and / or threat to system security, the SLDC may direct Distribution Licensee to decrease drawal by a certain quantum. Such direction shall be immediately acted upon.

Member Secretary informed the committee that as per CERC instruction the feeder for schedule & unscheduled load shedding, under frequency plan, df/dt and feeder for SPS protection should be identified by the concerned utilities.

6.2 Sudden changes in schedule and actual drawal (>100 MW): Member secretary informed the committee that large fluctuations have been observed in the grid parameters such as frequency, voltage and line loadings on account of sudden changes greater than 100 MW in schedule and actual drawal (>100 MW) especially at the hour boundary. IEGC Regulation 5.2 (j) mandates that no user/SEB shall cause a sudden variation in its generation/ load by more than one hundred (100) MW without prior intimation and consent of the RLDC.

DISCOMs are advised to avoid large variation in their drawal at the hour boundaries and MPPMCL may also suitably adjust the power trading to avoid sudden variation.

Member secretary informed the committee that WRLDC has filed a petition No. 264/2012 before the CERC and such sudden variations (> 100 MW) by the constituents have been specifically mentioned in the petition. He further requested that the DISCOMs and Generating stations should avoid such large fluctuations.

6.3 Outage Programme of Transmission Lines /elements in OCCM of WRPC : Member secretary informed the committee that the outage programme of Inter-state lines for the next month is to be approved by the OCC of WRPC to be held in the current month. SE (Opn.) WRPC informed in the 443rd OCCM that since short term market clearance depends on available transmission capacity and is cleared on day ahead basis, there was a need for better planning. In this regard WRPC intimated that following procedure shall be implemented:

(A) All utilities shall confirm on D-2 about readiness to avail outages (where D is date of outage).

(B) WRLDC shall issue code in real time within10 minutes either the code to avail or cancel depending on real time conditions.

(C) All utilities that do not confirm by D-2, those outages shall be deemed cancelled.

Chairman OCC stated that the outage approved by OCC,WRPC, the utilities should confirm the readiness to avail the shut down before 2 days from the date of Shutdown. In absence of the above information, those outages shall be deemed treated as cancelled**.** Therefore all the utilities are requested to furnish the readiness to avail the outages to SLDC in time so that the same could be forwarded to WRLDC. Member secretary informed the committee that this procedure is necessary for calculating the region wise TTC/ATC calculation by RLDC/NLDC. The region wise TTC/ATC shall be calculated by NLDC/RLDC one day in advance before the outage planning of feeder. He further informed the committee that SLDC had already intimated MPPTCL, MPPGCL and NHDC in this regard.

6.4 Frequent mal operation of overvoltage protection at Indira Sagar HPS : 400 KV ckts emanating from Indira Sagar are tripping frequently on over voltage since 19th January 2013. It has been observed that 400 KV Satpura- Indira Sagar trips very often on over voltage stage-I (Main –I & Main –II) from ISP end. The frequent tripping of 400 KV lines at ISP making the state grid vulnerable and the threat to the grid persists.

It has been observed that 400 KV ISP- Satpura line trips on over voltage prior to other 400 KV lines emanating from ISP having less over voltage and time delay settings. The protection settings need to be checked by ISP for avoiding tripping on mal-operation.

Member Secretary informed the committee that during twin system disturbances also, only 400 KV ISP-Satpura line tripped in MP on both the occasion except trippings of Gwalior area. He further stated that the problem was already there and now it has become severe.

Chairman, OCC informed that NHDC has changed protection settings of 400 KV ISP-Satpura line at Indira Sagar HPS. He requested NHDC to confirm that these revised settings are not harmful to the healthiness of the equipments. SLDC has already requested NHDC that the above settings were on temporary basis and has to be restores to original after rectification of the fault. Chairman OCC requested STU (MPPTCL) to study the requirement of reactive compensation on ISP-Satpura, ISP-Nagda feeder. He also requested STU to examine the necessity of bus reactor at Indira Sagar.

6.5 Change of CT ratio of all feeders at Omkareshwar Hydel Power Station:- Member Secretary informed the committee that CT of two feeders i.e. Nimrani and Barwaha at Omkareshwar have been changed to 800/1 Amp. He requested the NHDC to change the CT in remaining three feeders also. MPPTCL representative presented his view that CT with ratio 800/1 Amp should be replaced before commissioning of Singaji Thermal Plant and 400 KV Chhegaon Sub Station as the loadings on 220 KV

feeders emanating from OSPshall increase after commissioning of Chhegaon Sub Station. The Member Secretary OCC requested the Omareskwar HPS to furnish the plan for replacement of CT of remaining three feeders. Omkareshwar representative ensured to furnish the same at the earliest.

Omkareshwar representative informed the committee that looking to present loadings it is not required to change the CTs. Chairman OCC stated that as per technical requirement of the grid, the CTs should be replaced by the Omkareshwar HPS. Omkareshwar representative informed the committee that they shall replace the CTs of remaining three feeders by the end of August 2013.

6.6 Charging of 400 KV feeders at Satpura TPS through back feed from Remote 400 KV switchyards:- Member Secretary informed the committee that it has been noticed that shifting of 400 KV feeders from main bus to transfer bus is being done by switching off the feeders at 400 KV Satpura and back charging of the bus from remote end. Generally transfer of any feeder from main bus to transfer bus is done on line.

Chairman OCC stated that all four feeders emanating from Satpura Power house are connected to major power stations / substation. WRLDC will not give permission for back charging in future looking to the safety / security of other end sub-station or power station and now onwards back charging permission shall not been granted by SLDC.

ITEM NO. 7 : <u>BLACK-START MOCK DRILL OF HYDEL POWER STATIONS :</u>

7.1 Black Start mock drill at Gandhisagar HPS: Member Secretary informed the committee that the Black Start Mock Drill of Gandhisagar HPS was successfully carried out on 28th December 2012. An island was created by separating out machine No.4 of Gandhisagar HPS with radial load of 132 KV sub-station, Garoth. The results of black start exercise had been quite satisfactory. The restoration of supply to Garoth area post black out took about 17 min. The voltage, frequency and other electrical parameters were within operational limits during the blackout exercise. The frequency of the island remained close to 50.0HZ which shows that machine is perfectly working in manual governor mode.

Chairman OCC informed the committee that black start mock drill of Gandhisagar HPS was successful. He further informed the committee that after completing black start mock drill in four power station, MP is leading in the Western region with maximum no. of Black Start Mock Drills. He congratulated all the entities particularly MPPGCL and NHDC for carrying out the Black Start Mock Drill.

7.2 Black Start mock drill of Tons HPS: Member Secretary informed the committee that the Black Start Mock Drill of Tons HPS was scheduled to be performed on 21.11.2012 but could not be completed due to wide variations in frequency and voltage in the islanded area due to problem in turbine governor. The concerned authorities were requested by SLDC to rectify the problem and intimate the next date for Black Start Mock Drill. The confirmation of date is awaited from MP Power Generating Co. Ltd.

MPPGCL representative inform the committee that auto governor mode is ready in unit no.2 of Tons HPS. He further informed that the black start mock drill shall be done after AOH of the units. i.e in the month of June 2013. Member secretary requested that they should inform SLDC regarding readiness and submit the plan of black start at Tons HPS.

7.3 Black Start mock drill of Madikheda, Rajghat & Birsinghpur HPS: Member Secretary informed the committee that the Black Start Mock Drill of Rajghat, Madikheda and Birsinghpur Hydel Power Stations was proposed in the month of January 2013. The MP Power Generating Co. has shown inability to carry out the Black Start Mock Drill at these stations. The MPPGCL representative informed that the Black Start Mock Drill at Madikheda & Rajghat HPSs is not possible due to non-availability of governor in auto mode and also there is single 132 KV bus at these HPS.

Chairman OCC informed the committee that the Birsinghpur hydel station has been set up for remote black start from Sanjay Gandhi Thermal Power Station. This Hydel Power Station now cannot be black started locally due to problem in 220 V DC battery set meant for the start-up supply. MPPGCL informed the committee that the battery set at Birsingpur Hydel Stations is being replaced. Chairman OCC requested MPPGCL to intimate the date of replacement of 220 V DC battery set and readiness of the machine for black start mock drill at the earliest.

Member secretary enquired from the MPPGCL about the working of turbine governor in manual mode at Rajghat and Madikheda. MPPGCL informed that turbine governors are working perfectly in manual mode. Chairman OCC stated that in the black start mock drill at Rajghat and Madikheda Hydel Power Stations, supply could be extended readily to the nearest 132 KV substation and the island formed could be kept operative for about 10–15 minutes. As 132 KV substations connected with these plants have a single bus system and synchronization facilities are not available after black start islands are formed, the synchronization with NEW grid will not be tested and the black start exercise will be completed. The island so formed shall be blacked out by tripping the machine and norma restoration will be followed. MPPGCL agreed for mock drill at Rajghat and Madikheda HPS in the month of Mar 2013. The dates of the same may be informed by the MPPGCL.

ITEM NO 8: SOME IMPORTANT MATTERS REQUIRED IMMEDIATE ATTENTION:

8.1 Quarterly Review of Crisis Management Plan: Member Secretary informed the committee that all the entities are requested to submit the CMP report for the third quarter (October 2012 to December 2012) for the year 2012-13.

Chairman OCC informed the committee that report of mock drill exercise of crisis management plan is being submitted by NHDC only. The copy of the same is distributed to the participants with a request to conduct mock drill exercise in line with NHDC and submit the report of CMP to WRPC directly with a copy to SLDC.

8.2 Status of Physical & Cyber Security in Power Sector regarding : Member Secretary informed the committee the status of physical & cyber security in Power Sector for the third quarter (October 2012to December 2012) have not been received from any of the constituents. All the entities may furnish the Status of physical & cyber security in Power Sector for the third quarter (October 2012 to December 2012 directly to the Chief Engineer (GM), CEA New Delhi under intimation to SLDC Jabalpur and WRPC Mumbai.

Chairman OCC informed the committee member that the SLDC has conducted the cyber security audit. After completion of audit, SLDC will take up necessary action as per the recommendations of audit. Member Secretary OCC requested all the entities to submit the report detailing the action taken on cyber security within specified time to WPRC with a copy to SLDC.

8.3 Absorption of reactive power by generators:- Member Secretary informed the committee that based on the discussions held during last OCC meeting of WR, it is imperative that generators will absorb MVAR when asked by SCM/Shift Incharge, WRLDC/SLDC. It is requested that data of reactive power absorption, voltage of the bus before and after receipt of the message given by WRLDC/SLDC, may be furnished to SLDC for onward submission in OCC of WRPC.

Member secretary stated that SLDC shall instruct Sarni Thermal Power house and Indira Sagar any time to absorb the reactive power whenever asked by WRLDC. The MPPGCL and ISP should comply the same and submit the report to SLDC indicating the quantum of reactive power absorbed as per instruction of SLDC. Member Secretary further stated that the generator should support the system by generating / absorbing MVAR within their capability curve.

ITEM NO 9: <u>OTHER OPERATIONAL ISSUES :</u>

9.1 Standard Operating Procedure for DCCs : Member Secretary informed the committee the Standard Operating Procedures for Distribution Control Centres has been implemented w.e.f 01.05.2012 by the DCCs. The DISCOMs have furnished the activity wise updated status which is enclosed at **Annexure 9.1**.

Member secretary OCC informed the committee that almost all the activities has been completed by the DISCOMs and need not required to monitor the same from next OCC meeting.

9.2 RGMO status of generating units in WR :- Member Secretary informed the committee that RGMO feature is not available in any of the eligible units of MPPGCL Thermal and Hydel Stations. The RGMO in SGTPS # 5 is also not functioning. Thus primary response from these machines is not available. JP Bina TPS may also intimate the time limit to implement the RGMO in their unit.

9.3 Action on the recommendations of the Enquiry Committee formed by MoP on Grid Disturbances on 30th & 31st July 2012 : Member Secretary informed the committee that a meeting was organized at SLDC, Jabalpur on 22.11.2012 to discuss and decide the action to be taken on the recommendations of the Enquiry Committee formed by MoP GoI on grid disturbances in the Northern Region on 30th & 31st July 2012. As per recommendations of the Enquiry Committee all the participants have to carryout the Protection Audit through third party in a time bound manner within a year (i.e. by August 2013 end). This exercise shall be repeated periodically and the same shall be monitored by SLDC / WRPC. In the meeting it was decided that till the third party audit is carried out, a group "Internal Protection Audit" shall be formed through a committee constituted with Engineers from SLDC, MPPTCL, MPPGCL & NHDC. Accordingly a Committee has been formed for conducting Internal Protection Audit of major substations and power station. The Internal Protection Audit Committee shall review all the protection schemes of power houses and other sub-stations as per guidelines of the Central Board of Irrigation and Power (CBIP) and WRPC. In the first phase, all the 400 KV sub-stations of MPPTCL and thermal power stations including IPPs, Tons, ISP & OSP Hydel Power Stations shall be covered. The Internal Protection Audit of 220 KV sub-stations of MPPTCL and remaining power stations shall be done in the second phase.

Member Secretary informed the committee that the internal protection audit by the Audit Team constituted by SLDC is in progress and will complete by March 2013. Chairman OCC stated that in the next phase starting from April 2013, remaining hydel power stations and substations connected with power stations/ JV/IPP/CTU/interstate network shall be covered.

Chairman OCC intimated that the Maharashtra and Gujarat have already placed order for conducting third party audit in their states. He further requested all the entities to carry out the third party protection audit at the earliest as recommended by the Enquiry Committee. He further informed that during internal protection audit, some discrepancies have been found which should be rectified. He requested that this should be rectified. He further informed that MoP had not mentioned voltage level upto which the protection audit has to be carried out and thus Protection audit has to be done in each substation and power station of MP.

9.4 Petition filed by POSOCO in the matter of `Maintaining security of the interconnected power system of India – Member Secretary informed the committee that the Western Regional Load Despatch Centre, POSOCO has filed a petition before the Central Electricity Regulatory Commission on 5th December 2012 in the matter of "Maintaining security of the interconnected power system of

India in terms of regulation 5.2 of the Indian Electricity Grid Code and compliance of regulation 5.4.2 and 6.4.8 of the IEGC read along with regulation 111 of the CERC (Conduct of Business) regulations, 1999". In the petition the POSOCO has made a prayer that the Hon'ble Commission may –

a. Direct all the STUs/SLDCs of the Western Region to forecast their demand and make adequate arrangements to avoid dependence on Unscheduled Interchange for meeting their demand or for injecting short term surplus power irrespective of the frequency.

b. Direct all the STUs/SLDCs of the Western Region to implement automatic demand disconnection scheme as mandated in the regulation 5.4.2 (d) of the IEGC and submit the details of the same to CERC/RPCs/RLDCs.

c. Direct all the STUs/SLDCs/Regional Entities of the Western Region to comply with Regulation 5.2 (j) of the IEGC.

d. Direct all the STUs/SLDCs of the Western Region to given their inputs to implement the Grid Security Expert System and direct the WRPC secretariat should actively associate themselves in getting these schemes implemented in terms of NLDC letter ref. POSOCO/NLDC dated 11th September 2012 to Member GO&D.

9.5 Implementation of Automatic Demand Management Scheme (IEGC 5.4): Member Secretary informed the committee that the Clause 5.4 (d) of grid code provides for formulation and implementation of state-of-the-art demand management schemes for automatic demand management like rotational load shedding, demand response (which may include lower tariff for interruptible loads) etc. by each SLDC through respective State Electricity Boards/ Distribution Licensees before 01.01.2011 to reduce overdrawal from the grid to maintain the grid at the frequency within IEGC band.

Hon'ble CERC has directed that the Automatic Demand Management Scheme shall be discussed in RPC for technology, coordination and funding. Recommendations / decisions of RPC shall be placed before the Hon'ble Commission for consideration of necessary action. Representatives from the DISCOMs of Madhya Pradesh were also invited to attend the 444th meeting of OCC of WRPC held at Mumbai to discuss the issue of the Scheme.

He also stated that MP SLDC has prepared and submitted to DISCOMs Automatic Demand Management Scheme for consideration and implementation. The Scheme is proposed using Programmable Logic Controllers (PLC) at various 33/11 KV substations connected to Central Master Station at DCC. The DISCOMs have to submit their reply to the CERC on petition No. 264/2012 for implementation of State of Art Automatic Demand Management Scheme.

ITEM NO. 10: AVAILABILITY BASED TARIFF (ABT) RELATED ISSUES:

10.1 Replacement of faulty ABT meters and providing new ABT meters at Sub-stations : Member Secretary enquired about the replacement of 17 Nos. faulty ABT meters and installation of new ABT meters in place of 17 Nos. non-ABT meters installed at various sub stations, the list of which has already been sent to T&C office. In response MPPTCL informed the Committee that instructions have already been issued to concerned SE(T&C) for replacement of faulty ABT meters and installation of new ABT meters in place of Non ABT meters.

Member Secretary also requested the MPPTCL that concerned officials may be instructed for furnishing the updated and verified details of Main Meter / Check ABT meters to SLDC.

10.2 Billing & accounting of Sub-station consumption in Transmission losses during control period 2013-14 to 2015-16: Member Secretary informed the Committee that in accordance with

MPERC (Terms & Conditions of Transmission Tariff) Regulations-2012, the auxiliary consumption at EHV sub-station is to be accounted in State Transmission Losses for the control period 2013-14 to 2015-16. However due to non-availability of ABT meters on station transformers at sub-stations, the UI accounts shall be prepared using conventional energy meter data, as per following procedure-

(i) Discom wise weekly (Monday to Sunday) auxiliary consumption (consolidated) recorded by conventional energy meters shall be furnished by CE (T&C) to SLDC by Tuesday of next week.

(ii) SLDC shall uniformly distribute the total Discom wise weekly auxiliary consumption, in 15 Min. time block for computation of net Discom drawal / UI Accounts.

(iii) The auxiliary consumption computed in step (ii) above shall be subtracted from the Discom Drawal computed through ABT meter data (provided on LV side of 220/132/33 KV transformers) to compute net Discom drawal / UI Accounts.

(iv) Till Automatic Meter Reading System (AMRS) is provided, CE(T&C) shall also furnish the Discom-wise consolidated sub-station auxiliary consumption on monthly basis by 5th of the next month.

Chairman OCC stated that in order to implement the above procedure, (T&C) office shall furnish the Discom wise consolidated figures of sub-station auxiliary consumption on weekly basis and also monthly data by 5th of each month from the month of April 2013 for accounting the same in State Transmission Losses and UI computation done by SLDC. He further stated that SLDC will intimate the above procedure to Hon'ble MPERC and shall request the State Commission for suitable amendment in Balancing and Settlement Code 2009.

10.3 Providing updated details of Main and Check meters installed at power-stations : Member Secretary informed that updated and verified ABT meter details of Main Meter and Check meters has been requested from all the Power stations, however the required information has not been received so far. MPPGCL informed the Committee that they have taken up the matter with Power Stations for furnishing the required details.

10.4 Implementation of AMR system at Generating Stations : Member Secretary informed the Committee that MPPGCL is integrating the AMR facility with MIS, but MIS vendor is facing some problem for down loading of .mrd / .rm3 files from ABT meters installed at power stations. He further stated that MPPGCL may ensure implementation of AMR functionality in their coming up MIS system, else may plan implementation of dedicated AMR facility. MPPGCL noted the suggestion.

10.5 Nomination of Nodal officers from Power Stations for providing ABT meter data : Member Secretary stated that fortnightly ABT meter data are not being furnished to SLDC within the stipulated time i.e. before 20th and 5th of each month for the 1st & 2nd fortnight of the month and in the event of erroneous data received by SLDC, the communication is routed through GCC, therefore it is necessary to nominate one nodal officer from each power station. MPPGCL informed that they have requested the Power Stations to nominate one officer from each power station for furnishing the ABT meter data and for communication with SLDC for meter related issues.

10.6 Implementation of Renewable Regulatory Fund mechanism: Member Secretary OCC stated that in accordance with CERC order dated 16.01.2013, the Regulatory Renewable Fund (RRF) mechanism is to be implemented w.e.f. 01.07.2013 and mock exercise for forecasting and scheduling was to be initiated from 1st February 2013. He further stated that the pooling sub-stations commissioned on or after 03.05.2010 and the Wind Generators injecting power 10 MW & above; Solar Generators injecting power 5 MM & above; at 33 KV & above; at such pooling sub-

stations, shall fall under RRF mechanism, accordingly the following activities are to be completed for implementation of RRF –

(i) The renewable generators, falling under purview of RRF mechanism are to be identified by MPPTCL /DISCOMs.
(ii) ABT meters are to be installed at pooling sub-stations by renewable generator. If the renewable generator fails to install ABT meters, STU /CTU shall install the meters at the cost of renewable generators.
(iii) Communication and Telemetry facility is to be provided by renewable generator, from pooling stations to SLDC. In case renewable generator intends to provide communication and telemetry facility through MPPTCL, the modalities for execution of above work may be decided in advance.

The MPPTCL / DISCOMS have assured to identify Wind Farms / Solar Generators falling within the purview of RRF mechanism in their control area and shall furnish the required information to SLDC. The representatives of M/s Enercon India Ltd. has informed that their pooling station sub station 132/33 kV at Ratedi Hills, Phase-III Distt. Dewas was commissioned in June 2008 i.e. much earlier before the cut-off date of 03.05.2010, as such they are out of the purview of forecasting and scheduling and they do not come under RRF mechanism.

10.7 Sealing of ABT meter installed at IPP generating stations: Member Secretary informed the Committee that after completion of installation of modems at BLA and SLDC end, SLDC requested the East Discom and MPPTCL for sealing of ABT meters but none of them has taken initiative for sealing ABT meters installed at the premises of M/s BLA. MPPTCL informed that seals and sealing pliers are not available with T&C office and they have suggested that Discom may seal the meters and witnessing will be done by MPPTCL.

Chairman OCC stated that SLDC will take up the issue with DISCOM officials for providing seals and pliers to MPPTCL for sealing of ABT meters at BLA and at other IPP's.

10.8 Settlement of Power Drawn by Shree Singaji TPP : Member Secretary informed the Committee that 90 MVA Station Transformer ST-1 at Shree Singaji TPP has been test charged on 20.12.2012 by MPPGCL. The power if any drawn through Station Transformer(s) by Shree Singaji TPP upto first synchronization of the unit shall be treated as power drawn from the DISCOM and will be added in the drawl of West DISCOM for computation of UI charges. The Energy Drawn by SSTPP shall be intimated to Central Discom by SLDC for billing to MPPGCL. MPPGCL agreed to furnish the complete fortnightly data of all ABT meters installed at SSTPP to SLDC upto 17th and 3rd of next month.

ITEM NO 11 : SCADA/EMS RELATED ISSUES :

11.1 PROGRESS OF INSTALLATION OF NEW RTUs ALONG WITH PLCC DATA LINKS AT EHV S/S

(A) The progress of installation and commissioning of RTU's was reviewed and it was assured by T&C /T&P MPPTCL to complete the commissioning of RTUs under phase-1 & phase-2 by March 2013.

(B) The matter of balance process connections of RTU commissioned was also discussed and it was informed by SLDC that at most of the locations where RTU is commissioned by M/s Chemtrol, SOE connections is pending. It was assured by T&C representative to arrange balance process connections specially SOE connections, on priority basis.

(C) It was informed by SLDC that RTU configuration data base is to be maintained properly so that the same may be available at the time of restoration of RTU/upgradation of RTU. It was decided that MPPTCL will nominate officers at T&C circle level for maintenance of RTU database, as configuration

and maintenance terminal has already been delivered to T&C circles. SLDC also requested to provide a copy of wiring details of RTU commissioned and the RTU configuration file.

(D) The matter of unreliable functioning of telemetry of 220KV Birsingpur RTU was discussed and it was assured by Planning and T&C representative to investigate the matter and arrange for reliable functioning of Birsingpur RTU.

(E) It is also assured by MPPTCL to take up the matter with the supplier for restoration of telemetry of Nimrani 220KV S/s and replacement of MFM at 220KV Chindwara.

(F) It was assured by the MPPTCL to arrange the training on Calisto^{NX} RTU by the supplier on priority basis.

(G) The matter of commissioning of telemetry of **220KV Anuppur S/s** was discussed in detail and SLDC informed that the telemetry of Anuppur is required to be commissioned on priority basis because of interstate **220KV Anuppur-Kotmikalan** D/C lines are part of MP drawal calculation in the real time . It was categorically clarified by SLDC that 132KV Anuppur- Rajmilan feeder shall not be allowed for charging till telemetry of 220KV Anuppur S/s is made available to SLDC.

11.2 MAINTENANCE OF RTU & AVAILABILITY OF SPARES:-

MPPGCL:- It was informed by SLDC that the spares procured earlier by MPPGCL are going to be exhausted soon & therefore procurement of additional spares needs to be initiated immediately. It was assured by MPPGCL to initiate the procurement action at the earliest.

MPPTCL:- It was informed by SLDC that the spares procured earlier, specially D20 CPU has already been consumed. The CPU released from Sub Stations after dismantling of RTU has also consumed. Now spare CPU along with other spares eg. D20 ME CPU, D20ME rack, NSK-5 modems, transducers, CMRs etc is to be procured. SLDC pointed out that the matter has been discussed in last three OCCM meetings, but but action in the matter is not seen. It was informed by T&C that action is being initiated for procurement of spares as well as for repairing of faulty spares.

11.3 ARRANGEMENT OF TELEMETRY FOR SATPURA EXTENTION & SINGAJI TPS

(A) **STPS Extention**: - It was informed by MPPGCL that configured modem has already been issued & installed at Itarsi. The data link from Bhopal Sub-LDC to IEC gateway is tested. M/s Areva Engineer is working at STPS for configuration of IEC gateway and integration of telemetry. SLDC specifically requested MPPGCL to ensure that firm engineer shall remain at site until successful integration of telemetry of extension plant.

(B) SINGAJI STPS:- It was informed that channel route has been finalised and PLCC panels has been released by MPPTCL SLDC further requested to arrange configured VFT modem for control centre end and inform the commissioning schedule.

11.4 ARRANGEMENT OF DATA CHANNELS FOR REMOTE VDU INSTALLED AT GCC, DCC & CMD MPPTCL CHAMBER

The matter was discussed in detail in 29th OCC meeting & it was suggested by MPPGCL that a single agency may take-up the work of arranging communication channels for all the remote work stations available in Shakti Bhawan, on cost sharing basis & requested T&C department of, MPPTCL to explore the possibility of arranging the same by the communication division.

It was further informed by SLDC that BSNL have laid the OFC cable upto SLDC under FTH scheme. Therefore utilities may approach BSNL for arranging speech and data channel on OFC network so that fast and reliable communication channels are available

It was specifically informed by SLDC that for functioning of remote work stations from new SCADA system a high speed & reliable communication link is a prerequisite & hence SLDC again requested all concern departments to arrange the reliable high speed data channel for remote VDU. The utilities viz. MPPGCL, MPPTCL, MPPMCL, DISCOMS agreed for the same.

11.5 DISCREPANCY IN TELEMETRERED VALUES RECEIVED FROM DIFFERENT EHV S/S & POWER STATIONS & UPGRADATION OF EXISTING RTU's

(A) It was informed by SLDC that regarding telemetry discrepancy, & upgradation of RTU's, WRLDC has filed Interlocutory application in petition No. 194/MP/2011 in CERC. In response, it was informed by ED (O&M), MPPGCL and CE (T&C) that the work of telemetry discrepancy shall be completed by Nov-2012 and upgradation of RTU's shall be completed by Dec 2012. However, sufficient progress in the matter is not observed.

(B) The matter of upgradation of RTU at 220KV Satna, 220KV Nagda, 220KV Ratlam,220KV Neemuch, was discussed and SLDC informed that RTU configuration modification, availability of transducers etc is already there but process connections are pending since long time. Further, it was informed by SLDC that at S/s like Pithampur 220KV, Rewa 220KV, Katni 220KV, Satpura 220KV more than 50% telemetry is not available. It was informed by MPPTCL that RTU procured for Sub Stations where commissioning of S/s is getting delayed is being diverted to 220KV Pithampur & 220KV Rewa. Further, it was also assured by MPPTCL that action for upgradation of RTU at 220KV Sarni S/s & 220KV Katni shall be initiated shortly.

(C) It was further informed by SLDC that at most of the Hydel power stations, process connections for SOE is yet to be done. MPPGCL representative informed regarding non availability of wiring details at site. In response it was clarified by SLDC that wiring details along with complete RTU manual were delivered at sites along with RTU. Further, on request, a copy of the wiring details was also provided by SLDC to those power stations, who has informed non availability of wiring details.

11.6 LONG OUTAGE OF RTU's-

SLDC informed that the RTU's at 220KV Damoh and 132KV Morwa are not functioning since long time. CE (T&C) informed that because of problem in arranging PLC data link from 132 KV Morwa S/s, option of utilizing GPS/GPRS communication medium is under consideration and shall be finalised shortly. For Damoh RTU, MPPTCL assured to take up necessary action on priority basis for avoiding long outage.

11.7 PROVIDING ALTERNATE DATA CHANNELS & EXPRESS VOICE CHANNELS FOR RTU STATIONS:-

The matter was discussed in detail specifically for arranging alternate data channels for power stations. As voice and data channels provided through PLC for Hydel power stations are most unreliable, SLDC also requested MPPGCL to evaluate other media e.g. Satellite phones for communication media at Hydel power stations specifically Pench HPS, Tons HPS and Manikheda HPS.

SLDC specifically requested MPPGCL to rectify the voice communication problem of TONS HPS, as per present arrangement, it is very difficult to contact the TONS HPS. MPPGCL & MPPTCL assured to take necessary action and if required, a separate meeting shall also be arranged between MPPGCL &

T&C MPPTCL to sort out the matters regarding alternate data and voice channels for important power stations.

It was specifically informed by SLDC that the matter of Upgradation of RTU, removal of telemetry discrepancy, providing alternate data channels, maintenance of data channels is constantly pursued by SLDC since last three-four years. WRLDC has already filed a petition in the matter before the CERC. The Chairman, OCC requested the utilities to ensure timely completion of activities.

11.8 NON AVAILBILITY OF TELEMETRY OF M/s BLA POWER

The Member Secretary informed the Committee that M/s BLA Power have not provided telemetry from their plant in MP. M/s BLA power informed that the PLCC panels required for establishment of communication channel have already been delivered. Further, the work for interfacing of their relay panel having real time data with PLCC channel is in progress. M/s BLA power has confirmed that the telemetry of their power Stations shall be arranged by March 2013. SLDC specifically requested to confirm the arrangement of MODEM required at control centre end for which M/s BLA power agreed.

ITEM NO. 12 : DATE AND VENUE OF NEXT OCC MEETING :

It is proposed to hold 33rd OCC meeting of Operation and Coordination Committee of MP on 16th April 2013.The venue of the same shall be intimated separately.

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Annexure-I

LIST OF PARTICIPANTS IN THE 32nd OCC MEETING OF MADHYAPRADESH ON 18.02.2013 at SLDC,MPPTCL, JABALPUR

Sr. No.	Name of Participants S/Shri	Designation	Office	Telephone No.	Email Address
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23	Ashish Shukla	Manager	Enercon (I) Ltd	9630004561	ashish.shukla@windworldindia.com
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25	Pradeep Sachan	EE	(Sub SLDC) Bhopal	9425805277	p_sachan64@yahoo.com
26	S.D.Singh	AGM (PM)	ED(PM) MPPMCL	9406902031	somdeosingh@rediffmail.com
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28	S.K. Bhagwatkar	SE	DCC JBP	9425805961	cmdez_ld@yahoo.co.in

FREQUENCY PARTICULARS

S. No.	Particulars	Dec-12		Jan-13	
1	**INTEGRATED OVER AN-HOUR**				
1.1	Maximum Frequency	50.44 Hz	Between 03.00 hrs & 04.00 Hrs on 14.12.12	50.63 Hz	
1.2	Minimum Frequency	49.64 Hz	Between 08.00 hrs & 09.00 Hrs on 25.12.12	49.6 Hz	
1.3	Average Frequency	50 Hz		50.01 Hz	
2	**INSTANTANEOUS FREQUENCY**				
2.1	Maximum Frequency	50.63 Hz	AT 00.02 HRS ON 17.12.12	50.78 Hz	
2.2	Minimum Frequency	49.25 Hz	AT 10.11 HRS ON 25.12.12	49.3 Hz	

3 Percentage of time when frequency was :-

	%age of time when frequency was	Dec-12	Jan-13
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	0.00	0
3.4	Between 49.20 Hz and 49.5 Hz	0.30	0.36
3.5	Between 49.50 Hz and 49.7 Hz	4.09	4.27
3.6	Between 49.70 Hz and 50.2 Hz	84.10	80.95
3.7	Between 50.20 Hz and 50.3 Hz	--	--
3.8	Between 50.30 Hz and 51.0 Hz	11.51	14.42
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 frquency touched 48.80 Hz	0	0
4.2	No. of times frquency touched 48.60 Hz	0	0
4.3	No. of times frquency touched 51.0 Hz	0	0

Voltage Profile During the Month of DEC- 2012

Date	Indore		Itarsi		Bina		Gwalior		Nagda		Birsingpur		ISP		Satpura	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	426	400	425	404	425	406	429	397	426	400	424	412	429	412	427	409
2	426	393	426	397	425	401	430	401	427	393	423	410	431	402	424	404
3	426	396	423	397	423	403	428	402	425	395	422	411	427	405	424	403
4	422	393	421	496	422	404	426	402	424	393	422	410	426	407	424	403
5	423	397	421	399	424	405	429	404	425	398	421	410	426	408	423	407
6	423	400	422	401	422	406	426	403	425	401	423	412	427	409	424	407
7	424	397	422	402	422	407	428	403	426	397	421	412	429	410	425	407
8	423	402	421	403	423	411	428	402	426	403	422	413	426	415	424	409
9	442	398	420	402	424	406	428	404	425	397	422	411	429	411	423	407
10	423	399	424	402	423	408	428	404	426	399	423	412	428	412	426	406
11	423	397	422	398	424	408	427	404	426	393	422	413	428	412	425	408
12	424	396	423	399	428	407	429	402	426	396	424	412	429	409	426	407
13	425	400	424	401	423	402	427	405	427	402	424	414	430	411	426	408
14	423	397	421	401	424	404	429	400	424	394	424	413	427	408	425	408
15	423	393	422	396	424	404	423	399	426	403	423	413	429	405	425	404
16	424	394	423	397	425	406	428	402	426	394	424	412	429	411	427	405
17	426	394	424	395	427	404	429	400	426	394	424	411	431	409	426	403
18	426	394	424	395	423	399	427	395	426	394	428	412	428	407	426	405
19	425	394	424	396	423	396	427	396	426	392	428	413			426	400
20	425	396	424	398	421	403	426	397	427	397	422	407			427	406
21	422	396	421	399	420	398	422	397	426	398	423	409			426	408
22	423	394	422	396	420	398	426	399	427	398	423	409			427	406
23	424	405	421	402	421	492	425	398	427	398	425	410			427	407
24	423	396	423	400	426	405	431	399	427	397	425	412			428	408
25	424	396	425	401	423	404	429	398	427	399	424	412			427	408
26	424	392	423	397	417	398	426	395	426	395	424	412			426	406
27	423	394	424	392	420	400	425	396	426	396	424	410			426	401
28	424	398	423	399	420	404	427	402	426	398	424	413			426	408
29	423	397	423	401	426	406	428	401	425	400	425	413			427	409
30	423	397	423	401	425	406	424	401	425	401	424	413			426	407
31	423	397	423	401	423	409	427	400	425	400	424	415			426	410
Max / Min	**442**	**392**	**426**	**392**	**428**	**396**	**431**	**395**	**427**	**392**	**428**	**407**	**431**	**402**	**428**	**400**

Voltage Profile During the Month of JAN - 2013

Date	Indore		Itarsi		Bina		Gwalior		Nagda		Birsingpur		ISP		Satpura	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	424	400	424	400	423	411	426	404	427	400	426	416	400	400	427	416
2	423	401	424	404	423	405	428	400	425	403	427	416	400	400	424	410
3	425	399	427	403	421	406	421	398	427	399	427	416	432	400	429	411
4	426	398	426	400	425	403	428	399	426	400	424	414	430	407	427	409
5	424	395	424	411	422	404	427	397	427	396	424	413	430	405	427	407
6	426	399	423	403	421	403	425	395	426	398	426	412	430	408	427	411
7	427	394	424	400	425	406	428	397	429	396	427	414	432	404	430	407
8	428	402	427	407	424	410	425	396	428	403	426	415	431	412	429	414
9	425	400	425	403	425	407	423	401	427	400	426	413	430	409	428	411
10	425	394	424	399	424	404	423	391	427	396	426	414	431	404	429	407
11	424	397	425	401	423	405	422	398	427	398	424	414	430	406	428	409
12	424	397	425	401	422	405	429	395	427	398	425	413	429	409	427	411
13	424	393	424	396	420	404	424	397	427	395	427	413	430	403	426	410
14	425	404	426	407	423	411	424	396	428	407	426	417	431	413	428	412
15	424	398	424	403	423	408	423	398	426	396	424	414	429	409	426	410
16	422	400	423	404	420	408	421	399	424	401	427	415	429	411	428	411
17	425	402	427	407	429	408	435	402	427	401	427	414	432	412	429	413
18	426	400	426	400	428	404	436	407	426	400	427	413	430	416	427	407
19	424	399	424	402	425	407	429	400	426	397	425	415	430	408	428	409
20	424	399	424	402	423	410	428	402	426	398	426	414	428	407	427	410
21	421	400	424	403	423	401	430	400	424	398	426	413	429	407	428	410
22	421	400	424	403	422	399	425	396	424	400	424	413	432	408	425	411
23	419	397	421	401	422	400	424	396	424	398	427	413	425	403	428	410
24	420	398	426	403	427	407	427	401	423	400	427	414	424	404	426	411
25	421	404	424	408	425	409	428	400	426	407	426	414	427	412	423	411
26	420	392	424	399	423	399	420	397	427	394	427	408	425	404	427	405
27	422	399	425	404	424	408	426	400	426	403	427	415	427	407	428	411
28	420	401	424	405	426	406	426	400	425	403	425	414	425	409	427	412
29	420	401	424	405	424	409	426	401	425	403	423	415	425	411	424	413
30	420	394	423	398	420	410	423	400	423	398	423	412	425	403	425	414
31	420	403	424	406	420	410	423	400	424	404	424	415	425	410	426	413
Max	**428**	**392**	**427**	**396**	**429**	**399**	**436**	**391**	**429**	**394**	**427**	**408**	**432**	**400**	**430**	**405**

ANNEXURE -2.4

M.P POWER TRANSMISSION COMPANY LIMITED

TRANSMISSION WORKS COMPLETED DURING 2012-13 (UP TO 31.01.2013)

S. No.	NAME OF THE TRANSMISSION LINE / (FINANCED BY)	TYPE OF CIRCUITS	ROUTE LENGTH	CIRCUIT KMS.	DATE OF COMPL-ETION	DATE OF COMMI-SSIONING	ESTIMATED COST (Rs. In lacs)
I.	**EHV TRANSMISSION LINES**						
A.	**400 KV TRANSMISSION LINES**						
1	400KV Malwa TPH-Chhegaon DCDS Line (PFC)(Distt. Khargon)	DCDS	2x52.559	105.12	Jan.13	05.01.2013	9325
	Sub-Total (A)		**52.56**	**105.12**			**9325**
B.	**220 KV TRANSMISSION LINES**						
1	Diversion of 220KV Rajgarh - Pithampur DCDS line up to common point near 220KV Sub-station, Pithampur (ADB-II/S)	DCDS	1.60	3.20	June'12	11.06.2012	158
2	Second circuiting of 220KV Satpuda - Pandhurna line (83km) (ADB II)	DCDS		83.00	Dec.12	22.12.2012	1705
3	LILO of 220KV Amarkantak TPH - Korba line for Amarkantak (4x3.87) (UNFUNDED-PRIORITY WORK)	DCDS	3.87	15.48	Nov.12	28.11.2012	1037
4	LILO of 220KV Pithampur - Indore & 220 kv Pithampur - Badnagar line at Pithampur 400 KV Substations (I/C) (4x5.92+ 2x21.4) (PFC)	DCDS	27.32	66.48	Oct'12	20.10.2012	2439
5	220KV DCSS Line from 220kv s/s Sidhi to Mahan Aluminium Project Plant of m/s.Hindalco. Industries Bargawan Distt.Singrauli (1x79.4) (Consumer Contribution. Work)	DCSS	79.40	79.40	Nov.12	17.11.2012	4724.2
	Sub-Total (B)		**112.19**	**247.56**			**10063.20**
C.	**132 KV TRANSMISSION LINES**						
1	Barman - Gadarwara second ckt. (PFC)	2nd Ckt		30.58	MAY'2012	28.05.2012	242
2	Power supply to M/s. IMC, Baklai from 220KV Barwaha Sub-station (D/W)	DCSS	34.17	34.17	June'12	02.06.2012	1371
3	Power supply to M/s. Arya Energy. Kotma from 132KV Kotma Sub-station (D/W)	DCSS	1.29	1.29	June'12	30.06.2012	81
4	Power supply to Mungawali Railway Traction S/s from 220kv Bina S/s. (D/W)	DCSS	31.32	31.32	July'12	26.07.2012	903
5	LILO of 132 kv Rewa - Sidhi line for Rewa - II (Sagra) 132KV S/s (2x13.403) (GoMP)	DCDS	13.38	26.80	August'12	30.08.2012	734
6	Power supply to M/s Diamond Cement Plants at Imlai & Narsinghgarh (Distt. Damoh) from 220 KV Damoh Sub-station (2x17.61 + 1x1.65 + 1x19.31) (D/W)	DCDS	38.57	56.18	Oct'12	29.10.2012	1421
7	LILO of both ckts of 132 kv Amarkantak - Morwa line at Anooppur 220 KV S/s (4x2.36) (GoMP)	DCDS	4.72	9.44	Oct'12	31.10.2012	402
8	132KV Handiya -Sultanpur line. (PFC)	DCSS	31.30	31.30	Jan.13	24.01.2013	1203
9	132KV Chhegaon -Moondi line. (PFC)	DCSS	44.27	44.27	Jan.13	25.01.2013	1675
10	Diversion of 132 kvSarni -Betul linebetween location no.1to5 (Consumer-Contribution work)	DCSS	1.10	1.10	Jan.13	08.01.2013	143.82
11	Diversion of 132 kvSarni -Ghodadongri line between location no.37to44 (Consumer-Contribution work)	DCSS	2.13	2.13	Jan.13	31.01.2013	265.38
12	132 kv 2 Phase4 Wire Line for power supply to RTS Sanchi including 2nd circuit of Vidisha-Gairatganj line & modification for Bay shifting of Vidisha-Gairatganj and Vidisha-Raisen line at 220kv s/s Vidisha (Consumer-Contribution work)	DCDS	15.54	32.42	Jan.13	05.01.2013	768.51
	Sub-Total (C)		**217.80**	**301.01**			**9209.71**
	Total (EHV LINES) (A + B + C)		**382.55**	**653.69**			**28597.91**

II.	EHV SUB - STATIONS						
S. No.	NAME OF SUBSTATION / (DISTRICT) / (FINANCED BY)	VOLTAGE RATIO (KV)	No.OF X-mer & Cap.(MVA)	EFFECTIVE CAPACITY MVA	DATE OF COMPL-ETION	DATE OF COMMI-SSIONING	ESTIMATED COST (Rs. In lacs)
A.	**400 KV SUBSTATIONS**						
1	400 KV Substation at Chhegaon (PFCII)	400/220/33	1x315	315	Dec.12	20.12.12	5101
	Sub Total (A) (400KV S/s)			**315**			**5101**
B.	**220 KV SUBSTATIONS**						
a.	**NEW SUBSTATIONS**						
1	220 KV SubStation at Anooppur (PFCII)	220/132	1x160	160	Dec.12	19.12.12	3060
	Sub Total (B) (220KV S/s)			**160**			
b.	**ADDITIONAL TRANSFORMERS**						
1	Mehgaon (Addl Trans) (Distt. Bhind) (ADB)	220/132	1x160	160	APRIL'12	05.04.2012	1064
2	Tikamgarh (Addl Trans) (Distt. Tikamgarh) (ADB)	220/132	1x160	160	MAY'12	24.05.2012	1268
3	Sabalgarh (Addl Trans) (Distt. Morena) (ADB)	220/132	1x160	160	August'12	24.08.2012	1217
	Sub Total (C) (220KV S/s)			**640**			**6609**
C.	**132 KV SUBSTATIONS**						
a.	**NEW SUBSTATIONS**						
1	Rewa - II (Sagra) (Distt. Rewa) (GoMP / TRANSCO)	132/33	1x40	40	Sept'12	13.09.2012	794
2	Bankhedi (Distt. Hoshangabad) (PFC)	132/33	1x40	40	Sept'12	28.09.2012	973
3	Sultanpur(Rolgaon) (Distt. Harda) (PFC)	132/33	1x40	40	Jan.13	25.01.2013	957
3	Moondi (Distt.Khandwa) (PFC)	132/33	1x40	40	Jan.13	31.01.2013	957
	Sub Total (C.a) (NEW S/s)			**160**			**3681**
b.	**ADDITIONAL TRANSFORMERS**						
1	Ghosla (Additional) District Ujjain. (ADB)	132/33	1x40	40	June'2012	14.06.2012	606
2	132 KV Indore (Chambal) (Addl) (Distt. Indore) (GoMP)	132/33	1x40	40	August'12	03.08.2012	487
3	132 KV Bhaura (GUNA) (Addl) (Distt.GUNA) (GoMP)	132/33	1x20	20	August'12	06.11.2012	146
4	132 KV 40MVA (Addl) (Distt.Anooppur) (PFC)	132/33	1x40	40	Nov.12	01.11.2012	0
	Sub Total (C.b) (ADDITIONAL TRANSFORMER)			**140**			**1239**
c.	**AUGMENTATION OF CAPACITY**						
1	Ratadia (Mullapura) (Aug from 40 to 63 MVA) (Distt. Ujjain) (Simhastha)	132/33		23	MAY'12	25.05.2012	720
2	Dabra (Aug from 20 to 40 MVA) (Distt. Gwalior) (ADB - II)	132/33		20	August'12	10.08.2012	526
3	Ratlam (Aug from 20 to 63 MVA) (Distt. Ratlam) (ADB - II)	132/33		43	Sept'12	01.09.2012	511
	Sub Total (C.c) (AUGMENTATION OF CAPACITY)			**86**			**1757**
	Sub-Total (C) (132 kv Sub-stations)			**386**			**6677**
	Total (EHV SUB - STATIONS) (A+B+C)			**1341**			**18387**

Discoms wise Average Supply Hours

PARTICULARS	East Zone		Central Zone	
	Dec-12	Jan-13	Dec-12	Jan-13
Commissinary HQ	23:54	23:53	23:37	23:40
District HQ	22:05	22:08	21:52	21:59
Tehsil HQ	17:54	20:11	17:52	20:01
Rural -Mixed	14:48	15:18	13:06	13:34
Rural -DLF	17:06	19:29	17:38	19:48
Rural -Irrigation	8:48	8:12	7:57	7:57
PARTICULARS	**West Zone**		**MP**	
	Dec-12	**Jan-13**	**Dec-12**	**Jan-13**
Commissinary HQ	23:52	23:54	23:47	23:48
District HQ	23:56	23:55	22:38	22:41
Tehsil HQ	19:17	19:40	18:17	19:59
Rural -Mixed	11:42	12:10	13:23	13:52
Rural -DLF	19:02	19:25	17:51	19:34
Rural -Irrigation	7:49	7:51	8:11	8:00

LIST OF 33KV FEEDERS UNDER MPPKVVCL, JABALPUR

(For which group to be allocated)

Name of EHV Substation	Name of 33kV feeder	Date of charging of feeder
JABALPUR REGION		
132KV		
132 KV Balaghat	33 KV Khairlanji	08.10.2012
220KV		
220 KV Chhindawara	33 KV Siddhi Vinayak	09.11.2012
220kV Pipariya	33kV Panagar	02.03.2011
SAGAR REGION		
132KV		
132kV Khajuraho	33kV Airport	25.06.2011
132 KV Bijawar	33 KV Bada Malhara	04.01.2012
132 KV Gourjhamer	33 KV Gaurjhamar	04.01.2013
132kV Bijawar	33kV Bada Malhara	04.01.2012
220 KV		
220 KV Sagar	33 KV Medical	19.06.2012
REWA REGION		
132KV		
132kV Beohari	33kV Madwas	03.01.2012
132kV Rajmilan	33kV Khutar	05.03.2012
	33kV Rajmilan	05.03.2012
132 KV Rewa-II	33 KV Ratahara	13.09.2012
	33 KV Raipur	13.09.2012
	33 KV Sirmour	04.10.2012
	33 KV Mohra	04.10.2012
132KV Nagod	33KV Nagod	13.02.2012
	33KV Raikwara	13.02.2012
	33KV Jasso	09.02.2012
	33KV Singhpur	10.02.2012
220KV		
220kV Satna	33KV Raigaon	19.05.2011
220 KV Anupur	33 KV Anuppur	07.11.2012
	33 KV Moserbear	07.11.2012
220kV Kotar (Rewa)	33kV Semariya	22.10.2011
220kV Maihar	33kV Reliance	15.04.2011

LIST OF 33KV FEEDERS UNDER MPPKVVCL, JABALPUR

(For which group to be allocated)

BHOPAL REGION

Name of EHV Substation	Name of 33KV feeder	Date of charging of feeder
132KV		
132KV Gudgaon	33KV Gudgaon	31.06.2012
132 KV Kurawar	33 KV Oswal Denim	24.2.2012
132 KV Ganj Basoda	33 KV Masoofpur	26.10.2012
132 KV Bareli	33 KV Bhopatpur	13.12.2012
132 KV Mandideep	33 KV Ramkhedi	05.12.2012
220KV		
220KV Betul	33KV Junawani	04.05.2012
220KV Bairagarh	33KV Iiser	19.05.2012

GWALIOR REGION

132KV		
132 KV Morena	33 KV Sankara	26.12.12
132 KV Bhind	33 KV Etawa Road	01.05.2011
	33 KV Pratappura	20.10.2012
132 KV Bhonra	33 KV Bhonra	05.11.2012
	33 KV Sainboard	05.11.2012
220KV		
220 KV Mehgaon	33 KV Mehgaon town	11.11.2012

LIST OF 33KV FEEDERS UNDER MPPKVVCL, INDORE

(For which group to be allocated)

INDORE REGION

Name of EHV Substation	Name of 33KV feeder	Date of Charging of feeder
220KV		
220KV Pithampur	33KV MPAKVN (Nalrip Water Works)	30.07.2011

Unitwise / Stationwise Genration in MU

A. Thermal

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Stn. Name	UNIT No.	Capacity MW	Dec-12	Jan-13
AMARKANTAK	3	120	55.16	51.79
	4	120	63.08	52.16
	PH II	**240**	**118.24**	**103.95**
	PH III	**210**	**146.04**	**154.08**
	TOT	**450**	**264.28**	**258.04**
SATPURA	1	62.5	26.25	31.20
	2	62.5	31.26	20.75
	3	62.5	0.00	0.00
	4	62.5	24.12	25.79
	5	62.5	24.68	21.43
	PH I	**312.5**	**106.31**	**99.17**
	6	200	103.59	110.52
	7	210	106.53	123.65
	PH II	**410**	**210.12**	**234.17**
	8	210	102.505	111.80
	9	210	106.39	98.63
	PH III	**420**	**208.895**	**210.42**
	TOT	**1142.5**	**525.32**	**543.76**
SANJAY GANDHI	1	210	119.01	126.78
	2	210	124.62	129.21
	PH I	**420**	**243.63**	**255.99**
	3	210	94.48	123.15
	4	210	114.64	115.85
	PH II	**420**	**209.12**	**239.01**
	PH III	**500**	350.56	360.04
	TOT	**1340**	**803.32**	**855.03**
MPPGCL THERMAL		**2932.5**	**1592.92**	**1656.82**

AMARKANTAK POWER HOUSE-I RETIRED FROM SERVICE WEF 01.04.2009

B. Hydel

Station Name	Capacity MW	Dec-12	Jan-13
GANDHISAGAR	**115.0**	46.00	59.51
R.P.SAGAR	**172.0**	74.32	72.81
J.SAGAR	**99.0**	50.53	50.48
CHAMBAL	**386.0**	**170.85**	**182.79**
M.P.CHAMBAL	**193.0**	**85.43**	**91.40**
PENCH	**160.0**	21.07	18.16
M.P.PENCH	**107.0**	**14.05**	**12.10**
BARGI	**90.0**	28.90	41.61
TONS	**315.0**	131.05	127.23
BIRSINGHPUR	**20.0**	0.00	0.02
B.SGR(DEOLONDH)	**60.0**	0.00	20.39
B.SGR(SILPARA)	**30.0**	15.31	14.89
RAJGHAT	**45.0**	6.24	8.75
M.P.RAJGHAT	**22.5**	**3.12**	**4.38**
B.SGR(JINHA)	**20.0**	14.33	14.15
MADIKHEDA	**60.0**	11.40	15.19
TOTAL HYDEL	**1186.0**	**399.16**	**443.2**
MPPGCL Hydel	**915.0**	**274.31**	**319.9**
MPSEB HYDEL Share	**917.5**	**303.59**	**341.4**

C. NHDC (Ex-Bus)

Station Name	Capacity MW	Dec-12	Jan-13
Indira Sagar Hydel Project	1000	230.907	200.603
Omkareshwar Hydel Project	520	98.631	87.497

MP SUPPLY EXCLUDING AUXILIARY CONS.
in Million Units

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S.No.	Particulars	Dec-12	Jan-13
1	MPSEB Thermal Availability	1409.95	1473.90
2	MPSEB Hydel Availability	301.09	338.19
3	Indira Sagar	230.96	200.54
4	Omkareshwar	98.63	87.50
5	Schedule / Drawal From Central Sector	1665.73	1674.24
6	Schedule of DVC	293.18	244.96
7	Schedule of Sujen	22.80	19.47
8	Lanco AMK	190.01	180.45
9	Sardar Sarovar	100.77	134.23
10	Additional Power Purchase	355.17	211.09
11	Sale of Power	-17.00	-42.20
12	Banking of Power	485.56	424.77
13	Energy Exchange	0.00	0.00
14	Unschedule Interchange	72.22	9.14
15	Other Imp / Exp	154.25	214.37
16	Total MPSEB Supply excl. Aux. Cons.	**5363.33**	**5170.64**
17	Average Supply per Day	173.01	166.79
18	Maximum Daily M.P. Supply	181.31	169.57
19	Minimum Daily M.P. Supply	164.22	152.79
20	Registered Demand : MW	8647	8518
24	Unrestricted Demand : MW	9777	9331

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

FIGURES IN MW

Hrs.	FREQ.		Own Generation								Schedule from												Tot Avl.	Act. Drl	UI	Intra State STOA	DEMAND MET	Load Shedding			REST. DEMAND	UNREST. DEMAND
		THER. Incl Aux	THER. Excl Aux	HYD.	ISP	OSP	BLA Power	JP BINA IPP	Injection from STOA	Total	CSS	DVC ER	Sugen	Lanco Amk	SSP	SEZ	Banking	Sale	Pur	Exch ange	STO A	Rihand+ Matatila-Rajghat	Total						SCH	UN SCH	TOTAL		
1:00	50.12	2085	1897	215	4	10	14	93	-3	2229	2119	354	30	246	68	11	1132	-19	498	0	3	17	4458	6336	4592	380	22	6843	633	16	649	6835	7467
2:00	50.18	2081	1894	187	0	7	14	97	-8	2190	2058	338	30	246	68	11	1138	-5	489	0	8	17	4398	6232	4495	343	22	6707	629	25	654	6696	7325
3:00	50.25	2069	1882	177	0	3	14	98	-20	2154	2022	332	30	246	65	11	1138	0	466	0	20	17	4347	6144	4427	325	22	6602	625	7	633	6561	7186
4:00	50.20	2041	1857	149	0	2	14	99	-22	2099	2020	330	30	246	62	11	1134	0	453	0	22	17	4325	6065	4373	294	22	6493	629	0	629	6455	7084
5:00	50.14	2041	1858	150	4	3	14	94	-23	2100	2005	330	30	246	62	11	1134	0	456	0	23	17	4313	6059	4406	338	22	6527	629	0	629	6500	7129
6:00	50.08	2069	1883	238	91	34	14	94	-15	2339	2016	334	30	246	62	11	1117	0	481	0	15	17	4328	6313	4338	256	22	6698	629	9	638	6691	7320
7:00	49.88	2112	1922	297	124	52	14	95	21	2524	2151	395	30	246	62	11	371	-23	543	0	-21	17	3782	5952	4010	474	24	6558	1468	23	1491	6605	8072
8:00	49.98	2114	1924	351	248	107	14	101	31	2776	2150	392	30	246	68	11	371	-26	487	0	-31	17	3714	6130	3892	424	24	6692	1475	74	1549	6770	8245
9:00	50.01	2112	1922	368	268	114	13	101	37	2823	2144	392	29	246	68	11	371	-59	430	0	-37	17	3612	6075	3575	209	24	6422	1527	174	1700	6594	8121
10:00	49.99	2112	1922	373	412	162	14	95	38	3015	2148	397	29	246	68	11	371	-16	457	0	-38	17	3690	6351	3819	375	24	6859	1660	85	1744	6945	8605
11:00	49.94	2116	1926	456	562	233	14	87	40	3318	2144	397	29	246	88	11	371	-20	437	0	-40	17	3680	6651	3805	371	24	7147	1053	400	1454	7561	8614
12:00	50.07	2107	1917	452	579	240	14	87	40	3329	2146	396	29	246	85	11	371	-30	433	0	-40	17	3664	6646	3669	250	24	7022	1034	342	1376	7350	8384
13:00	50.14	2116	1926	420	582	244	14	82	40	3308	2152	391	29	246	78	11	348	-20	446	0	-40	17	3658	6624	3890	477	24	7222	925	350	1275	7542	8467
14:00	50.07	2113	1923	407	577	238	14	83	38	3279	2153	388	29	246	78	11	511	-29	525	0	-38	17	3889	6826	3982	338	23	7284	955	186	1141	7454	8409
15:00	49.97	2131	1939	360	447	191	14	83	37	3071	2152	391	29	246	78	11	511	-30	454	0	-37	17	3821	6549	3972	396	23	7065	1069	68	1137	7140	8209
16:00	50.01	2129	1938	336	144	79	14	83	37	2630	2169	391	29	246	75	11	511	-20	540	0	-37	17	3931	6218	4019	334	23	6672	1112	174	1287	6844	7957
17:00	50.12	2140	1948	278	214	90	14	88	37	2667	2247	391	30	246	75	11	517	-48	430	0	-37	17	3879	6199	3904	271	24	6596	1216	83	1299	6655	7871
18:00	50.16	2185	1988	500	576	238	14	89	37	3441	2273	394	30	246	75	11	618	-120	378	0	-37	17	3885	6977	3682	43	24	7147	973	36	1009	7149	8122
19:00	50.03	2246	2044	641	731	296	13	95	35	3855	2243	397	30	246	429	11	439	-7	452	0	-35	17	4223	7724	4381	404	24	8260	946	129	1075	8382	9328
20:00	50.08	2248	2046	658	731	292	13	98	35	3873	2253	398	30	246	449	11	294	0	540	0	-35	17	4202	7719	4410	453	24	8307	944	184	1128	8470	9415
21:00	50.21	2240	2038	638	699	286	13	98	-5	3768	2266	398	30	246	449	11	392	0	535	0	5	17	4349	7760	4324	221	27	8118	851	130	981	8198	9048
22:00	50.16	2218	2018	492	571	236	13	94	8	3432	2263	395	30	246	436	11	392	-14	547	0	-8	17	4316	7394	4581	511	29	8041	774	22	796	8025	8799
23:00	50.19	2150	1957	365	260	131	13	96	21	2843	2191	398	30	246	163	11	997	-26	494	0	-21	17	4500	6988	4576	322	29	7448	780	8	788	7414	8194
24:00	50.21	2136	1944	222	47	47	13	96	-12	2357	2168	398	30	246	65	11	1117	-28	445	0	12	17	4480	6482	4437	203	29	6823	860	13	873	6794	7654
Avg.	50.09	2130	1938	364	328	139	14	93	18	2892	2152	380	30	246	136	11	653	-22	476	0	-18	17	4043	6601	4148	334	24	7065	975	106	1081	7151	8126
00 TO 06 HRS.	50.16	2064	1879	186	17	10	14	96	-15	2185	2040	336	30	246	64	11	1132	-4	474	0	15	17	4361	6191	4439	323	22	6645	629	10	639	6623	7252
06 TO 12 HRS.	49.98	2112	1922	383	365	151	14	94	34	2964	2147	395	29	246	73	11	371	-29	465	0	-34	17	3690	6301	3795	351	24	6783	1369	183	1552	6971	8340
12 TO 18 HRS.	50.08	2136	1944	383	423	180	14	85	38	3066	2191	391	29	246	76	11	503	-44	462	0	-38	17	3844	6566	3908	310	24	6998	1042	150	1191	7131	8172
06TO 18 HRS.	50.03	2124	1933	383	394	166	14	89	36	3015	2169	393	29	246	75	11	437	-37	463	0	-36	17	3767	6433	3852	330	24	6890	1206	166	1372	7051	8256
18 TO 24 HRS.	50.15	2206	2008	503	507	215	13	96	14	3355	2231	398	30	246	332	11	605	-12	502	0	-14	17	4345	7344	4452	352	27	7833	859	81	940	7881	8740

Hourly Average Own Generation, Schedule Drawal , Actual Drawal & Demand
Month :- January 2013

FIGURES IN MW

Hrs.	FREQ.		Own Generation								Schedule from												Tot Avl.	Act. Drl	UI	Intra State STOA	DEMAND MET	Load Shedding			REST. DEMAND	UNREST. DEMAND
		THER. Incl Aux	THER. Excl Aux	HYD.	ISP	OSP	BLA Power	JP BINA IPP	Injection from STOA	Total	CSS	DVC ER	Sugen	Lanco	SSP	SEZ	Banking	Sale	Pur	Exch ange	STO A	Rihand+ Matatila-Rajghat	Total						SCH	UN SCH	TOTAL		
1:00	50.13	2147	1954	226	4	5	10	129	-47	2281	2121	281	13	246	39	12	956	-10	165	0	47	18	3889	5784	4014	371	46	6341	401	0	401	6316	6718
2:00	50.15	2136	1944	221	4	5	10	129	-47	2266	2078	273	13	237	39	12	956	-10	165	0	47	18	3829	5718	3883	291	46	6195	401	0	401	6167	6568
3:00	50.18	2115	1925	193	4	5	10	129	-47	2219	2048	259	13	237	40	12	956	-1	156	0	47	18	3785	5627	3822	274	46	6087	382	0	382	6055	6437
4:00	50.17	2091	1903	188	4	3	10	129	-47	2190	2001	258	13	237	40	12	956	0	156	0	47	18	3738	5552	3791	290	46	6027	378	0	378	5997	6375
5:00	50.09	2098	1909	214	16	7	10	129	-47	2238	1983	258	13	237	40	12	956	0	156	0	47	18	3720	5581	3803	320	46	6087	377	0	377	6070	6447
6:00	50.08	2178	1982	374	83	32	11	129	-47	2563	1988	261	13	237	40	11	955	-6	156	0	47	18	3721	5907	3663	179	47	6273	377	0	377	6258	6635
7:00	49.92	2244	2042	473	236	84	11	137	-23	2960	2181	342	31	237	40	11	397	-13	348	0	23	18	3614	6189	3641	263	47	6648	679	0	679	6664	7343
8:00	49.97	2273	2069	546	403	163	11	137	-4	3324	2182	342	31	237	40	11	397	-30	348	0	4	18	3580	6519	3736	393	47	7108	708	18	726	7131	7839
9:00	50.01	2259	2056	565	420	173	11	137	4	3366	2186	342	31	229	51	11	397	-69	348	0	-4	18	3539	6529	3558	247	47	6971	965	30	995	7000	7965
10:00	49.99	2248	2046	536	470	195	11	137	6	3401	2184	342	31	232	316	11	397	-154	347	0	-6	18	3718	6738	3604	118	47	7051	1067	18	1086	7072	8140
11:00	49.95	2239	2037	589	602	243	11	137	11	3630	2185	337	31	232	326	11	397	-163	347	0	-11	18	3710	6960	3757	280	47	7434	1008	40	1048	7485	8493
12:00	50.09	2235	2033	515	527	223	11	137	11	3457	2190	338	31	232	332	11	370	-185	346	0	-11	18	3672	6750	3426	-14	47	6930	1004	18	1022	6929	7933
13:00	50.16	2229	2028	428	410	181	11	137	5	3201	2196	339	31	232	323	11	314	-140	346	0	-5	18	3666	6486	3681	248	47	6929	1083	3	1086	6899	7982
14:00	50.11	2232	2031	407	333	155	11	135	-1	3073	2193	334	30	232	323	11	314	-114	346	0	1	18	3688	6382	3679	223	47	6799	1081	0	1081	6776	7857
15:00	50.08	2219	2020	401	215	105	11	135	0	2887	2190	332	30	230	144	11	314	-53	346	0	0	18	3563	6073	3668	335	47	6601	984	9	993	6595	7579
16:00	50.04	2223	2023	377	144	67	11	135	-2	2755	2191	331	30	230	51	11	390	-35	346	0	2	18	3566	5944	3633	297	47	6434	949	8	957	6435	7384
17:00	50.13	2236	2035	334	123	55	11	130	-1	2687	2231	327	30	230	51	11	390	-67	346	0	1	18	3568	5885	3605	267	45	6337	862	6	868	6318	7180
18:00	50.19	2256	2053	469	415	168	10	135	-4	3246	2243	329	30	230	51	11	462	-67	347	0	4	18	3659	6529	3429	0	44	6718	812	3	815	6683	7494
19:00	49.99	2308	2101	701	692	288	10	137	1	3930	2223	335	31	230	398	11	382	-109	346	0	-1	18	3864	7417	3928	294	49	7907	749	12	761	7921	8670
20:00	50.06	2317	2108	705	709	293	11	137	2	3964	2237	330	31	232	483	11	355	-105	347	0	-2	18	3937	7522	4013	307	49	8026	747	3	750	8013	8760
21:00	50.16	2317	2109	677	648	270	10	137	-6	3845	2256	330	31	232	483	11	391	-29	349	0	6	18	4078	7545	4018	172	45	7908	570	2	572	7871	8442
22:00	50.15	2299	2092	522	301	150	10	136	-12	3199	2254	330	31	232	463	11	391	-13	347	0	12	18	4077	6898	4248	403	45	7492	590	0	590	7459	8050
23:00	50.17	2228	2027	410	52	53	10	133	-11	2675	2227	329	22	232	140	11	954	-18	153	0	11	18	4078	6378	4053	206	45	6773	574	0	574	6739	7312
24:00	50.19	2164	1970	208	4	10	10	133	-42	2293	2213	329	22	235	51	11	954	0	153	0	42	18	4027	5941	3895	102	45	6232	602	0	602	6196	6799
Avg.	50.09	2221	2021	428	284	122	11	134	-15	2985	2166	317	25	234	179	11	571	-58	284	0	15	18	3744	6369	3773	244	46	6805	723	7	730	6794	7517
00 TO 06 HRS.	50.13	2128	1936	236	19	9	11	129	-47	2293	2037	265	13	239	39	12	956	-5	159	0	47	18	3780	5695	3829	287	47	6168	386	0	386	6144	6530
06 TO 12 HRS.	49.99	2250	2047	537	443	180	11	137	1	3357	2185	340	31	233	184	11	393	-102	347	0	-1	18	3639	6614	3620	215	47	7024	905	21	926	7047	7952
12 TO 18 HRS.	50.12	2233	2032	403	273	122	11	135	-1	2975	2207	332	30	231	157	11	364	-79	347	0	1	18	3618	6217	3616	228	46	6636	962	5	967	6617	7579
06TO 18 HRS.	50.05	2241	2039	470	358	151	11	136	0	3166	2196	336	30	232	171	11	378	-91	347	0	0	18	3629	6415	3618	221	47	6830	934	13	946	6832	7766
18 TO 24 HRS.	50.12	2272	2068	537	401	178	10	135	-11	3318	2235	331	28	232	336	11	571	-46	282	0	11	18	4010	6950	4026	247	46	7390	639	3	642	7367	8005

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

FIGURES IN MW

Hrs.	FREQ.	EZONE							CZONE							WZONE						
		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restricted Demand	Unrestricted Demand	SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restricted Demand	Unrestricted Demand	SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restricted Demand	Unrestricted Demand
1:00	50.12	2132	2140	8	0	2	2134	2134	2212	2182	-29	202	6	2181	2382	2396	2521	125	431	8	2520	2951
2:00	50.18	2102	2070	-31	0	3	2062	2062	2186	2161	-25	202	15	2165	2366	2362	2476	113	427	7	2470	2897
3:00	50.25	2077	2052	-25	0	0	2036	2036	2162	2147	-15	198	6	2137	2335	2334	2404	69	427	2	2387	2815
4:00	50.20	2052	1978	-74	0	0	1966	1966	2132	2128	-4	198	0	2116	2313	2305	2387	83	431	0	2373	2804
5:00	50.14	2047	1915	-132	0	0	1907	1907	2129	2188	60	198	0	2179	2377	2301	2424	123	431	0	2414	2845
6:00	50.08	2103	1840	-264	0	0	1835	1835	2191	2317	126	198	6	2317	2515	2385	2541	156	431	3	2538	2970
7:00	49.88	2008	1527	-481	259	3	1535	1795	2075	2255	179	423	9	2271	2695	2264	2776	512	785	12	2798	3583
8:00	49.98	2050	1545	-505	265	7	1553	1818	2119	2181	62	425	9	2191	2616	2359	2966	607	785	58	3026	3811
9:00	50.01	2030	1626	-403	338	11	1637	1975	2096	2032	-64	433	17	2048	2481	2339	2764	425	756	146	2909	3665
10:00	49.99	2076	1711	-364	327	0	1712	2039	2148	2099	-49	511	6	2106	2617	2418	3048	631	822	79	3128	3949
11:00	49.94	2161	2112	-49	143	51	2167	2311	2246	2109	-136	342	70	2183	2524	2593	2926	333	569	280	3211	3779
12:00	50.07	2154	2234	79	116	40	2269	2385	2240	2064	-176	342	28	2088	2430	2590	2724	134	577	274	2992	3569
13:00	50.14	2151	2375	224	30	95	2460	2490	2236	2128	-108	281	45	2164	2445	2589	2719	131	615	210	2918	3533
14:00	50.07	2216	2253	37	22	54	2303	2324	2302	2099	-203	371	18	2113	2485	2667	2931	264	562	114	3038	3600
15:00	49.97	2138	2044	-94	93	13	2059	2152	2219	1991	-228	413	0	1993	2406	2520	3030	509	562	56	3089	3651
16:00	50.01	2071	1803	-267	137	26	1828	1966	2147	2019	-128	413	27	2046	2459	2348	2849	501	562	121	2970	3532
17:00	50.12	2059	1559	-500	231	0	1553	1784	2126	2170	44	401	4	2167	2568	2334	2867	533	584	79	2935	3519
18:00	50.16	2244	1918	-326	201	0	1909	2110	2326	2418	93	210	15	2422	2632	2714	2810	96	562	21	2818	3380
19:00	50.03	2479	2610	131	103	43	2651	2754	2562	2568	5	202	51	2617	2819	3058	3082	25	641	35	3114	3755
20:00	50.08	2479	2727	248	100	94	2814	2914	2561	2544	-17	202	49	2587	2789	3058	3037	-22	642	41	3070	3712
21:00	50.21	2510	2709	198	94	75	2767	2861	2591	2526	-65	215	5	2516	2731	3089	2883	-206	542	50	2915	3457
22:00	50.16	2416	2605	189	96	4	2597	2693	2471	2403	-68	215	9	2401	2616	2915	3033	118	462	10	3028	3490
23:00	50.19	2312	2366	54	102	4	2357	2459	2380	2285	-95	215	0	2272	2487	2698	2797	99	462	4	2785	3247
24:00	50.21	2185	2184	-2	78	5	2175	2253	2260	2168	-92	215	0	2154	2370	2469	2472	3	566	8	2465	3031
Avg.	**50.09**	**2177**	**2079**	**-98**	**114**	**22**	**2095**	**2209**	**2255**	**2216**	**-39**	**293**	**16**	**2226**	**2519**	**2546**	**2769**	**223**	**568**	**67**	**2830**	**3398**
00 TO 06 HRS.	50.16	2085	1999	-86	0	1	1990	1990	2169	2187	19	199	5	2182	2381	2347	2459	112	430	3	2450	2880
06 TO 12 HRS.	49.98	2080	1793	-287	241	19	1812	2054	2154	2123	-31	413	23	2148	2560	2427	2867	440	715	141	3011	3726
12 TO 18 HRS.	50.08	2147	1992	-154	119	31	2019	2138	2226	2138	-88	348	18	2151	2499	2529	2868	339	574	100	2961	3536
06TO 18 HRS.	50.03	2113	1892	-221	180	25	1916	2096	2190	2130	-59	381	21	2149	2530	2478	2868	390	645	121	2986	3631
18 TO 24 HRS.	50.15	2397	2534	136	96	38	2560	2656	2471	2416	-55	211	19	2424	2635	2881	2884	3	553	24	2896	3449

Hourly Average Schedule Drawal , Actual Drawal &Over(+)/Under(-) Drawal
Month :- January 2013

FIGURES IN MW

Hrs.	FREQ.	EZONE							CZONE							WZONE						
		SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restricted Demand	Unrestricted Demand	SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restricted Demand	Unrestricted Demand	SCH	Demand Met	O/U DRL	SCH LS	Unsch LS	Restricted Demand	Unrestricted Demand
1:00	50.13	1991	2129	138	0	0	2121	2121	2083	2059	-24	128	0	2051	2179	2224	2153	-72	273	0	2144	2418
2:00	50.15	1964	2057	93	0	0	2047	2047	2057	2027	-30	128	0	2018	2146	2196	2112	-84	273	0	2102	2376
3:00	50.18	1933	2002	70	0	0	1992	1992	2025	2009	-16	108	0	1998	2107	2161	2076	-85	273	0	2065	2338
4:00	50.17	1909	1954	45	0	0	1944	1944	2001	2001	0	104	0	1991	2096	2136	2072	-64	273	0	2062	2335
5:00	50.09	1913	1911	-2	0	0	1906	1906	2007	2062	55	104	0	2057	2161	2146	2113	-33	273	0	2107	2380
6:00	50.08	1999	1881	-119	0	0	1876	1876	2110	2144	35	104	0	2139	2243	2267	2248	-19	273	0	2243	2515
7:00	49.92	2084	1951	-133	27	0	1956	1983	2179	2161	-17	164	0	2167	2331	2398	2535	137	487	0	2541	3028
8:00	49.97	2166	2042	-124	31	2	2046	2077	2269	2205	-63	182	3	2210	2393	2554	2860	306	494	12	2875	3369
9:00	50.01	2165	2009	-156	147	6	2015	2162	2265	2102	-163	300	0	2102	2402	2560	2860	300	519	24	2883	3402
10:00	49.99	2232	2018	-214	140	7	2026	2166	2308	2195	-114	312	0	2196	2508	2656	2838	182	616	12	2851	3467
11:00	49.95	2281	2283	2	91	13	2299	2389	2366	2235	-131	380	4	2242	2622	2768	2917	148	538	23	2944	3482
12:00	50.09	2229	2141	-88	113	5	2140	2253	2304	2133	-171	360	0	2128	2488	2673	2656	-17	531	12	2661	3192
13:00	50.16	2163	2023	-140	229	0	2014	2243	2232	2133	-99	352	3	2126	2478	2548	2772	224	502	0	2759	3261
14:00	50.11	2136	1897	-239	233	0	1890	2123	2205	2062	-143	355	0	2055	2410	2492	2840	347	493	0	2830	3323
15:00	50.08	2055	1899	-156	162	0	1895	2057	2136	1986	-149	322	3	1985	2307	2353	2716	362	501	5	2715	3216
16:00	50.04	2014	1829	-185	141	0	1827	1967	2103	2056	-46	267	2	2056	2323	2282	2549	267	542	5	2552	3093
17:00	50.13	1997	1726	-271	90	0	1719	1810	2081	2162	80	223	4	2157	2380	2245	2449	204	548	2	2442	2990
18:00	50.19	2153	1976	-176	84	0	1965	2049	2240	2361	121	167	3	2350	2517	2518	2381	-137	561	0	2368	2929
19:00	49.99	2416	2696	281	64	5	2702	2766	2505	2550	45	110	7	2557	2667	2969	2660	-309	576	0	2661	3237
20:00	50.06	2445	2820	374	64	3	2817	2881	2529	2546	17	110	0	2541	2651	3010	2661	-350	574	0	2655	3229
21:00	50.16	2456	2761	305	64	2	2750	2813	2536	2461	-75	111	0	2449	2560	3003	2686	-317	396	0	2673	3068
22:00	50.15	2305	2525	220	89	0	2513	2603	2366	2326	-40	143	0	2316	2460	2698	2641	-56	358	0	2630	2987
23:00	50.17	2163	2290	127	84	0	2279	2362	2244	2163	-81	134	0	2152	2286	2452	2320	-133	356	0	2308	2664
24:00	50.19	2041	2148	107	35	0	2136	2171	2119	2067	-53	123	0	2055	2178	2277	2017	-259	445	0	2006	2451
Avg.	**50.09**	**2134**	**2124**	**-10**	**79**	**2**	**2120**	**2198**	**2220**	**2175**	**-44**	**200**	**1**	**2171**	**2370**	**2483**	**2505**	**23**	**445**	**4**	**2503**	**2948**
00 TO 06 HRS.	50.13	1951	1989	37	0	0	1981	1981	2047	2050	3	113	0	2042	2155	2189	2129	-60	273	0	2121	2394
06 TO 12 HRS.	49.99	2193	2074	-119	91	6	2080	2172	2282	2172	-110	283	1	2174	2457	2602	2778	176	531	14	2792	3323
12 TO 18 HRS.	50.12	2086	1892	-195	156	0	1885	2041	2166	2127	-39	281	3	2121	2402	2406	2618	211	525	2	2611	3135
06TO 18 HRS.	50.05	2140	1983	-157	124	3	1983	2107	2224	2149	-75	282	2	2148	2430	2504	2698	194	528	8	2702	3229
18 TO 24 HRS.	50.12	2304	2540	236	66	2	2533	2599	2383	2352	-31	122	1	2345	2467	2735	2497	-237	451	0	2489	2939

Annexure- 5.0

SYSTEM DISTURBANCE
January 2013

System Disturbance / System Incidence :

1. **System Disturbance on 11.01.13 at 220KV S/s Ratlam :** On dated 11.01.13 at around 10.40 Hrs MP system was running normal at frequency 49.88 Hz with N-E-W grid. At around 10.45 Hrs, it has been reported that 132KV Ratlam-Jaora ckt-I tripped from both ends due to conductor broke down at location no: 21 & 22 and 132KV Ratlam-Jaora Ckt.-II also tripped from 132KV Jaora end on O/c C-Phase, due to above tripping of both ckt, interruption occurred at 132KV Jaora, 132KV Daloda, 132KV Mandsaur and 132KV Malhargarh area. There was a consumer load loss due to this tripping about 33.50 MWH. System was normalized in due course of time.

2. **System Disturbance on 15.01.13 at 220KV S/s Neemuch :** On dated 15.01.13 at around 13.12 Hrs MP system was running normal at frequency 49.69 Hz with N-E-W grid. Prearranged shutdown on 220KV Nagda - Neemuch Ckt I & II were approved for the erection of towers, hence at 13.12 Hrs 220KV Neemuch- Nagda ckt-I was hand-tripped from both ends than at 13.13 Hrs 220KV Neemuch-Nagda ckt-II was hand-tripped from Nagda end simultaneously total supply failed at 220KV Neemuch and 132KV Neemuch, Manasa, Ratangarh and Suwasra S/s. All five running M/cs at Gandhisagar HPS also tripped . System was normalized in due course of time. There was consumer load loss of around 48.445 MWH for 8 Min only and generation loss at Gandhisagar HPS was 110 MW (energy loss of about 75.16 Mwh).

3. **System Disturbance on 15.01.13 at 220KV S/s Jabalpur :** On dated 15.01.13 at around 17.40 Hrs MP system was running normal at frequency 50.34 Hz with N-E-W grid. At around 17.43 Hrs it has been reported that 'B'-Phase 220KV CT of 3x40MVA (which was on Main Bus-II, and at present Bus Bar protection scheme is not in service) 220/132 KV Mitsubishi transformer bursted due to which the one another 3x40 MVA X'mer and 220KV Jabalpur-Sukha Ckt I&II, 220KV Birsinghpur-Jabalpur Ckt I&II, 220KV Narsinghpur-Jabalpur Ckt-I&II and 220KV Amarkantak-Jabalpur Ckt-II were tripped. At the instant of above trippings there was no interruption in any area as power was supplied by 220KV Amarkantak-Jabalpur Ckt-I through 160 MVA GEC X-mer which remained in charged condition. But at 18.20 Hrs 220/132KV 160MVA X'mer tripped on Over flux, resulting all other 220KV and 132KV feeders were also tripped at 220KV S/s Jabalpur and one running M/c at Bargi HPS were also tripped. System was normalized in due course of time. There was consumer load loss of around 128 MWH and generation loss at Bargi HPS was 45 MW (energy loss of about 71.25 Mwh).

4. **System Disturbance on 16.01.13 at 220KV S/s Bhopal :** On dated 16.01.13 at around 01.00 Hrs MP system was running normal at frequency 49.76 Hz with N-E-W grid. At around 01.06 Hrs, it has been reported that failure of R-Phase pole of 132KV Breaker of 63 MVA 132/33 KV X-mer at 132KV Chambal S/s created a 132KV Bus fault on 132KV Main Bus-I at 220KV Bhopal S/s consequently 132KV Bhopal – Bairagarh Ckt-I, 160 MVA (CGL) & 160 MVA (BHEL) X-mer tripped. 132 KV Bus Coupler was charged at 01.12 Hrs to shift the load to132KV Main Bus-II, at the same instant 3x40 MVA X-mer tripped due to non-removal of faulty section, fault persisting and trippings occurred at 132KV Ayodhya Nagar, 132KV Amrawat and 132KV Berasiya S/s. System was normalized in due course of time.There was a only consumer load loss due to this tripping about 20.6 MWH for 24 Min only.

5. **System Disturbance on 29.01.13 at 220KV S/s Pithampur :** On dated 29.01.13 at around 10.25 Hrs MP system was running normal at frequency 49.94 Hz with N-E-W grid. At around 10.26 Hrs, 132KV Pithampur - Betma feeder tripped on O/C R-phase and B-phase indication, consequently due to jerk , 220/132KV, 160 MVA NGEF X-mer-I tripped on OLTC Buchholz (OSR R-phase). Overload drop scheme is connected on X-mers therefore operated & tripped the 132KV Jamli feeder & 132KV Bagdi feeder giving load relief of 44 MW. Even after the operation of load drop scheme there was an approx. load of 200 MW shifted on 220/132 KV, 160 MVA X-mer-II, caused the tripping of this 160 MVA X-mer-II on O/C R-phase at 10.28 Hrs and resulted in tripping of 132KV Mid India, 132KV Bridge Stone, 132KV Parasrampuriya, 132KV Hindustan Motor, 132KV inter-connector-I&II, 132/33KV 40MVA X-mer-I&II, 132/33KV 63MVA X-mer, 132/33KV 20MVA X-mer at 220KV Pithamur S/s. System was normalized in due course of time.There was a only consumer load loss due to this tripping about 181.19 MWH for 27 Min only.

Annexure :- 9.1

Updated Status of Standard Operating Procedure for DISCOMs

Sr. No	Action Point	Timeline	Updated Status		
			East Discom	Central Discom	West Discom
1	Feeder grouping, prioritization and mapping	30.04.2012	Completed	Completed	Completed
2	Formation of NDCC and DEAG	30.04.2012	Completed	Completed	Completed
3	Set-up communication channel (DCC – NDCC)	30.04.2012	Completed	Completed	Under Progress
4	Set-up communication channel (NDCC- SS)	30.06.2012	Partially completed	On 812, 33/11 KV S/s Telephone connection available on 585 Nos. rest may be completed upto 31.03.12	Under Progress
5	Setting of systematic outage planning protocol	30.04.2012	completed	Still not setup	Implemented wef 27.09.12
6	Complete implementation of DAS on 33 kV feeders	30.04.2012	under progress	Completion on 72 Nos. S/s and rest may be completed upto 28.02.12	Under Execution
7	Develop incentive mechanism for DCC, NDCC, SS staff	31.12.2012	under approval	Work on progress	
8	Infrastructure to obtain weekly data from interface meters	30.04.2012	Not retated	Not retated	
9	Implementation to obtain weekly data from interface meters	30.06.2012	Not retated	Not retated	
10	Implementation and compliance of SOP	01.05.2012	Partially completed	on Progress	Completed
11	Implementation schedule to be uploaded on SLDC site	Done	Not retated	Not retated	Completed
12	Implementation of IT tools for DCC	31.12.2012	31.12.2012	Development of IT tolls are in progress are in progress likely to be completed upto 28.02.13	
13	Technical proposal for development of IT tools	31.03.2012	31.03.2012	Not retated	

Annexure-10.1

I) Interface points where ABT meters has not been provided –

Sr. No.	Name of Sub Station	Description of Interface Point
1.	132 kV S/s, Khategaon	132/33 kV Xmer, 40 MVA BBL.
2.	220 kV S/s, Nagda	220/33 kV Xmer, 100 MVA LV-1.
3.	132 KV S/s, Ingoria	132/33 kV Xmer, 20 MVA BHEL.
4.	132 KV S/s, Jamli	132/33 kV Xmer, 63 MVA BBL.
5.	132 KV S/s, Dhamnod	132/33 kV Xmer, 20 MVA Emco.
6.	132 KV S/s, Gautampura	132/33 kV Xmer, 40 MVA Telk.
7.	132 KV S/s, Jhabua	132/33 kV Xmer, 40MVA EMCO
8.	132 KV S/s, Satya Sai	132/33 kV Xmer, 20 MVA NGEF
9.	132 KV S/s, Aron	132/33 kV Xmer, 40MVA EMCO
10.	132 KV S/s, Chhegaon	132/33 kV Xmer, 20 MVA TELK
11.	132 KV S/s, Sanawad	132/33 kV Xmer, 20 MVA NEI.
12.	132 KV S/s, Suwasara	132 kV Suwasara Rly. Traction.
13.	132 KV S/s, Mullapura	132 kV Naikheri Rly, Traction.
14.	132 KV S/s, Panwadi	33 KV Sarangpur feeder.
15.	132 KV S/s, Astha	132K SEL feeder.
16.	220 KV S/s, Pipariya	33KV Panagar feeder.
17.	220 KV S/s, Nepanagar	132 KV Chegaon I (For 132KV Rly. Tract. Dongargaon-II).

II. Interface Points where ABT meters are faulty -

Sr. No.	Name of Sub Station	Description of Interface Point
1.	132 KV S/s, Rewa	132/33 kV Xmer, 40 MVA BHEL.
2.	220 KV S/s, Rewa	132/33 kV Xmer, 40 MVA NGEF.
3.	132 KV S/s, Lakhnadaon	132/33 kV Xmer, 20 MVA BHEL.
4.	132 KV S/s, Mangliya	132/33 kV Xmer, 40MVA CGL
5.	132 KV S/s, Ghonsala	132/33 kV Xmer, 40 MVA IMP.
6.	132 KV S/s, Bhonra	132/33 kV Xmer, 20MVA NGEF.
7.	132 KV S/s, Dindori	132/33 kV Xmer, 20 MVA TELK.
8.	132 KV S/s, Multai	132/33 kV Xmer, 40 MVA BBL.
9.	132 KV S/s, Katangi	132/33 kV Xmer, 40MVA BBL.
10.	132 KV S/s, Khandwa	132/33 kV Xmer, 40MVA BHEL.
11.	132 KV S/s, Rewa	132/33 kV Xmer, 40 MVA NGEF.
12.	132 KV S/s, Shujalpur	132kV Rly. Traction, Mohd. Khera.
13.	132 KV S/s, Chhegaon	132kV Rly. Traction, Talwadiya.
14.	132 KV S/s, Bahadarpur	132kV Rly. Traction, Burhanpur I&II.
15.	220 KV S/s, Nagda	132kV Rly. Traction, DRM, Nagda.
16.	220 KV S/s, Nepanagar	132kV Rly. Traction, Dongargaon.
17.	132 KV S/s Meghnagar	132kV Rly. Traction, Bamniya.

Annexure-11.5

TELEMETRY DISCRIPIENCY LIST FOR INDORE T&C CIRCLE

Sr.No	DESCRIPTION	Status	telemetry value at SLDC	actual value at site
Burwaha 220 KV S/S				
1	220 KV BUS COUPLER	CB	FAULTY	OPEN
2	220 KV ITARSI FEEDER	CB	FAULTY	CLOSE
3	220 /132 KV TRANSFORMER 1	CB	FAULTY	CLOSE
4	BURWAHA 132KV-CHEGAON	CB	FAULTY	CLOSE
5	BURWAHA 220 KV NIMRANI	CB	FAULTY	CLOSE
6	132BUS COUPLER	CB	FAULTY	CLOSE
7	220/132KV 160 MVA XMER-	OLTC	17	3
8	220/132KV 3X40 MVA XMER	OLTC	17	3
9	63 MVA XMER	OLTC	17	4
10	132 KV CHOTI KHARGONE	MW	0	52
11	132 KV CHOTI KHARGONE	CB	OPEN	CLOSE
Nepanagar 220 KV S/S				
1	160 MVA XMER	OLTC	17	15
2	3X40 MVA XMER	OLTC	1	9
3	12.5 MVA XMER	OLTC	17	5
5	132/33 XMER (20 MVA) NEW	CB,MW,MVAR,SOE	**Telemetry Not available**	
5	132 KV NAPA-BADGAON			
6	220/132 KV , 3*40 MVA TXMER	CB	FAULTY	CLOSE
SOE'S OF ALL THE FEEDERS ARE NOT COMING				
PITHAMPUR 220 KV S/S				
1	220KV BUS XFER	CB	FAULTY	OPEN
2	220KV PITHAMPUR - RAJGARH I	CB	NC	CLOSE
3	220KV PITHAMPUR- RAJGARH II	CB	NC	CLOSE
4	220KV BUS COUPLER	CB	FAULTY	CLOSE
5	132/33 KV TRANSFORMER 3	OLTC	N/C	11
6	PITAMPUR 132 KV-HML	CB	FAULTY	OPEN
7	132 KV TRB	CB	FAULTY	OPEN
8	132 KV BUS COUPLE	CB	FAULTY	CLOSE
9	132 KV IC-2	CB	OPEN	CLOSE
10	132KV HML	MW,MVAR	**NOT AVAILABLE,UPGRADATION OF RTU REQUIRED**	
11	132KV PARASRAMPURIYA	MW,MVAR		
12	132KV JAMLI	MW,MVAR,CB		
13	132/33 KV TRANSFORMER 2	MW,MVAR,CB,OLTC		
14	132/33 KV TRANSFORMER 3	MW,MVAR,CB,OLTC		
15	132/33 KV TRANSFORMER 3	CB	OPEN	CLOSE
16	132/33 KV TRANSFORMER 2	OLTC	N/C	8
17	220/132 XMER2	OLTC	N/C	11
SOE'S OF ALL THE FEEDERS ARE NOT COMING				
INDORE NZ 220KV S/s				
1	220KV Bus TRF	CB	Faulty	Open
2	132KV INDORE NZ -1	CB	Faulty	Close
3	132KV NZ- DEPALPUR -2	CB	Faulty	Close
4	132KV NZ- SANWER	MW,MVAR CB,SOE	Telemetry Not Available, Upgradation required	
5	132KV NZ- UJJAIN			
6	132KV TRACTION			
7	220KV MAIN BUS 2	VOLTAGE	0KV	230KV

TELEMETRY DISCRIPIENCY LIST FOR NAGDA T&C CIRCLE

Sr.No	DESCRIPTION	status	telemetry value at SLDC	actual value at site
NAGDA 400 KV S/S				
1	400KV NAGDA –SUJALPUR 1	CB	FAULTY	OPEN
2	400KV NAGDA –SUJALPUR 2	CB	FAULTY	CLOSE
3	400KV NAGDA –DEHGAON 1	CB	FAULTY	OPEN
4	400KV NAGDA –DEHGAON 2	CB	FAULTY	CLOSE
5	400Kv RAJGARH 1 & 2 TIE BREAKER	CB	FAULTY	CLOSE
6	400Kv SUJALPUR-1 & DEHGAON-1 TIE BREAKER	CB	FAULTY	CLOSE
7	400Kv SUJALPUR-2 & DEHGAON-2 TIE BREAKER	CB	FAULTY	CLOSE
8	400/220 KV ICT I	OLTC	17	9
9	400/220 KV ICT II & III	OLTC	N/C	7
NAGDA 220 KV S/S				
1	220/132 XMER(132 SIDE)-II	CB	OPEN	CLOSE
2	125 MVA TRANSFORMER	OLTC	9	8
3	160 MVA TRANSFORMER	OLTC	9	12
4	40 MVA TRANSFORMER –II	OLTC	17	5
5	**220/132 160 MVA XMER NEW**	CB, SOE, MW, MVAR	**Telemetry not available. RTU configuration required for upgradation already arranged by SLDC.**	
6	**220/33 100MVA XMER NEW**			
7	**220/132KV TRF-3**			
8	**132 GRASIM**	SOE,MW,MVAR,CB	**Telemetry not available. RTU configuration required for upgradation already arranged by SLDC.**	
9	**132 MAHIDPUR-2**			
10	**132KV BUSCOUPLER**	CB	FAULTY	CLOSE
RATLAM 220 KV S/S				
1	220/132 XMER-1	CB	FALTY	CLOSE
2	220KV RATLAM-NAGDA-I	CB	FAULTY	CLOSE
3	220 KV BADNAGAR-1	CB	FAULTY	CLOSE
4	220 KV BADNAGAR-2	CB	FAULTY	CLOSE
5	220 BUS XFER	CB	FAULTY	OPEN
6	132/33 KV TRANSFORMER -2	OLTC	N/C	7
7	**220KV RATLAM - NAGDA 2**	CB, SOE MW, MVAR	**TELEMETRY NOT AVAILABLE. UPGRADATION OF RTU REQUIRED TO BE UNDERTAKEN.**	
8	**132/33 TRF-2 & 3 (NEW)**			
9	**132KV RATLAM-SAILANA**			
NEEMUCH 220 KV S/S				
1	220/132 KV TRANSFORMER 1	CB,SOE	**TELEMETRY NOT AVAILABLE.PROVISION OF TELEMETRY ALREADY AVAILABLE**.	
2	220/132 KV TRANSFORMER 2	MW,MVAR, CB,SOE		
3	132 NEEMUCH UDEPUR	CB	FAULTY	OPEN
4	220/132 KV TRANSFORMER 1	OLTC	N/C	7
5	132 MANDSOR 1&2	CB	FAULTY	CLOSE
6	132 MALHARGARH	CB	FAULTY	CLOSE
7	132 MALHARGARH	MW	NOT COMING	
NOTE:-SOE DATA NOT RECEIVED.CONNECTIONS FOR ALL FEEDERS HAVE TO BE VERIFIED				

TELEMETRY DISCRIPIENCY LIST FOR UJJAIN T&C CIRCLE

Sr.No	DESCRIPTION	status	telemetry value at SLDC	actual value at site
DEWAS 220 KV S/S				
1	132/33 KV TRANSFORMER 2	OLTC	N/C	7
2	220/132 KV TRANSFORMER 1	OLTC	N/C	7
3	220/132 KV TRANSFORMER 2	OLTC	N/C	7
4	132 /33 KV TRANSFORMER 1	OLTC	N/C	8
5	132/33KV 40 MVA XMER	CB	FAULTY	CLOSE
UJJAIN 220 KV S/S				
1	220/132 KV TRANSFORMER 4	OLTC	N/C	6
2	220/132 KV XMER-3	OLTC	N/C	6
3	132 BUS COUPLER	CB	FAULTY	OPEN
4	132/33 KV XMER-1	OLTC	N/C	6
SHUJALPUR 220 KV S/S				
1	160MVA TRANSFORMER-II	OLTC	2	10
2	132/33 63MVA XMER 2	CB, SOE	Telemetry Not Available	
3	132KV Shujalpur-Shajapur			
4	132KV Interconnector-1			
5	132KV Interconnector-2			
BADOD 220KV S/S				
1	220/132KV TRANSFORMR	OLTC	NA	
2	132KV BUS COUPLER	CB	FAULTY	
3	132/33KV Transformer	CB, SOE, MW, MAVR	Telemetry not available,Proces connection need to be done	
4	132 KV Badod- Gahosla			
5	132KV Badod- Suwasar			
RAJGARH DHAR 220 KV S/s				
	ALL CB AND SOE received as faulty			

TELEMETRY DISCRIPIENCY LIST FOR SATNA T&C CIRCLE

Sr.No	DESCRIPTION	Status	telemetry value at SLDC	actual value at site
Satna 220 KV S/S				
1	SATNA 220KV CHHATARPUR-1	CB	FAULTY	CLOSE
2	220/132 KV TRANSFORMER 2	OLTC	N/C	7
3	132/33 KV TRANSFORMER 1	OLTC	N/C	7
4	132/33 KV TRANSFORMER 2	OLTC	N/C	7
5	132KV SATNA- MANJHGAWAN	CB	FAULTY	CLOSE
6	132KV SATNA-PAWAI	CB	FAULTY	CLOSE
7	132KV SATNA- PRISM CEMENT	CB	FAULTY	CLOSE
8	132KV SATNA- PANNA	CB	FAULTY	CLOSE
9	132KV SATNA- MANJHGAWAN	MW,MVAR SOE	**Telemetry not available. RTU configuration done by SLDC. Transducer and CMr's required for upgradation is also provided to site along six months back.**	
10	132KV SATNA- PAWAI			
11	132KV SATNA- PRISM CEMENT			
12	132 SATNA-SATNA IC-1			
13	132 STANA-SATNA IC-2			
14	220KV KOTAR	CB	FAULTY	CLOSE
15	132 KV PANNA	MW,MVAR	N/C	
16	132KV SATNA CEMENT	MW,MVAR	N/C	
Morwa 132 KV S/S				
MORWA RTU FAILED TELEMETRY NOT COMING				
REWA 220KV S/s				
1	220KV SIRMOR-1	MW,	0	15
2	220KV SIRMOR-1	MVAR	0	3
3	220KV SIRMOR-2	MW	0	15
4	220KV SIRMOR-2	MVAR	0	3
5	220KV VOLTAGE	VOLTAGE	146	220
6	220KV FREQUENCY	FREQ	47.5	49.93
7	220KV SIRMOR-1	CB	FAULTY	CLOSE
8	220KV SIRMOR-2	CB	FAULTY	OPEN
9	220KV BUSCOUPLER	CB	FAULTY	CLOSE
10	220/132 XMER-1	CB	FAULTY	CLOSE
11	220/132KV XMER-2	CB,MW,MVAR	NOT CONNECTED	
12	220KV SATNA	CB	FAULTY	CLOSE
13	220KV SIDHI	CB	FAULTY	CLOSE
14	220KV BUS 2	VOLATAGE	105	220
SOE'S OF ALL THE FEEDERS ARE NOT COMING				

TELEMETRY DISCRIPIENCY LIST FOR JABALPUR T&C CIRCLE

Sr.No	DESCRIPTION	Status	telemetry value at SLDC	actual value at site
NARSINGPUR 220KV S/s				
1	220KV NARSINGPUR-PIPARIYA	CB	FULTY	CLOSE
2	220KV NARSINGPUR-ITARSI	CB	OPEN	CLOSE
3	220/132 TRANSFORMER-2	CB	OPEN	CLOSE
4	220 KV TRB	CB	FAULTY	CLOSE
5	220/132 KV TRANSFORMER 1	OLTC	N/C	7
6	220/132 KV TRANSFORMER 2	OLTC	N/C	5
7	132/33 KV TRANSFORMER 1	OLTC	N/C	6
8	220/132 KV TRANSFORMER 2	MW	456	147
9	220/132 KV TRANSFORMER 2	MVAR	456	6
10	132 BUS TRANSFER	CB	FAULTY	CLOSE
11	132 Narsingpur-Barman-2	CB,SOE,MW,MVAR	TELEMETRY NOT AVAILABLE	
12	132/33 TRANSFORMER-2			
SOE'S OF ALL THE FEEDERS ARE NOT COMING				
Jabalpur 220 KV S/S				
1	220/132 KV TRANSFORMER 1	CB	FAULTY	CLOSE
2	220 KV TRB	CB	FAULTY	OPEN
3	JABALPUR 132 KV- MADHOTAL	CB	FAULTY	CLOSE
4	132 KV BUS TRF	CB	FAULTY	CLOSE
5	220KV JABALPUR-BIRSINGHPUR 1	CB & SOE	NOT AVAILABLE	CONNECTION TO BE EXTENDED
6	220KV JABALPUR-BIRSINGHPUR 2	CB & SOE	NOT AVAILABLE	
7	132/33 KV TRANSFORMER 2	CB	FAULTY	CLOSE
8	220/132KV XMER-1 132 SIDE	CB	FAULTY	CLOSE
KATNI 220 KV S/S				
1	220 KV BUS COUPLER	CB	FAULTY	CLOSE
2	220 KV TRB	CB	FAULTY	OPEN
3	220/132 KV TRANSFORMER 2	MW,MVAR	NOT AVAILABLE	
4	220/132 KV TRANSFORMER 2	CB,OLTC	NOT AVAILABLE	
5	132/132 KV TRANSFORMER 1	MW,MVAR	NOT AVAILABLE	
6	220/132 KV TRANSFORMER 1 132 SIDE	CB	FAULTY	CLOSE
7	132/33 KV TRANSFORMER 1& 2	MW,MVAR,OLTC	NOT AVAILABLE	
8	132/33 KV TRANSFORMER 1& 2	CB,SOE	NOT AVAILABLE	
9	132KV Interconnector 1 & 2	MW,MVAR		
10	132/33 TR-1	CB	FAULTY	OPEN
11	132/33 IC-1 &	CB	FAULTY	OPEN
12	132/33 KYMORE-1 & 2	CB	FAULTY	OPEN
SOE'S OF ALL THE FEEDERS ARE NOT COMING				

TELEMETRY DISCRIPIENCY LIST FOR GWALIOR T&C CIRCLE

Sr.No	DESCRIPTION	Status	telemetry value at SLDC	actual value at site
GUNA 220 KV S/S				
1	220KV BUSCOUPLER	CB	FAULTY	**CLOSE**
2	220/132KV XMER-1	OLTC	17	**7**
3	40MVA XMER 1&2	OLTC	NOT AVAILABLE	
SOE'S OF ALL THE FEEDERS ARE NOT COMING IN GUNA 220 S/S				
GWALIOR 220 KV S/S				
1	132/33 TRF 2	OLTC	NC	8
2	132/33 TRf-4	OLTC	NC	7
3	220/132KV XMER-1 132 SIDE	CB	FAULTY	**CLOSE**
4	220/132KV XMER-2 132 SIDE	CB	FAULTY	**CLOSE**

TELEMETRY DISCRIPIENCY LIST FOR BHOPAL T&C CIRCLE

Sr.No	DESCRIPTION	status	telemetry value at SLDC	actual value at site
BHOPAL 400 KV S/S				
1	400/220 KV DAMOH-1	CB	FAULTY	CLOSE
2	400 KV DAMOH 1&2 TIE BREAKER	CB	FAULTY	CLOSE
3	220KV BAIRAGARH	CB	FAULTY	CLOSE
PIPARIA 132 KV S/S				
1	132KV BARELI	CB	FAULTY	OPEN
2	132/33KV 20MVA XMER	OLTC	N/C	
3	132/33KV 40MVA XMER	OLTC	N/C	
SOE'S OF ALL THE FEEDERS ARE NOT COMING IN PIPARIYA 132 S/S				
SARNI 220 KV S/S				
RTU FAILED TELEMETRY NOT COMING				
BAIRAGARH 220 KV S/S				
1	220 KV BUS 1	VOLTAGE	126	227
2	220 KV BUS 1	FREQUENCY	N/C	49.78
3	220/132 XMER –I	CB	FAULTY	CLOSE
4	220/132 XMER (160MVA) NEW II	CB	**TELEMETRY NOT AVAILABLE AND NEED TO BE PROVIDED BY UPGRADATION OF RTU**	
5	220/132 XMER (160MVA) NEW II	MW,MVAR		
7	132/33 XMER (20 MVA) NEW IV	CB,OLTC		
8	132/33 XMER (20 MVA) NEW IV	MW		
9	132/33 XMER (20 MVA) NEW IV	MVAR		
10	132KV BHOPAL -2	CB,MW,MVAR,SOE		
11	BAIRAGRAH 132KV-LALGHATI II	CB	FAULTY	OPEN
12	220KV BUS COUPLER	CB	FAULTY	CLOSE
13	132KV BUS COUPLER	CB	FAULTY	CLOSE
Sr.No	DESCRIPTION	status	telemetry value at SLDC	actual value at site
HANDIA 220 KV S/S				
1	220KV HANDIA –ITARSI –I	CB	FAULTY	CLOSE
2	220KV HANDIA 220/132 TR-2	CB	FAULTY	CLOSE
3	132KV HANDIA 220/132 TR-2 132 SIDE	CB	FAULTY	CLOSE
4	132 KV HARDA	CB	FAULTY	CLOSE
5	220/132 TR-2	OLTC	N/C	
NOTE:-SOE DATA NOT RECEIVED EXCEPT BARWAHA FEEDER.CONNECTIONS FOR ALL FEEDERS HAVE TO BE VERIFIED				

Bina 400 KV S/S				
1	400/220 KV XMER III Primary side	CB	FAULTY	CLOSE
2	400/220 KV XMER III Secondary side	CB	FAULTY	CLOSE
Bina 220 KV S/S				
6	132KV BINA –GANGBASODA	CB	N/C	
7	132KV BINA - BORL 1 &2	CB,SOE MW,MVAR	NOT AVAILABLE	
8	132KV BINA - BORL 1 &2			
5	132KV BINA – MUNGAWALI	CB,SOE,MVAR		
SOE DATA NOT RECEIVED.CONNECTIONS FOR GWALIOR-2,GUNA-1 FEEDERS HAVE TO BE VERIFIED				
Telemetry Discripiency List of Tikamgar 220,Sagar 132 not prepared because all three RTU's are not functioning				

TELEMETRY DISCRIPIENCY LIST FOR SAGAR T&C CIRCLE

Telemetry Discripiency at power stations

Sr No	DESCRIPTION	Status	telemetry value at SLDC	actual value at site
SATPURA TPS				
1	STPS BUS 1	VOLTAGE	360	415
2	GT 6	MW	152	170
3	GT6	MVAR	1	45
4	GT7	MW	190	150
5	GT7	MVAR	56	65
6	GENERATOR 7	CB	FAULTY	OPEN
7	GENERATOR 8	CB	OPEN	CLOSE
AMARKANTAK THERMAL POWER STATION				
1	132KV RAJMILAN-1	CB	FAULTY	CLOSE
2	132KV RAJMILAN-2	CB	FAULTY	CLOSE
3	132/33 KV TRNSFRMER 4 & 5	OLTC	N/C	6
4	220KV SUKHA	CB	OPEN	CLOSE
5	132KV BUS COUPLER	CB	N/C	CLOSE
6	220KV BUS 2	FREQUENCY	N/C	
7	220/132 XMER-1 132 SIDE	CB	OPEN	CLOSE
8	132KV BUS	FREQUENCY	N/C	
BARGI HPS				
Note :- The circuit breaker status of all generator/bus coupler etc. are displayed correctly in On condition. However, in off condition, the same is received as faulty.				
TONS HPS				
1	220/33 20 MVA XMER	CB	FAULTY	OPEN
2	GENERATOR-2	CB	FAULTY	OPEN
3	220KV REWA-2	CB	FAULTY	CLOSE
4	BUS COUPLER	CB	FAULTY	OPEN
5	Generator-3	CB	FAULTY	OPEN
6	Satna MW	MW	33	20
7	Kotar MW		11	0
8	Satna MVAR	MVAR	30	20
9	Kotar MVAR		18	0
10	Rewa MW		12	20
11	Rewa MVAR		2	1
9 Note:- **SOE CONNECTION NOT DONE FOR ANY FEEDER AT TONS HPS**				
GANDHISAGAR HPS				
1	132/33 KV XMER	OLTC	6	9
2	132/33 KV XMER	CB	OPEN	CLOSE
3	GENERATOR 1	CB	FAULTY	CLOSE
RAJGHAT HPS				
1	RAJGHAT132 KV-LALITPUR	CB	FAULTY	OPEN
2	GEN1	CB	FAULTY	CLOSE
3	GEN2	CB	FAULTY	CLOSE
NOTE SOE'S OF ALL THE FEEDERS ARE NOT COMING.				

Telemetry Discripiency at SGTPS

Sr No	DESCRIPTION	Status	telemetry value at SLDC	actual value at site
1	400/220KV TRANSFORMER	CB	OFF	CLOSE
2	400/220KV TRANSFORMER	SOE	SOE DATA NOT RECEIVED.	
3	400KV STATION TRANSFORMER	CB	FAULTY	CLOSE
4	400KV STATION TRANSFORMER	SOE	SOE DATA NOT RECEIVED.	
5	400KV BUS COUPLER	CB	FAULTY	OPEN
6	400KV BUS COUPLER	SOE	SOE DATA NOT RECEIVED.	
7	400KV BUS TIE	CB	FAULTY	CLOSE
8	400KV BUS TIE	SOE	SOE DATA NOT RECEIVED.	
9	400KV KATNI-2	CB	FAULTY	CLOSE
10	400KV KATNI-2	SOE	SOE DATA NOT RECEIVED.	
11	400KV DAMOH-1	SOE	SOE DATA NOT RECEIVED.	
12	400KV DAMOH-2(PG)	CB	FAULTY	CLOSE
13	400KV DAMOH-2(PG)	SOE	SOE DATA NOT RECEIVED.	
14	220KV BUS COUPLER	CB	FAULTY	CLOSE
15	220KV BUS COUPLER	SOE	SOE DATA NOT RECEIVED.	
16	220 GENERATOR #1	CB	FAULTY	CLOSE
17	400 GENERATOR #5	SOE	SOE DATA NOT RECEIVED.	

NOTE:- SOE'S OF MOST OF THE FEEDERS ARE NOT COMING ,CONNECTIONS FOR ALL FEEDERS HAVE TO BE VERIFIED.

Annexure - 11.7

Details of existing RTUs/ New RTUs, status of alternate data channel and status of express communication channel

1.(A) Existing RTU connected to SLDC Jabalpur :

Sr. No.	Name of RTU	Critical / Non Critical	Status of first data channel	Status of second data channel	Status of Express communication channel
1	BANSAGAR-I HPS (TONS)	Critical	Channel working	Channel not working	Channel not working
2	SATNA 132 kV	Non critical	Channel working	NA	NA
3	SATNA 220 kV	Critical	Channel working	Channel not working	NA
4	BIRSINGHPUR TPS	Critical	Channel not working	Channel working	Channel not working
5	REWA BANSAGAR II HPS	Critical	Channel working	Channel not working	Channel not working
6	BANSAGAR III HPS	Critical	Channel working	Channel not working	Channel not working
7	MORWA132 kV	Critical	Channel working	Channel not working	Channel not working
8	KATNI 220 kV	Non critical	Channel working	NA	NA
9	KATNI 400 kV	Critical	Channel not working	Channel working	NA
10	DAMOH 220 kV	Non critical	Channel working	NA	Channel not working
11	TIKAMGARH 220 kV	Non critical	Channel not working	NA	NA
12	AMARKANTAK TPS	Critical	Channel not working	Channel working	Channel not working
13	NARSINGPUR 220 kV	Critical	Channel working	Channel not working	NA
14	JABALPUR 220 kV	Critical	Channel working	Channel working	NA
15	SAGAR 132 kV	Non critical	Channel not working	NA	NA
16	BARGI HPS 132 kV	Critical	Channel working	Channel not working	Channel not working
17	JABALPUR 400 kV	Non critical	Channel working	NA	NA
18	PENCH HPS 132 kV	Critical	Channel not working	Channel working	Channel not working
19	SEONI 132 kV	Non critical	Channel working	NA	NA
20	BALAGHAT 132 kV	Non critical	Channel working	NA	NA
21	CHHINDWARA 132 kV	Non critical	Channel working	NA	NA
22	BOREGAON 132KV	Non critical	Channel working	NA	NA
23	PANDHURANA 220 KV	Non critical	Channel working	NA	Channel not working
24	BINA 220 kV	Critical	Channel working	Channel not working	NA
25	BINA 400 kV	Critical	Channel working	Channel not working	NA

2.(A) Existing RTU connected to Sub LDC Bhopal :

1	GWALIOR 220 kV	Non critical	Channel working	NA	Channel not working
2	MARHIKHEDA HPS 132 kV	Non critical	Channel working	NA	Channel not working
3	RAJGHAT HPS 132 kV	Critical	Channel working	Channel not working	Channel not working
4	ASTA 132 kV	Non critical	Channel working	NA	NA
5	HANDIA 220 kV	Non critical	Channel working	NA	NA
6	BHOPAL 400 kV	Critical	Channel working	Channel working	NA
7	BHOPAL 220 kV	Critical	Channel working	Channel working	NA
8	PIPARIA 132 kV	Non critical	Channel working	NA	NA
9	ITARSI 220 kV	Critical	Channel working	Channel not working	NA
10	SATPURA 220 kV S/S	Critical	Channel working	Channel working	NA
11	SATPURA TPS 400 kV	Critical	Channel not working	Channel working	Channel not working
12	MALANPUR 220 kV	Critical	Channel working	Channel working	Channel not working

Annexure - 11.7

Details of existing RTUs/ New RTUs, status of alternate data channel and status of express communication channel

13	MEHGAON 220 kV	Non critical	Channel working	NA	Channel not working
14	GUNA 220 kV	Non critical	Channel working	NA	NA
15	BERAGARH 220 KV	Non critical	Channel working	NA	NA
16	SATPURA TPS 220 kV S/S	Critical	Channel not working	Channel working	Channel not working

3.(A) Existing RTU connected to Sub LDC Indore :

1	SHUJALPUR 220 KV	Non critical	Channel working	NA	Channel not working
2	Badod 220 KV	Non critical	Channel working	NA	Channel not working
3	GHANDHISAGAR HPS 132 KV	Critical	Channel working	Channel not working	Channel not working
4	NAGDA 220 KV	Non critical	Channel working	NA	NA
5	NAGDA 400 KV	Critical	Channel working	Channel not working	Channel not working
6	NEEMUCH 220 KV	Non critical	Channel working	NA	NA
7	INDORE-II 220 KV	Non critical	Channel working	NA	NA
8	UJJAIN 220 KV	Critical	Channel working	Channel not working	NA
9	SHAJAPUR 132 KV	Non critical	Channel working	NA	NA
10	INDORE (Chambal) 132 KV	Non critical	Channel working	NA	NA
11	PITHAMPUR 220 KV	Non critical	Channel working	NA	NA
12	BURWAHA 220 KV	Non critical	Channel working	NA	NA
13	NEPANAGAR 220 KV	Critical	Channel working	Channel not working	NA
14	INDORE 400 KV	Critical	Channel working	Channel working	NA
15	RATLAM 220 KV	Non critical	Channel working	Channel not working	NA
16	DEWAS 220 KV	Critical	Channel working	Channel working	NA
17	INDORE 220 KV (SZ)	Non critical	Channel working	NA	NA
18	Rajgarh(Dhar) 220 KV	Non critical	Channel working	NA	Channel not working