



MP POWER TRANSMISSION COMPANY LIMITED
STATE LOAD DESPATCH CENTRE, NAYAGAON, JABALPUR 482 008
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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 2012. 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 (PIng. & 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 PLANNING

- 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 :

| S N | 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 : **OTHER IMPORTATNT OPERATIONAL ISSUES**

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 within 10 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 restored 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 OSP shall increase after commissioning of Chhegaon Sub Station. The Member Secretary OCC requested the Omkareshwar 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 be granted by SLDC.

ITEM NO. 7 : BLACK-START MOCK DRILL OF HYDEL POWER STATIONS :

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 Birsinghpur 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 normal 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 2012 to 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 WRPC 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: OTHER OPERATIONAL ISSUES :

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 give 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- Rajmilian 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 TELEMETERED 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 TELEMTRY 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.

**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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| 18 | P.K.Saxena | SE | MPPGCL JBP | 9425806609 | segcc.mppgcl@gmail.com |
| 19 | Manoj Kumar Mahorana | Sr.Er.(Elect.) | BLA Power Ltd. | 8959592129 | manish@bla.co.in |
| 20 | K.C.Mishra | DGM (PLM) | MPMKVVCL,Bhopal | 9406902007 | kcm.lm@rediffmail.com |
| 21 | P.C.Narware | AE (PLM) | MPMKVVCL,Bhopal | 9406902025 | pcbpl@rediffmail.com |
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| 23 | Ashish Shukla | Manager | Enercon (I) Ltd | 9630004561 | ashish.shukla@windworldindia.com |
| 24 | Antim Jain | Nodal Officer | DCC Indore | 8989983743 | dccindore@gmail.com |
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| 27 | K.D.Chaturvedi | DGM (PM) | ED(PM) MPPMCL | 9425806947 | controlroom.tradeco@gmail.com |
| 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 COMPLETION | DATE OF COMMISSIONING | 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 (L/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 - Gadawara 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 & Narsinggarh (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 Anoopur 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.Ito5 (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 | Bankheddi (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) (Simhashta) | 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 |
| Commissary 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 |
| Commissary 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 MPPKVCL, JABALPUR

(For which group to be allocated)

| JABALPUR REGION | | |
|------------------------|----------------------|----------------------------|
| Name of EHV Substation | Name of 33kV feeder | Date of charging of feeder |
| 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 MPPKVCL, 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 liser | 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 MPPKVCL, 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 | | Ann 4.1 | | |
| 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**

Ann 4.2

| 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 | UNRES. T. 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 | Exchange | STOA | Rihand+Matatila-Rajhat | 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 | | |
| 06 TO 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 | UNRES. T. 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 | Exchange | STOA | Rihand+Matalila-Rajhat | 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 | | |
| 06 TO 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 | Restrict ed Demand | Unrestrict ed Demand | SCH | Demand Met | O/U DRL | SCH LS | Unsch LS | Restrict ed Demand | Unrestrict ed Demand | SCH | Demand Met | O/U DRL | SCH LS | Unsch LS | Restrict ed Demand | Unrestrict ed 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 |
| 06 TO 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 | Restrict ed Demand | Unrestrict ed Demand | SCH | Demand Met | O/U DRL | SCH LS | Unsch LS | Restrict ed Demand | Unrestrict ed Demand | SCH | Demand Met | O/U DRL | SCH LS | Unsch LS | Restrict ed Demand | Unrestrict ed 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 |
| 06 TO 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 |

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 Mandasaur 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 to 132KV 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 Pithampur 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.

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-10.1I) 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 Discrepancy 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 Discrepancy 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.

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 | MORWA 132 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 |

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 |