

## REGULATORY COMPLIANCE REPORT IN RESPECT OF MP POWER TRANSMISSION COMPANY LIMITED <u>APRIL-SEPTEMBER 2014</u> (HALF YEARLY REPORT)

#### 1. PREAMBLE -

#### 1.1 <u>MP POWER TRANSMISSION COMPANY – THE LICENSEE</u> -

The Madhya Pradesh Power Transmission Company Limited is a Company, formed under the reorganization of erstwhile MP State Electricity Board, to undertake the Intra-State Transmission activities in the State of Madhya Pradesh. It is registered under Companies Act, 1956 on 22.11.2001. The Company started functioning under an O&M agreement with MPSEB since July 2002, and started independent functioning since 1<sup>st</sup> June 2005. It is declared as State Transmission Utility by the State Government's order No. 2491/13/04/BPL dated 17.05.2004 w.e.f. 01.06.2004. It is the deemed Transmission Licensee for the State of Madhya Pradesh as per Section-14 of the Electricity Act, 2003. It is also operating the State Load Despatch Centre (SLDC) situated at Jabalpur, under Section 31 of the Act.

The main function of The Transmission Licensee is to transmit / transform the power from the Generating Stations situated in the State to the area of Distribution Licensees. The power from the Central Sector and other Inter-State Generating sets is transmitted to Distribution Licensees, from the MP periphery, where the power is received through the network of Inter-State Transmission Licensee.

The power requirement of the Distribution Licensees is around 10,000 MW. To handle this much quantum of power, MPPTCL has developed a Transmission system of adequate capacity with the following infrastructure as on 31.03.2014;

S.	Voltago	EHV Lines	Net MVA	Net No. of
No.	voltage	(Ckt. Kms)	Capacity	Sub-stations
1.	400 KV	2847.06	5775.0	8
2.	220 KV	11459.95	16710.0	57
3.	132 KV	14641.76	18657.5	209
4.	66 KV	61.00	20.0	1
	TOTAL -	29009.77	41162.5	275

The Transmission system of MPPTCL is connected to the system of PGCIL, State Generating Stations and Sub-transmission of Discoms through 738 (as on 31.03.2014) interface points, through proper metering.

#### **1.2 <u>REGULATIONS ON REGULATORY COMPLIANCE</u> –**

The Electricity Act 2003, on one hand provides for taking measures conducive to development of Electricity Industry, promoting competition therein,

protecting interest of consumers and on the other hand, it provides for a Regulatory Authority to regulate the Licensees in the area of Cost, Tariff and quality of supply to the customers. Under the provisions of the Vidyut Sudhar Adhiniyam, 2000, and the Electricity Act, 2003, the MP Electricity Regulatory Commission has been functioning in the State. The functions of the State Commission are described in Section-86 of the Act. One of the functions of the State Commission mentioned in Section 86(i-j) is to specify or enforce standards with respect to quality, continuity and reliability of service by the Licensees. Accordingly, Hon'ble State Commission notified Regulations on Transmission Performance Standards, Management Information System (MIS), License Conditions, State Grid Code etc. This required a continuous process of reporting by the Licensee and monitoring by the Hon'ble Commission. To facilitate this Hon'ble Commission in exercise of Power conferred under Section 181 Sub-section (1) of the said Act notified the MPERC (Guidelines for Reporting of Regulatory Compliance) Regulations, 2005 on 5th May 2005. Regarding the objective of "Compliance Reporting System", it is mentioned that the Licensee should build a sound and effective Regulatory Compliance mechanism. The Regulations are applicable to all the Licensees in the State including the Transmission Licensee.

## 1.3 SALIENT FEATURES OF REGULATIONS -

#### The Regulations provide for;

- i. Ensure timely submission of periodical reports covering all the items under report.
- ii. Appointment of a Reporter of Compliance by each licensee, entrusted with the responsibility of reporting Regulatory Compliance.
- iii. Setting-up reporting procedures for formulation and submission of Half Yearly and Annual Reports by Reporter of Compliance, to the Commission.
- iv. Specify the periodical reports to be included and specific areas to be covered, under the report of the Reporter of Compliance.
- v. Taking cognizance of the reports by the Top Management/ Directors of the Company.

#### 1.4 <u>REPORTER OF COMPLIANCE</u> –

The MP Power Transmission Company has appointed Shri Anil Kumar Bajpai, Retired Chief Engineer MPSEB, as Reporter of Compliance on contract basis for one year, after obtaining due approval from MPERC. The contract appointment period shall be over on 22.08.2015. Thus, the Company has engaged Reporter of Compliance as per the Regulations notified by Hon'ble State Commission.

### 1.5 <u>REPORTING PROCEDURE</u> –

The Regulations provide for submission of following reports by the Reporter of Compliance;

- i. Half Yearly Report April to Sept.; to be submitted by 31st December.
- ii. Annual Report of financial year; to be submitted by 30th June of following year.

### The reports are required to be fragmented in three parts;

- i. Reports on issues fully complied with.
- ii. Reports on issues partially complied with and
- iii. Reports on issues not complied with, along with reasons and future course of action.

## 1.6 <u>REPORTS COVERED UNDER THE REGULATIONS</u> -

Annexure 'A' appended with the Regulations of 2005, specify the periodical reports on which Reporter of Compliance has to base his report. The reports concerning the Transmission Licensee are shown in the following table;

MIS Report	To be submitted within 30 days of end of each quarter.		
Compliance of MP	Various compliances to be submitted on different dates		
Electricity Grid Code	various compliances to be submitted on different dates.		
Transmission Performance	To be submitted within 15 days of and of each quarter		
Standards	10 de submitted within 45 days of end of each quarter.		
Conditions of Licensee	Various compliances to be submitted on different dates.		
Open Access Regulations	Various compliances to be submitted on different dates.		
MPERC (SLDC fees and	Various compliances to be submitted on different dates		
charges) Regulations	various compliances to be submitted on different dates.		
MPERC (Treatment of	Various compliances to be submitted on different dates.		
other business of licensee)			

## 1.7 <u>SUBMISSION OF EARLIER REPORTS BY REPORTER OF</u> <u>COMPLIANCE</u> –

In compliance to the Regulations, following reports have been submitted by the Reporter of Compliance before Hon'ble Commission for the previous year i.e. 2013-14;

S. No.	Report	Reference of submission
1.	Half Yearly Report for April- Sept.'13.	Letter No. 04-01/ CRA Cell/F-6/ 9490 dtd. 31.12.13
2.	Annual Report for year 2013-14	Letter No. 7536 dtd. 30.9.2014

## 1.8 HALF YEARLY REPORT FOR PERIOD APRIL-SEPT.'14 -

The Transmission Licensee has submitted the periodical reports for both the quarters of the half year (i.e. April 2014 to September 2014) in time. The licensee has also reported compliance on other points to be covered under the report. The instant report is based on above mentioned reports, and discussions / analysis thereon.

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## 2. <u>MIS REPORTS</u> -

## 2.1 MIS REGULATIONS -

Hon'ble Commission, on 2<sup>nd</sup> April 2004, notified the MP Electricity Regulatory Commission (Monitoring of performance of Licensee and Generating Companies) Regulations, 2004. Different sets of reports have been prescribed for Generation, Transmission and Distribution Licensees. Subsequently, Hon'ble Commission vide notification dtd. 31<sup>st</sup> October 2008, has made certain amendments in the reporting formats. The details to be given in revised formats are as under;

S.	Format	Sub-	Details Covered	
No.	No.	Numbers		
1	Tr-1	(i)	Energy Accounting	
		(ii)	Voltage-wise Losses	
2	Tr-1(a)	(i)	Details of top Ten congested EHV Lines	
3	Tr-2	(i)	Transmission System Availability	
		(ii)	Availability of Five critical Lines	
		(iii)	Frequency Excursion	
		(iv)	Maximum Demand met	
		(v)	Capacity addition of EHV Lines	
		(vi)	Capacity addition of EHV Sub-stations	
4	Tr-3	(i)	SLDC's Infrastructure.	
		(ii)	Remote Terminal Units	
		(iii)	Interface Meters	
		(iv)	Backing down of Generating Units	
		(v)	Voltage variations in EHV Sub-stations	

#### 2.2 <u>SUBMISSTION OF MIS REPORTS</u> -

The Transmission Licensee is submitting the quarterly reports on MIS regularly. The reports for the year 2014-15 have been submitted as per the references mentioned hereunder;

S. No.	Period	Period Reference of submission to the Commission		
1	April-June '14	Letter No. 04-01/CRA Cell/ F-15/5889 dtd. 31.07.14		
2	July-Sept.'14*	Letter No. 04-01/CRA Cell/ F-15/8184 dtd. 31.10.14		

\* Revised because of referencing error and submitted vide letter dated 17.11.2014

Thus, MIS reports for first and second quarter of 2014-15 have been submitted by the licensee as per the formats prescribed for the purpose.

Thus, both the reports for the year 2014-15 have been submitted within specified time of one month from the end of the quarter.

## 2.3 DATA CHECKS BY REPORTER OF COMPLIANCE -

It has been checked by the Reporter of Compliance from records that the reports submitted by the licensee are based on the data supplied by the different HODs as mentioned hereunder;

(i)	Information of Energy Account	CE (T&C), CE(LD) and
(1)	and Computation of losses	C.E. (Planning & Design).
(ii)	Overloading on feeders	CE (T&C)/ CE. (Plg & Design)
(iii)	System/feeder/Transformer Availability	CE (T&C)/ C.E.(EHT-C&M)
(iv)	Max. Demand met out	C.E.(Load Despatch)
(v)	Capacity Addition	C.E. (Planning & Design).
(vi)	Frequency Excursion	C.E. (Load Despatch)
(vii)	SLDC's equipment's functioning, schedules and drawls.	C.E. (Load Despatch)

## 2.4 <u>STATUS OF COMPLIANCE ON REPORTING</u> -

## 2.4.1 <u>REPORTS FULLY COMPLIED</u> -

Following reports have been fully complied for I<sup>st</sup> & II<sup>nd</sup> quarters of 2014-15;

S. No.	Report fully complied	Reference of Format
1	Energy received and sent out in the Transmission System with computation of Transmission Losses.	Tr-1
2	Voltage-wise Transmission Losses for 400 KV, 220 KV and 132 KV System.	Tr-1
3	Information of Top 10 lines with maximum congestion.	Tr-1-a
4	Voltage-wise and overall Transmission System Availability	Tr-2
5	Transmission System Availability of 5 major critical lines.	Tr-2
6	Frequency excursion	Tr-2
7	Demand met during the quarter	Tr-2
8	Voltage-wise EHV lines added during the quarter	Tr-2
9	Voltage-wise Transformation Capacity added	Tr-2
10	Details of RTUs/Transducers in service for data acquisition by SLDC.	Tr-3
11	Inter-face points and Metering status	Tr-3
12	Voltage variation in 400 KV, 220 KV and 132 KV Sub-stations.	Tr-3
13	Name of 5 Sub-stations which recorded lowest voltage .at 33 KV level.	Tr-3
14	Name of 5 Sub-stations which recorded highest voltage at 33 KV level.	Tr-3

## 2.4.2 <u>REPORTS PARTIALLY COMPLIED</u> -

There is no report on which reporting is partial.

#### 2.4.3 <u>REPORTS NOT COMPLIED</u> -

There is no aspect of the report which is not complied with.

## 2.5 POINTS OF BETTER PERFORMANCE –

The MIS for the first two quarters of year 2014-15 indicates better performance of MPPTCL on following points;

#### 2.5.1 <u>TRANSMISSION LOSSES</u> –

Despite the fact that there are many factors contributing to Transmission Losses, which are not controllable by the Transmission Licensee and in spite of the increase in Energy handled by Intra-State Transmission System, MPPTCL has been able to reduce Transmission Losses continuously during the past years.

In the spirit of achievements of previous years, MPPTCL has been able to confine the transmission losses during this period to 2.87 % which is within the target of 2.97 % set by the Hon. Commission for the period under the report.



The year-wise comparison is pictorially depicted below;

The losses have been reduced continuously during the past few years, in spite of the increase in Energy handled; the same trend is expected to continue, as depicted in the following graph;





## 2.5.2 VOLTAGE-WISE LOSSES -

When MPPTCL took over the Intra-State Transmission activities, there was a concern over high Transmission losses in 220 KV System. This was due to the fact that the 220 KV feeders were the main power evacuation Lines carrying heavy load over long distances. This aspect had drawn attention of the top management of MPPTCL and due importance was given to 220 KV works to mitigate this problem. It may also be appreciated from the following table that the loss at 220 KV voltage level is in a southward trend. The following table indicates the reduction in voltage-wise losses during past five and a half year;

S. No.	System Transmission Losses At Various Volta			losses in Pe Voltage L	ercentage Levels		
	Voltage	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15 (Half Yearly)
1	400 KV	1.19%	1.18%	1.18%	1.22%	1.19%	1.22%
2	220 KV	2.86%	2.56%	2.39%	2.11%	1.85%	1.75%
3	132 KV	1.03%	0.86%	0.89%	0.92%	0.79%	0.78%
4	Total System	4.19%	3.74%	3.51%	3.30%	3.00%	2.87%

## 2.6 TRANSMISSION SYSTEM AVAILABILITY -

Hon'ble Commission has fixed a target of Transmission System Availability as 98.0% for year 2014-15 as per Regulations. The Transmission System Availability achieved during the two quarters of year is higher than the target fixed. This indicates proper maintenance of lines and sub-stations as well as prompt outage management. The achievements are shown hereunder;

S. No.	Period	<b>Target Fixed</b>	Actual Achieved
1	April-June'14	98.0%	99.27 %
2	July-Sept.'14	98.0%	99.23 %

## 2.7 MAXIMUM DEMAND MET -

Transmission system in MP caters maximum load during Rabi Season i.e. between October and March, on account of predominating irrigation load. The Maximum Demand met during the two quarters of year 2014-15 as compared to the same quarters of previous year i.e. 2013-14 is shown hereunder;

S. No.	Period	2013-14	2014-15
1	April-June	7335 MW	7054 MW
2	July-Sept.	7395 MW	8238 MW

The comparative quarterly Maximum demand met during the past five years are shown hereunder;



#### QUARTERLY MAXIMUM DEMAND MET Half Yearly figures of 2009-10 to 2014-15 (In MW)

## 2.8 FREQUENCY EXCURSION -

The Transmission Licensee cooperated in keeping system frequency in healthy zone most of the time. During the period under report, the frequency remained within the prescribed Target Range as set in the Transmission Performance Standards, that is, Max (+) 1.0% or 50.5 Hz & Minimum (-) 2.0% or 49.0 Hz for 100% of the time. The reported figures are much better than the Statuary Acceptable Range given in the above referred Standards of Max (+) 3.0 % or 51.5 Hz & Minimum (-) 3.0 % or 48.5 Hz too.

Frequency Excursion : 2014-15 (HY)				
Sr. No.	% of Time			
а	49.7 Hz To 51.0 Hz	97.42		
b	49.5 Hz To 49.7 Hz	2.51		
с	49.2 Hz To 49.5 Hz	0.07		
d	48.8 Hz To 49.2 Hz	0.00		
e	BELOW 48.8 Hz	0.00		

The frequency profile for the first half of 2014-15 is given below;

<u>Note</u>: As per IEGC, the frequency band has been specified between 49.7 to 50.2 Hz (up to 16.02.14) and 49.90 to 50.05 Hz (w.e.f. 17.02.14).

## 2.9 <u>CAPACITY ADDITION</u> -

The Licensee has added 300.20 Ckt.-Kms of EHV Lines and 1579 MVA of transformation capacity during April-Sept.'14. The quarter-wise details are shown in the table given hereunder;

S.	Dentiouland	Capacity Added during			
No.	Farticulars	April-June 2014	July-Sept. 2014	TOTAL	
1	400 KV Lines (CktKms)	-	-	-	
2	220 KV Lines (CktKms)	-	30.58	30.58	
3	132 KV Lines (CktKms)	84.94	184.68	269.62	
Total Lines (CktKms)		84.94	215.26	300.20	
4	400 KV S/s (MVA)	-	630	630	
5	220 KV S/s (MVA)	160	480	640	
6	132 KV S/s (MVA)	66	243	309	
Total Sub-Stations (MVA)		226	1353	1579	

From the above mentioned table and reports, it is observed that the progress achieved during the first two quarters is non-commensurate with the self fixed target in case of 220 KV level. It is understood through the discussions with respective

HoDs that it is generally on account of rainy season, and un-approachability of sites. It is discussed that many of the works are given on turn-key basis, where progress is added only when total line is completed and handed over. It is expected that the progress shall gear up in next quarters of the years.

There has been consistent growth in the transmission system (EHV lines & Sub-stations), since the Transmission Licensee started functioning (July 2002), which is clear from the following trend curves;









## 2.10 <u>SLDC CONTROL</u> -

The SLDC at Jabalpur has been upgraded with the State of Art technology based equipments provided for Supervisory Control & Data Acquisition (SCADA) under the Unified Load Dispatch & Communication (ULDC) project of Western Region. The SLDC is monitoring the activities through the SCADA & AMR System.

## 2.10.1 <u>EQUIPMENTS</u> -

The meters have been provided at all the 751 interface points for energy accounting and are generally in working condition.

Out of 109 points where RTUs were to be provided, they have been installed at 102 Points. Out of these, except at four locations, all the RTUs provided for MW, MVAR, Voltage and Frequency are in working condition.

#### 2.10.2 GENERATION SCHEDULE -

The SLDC is monitoring daily generation schedule and actual generation for Intra-State Thermal Generating Stations. There was no instance when back-down was required.

## 2.11 <u>PERFORMANCE IMPROVEMENT THROUGH SYSTEM</u> <u>STRENGTHENING</u> –

There are the areas where improvements are gradually coming up with the completion of works covered under Transmission Plan. The 5 year Investment Plan has already been approved by Hon'ble Commission which is under execution. Although an immediate jump to ideal conditions is not expected as these are linked to long term planning involving huge investments, the plan is expected to take care of the weaker areas. These are discussed hereunder;

## 2.11.1 OVER LOADING OF EHV LINES -

MPPTCL has a system of monitoring the loading on EHV Lines and to take remedial measures, both short term as well as long term in case of persistent overloading. The 10 lines with maximum congestion during a quarter are reported under quarterly MIS reports submitted to the Hon'ble Commission. The report in this regard for the two quarters and the reasons for overloading and remedial measures as discussed with concerned HoDs are tabulated hereunder;

Name of top 10 lines with Max. congestion in terms of MW for continuously 2 hrs.		Max. Load MW	% loading with ref. to SIL	Avg. Max. Load	Remarks
1	132 KV Dabra- Gwalior.	93.3	186.51	90.44	<ul> <li>(A) Dabra - Gwalior link only is overloaded whenever there is any outage of 132 KV Pichhore - Datia link.</li> <li>(B) From ongoing 220 KV S/s Datia, one 132 KV Datia - Dabra link has been sanctioned to control the above overloading.</li> </ul>
2	132 KV South Zone-Satya Sai.	78.0	156.00	55.56	To overcome the problem, 220 KV S/S Indore (NZ) is proposed. The position is expected to improve on commissioning of the above S/s.
3	220 KV Indore - South zone - I	186.0	140.91	146.00	To overcome the problem, 220 KV S/s North Zone, Pithampur & Mangaliya S/s are proposed. The position is expected to improve on commissioning of the above S/s.
4	220 KV Indore - South zone - II	186.0	140.91	145.00	To overcome the problem, 220 KV S/s North Zone, Pithampur & Mangaliya S/s are proposed. The position is expected to improve on commissioning of the above S/s.
5	132 KV Banmore - RlyTr. II +Morena	68.6	137.14	66.06	To overcome the problem, 220 KV S/S Morena is proposed. The position is expected to improve on commissioning of the above S/s.

Quarter - April 2014 To June 2014

Name of top 10 lines with Max. congestion in terms of MW for continuously 2 hrs.		Max. Load MW	% loading with ref. to SIL	Avg. Max. Load	Remarks
6	132 Motijheel- Sabalgarh	66.3	132.57	59.05	The conditions created were due to certain contingencies only.
7	132 KV Barwaha- Chhotikhargone	66.0	132.00	50.62	The conditions created were due to certain contingencies only.
8	132 KV Julwania- Sendhwa	63.0	126.00	49.92	The max. average load is within limits. However for further improvements 132 KV Single Ckt from 400 KV Julwaniya to Sendhwa has been sanctioned, the work of which is under progress.
9	132 KV Bina- Chanderi	64.0	128.00	34.00	The average maximum load is within limits. The condition created was due to certain contingencies only.
10	132 KV Jabalpur- Shahpura	62.0	124.00	51.80	To mitigate the over load problem 220 KV S/S Panagar is proposed. The work is expected to be completed in 2014-15.

# Quarter - July 2014 To September 2014

Name of top 10 lines with Max. congestion in terms of MW for continuously 2 hrs.		Max. Load MW	% loading with ref. to SIL	Avg. Max Load	Remarks
1	220 KV INDORE- JETPURA-I	152	115	70	To overcome the problem, 220 KV Ashta-Jetpura line is proposed. The position is expected to improve on commissioning of the above line & the same is expected to be completed in 2014-15
2	220 KV INDORE- JETPURA-II	152	115	69	To overcome the problem, 220 KV Ashta-Jetpura line is proposed. The position is expected to improve on commissioning of the above line & the same is expected to be completed in 2014-15
3	132 KV MAHALGAON- DABRA	101	201	70	To overcome the problem, 220 KV S/S Datiya is proposed. The position is expected to improve on commissioning of the above S/s.
4	132 KV RATLAM- MEGHNAGAR	86	172	54	132KV DCSS Rajgarh-Jhabua & LILO of Ratlam-Meghnagar Line is proposed at 132KV S/s Petlawad. This will relax the loading problem.
5	132 KV PIPARIYA- BARELI	80	160	45	The max. average load is below the SIL loading; however Second Circuiting work is under progress – this will further relax the load.

6	132 KV SABALGARH-	80	160	56	To overcome the problem an addl. 160 MVA X'mer was proposed at 220 KV Mahalgaon, the same has been commissioned on
	JOURA				29.09.2014.
7	132 KV REWA- MANGAWAN	76	152	60	To provide relaxation Second Circuiting of this line has been sanctioned. The work is under progress.
8	132 KV SHEOPUR- SABALGARH Ckt-I	71	142	53	To overcome the problem, 220 KV S/S Sheopur has been proposed. The position is expected to improve on commissioning of the above S/s.
9	132 KV SHEOPUR- SABALGARH ckt- II	71	142	53	To overcome the problem, 220 KV S/S Sheopur has been proposed. The position is expected to improve on commissioning of the above S/s.
10	132 KV GUNA- ARON	65	130	40	The max. average load is within limits. However, 220 KV S/S Ashoknagar has been proposed. The position is expected to further improve on commissioning of the above S/s.

Note – Average Max. load indicated above is the average of daily maximum load.

## 2.12 VOLTAGE VARIATION IN SUB-STATIONS -

From the MIS reports, it is seen that the Transmission Licensee is monitoring the problem of voltage variation beyond the limits prescribed in Grid Code, and taking remedial measures to include such Capital Works in Investment Plan which results in improvement in voltage profile. MPPTCL completed important Line & Sub-station works in the past, which resulted in better voltage profile in spite of load growth.

It is evident from the following tables that the low voltage problem has been practically eliminated. The quarterly details of voltage deviations, where measurement was possible, beyond the upper and lower limits during the first two quarters of 2014-15 as compared to the figures of the same quarters of previous year are indicated as hereunder:

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		Quarte	er ending J	une'13	Quarter ending June '14		
S. No.	Voltage class of Sub- station	Volta No. of deviation		age beyond	No. of	Voltage deviation beyond	
		S/s	Upper Limit	Lower Limit	S/s	Upper Limit	Lower Limit
1	400 KM	5			7		
1	400 K V	5	2	NIL	/	5	NIL
2	220 KV	55	NIL	NIL	55	NIL	NIL
3	132 KV	193	NIL	NIL	208	NIL	NIL
	TOTAL -	253	2	NIL	270	5	NIL

II <sup>ND</sup>	QUARTER
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		Quarte	er ending S	ept.'13	Quarter ending Sept. '14		
S. No.	Voltage class of Sub- station		Volta	age		Voltage deviation	
		No. of	deviation beyond		No. of	beyond	
		S/s	Upper	Lower	S/s	Upper	Lower
			Limit	Limit		Limit	Limit
1	400 KV	5	2	NIL	8	5	NIL
2	220 KV	55	NIL	NIL	55	NIL	1
3	132 KV	194	NIL	NIL	210	NIL	1
	TOTAL -	254	2	NIL	273	5	2

#### 2.13. <u>VOLTAGE PROFILE</u> -

The Transmission Licensee devised a system to study the load conditions, which in turn culminated to strengthening of transmission system at every voltage level. This has resulted in tangible improvement in the Voltage Profile. Although, there have been few incidences of voltage deviations beyond the upper limit prescribed in 400 KV System connected to Inter-State Grid; to mitigate the problem, reactors were installed at Chhegaon, Pithampur & Ashta. Further, work is being done by MPPTCL at Julwania, Nagda and Bhopal. Similarly, MP GENCO is to install reactors at Birsinghpur and Satpura, NHDC at Indira Sagar and PGCIL at seven different locations across the state. These works may prove to be effective in controlling over voltages. It is worthwhile to mention that in none of the quarters the voltage has gone below the lower designated limit in case of 400 KV systems in any of the Sub-stations.

Regarding 220 KV & 132 KV system, sporadic incidences of deviation of voltage from the prescribed lower limit occurred namely at 220 KV S/s Sabalgarh at 220 KV level and a minor incidence at 132 KV S/s at Motijheel at 132 KV level, during the quarter ending September 2014.

In the above context, it has been intimated that the 220 KV S/s at Sabalgarh is fed through a long feeder of around 100 km length from 220 KV Shivpuri S/s. During the period of occurrence of the event, 220 KV S/s Sabalgarh Sub-station was feeding the loads of both 132 KV S/s Sheopurkala and Motizeel, causing the voltage to drop.

As a remedial measure, two units of 33 MVAR 145 KV Capacitor Bank have since been commissioned at 220 KV Sabalgarh. Further one no. 160 MVA, 220/132KV Transformer has been commissioned on 29/09/14 at 220 KV S/s Gwalior (Mahalgaon). On commissioning of this Transformer, the load of 132 KV Substation Motizeel has been transferred to 220 KV S/s Gwalior (Mahalgaon). As a result of these works, the voltages at 220 KV Substation Sabalgarh have since improved and are now within permissible limits. Similarly, voltage at 132 KV level at Motizeel Sub-station has also improved.

## 2.14 <u>IMPACT OF THE REPORT</u> –

Compilation of the MIS Report, and its close monitoring by the MD, MPPTCL has resulted in the positive impacts as under;

- i. Data reported under MIS report have given valuable feedback for chalking out Capital Investment Plan, and its modification during annual review, after seeking approval from Hon'ble State Commission.
- ii. Works completed helped in reduction of congestion on EHV lines and improved voltage profile.
- iii. On account of constant monitoring of system strengthening, there has been an appreciable reduction in transmission losses year after year.
- iv. Low voltage problem at EHV buses have been practically eliminated.
- v. During the process of data reporting and subsequent discussions, the field executive get an opportunity for path correction in case they lack in certain areas.

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## 3. TRANSMISSION PERFORMANCE STANDARDS -

#### 3.1 PROVISION IN ACT AND REGULATIONS -

Section 57 (1) of Electricity Act 2003, provide that the Appropriate Commission may after consultation with the Licensees and persons likely to be affected, specify the Standards of Performance of a Licensee or a class of Licensees. Accordingly, Section 181(2-za) of the said act confer the powers to the State Commission to make Regulation in this regard. Hon'ble State Commission notified the MPERC (Transmission Performance Standards) Regulations 2004 on 16<sup>th</sup> July 2004. Looking to the importance, the Standards have been classified in two categories;

<u>Category – A</u> (Mandatory Standards) –

- (a). Voltage variation.
- (b). Frequency Variation.
- (c). Safety standards.

#### Category – B

- a. System Availability
- b. Feeder Availability.
- c. Transformer Availability.
- d. Voltage Unbalance.
- e. Neutral Voltage Displacement.
- f. Voltage Variation Index.
- g. Frequency Variation Index.
- h. Harmonics in supply voltage.
- i. System Adequacy.
- j. System Security.

The above mentioned standards were fine tuned with reporting formats vide notification dated  $6^{th}$  June 2005. Permissible limits have been prescribed in three phases i.e. preliminary stage, intermediate stage and final stage.

Year 2014-15 falls under the FINAL stage and reporting requirements are as follows;

S.	Parameter	Category	Permissible limits in final
No.			stage
1	Voltage Variation	A	400 KV + 5% - 10%
			$220 \text{ KV} \& 132 \text{ KV} \pm 10\%$
2.	Frequency Variation	А	+1% & -2%
3.	Safety Standards	А	As per IE Rules 1956.
4.	System Availability	В	98.0%
5.	Feeder Availability	В	98.0%
6.	Transformer Availability	В	98.0%

S.	Parameter	Category	Permissible limits in final
No.			stage
7.	Voltage Unbalance	В	$400 \text{ KV} \& 220 \text{ KV} \rightarrow 2\%$
			$132 \text{ KV} \rightarrow 3\%$
8.	Neutral Voltage Displacement	В	2% of full load current
9.	Voltage Variation Index	В	Less than or equal to 4 %
			for minimum 90% of buses
10.	Frequency Variation Index	В	Less than or equal to 0.5%
11.	System Adequacy	В	8664 Hours.
12.	Harmonics	В	Less than 1%
13.	System Security	В	1 % of system peak.

## 3.2 <u>REPORTING BY THE LICENSEE</u> –

The Transmission Licensee submitted the quarterly reports for the first two quarters of 2014-15 within prescribed time limit of 45 days from the end of the quarter as mentioned hereunder;

S. No.	Period	Reference of submission
i.	April-June'14	04-01/F-7 / 6175 dtd. 12.08.14
ii.	July-Sept. '14	04-01/F-7/ 8592 dtd. 15.11.14

## 3.3 <u>REPORTS FULLY COMPLIED</u> –

The following reports are fully complied during the first two quarters;

i.	Voltage Variation
ii.	Frequency Variation
iii.	Safety Standards
iv.	System Availability
v.	Feeder Availability
vi.	Transformer Availability
vii.	Voltage Unbalance
viii.	Neutral Voltage Displacement
ix.	Voltage Variation Index
х.	Frequency Variation Index
xi.	System Adequacy
xii.	Harmonics

## 3.4 <u>REPORTS PARTIALLY COMPLIED</u> –

## (i). SYSTEM SECURITY -

System Security is basically a planning criteria. In accordance with the Clause 6 of "Manual on transmission planning criteria" of CEA, the State transmission system shall be able to withstand the n-1 contingency state. Presently, the transmission system of MPPTCL is capable of handling single contingency (1 element outage) with the little negative effect (under voltage, or increased line loadings) and no loss of supply to any consumer has been observed

with the single element (generator, line or transformer) outage condition. Future planning for strengthening the system to withstand the n-1 contingency and to assess the transmission requirement for the purpose is carried out by MPPTCL. To strengthen the transmission system to match with the specific criteria of the system security, MPPTCL has been continuously doing system studies to cop-up the load growth, and reviewing its Capital Works Plan.

However, it is reported by the licensee that no negative effect was experienced due to outage of any transmission system element during the period under report and the system remained stable.

#### 3.5 <u>REPORTS NOT COMPLIED WITH</u> -

There is no report which is not complied with.

#### **3.6 POINTS OF BETTER PERFORMANCE –**

MPPTCL has shown better performance, in majority of the operational areas. These have been discussed in the MIS & TPS reports already submitted by MPPTCL. Few of them are further illustrated hereunder;

#### 3.6.1 <u>TACKLING OF LOW VOLTAGE PROBLEM</u> –

Transmission Performance Standards report specifically mention the maximum & minimum voltages at 400 KV, 220 KV, 132 KV and 33 KV buses of EHV Sub-stations.

It is seen from the reports that in all the quarters, the voltage in none of the 400 KV bus has gone below the permissible limit of 10%. Similarly, in case of all 220 KV buses too, the voltage, in none of the buses has gone below the permissible limit of 10% except for one incidence at Sabalgarh. Regarding 132 KV buses it is to be stated that except for one minor deviation, the voltage deviation on lower side remained within the permissible limit of 10%.

In case of 33 KV buses too, almost at all the buses, the voltage variation was practically within the lower permissible limit of 9%.

It is also to mention that to improve the load power factor during the irrigation season, after due analysis, installation work of capacitor banks is under progress.

#### 3.6.2 <u>VOLTAGE-WISE SYSTEM AVAILABILITY</u> –

The Voltage-wise Availability for Lines and Sub-stations has been found well above the target of 98%, as shown for the past five & a half year hereunder;

S.	System Voltage	Voltage-wise Transmission System Availability in %							
No.		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15 (HY)		
1	400 KV	98.96%	99.26%	98.40%	99.37%	99.26%	98.99 %		
2	220 KV	98.55%	99.09%	99.45%	99.43%	99.48%	99.19 %		
3	132 KV	99.00%	99.13%	99.29%	99.46%	99.44%	99.39 %		
4	Target	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%		
5	Total Achieved	98.82%	99.13%	99.23%	99.44%	99.43%	99.25 %		

## 3.6.3 <u>VOLTAGE UNBALANCE</u> –

Hon'ble Commission has prescribed standard limits for voltage unbalance in final stage as 2% for 220 KV & above and 3% for 132 KV. The achievements of the licensee are shown hereunder;

(i)	Quarter April June '14	For none of the transformer bus, the voltage
(1).	Quarter April-Julie 14	unbalance was found beyond prescribed limit.
(ii).	Quarter July-Sept.'14	-do-

## 3.6.4 <u>NEUTRAL VOLTAGE DISPLACEMENT</u> –

In none of the transformers, the Neutral Voltage Displacement was found above the prescribed limit, during the first two quarters of the year.

## 3.6.5 VOLTAGE VARIATION INDEX -

In case of 400 KV buses, the VVI for all the buses were within limits. In the case of 220 KV and 132 KV more than the prescribed 90% buses, complied with the VVI limit. Details of which are given in the following table;

S. No.	Quarter	Total No. of Buses checked	No. of Buses where VVI is within limit	Percentage			
400 KV -							
1	April-June '14	6	6	100.00 %			
2	July-Sept. '14	7 7		100.00 %			
220	220 KV -						
1	April-June '14	61	57	93.44 %			
2	July-Sept. '14	61	55	90.16 %			
132	132 KV -						

S. No.	Quarter	Total No. of Buses checked	No. of Buses where VVI is within limit	Percentage
1	April-June '14	259	254	98.07 %
2	July-Sept. '14	261	238	91.19 %

As per Regulations, at least for 90% buses VVI should be within limit (i.e. maximum 4% deviation). This condition has been fulfilled, as seen from the table cited above.

## 3.7 <u>IMPROVEMENTS RELATED TO INVESTMENT PLAN</u> -

Improvement in System Security is linked to completion of Capital works under Transmission Plan, which are being executed by MPPTCL.

## 3.8 IMPACT OF REPORT -

The information gives valuable feed back to Transmission and Distribution licensees, to plan their works for improvement and better services to consumers. It may be seen that the works planned and completed have resulted in relaxing the congestion and improvement in voltage profile. The quarterly reports and its review is helpful in advising the field units to improve System Availability.

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## 4. MP ELECTRICITY GRID CODE -

Section 86-1(h) of the Electricity Act, 2003 provides that the State Commission shall specify State Grid Code consistent with the Grid Code specified by the Central Commission under Section 79-1(h) of the Act. Accordingly, the Hon'ble State Commission on 20<sup>th</sup> August 2004 notified the MP Electricity Grid Code.

## 4.1 <u>COMPLIANCE UNDER MP ELECTRICITY GRID CODE</u> -

The following compliances have been prescribed to be reported by the Reporter of Compliance under Grid Code.

- i. Constitution of Grid Code Review Committee.
- ii. Meetings of the Grid Code Review Committee.
- iii. Prospective Transmission Plan.
- iv. Demand Forecast for 10 years.
- v. Reactive Power Planning.
- vi. Reporting of Major Failure.

## 4.1.1 <u>CONSTITUTION OF COMMITTEE AND ITS MEETINGS</u> -

The Grid Code Review Committee as well as the Functional Committees to be constituted as per MP Electricity Grid Code have been constituted and are functioning by conducting regular meetings. Meetings conducted during the FY 2013-14 & 2014-15 are listed hereunder;

S. No.	Name of Committee	Constituted on	Dates of Meeting held during 2013-14 & 2014-15
1	Grid Code Review Committee	3.2.05	11 <sup>th</sup> meeting – 29.03.14
2	<b>Operation Coordination</b> <b>Committee</b>	12.7.05	$\begin{array}{r} 33^{\rm rd} & {\rm meeting}-26.04.13 \\ 34^{\rm th} & {\rm meeting}-24.06.13 \\ 35^{\rm th} & {\rm meeting}-23.08.13 \\ 36^{\rm th} & {\rm meeting}-26.10.13 \\ 37^{\rm th} & {\rm meeting}-21.12.13 \\ 38^{\rm th} & {\rm meeting}-25.02.14 \\ 39^{\rm th} & {\rm meeting}-28.04.14 \\ 40^{\rm th} & {\rm meeting}-28.06.14 \\ 41^{\rm st} & {\rm meeting}-27.08.14 \\ 42^{\rm nd} & {\rm meeting}-28.10.14 \\ \end{array}$
3	Protection Coordination Committee	12.7.05	28 <sup>th</sup> meeting - 15.05.13 29 <sup>th</sup> meeting - 17.08.13 30 <sup>th</sup> meeting - 30.12.13 31 <sup>st</sup> meeting - 10.06.14 32 <sup>nd</sup> meeting - 12.08.14
4	Transmission Metering Committee	12.7.05	11 <sup>th</sup> meeting – 10.02.14

## 4.2 TRANSMISSION PLAN -

## 4.2.1 <u>12<sup>TH</sup> PLAN</u> -

The period of  $11^{\text{th}}$  Plan was over in FY 2011-12. Therefore, the Transmission Licensee filed a need based Plan of ₹ 7370.22 Crores for FY 2012-13 to FY 2016-17, before Hon'ble Commission for approval on 02.11.2011. After taking note of views in Public hearing on Plan Petition, Hon'ble Commission approved the Plan in principle on  $30^{\text{th}}$  July 2012. The salient provisions of Plan are mentioned hereunder;

i.	Addition in EHV Lines	10667 Ckt. KM
ii.	Addition in Transformation Capacity	19698 MVA
iii.	Addition in EHV Sub-stations	94 Nos.
iv.	Total Investment	₹ 7370.22Crores

The report on annual review of plan is submitted to Hon'ble Commission each year, by the Licensee. Progress for 2013-14 has been submitted by the Licensee to Hon'ble Commission vides letter No. 04-01/CRA Cell/F-8/ 4041 dtd. 30.05.14

## 4.3 <u>DEMAND FORECAST</u> -

The Demand Forecast has been incorporated by MPPTCL as an integral part of the Transmission Plan.

#### 4.4 <u>REACTIVE POWER PLANNING</u> -

While proposing the additional lines and sub-stations, the licensee has taken into consideration the handling of reactive power, as a Planning Exercise.

## 4.5 <u>REPORTING BY SLDC</u> -

In compliance of the Clause No. 14.1.1 of the MP Electricity Grid Code, the C.E.(Load Despatch) is submitting a monthly report to the Hon'ble Commission covering the following parameters;

- i. Frequency Profile.
- ii. Voltage Profile.
- iii. Major Generation and Transmission Outages.
- iv. Transmission Constraints.
- v. Instances of Persistent / Significant Non-compliance of Grid Code.

All the monthly reports of the year 2014-15 are being submitted by the SLDC to the Hon'ble Commission.

No non-compliance of Grid Code has been reported in the SLDC's reports.

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## 5. <u>LICENSE CONDITIONS</u> –

License conditions have been specified under section 16 of the Electricity Act 2003. Hon. MPERC has also issued – "The Conditions of Transmission License for Transmission Licensee Regulation".

**5.1** MPPTCL has complied with the conditions of License prescribed by the Hon'ble Commission. The status of compliance has been updated time to time. The current position is tabulated hereunder;

Clause No.	Particulars	Whether the condition under clause has been fulfilled by Company (Yes/No)	If yes, the reference of the compliance report should be given	If no, Reasons for not fulfilling the condition	The expected date of which it shall be complied	REMARKS
7.2 (b) (ii) and (iv)	Submission of interim profit and loss account, cash flow statement and balance sheet for first/second six months of financial year.	Yes	Annual Accounts for 2013-14 submitted vide reference No. CFO/ ACC/111/ 1794	N.A.	N.A.	Annual Accounts audited by Statutory Auditors for FY 2013-14
7.2(b) (ii)& (iv)	Submission of financial statement (Annual)	dated 08.10.2014.				submitted on 08/10/2014.
9.1	Submission of information in the prescribed formats of Condition of license	Yes	Submitted vide No. 04-01/ CRA Cell/ F- 8/ 3025 dtd. 25.04.14.	N.A.	N.A.	Complied.
9.3	Information of incident affecting any part of the Transmission system.	Yes	Reported by SLDC on monthly basis. The monthly reports are submitted every month.	N.A	N.A	No major incident occurred during the period
9.9	Submission of 5 year Business Plan	Yes	Investment Plan approved by Hon'ble Commission's order dated 30.07.2012	N.A.	N.A.	Complied.
10.2	Submission of 5 Year Investment Plan (Correlated with the Business Plan)	Yes	Petition for Investment Plan for the next 5 years have been filed vide 04-01/ CRA Cell/ F-65/ 8015 dtd. 2.11.11.	N.A.	N.A.	Investment Plan approved on 30.07.2012. Complied.

Clause No.	Particulars	Whether the condition under clause has been fulfilled by Company (Yes/No)	If yes, the reference of the compliance report should be given	If no, Reasons for not fulfilling the condition	The expected date of which it shall be complied	REMARKS
10.2 (a)	Annual Investment plan with details of investment schemes to be carried out during the financial year, subsequently the progress of Investment plan of previous year along with the proposal for updating the Business Plan for next 5 year.	Yes,	Progress submitted vides letter No. 04- 01/ CRA Cell/ F-8/ 4041 dtd. 30.5.14.	N.A.	N.A.	Complied
10.4	Existing tendering procedure for approval of the Commission	Yes	Submitted vide No. 04-01/ Const. Tariff/6298 dtd. 8.7.09.	N.A.	N.A.	Tendering procedures for general procurement as well as for procurement under ADB Loan has been submitted.
17	Implementation & compliance of Grid Code	Yes	Monthly report being submitted by SLDC on regular basis.	N.A.	N.A.	Complied
18.2	The Licensee to submit the existing Planning and Security Standards and the Operating Standards for the Transmission for the approval of the Commission.	Yes	Submitted vide No. 04-01/ Const. Tariff/4935 dtd. 21.7.05.	N.A.	N.A.	MPPTCL is using the Planning & Security code prescribed by the CEA, which has been submitted to Hon'ble Commission.
18.3 (a)	The Licensee to submit the proposal for Transmission Planning and Security Standards and Transmission Operating Standards for approval of the Commission	Yes	Transmission operating standards defined in Transmission Performance Standards submitted on quarterly basis.	N.A.	N.A.	Transmission plan is formulated as per CEA's standards.

Clause No.	Particulars	Whether the condition under clause has been fulfilled by Company (Yes/No)	If yes, the reference of the compliance report should be given	If no, Reasons for not fulfilling the condition	The expected date of which it shall be complied	REMARKS
18.10 (a)	The Licensee shall on an annual basis forecast the quantum of power to be wheeled through its transmission system based on the forecast made available by Users within the Area of Transmission in each of the next succeeding five years.	Yes	Covered in transmission plan energy requirement for next 5 years.	N.A.	N.A.	Complied.
18.10 (b)	The Licensee shall estimate the quantum of Inter-State transmission that will occur through its wires in each of the succeeding 5 years.	Yes	Incorporated in Plan	N.A.	N.A.	Complied. No major contribution in Inter-state transmission.
18.10 (c)	The licensee shall prepare and submit forecasts to the Commission in accordance with the guidelines issued from time to time.	Yes	Submitted in Transmission Plan.	N.A.	N.A.	Complied.
18.11	The Licensee shall submit to the Commission a report indicating the performance of the Transmission System during the previous financial year.	Yes.	Report for year 13-14 has been submitted vide No. 04-01/ CRA Cell/ F-8/ 4041 dtd. 30.05.14	N.A.	N.A.	Complied.
19.4	The Licensee shall submit to the commission on annual basis, a statement showing in respect of each of the 5 succeeding financial years forecasts of circuit capacity, power flows and loading on the Transmission System under standard planning criteria, together with:	Yes	Incorporated in Transmission Plan	N.A.	N.A.	Complied.

Clause No.	Particulars	Whether the condition under clause has been fulfilled by Company (Yes/No)	If yes, the reference of the compliance report should be given	If no, Reasons for not fulfilling the condition	The expected date of which it shall be complied	REMARKS
	(a) such further information as shall be reasonably necessary to enable any person seeking use of System to identify and evaluate the opportunities available when connecting to & making use of such system; and	Yes	Submitted vide No. 04-01/ CRA-Cell/F-8/ 4041 dtd. 30.05.14	N.A.	N.A.	Complied.
	(b) A commentary prepared by the Licensee indicating its views as to those parts of its Transmission System most suited to new connections and transport of further quantities of electricity.	Yes	Submitted vide No. 04-01/ CRA Cell/F-8/ 4041 dtd. 30.05.14	N.A.	N.A.	Complied.
20		Yes	Petition for FY 05-06 and FY-06-07 to FY 08-09 (MYT) have been submitted.	N.A.	N.A.	Tariff orders issued by Hon'ble Commission on 7.2.06 & 13.3.06 respectively.
	Submission of ADD	Yes	True up petition for 05-06 submitted on 07.11.06.	N.A.	N.A.	True up order for 05-06 issued on 07.02.07.
	Submission of AKK	Yes	True-up Petition for year 2006-07 filed on 15.10.07.	N.A.	N.A.	True-up order for year 2006-07 issued on 19.03.08.
		Yes	True-up petition for 07-08 filed on 12.10.08.	N.A.	N.A.	True-up order for year 2007-08 issued on 21.10.09.
		Yes	MYT Petition for FY-10 to FY-12 submitted on 05.06.09.	N.A.	N.A.	Tariff orders issued by Hon'ble Commission on 11.01.2010

Clause No.	Particulars	Whether the condition under clause has been fulfilled by Company (Yes/No)	If yes, the reference of the compliance report should be given	If no, Reasons for not fulfilling the condition	The expected date of which it shall be complied	REMARKS
		Yes	True-up petition for FY 08-09 filed on 19.12.09	N.A.	N.A.	Orders issued by Hon'ble Commission on 26.12.2011
	Submission of ARR	Yes	Petition for FY 12 -13 submitted on 15.02.12.	N.A.	N.A.	Tariff orders issued by Hon'ble Commission on 17.04.2012
		Yes	True-up petition for FY 09-10 filed on 13.10.10	N.A.	N.A.	Orders issued by Hon'ble Commission on 06.08.2012
		Yes	True-up petition for FY 10-11 filed on 17.02.12	N.A.	N.A.	Orders issued by Hon'ble Commission on 02.02.2013.
		Yes	True-up Petition for FY 2011-12	N.A.	N.A.	Orders issued by Hon'ble Commission on 11.11.2013
		Yes	MYT Petition for FY-14 to FY-16 submitted on 19.01.13.	N.A.	N.A.	Tariff orders issued by Hon'ble Commission on 02.04.2013
		Yes	True-up Petition for FY 2012-13	N.A.	N.A.	True-up order issued by Hon'ble Commission on 21.08.14
		Yes	True-up Petition for FY 2013-14	N.A.	N.A.	True-up petition filed 04-01/CRA Cell/F-96/8486 dated 13.11.14

**5.2** As per the above mentioned table, it may be perceived that practically all the issues have been complied by the Transmission Licensee.

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## 6. OPEN ACCESS REGULATIONS -

Under the Open Access Regulations notified by the Hon'ble Commission on 24.6.05, MPPTCL has taken following actions in compliance of the regulations;

- i. Nodal Officers have been appointed for Long Term as well as Short Term Open Access and their offices are functional.
- **ii.** Committee to decide the Open Access at the level of the licensee has been constituted.
- **iii.** The guidelines on Long Term Open Access drafted and submitted by MPPTCCL have been approved by the Hon'ble Commission and these have been displayed on the Website of The Transmission Licensee.
- iv. The draft of the Transmission Service Agreement for Open Access customers has also been approved by the Hon'ble Commission and displayed on the Website.

## v. Agreement between Nodal Agency and Open Access Customers-

The Transmission Service Agreements between The Transmission Licensee and the Distribution Licensees of Madhya Pradesh have been executed in November 2006.

At present there is one Long Term Open Access customer i.e. SEZ, Pithampur (other than Discoms). The agreement has been executed on 29.1.05 and a copy of the agreement has been sent to the Hon'ble Commission on 23.2.05. A supplementary agreement was executed on 11.10.10; since then, another supplementary agreement also has been executed on 05.10.13. In addition to above long term Open Access has been granted to 116 nos. non-conventional generators.

## vi. <u>Relinquishment or transfer of Long Term Open Access right</u> -

There has been no such case; howsoever two nos. non-conventional consumers have withdrawn their application after sanction during the period under report.

## vii. <u>CERC's Regulations Dated 25<sup>th</sup> January 2008</u> -

Hon'ble Central Commission has notified CERC (Open Access in Inter-State Transmission) Regulations, 2008 on 25.01.2008. The Regulations are mainly applicable to the Short Term Open Access. The Regulations provide transmission charges in Rs./MWH for Short Term Open Access customers, who avail Short Term Open Access in continuation to Inter-State system.

The CERC has amended above Regulations, which are applicable since 15<sup>th</sup> June 2009.

In line with the above, Hon. MPERC is following the same for Inter-state open access consumers.

## 6.1 <u>ACTUAL ENERGY LOSSES IN INTRA-STATE TRANSMISSION</u> <u>SYSTEM</u> –

The energy loss during the past years (in %) is indicated hereunder;

1. 2003-04	-	6.12 %
2. 2004-05	-	5.62 %
3. 2005-06	-	5.23 %
4. 2006-07	-	5.00 %
5. 2007-08	-	4.09 %
6. 2008-09	-	4.09 %
7.2009-10	-	4.19 %
8. 2010-11	-	3.74 %
9. 2011-12	-	3.51 %
10. 2012-13	-	3.30 %
11. 2013-14	-	3.00 %
12. 2014-15 (Half Year)	-	2.87 %

Above figures indicate a comparative reducing trend of transmission losses, in spite of increase in energy handled.

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## 7. <u>SLDC FUNCTIONS</u> -

#### 7.1 <u>SLDC FEES AND CHARGES</u> –

Hon'ble Commission notified the Regulations on Fees & Charges for SLDC On 21<sup>st</sup> September 2004. The State Government has also declared the Load Despatch Center at Jabalpur as SLDC on 17.05.2004. The Opening Balance Sheet notified on 12<sup>th</sup> June 2008, does not allocate the Assets & Liabilities to SLDC. The ARR for SLDC is therefore based on O&M Expenses. The position of approval of the ARR of SLDC is indicated hereunder;

S. No.	Financial Year	Date of Approval of ARR by Hon'ble Commission
1	2007-08	Order dated 18.01.2008
2	2008-09	Order dated 20.02.2009
3	2009-10	Order dated 26.11.2009
4	2010-11	Order dated 20.05.2010
5	2011-12	Order dated 31.05.2011
6	2012-13	Order dated 16.03.2012
7	2013-14	Order dated 10.04.2013
8	2014-15	Order dated 18.06.2014

#### 7.2 <u>SEPARATE FINANCIAL ACCOUNT FOR SLDC</u> -

The separate account in the name of RAO, MPPTCL – SLDC has been opened in State Bank of India, Jabalpur in July '05.

The final Opening Balance Sheet notified on 12.06.08 does not provide separate Balance Sheet for SLDC. However, value of Assets of SLDC is separately indicated. The portion covering the accounts related to SLDC is also being maintained separately and has been submitted to MPERC on 29.11.2014 by SLDC.

## 7.3 <u>APPLICATION FOR CONNECTION TO STATE GRID</u> -

The generation system of MPGENCO and transmission system of MPPTCL is already connected to the State Grid. NHDC has also been connected to MP Grid.

#### 7.4 <u>IMPLEMENTATION OF INTRA-STATE A.B.T.</u> –

The SLDC is regularly preparing Accounts of UI charges (DSM), based on Availability Based Tariff and issuing bills to the customers. The Automatic Meter Reading (AMR) system is also functioning.

## 7.5 TREATMENT OF OTHER BUSINESS OF LICENSEE -

The regulations in this regard have been notified by the Hon'ble Commission on 1.6.04. However, the Transmission Licensee has not carried out any other business during the period under report. A certificate has already been submitted by the Licensee to the Hon'ble Commission in this regard.

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## OBSERVATIONS BY THE MD (MPPTCL) ON COMPLIANCE OF VARIOUS REPORTS

The various reports submitted under Regulatory Compliance were discussed from time to time with the MD, MPPTCL by the Reporter of Compliance. The observations by the MD are mentioned hereunder;

## 8.1 TIMELY SUBMISSION -

MD was happy to observe that all the periodical reports and the other compliances have been submitted timely and regularly. He desired that the same should be ensured in future too.

## 8.2 MIS REPORTS -

The MIS reports for both the quarters of the year have been submitted within the stipulated time frame, covering all the items. Observations in the following regards are of significance;

## 8.2.1 Intra-State Transmission Losses -

It was observed that during the first half of 2014-15, the transmission losses, despite a growth in energy handled (around 14% increase), have been computed as 2.87 %, which is well within the target of 2.97 % set by Hon. MPERC for 2014-15. The MD was sanguine in his observation that the losses for the year may be confined to the desired level of 2.97% as targeted by Hon. MPERC for 2014-15.

## 8.2.2 Overloading of EHV Lines -

It is observed that with the commissioning of new EHV lines and Substations, the quantum of overloading on lines has reduced. The top Ten congested Lines appeared during the period under report, are taken into consideration and remedial works of majority of them are covered under 12<sup>th</sup> Plan.

## 8.2.3 Transmission System Availability -

Transmission System Availability for first half of 2014-15 has been worked out as 99.25 % which is much higher than the target of 98.00% set by the Hon. Commission. This indicates that a robust Transmission System is in operation. The field staff has been advised for attending the outages promptly to ensure even better Availability in subsequent quarters too.

## 8.2.4 Capacity Addition -

The MD expressed satisfaction that in spite of the slow progress in first half of the year, where the lower progress was primarily on account of rainy season and bad weather conditions, The M.D. advised the field officers to expedite the targeted works in the remaining two quarters of the year, so as to avoid any slippage during 2014-15.

#### 8.3 <u>TRANSMISSION PERFORMANCE STANDARDS</u> –

The MD, MPPTCL observed that the performance of the Company in case of voltage-wise System Availability, Voltage Unbalance, Neutral Voltage Displacement and Voltage Variation Index is above the Performance Standards fixed under the Transmission Performance Standard Regulations. This indicates better quality of supply has been made available by MPPTCL to the Distribution Licensees through its transmission system. However, the MD advised that although the Voltage Variation Index of 220 KV level, achieved during the Quarter ending September – 2014 were within limits the same should be further improved in forthcoming quarters.

The MD, also, observed that a marked improvement has been observed in voltage profile. Regarding 220 KV & 132 KV system, sporadic incidences of deviation of voltage from the prescribed limit occurred namely at 220 KV S/s Sabalgarh at 220 KV level and a minor incidence occurred at 132 KV S/s at Motijheel, during the quarter ending September 2014.

In the above context, it was intimated that the 220 KV S/s at Sabalgarh is fed through a long feeder of around 100 km length from 220 KV Shivpuri S/s. During the period of occurrence of the event, 220 KV S/s Sabalgarh Sub-station was feeding the loads of both 132 KV S/s Sheopurkala and Motizeel, causing the voltage to drop.

Looking to the situation, MD instructed the concerned that steps to mitigate the situation be carried out at a considerable pace. Consequently, one unit of 33 MVAR 145 KV Capacitor Bank was commissioned on 03/11/2014 and the second unit of 33 MVAR 145 KV Capacitor Bank was commissioned on 07/11/2014 at 220 KV Sabalgarh. Further one no. 160 MVA, 220/132KV Transformer has been commissioned on 29/09/14 at 220 KV S/s Gwalior (Mahalgaon). On commissioning of this Transformer, the load of 132 KV Substation Motizeel was transferred to 220 KV S/s Gwalior (Mahalgaon).

As a result of these works, the voltages at 220 KV Substation Sabalgarh have since improved and are now within permissible limits.

Further, MD counseled the concerned to accelerate the works for the balance Capacitor Banks, so that benefits of the same could be obtained during the coming Rabi seasons.

#### 8.4 <u>MP ELECTRICITY GRID CODE</u> -

It is observed that as advised by the MD during discussion on last report, the 11<sup>th</sup> meeting of 'Grid Code Review Committee' was convened on 29.03.2014. The meetings of Functional Committees are being convened regularly. In case sufficient Agenda Items are there, meeting of Transmission Metering Committee may be conducted at least two times in a year.

#### 8.5 <u>SLDC's ACTIVITIES</u> -

It is observed that the SLDC is regularly submitting the monthly reports to the Hon'ble Commission. No transmission constraint has been reported by the SLDC.

The SLDC is implementing and monitoring the Intra-State ABT in the State. The MD was happy to observe that Automatic Meter Reading (AMR) system has started functioning in TRANSCO.

#### 8.6 <u>ACKNOWLEDGEMENT</u> –

The Transmission Licensee not only ensured the stipulated compliance of practically all the Regulatory requirements, but also achieved Transmission System Availability of 99.25 % as against a target of 98%; recorded transmission losses of the level of 2.87% as against a target of 2.97% set by Hon. Commission. Further, the demand met of the level of 8238 MW during the first half of 2014-15 is highest ever for the same time period, without facing any transmission constraints.

Whereas the dedication and motivation of the team of officers and employees of the Company enabled the Licensee to attain this performance level, the active support by the State Government, Hon'ble MPERC and the Company's Board of Directors have provided the guiding beacon to achieve the goals set for the Company.

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## **REGULATORY COMPLIANCE REPORT**

## HALF YEARLY REPORT (APRIL-SEPTEMBER 2014) <u>YEAR 2014-15</u>

To,

The Madhya Pradesh Electricity Regulatory Commission, 5<sup>th</sup> Floor, Metro Plaza, E-5, Arera Colony, Bittan Market, **BHOPAL – 462016.** 

M.P. Power Transmission Company Ltd., Jabalpur reports as follows:-

1. The enclosed report is 'Half Yearly Regulatory Compliance Report' for the period **April-September 2014** and has been prepared in a manner that meets the requirement of the compliance system and reporting.

2. The enclosed report covers information about all the details that were to be furnished to the Commission during the period specified at Serial No. 1 above.

3. Enclosed report is being submitted to the Board of Directors of MPPTCL, for their approval.

4. The licensee having made due enquiry, is not aware of any breach of any of the obligations of license conditions or regulations.

Dated the <sup>th</sup> Day of December 2014.

(<u>Anil Kumar Bajpai)</u> Reporter of Compliance (Umesh Rautji) Managing Director

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