



ANNUAL REPORT ON REGULATORY COMPLIANCE FOR FY 2019-20



*M.P. POWER TRANSMISSION COMPANY
LTD. 2nd BLOCK, SHAKTI BHAWAN,
JABALPUR.*

REGULATORY COMPLIANCE REPORT
IN RESPECT OF MP POWER TRANSMISSION COMPANY LIMITED
APRIL-2019 TO MARCH-2020
(ANNUAL REPORT)

1. PREAMBLE -

1.1 MP POWER TRANSMISSION COMPANY – THE LICENSEE -

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 1st 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 MPPTCL 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 combined power requirement of the Distribution Licensees is around 19,000 MW. To handle this much quantum of power, MPPTCL has developed a Transmission system of adequate capacity with the following infrastructure as on 31.3.2020;

S. No.	Voltage	EHV Lines (Ckt. Kms)	Net MVA Capacity	Net No. of Sub-stations
1.	400 KV	3570.85	9440.00	12
2.	220 KV	13594.28	25900.00	82
3.	132 KV	20084.79	29831.50	287
TOTAL -		37249.92	65171.50	381

The Transmission system of MPPTCL is connected to the system of PGCIL, State Generating Stations and Sub-transmission of Discoms through 1138 interface points, having proper metering.

1.2 REGULATIONS ON REGULATORY COMPLIANCE –

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 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 Powers conferred under Section 181 Sub-section (1) of the said Act notified the MPERC (Guidelines for Reporting of Regulatory Compliance) Regulations, 2005 on 13th 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 **REPORTER OF COMPLIANCE** –

The engagement of a full time Reporter of Compliance, as per the Regulations notified by Hon'ble State Commission, is under process. In the intermediate period, Shri Sameer Kumar Nagotia, Executive Director (CRA) has been entrusted with the duties of Reporter of Compliance by the Company.

1.5 **REPORTS COVERED UNDER THE REGULATIONS** –

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 Electricity Grid Code	Various compliances to be submitted on different dates.
Transmission Performance Standards	To be 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 charges) Regulations	Various compliances to be submitted on different dates.
MPERC (Treatment of other business of licensee)	Various compliances to be submitted on different dates.

1.6 SUBMISSION OF EARLIER REPORTS BY REPORTER OF COMPLIANCE –

In compliance to the Regulations, following reports have been submitted by the Reporter of Compliance before Hon'ble Commission for the period as under: -

S. No.	Report	Reference of submission
1.	Annual Report for year 2017-18	Letter No. 04-01/ CRA Cell/ F-6/ 6509 dtd 10.10.2019.
2.	Annual Report for year 2018-19	Letter No. 04-01/ CRA Cell/ F-6/3526 dtd 09.7.2019

1.8 ANNUAL REPORT FOR YEAR 2019-20 –

During the period of report, i.e. April-2019 to March-2020, the Transmission Licensee has submitted all the periodical reports 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.

2. MIS REPORTS –

2.1 MIS REGULATIONS –

Hon'ble Commission, on 2nd 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. 31st October 2008, has made certain amendments in the reporting formats. The details to be furnished in revised formats are as under:-

S. No.	Format No.	Sub-Numbers	Details Covered
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 out
		(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 SUBMISSION OF MIS REPORTS –

The Transmission Licensee is submitting the quarterly reports on MIS regularly. The reports for all four quarters of 2019-20 have been submitted as per the references mentioned hereunder;

S. No.	Period	Reference of submission to the Commission
1	April – June '19	Letter No. 04-01/CRA Cell/ F-15(A)/ 4316 dated 31.7.2019
2	July – Sept.'19	Letter No. 04-01/CRA Cell/ F-15(A)/7111 dated 30.10.2019
3	Oct – Dec '19	Letter No. 04-01/CRA Cell/ F-15(A)/10645 dated 31.01.2020
4	Jan – March'20	Letter No. 04-01/CRA Cell/ F-15(A)/ 240 dated 15.5.2020

Thus, all MIS reports have been submitted by the licensee, i.e. MPPTCL, within specified time of one month from the end of the quarter, as per the formats prescribed for the purpose.

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 and Computation of losses	CE (T&C), CE(LD) and C.E. (Planning & Design).
(ii)	Overloading on feeders	CE (T&C) / CE (Planning & Design)
(iii)	System/feeder/Transformer Availability	CE (T&C)/ C.E.(EHT-M&I)
(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)
(viii)	Status of Interface meters & Voltage related information	CE (T&C) / CE (Planning & Design)

2.4 STATUS OF COMPLIANCE ON REPORTING –

2.4.1 REPORTS FULLY COMPLIED –

Following reports have been fully complied for all four quarters of 2019-20;

S. No.	Reports 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 out during the quarter	Tr-2
8	Voltage-wise EHV lines added during the quarter	Tr-2
9	Voltage-wise Transformation Capacity added during the quarter	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 S/s.	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 REPORTS PARTIALLY COMPLIED –

There is no report on which reporting is partial.

2.4.3 REPORTS NOT COMPLIED –

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

2.5 POINTS OF BETTER PERFORMANCE –

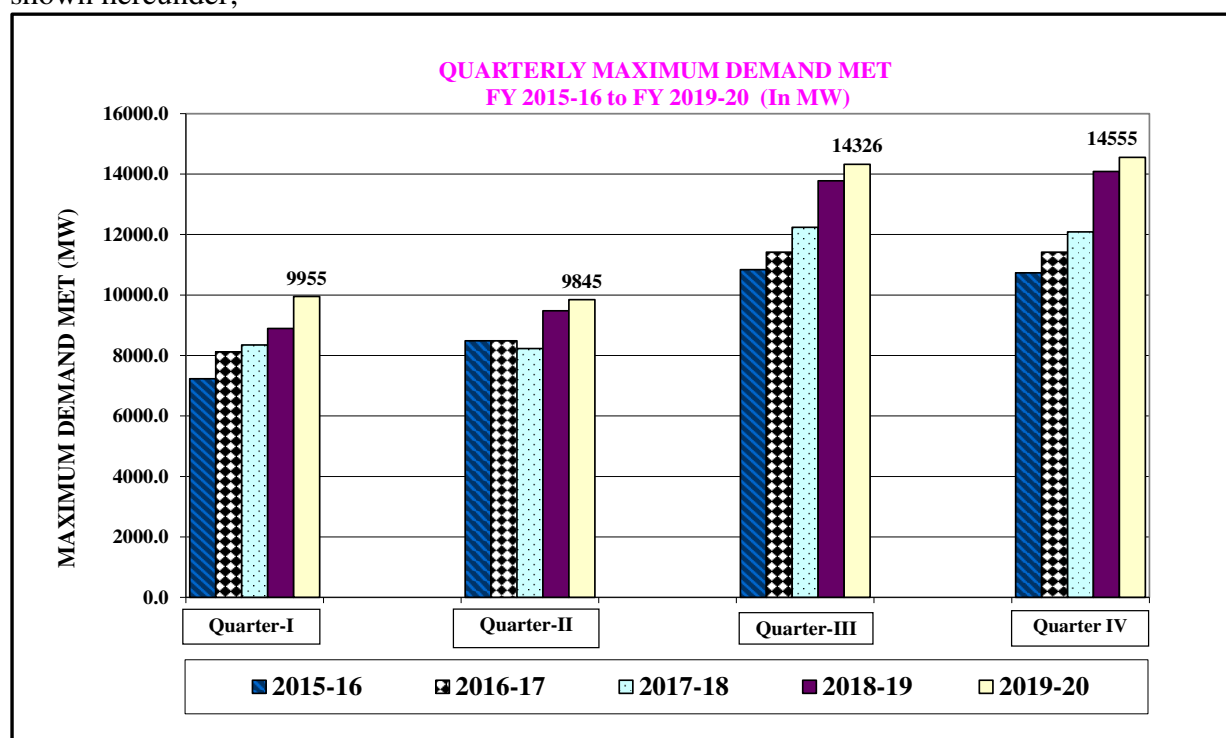
The MIS for all four quarters of year 2019-20 indicates better performance of MPPTCL on following points;

2.5.1 MAXIMUM DEMAND MET OUT–

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 all four quarters of year 2019-20 as compared to the same quarters of previous year i.e. 2018-19 is shown hereunder;

S. No.	Period	2018-19	2019-20
1	April-June	8897 MW	9955 MW
2	July-Sept.	9481 MW	9845 MW
3	Oct – Dec	13778 MW	14326 MW
4	Jan – March	14089 MW	14555 MW

The Quarterly Maximum Demand met during the past four years & FY 2019-20 is shown hereunder;



2.5.2 FREQUENCY EXCURSION –

MPPTCL made all out efforts to keep system frequency in healthy zone most of the time. During the year FY 2019-20, the frequency remained within the prescribed Target Range as set in the Performance Standards of Max (+) 1.0% or 50.5 Hz & Minimum (-) 2.0% or 49.0 Hz for most of the time; while as per 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.

The frequency profile for FY 2019-20 is given below;

Frequency Excursion: April to March-20

Sr. No.	Frequency Ranges	% Time
a	ABOVE 50.05 Hz	20.71
b	49.9 TO 50.05 Hz	72.85
c	49.7 TO 49.9 Hz	6.44
d	49.5 TO 49.7 Hz	0.00
e	49.2 TO 49.5 Hz	0.00
f	BELOW 49.2 Hz	0.00

Here it is also to be mentioned that as per IEGC, the frequency band is specified between 49.90 to 50.05 Hz (w.e.f. 17.02.14).

2.5.3 CAPACITY ADDITION -

The Licensee has added the following EHV Lines and Sub-stations, after accounting for augmentation/ up-gradation etc., the figures as on 31.03.2020 is also indicated hereunder;

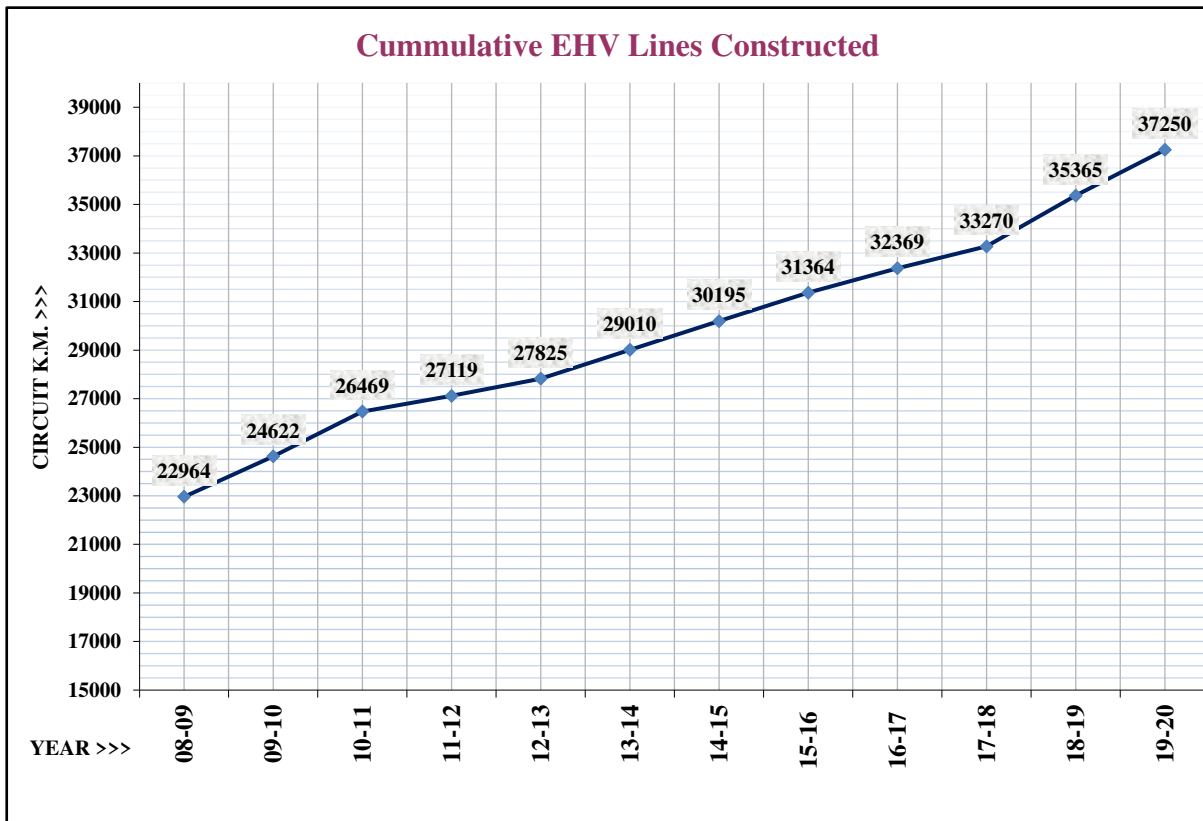
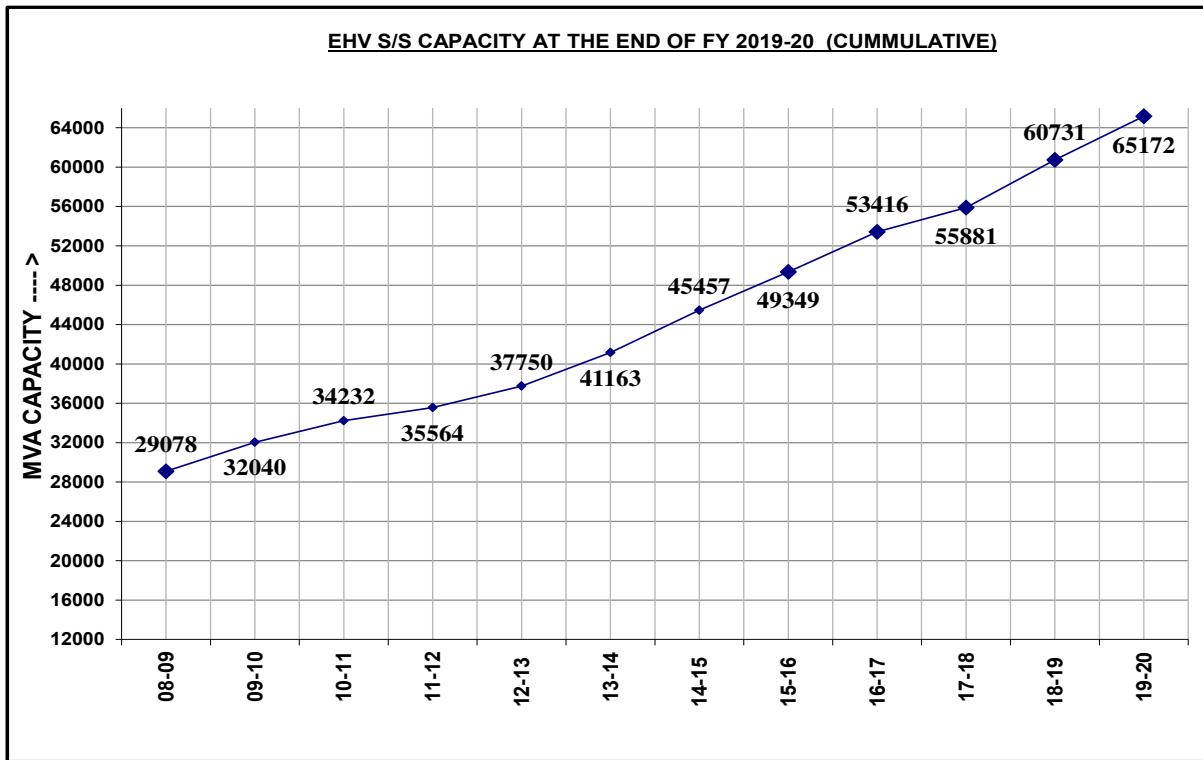
(a) EHV LINES -

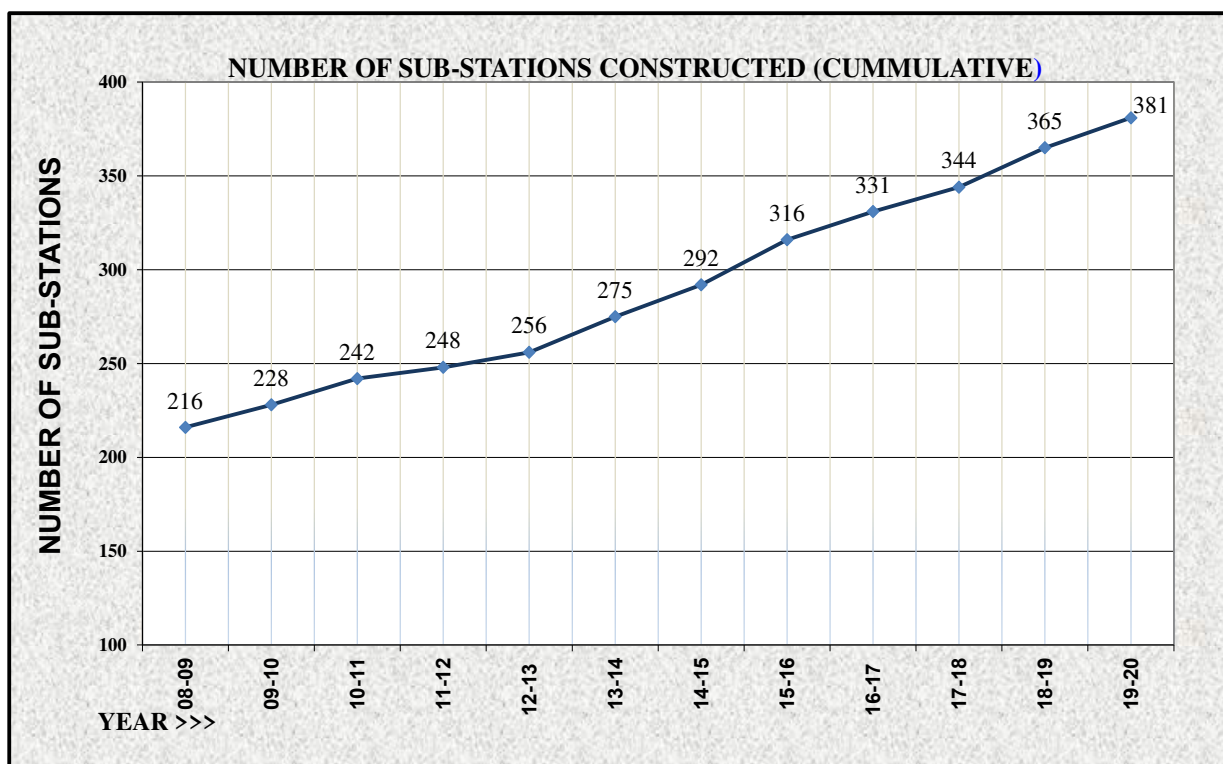
S. No.	Voltage	Total progress (in Ckt-Km) for FY 2019-20 only	Cumulative EHV Lines (Ckt-kms) as on 31.3.2020
1	400 KV	49.90	3570.85
2	220 KV	665.21	13594.28
3	132 KV	1170.24	20084.79
TOTAL -		1885.35	37249.92

(b) SUB-STATION CAPACITY -

S No	Voltage	Total progress (in MVA) for FY 2019-20	Cumulative MVA (Net) as on 31.3.2020
1	400 KV	945	9440.00
2	220 KV	1910	25900.00
3	132 KV	1585.50	29831.50
TOTAL -		4440.50	65171.50

There has been consistent growth in the transmission system, which is clear from the trend as seen from the curves given below;





2.5.4 TRANSMISSION SYSTEM AVAILABILITY –

Hon'ble Commission has fixed a target of Transmission System Availability as 98.00% for year 2019-20 as per tariff Regulations. It is pleased to intimate Hon'ble Commission that during the period of report (April-2019 to March-2020) MPPTCL has achieved Transmission System Availability of **99.64 %** against target of **98.00 %** determined by the Commission.

2.5.5 VOLTAGE-WISE LOSSES –

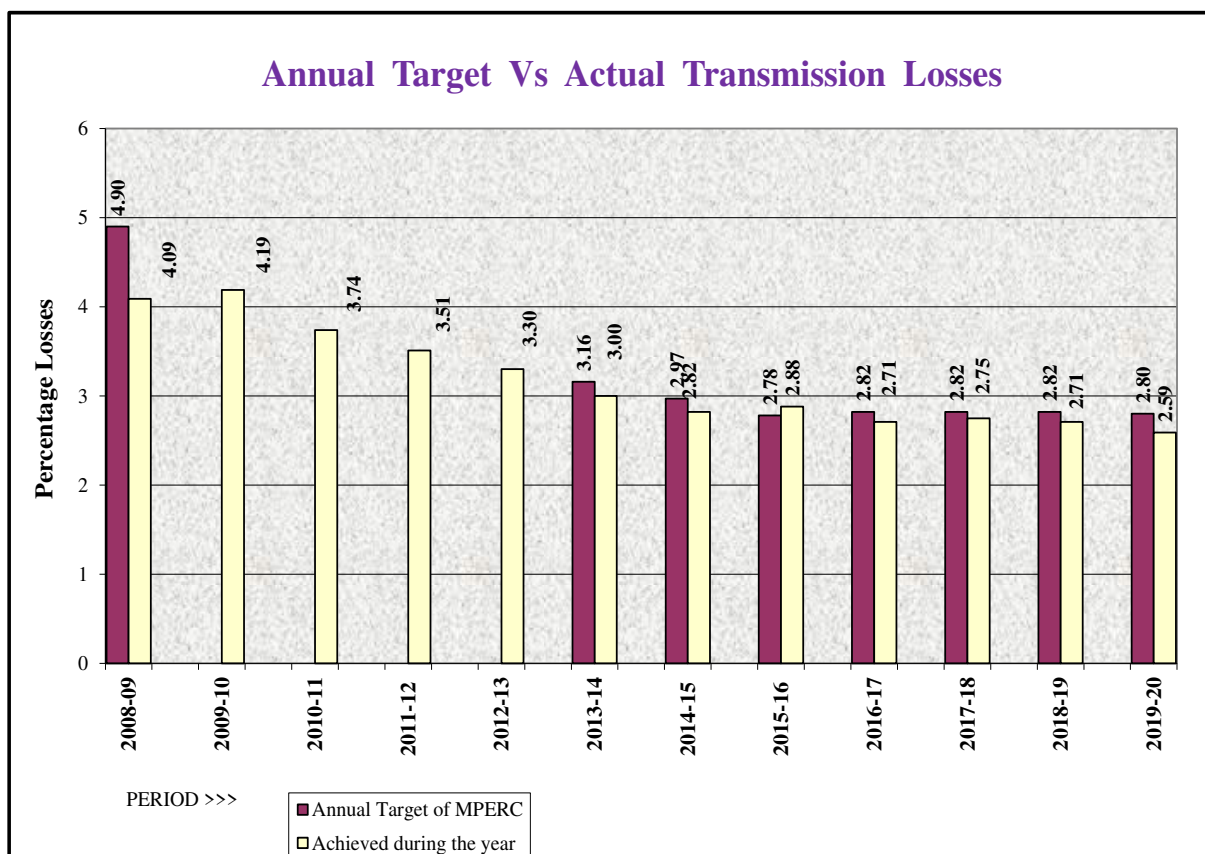
When MPPTCL took over the Intra-State Transmission activities, there was a concern over high Transmission losses in 220 KV System. This was due to the fact that the 220 KV feeders were the main power evacuation Lines carrying heavy load over long distances. This aspect had drawn attention of the top management of MPPTCL and due importance was given to 220 KV works to mitigate this problem. The following table indicates the reduction in voltage-wise losses during past Six years;

S. No.	System Voltage	Transmission Losses in Percentage					
		At Various Voltage Levels					
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1	400 KV	1.01%	0.95%	1.13%	1.02%	1.12%	2.17%
2	220 KV	1.75%	1.72%	1.92%	1.88%	1.94%	1.10%
3	132 KV	0.81%	0.86%	0.44%	0.56%	0.49%	0.63%
4	Overall System Losses	2.82%	2.88%	2.71%	2.75 %	2.71 %	2.59 %

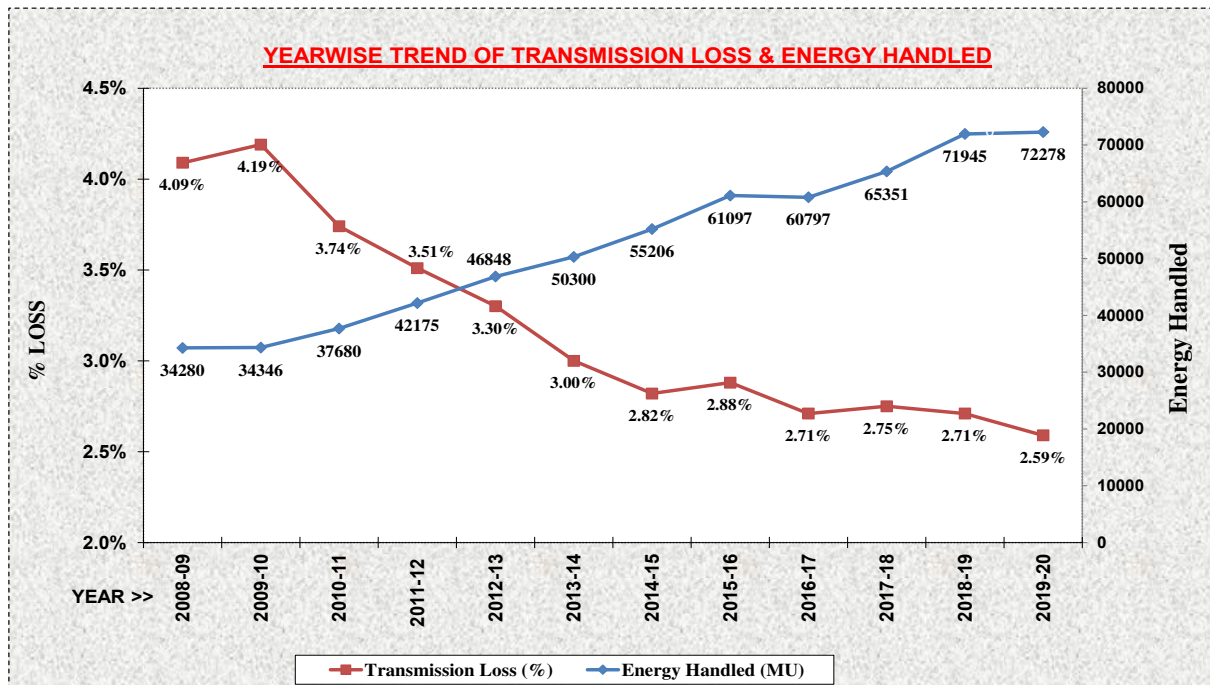
2.5.6 TRANSMISSION LOSSES –

It is to mention that the Transmission loss of 2.59 % during the reporting period is less than the Annual Target of 2.80% fix by the Hon'ble MPERC. Meanwhile, Transmission loss 2.59 % during the reporting period is less as compared to Transmission loss of previous year i.e. 2.71% despite energy handled during the reporting period by the company is 72278 MU, which is more than energy handled during the same period of the previous year. However, 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. During the FY 2019-20, MPPTCL has recorded transmission losses as 2.59 % against the target of 2.80 % set by the Hon. Commission for the period under the report.

The position of Transmission Loss as against the Target fixed by the Hon. MPERC is shown pictorially in the following chart.



The losses have been reduced continuously during the past few years, in spite of the increase in Energy handled, as depicted in the following graph;



2.6 SLDC CONTROL -

The SLDC at Jabalpur has been upgraded with the State of Art technology based equipment 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.

2.6.1 EQUIPMENTS -

The meters have been provided at all the 1138 interface points for energy accounting and are in working condition.

RTUs were to be installed at 303 points against which RTUs have been installed at 301 Points. Out of these, 298 RTUs provided for MW, MVAR, Voltage and Frequency are in working condition. Further 3 Nos. RTUs are not working due to planned shutdown of generators. It has been advised that prompt action towards installation of balance 2 Nos. RTUS be taken.

2.6.2 GENERATION SCHEDULE -

The SLDC is monitoring daily generation schedule and actual generation for Intra-State Thermal Generating Stations. All the Intra State Generators are maintaining their actual generation against generation schedule issued by SLDC and follow the instruction issued by SLDC during real time operation.

2.7 PERFORMANCE IMPROVEMENT THROUGH SYSTEM STRENGTHENING-

There are the areas where improvements are gradually coming up with the completion of works covered under Transmission Plan. The 5-year Investment Plan (2017-22) was submitted to Hon'ble Commission and Petition has been approved by the Hon'ble Commission. An updated Capital Investment Plan Coinciding with Tariff Control Period

FY 2019-20 to FY 2023-24 has been submitted on 18.3.2020 for approval of Hon'ble Commission. The investment plan is linked to long term planning involving huge investments and it is expected that the plan will take care of the weaker areas. These are discussed hereunder;

2.7.1 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 reporting to the Hon'ble Commission.

Here it would be proper to mention that as per CEA's "Manual On Transmission Planning Criteria (January 2013)" the loading limit for a transmission line is to be calculated on its thermal loading limit and not on the basis of SIL. Therefore, it may be appreciated that, in lines with the CEA's document, the loading on nearly all the lines is within the prescribed limits. However, looking to the prevailing regulation, the report of all four Quarters have been based on SIL loading. The reasons for overloading and remedial measures are tabulated hereunder;

Quarter - April 2019 To June 2019					
	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 Daloda-Sitamua	84	168	81	400KV S/s Mandsour(Sitamau) is under construction
2	132 KV North Zone -Chambal-II	73	146	51	Contingency load
3	132 KV North Zone -Chambal-I	70	140	54	Contingency load
4	220 KV Indore-South Zone II	184	139	130	Conductor Augmentation with HTLS conductor is proposed
5	220 KV Indore-South Zone I	174	132	124	Conductor Augmentation with HTLS conductor is proposed
6	132 KV Mangawan-Katra	65	130	40	132KV Sirmour-Katra DCDS line from 220KV S/s Sirmour is under construction
7	132KV Neemuch-Ratangarh-I	61	122	60	220KV S/s Ratangarh is under construction
8	132KV Neemuch-Ratangarh-II	61	122	60	220KV S/s Ratangarh is under construction
9	132KV Narsighpur-Barman I	60	120	51	Contingency load
10	132KV Narsighpur-Barman II	60	120	51	Contingency load

Quarter - July 2019 To September 2019					
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 Sabalgarh-Sheopur -I	104	207	77	New 220KV S/s Sheopur is under construction
2	132 KV Sabalgarh-Sheopur -II	103	207	76	New 220KV S/s Sheopur is under construction
3	132 KV Bhopal - Bagroda	75	149	23	Contingency Load
4	132 KV S/s Seoni - Nainpur	69	138	56	132KV Seoni-Nainpur DCDS line from 220KV S/s Seoni is under construction
5	132 KV Sarangpur - Mohanbodadiya	68	136	20	Stringing of second circuit of 132KV Nalkheda-Mohanbodadiya line is under progress
6	132 KV Daloda - Sitamau	67	134	40	New 400KV S/s Mandsour is under construction
7	132KV Pipariya - Semriharchand	67	134	56	Stringing of second circuit of 132KV Piperiya-Semiharchand line is proposed
8	220 KV Satna – Kotar-I	176	133	72	Contingency Load
9	220 KV Satna – Kotar-II	176	133	72	Contingency Load
10	220 KV Chhatarpur - Satna	142	108	113	Second circuit of 220KV Chhatarpur-Satna is charged on 29.08.2019

Quarter - October 2019 To December 2019					
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 Sitamua-Daloda	92	185	40	400KV S/s Mandsour(Sitamau) is under construction
2	132 KV Sheopur - Sabalgarh I	89	178	55	220KV S/s Sheopur is under construction
3	132 KV Sheopur - Sabalgarh II	89	178	55	220KV S/s Sheopur is under construction
4	132 KV Mangawan-Katra	80	160	34	132KV Sirmour-Katra DCDS line from 220KV S/s Sirmour is under construction
5	132KV Nagda-Khachrod	79	158	67	132KV Nagda-Khachrod-Jaora DCSS Line is under construction

Quarter - October 2019 To December 2019					
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 KV Mehgaon - Bhind	76	151	67	220 KV S/s Bhind is proposed under TBCB
7	132KV Mandsour - Daloda	75	150	63	400 KV S/s Mandsour(Sitamau) is under construction
8	132 KV JBP-Shahpura	74	148	55	Contingency load
9	220 KV Satna-Chhatarpur	179	136	64	Second circuit of 220KV Chhatarpur-Satna is charged on 29.08.2019
10	220 KV Bina-Ashoknagar	172	130	137	400 KV S/s Guna is proposed under TBCB

Quarter - January 2020 To March-2020					
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 Chhatapur-Bijawar	80	160	63	LILo of Bijawar-Chhatarpur line at Batiyagarh S/s is proposed
2	132 KV Mehgaon to Bhind	78	156	46	220 KV S/s Bhind is proposed under TBCB
3	132KV Singhana to Manawar Line	76	152	72	220 KV S/s Kukshi is under construction
4	132 KV Nagda-Khachrod	72	144	64	132KV Nagda-Khachrod-Jaora DCSS Line is under construction
5	132 KV Singhana to Kukshi Line	72	144	52	220 KV S/s Kukshi is under construction
6	132 KV Sheopur-Sabalgarh-I	70	139	32	220KV S/s Sheopur is commissioned on 26.2.2020
7	132 KV Sheopur-Sabalgarh-II	70	139	32	220KV S/s Sheopur is commissioned on 26.2.2020
8	220 KV Bina-Ashoknagar	178	135	135	400 KV S/s Guna is proposed under TBCB
9	220 KV Indore-Southzone I	176	133	117	Conductor Augmentation with HTLS conductor is proposed
10	220 KV Indore-Southzone II	189	143	126	Conductor Augmentation with HTLS conductor is proposed

Note – Average Max. load indicated in above quarterly MIS reports, are the average of daily maximum load. It is further submitted that minor corrections in average maximum load have been done after verification.

2.8 VOLTAGE VARIATION IN SUB-STATIONS –

From the MIS reports, it is observed that MPPTCL 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 work of important Sub-stations & EHV Lines, which resulted in better voltage profile, in-spite of load growth in these areas.

It is evident from the following tables that the low voltage problem has been practically eliminated. The occurrence of voltage exceeding the permissible limit at 400 KV buses is attributable sometimes to low load conditions and intra state transmission system being embedded with 765 KV and 400 KV transmission system of PGCIL. The MPPTCL have adopted the measures of tackling this problem by installation of suitable bus and line reactors. The quarterly details of voltage deviations, where measurement was possible, beyond the upper and lower limits, during each Quarter of 2019-20 as compared to the figure of the same quarters of previous year are indicated as hereunder:

IST QUARTER

S. No.	Voltage class of Sub-station	Quarter ending June'18			Quarter ending June '19		
		No. of S/s **	Voltage deviation beyond		No. of S/s **	Voltage deviation beyond	
			Upper Limit	Lower Limit		Upper Limit	Lower Limit
1	400 KV	9	3	NIL	11	4	NIL
2	220 KV	69	NIL	NIL	77	NIL	NIL
3	132 KV	260	NIL	NIL	278	NIL	NIL
TOTAL -		338	3	NIL	366	4	NIL

IIND QUARTER

S. No.	Voltage class of Sub-station	Quarter ending Sept.'18			Quarter ending Sept. '19		
		No. of S/s **	Voltage deviation beyond		No. of S/s **	Voltage deviation beyond	
			Upper Limit	Lower Limit		Upper Limit	Lower Limit
1	400 KV	9	4	NIL	11	6	NIL
2	220 KV	71	NIL	NIL	77	NIL	NIL
3	132 KV	265	NIL	NIL	280	NIL	NIL
TOTAL -		345	NIL	NIL	368	6	NIL

IIIRD QUARTER

S. No.	Voltage class of Sub-station	Quarter ending Dec.'18			Quarter ending Dec. '19		
		No. of S/s **	Voltage deviation beyond		No. of S/s **	Voltage deviation beyond	
			Upper Limit	Lower Limit		Upper Limit	Lower Limit
1	400 KV	10	3	NIL	12	5	NIL
2	220 KV	72	NIL	NIL	76	NIL	NIL
3	132 KV	271	NIL	NIL	285	NIL	NIL
TOTAL -		353	3	NIL	373	5	NIL

IVTH QUARTER

S. No.	Voltage class of Sub-station	Quarter ending March.'19			Quarter ending March.'20		
		No. of S/s **	Voltage deviation beyond		No. of S/s **	Voltage deviation beyond	
			Upper Limit	Lower Limit		Upper Limit	Lower Limit
1	400 KV	11	4	NIL	12	6	NIL
2	220 KV	75	NIL	NIL	78	NIL	NIL
3	132 KV	275	NIL	NIL	285	NIL	NIL
TOTAL -		361	4	NIL	375	6	NIL

** No. of S/s where measurement have been recorded.

2.8 IMPACT OF CAPITAL WORKS EXECUTED–

It is to submit that the impact of the works i.e. newly commissioned Lines / Sub-station completed during FY 2019-20 will be known in the subsequent quarters of next Financial Year.

2.9 OBSERVATIONS OF THE COMMISSION –

The observation made by the Hon'ble Commission regarding various issues related to functioning of the company are replied in time line specified by the Commission. However, no observation has been received from the commission during FY 2019-20.

2.10 ADDITIONAL INSTRUCTION OF HON. MPERC –

Hon'ble Commission vide letter No. MPERC/D(T)/2015/ 1242 dtd. 10.07.2015, has directed MPPTCL to submit along with the next Half-yearly and Annual Regulatory Compliance Reports, the details on the following matters also;

- a) Total Nos. of Bays at each Voltage level
- b) Total No. of EHV Transformers at each Voltage level
- c) Details of failed EHV Transformers duly filled up, in the format prescribed.

In compliance to the directives, the information regarding the above points are as follows:-

a) Total Nos. of Bays at each Voltage level during reporting period of FY 2019-20

S. No.	Voltage level	As on 31.03.19	Net addition during the period of report	Total at the end of period (Nos.)
1	400 KV	148	10	158
2	220 KV	713	52	765
3	132 KV	2500	143	2643
Total		3361	205	3566

b) Total Nos. of EHV Transformers at each Voltage level reporting period of FY 2019-20

S. No.	Voltage level	As on 31.03.18	Net addition during the period of report	Total at the end of period (Nos.)
1	400 KV	31	3	34
2	220 KV	183	5	188
3	132 KV	673	23	696
	Total	887	31	918

* Inclusive of individual units of a bank.

c) Details of failed EHV Transformers is provided in the format prescribed by the Commission, as under;

STATEMENT SHOWING THE CURRENT STATUS OF POWER TRANSFORMERS FAILED IN FY 2019-20													
S No.	Date of failure	Capacity in MVA	Voltage Ratio	Make	Location/Sub-station where failed	(BGP/WGP) Whether it was within Guarantee period or beyond it	whether New/Repaired	Year of Manufacture	Name of Repairer & when last repaired	Date of Replacement	Capacity of replaced transformer in MVA	Load/Peak load on the (F)Transformer in MVA	Reasons for failure & Action taken if any, for non-reoccurrence of failure.
1	12-May-19	12.5	132/33KV	HEL	Lalbagh 132	BGP	Old	1963	-	19-May-19	20	9MVA	Transformer tripped due to fault of 2x5MVA 33/11KV Discom transformers during heavy rains and wind.
2	30-May-19	63	132/33KV	ABB	Chambal Indore 132	BGP	Old	2003	-	14-Jun-19	50	54MVA	Tr. Tripped on differential trip indication at the time of failure of 132 KV R&Y Ph CTs.
3	30-May-19	20	132/33KV	BBL	Rajgarh (B) 220	BGP	Old	1981	-	01-Oct-19	20	10MVA	Transformer tripped on Differential Trip indications
4	21-Jun-19	100	220/33+33KV	AREVA	Badnagar 220	BGP	Old	2008	-	27-Aug-19	50	95MVA	Transformer tripped on Differential Trip Indications. Due to failure of HV & LV Y Ph winding
5	07-Jul-19	40	132/33KV	BBL	Sagar 132	BGP	Old	1991	-	19-Oct-19	50	25MVA	Transformer tripped on Differential Trip indications
6	10-Jul-19	63	132/33KV	GEC	Mahalgaoon 220	BGP	Old	1988	-	16-Sep-19	50	35MVA	Transformer tripped on Differential Trip indications
7	14-Aug-19	160	220/132KV	HEL	Satna 220	BGP	Old	1990	-	14-Nov-19	50	140MVA	Transformer tripped on Differential Trip indications due to failure of 132KV R phase bushing
8	31-Aug-19	160	220/132KV	CGL	Shujalpur 220	BGP	Old	1996	-	6-Sep-20	160	-	160MVA CGL Transformer- II tripped on PRV, Differential trip indications

STATEMENT SHOWING THE CURRENT STATUS OF POWER TRANSFORMERS FAILED IN FY 2019-20

S No	Date of failure	Capacity in MVA	Voltage Ratio	Make	Location/Sub-station where failed	(BGP/WGP) Whether it was within Guarantee period or beyond it	whether New/Repaired	Year of Manufacture	Name of Repairer & when last repaired	Date of Replacement	Capacity of replaced transformer in MVA	Load/Peak load on the (F)Transformer in MVA	Reasons for failure & Action taken if any, for non-reoccurrence of failure.
9	11-Sep-19	12.5	132/33KV	EMCO	Chanderi 132	BGP	Old	1976	-	27-Jan-20	20	-	Transformer tripped on Differential Trip indications due to failure of R phase Bushing
10	25-Sep-19	12.5	132/33KV	HEL	Bhenegaon 132	BGP	Old	1963	-	18-Dec-19	16	8MVA	Transformer tripped on Differential Trip indications
11	07-Feb-20	160	220/132KV	CGEL	Jetpura 220 (Indore)	BGP	Old	2003	-	28-Mar-20	160	45MVA	Transformer failed due to 33KV multiple feeder fault
12	07-Feb-20	160	220/132KV	AREVA	Jetpura 220 (Indore)	BGP	Old	2008	-	30-Sep-20	160	-	Transformer failed due to 33KV multiple feeder fault
13	07-Feb-20	40	132/33KV	TELEK	Jetpura 220 (Indore)	BGP	Old	2003	-	04-Apr-20	50	15MVA	Transformer failed due to 33KV multiple feeder fault
14	03-Mar-20	40	132/33KV	NGEF	Banmore 132	BGP	Old	1988	-	10-Jun-20	50	20MVA	Transformer tripped on Differential Trip & Buchholz Trip Indications
15	24-Feb-20	20	132/33KV	NGEF	Maxi 132	BGP	Old	1983	-	19-May-20	20	-	Due to high value of dissolved gases in DGA testing Tr charged but tripped on Buchholz Trip Indications

- ** 1. Regular Periodical maintenance of Sub-Stations is being carried out as preventive maintenance.
2. During the period of outages supply is made available from alternate sources.

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. The Standards prescribed by the Commission have been classified in following two categories;

Category – A (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 6th June 2005. The reporting requirements are as follows;

S. No.	Parameter	Category	Permissible limits in final stage
1	Voltage Variation	A	400 KV + 5% - 10% 220 KV & 132 KV ± 10%
2.	Frequency Variation	A	+1% & - 2%
3.	Safety Standards	A	As per IE Rules 1956.
4.	System Availability	B	98.0%
5.	Feeder Availability	B	98.0%
6.	Transformer Availability	B	98.0%
7.	Voltage Unbalance	B	400 KV & 220 KV → 2% 132 KV → 3%
8.	Neutral Voltage Displacement	B	2% of full load current
9.	Voltage Variation Index	B	Less than or equal to 4 % for minimum 90% of buses
10.	Frequency Variation Index	B	Less than or equal to 0.5%
11.	System Adequacy	B	8664 Hours.
12.	Harmonics	B	Less than 1%
13.	System Security	B	1 % of system peak.

3.2 **REPORTING BY THE LICENSEE** –

The MPPTCL submitted the quarterly reports of all Quarters during FY 2019-20 within prescribed time limit of 45 days from the end of the quarter as mentioned hereunder;

S. N.	Period	Reference of Submission
i.	April-June 2019	Letter No.04-01/CRA Cell/ F-7((A)/4631 dated 13.8.2019
ii.	July-Sept. 2019	Letter No.04-01/CRA Cell/ F-7(A)/7649 dated 15.11.2019
iii.	Oct-Dec. 2019	Letter No.04-01/CRA Cell/ F-7(A)/11123 dated 15.2.2020
iv.	Jan-March. 2020	Letter No.04-01/CRA Cell/ F-7(A)/527 dated 30.5.2020

3.3 **REPORTS FULLY COMPLIED** –

The following reports are fully complied during all four quarters of the year;

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
x.	Frequency Variation Index
xi.	System Adequacy
xii.	System Security
xiii.	Harmonics

3.4 **REPORTS NOT COMPLIED WITH** –

There is no report which is not complied with.

3.5 **POINTS OF BETTER PERFORMANCE** –

The MPPTCL has shown better performance, in majority of the operational areas. These have been discussed under the Transmission Performance Standards Report. Few of them are further mentioned hereunder;

3.6. **TACKLING OF LOW VOLTAGE PROBLEM** –

Transmission Performance Standards Report specifically mentions the maximum & minimum voltages at 400 KV, 220 KV, 132 KV and 33 KV buses of EHV Sub-stations for the regulatory minimum time period

It may be seen from the reports that in all four Quarters of FY 2019-20, the voltage at none of the 400KV bus has gone below the permissible limit of 10%. Similarly, in case of all 220KV buses and 132KV buses, it is to be stated that the voltage deviation on lower side remained within the permissible limit of 10%.

It is also mention that to improve the load factor, Reactors/Capacitor banks are being installed by MPPTCL and it is a continuous process based on certain load parameters/conditions.

3.6.1 VOLTAGE-WISE SYSTEM AVAILABILITY –

The Voltage-wise Availability for Lines and Sub-stations during the year has been found well above the target of 98% fixed by Hon. MPERC for 2019-20, as shown hereunder;

S. No.	System Voltage	Transmission System Availability in %					
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1	400 KV	99.30%	94.52%	95.46%	98.62%	99.86%	99.76%
2	220 KV	99.32%	98.64%	99.02%	99.25%	99.77%	99.55%
3	132 KV	99.39%	99.21%	99.23%	99.36%	99.74%	99.76%
4	Target -	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
5	Total Achieved	99.35%	98.16%	98.39%	99.15%	99.59%	99.64%

3.6.2 VOLTAGE UNBALANCE –

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 2019	For none of the transformer bus, the voltage unbalance was found beyond prescribed limit.
(ii).	Quarter July-Sept. 2019	-do-
(iii).	Quarter Oct.-Dec. 2019	-do-
(iv).	Quarter Jan.-Mar. 2020	-do-

3.6.3 NEUTRAL VOLTAGE DISPLACEMENT –

In none of the transformers, the Neutral Voltage Displacement was found beyond the limit prescribed, during all four Quarters of FY 2019-20.

3.6.4 VOLTAGE VARIATION INDEX (VVI) –

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

S. No.	Quarter	Total No. of Buses checked	No. of Buses where VVI is within limit	Percentage
220 KV -				
1	April-June 2019	79	74	93.67%
2	July-Sept. 2019	82	76	92.68%
3	Oct.-Dec. 2019	85	79	92.94%
4	Jan.-Mar. 2020	86	81	94.18%
132 KV -				
1	April-June 2019	342	335	97.95%
2	July-Sept. 2019	346	337	97.39%

S. No.	Quarter	Total No. of Buses checked	No. of Buses where VVI is within limit	Percentage
3	Oct.-Dec. 2019	352	347	98.57%
4	Jan.-Mar. 2020	364	355	97.52%

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

3.7 IMPROVEMENTS RELATED TO INVESTMENT PLAN –

System Security is basically a planning criteria. In accordance with the Clause 6 of “Manual on transmission planning criteria” of CEA, and the Performance Standard Regulations, 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 out) 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.

Improvement in System Security is linked to completion of Capital works under Transmission Plan, which are being executed by the MPPTCL. In this context, 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 conducting system studies to cop-up the load growth, and reviewing its Capital Works Plan.

It is reported by the licensee that after major failures of transformers the loads are transferred to the adjoining substations through the interconnecting lines and there has been no interruptions of supply to any area due to outage of above transmission elements. During the year 2019-20 the maximum demand was of 14555 MW and this load of the system was managed easily without any threat to system security. In the process no negative effect was experienced due to outage of any transmission system element during the period under report and the system remained stable.

Further, it is to be intimated that the 5-Year Plan for the period 2017-18 to 2021-22 was submitted to Hon’ble Commission by MPPTCL and the same has been approved by Hon’ble Commission on 02.5.2018. In compliance to the directives of Hon’ble Commission in True Up tariff order dated 04.1.2020 for FY 2017-18, the updated Capital Investment Plan for FY 2019-20 to FY 2023-24 coinciding the new Tariff Control Period has been submitted for approval of Hon’ble Commission on 18.3.2020.

3.8 IMPACT OF REPORT –

The information gives valuable feedback to Transmission and Distribution Licensees to plan their works/ different activities, for improvement and better services to consumers. It may be seen that the works planned and completed have resulted in reducing the congestion and improvement in Voltage Profile. The quarterly reports and its review are helpful in advising the field units to improve System Availability.

4. MP ELECTRICITY GRID CODE -

The Electricity Act 2003 [section 86 (1) (h)] requires that State Commission should specify a State Grid Code that is consistent with the Indian Electricity Grid Code (IEGC) specified by the Central Commission under Section 79-1(h) of the Act.. This Grid Code shall be a legally enforceable interface document agreed upon and to be complied with by all the State Sector Generating Stations, Discoms (including their HV/EHV consumers directly connected to State Transmission System) and open access customers interconnected to State Transmission System. The Grid Code has been designed to operate and maintain an efficient and coordinated State Transmission System and allow STU to comply with its obligations in relation to the inter-state transmission of power and to operate the system in integration with the Western Grid as per the provisions of Indian Electricity Grid Code. The Grid Code lays down what is technically optimal with respect to operation and defines standards and common terms to reduce ambiguity and avoid discrimination. Accordingly, the Hon'ble State Commission on 20th August 2004 notified the MP Electricity Grid Code. Subsequently, in exercise of powers under Section 86(1) (h) of the Electricity Act 2003, Hon. MPERC specified the Madhya Pradesh Electricity Grid Code (Revision 1), 2005 on 24th October 2005.

MP Electricity Grid code has been designed to operate and maintain an appropriate and coordinated state transmission system. The grid code contains procedures to permit equitable management of day to day technical situations in the Electricity Supply System taking into account a wide range of operational conditions likely to be encountered under both normal and abnormal circumstances. The Grid code review is required to address all possible operational conditions.

4.1 COMPLIANCE UNDER MP ELECTRICITY GRID CODE -

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 CONSTITUTION OF COMMITTEE AND ITS MEETINGS -

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 their meetings. Meetings conducted during reporting period are listed hereunder;

S. No.	Name of Committee	Constituted on	Dates of Meeting held during April'19 to March'20
1	Grid Code Review Committee	3.2.05	-

S. No.	Name of Committee	Constituted on	Dates of Meeting held during April'19 to March'20
2	Operation Coordination Committee	12.7.05	69 th meeting – 25.4.2019 70 th meeting – 28.6.2019 71 st meeting – 20.9.2019 72 nd meeting – 19.11.2019 73 rd meeting – 12.01.2020 74 th meeting – 21.03.2020
3	Protection Coordination Committee	12.7.05	48 th meeting – 20.7.2019 49 th meeting – 21.11.2019 50 th meeting – 28.1.2020 51 st meeting – 20.3.2020
4	Transmission Metering Committee	12.7.05	19 th meeting – 05.2.2020

4.2 **TRANSMISSION PLAN** -

4.2.1 **13TH PLAN** -

The period of 12th Plan was over in FY 2016-17. Therefore, the Transmission Licensee filed a Petition for seeking approval of Capital Investment Plan of ` 9889.15 Crores for the 13th Plan Period i.e. FY 2017-18 to FY 2021-22, before Hon'ble Commission for approval on 31.07.2017. The Hon'ble Commission has approved the same on 02.5.2018. Subsequently, in compliance to the directives of Hon'ble Commission in True Up tariff order dated 04.1.2020 for FY 2017-18, updated capital investment plan coinciding with Tariff Control period FY 2019-20 to FY 2023-24 has been filed by the MPPTCL on dated 18.3.2020, which is under scrutiny of Hon'ble Commission.

4.3 **DEMAND FORECAST** –

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

4.4 **REACTIVE POWER PLANNING EXERCISE** –

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 **REPORTING BY SLDC** –

In compliance of the Clause No. 14.1.1 of the MP Electricity Grid Code, the C.E.(Load Dispatch) 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.

The monthly reports for all four quarters of FY 2019-20 have been submitted by the SLDC to the Hon'ble Commission.

No non-compliance of Grid Code has been indicated in above reports of SLDC.

5. LICENSE CONDITIONS –

License conditions have been specified under section 16 of the Electricity Act 2003. Hon. MPERC has also issued – “The Condition of Transmission License for Transmission Licensee Regulations”.

5.1 The 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	Ministry of Corporate Affairs, Govt. of India has extended the period for conducting AGM upto 31.12.2020. The efforts are being made by the MPPTCL to finalize the financial statements by 31.12.2020	N.A.	N.A.	Complied.
7.2(b) (ii)& (iv)	Submission of financial statement (Annual)					
9.1	Submission of information in the prescribed formats of Condition of license	Yes	Submitted vide No. 04-01/ CRA Cell/F-8/ 1341 dated 30.6.2020.	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 have been submitted regularly for 2019-20.	N.A.	N.A.	No major incident occurred during the period.
9.9	Submission of 5 year Business Plan	Yes	The updated Capital Investment Plan coinciding Tariff Control period FY 2019-20 to FY 2023-24 has been submitted on 18.3.2020	N.A.	N.A.	Under scrutiny of Hon’ble Commission.
10.2	Submission of 5 Year Investment Plan (Correlated with the Business Plan)	Yes	The updated Capital Investment Plan coinciding Tariff Control period FY 2019-20 to FY 2023-24 has been submitted on 18.3.2020.	N.A.	N.A.	Under scrutiny of Hon’ble Commission.
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,	Submitted vide No. 04-01/ CRA-Cell/F-8/3830 dated 23.10.2020	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
10.4	Existing tendering procedure for approval of the Commission	Yes	Submitted.	N.A.	N.A.	Complied
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.	The MPPTCL is using the Planning & Security code prescribed by the CEA, which has been submitted to the 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.
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 and energy requirement.	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.
	The Licensee shall submit to the Commission a report indicating the performance of the Transmission System during the previous financial year.	Yes.	Submitted vide No. 04-01/ CRA-Cell/F-8/3830 dated 23.10.2020	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
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.
	(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-8/3830 dated 23.10.2020	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-8/3830 dated 23.10.2020	N.A.	N.A.	Complied.
Submission of ARR		Yes	True-up Petition for FY 2017-18.	N.A.	N.A.	True-up order issued on 4.1.2020
		Yes	True-up Petition for FY 2018-19	N.A.	N.A.	True Up Petition filed on 14.11.2019 under scrutiny of Hon'ble Commission

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

6. OPEN ACCESS REGULATIONS –

Under the Open Access Regulations notified by the Hon'ble Commission on 24.6.05, the 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. The Office of the Chief Engineer (Panning & Design) is the Nodal Office dealing with the functions related to Long Term Open Access Customers. For Short Term Open Access Consumers, office of the Chief Engineer SLDC is the Nodal Office.
- ii. The guidelines on Long Term Open Access drafted and submitted by MPPTCL have been approved by the Hon'ble Commission and these have been displayed on the Website of the MPPTCL.
- iii. 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.
- iv. **Agreement between Nodal Agency and Open Access Customers-**

The Transmission Service Agreements between MPPTCL and three Distribution Companies of Madhya Pradesh have been executed in November 2006.

At present there are two more Long Term Open Access customer namely West Central Railways and SEZ, Pithampur - other than the 3 Discoms. Agreement has been executed with SEZ on 29.1.2005 and a copy of the agreement has been submitted to the Hon'ble Commission on 23.2.2005. Supplementary agreements were then executed on 11.10.2010, 05.10.2013, 29.03.2016, 15.4.2017, 29.8.2018 and 18.12.2018. In addition to above, M/s West Central Railways on behalf of Indian Railways has also entered in to an agreement with MPPTCL on 07.10.2016, 26.04.2017, 18.12.2017 and 20.7.2020.

Further, Long Term Open Access have also been granted to 205 Nos. Non-Conventional Generators connected on 33KV and above voltage level, out of which permission to 8 Nos. have granted during FY 2019-20 as a Nodal Agency for Long Term Open Access.

v. CERC's Regulations Dated 25th January 2008 -

Hon'ble CERC has notified CERC (Open Access in Inter-State Transmission) Regulations, 2008 on 25.01.2008, amended on 15th June 2009. 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 Inter-State system.

6.1 ACTUAL ENERGY LOSSES IN INTRA-STATE TRANSMISSION SYSTEM –

The energy losses during the past five years & during the reporting period years (in %) are as under;

S No.	YEAR	Energy Handled (MU)	Transmission Loss (%)
1	2014-15	55206	2.82%
2	2015-16	61097	2.88%
3	2016-17	60797	2.71%
4	2017-18	65351	2.75%
5	2018-19	71945	2.71%
6	2019-20	72278	2.59%

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

7. SLDC FUNCTIONS -

7.1 SLDC FEES AND CHARGES –

Hon'ble Commission notified the Regulations on Fees & Charges for SLDC On 21st 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 12th 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	2014-15	Order dated 18.06.2014
2	2015-16	Order dated 31.03.2015
3	2016-17	Order dated 05.04.2016
4	2017-18	Order dated 26.04.2017
5	2018-19	Order dated 22.05.2018
6	2019-20	Order dated 07.3.2019
7	2020-21	Petition submitted on 15.11.2019 and Order awaited.

7.2 SEPARATE FINANCIAL ACCOUNT FOR SLDC -

The separate account in the name of RAO, MPPTCL – SLDC has been opened in State Bank of India, Jabalpur in July 2005.

The final Opening Balance Sheet notified on 12.06.2008 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 the petition for levy of Fee and Charges of SLDC for the year 2020-21 has been submitted to MPERC on 15.11.2019 by SLDC and order for the same is still awaited.

7.3 APPLICATION FOR CONNECTION TO STATE GRID –

The generation system of MP GENCO and transmission system of MPPTCL is already connected to the State Grid. NHDC has also been connected to the State Grid. Apart from the above, Non-conventional generators supplying at 132 KV and above have been also connected to the Transmission Grid.

7.4 Implementation of Intra-State ABT/ AMR/ SCADA & ADMS –

Pursuant to the requirements of the MPERC Balancing & Settlement Code, notified on 23rd October 2009, SLDC is regularly preparing Intra-State Energy Accounts since November 2009, based on Availability Based Tariff mechanism and issuing bills to the relevant customers. Further, functions as given below are also being successfully pursued –

- i) Preparation of State Energy Accounts.
- ii) Deviation Settlement Mechanism Accounting.
- iii) State Reactive Energy Accounting.
- iv) Computation of loss for the purpose of scheduling of power.

ABT mechanism is in operation at 1138 inter-face locations, out of which around 90% points have been integrated with AMR facilities, thereby, consequent to prompt downloading of data at remote interface points, Automatic Meter Reading (AMR) system has also started functioning at these locations.

Presently, the SLDC SCADA System consists of 301 Nos. RTUs for MPPTCL/ Generation plants of MP, in addition to the same PGCIL, Inter-state points are also monitored. The SLDC SCADA System is used for demand management, load control and real time shutdown analysis for proper energy management. With the help of the two SCADA systems of MPPTCL, ADMS system is used for automatic demand management through frequency control.

In addition to the SLDC SCADA system, a separate Transmission SCADA system is also in operation. MPPTCL has established 3 Nos. SCADA Control Centers at Jabalpur, Bhopal and Indore. As on 31.3.2020, these three centers have been integrated with 369 RTUs of 12 Nos. 400 KV Sub-stations, 82 Nos. 220 KV Sub-stations and 275 Nos. 132 KV Sub-stations.

Apart from the above, installation and testing of ADMS units have been completed at 350 locations across the State as on 31.3.2020. These 350 points can be further bifurcated in to 5 Nos. 400 KV Sub-stations, 77 Nos. 220 KV Sub-stations and 268 Nos. 132 KV Sub-station locations. This ADMS system, along with the SLDC system, helps in prompt demand management processes.

7.5 TREATMENT OF OTHER BUSINESS OF LICENSEE –

The Regulations in this regard have been notified by the Hon'ble Commission on 1.6.2004. However, MPPTCL has not carried out any other business during the period under report.

OBSERVATIONS OF THE MANAGING DIRECTOR ON COMPLIANCE OF VARIOUS REPORTS BY MPPTCL

The various reports submitted under Regulatory Compliance have been subjected to deliberation with MD, MPPTCL by the Reporter of Compliance. The resulting proceedings of observations in the light of the contemplations of the MD are cited hereunder;

8.1 TIMELY SUBMISSION -

The MD was pleased to note that all the periodical reports and other compliances have been submitted regularly, in time and desired that the same should be ensured in future too.

8.2 MIS REPORTS -

The MIS reports for all four Quarters of FY 2019-20 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 the transmission losses during FY 2019-20 have been computed as 2.59%, which is below the target of 2.80% set by Hon. MPERC.

8.2.2 Overloading of EHV Lines -

M.D. was pleased with the progress of commissioning of new EHV lines and Sub-stations and this would lead to reduction in overloading of lines. The Top Ten congested Lines during the year, are taken into consideration for planning purposes.

It was also heartening for the MD to note that if the thermal loading limit, as defined in CEA's "Manual On Transmission Planning Criteria (January 2013)", is considered for determining the loading limit for a transmission line, the loading on most of the lines, in the current situations, is within the prescribed limits. However, looking to the prevailing regulation, wherein the report of all four Quarters of FY 2019-20 are based on SIL loading, and by which the top Ten congested Lines during all four quarters have been identified. Remedial measures is being taken by incorporating them in the load flow studies and thereby directing the concerned to take necessary action for removal of overloading.

8.2.3 Transmission System Availability -

Transmission System Availability for 2019-20 has been worked out as 99.64 %, which is higher than the target of 98.00%, set by the Hon. Commission, enabling the Company to earn incentives. The M.D. also appreciated the fact that although the transmission elements are around 1950 in numbers, the monthly Transmission System Availability is being calculated in time.

He also advised the relevant wings for implementation of stringent coordinated planned operations for maintenance and continuation of the tradition of prompt attendance of outages so that better Availability during FY 2020-21 could be achieved.

8.2.4 Capacity Addition -

During the reporting period 17 Nos. EHV Sub-stations, 4440.50 MVA of Transformation capacity and 1885.35 Ckt. KMs of EHV lines have been added in the system. Notwithstanding, the MD, MPPTCL is pleased with the progress of work but directed to expedite the progress of construction of EHV lines and Sub Stations so that better progress could be achieved during FY 2020-21.

8.3 TRANSMISSION PERFORMANCE STANDARDS –

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 Performance Standard Regulations. This indicates better quality of supply made available by TRANSCO to the Distribution Licensees through its transmission system.

The MD, also, observed that there is improvement in voltage profile, whereby voltage variations in lower limit have been practically eliminated. However, on the other hand, it was also observed that in few cases, the voltage has gone above the upper limit, specifically in case of 400 KV buses. Here it is to be mentioned that apart from the Generating Stations the 400 KV System is directly linked to the Inter-State System. He also remarked that MPPTCL has devised a system to study the load conditions, which resulted in strengthening of transmission system at every voltage level and considerable improvement in the Voltage Profile. Further, to improve the load power factor during the irrigation season, after due analysis, Capacitor Banks are being installed.

It was hoped that these works may prove to be effective in controlling over voltages. It would be worthwhile to mention that in none of the case in all four Quarters of FY 2019-20, the voltage has gone below the lower designated limit in case of 400 KV, 220 KV & 132 KV systems in any of the Sub-stations.

The MD has directed to carry out further load flow studies, so that remedial action could be taken in advance for providing quality supply.

8.4 SLDC's ACTIVITIES –

The MD is satisfied with the SLDC's activities regarding implementation and monitoring of Intra-State ABT meters at 1138 inter-face locations. He also mentioned that a 'Maximum Demand' of 14555 MW was met during the Quarter-IV of FY 2019-20. No transmission constraint has been reported by the SLDC.

8.5 IMPLEMENTATION OF SCADA & ADMS –

The MD mentioned that the Transmission network of State of Madhya Pradesh is growing rapidly both in terms of size & complexity. This expansion is mainly driven by the phenomenal growth of demand of electric power, increasing no. of players, location of generation pockets and implementation of Open Access Policy. The expansion of the State

Transmission Network requires on-line monitoring, measurement and control of complex transmission system network.

Some of the important gains from establishing the SCADA system are accurate centralized information gathering and generation of precise reports for future planning of State Transmission System, along with effective load control, operation and quality monitoring of all EHV substations through real time information and control of reactive power flow.

The SLDC SCADA System is used for demand management, load control and real time shutdown analysis for proper energy management.

In addition to the SLDC SCADA system, a separate Transmission SCADA system is also in operation. MPPTCL has established 3 Nos. SCADA Control Centers at Jabalpur, Bhopal and Indore. As on 31.3.2020, these three centers have been integrated with 369 RTUs. The progress is significant when compared with the National/ International Standards and Norms for execution of similar works.

In addition to the above, installation and testing of ADMS units have been completed at 350 Nos. locations across the state during the period under report. Work for other balance locations is expected to be commissioned for operation by the end of the current year.

With the help of the two SCADA (one each of MPPTCL and SLDC) system, ADMS system is used for automatic demand management through frequency control. The ADMS along with the SLDC system, helps in prompt demand management processes and thereby helps in reducing the possibilities of grid failures.

8.6 INTIGRATION WITH ERP SYSTEM –

The MD mentioned that ERP system has been implemented in MP Power Transmission Co. Ltd. The ERP system allow to use a system of integrated applications to manage the business and to automate many back-office functions related to technology, services and human resources.

8.7 ACKNOWLEDGEMENT BY THE MD –

The Transmission Licensee has ensured to comply all the Regulatory requirements in time. This report has been delayed from submission because of compilation and scrutiny of data by RoC as a result of unprecedented situation arose due COVID-19 pandemic. The Company achieved an Availability figure of 99.64% which is higher than the target of 98% set by the Hon. Commission. The team of officers and employees of the Company are continuously working hard enabling the Licensee to attain a high level of performance. The active support by the State Government & Hon'ble MPERC and the guidance provided by the Company's Board of Directors for achieving the goals set for the Company is acknowledged with a grateful heart.

ANNUAL REGULATORY COMPLIANCE
REPORT FOR FY 2019-20

To,

The Madhya Pradesh Electricity Regulatory Commission,
5th 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 ‘Annual Regulatory Compliance Report’ for the year 2019-20 and has been prepared in a manner that meets the requirement of the compliance systems 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 breach of any of the obligations of license conditions or regulations.

(Sameer Kumar Nagotia)
Reporter of Compliance

(Sunil Tiwari)
Managing Director
