TARIFF AND GOVERNANCE ASSESSMENT

A. Tariff Analysis - DISCOMs

1. The National Tariff Policy (NTP) 2006 states that tariff design should progressively link tariffs to cost of service and State Electricity Regulatory Commissions (SERCs) should notify a roadmap so that tariffs are within ±20% of the average cost of supply. Further the Electricity Act 2003 stipulates and reiterates the same principle to reduce cross-subsidies and tariffs across categories to reflect the average cost of supply. In accordance with the following directives, Madhya Pradesh Electricity Regulatory Commission (MPERC) has published a distribution and retail tariff order for the year 2013-14.

2. There has been a significant reduction of in the 'per unit cross-subsidy' since the introduction of the NTP 2006. The Table 1 below highlights the movement of the tariff vis-à-vis average cost of supply (ACoS) and reaffirms the fact that the Commission has focused on tariff rationalization and improved cost coverage across categories.

Table 1: Cross-subsidy and Tariff as a % Cost of Supply (CoS)

Category	Consumer Category	Approved as per Order						
		FY08	FY09	FY10	FY11	FY12	FY13	FY14
LT	Domestic	95%	91%	93%	95%	95%	97%	98%
LT	Non-Domestic	152%	146%	144%	139%	140%	136%	140%
LT	PWW	86%	92%	92%	90%	88%	83%	85%
LT	Street Lights	100%	100%	101%	92%	91%	85%	88%
LT	Agricultural	67%	69%	67%	75%	73%	77%	75%
HT	Railways	128%	126%	128%	125%	124%	124%	125%
HT	Coal Mines	149%	146%	143%	129%	129%	131%	137%
HT	Industrial	127%	125%	127%	121%	119%	121%	120%
HT	Non-Industrial	127%	136%	136%	126%	129%	119%	137%
HT	Irrigation, water work	88%	92%	95%	96%	98%	85%	91%
HT	Bulk residential users	97%	97%	103%	100%	97%	99%	99%
HT	Bulk supply to exemptees	80%	92%	93%	88%	73%	75%	-
	Average CoS (Rs/kWh)	3.60	3.69	3.71	4.22	4.49	4.90	4.79

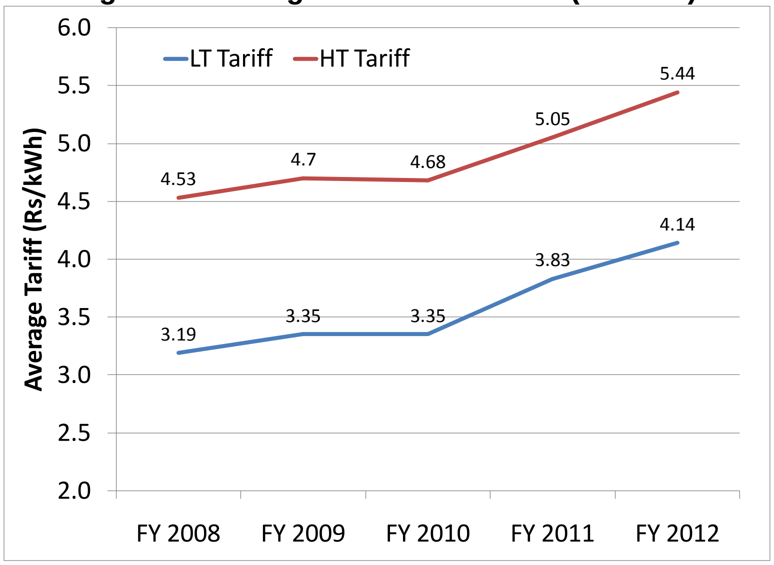
CoS = cost of supply; HT = high tension consumers; LT = low tension consumers; PWW = public water works.
Source: Madhya Pradesh Electricity Regulatory Commission.

3. Over the years, the cost of supply to the Agriculture and the domestic category consumers has increased and the MPERC has attempted to bring the tariff of all categories closer to the average cost of supply. It also needs to be highlighted that unlike many states whose agricultural consumers have higher paying capacity and yet are provided free or highly subsidized power, in Madhya Pradesh, the government has also been conscious of the fact that not all agricultural consumers can avail free subsidized power and have to pay for the electricity they consume. Therefore the free supply is restricted to the poorest consumers only. The free power supply is provided only to scheduled caste (SC) / scheduled tribe (ST) below the poverty line (BPL) consumers with pump capacity up to five brake horse power with land holding up to five hectare.

4. There has been a partial subsidy scheme for energy consumption by unmetered and temporary agricultural consumers. As per directions of the Government of Madhya Pradesh (GOMP) (notification dated 14 March 2013), the distribution companies (DISCOMs) shall propose a flat rate tariff for permanent agricultural consumers. The agricultural consumers under this scheme shall pay Rs1,200 per hp per annum. The payment shall be recovered in two parts of Rs600 per hp in April and Rs600 per hp in October. The balance amount of the bill as calculated under the applicable tariff category shall be paid by the GOMP as a subsidy.

5. Even though the performance of the distribution sector needs improvements and the DISCOMs are reporting losses, there has been a trend of decreasing distribution losses and increasing revenue per unit (RPU). This has been made possible through support from MPERC which has been issuing tariff orders every year since FY 2007 and the year on year tariff hike as approved by MPERC has played an important role to reduce the cash gap between average cost of supply and the revenue (Figure 1).

Figure 1: Average LT and HT tariffs (Rs/kWh)



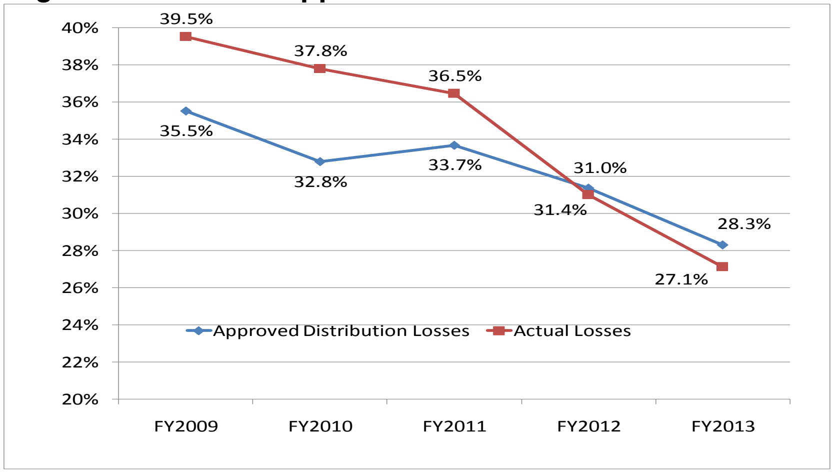
HT= High tension, LT Low tension
Source: Tariff Orders issued by MPERC

B. Analysis of Energy Losses in DISCOMs

6. The cost of supply has increased at a 4-year compound annual growth rate (CAGR) of 22% from Rs3.71/kWh in FY2010 to Rs4.79/kWh in FY2014. Around 85% of the total aggregate revenue requirement (ARR) is mainly due to power purchase cost. This indicates the criticality of such expenses being allowed by Commission in the ARR for DISCOMs' financial health.

7. Power purchase costs have been previously disallowed by MPERC owing to non-achievement of distribution losses by the DISCOMs in comparison with the loss trajectory approved by the Commission. In the past three years, the losses have decreased dramatically. In FY2013, the loss achieved by the DISCOMs was lower than what MPERC has approved for the year.

Figure 2: Actual vs Approved Losses in DISCOM Networks



Source: Tariff Orders issued by MPERC, GoMP data

8. Initially MPERC had given distribution loss targets for FY2007 to FY2010. However, it was revised based on the GOMP letter dated 28 December 2006, which allowed higher targets from FY2007 to FY2011. MPERC had observed that the DISCOMs were not able to reduce the distribution losses to the level of the loss reduction trajectory specified earlier by the GOMP. MPERC while notifying the Multi Year Tariff (MYT) Regulation for distribution tariff, revised the loss trajectory after due consultation with the stakeholders including the DISCOMs for the period from FY2011 to FY2013, keeping in view the interests of the consumers as well as the DISCOMs.

9. Each DISCOM has targeted to add more than 0.1 million consumers under the Rajiv Gandhi Gramin Vidyut Yojana (RGGVY) in FY2014 which would mean addition of subsidized consumers in the consumer mix, and bringing down the average billing rate for each DISCOM. The MPERC have taken cognizance of the matter and considered the growth in domestic category of consumers to be reflected in the approved tariff. Also, MPERC has directed each DISCOM to improve the billing efficiency for agricultural and unmetered connections by metering them. Further, consumption of unmetered domestic consumers and unmetered agricultural consumers has increased over the years. Therefore, the assessed consumption may not be a true reflection of the actual consumption in these categories and it is estimated to be a minimum of 20% below the actual consumption. The Commission has therefore revised the assessed billing units to unmetered domestic connections based on average monthly consumption of metered consumers in the urban and rural areas.

10. DISCOMs have already intensified their efforts in reducing the distribution losses through various technical and commercial interventions. Further, the DISCOMs are expediting aerial bunched cabling instead of overhead lines in low tension networks in rural as well as in urban area. Also, the meterization of un-metered connections is also being done promptly so that actual consumption may be recorded.

11. It is also stated in the Tariff Order 2013-14, that the automated meter reading (AMR) of low tension high value consumer is being implemented. Regional managers of each DISCOM have been instructed to monitor various activities towards reduction of distribution losses and administrative actions are also being taken to ensure loss reduction.

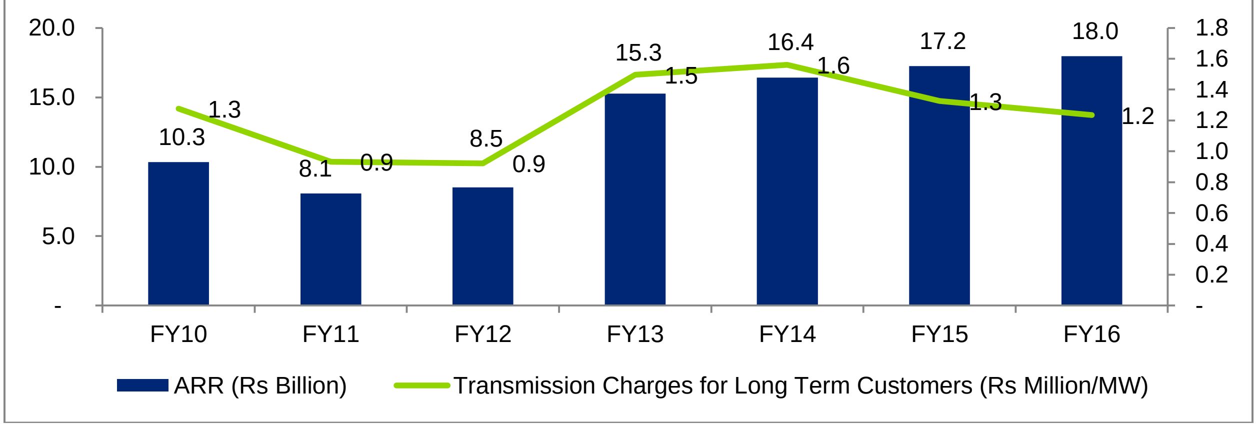
C. Tariff Analysis - MP Transco

The terms and conditions for determination of tariff for intra-state transmission of electricity under MYT framework suggest the State Transmission Utility (STU) to file an application for determination of transmission tariff for each year of the control period. The tariff changes should normally be applied to take effect from the 1st day of ensuing financial year and hence the application shall be filed before 30 November of current year along with ARR.

13. The determination of Annual Transmission Charges (ATC) or the transmission tariff for transmission of electricity by the STU shall comprise recovery of ARR comprising of the (i) interest on loans, (ii) depreciation, (iii) operation and maintenance expenses, (iv) interest on working capital at normative availability, and (v) return on equity. The ATC,[1] thus determined and approved by the Commission shall be recoverable from the long term open access consumers.

14. The ARR has increased at a 4 year CAGR of 9.7% from Rs10.33 billion in FY2010 to Rs17.96 billion in FY2016. During the same period, the MPERC has approved transmission capacity at a higher CAGR of 10.3% leading to a decrease in transmission tariff over the same period. The year wise transmission charges for long term consumers is given in the graph below:

Figure 3: Approved ARR (Rs billion) and Long Term Transmission Tariff (Rs Million/MW)



Source: Tariff Orders issued by Madhya Pradesh Electricity Regulatory Commission.

15. The intra-state open access regulations provides for short term rates in Rs./MW/Day i.e. based on the allocated capacity. The short term rate in Rs/MW/Day is broadly computed as 25% of the long term Consumer rates. Further the short term rates as classified under the regulations are:

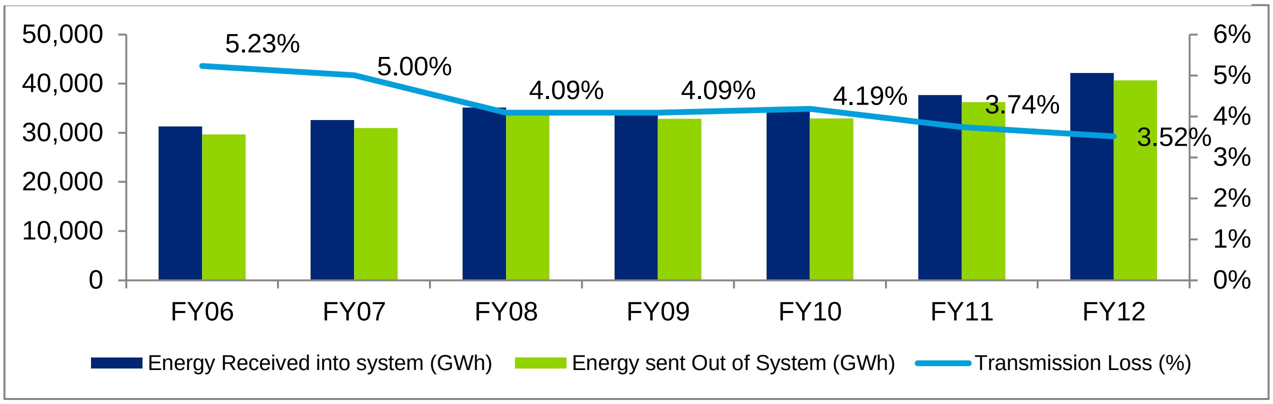
- Up to 6 hours in one block is 25% of the short term rates in Rs/MW/Day
- More than 6 hours up to 12 hours in one block is 50% of the short term rates in Rs/MW/Day
- More than 12 hours up to 24 hours is 100% of the short term rates in Rs/MW/Day

[1] ATC net off open access charges to be recovered from short term open access consumers and any other income.

D. Transmission Loss Analysis – MP Transco

16. MP Transco since its inception in July 2002 has executed its Capital Plan in such a way which has not only restricted the incremental losses against increase in energy handled by the transmission system, but also resulted in tangible reduction in transmission losses continuously over the past years. Except FY2010 where there is a slight increase in transmission loss, MP Transco has made consistent efforts to reduce the transmission loss. MP Transco has always met the transmission loss target set by MPERC. The transmission loss in the state is among the best performing states in the country. The year wise transmission loss details is given in the Figure 4 below:

Figure 4: Intra-state Transmission Loss



Source: Tariff Orders issued by Madhya Pradesh Electricity Regulatory Commission.

17. As per the directives of the Commission, the MP Transco computes the voltage-wise transmission losses. The year-wise details are given hereunder;

Table 2: Voltage wise Transmission Loss

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012
400 kV	1.40%	1.26%	1.21%	1.20%	1.19%	1.18%	1.18%
220 kV	3.26%	3.41%	2.55%	2.51%	2.86%	2.56%	2.39%
132 kV	1.60%	1.29%	1.15%	1.17%	1.03%	0.86%	0.89%
Overall System	**5.23%**	**5.00%**	**4.09%**	**4.09%**	**4.19%**	**3.74%**	**3.51%**
Target fixed by the MPERC (%)	5.22%	5.00%	4.90%	4.90%	-	-	-

Source: Tariff Orders issued by Madhya Pradesh Electricity Regulatory Commission.

E. Governance Assessment

18. Under the previous projects, a set of measures for good governance and financial management were introduced, and they were included as loan covenants. A summary of proposed governance measures and the achievements are given in Table 3. Based on the above assessment it is clear that most of the governance measures required by the previous

projects are in place. Since the same executing agencies implements the proposed project there is no need for additional governance measures.

Table 3: Governance Measures and Performances

Measure	**Performance**
Procurement	
1. Use of the Asian Development Bank (ADB) guidelines on procurement and consulting services.	Achieved
2. Use of ADB's standard bidding documents and standard request for proposal documents for procurement and recruitment of consultants.	Achieved
3. Bid specifications and packaging to be prepared to ensure maximum competition under international competitive bidding procedures.	Achieved
4. Capacity development of sector entities on e-procurement to increase transparency, accountability, and efficiency in procurement.	Achieved
Financial Management and Audit	
5. Regular access to the Executing Agency's accounting and control systems to monitor expenditures and other financial transactions and safe custody of project-financed assets.	Achieved
6. Capacity development of the sector companies in accounting and internal control systems, financial management, and audit capabilities.	Achieved
7. Expanded use of advanced information and communication technology-based financial management systems will ensure efficient and accountability.	Progressing. Tranche 06 of the previous MFF provided funding to complete this activity. This activity is on-going and will be completed soon.
8. External auditors acceptable to ADB to audit financial statements, which will be published regularly and reported to the shareholders.	Achieved
9.Measurable financial performance indicators for each company to be established, evaluated, and benchmarked.	Financial performance indicators were established but some of the targets were not achieved. It is expected that the financial performance targets will be achieved by 2015
10. Introduction of an appropriate internal audit system through the capacity building program.	Achieved
11. Implementation of an operational risk mitigation action plan and undertaking a joint operational risk assessment with	Partially achieved

Measure	Performance
development partners.	
Institutional and/or Corporate Governance	
13. Public disclosure of operational and financial performance of the sector companies to improve transparency.	Achieved
14. Fully functional sector regulator to ensure equal opportunities for all sector entities and to improve sector governance.	Achieved
15. Continued introduction of a new corporate culture through further commercialization.	Achieved[a]
16. Appointment of independent board of directors.	Achieved
17. Revision of board recruitment procedures.	Achieved
18. Development of formal code of conduct for board of directors.	Achieved[b]
19. Delegation of powers to companies' management.	Achieved
20. Promotion of private sector participation and public-private partnership.	Partially achieved. Private sector is active in generation. It is expected that the new investments and expected loss reduction will enhance the enabling business environment for private sector participation in power distribution sector.
21. Expansion of computerized billing system	Achieved[c]

[a] (a) Training on new and advanced management approaches completed; (b) Five out of six utilities have now implemented Performance Based Promotion scheme; (c) Revenue collection accruing directly to autonomous bodies. The DFID review noted: "*The independent organization structure for each of the utility has been finalized and approved by the Board of Directors (BoD). Independent directors with substantial experience and expertise in the sector have been posted to boards of various companies. Job description for each cadre of the utilities, training policy, calendar and curricula for all utilities are being developed and approved by the BoD to meet the requirement for the new staff in a restructured organization. Employees Service Rules for new recruits have been created for all new recruits to the companies and performance based incentives have been built for the field staff of each utility.*"

[b] As per the DISCOM and MP Transco website statements on all Board of Directors are "required to maintain the highest standard of personal conduct and integrity and comply with all organizational policies and procedures as laid down in Human Capital Manual and along with Madhya Pradesh Civil Services, (Conduct) Rules 1965, as adopted by the Company."

[c] Computerized billing system has been implemented by all three DISCOMs by December 2012.