MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION
"Urja Bhawan", Shivaji Nagar, Bhopal - 462 016

CASE NO.7/2004

PRESENT:

P.K. Mehrotra, Chairman

D. Roybardhan, Member

R. Natarajan, Member

IN THE MATTER OF:

Determination of Annual Revenue Requirement (ARR) and Retail Supply Tariff for FY 2004-05 based on the Tariff Application made by Madhya Pradesh State Electricity Board.

ORDER

(Passed this 10th Day of December, 2004)

The Madhya Pradesh Electricity Regulatory Commission (hereinafter called "the Commission") having heard the applicant, interveners, consumers, consumer representatives of various consumer groups on 4th, 6th and 8th November, 2004 at Bhopal ,having had the formal interactions with the Officers of the Madhya Pradesh State Electricity Board during the months of September, October and November 2004 and having met with the members of the State Advisory Committee in August and November and with Principal Secretary, Department of Energy, GoMP and Chairman, MPSEB and Principal Secretary, Finance and Secretary, Department of Finance, GoMP on 9th December, 2004 and having considered the documents available on record, hereby accepts the applications with modifications, conditions and directions as herewith attached.

The Commission has made modification to the estimates of the Annual Revenue Requirement proposals and has made alternative estimates thereof based on the efficient and reasonable expenditure and expected income and has accordingly made modifications to the tariff proposed by the licensee – Madhya Pradesh State Electricity Board. The Commission has also rationalized the tariff on the basis of the guidelines laid down in Section 61 of the Electricity Act, 2003 and provisions of Madhya Pradesh Vidyut Sudhar Adhiniyam.

The Commission, in exercise of the powers vested in it under Section 64 of the Electricity Act, 2003, directs the petitioner to take immediate steps to implement the Order after giving seven (7) days public notice in accordance with clause 1.30 of MPERC (Details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making application) Regulations, 2004 so as to make the revised tariff applicable not later than 1st January, 2005.

This Order shall remain in force till 31st March, 2005. As the Commission has to consider the interests of the consumers as well as the licensee and ensure that the benefit of higher performance efficiency and reduced T&D losses are passed on to the consumers, the Commission expects the licensee to bring the Application for determination of Tariff for FY 06 latest by 15th January 2005 and failing this, the rates specified in this Tariff Order shall stand reduced by 2% from April 1st, 2005 for all consumer categories. The adherence to the time limit indicated above for bringing the Tariff Application for FY 06 is necessary in order that the gap, if any, in revenue on account of this Tariff Order being in force for only a part of the year can also be covered through appropriate regulatory treatment in the next Tariff Order.

Ordered accordingly,

(R. Natarajan)	**(D. Roybardhan)**	**(P.K.Mehrotra)**
Member(Econ.)	**Member(Engg.)**	**Chairman**

TABLE OF CONTENTS

Chapter 1 .... **1**

A1: INTRODUCTION **1**

Status of Licensees 1

Procedural History 2

Filing 2

State Advisory Committee 8

CHAPTER 2 .... **10**

A2: RECAPITULATION OF COMMISSION'S EARLIER TARIFF ORDERS AND OTHER INITIATIVES **10**

First Tariff Order of MPERC 10

Commission's Second Tariff Order 12

Chapter 3 .... **15**

A3: REVIEW OF MPSEB'S OPERATIONAL PERFORMANCE **15**

Overview of the Sector 15

Generation 20

Loss in Generation due to tripping of generating units 31

Transmission 33

Distribution 38

CHAPTER 4 .... **52**

A4: REVIEW OF MPSEB'S FINANCIAL PERFORMANCE **52**

Background 52

Agriculture Consumption 52

Single Light Point 52

Total LT Consumption........52
Total HT Consumption........53
Own Generation........53
Annual Maintenance........55
Power Purchase........55
T & D Losses & Energy Balance........56
Revenue from Charges........56
Other Income........58
Chapter 5........59
A5: MPSEB'S COMPLIANCE TO COMMISSION'S DIRECTIVES........59
Chapter 6........66
A6: ANNUAL REVENUE REQUIREMENT FOR FY 05: LICENSEE'S PROPOSAL AND COMMISSION'S ANALYSIS/OBSERVATIONS........66
Consumer Category-wise Demand Forecast........66
Domestic........68
Agriculture Consumption........69
Single Light Point........70
Non-Domestic........71
Water Works........72
LT Industries........72
Street light........73
HT Consumer Categories........73
Railway Traction........73
Coal Mines........73
Mini Steel Plants........74

Cement Factories 74

HT Irrigation 75

HT water works 75

Other HT consumers 75

RE Societies 76

Border villages 76

Summary of Sales Forecast 77

T&D Losses and Energy Input 77

Own Generation 81

Generation Quantity 81

Thermal stations overhaul programme 82

Plant Utilisation Factor for the Thermal Generating Stations 82

Auxiliary Consumption 83

Transit Losses 87

Specific Oil Consumption 88

MPSEB's Hydel Stations 89

Generation Expenses 90

Fuel and Related Expenses 90

Increase in Coal Price 92

Power Purchase 93

Power Purchase Quantum and Expenses 94

Expense Details 94

Inter-regional Power Purchase 98

Power Purchase through Bilateral arrangements 98

Repairs and Maintenance Expenses 101
Employee Expenses 105
Administration and General Expenses 112
Depreciation 115
Depreciation Claims in FY05 115
Asset Addition in FY05 115
Interest and Finance Charges 118
Bad Debts and Other Expenses 124
Reasonable Rate of Return 125
Annual Revenue Requirement 126
Expected Revenue from Existing Charges 128
Expected Revenue from Charges 129
Other Income 131
Revenue Deficit and Subsidy 132
Treatment of Revenue Deficit 134
Cost of Supply 134
Average Cost of Supply 134
Category wise Cost of Supply 135
Chapter 7 138
A7: PUBLIC OBJECTIONS & COMMENTS ON THE LICENSEE'S PETITION 138
CHAPTER 8 155
A8: TARIFF DESIGN 155
LT Categories 166
LV -I A--Domestic consumers with meters 168

Minimum Charges 180

Determination of demand 180

Power factor rebate/incentive 180

Tariff Rate for 220 KV 182

Minimum Charges 183

Determination of demand 183

Power factor rebate/incentive 183

Power factor rebate/penalty 183

Load factor Rebate 184

Advance payment 184

Service Charge for Dishonoured cheques 184

Chapter 9 196

A9: Function-wise segregation of Annual Revenue Requirement 196

Generation expenses 196

Water Cess 199

Partnership Projects of Madhya Pradesh 200

Shared Stations with Uttar Pradesh 200

Shared projects with Rajasthan 201

Transmission expenses 204

Distribution expenses 205

Chapter 10 209

A10: Directives to MPSEB 209

ANNEXURE 1 215

A11: INitiatives by MPERC- Regulations 215

Regulations, Codes and Orders specified by MPERC 215
Electricity Supply Code 215
Conduct of Business Regulation 215
M.P. Electricity Grid Code 215
Transmission Performance Standards 215
Distribution Performance Standards 216
Other Business of Transmission Licensee 216
Conditions of Transmission License 216
Conditions of Distribution License 216
Establishment of Forum and Electricity Ombudsman 216
Details to be furnished by Generating Companies and Licensees for Determination of Tariff 216
Procedure for application for License 216
Constitution of State Advisory Committee and its functioning 217
Appointment of Consultants 217
Procedure for Filing Appeal before Appellate Authority 217
Levy and Collection of Fee and Charges by SLDC 217
Security Deposit Regulation 217
Eligible Criteria and Grant of trading license, the duties & the terms and condition of trading license 217
Manner of Service and Publication of Notice Regulation 218
Open Access in Transmission and Distribution 218
Methods and Principles for fixation of charges recoverable by distribution licensee for supply of electricity 218
Power Purchase and Procurement Regulations 218
Regulation on Minimum information to be maintained (under preparation) 218

Regulation on Terms and Conditions of Tariff 218

List of Tables and Figures

Table 1: Snapshot of ARR submitted on 28th April 2003 3
Table 2: Snapshot of ARR submitted on 30th June 2003 3
Table 3: Snapshot of ARR submitted on 22nd August 2003 4
Table 4: Snapshot of ARR submitted on 24th September 2003 5
Table 5: Snapshot of ARR submitted on 24th December 2003 6
Table 6: Snapshot of ARR submitted on 26th August 2004 7
Table 7: Multi year targets for Commercial Losses 11
Table 8: Cost of Supply and Average Tariffs 11
Table 9: Rate of return on NFA with & without subsidies 15
Table 10: Subsidy due and paid by the Government 15
Table 11: Gap between revenue and cost 16
Table 12: Sale to and Revenue from Subsidising and subsidized energy sale 16
Table 13: Average tariff as a percentage of average cost and cost of supply 17
Table 14: Collection efficiency & T&D Losses 18
Table 15: Manpower Deployment 19
Table 16: Power and Energy availability 19
Table 17: Average number of hours of supply 20
Table 18: Installed Capacity at the end of FY04 21
Table 19: Gross energy generated 22
Table 20: Plant Utilization factor 24
Table 21: Plant Availability 25
Table 22: Partial loading in MPSEB’s plants 25
Table 23: Auxiliary Consumption 26
Table 24: Station heat rate 27
Table 25: Specific oil consumption 29
Table 26: Calorific Value 30
Table 27: Specific Coal Consumption 31
Table 28: Trippings 31
Table 29 Weightometers 32
Table 30: Transit & Stacking losses 32
Table 31: Snapshot of transmission network in MP 34
Table 32: Transmission losses 34
Table 33: Month Wise Losses 35
Table 34: Voltage wise Interruptions 36
Table 35: Voltage wise system availability 36
Table 36: Frequency Profile 37
Table 37: Transformer failure 37
Table 38: Installed Capacitor Banks 37
Table 39 Electrical Accidents 38
Table 40: Distribution Losses 38
Table 41: Voltage wise losses 39
Table 42: Discom wise losses 39
Table 43: Circle wise cumulative distribution losses for the period from Apr-04 to Sept-04 40

Table 44: Theft Detection Discom wise 41
Table 45: Unmetered sale as a percentage of total sale 42
Table 46: Unmetered consumers 42
Table 47: % of Stopped / Defective Meters 44
Table 48: Collection efficiency 45
Table 49: Collection efficiency consumer category wise 45
Table 50: % of consumers not paying their bills 46
Table 51: % of non-paying LT consumers whose connections were snapped in FY04 47
Table 52: Arrears at the end of the financial year 47
Table 53: Agewise analysis of arrears 48
Table 54: Region wise AT&C losses 48
Table 55: Power Transformer failure Rate 48
Table 56: Distribution transformer failure Rate 49
Table 57: Electrical Accidents 50
Table 58: Nature of Complaints received by the Commission 50
Table 59: MPSEB Sales to consumers 53
Table 60: Performance of Thermal Stations 54
Table 61 Total Hydel Generation 54
Table 62: Summary of Power Purchased through various sources 55
Table 63 : T& D Losses and Energy Balance FY04 56
Table 64: Revenue from Sale of Power 57
Table 65: Non Tariff Income 58
Table 66: Projected Sales of MPSEB for FY05 66
Table 67 : Sales MIS of MPSEB based on R-15 forms for LT consumers 67
Table 68 : Load factor assumption for agriculture consumers 69
Table 69: Sales Estimates for FY05 77
Table 70: Summary FY05 Sales Estimates 77
Table 71: T&D loss reduction targets proposed by MPSEB in Tariff Petition for FY03 78
Table 72: T&D Loss & Energy Balance 79
Table 73 : Distribution Losses for FY04 80
Table 74 : Distribution Losses for FY05 80
Table 75: Thermal Generation Parameters and MU FY05 81
Table 76: PUF of MPSEB Stations 82
Table 77: Comparison of Auxiliary Consumption of Thermal Power Stations of similar vintage 83
Table 78: Auxiliary consumption of generating stations of MPSEB 84
Table 79: Efficiency Parameters Submitted by MPSEB 84
Table 80: Comparison of similar vintage stations' SHRs 85
Table 81: Station Heat Rate approved by MPERC 86
Table 82: Transit Losses 87
Table 83: Specific Oil Consumption 88
Table 84: Net Hydel Generation 89
Table 85: MPSEB Net Generation 89
Table 86: Impact of Coal Price Increase 90
Table 87: Ex-Yard Price of Coal 91
Table 88: Generation Expenses FY05 91
Table 89: Coal Cost 92
Table 90: Oil cost 92
Table 91: Generation expenses 93
Table 92: MPSEB'S Estimate of Power Purchase Expenses 94

Table 93 : Allocation from Central Generating Stations to MP 95
Table 94: Power Purchase details submitted by MPSEB 95
Table 95: Monthly Charges of Kawas Station 97
Table 96: Stations under bilateral arrangements... 99
Table 97: Power Purchase Expense approved by MPERC... 100
Table 98: R&M Expenses FY05.. 101
Table 99: Proposed Repairs and Maintenance expenses 101
Table 100: R&M Expenses incurred as % of Gross Block.. 102
Table 101: Repairs and Maintenance expenses 103
Table 102: R&M expenses approved by the Commission... 104
Table 103: Employee Expenses FY05 105
Table 104 : Employee Cost for MPSEB 105
Table 105 Employee Efficiency... 106
Table 106: Number of Employees per unit sale... 107
Table 107: Employee expenses per unit sold... 108
Table 108: Class-wise Employee Details 109
Table 109: Employee Training expenses... 110
Table 110: Employee expenses.. 111
Table 111: A&G Expenses FY05 112
Table 112: Proposed Administrative and General expenses.. 113
Table 113: Administrative & General expenses per unit sale.. 114
Table 114: Approved Administrative and general expenses 115
Table 115: Provision for Depreciation FY05... 116
Table 116: Details of Depreciation and Asset Block... 116
Table 117: Gross Block Addition 117
Table 118 : Asset Addition of MPSEB.. 117
Table 119: Approved Depreciation expenses 118
Table 120: Interest and Finance Charges FY05... 120
Table 121: Interest and Finance charges proposed by MPSEB 120
Table 122: Debt components as submitted by MPSEB 121
Table 123 : Interest and Finance Charges allowed by the Commission 123
Table 124: Bad Debt & Other Expenses.. 124
Table 125 : Other Expenses of MPSEB... 124
Table 126: Other debits / Prior period charges 125
Table 127: Reasonable Returns 125
Table 128 : Return on Net Fixed Assets 126
Table 129: Annual Revenue Requirement FY05... 127
Table 130: Annual Revenue Requirement... 127
Table 131: Expected Revenue from Sale of Power at Existing Tariff.................................... 128
Table 132: Revenue from sale of power at existing tariffs - Commission's estimates 129
Table 133: Expected Revenue from Sale of Power at tariffs proposed by the Licensee 129
Table 134: Revenue from sale of power at tariffs approved by the Commission - Commission's estimates.. 130
Table 135: Non Tariff Income 131
Table 136: Approved Non-Tariff income 132
Table 137 : Net Revenue Gap FY05.. 132
Table 138: Revenue Deficit 133
Table 139: Average cost of Supply.. 134
Table 140: Voltage wise CoS 136

Table 141: Category-wise Cost of Supply (CoS) 137
Table 142: Thermal Stations' expenses.. 196
Table 143: Hydel Stations' expenses 198
Table 144: Stations shared with Uttar Pradesh 200
Table 145: Energy drawal from stations shared with Uttar Pradesh 200
Table 146: Shared Power Stations 201
Table 147: Settlement Amounts for Energy Overdrawn 202
Table 148: Employee Strength of Generation function 203
Table 149: Transmission expenses 205
Table 150: Distribution expenses.. 206
Table 151: Capital expenditure vis-à-vis Debt drawal 206
Table 152: O&M costs incurred for distribution 208

CHAPTER 1

A1: INTRODUCTION

1.1 This order relates to petition number 7 of 2004 filed by the Madhya Pradesh State Electricity Board (MPSEB) for determination of Tariff for FY05 incorporating the revenue gaps in FY04 and FY03. Madhya Pradesh State Electricity Board is presently responsible for Generating, Transmitting and Distributing electricity in the State of Madhya Pradesh. In the absence of audited accounts for FY03 and FY04, the Commission, in this order, has reviewed the actual performance of the Licensee in FY03 and FY04 only for determining the allowable cost for FY05. This Retail tariff order is based on the approved cost, the Commission's tariff philosophy paper and also takes into consideration the views expressed by all the stakeholders. The Retail tariffs as determined by the Commission shall be applicable to the consumers of MPSEB from the date of coming into force of this order which should not be later than 1st January 2005.

Status of Licensees

1.2 As stated in the second tariff order dated 30th November 2002, the Government of Madhya Pradesh incorporated the following companies as wholly owned corporations under the Companies Act 1956.

- Madhya Pradesh Power Generating Company Limited
- Madhya Pradesh Power Transmission Company Limited
- Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited
- Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited
- Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited

1.3 The Companies have an independent Board of Directors with Chairman & Managing Director as a full time Director and other Directors as part time Directors as set out in the Government order. The Chairman and Managing Director of each company is ex-officio member of the MPSEB. The five companies and their respective Chairman and Managing Director have the powers as stated in the Operation and Management Agreement entered between MPSEB and the companies. As per this agreement the generation, transmission and three distribution companies were to undertake all activities for and on behalf of MPSEB.

1.4 The Government of Madhya Pradesh vide order dated 30th September 2003 has prescribed the rules for regulating the transfer and vesting of functions, properties and interest, rights and liabilities of the MPSEB in the State Government and re-transfer and re-vesting thereof by the State Government in any other company or body corporate or authority. It also provides for the transfer of personnel of MPSEB to any other company or body corporate or authority and for determining the terms and conditions on which such transfer and vesting would be done. These rules are still to be made effective and also the Transfer Scheme has not yet been finalized. These Companies have been in existence for more than 1 ½ years without the Balance Sheet and Profit & Loss Account. The financial accounting statements of these companies would be available only after GoMP notifies the opening balances of assets and liabilities on the date of incorporation of these companies through a transfer scheme.

1.5 In its order dated 29th October 2003 the Commission has held that these distribution companies are working as agents of the Licensee under O&M agreement with it. Therefore these companies are not licensees and it is the Board, which is a deemed licensee under the provisions of the Electricity Act 2003. As per the provisions of the E. Act 2003, the State Govt. was required to unbundle MPSEB by 10th June 2004. The State Government after seeking Central Government's approval has deferred the time limit for this unbundling to 31st December 2004. The State Government on 17-05-04 has notified MPPTCL as STU w.e.f. 1-06-04 under section 39 and has entrusted the responsibility of operation of SLDC under section 31 of the E. Act 2003.

Procedural History

Filing

1.6 As held by the Commission in Para 1.5, the deemed licensee viz. MPSEB has filed the petition under regulation 70 of M.P. Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 read with sections 9 & 26 of Madhya Pradesh Vidyut Sudhar Adhiniyam, 2000 (MPVSA, 2000) and now applicable sections 61 to 65 of the Electricity Act 2003. While Regulation 62 requires the Licensee / utilities to submit tariff proposals in the form of petition based on the terms and conditions provided in the regulations, Regulation 70 requires the Licensee to submit periodic returns as may be prescribed, containing operational and cost data to enable the Commission to monitor implementation of its orders and reassess the basis on which the tariff was approved.

1.7 The Commission in its last Tariff order dated 30th November 2002 had directed the Licensee to file the ARR for FY04 by 31st December 2002 and the tariff proposal by 31st January 2003. MPSEB vide their letter dated 17th February 2003 sought time extension for filing the ARR for FY04 till 31st March 2003 and 30th April 2003 for tariff petition. The extension was sought on the grounds that (i) With the issue of tariff order on 30th November 2002 by the Commission, several tariff structural changes have taken place the impact of which would be felt from February 2003 and unless the impact of these changes are known it would be difficult for MPSEB to project the estimate of sales of energy and revenue in the ARR for FY04 (ii) MPSEB is in the process of setting up a dedicated tariff and regulatory cell and consequently some more time would be required for filing of the ARR (iii) Results of implementing the directions of the Commission are likely to be available after some time, which MPSEB would like to incorporate in the ARR (iv) Improvement in the database and MIS (v) Restructuring of MPSEB (vi) Delay in bifurcation of assets and liabilities between MPSEB and CSEB. The Commission vide its order dated 17th March 2003 considered the request of MPSEB and allowed it to file its ARR by 31st March 2003 and its tariff petition by 30th April 2003.

1.8 Subsequently, MPSEB again sought time extension for filing ARR and tariff petition by one month i.e. 30th April 2003 and 31st May 2003 respectively on the grounds that (i) Data from various wings of MPSEB, which has been received late requires examination for its sanctity and consistency (ii) T&D losses need to be firmed up with supporting documents and discussion with concerned officers (iii) Actual data for the year for generation and power purchase would be available after 31st March 2003 (iv) R-15 data for the month of February 2003 relating to revenue and sales would be available in the first week of April 2003 which would help in realistic projection for FY04. Further MPSEB stated that it would like to incorporate the views of its Board Members in the ARR before submitting it to the Commission. The tariff proposal would follow the ARR petition after its approval by the Commission. The Commission granted the time extension sought by MPSEB.

1.9 The Licensee submitted its ARR for FY04 on 28th April 2003. However no tariff proposal was submitted by the extended time of 31st May 2003. The brief gist of the ARR submitted is as given below: -

Table 1: Snapshot of ARR submitted on 28th April 2003

	FY 2003 Provisional (Rs. Crores)	FY 2004 (Rs. Crores)
Revenue Income	4698.87	5017.39
Subsidy/ grants	668.00	486.00
Total Revenue	**5366.87**	**5503.39**
Total Revenue Requirement	**5840.80**	**6657.27**
Revenue Deficit	**473.93**	**1153.88**
Revenue Deficit excluding subsidy	**1141.93**	**1649.88**

1.10 The Commission had certain observations on the ARR filed and sought additional information. MPSEB vide its fax dated 7th June 2003 sought three weeks time to reply to the queries raised. In a hearing held on 9th June 2003 the Commission held that the ARR submitted is incomplete and has not been properly drafted. Further the attention of the Licensee was drawn to a letter of its Financial Advisor dated 7th June 2003 wherein it has been stated that Licensee would like to file a revised ARR. The Commission allowed Licensee to withdraw its petition submitted on 28th April 2003 with a direction that it needs to provide justification for requesting a revision in the ARR filed. The Commission directed Licensee to file a revised petition by 30th June 2003 complete in all aspect along with a proposal indicating ways and means of recovering its cost and 3% return on net fixed assets (NFA).

1.11 The Licensee after making the necessary changes resubmitted the proposal on 30th June 2003. The summary of the proposal is as given below:

Table 2: Snapshot of ARR submitted on 30th June 2003

	FY 2003 Provisional (Rs. Crores)	FY 2004 (Rs. Crores)
Revenue Income	4698.87	5162.06
Subsidy/ grants	668.00	856.00
Total Revenue	**5366.87**	**6018.06**
Total Revenue Requirement	**5840.80**	**7146.52**

	FY 2003 Provisional (Rs. Crores)	FY 2004 (Rs. Crores)
Revenue Deficit	**473.93**	**1128.46**
Revenue Deficit excluding subsidy	**1141.93**	**1984.46**

1.12 The petition was heard on 30th June 2003. The Commission held that on issues like fixed cost component for share of unallocated power in CGS stations, payables and receivables for fuel and power, PLF of Central Generating Stations, station heat rates allowed for MPSEB's plants, R&M expenditure, employee expenses and interest charges, indepth analysis had not been done. The Licensee requested for time extension till 10th July 2003 for submitting the desired information, which was granted by the Commission. The Licensee made a presentation on the ARR filed on 10th July 2003 and replied to some of the queries raised during the previous hearing. A technical validation session was held on 30th July 2003. The Commission in the hearing directed the Licensee to file (i) a tariff proposal for bridging the projected revenue gap of Rs. 1984.46 Crore (excluding subsidy/grants assumed) (ii) Likely supply hours in the rural and urban areas month and category wise (iii) details of pension fund to be created by the Licensee (iv) the basis of assessment of sales in LT irrigation category (v) Proposal for transmission and wheeling charges in view of the demand for wheeling from the existing captive power plants in the state (vi) reasons for high interest cost projected for FY04 as compared to FY03 (vii) Segregation of liabilities between Madhya Pradesh and Chhatisgarh State on account of Government of India order (viii) slab wise bifurcation of consumption of domestic and non domestic consumers. The Licensee was required to file the replies on these issues by 28th August 2003.

1.13 The Licensee vide its letter dated 22nd August 2003 revised the revenue gap of Rs. 1984.46 Crore indicated in the ARR filed on 30th June 2003 to Rs. 1614.48 Crore for FY04 and also provided provisional financial results of FY03 as detailed below:

Table 3: Snapshot of ARR submitted on 22nd August 2003

	FY 2003 Provisional (Rs. Crores)	FY 2004 (Rs. Crores)
Revenue Income	4698.87	5162.06
Subsidy/ grants	668.00	1064.75
Total Revenue	**5366.87**	**6226.81**
Total Revenue Requirement	**5840.80**	**6776.54**
Revenue Deficit	**473.93**	**549.73**
Revenue Deficit excluding subsidy	**1141.93**	**1614.48**

1.14 This revision was done to incorporate additional provision of subsidy in supplementary budget by the State Government and deferment of Rs. 370 Crore considered towards creation of pension fund for employees. The Licensee requested that this gap be treated as regulatory asset to be recovered in future. However, the Licensee did not submit the justification for this treatment of revenue gap nor spelled out the time frame in which this asset would be liquidated. This matter was heard on 28th August 2003. The Commission was informed by MPSEB that the interest on security deposits necessary as per the Electricity Act 2003 has not been incorporated in the ARR. The Commission directed the Licensee to revise and resubmit its proposal after incorporating necessary changes both in English and Hindi by 22nd September 2003.

1.15 The Licensee submitted the revised petition for FY04 on 24th September 2003. The summary of which is as given below:

Table 4: Snapshot of ARR submitted on 24th September 2003

	FY 2003 Provisional (Rs. Crores)	FY 2004 (Rs. Crores)
Revenue Income	4698.87	5162.06
Subsidy/ grants	668.00	1064.75
Total Revenue	**5366.87**	**6226.81**
Total Revenue Requirement	**5840.80**	**6911.31**
Revenue Deficit	**473.93**	**684.50**
Revenue Deficit excluding subsidy	**1141.93**	**1749.25**

1.16 The Licensee has requested that for bridging the projected revenue gap of Rs. 684.50 Crore in FY04 the Commission may grant appropriate tariff while the revenue gap of Rs. 473.93 Crore in FY03 may be considered as regulatory asset to be recovered in future. The Commission in its hearing held on 30th September 2003 contended that the petitioner has not considered the provisions of sub-section 8 of section 26 of MPVSA, 2000 which requires the licensee to provide details of the proposed revision in tariff to the Commission, together with such further information as the Commission may require. As required the petitioner had not provided the details of the proposed revision in tariff and therefore the petition was liable to be rejected. Further, the Commission's order dated 28th August 2003, which required Licensee to provide Hindi and English gist of the ARR for publication had not been complied with. The forms T-0.1A to T-2.4 had not been filed. The Licensee did not provide evidence for considering subsidy amount, by way of copy of sanction/authorization issued by GoMP for release of subsidy amount for the periods April 2003 to June 2003 and July 2003 to September 2003. The Commission directed the Licensee to submit complete information by 31st October 2003.

1.17 The Licensee vide its letter dated 28th October 2003 requested the Commission to allow it to file a consolidated ARR for FY04 and FY05 and a tariff revision petition for FY05 taking into account the revenue gap of the two years together. The Licensee's contention was that in case it pursues a tariff revision for FY04 in the month of October 2003, the approved tariff after the completion of the regulatory process by the Commission would be applicable in FY04 for couple of months only. This entire exercise would delay the filing for FY05. The Commission vide its order dated 1st November considered the request of the Licensee and allowed it to file a consolidated ARR for FY04 & FY05 by 15th December 2003.

1.18 The Licensee subsequently vide its letter dated 8th December 2003 requested the Commission again to extend the last day of filing the ARR by 15 more days on the ground that the approval of the Licensee members had yet not been taken and also the State Government had not been consulted on issues related to subsidy and other policy matters, which may take some time. The Commission vide its order dated 19th December 2003 expressed its anguish over frequent requests for time extension for filing ARR and the inability of the Licensee to firm up its revenue requirement for FY04 even in the month of December 2003. The Commission decided to examine the ARR for FY04 with the details available with it. The Commission decided to conduct its hearing on the earlier filed ARR for FY04 on 24th December 2003. The Commission directed MPSEB to file its ARR for FY05 by 5th January 2004.

1.19 The Licensee, however submitted its ARR for FY04 & FY05 on 24th December 2003, proposing to bridge the revenue gap for FY05 through tariff revisions and/or Government subsidy and to treat revenue gap for FY03 and FY04 as regulatory assets to be amortised in subsequent years when MPSEB is financially stronger and requires lower tariff hikes. The summary of the petition is as given below:

Table 5: Snapshot of ARR submitted on 24th December 2003

	FY 2004 (Rs. Crores)	FY 2005 Projected (Rs. Crores)
Revenue Income	5088.19	5500.99
Subsidy/ grants	1178.00	609.00
Total Revenue	**6266.19**	**6109.99**
Total Revenue Requirement	**6586.64**	**6932.39**
Revenue Deficit	**320.45**	**822.45**
Revenue Deficit excluding subsidy	**1498.45**	**1431.45**

1.20 The Commission conducted a Technical Validation session on 24th December 2003 on the ARR filed. The Commission proposed that it would carry out a detailed scrutiny of the proposal and the Licensee would be required to submit a proposal indicating ways and means to bridge the revenue gap if any. The Commission also directed the Licensee to provide a break-up of the ARR for each successor company. The Licensee was also directed to provide a gist of the petition for the Commission's approval for publication in the newspapers.

1.21 The Commission vide its order dated 13th January 2004 directed the Licensee to publish the gist both in Hindi and English in the newspapers inviting suggestions/ comments / objections from public. The Commission on 23rd January 2004 conducted a video conferencing with the CMDs of the successor companies on the ARR petition. The Licensee as directed by the Commission published the gist both in Hindi and English on 24th January 2004 in the following Newspapers.

- Chronicle, Bhopal
- Navbharat, Jabalpur
- Danik Bhaskar, Bhopal
- Nai Duniya, Indore

1.22 The last date for submitting the comments/objections on ARR petition was 10th February 2004, which was later on extended to 20th February 2004 at the request of various consumer associations. In response to the above, the Commission received around 55 objections/comments/suggestions from general public. The Licensee was directed to send replies to these comments to the objector concerned. The Licensee made a presentation on the issues raised by the objectors before the Commission on 17th March 2004.

1.23 The Commission vide its order dated 22nd June 2004 directed the Licensee to submit actual data for FY04 by 9th July 2004, which was latter extended to 24th July 2004 on the Licensee's request.

1.24 The Commission conducted a public hearing on the ARR petition on 5th August for all consumers other than agricultural consumers and on 6th of August 2004 for agricultural consumers at the conference Hall of M.P. Urja Vikas Nigam Ltd. Bhopal. The Objectors had been informed through a public notice.

1.25 During the hearing, the Commission informed the Licensee that the term Annual Revenue Requirement has not been mentioned in any of the provisions of the Electricity Act, 2003, instead the Act stipulates determination of tariff. Subsequently the Commission directed the Licensee to file an affidavit requesting the Commission for acceptance of the revised figures based on the actual data of FY04 and a commitment to file a tariff proposal by 20th August 2004. The Licensee requested for time extension till 31st August 2004 for completing formalities necessary for filing tariff petition. The Licensee finally submitted its tariff petition for FY05 on 26th August 2004. The summary of the proposal is as follows:

Table 6: Snapshot of ARR submitted on 26th August 2004

	FY 2004 (Rs. Crores)	FY 2005 Projected (Rs. Crores)
Revenue Income	5473.78	5650.18
Subsidy/ grants	889.75	811.00
Total Revenue	**6363.53**	**6461.18**
Total Revenue Requirement	**6439.06**	**7186.05**

	FY 2004 (Rs. Crores)	FY 2005 Projected (Rs. Crores)
Revenue Deficit	**75.53**	**724.87**
Revenue Deficit excluding subsidy	**965.28**	**1535.87**

1.26 In a hearing convened on the tariff petition the Commission directed the Licensee to submit the following documents:

(i) An amended application for tariff petition as Licensee had inadvertently mentioned the State Government, all the HT and LT consumers as respondent along with reply on various observations.

(ii) Resolution from Board of Directors of MPSEB forwarding the petition.

(iii) An executive summary to be published for various Stakeholders.

(iv) Main features of tariff petition for publication in newspapers.

1.27 The Licensee submitted an executive summary along with main features of tariff petition on 10.9.04. A public notice was published on 15.9.04 inviting suggestions/comments/ objections by 30.9.04, which was subsequently extended up to 7.10.04 on request from various stakeholders. The public notice issued by the Commission was published in the following daily newspapers having state-wide circulation.

- Chronicle, Bhopal
- Navbharat, Jabalpur
- Dainik Bhaskar, Bhopal
- Nai Duniya, Indore

State Advisory Committee

1.28 The Commission convened one meeting of the State Advisory Committee on 27th September 2004 and another on 22nd November, 2004 for the purpose of discussing the tariff petition filed by MPSEB on 26th August 2004. A presentation on the main features of the tariff petition covering major items of expenditure and revenue was made before the members of the Committee. The members of the Committee commented on the petition and gave various valuable suggestions, which have been considered in this order.

CHAPTER 2

A2: RECAPITULATION OF COMMISSION'S EARLIER TARIFF ORDERS AND OTHER INITIATIVES

First Tariff Order of MPERC

2.1 The Commission issued its first tariff order on 26th September 2001. The Commission in its order did a detailed analysis of the proposal submitted by the Licensee giving explicit reasons for allowances or disallowances in cost. The salient features of the order were

Benchmarking of generation operating parameters

2.2 The Commission considered the past trends, CEA norms and the projections of the Licensee for determining the allowable PLF, Station heat rate, Auxiliary consumption, Specific Coal consumption and Specific oil consumption for each individual thermal station. The order analysed the causes of these operating parameters not meeting the standard norms. Appropriate directions to remove operating inefficiencies were given. The Licensee was directed to prepare a maintenance/overhaul schedule for all units in advance for every year and to ensure its implementation. For exact determination of Station heat rate the Commission directed MPSEB to install weightometers on all the conveyors belt feeding coal to generating units so that the coal fed to the individual units could be weighed. Similarly the Licensee was asked to determine the actual transit losses.

Determination of T& D Losses and fixation of multi year targets

2.3 The Commission in order to have a feel of commercial losses and voltage wise split of total losses got a study done for FY01 in Sehore Division of the Licensee. The study helped the Commission in prescribing a multi year loss reduction target along with suggestions for curbing the commercial losses. The findings of the study are being reproduced below

Technical Losses	%
400 KV line	0.96
400/200 KV Substation	0.167
220 KV line	2.74
220/132 KV Substation	0.233
132 KV	2.950
132/33 KV Substation	0.475

33 KV line and substation	3.990
11 KV lines, LV lines and 11/0.4 KV substation	10.99
Total Technical Losses	22.505
Total T&D Losses	50.300
Total Commercial Losses	27.795

2.4 The multi year target prescribed by the Commission was as follows:

Table 7: Multi year targets for Commercial Losses

Year	Total Loss %	% Reduction
FY01	51.00	-
FY02	42.88	8.12
FY03	37.00	5.88
FY04	32.00	5.00
FY05	28.00	4.00
FY06	25.00	3.00

Voltage wise determination of cost of supply

2.5 The Commission determined the cost of supply at EHT, HT and LT levels and the extent to which EHT and HT voltage consumers were subsidizing LT consumers.

Table 8: Cost of Supply and Average Tariffs

Voltage Level (KV)	FY00			FY01			FY02		
	COS	Average Tariff	Diff.	COS	Average Tariff	Diff.	COS	Average Tariff	Diff.
EHT	180	466	286	201	467	266	180	500	320
HT	224	430	206	248	433	185	224	356	132
LT	358	89	-269	389	89	-300	432	183	-249

2.6 Consequent to this voltage wise determination of cost to supply the tariffs of different consumer categories were rebalanced. Tariff hike for LT and HT category was 18.07% and 12.28% respectively as compared to the overall hike of 14.73%.

Commission's Second Tariff Order

2.7 The Commission's second tariff order was issued on 30th November 2002. The salient features of this tariff order were:

- Lower tariff for consumers of rural areas as the availability of energy to this category of consumers was lower.
- Progressive rationalization of tariffs. HT tariffs were increased by insignificant 3% while LT tariff by an average of 29%. Within LT category agricultural and domestic consumers experienced higher increases.
- To incentivise unmetered consumers of domestic and irrigation categories to opt for metered supply tariff rates were fixed lower by 10% than unmetered rates.
- Incentives to LT irrigation consumers to opt for HT tariff category by forming society.
- Reduction in multiple slabs for domestic consumers
- Concept of group metering for single light point consumers
- Separate tariff for irrigation consumers availing higher number of hours of supply.

Status of Unbundling

2.8 The unbundling of monolithic MPSEB into Generation, Transmission, Distribution, Retailing and Trading is necessary to implement the intent of Electricity Act 2003 of introducing competition in the sector. These segments require different managerial approaches for their efficient working and availing business opportunities provided by EA 2003. It is expected that unbundling would facilitate benchmarking of operating and cost parameters amongst the three distribution companies as well as with other distribution companies in the country. There is an also a need for introduction of accountability in these segments, thus providing the required impetus to improve performance.

Implications of Electricity Act 2003

2.9 The Act envisages functionally split companies instead of vertically integrated SEBs. Most of the activities would be governed by market principles except for the business of wires of transmission and distribution, which would be regulated by the Commissions. It is expected that the Central and State Governments would restrict their role to policy making with appropriate Commissions formulating guidelines to oversee the implementation of these polices. The pace and the direction of the Power Sector in Madhya Pradesh with the enabling provisions of the Electricity Act 2003 is likely to be governed by the specific requirement of the State.

2.10 In this scenario the Commission seeks to achieve the following objectives through legislative, executive, judicial and advisory actions

- Maximising economic efficiency
- Making this sector economically viable
- Protecting the interest of consumers
- Promotion of competition, efficiency and economy
- Promotion of investment
- Managing the changing nature of industry structure
- Universal service obligations

Various Initiatives taken by the Commission

2.11 The Commission in order to facilitate the implementation of the various provisions of the Electricity Act 2003 is in the process of formulating various concept papers, regulations and guidelines. A list of accomplishment in this regard is being given in this section.

Regulations

Final

(a) MP Electricity Grid Code
(b) Transmission Performance Standards
(c) Distribution Performance Standards
(d) Condition of Transmission License
(e) Condition of Distribution License
(f) Other Business of Transmission & Distribution License
(g) Establishment of Consumer redressal forums and appointment of Ombudsman
(h) Management Information System for Licensees and Generating companies
(i) Details to be furnished by Generating Companies and Licensees for determination of tariff
(j) Procedure for application for License
(k) State Advisory Committee
(l) Electricity Supply Code
(m) Appointment of Consultants
(n) Conduct of Business Regulation
(o) Procedure for filing appeal before appellate authority
(p) Levy and collection of fee and charges by SLDC
(q) Security Deposit
(r) Eligibility criteria for grant of Trading License
(s) Power purchase and procurement regulations

Draft

(a) Intra-State Open Access
(b) Manner of services and publication of notice
(c) Methods and Principles for fixation of charges recoverable by Distribution License for supply of electricity
(d) Terms and conditions of Tariff

2.12 A gist of these regulations is attached as **Annexure 1** of this order.

Constitution of Task Groups

2.13 The Commission believes that the teething problem from which the power sector in the State suffers can be overcome effectively through a participative approach of all the stakeholders. The Commission with this objective has constituted three Task Groups. These Task Groups consists of officers nominated by MPSEB, three Discoms and the Commission.

(a) The first Task Group is responsible for standardizing the web site of the utilities of the State for bringing about transparency in their working. The web site would provide company relevant information.
(b) The second Task Group is responsible for overseeing implementation of schemes for reduction in power and distribution transformer failure.
(c) The third task group is monitoring the progress of meterisation and resource mobilization for the same in compliance of the provisions of section 55 of the Electricity Act 2003, which require 100% meterisation of unmetered consumers within 2 years of the date of notification of EA 2003.

Various Approach papers floated by MPERC in FY04

(a) Approach paper on tariff philosophy
(b) Approach paper on Rural Electrification policies
(c) Approach paper on tariff setting and support to renewable energy sources
(d) Approach Paper on Bulk Supply option to domestic and commercial consumers of urban areas
(e) Concept paper on implementation of ABT within the State of Madhya Pradesh

CHAPTER 3

A3: REVIEW OF MPSEB'S OPERATIONAL PERFORMANCE

3.1 The Commission through its proactive approach has been guiding MPSEB to identify systemic shortcomings and develop long term strategies to overcome them. The Commission can only provide guidance, it is for MPSEB to take initiative in overcoming these deficiencies. In this chapter, operating parameters along with quality and reliability of supply to consumers, which reflect the operational performance of MPSEB are being discussed. The performance of MPSEB as per latest available information with the Commission vis-à-vis the target set by the Commission in its earlier orders is being analyzed in this chapter. The purpose is to objectively assess the extent of MPSEB's success in achieving the universal objective of serving consumers in an economically efficient manner and to further highlight areas where efficiency improvement is feasible.

Overview of the Sector

3.2 The primary thrust of the power sector reform in the state is to make the electricity industry financially viable. This is not only desirable for attracting future investment but also for the economic development of the State. The capital and revenue subsidies currently being provided by the State Government to MPSEB can be diverted to other sectors of the economy and be put to better use. The extent to which this objective has been achieved may be gauged from the rate of return earned by MPSEB on net fixed assets in the last few years from the table below.

Table 9: Rate of return on NFA with & without subsidies %

Details	FY02	FY03	FY04 (Estimated)
With Subsidy	-14.0	-8.0	1.0
Without Subsidy	-27.0	-23.0	-18.12

Source: Tariff Petition filed by MPSEB for FY05

Revenue subsidy from State Government

3.3 As per the submission made by MPSEB revenue subsidy due and actually paid by the government in FY02, FY03 and FY04 are indicated in the table below:

Table 10: Subsidy due and paid by the Government Rs.Crores

Sl. No.	Details	FY02	FY03	FY04
1.	Subsidy due from previous year	1480.23	347.69	164.84
2.	Subsidy due for the year	542.96	668.00	889.75
3.	Subsidy paid during the year	1675.50	850.85	1049.01
4.	Subsidy balance	347.69	164.84	5.58

3.4 The government has paid more than the due amount in FY02, FY03 and FY04 consequently liquidating the past subsidy liabilities. However it would be pertinent to mention here that the State Government departments and Institutions are not paying their bills for the electricity consumed and by the end of FY04 the accumulated arrears were 428.59 Crores. This affects the cash flow of MPSEB. The State Government may think of a mechanism of liquidating such past liabilities and timely payments of bills by its departments.

3.5 Undoubtedly MPSEB is not financially viable as a considerable portion of its net worth gets wiped off each year as seen from the table above. The Board is entitled to earn 3% rate of return on the net fixed assets at the beginning of the year, after deducting the consumers' contribution etc as provided in section 59 of the Electricity Supply Act 1948. The financial performance of MPSEB in FY03 & FY04 has improved in FY03 and FY04 but it is still incurring considerable losses and has not achieved the mandatory rate of return of 3% in the recent period from FY92 to FY04. The Government of Madhya Pradesh, as its owner, has been supporting MPSEB with subsidies but its revenue gap is resulting in increase in accumulated financial losses

3.6 This financial loss has been due to non-recovery of cost of supply as evident from the table below.

(Rs.Unit sold)

Table 11: Gap between revenue and cost

Sl. No.	Details	FY02	FY03 MPERC	FY03	FY04 (Prov)
(i)	Average revenue (including subsidy)	3.77	3.54	3.54	3.98
(ii)	Average revenue (excluding subsidy)	3.38	3.07	3.10	3.42
(iii)	Average cost of unit sold	4.31	3.46	3.86	4.03
(iv)	Gap between revenue (i) and cost (iii)	-0.54	0.08	-0.31	-0.05
(v)	Revenue as a percentage of cost (i/iii)	87.6%	102%	91.9%	98.8%

Source: Tariff Petition filed by MPSEB for FY05

3.7 In FY02 the gap per unit sold was Rs. 0.54, which is likely to be reduced to Rs. 0.05 per unit sold in FY04. Out of the total reduction of Rs. 0.49 per unit sold, Rs. 0.28 is due to decrease in average cost, Rs. 0.17 is on account of increased subsidies made available by the State Government and the rest is due to increase in the billing rates of the consumers. The Government subsidies, which increased from Rs. 0.39 per unit sold in FY02 to Rs. 0.56 in FY04 contributed to nearly 34.7% reduction in the revenue gap. As per the Planning Commission's report on SEBs, MPSEB's revenue as a percentage of cost in FY02 was better then the national average of 68.59%.

Table 12: Sale to and Revenue from Subsidising and subsidized energy sale **(%)**

Details	FY02		FY03		FY04 (P)	
	Sale	Revenue	Sale	Revenue	Sale	Revenue
Subsidised sale (%)	81.4	66.4	62.0	36.1	61.8	38.1

Subsidising sale (%)	18.6	33.6	38.0	63.9	38.2	61.9
Through Rate (Rs. /U)						
Subsidised sale		2.18		1.62		1.87
Subsidising sale		4.83		4.67		4.91
Average Billed Rate (Rs./U)		3.41		3.10		3.42
Cost (Rs. /U)		4.24		3.77		3.94

3.8 The increase in the billed rates observed for the period FY02 to FY04 is due to the tariff rationalization done by MPERC and reduction in sale to subsidised consumer categories. The subsidized sale at tariffs lower than the average cost of supply as evident from the above table has declined from 81.4% of the total sale in FY02 to 61.8% in FY04. As per the Planning Commission's report on SEBs national average of sale to subsidized category in FY02 was around 50.3%. The main beneficiaries from subsidized sale have been agricultural consumers. The percentage of total energy sale to agricultural consumers has increased from 25% in FY02 to 32% in FY03 and is further likely to increase to 33% in FY04, while percentage revenue contribution excluding subsidy from the State Government is 9.5%, 10% and 11% respectively.

3.9 As per the submission of MPSEB the average tariff of various consumer categories as a percentage of average cost and cost of supply in FY04 is as given in the table below:

Table 13: Average tariff as a percentage of average cost and cost of supply (%)

Sl. No.	Category	% of Av. Cost	% of Cost of Supply
1.	Domestic	82	64
2.	Single Light Point	110	86
3.	Non-Domestic	175	137
4.	Water Works	92	72
5.	Industrial	148	116
6.	Agricultural	28	22
7.	Street Lights	88	69
	Total LT	**65**	**51**
8.	Railway Traction	134	319
9.	Coal Mines	144	286
10.	Cement Factories	139	248
11.	Mini Steel Plants	109	217
12.	Irrigation Consumers	333	595

Sl. No.	Category	% of Av. Cost	% of Cost of Supply
13.	Water Works	80	142
14.	Electro-Chemical/Thermal	112	200
15.	Ferro Alloys (33KV)	95	169
16.	General Purposes	126	225
17.	Two Part Tariff	127	252
18.	Seasonal/Slab Tariff	148	265
19.	RE Coop. Societies	51	91
20.	Border Villages	71	127
	Total HT	**122**	**243**
	Total LT+ HT	**86**	**--**

3.10 The above table shows that extensive tariff rationalisation is required as the requirement of section 26 (5b) of Madhya Pradesh Vidyut Sudhar Adhiniyam and section 42 of the Electricity Act, 2003 are to be complied. Above referred section 26(5b) requires tariff of all consumers' categories except for financially weak consumer to reflect minimum 75% of average cost to supply that category by July 2006 and section 42 of the EA 2003 requires the Commission to progressively reduce and eliminate cross subsidies.

Table 14: Collection efficiency & T&D Losses **(%)**

Details	FY02	FY03 Tariff Order	FY03 Provisional	FY04 Provisional
% Unmetered Sales	25.63	NA	32.05	32.85
T& D Losses	47.38	43.77	44.2	43.99
Collection Efficiency	92	99.7*	91.2	86.7
AT&C Losses	51.59	46.02	49.11	51.44

* The Commission had allowed bad debts equivalent to amount actually written off in FY02

3.11 The Licensee has claimed that the T&D losses have reduced but this has been accompanied by increase in unmetered sales. Till the Licensee achieves 100% meterization the data submission in this regard can not be considered fully reliable.

3.12 MPSEB suffers not only from the malaise of high T&D losses but also from low collection efficiency. The Collection efficiency in FY04 is lower than FY03 and FY02 level. Consequently the arrears rose from 147 days of average demand in FY03 to 176 days in FY04. Lower collection efficiency thus results in higher operating cost through higher borrowings for working capital requirements and revenue write-offs. This downward trend needs to be immediately arrested.

3.13 The AT&C losses in FY04 are expected to be lower than FY03 level. AT&C losses of 51.44 % imply that in FY04 MPSEB collected revenue for 48.56 MUs only for 100 MUs input into the system. MPSEB in FY04 achieved no profit and no loss situation i.e. break even point even at this T&D loss level. The lower breakeven point (higher ATC losses) in FY04 has been due to higher government support.

Table 15: Manpower Deployment

Sl. No.	Details	FY02	FY03	FY04
(i)	Per MU of energy sold	4.54	4.07	3.75
(ii)	Per thousand consumers	10.12	9.53	9.3
(iii)	Per lakh of Rs. revenue from SOP	0.17	0.15	0.12

3.14 The Table above indicates that there is a rising trend in labour productivity for which MPSEB needs to be complimented. However, as per the Planning Commission's report on SEBs, the national average for employees per thousand consumers in FY02 is estimated to be 7.59, which is much lower then MPSEB's achievement of 9.3 in FY04. The increasing trend in productivity that is visible is largely due to retirement of existing employees with no commensurate intake since 1992 inspite of increase in number of consumers, increase in energy sold, growth in network size and outsourcing of various activities. This improvement in labour productivity has to be treated with caution, as there is no data to reflect improvement of services and in reliability & quality of supply to consumers. Reduction in employee cost through poor consumer services would become a self defeating exercise. The Commission is in the process of collecting information on the quality of consumer service and supply rendered to the consumers. In various meetings and hearings the top management of MPSEB and their companies have often complained of acute shortage of skilled technical staff and surplus ministerial staff. The Board is advised to establish the employee requirement for its various activities through a detailed study and re-deploy the existing staff accordingly.

Table 16: Power and Energy availability

Sl. No.	Details	FY02	FY03	FY04
	Energy (MU)			
(i)	Requirement	30640	31412	33883
(ii)	Availability	26530	27129	29732
(iii)	Sale	13869.42	15138.37	15996.11
	Shortage (i-ii)/(i)	13.4%	13.6%	12.25%
	Power (MW)			
(i)	Unrestricted Demand	6104	6063	6033
(ii)	Demand met	4632	4652	4984

Sl. No.	Details	FY02	FY03	FY04
	Shortfall (%)	24.1	23.2	17.4

Source: Tariff petition and System performance Report for FY04

3.15 The power supply situation in the state is grave as can be gauged from the fact that at the national level in FY02 the peak power shortage was 12.6% (Planning Commission) as compared to 24.1% in MP. In FY04 the peak power shortage have decreased from 24.1% in FY02 to 17.4%. The mismatch between peak power and energy availability has been substantially reduced due to commissioning of hydro units of NHDC, a joint venture between NHPC and GoMP.

3.16 The overall performance of MPSEB as discussed above has been a mixed one. The financial and operating losses have not reduced appreciably but power supply position has improved. In the remaining section the performance evaluation of different functions such as Generation, Transmission and Distribution is being attempted in greater detail.

Power Supply Position

3.17 The average number of hours of supply per day was better in FY04 than FY03 as is indicated in the table below:

Table 17: Average number of hours of supply **(Hrs/Day)**

Sl. No.	Details	FY03	FY04
1.	Div. Head Quarters	22:21	22:19
2.	District Head Quarters	20:21	21:04
3.	Tahsil head Quarters	18:10	19:48
4.	Rural Three Phase	6:20	10:39
5.	Rural Single Phase	7:18	5:08
	Total Rural	13:38	15:47

Source: System Performance Report for FY04

3.18 The supply to the rural area increased from 13.38 hrs to 15.47 hrs per day

3.19 The overall performance of MPSEB as discussed above has been a mixed one. The financial and operating losses have not reduced appreciably but power supply position has improved. In the remaining section the performance evaluation of different functions such as Generation, Transmission and Distribution is being attempted in greater detail.

Generation

3.20 In this section the analysis shall be confined to the operating parameters of the generating plants of MPSEB.

Installed Capacity

3.21 At the end of financial year total installed capacity of MPSEB was 3112.95 MW, which includes 2272.5 MW of thermal, 835 MW of Hydel and 5.45 MW of Mini Micro Hydel. Of the total installed capacity, MP share is 2990.12 MW. Since the last tariff order of the MPERC, there has been no increase in thermal capacity but hydel capacity has increased by 50 MW due to commissioning of Bansagar - II Silpara (2x15 MW) and Bansagar –III Devlond (Unit No.3, 20 MW). The details are as under:

Table 18: Installed Capacity at the end of FY04

Installed Capacity /Share Of MPSEB Power Stations				
Thermal Power				
Thermal Power Station	**Location**	**Unit**	**Capacity Mw**	**Total MPSEB Share (MW)**
Amarkantak Ph-I	A.T.P.S. Chachai	1*30,1*20	50	50
Amarkantak Ph-II	Dist. Shahdol	2*120	240	240
Satpura Ph-I	S.T.P.S. Sarni	5*62.5	312.5	187.5
Satpura Ph-II	Dist. Betul	1*200,1*210	410	410
Satpura Ph-III		2*210	420	420
SGTPS Ph-I	S.G.T.P.S. Birsinghpur	2*210	420	420
SGTPS Ph-II	Dist. Umaria	2*210	420	420
Total Thermal			**2272.5**	**2147.5**
Hydel Power				
Hydel Power Station	**Location**	**Unit**	**Capacity Mw**	**Total MPSEB (Share) Mw**
Gandhisagar	Dist. Mandsour	5*23	115	57.5
Pench	Dist.Nagpur	2*80	160	106.67
Bargi	Rani Avanti Bai Sagar Bargi	2*45	90	90
Tons	Sirmour Dist. Rewa	3*105	315	315
Bansagar Devlone		3*20	60	60
Bansagar Silpara		2*15	30	30
Birsinghpur	Birsinghpur	1*20	20	20

Rajghat	Chanderi Dist. Guna	3*15	45	22.5
Total Own Hydel			**835**	**701.67**
Share In Other States				
Ranapratap Sagar			172	86
Jawahar Sagar			99	49.5
Total Hydel				**837.17**
Mini / Micro Hydel Power Station				
Mini / Micro Hydel Power Station	**Location**	**Unit**	**Capacity Mw**	**Total MPSEB (Share) Mw**
Morand	Hoshangabad	3*.335	1.005	1.005
Satpura	Return Canal Sarni	2*.500	1.000	1.000
Tilwara	Jabalpur	1*.250	0.250	0.250
Chargaon	Seoni	1*.800	0.800	0.800
Bhimghad	Seoni	2*1.200	2.400	2.400
Total Mini/Micro Hydel			**5.455**	**5.455**
Total MPSEB			**3112.955**	**2990.12**

Energy Generated (MU)

3.22 Gross energy generated (100% basis) from MPSEB's power plant is given in the table below. Actual generation achieved has been compared with the targets set by MPERC and that proposed by MPSEB in FY03 filing.

Table 19: Gross energy generated

(MU)

Sl. No.	Details	FY02	FY03 (Actual)	FY03 (MPERC)	FY04 Est.
	Thermal				
(i)	ATPS I	110	227	202	184
(ii)	ATPS II	881	1216	1147	986
I	**ATPS**	**990**	**1443**	**1349**	**1170**
(i)	STPS I	1990	2198	2000	2117
(ii)	STPS II	2846	2712	2700	2696
(iii)	STPS III	2480	2979	2800	2906

Sl. No.	Details	FY02	FY03 (Actual)	FY03 (MPERC)	FY04 Est.
II	**STPS**	**7316**	**7889**	**7500**	**7719**
(i)	SGTPS I	1657	2303	2633	2315
(ii)	SGTPS II	2559	2925	2700	2811
III	**SGTPS**	**4215**	**5228**	**5333**	**5126**
A.	**Total Thermal**	**12522**	**14560**	**14182**	**14015**
	Share in thermal	**11726**	**13681**	**13382**	**13168**
	Hydro				
	Gandhisagar	114.21	38.92	--	142.74
	R.P.Sagar	259.48	9.82	--	239.86
	J.Sagar	199.10	16.63	--	193.42
	Tot.Chambal	572.79	65.37	1000.00	576.02
	M.P.Chambal	286.39	32.69	500.00	288.01
	Pench	137.04	338.98	390.00	463.52
	M.P. Pench	91.36	225.99	260.00	309.01
	Bargi	521.51	452.95	550.00	585.82
	Tons	1253.88	869.83	925.00	1121.73
	Bansagar Devlone	41.29	47.13	100.00	108.74
	Bansagar Silpara	--	50.07	50.00	85.62
	Birsinghpur	36.07	25.02	50.00	62.89
	Rajghat	104.75	67.66	120.00	141.82
	M.P.Rajghat	52.37	33.83	60.00	70.91
	MPSEB Hydel (Share)	**2282.87**	**1737.49**	**2495.00**	**2632.72**
B.	**MPSEB Hydel**	**2208.75**	**1890.6**	**2185.0**	**2712.9**
(A+B)	**Total from own source(Th+Hydel)**	**14730.7**	**16450.6**	**14646**	**16727.5**

3.23 In FY03 the total energy availabile from MP's own source increased by nearly 10% over FY02 but was lower than that fixed by MPERC and that proposed by it for FY03. This increase inspite of 26.3% reduction in hydro energy was possible due to 16.5% more generation from thermal stations. This reduction in hydro generation occurred due to poor rainfall in the state. The thermal generation exceeded the target set by MPERC for FY03. Increased thermal generation was feasible due to deferment of annual and capital overhaul of Unit No. 3 of ATPS Chachai, Units 2,3,8 of STPS Sarni and Units 3 & 4 of SGTPS Birsingpur to over come shortfall in Hydro generation and meet increase energy demand due to prevailing drought conditions. The overall average planned outage in FY03 decreased from 12.2% in FY02 to 5%, consequently leading to a higher PUF.

3.24 In FY04 average planned outage was of 7.1%. Aas a result thermal generation was lower by 3.7% from FY03 level but availability was higher due to increased hydro generation.

Plant Utilization Factor

3.25 The Plant utilization factor (%) of different plants of MPSEB in different years is given in the table below:

Table 20: Plant Utilization factor **(%)**

Plant	FY02	FY03 Tariff Order	FY03 Actual	FY04 Provisional
ATPS I	25.10	46.12	51.8	41.9
ATPS II	41.90	54.56	57.8	46.8
ATPS	**38.99**	**53.11**	**56.6**	**45.9**
STPS I	72.7	73.1	80.2	77.1
STPS II	79.2	75.2	75.5	74.9
STPS III	67.40	76.1	80.9	78.8
STPS	**73.1**	**74.9**	**78.8**	**76.9**
SGTPS I	45.0	71.6	62.6	62.7
SGTPS II	69.5	73.4	79.5	76.2
SGTPS	**57.3**	**72.47**	**71.0**	**69.5**
Total	**62.9**	**71.25**	**73.1**	**70.2**

3.26 The average Plant utilization factor (PUF) in FY03 by MPSEB has been the highest in the last five years as given above and exceeded the target fixed by MPERC. SGTPS unit I could not achieve the target due to ID fan vibration and Air Heater tube problems. As recorded above this improvement in PUF was due to deferment of Annual and Capital overhauls.

3.27 PUF in FY04 is lower than that was achieved in FY03 due to lower PUF of ATPS and SGTPS units. ATPS had more planned outage at 7.4% in FY04 as compared to 2.3% in FY03. Partial outage in FY04 due to non availability of mills, ID fan, HP Heaters and Drum pressure restrictions was 30.15% as compared to 24.65% in FY03. Similarly SGTPS had higher plan outages in FY04 at 7.7% against 2.7% in FY03 due to insufficient coal supply and higher partial loading of units 1 & 2.

3.28 MPSEB has pointed out the fact that 63% of the installed capacity is between 26 - 29 years old which inhibits significant improvement in PUF. According to MPSEB, due to cash shortage it has not been able to incur R&M expenditure as allowed by MPERC. This has been discussed in detail in the relevant section on repairs and maintenance expenditure. The Commission has been repeatedly directing the Licensee to stick to its annual and capital maintenance programme, as it feels that avoidance of these schedules would be detrimental to the economic life of these plants.

3.29 For reasons explained above in FY04 the plant availability was lower than that of FY03. The availability of plants during FY02, FY03 and FY04 is indicated in the table below:

Table 21: Plant Availability **(%)**

Plant	FY02	FY03 Actual	FY04 Provisional
ATPS	57.76	81.54	76.09
STPS	83.66	86.75	89.27
SGTPS	73.91	81.56	78.94
MPSEB	**76.75**	**87.4**	**86.73**

Source: System Performance Report for FY04

3.30 In the power shortage situation thermal backing is rare, difference in availability and PUFs indicates that the plants are operating at partial and not at full capacity, which can happen mainly due to poor maintenance. This results in higher auxiliary and fuel consumption. The partial loading observed in FY02, FY03 and FY04 is given in the table below.

Table 22: Partial loading in MPSEB's plants **(%)**

Plant	FY02	FY03 Actual	FY04 Provisional
ATPS	18.77	24.63	30.15

Plant	FY02	FY03 Actual	FY04 Provisional
STPS	10.57	8.34	12.35
SGTPS	16.6	18.72	17.48
MPSEB	**13.85**	**14.20**	**16.52**

Source: System Performance Report for FY04

3.31 The partial loading of the plants increased in FY04 over FY03 and FY02.

Auxiliary Consumption

3.32 The auxiliary consumption of different units in different years is given in the table below:

Table 23: Auxiliary Consumption **(%)**

Plant	FY02	FY03 Tariff Order	FY03 Actual	FY04 Provisional
ATPS I	17.06	10.89	12.38	13.96
ATPS II	10.61	9.76	10.24	11.53
ATPS	**11.33**	**9.93**	**10.58**	**11.91**
STPS I	9.17	9.00	9.15	9.34
STPS II	8.74	8.89	8.74	9.01
STPS III	8.85	8.89	8.57	8.98
STPS	**8.89**	**8.92**	**8.79**	**9.09**
SGTPS I	11.33	9.49	10.96	11.43
SGTPS II	10.69	9.00	10.15	9.8
SGTPS	**10.94**	**9.24**	**10.51**	**10.54**
MPSEB	**9.77**	**9.14**	**9.58**	**9.89**

3.33 Auxiliary consumption in percentage terms in FY03, although lower than FY02 level, but was higher than the levels achieved in the previous year's inspite of having higher PUF. MPSEB could neither achieve the target fixed by MPERC nor proposed by it. Only STPS achieved a level of 8.79% which was lower than the target fixed by MPERC and also the 9.0% target fixed by CERC in its latest order. The Board has reasoned that higher auxiliary consumption was due to partial loadings, poor physical condition and old age of the units. The auxiliary consumption of all the plants in FY04 in percentage terms is the highest in last five years. ATPS recorded higher partial loading due to non availability of Mills & Boilers. SGTPS also performed poorly because of higher partial loading of units due to choking of Air Heaters, HP Heater outages, high vibration in ID fans and frequent failure of economizer tubes. MPSEB needs to look into this rising trend and take appropriate measures.

3.34 CERC, in its tariff order applicable from 1st April 2004, has reduced the existing auxiliary consumption norms by 0.05% in view of lower consumption recorded by CGS units, some of which are of vintage similar to that of STPS and SGTPS. MPSEB therefore should strive to achieve these norms for SGTPS and PH II & PH III of STPS.

Station Heat Rate

3.35 The station heat rate achieved by the generating units of MPSEB in the past few years are given in the table below.

Table 24: Station heat rate **(Kcl/Kwh)**

Plant	FY02	FY03 Tariff Order	FY03 Actual	FY04 Provisional
ATPS I	3715	2869	3871	4895
ATPS II	3565	2869	3547	3807
ATPS	**3582**	**2869***	**3598**	**3978**
STPS I	3286	2689	3480	3456
STPS II	2969	2689	2911	2996
STPS III	2980	2689	2908	2898
STPS	**3059**	**2689**	**3068**	**3085**
SGTPS I	3224	2689	3005	2996
SGTPS II	3188	2689	3028	2867
SGTPS	**3202**	**2689**	**3018**	**2926**
MPSEB	**3148**	**2706**	**3103**	**3101**

3.36 Station heat rate denotes conversion efficiency of heat energy into electrical energy i.e. number of Kcal required to generate one unit of electrical energy. Higher the value lower is the conversion efficiency. In FY03 MPSEB could improve this conversion efficiency by 45 Kcal/Kwh over FY02 however none of the units could achieve the norm fixed by MPERC and that proposed by MPSEB for FY03 filing. MPSEB has attributed its failure to achieve the target to the following reasons:

(a) Completion of economic life by generating units of Amarkantak TPS, which are now 26 to 40 years old. Out of 17 thermal units, almost 11 units have completed more than 25 years of service out of the average economic life of 30 years.
(b) Due to deferment of R&M activities the operational parameters have deteriorated. This was due to inadequate availability of funds and power shortages in the State.
(c) The quality of coal supplied is inferior to the one for which it has been designed. Higher ash content not only causes greater wear and tear but reduces the station heat rate as well.

3.37 The SHR in FY04 is at FY03 level. SHR recorded at ATPS and STPS is higher whereas at SGTPS it is lower than that was recorded in FY03.

3.38 MPSEB in its ARR petition has stated that the targets set by MPERC are very stiff and that the Commissions of other States have approved higher SHR for similar vintage plants. The Commission while approving SHR for this year has taken into consideration the reasonableness of the factors cited by Licensee.

3.39 MPSEB instead of using direct method to calculate SHR derives it indirectly on the basis of energy generated and coal consumed. Coal consumed is a notional figure derived by deducting assumed transit and stacking losses of coal from the quantity of coal dispatched from the mines and accounting the change in the inventory level instead of the standard practice of weighing it before firing it in the boilers. Thus the current practice includes all losses which may be different from the notional losses, so the actual coal consumption may be different. This fact was highlighted in the Commission's previous tariff order as well. For determination of accurate and reliable SHR MPSEB should determine accurately the quantity of coal fed into each unit by installing belt weighers at the conveyor belt feeding coal to concerned ball mills.

3.40 The rationale provided by the Board for higher Station Heat Rate is untenable. The other major reason for high SHR is inadequate maintenance of the units. The Commission had provided for the R&M cost as projected by the Board. The Commission in its order had stated, "*The Commission is conscious of the fact that proper maintenance of the generating plants would have a bearing on the targets determined for generation of electricity. The Commission approves the repairs and maintenance expenditure as proposed by the Board.*" Thus, if the Board diverted its fund for activities other then R&M activities then it cannot blame extraneous factors for not achieving the targets.

3.41 MPERC directs MPSEB to workout SHR/Coal consumption on the basis of actual readings recorded by weigh bridges and weightometers installed by MPSEB.

Specific Oil consumption

3.42 The specific oil consumption of the generating units of MPSEB in the past few years is given in the table below.

Table 25: Specific oil consumption **(Ml/Kwh)**

Plant	FY02	FY03 Tariff Order	FY03 Actual	FY04 (P)
ATPS I	30.45	8.50	12.10	27.70
ATPS II	12.03	2.60	5.63	7.71
ATPS	**14.07**	**3.48**	**6.63**	**10.85**
STPS I	5.49	3.50	3.66	5.81
STPS II	2.11	1.40	1.79	1.82
STPS III	2.43	1.40	1.47	1.51
STPS	**3.14**	**1.96**	**2.19**	**2.80**
SGTPS I	7.23	2.45	3.82	1.76
SGTPS II	3.25	2.45	2.11	1.57
SGTPS	**4.81**	**2.45**	**2.87**	**1.65**
MPSEB	**4.57**	**2.29**	**2.87**	**3.05**

3.43 Oil support is required during start-up, shutdown and for flame stabilization. This operating parameter represents the quantity of oil required for generation of one Kwh of electrical energy. The consumption is governed by loading condition of the unit, startups and shutdowns. Sp oil consumption has reduced from 4.57 ml/kWh in FY02 to 2.87 ml/kWh in FY03 but still norms fixed by MPERC and that proposed by MPSEB for FY03 filing could not be achieved. The specific oil consumption of STPS II & III and SGTPS II was within the norms of 3.5 ml/Kwh stipulated by CERC. The contention of the Board that the target of 2.29 is difficult to achieve is untenable as in FY00 lower consumption at 2.24 was recorded.

3.44 In FY04 the specific consumption increased by 6.3% over FY03 to 3.05 ml/Kwh. This deterioration is because of higher consumption recorded by ATPS and STPS. The higher specific consumption has been alluded to higher partial loading of units and wetting of coal due to heavy rains. SGTPS made impressive gains by reducing its consumption drastically by around 33%.

3.45 The better run units of NTPC have specific oil consumption in the range of 0.21 to 0.62 ml/Kwh as recorded by CERC in its order dated 16th January 2004. CERC has revised its existing norm of 3.5 ml/Kwh to 2 ml/Kwh, which was achieved by units of SGTPS and PH II & III units of STPS.

Quality of Coal

3.46 The gross calorific value of coal received at each station for the period FY02 to FY04 is being presented in the table below:

Table 26: Calorific Value **(Kcal/Kg)**

Plant	FY02	FY03	FY04
ATPS I	4460	4557	4567
ATPS II	4509	4579	4518
ATPS	**4504**	**4575**	**4525**
STPS I	3582	3792	3658
STPS II	3482	3579	3517
STPS III	3477	3586	3511
STPS	**3508**	**3641**	**3554**
SGTPS I	3867	3811	3785
SGTPS II	3858	3822	3796
SGTPS	3862	3817	3791
MPSEB	**3705**	**3797**	**3720**

3.47 Poor quality of coal leads not only to increased quantity of coal consumption and increase in related cost but also affects the performance of the units. MPSEB needs to settle its price dispute quickly with WCL and SECL, further it would be required to persuade these companies to agree for a joint sampling scheme.

Specific Coal Consumption

3.48 The specific coal consumption denotes quantity of coal consumed per unit of electricity generated. This parameter is dependent on SHR and GCV of coal received. The performance in the last three years is as follows:

Table 27: Specific Coal Consumption **(Kg/Kwh)**

Sl. No.	Details	FY02	FY03	FY04
1.	ATPS	0.76	0.77	0.86
2	STPS	0.86	0.84	0.86
3.	SGTPS	0.81	0.78	0.77
	MPSEB	**0.83**	**0.81**	**0.82**

3.49 The specific coal consumption in FY04 after recording a reduction in FY03 has again risen. The Licensee has stated that this increase per unit of coal consumption has been due to poor grindability of coal mills, which resulted into unburnt coal in the bottom ash and improper combustion in the boiler.

Loss in Generation due to tripping of generating units

3.50 A comparison has been drawn for the years FY02, FY03 and FY04 on the number of trippings recorded and consequent energy loss by the units of MPSEB.

Table 28: Trippings

Sl. No.	Details	FY02		FY03		FY04	
		Nos.	MU	Nos.	MU	Nos.	MU
1	ATPS						
(a)	Forced Outage	99	626	109	413	120	429
(b)	Planned Outage	2	447	1	57	2	245
	Total	**101**	**1073**	**110**	**470**	**122**	**674**
2	STPS						
(a)	Forced Outage	129	557	168	560	160	502
(b)	Planned Outage	6	1078	6	736	7	578
	Total	**135**	**1635**	**174**	**1296**	**167**	**1080**
3	SGTPS						
(a)	Forced Outage	192	1015	126	552	92	443
(b)	Planned Outage	4	905	1	201	3	519
	Total	**196**	**1920**	**127**	**753**	**95**	**962**
	MPSEB	**432**	**4628**	**415**	**2539**	**384**	**2716**

3.51 In FY04 MPSEB has been able to reduce trippings over the period under consideration. The energy loss on this account has reduced from 23.25 % of the possible generation to around 13% in FY04. The majority of the outages are forced ones due to tube leakage consisting of water wall tube leakage, economizer tube leakage and superheater tube leakage. MPSEB is advised to reduce these leakages so as to improve the performance of its units.

Weightometers and Weighbridges

3.52 The Commission in its last tariff order had instructed the Board to install weighbridges at all the powerhouse and to ensure their proper functioning for recording the quantity of coal received. MPSEB in compliance to this direction has installed electronic weighbridges at all the power station.

3.53 On the directives of MPERC, Licensee has commissioned weightometer on coal feeding conveyors at Sarni, Amarkantak & SGTPS Birsinghpur. The status is depicted in the table below.

Table 29 Weightometers

Power Station	No. Required	No. commissioned
STPS	4	4
ATPS	6	6
SGTPS	7	7

Transit Loss of Coal

3.54 The actual transit and stacking losses reported by MPSEB for FY02, FY03 and FY04 for various power stations are as given in the table below

Table 30: Transit & Stacking losses **(%)**

Details	FY02	FY03	FY04
ATPS	1.17+1=2.17	1.04+1=2.04	0.32+1=1.32
STPS	2.70+1=3.70	2.70+1=3.70	1.27+1=2.27
SGTPS	3.75	4.77	3.16

3.55 These losses represents loss at various stages of stacking, reclaiming, loading, transportation, unloading and crushing etc These losses for these years have been estimated on the basis of Delivery Challans served by Railways, consumption of coal and the change in the level of stock at the power station. The difference between the readings at loading and loading point would give transit losses while the difference between the coal received and coal fired accounting for changes in coal inventory would give stacking losses. The method employed for FY03 and FY04 gives inaccurate picture of these losses and the reported figure cannot be taken at its face value. Since the weighbridges and weightometers have now been installed by the Licensee, reasonably reliable picture is expected in near future.

Fuel Supply Agreements

3.56 The Licensee entered into a fuel supply agreement with WCL in May 1985. The FSA was for a period of 1 year subject to the condition that in the absence of any notice of termination, it shall be deemed to remain in force. Subsequently, in 1986 SECL was carved out of WCL, hence FSA 1985 was deemed to be applicable for SECL supplies also. In the absence of any notice of termination by either side, the FSA 1985 is still considered in force by MPSEB.

3.57 MPSEB protested against the price hike of February 01 by WCL for STPS Sarni and went to court of law. MPSEB is making payments to WCL on the basis of the interim order of the court at 1998 price plus 50% of the hike affected by the company. The final order on this matter is awaited. WCL consequently has refused to sign fresh fuel supply agreement. MPSEB however expects to sign fresh agreement with SECL soon.

3.58 MPSEB has in place agreement for supply of oil with oil companies. It also has firm agreement for transportation of oil. For coal the transportation is done by Indian Railways as per the linkage awarded by Standing Linkage Committee.

3.59 MPSEB is advised to conclude fuel supply and transportation agreement with the concerned Companies on commercial lines as quickly as possible. Uncertainty in fuel supply may lead to loss of generation. In FY04 loss in generation due to coal shortage was 102 and 240 MUs for SGTPS and STPS respectively.

Transmission

3.60 This function is likely to assume greater importance in future in view of the provisions of Open Access for Distribution licensee, Traders and Consumers in the EA 2003. The competitive model envisaged in the Act requires the existence of a robust transmission network. Currently, supply to the consumers of the State has been on a restricted basis due to non-availability of power and poor financial condition of MPSEB. The State Govt has initiated reforms to remove such bottlenecks and it would be reasonable to expect that these supply restrictions would be done away with in future, the transmission network would be then required to carry large volume of energy. In Madhya Pradesh most of the power is generated in the eastern part but the major consumption is in the western part necessitating transmission over long distances. A sound transmission network is also necessary for delivery of reliable and quality power to end users. MPSEB, realizing the importance of reliable transmission network has taken up massive investment in this sector with funding from ADB, NABARD and PFC.

Table 31: Snapshot of transmission network in MP

Sl. No.	Particulars				
	Voltage (KV)	Transmission lines (Ckt KM)	EHV Substations	No. of transformer	MVA
As on 31st March 03					
1.	400	1706.11	4	14	2940
2.	220	6496.19	25	76	6810
3.	132	9342.03	115	278	7477.5
4.	66	61	1	4	20
As on 30th September 04					
1.	400	1723.51	4	14	2940
2.	220	6740.71	28	77	7730
3.	132	9842.54	138	297	9799
4.	66	61	1	4	20

Transmission Losses

3.61 The total EHV losses in FY02 & FY03 and FY04 attributable to MPSEB are as shown in the table below

Table 32: Transmission losses **(%)**

Sl. No.	Particulars	Details	FY02	FY03	FY04
1.	Energy in (MU)	Total Energy received at EHV	26530	27129	28559
2.	Energy out (MU)	Total delivered to discoms	24570	24978	26238
3.		Transmission loss (%)	7.39	7.93	8.12

3.62 The loss figures shown above include transmission losses in the network of PGCIL due to energy transmission from central sector generating stations to MP and losses in the transmission system of MPSEB. These losses in FY04 showed an increasing trend. The loss figure reported for FY04 is corroborated by month wise analysis of transmission losses for the period April'02 to March'04. These losses vary from 6.15% to 9.73%. The highest losses at 9.73% were recorded during the Rabi season, when the quantum of energy that flowed in the transmission system was high.

Table 33: Month Wise Losses

Sl. No.	FY03	% Losses	FY04	% Losses
1.	April 02	6.39	April 03	7.50
2.	May 02	8.32	May 03	7.21
3.	June 02	7.25	June 03	7. 53
4.	July 02	6.93	July 03	6.15
5.	August 02	6.68	August 03	6.87
6.	September 02	6.91	September 03	6.61
7.	October 02	7.73	October 03	8.87
8.	November 02	8.29	November 03	9.70
9.	December 02	9.55	December 03	9.73
10.	January 03	9.56	January 04	8.70
11.	February 03	9.07	February 04	8.64
12.	March 03	7.17	March 04	7.73
	FY03	**7.93**	**FY04**	**8.12**

3.63 If various time periods are considered the losses as shown in the table below vary around 7.9 % but if the data from recent months is considered then the losses show an increasing trend. This result is contrary to the expectation as in FY03 130 Ckt-KM of lines and 615 MVA of substation capacity and in FY04 479 Ckt-Km and 920 MVA were added to the network.

3.64 The Licensee in its filing has reported that the losses in its own EHV system are 5.86 % of the input energy. MPSEB still has to compute its voltage wise losses, which it proposes to do in the near future. MPSEB should quickly put in place audit procedures required to work out voltage wise losses. MPSEB should realize that in order to determine cost to supply at different voltages for consumers availing open access, determination of voltage wise energy and power losses are imperative. The Commission from the next tariff filing shall enforce "Monitoring of Performance of licensees and Generating Companies" regulation according to which it is mandatory for MPPTCL to furnish losses for 400 KV, 220 KV and 132 KV voltage levels separately.

Reliability & Quality of Supply

3.65 For reliable and quality supply to distribution companies and thereby to retail consumers the transmission network should remain in a healthy state. The performance of MPPTCL during FY03 is as follows.

Table 34: Voltage wise Interruptions

Sl. No.	Voltage Level (Lines)	FY02		FY03		FY04	
		Nos.	Duration (Hrs)	Nos.	Duration (Hrs)	Nos.	Duration (Hrs)
1.	400 KV	2	38.3	1	15.02	6	76.26
2.	220 KV	43	648	42	527	35	459.73
3.	132 KV	40	592	36	543.98	30	546.63

3.66 In FY04 MPSEB was able to reduce the average duration of interruption at 220 and 132 KV voltage levels. However the interruptions at 400 KV lines have increased. The reduction in numbers and duration lead to higher availability of network in FY04. Voltage wise availability is depicted in the table below

Table 35: Voltage wise system availability **(%)**

Sl. No.	Voltage Level	FY02	FY03	FY04
1.	400 KV Lines	99.55	99.82	98.10
2.	220 KV Lines	91.96	93.97	99.81
3.	132 KV Lines	92.89	93.78	99.76

3.67 The system availability in FY04 has increased over FY03 and FY04. There has been appreciable increase in availability of 220 and 132 KV network. However the availability of 400KV network has declined. The overall system availability compares favourably with the target availability of 98% fixed by CERC in its order dated 16th January 2004 for incentive and fixed cost recovery purposes for inter state network.

3.68 In FY03 there was one major grid collapse on 30.7. 2002 at 20.11 Hrs resulting in supply interruptions to all consumer categories, which varied from 5.22 hrs to 9 Hrs. The grid disturbance occurred due to overdrawal by all the constituents of WREB resulting in very low system frequency of 47.7 Hz. The unserved energy due to this grid collapse was around 30 MU.

3.69 In FY04 major system disturbances were reported on 12.4.2003, 5.06.2003, 5.11.03, 7.11.03, 6.12.03 and 5.2.2004.

Frequency Profile

3.70 The maintenance of grid frequency profile is the responsibility of all the constituents of WREB including MP. Frequency profile is an important criterion for judging the quality of supply particularly when there is a large-scale use of frequency sensitive appliances such as computers etc. The frequency profile in FY02, FY03 and FY04 was as follows

Table 36: Frequency Profile

FY02		FY03		FY04	
< 48.5 Hz	>50.5 Hz	< 48.5 Hz	>50.5 Hz	< 48.5 Hz	>50.5 Hz
14.57 %	6.89 %	12.79 %	3.93 %	0.94%	2.58%

3.71 The frequency profile improved in FY04 and for more than 50% of the time frequency remained between 49.5 Hz to 50.2 Hz.

EHV Transformer failure

3.72 Failure of EHV transformer results in disruption of power supply to a large area. Most of the failures can be attributed to operational causes. The failure rate reported for FY02 and FY03 is as follows:

Table 37: Transformer failure

Sl. No.	Details	FY02		FY03		FY04	
		Nos.	%	Nos.	%	Nos.	%
1.	Auto Transformer	2	3.28	0	0	1	1.05
2.	Power Transformer	10	3.69	7	2.11	4	1.30

3.73 The overall transformer failure rate has shown a declining rate.

3.74 MPSEB has achieved progress in installing capacitors with the objective of overcoming the problem of low voltages in the system. However it is also essential that these capacitors remain in working order.

Table 38: Installed Capacitor Banks **(MVAR)**

Sl. No.	Details	FY03	FY04 (E)
1.	36 KV capacitor banks installed at 33 KV bus at 132 & 220 KV S/s	1840	2000
2.	145 KV capacitor banks installed at 132 KV bus of 220 KV S/s	500	660

3.75 MPPTCL has identified 27 interface points with MPGENCO and 370 interface points with various Discoms. These interface points do not have ABT compliant meters. The Commission has been repeatedly emphasizing the need to have such meters so that in future intra-state ABT can be made applicable in the open access regime. The company is however yet to install such meters.

3.76 The operational performance should be reflected not only in terms of reduction in losses, improvement in voltage profile but also in terms of reduction in human and animal life as well. The number of accidents, both fatal and non fatal, were higher in FY03 as compared to FY02. MPPTCL is advised to take stock of such happenings and prevent them from reoccurring. Safety of personnel and others should be of paramount importance in the operation of transmission network and should be appropriately taken care of. The track record shows that number of such accidents in FY04 was 7 as compared to 8 in FY03 and 3 in FY02.

Table 39 Electrical Accidents

FY02				FY03				FY04			
Fatal		Non-Fatal	Total	Fatal		Non-Fatal	Total	Fatal		Non-Fatal	Total
Human	Animal	Human		Human	Animal	Human		Human	Animal	Human	
2	0	1	3	3	0	5	8	2	0	5	7

Distribution

3.77 The value chain in the power sector begins with generation and ends with distribution. The major losses in the value chain occur in the distribution segment. About half of the energy generated does not get billed and only 87 % of that billed gets collected from the consumers. The Distribution companies therefore need to put in place effective systems and procedures to control energy losses and increase collection efficiency.

Distribution Losses

3.78 The distribution losses are due to non billing of energy. Some of it is lost due to technical reasons while the remaining gets lost due to commercial reasons. The commercial losses occur due to theft, incorrect assessment of stopped and unmetered consumers and lower recording of the actual consumption by slow/ defective meters. The distribution losses as a percentage of energy available as reported by MPSEB are given in the table below.

Table 40: Distribution Losses **(%)**

Details	FY02	FY03 Tariff Order	FY03 Actual	FY04 Provisional
T&D Losses	47.38	43.77	44.20	43.99
Transmission Losses*	7.39	7.93	7.61	8.12

Distribution Losses	39.99	35.84	36.59	35.87

* This has already been discussed in the section on transmission

3.79 The total losses in FY04 as reported by MPSEB have reduced over FY03 and FY02. MPSEB even in FY04 could not achieve the target set by the Commission for FY03.

3.80 The Voltage wise losses indicated by MPSEB in form T 9.1 of the tariff petition is given in table below.

Table 41: Voltage wise losses **(%)**

Details	FY02		FY03		FY04	
Losses at 33 KV and 11 KV*	11.7 *	9.87#	14.36*	12.12#	13.04*	10.89#
Losses at LT*	49.37*	30.12#	40.39*	24.13#	40.99*	24.97#

*As a percentage of energy input at that voltage level.

As a percentage of energy fed into the system.

3.81 As expected the losses are highest in LT network. MPSEB for estimating unmetered consumption of agricultural consumers in these years has assumed increasingly higher load factor on the pretext of supplying higher number hours of supply to these consumers. The load factor in FY02 was determined to be 11.5% on the basis of sample study of 167 pumps spread over 7 regions. In its earlier petition for FY04, MPSEB had assumed a LF of 15.75% for FY03 based on metering of sample size of 1500 agricultural consumers, this figure was latter on revised to 16.25% for which no explanation has been offered. For FY04 this figure has been again revised to 18.8%. The frequent revision of load factor without back up data gives rise to a suspicion that this being done to hide actual losses. The Commission has been taking up the issue of DTR metering at feeders supplying power to unmetered regularly but a credible system for this purpose is yet to be put in place.

Table 42: Discom wise losses **(%)**

Sl. No.	Details	FY03	FY04
(a)	Indore Region	36.30	35.24
(b)	Ujjain Region	38.90	39.60
I	**Paschim Kshetra**	**37.43**	**37.09**
(a)	Jabalpur Region	33.46	38.82
(b)	Rewa Region	23.46	27.48
(c)	Sagar Region	41.68	47.27
II	**Poorv Kshetra**	**31.90**	**37.84**
(a)	Bhopal Region	41.51	42.95

Sl. No.	Details	FY03	FY04
(b)	Gwalior Region	49.13	52.24
III	**Madhya Kshetra**	**44.91**	**46.38**

3.82 In an analysis done by the Commission, distribution losses for these companies are higher by 6 to 8% in the second half of the year. The consumption in the second half of the year rises due to increased agricultural consumption in rabi season. Of all the three companies Madhya Kshetra recorded the highest overall losses in the years under comparison. Losses in Poorv Kshetra are high even with favorable HT/LT ratio. HT/LT sale ratio in FY04 was 0.91, 0.53 and 0.41 for Poorv, Madhya and Paschim Kshetra respectively.

3.83 The Commission is seized of high distribution losses. In order to sensitize MPSEB to areas with high distribution losses and formulate appropriate action, the Commission asked for monthly distribution losses circle, district head quarter and division wise. In the report received, the cumulative distribution losses for the period April to September 2004 (six monthly average) for circles, division and for district head quarters have been computed. The circle distribution losses as reported by MPSEB are given in the table below.

Table 43: Circle wise cumulative distribution losses for the period from Apr-04 to Sept-04

Circles having losses more than 50%	% Loss	Circles having losses between 40% to 50%	% Loss	Circles having losses Between 30% to 40%	% Loss	Circles having losses below 30%	% Loss
TIKAMGARH	60.87	SHIVPURI	48.72	CHHATARPUR	39.72	BHOPAL O&M	28.77
RAJGARH	51.22	NARSINGHPUR	48.03	SHAJAPUR	38.70	NEEMUCH	26.80
MORENA	50.61	GWALIOR O&M	47.18	SEHORE	38.12	INDORE O&M	26.73
REWA	50.02	GUNA	45.97	BADWANI	37.78	KHANDWA	23.10
		MANDLA	45.84	DHAR	37.64	SHAHDOL	22.45
		DAMOH	45.83	INDORE CC	37.06	JHABUA	21.21
		VIDISHA	45.53	HOSHANGABAD	36.43	CHHINDWARA	20.49
		GWALIOR CC	45.27	SEONI	35.53	SIDHI	18.38
		BHOPAL CC	44.48	KATNI	34.76		
		SATNA	43.56	MANDSAUR	33.74		
		JABALPUR O&M	42.35	JABALPUR CC	33.06		
		SAGAR	41.96	BETUL	33.01		
				KHARGONE	32.99		

Circles having losses more than 50%	% Loss	Circles having losses between 40% to 50%	% Loss	Circles having losses Between 30% to 40%	% Loss	Circles having losses below 30%	% Loss
				RATLAM	32.95		
				DEWAS	32.60		
				UJJAIN	31.63		

3.84 The Commission had also asked the Licensee to furnish sub-division wise distribution losses. The Licensee informed the Commission that they do not have systems and procedures to work out losses sub-division wise, however it would be possible for them to compute feeder wise losses after the implementation of RMS system which will facilitate in classifying the consumers according to the feeder. The Licensee had informed the Commission that RMS in 22 divisions of the regional headquarters is expected to be in place by July 2004 and for the remaining 112 divisions it would be operational by March 2005. The feeder wise losses thus for 22 divisions would be available from July 2004 onwards. However as per the latest information available the Licensee's progress has been slower than the plan submitted in this regard.

3.85 The Commission has analysed discom-wise theft detection in FY04 to assess the Licensee's progress on detecting and reducing thefts as the Commission believes that a strong and focussed drive to reduce commercial losses is a precursor to reducing the high incidence of distribution losses across the state. Discom-wise theft detection is shown in the table below.

Table 44: Theft Detection Discom wise

Details	FY03				FY04			
	Poorv	Madhya	Paschim	Total	Poorv	Madhya	Paschim	Total
No. of installations checked	27,063	23,728	22,240	73,031	28,427	22,298	30,491	81,216
Irregularities detected (No.)	18,800	18,338	12,252	49,390	19,855	16,425	15,514	51,794
Amount billed (Rs. Lakhs)	1,121	1,477	819	3,417	1437	802	979	3,218
Amount Realized (Rs. Lakhs)	668	1,005	544	2,217	958	356	799	2,113
Theft cases (No.)	3,323	13,431	5,794	22,548	11,139	4,094	9,059	24,292
FIR Lodged (No.)	54	220	72	346	155	68	2	225
Challan put up (No.)	0	227	56	283	0	0	0	0

Punishments (No.)	0	8	1	9	0	0	0	0
% Detection of irregularities	69%	77%	55%	68%	70%	74%	51%	64%
% realization	60%	68%	66%	65%	67%	44%	82%	66%

3.86 The Commission is disappointed to note that out of more than 24 thousand cases of theft detected, FIRs were lodged in a mere 225 cases and challans were not put up for even a single case. With such performance, the Licensee shall never be able to deter people with mal-intentions from stealing electricity. The Commission expects greater support from the concerned departments of the State Govt for enabling the Licensee to come down upon those who illegally abstract electricity with full force.

Metering

3.87 The first step in controlling the energy losses is to accurately measure the consumption of consumers connected to network. The extent to which MPSEB has succeeded in this can be deduced from the table below:

Table 45: Unmetered sale as a percentage of total sale **(%)**

Particulars	FY02	FY03	FY04
Unmetered Sale	25.63	32.05	32.85

3.88 The Unmetered sale as a percentage of total sales is rising but the percentage of unmetered consumers for the years under consideration have decreased. The claim of MPSEB of having reduced the losses in FY04 is to be viewed in the context of increase unmetered sales, which can easily mask the actual losses. Discom wise position of unmetered consumers by the end of FY04 is given in the table below:

Table 46: Unmetered consumers

Sl. No.	Details	FY03		FY04	
		Nos.	**%**	**Nos.**	**%**
1.	Paschim Kshetra	8,77,160	41.2	4,24,238	29.0
2.	Poorv Kshetra	7,45,525	35.0	6,22,438	42.5
3.	Madhya Kshetra	5,05,750	23.8	4,17,924	28.5
	Total unmetered consumers	21,28,435		14,64,600	
	Total number of consumers	63,95,646		64,42,961	
	% of unmetered consumers		**33.2**		**22.7**

Source: MIS Report of MPSEB

3.89 It needs to be investigated by the Licensee and the distribution companies as to why the percentage of total sales to unmetered consumers is going up when the number of unmetered consumers has come down by 31%. The possibility of any manipulation in the sale figures must be ruled out by a thorough check.

3.90 At the end of FY04 Poorv Kshetra had the highest percentage of unmetered consumers of the total unmetered consumers in the state. Section 55(1) of the Electricity Act 2003 stipulates for cent percent meterization of all category of consumers by 10th June 2005. The Commission is concerned over lack of thrust on meterization programme. The Commission has constituted a task force to monitor the pace of meterization and mobilization of resources to accomplish this task. The Section 55(1) of Electricity Act, 2003 states "No licensee shall supply electricity, after the expiry of two years from the appointed date, except through installation of a correct meter in accordance with the regulations to be made in this behalf by the Authority". This implies that 100% meterization should be done before 10.6.2005. The plan submitted by the Licensee goes beyond the time limit stipulated in the Act. The Commission, therefore, has not accepted the above plan. The Licensee and the three Distribution Companies have been directed to review the plan submitted so that 100% meterization is achieved before 10.6.2005.

3.91 To determine losses accurately all consumers must be metered. Providing meters to all the 17.67 lakh unmetered consumers is a Herculean task. Determination of losses, however, cannot inordinately wait for installation of meters. The solution would be to meter the energy inflow at all the distribution transformers. This will help in energy auditing, locating areas of high energy losses and establishing consumption pattern of unmetered consumers.

3.92 The Commission, realizing the importance of DTR metering, registered a suo-motu petition 96 of 2003 in this regard. As per the reports submitted by MPSEB by the end of September 2003 there were 1,64,658 distribution transformers of which 1,08,136 were catering to agricultural load. There are 58,684 DTRs of 100 KVA & above capacity of which 39,746 DTRs cater to rural load. The Commission had directed MPSEB that in the first phase all 39746 DTRs that supply power to rural load should be metered and by the end of January 2004 atleast one 100 kVA DTR per distribution centers should be metered.

3.93 As per the directives of the Commission 1,064 DTRs should have been metered but MPSEB could install only 791 meters. The Licensee is yet to submit any analysis of the consumption recorded by these meager number of DTR meters. In the absence of any meaningful analysis the objective of the exercise is lost. The performance of the Licensee on this count is unsatisfactory.

3.94 In order to capture actual consumption it is essential not only to install meters in unmetered consumer categories but also to replace defective meters. The Commission in its previous tariff order had directed MPSEB to submit comprehensive plan for replacement of stopped/defective LT meters to reduce the total percentage of defective meters to 3% and 1.5% in rural areas and cities respectively by March 2003. No such plan was submitted by MPSEB. The Board did not achieve the target set by the Commission for FY03. In FY04 the percentage of defective meter reduced but regions like Sagar (4.21%), Bhopal (4.48%) and Gwalior (6.77%) still have high percentage of defective meters. During the analysis it was noted that percentage of defective/stopped meters reported in the MIS formats of the Commission and R-15 of the Board do not tally. The figure reported in R-15 formats is higher than that of MIS format and as such the reliability of these figures cannot be established. The Board is directed to reconcile the two figures and report correct figures to the Commission. Pashchim Kshetra had lowest percentage of stopped/defective meters as reported in the MIS report submitted before the Commission.

Table 47: % of Stopped / Defective Meters

Sl. No.	Details	FY04			
		1st Q	2nd Q	3rd Q	4th Q
1.	**Poorv Kshetra**				
	Jabalpur	1.1	1.08	1.45	0.97
	Rewa	1.65	1.26	0.98	1.57
	Sagar	4.87	4.49	4.56	4.21
	Total	**2.15**	**1.86**	**2.00**	**1.85**
2.	**Madhya Kshetra**				
	Bhopal	4.08	4.55	4.98	4.48
	Gwalior	8.06	7.03	6.99	6.77
	Total	**5.85**	**5.63**	**5.85**	**5.45**
3.	**Pashchim Kshetra**				
	Ujjain	2.54	2.07	2.01	1.36
	Indore	1.62	1.73	1.60	1.55
	Total	**1.97**	**1.87**	**1.76**	**1.47**
	Total MPSEB	**3.07**	**2.84**	**2.86**	**2.62**

Source: MIS Report

Collection Efficiency

3.95 MPSEB should not only strive to reduce its energy losses by increasing its billed energy but should also reduce cash losses by increasing collection for energy billed. Collection efficiency is showing a downward trend. Region wise collection efficiency in FY03 and FY 04 is shown in the table below

Table 48: Collection efficiency (%)

Details	FY03	FY04
Indore Region	85.40	87.61
Ujjain Region	77.64	68.64
Jabalpur Region	98.26	96.76
Rewa Region	93.52	90.00
Sagar Region	82.00	75.14
Bhopal Region	88.96	85.49
Gwalior Region	79.05	73.04
Total	**91.2**	**86.70**

3.96 Jabalpur, Rewa and Sagar regions of Poorv Kshetra recorded the highest collection efficiency amongst all the Discoms. This could be related to the highest HT: LT sales as collection from HT consumers are usually higher. Lower collection efficiency means that there is greater working capital requirement, which leads to increase interest cost.

3.97 In order to assess reasons for decline in collection efficiency, consumer category wise collection efficiency without subsidy is being given in the table below:

Table 49: Collection efficiency consumer category wise (%)

Sl. No.	Category	FY03	FY04
	LT		
1.	Domestic	76.6	76.6
2.	SLP	91.8	98.0
3.	Non-Domestic	95.6	94.4
4.	Water Works	86.0	90.6
5.	LT Industries	95.0	94.7
6.	Agriculture	34.2	27.5
7.	Street Light	88.3	87.4
	Total	**80.1**	**77.9**
	HT		
8.	Railway Tractions	98.6	98.0
9.	Coal Mines	100.0	100.0
10.	Cements	94.4	87.1
11.	Mini Steel	117.1	99.4

Sl. No.	Category	FY03	FY04
12.	Water Works	342.3	116.8
13.	Irrigation	21.8	0.0
14.	Other HT Consumers	93.4	98.1
15.	RE Societies	0.0	9.8
16.	Border Village	13.9	2.8
	Total	**101.4**	**95.6**
	Total MPSEB	**91.2**	**86.7**

** A collection efficiency figure higher than 100% indicates collection of past arrears*

3.98 The collection efficiency in FY04 has decreased over FY03 level. In LT all the consumer categories except for SLP and Water Works registered a decline. Collections from Agricultural consumers were extremely low. HT category also had lower collections in FY04 as compared to collections in FY03.

3.99 MPSEB should effectively peruse its non-paying consumers to pay their bills. From the MIS report submitted before the Commission maximum percentage of defaulters has been observed in the domestic and non-domestic consumer categories. The percentage of non-paying consumers has been highlighted in the table below for some D/c.

Table 50: % of consumers not paying their bills

Sl. No.	Details	FY02	FY03	FY04 (Estimated)
1.	Mandla D/c: Jabalpur Region U-I	15	15	15
2.	Marhotal D/c: Jabalpur Region U-II	40	40	40
3.	Tikamgarh D/c: Sagar Region	17	15	13
4.	Rewa D/c: Rewa Region	20	28	22
6.	Entkhedi D/c: Bhopal Region	49	40	25
7.	Sakhiyavilas D/c: Gwalior Region	70	65	55
8.	Mangalia D/c: Indore Region	20	20	30
9.	Ujjain Rural D/c: Ujjain Region	45	45	35

3.100 MPSEB should disconnect all non-paying consumers however this is not happening. The disconnection percentage is as low as 13% in Tikamgarh D/c as per the information submitted in the ARR filed in December 03. This encourages other consumers as well to default on their payments to MPSEB. The Secretary MPSEB in one of the hearing informed the Commission that disconnection in case of agricultural consumers is ineffective as these consumers continue to receive supply. This may be true for other consumer categories as well. The Board should monitor such consumers even after their supplies have been snapped and strict action should be taken if they make any arrangement thereafter to receive supply. The data submitted by the Board on disconnection carried out by it reveal that only 5% of the defaulting HT consumers were disconnected. The disconnection percentage for LT consumers ranges from 19% to 25% for all the regions.

Table 51: % of non-paying LT consumers whose connections were snapped in FY04

Sl. No.	Region	% of defaulters	% of disconnections of defaulters
1.	Bhopal	62.02	47.84
2.	Rewa	26.99	21.28
3.	Sagar	30.49	23.49
4.	Jabalpur	46.0	56
5.	Indore	17.19	113.92

Source: MIS Report

Age wise Analysis of Debtors

3.101 MPSEB was not able to realize all its current dues, the arrears therefore have risen to 212 days of average billing by the end of FY04. Almost all the categories have shown a rise in arrears. Domestic, Agriculture, Mini- Steel plant, HT Water Works, RE-Societies and Border Villages are the consumer categories, which have arrears in days exceeding the average arrear in days.

Table 52: Arrears at the end of the financial year **Days**

Sl. No.	Details	FY02	FY03	FY04 (E)
1.	Arrears in days	154 days	177 days	213 days
2.	% of arrears in litigation	22.1	21.8	17.9

3.102 Due to declining trend in collection efficiency in recent years, arrears of less then 6 months duration are building up, which is indicative of the decision of the State Government to waive the agricultural dues up to 31st December, 2003. MPSEB should make a concerted effort to realize its receivables because as the arrear grow older the possibility of realizing it diminishes, as there is an incentive for the consumer to leave the system.

Table 53: Agewise analysis of arrears **(% of total arrears)**

Sl. No.	Details	FY02	FY03	FY04 (E)
1.	Upto 6 Months	22.4	26.9	30.6
2.	6-12 Months	13.7	16.0	17.7
3.	12-24 Months	12.8	14.1	13.3
4.	24-36 Months	12.8	11.0	10.4
5.	More then 3 years	38.3	32.0	28.0

AT&C Losses

3.103 This efficiency parameter is computed by considering energy losses and collection efficiency together. The cash collected is converted into energy realized. The difference between energy purchased and energy realized denote AT&C losses. There has been an increase in these losses in FY04 due to significant fall in collection efficiency. In FY04 amongst companies Madhya Kshetra had highest AT&C losses.

Table 54: Region wise AT&C losses **(%)**

Sl. No.	Region	FY03	FY04
1.	Indore Region	46	43
2.	Ujjain Region	53	59
3.	Jabalpur Region	35	41
4.	Rewa Region	28	35
5.	Sagar Region	52	55
6.	Bhopal Region	48	51
7.	Gwalior Region	60	65

Failure rate of Power Transformers

3.104 The Commission is concerned about the high transformer failure rate. It not only leads to higher R&M cost but also results in poor quality and reliability of supply. Region wise power and distribution failure rate is given in the tables below.

Table 55: Power Transformer failure Rate **(%)**

Sl. No.	Details	FY01	FY02	FY03	FY04 (upto 31st Dec. 2003)
1.	**Paschim Kshetra**	**2.42**	**3.57**	**4.38**	**3.49**
	Indore	2.11	3.37	4.62	3.39

Sl. No.	Details	FY01	FY02	FY03	FY04 (upto 31st Dec. 2003)
	Ujjain	2.74	3.78	4.16	3.59
2.	**Poorv Kshetra**	**2.45**	**1.76**	**2.69**	**1.40**
	Jabalpur	1.88	1.80	1.73	1.73
	Sagar	1.13	1.62	4.74	0.51
	Rewa	5.13	1.84	2.35	1.75
3.	**Madhya Kshetra**	**4.98**	**5.3**	**5.07**	**2.78**
	Bhopal	3.37	3.63	3.52	2.90
	Gwalior	7.23	7.72	7.27	2.62
	Total	**3.25**	**3.63**	**4.13**	**2.70**

3.105 The Power transformer failure rate in FY03 for MPSEB registered an increase over FY02. Madhya and Paschim Kshetra registered higher than the average MPSEB's failure rate. Amongst all the regions in FY03 Gwalior recorded the highest failure rate. This needs investigation so that responsibility for such failures can be fixed.

(%)

Table 56: Distribution transformer failure Rate

Sl. No.	Details	FY01	FY02	FY03	FY04
1.	**Paschim Kshetra**	**12.51**	**14.96**	**17.82**	**23.02**
	Indore	11.11	12.58	17.30	20.68
	Ujjain	14.0	17.37	18.35	25.55
2.	**Poorv Kshetra**	**14.08**	**17.24**	**19.70**	**20.80**
	Jabalpur	13.59	16.51	19.65	19.45
	Sagar	13.56	15.96	18.89	22.28
	Rewa	14.08	17.24	19.70	22.07
3.	**Madhya Kshetra**	**17.91**	**23.04**	**16.31**	**28.42**
	Bhopal	15.14	20.18	15.28	27.86
	Gwalior	21.21	26.31	17.50	29.10
	Total	**14.65**	**18.16**	**17.86**	**24.14**

3.106 All the Distribution Companies in FY04 registered an increase in failure rate over FY03 with Madhya Kshetra Company registering the highest increase of 12% over previous year. On an analysis of the transformer failure in Bhopal region of Madhya

Kshetra Company it was observed that 82.6% of the transformers supplied by one of the manufactures failed within a period of 5 years. Similarly for other manufacturer this figure was 75%. In case of repaired transformer it was observed that 38.4% of transformers repaired by one of the firms failed within six months. It can be easily construed from such observations that MPSEB has failed in its primary responsibility of ensuring that it gets good quality new and repaired transformers.

Table 57: Electrical Accidents

FY02				FY03				FY04			
Fatal		Non-Fatal	Total	Fatal		Non-Fatal	Total	Fatal		Non-Fatal	Total
Humans	Animals	Humans		Humans	Animals	Humans		Humans	Animals	Humans	
340	312	221	873	330	242	194	766	561	N.A.	465	N.A.

3.107 In FY04 more human lives were lost than in FY03 and FY02. The MPSEB is advised to prevent loss of human and animal lives and reduce the level further. These can be substantially reduced by having regular maintenance of the all the electrical installations like snapping of wires etc and training of staff for observing safety rules. Also wide publicity should be given to educate general public to observe safety rules and take appropriate precautions to prevent such accidents from occurring.

Consumer Service related complaints

3.108 The Commission had asked for information on percentage of bills disputed by the consumers, average time taken for reconnection after payment of due charges, average time taken to prepare supplementary bills and the time taken to release new connection. The information provided is from a very small sample size and has been subjectively assessed by the Divisions concerned. MPSEB is advised to take larger number of representative samples of the divisions from each company and in representative division chosen atleast 5 to 10% of the total consumer serviced be In FY03 the Commission received 195 consumer complaints while in FY04, 174 consumer complaints were received regarding consumer service provided by MPSEB. The break up of the nature of complaints received by the Commission is as given in the table below.

Table 58: Nature of Complaints received by the Commission

Sl. No.	Nature	FY03	FY04
1.	Supply disruption	22	11
2.	Voltage related	10	13
3.	Load shedding related	65	21
4.	Meter related	6	10
5.	Electricity Bill related	41	54

Sl. No.	Nature	FY03	FY04
6.	Disconnection related	7	4
7.	New Connection related	11	14
8.	Employee problem	4	16
9.	Irregularity by employees	11	9
10	Corruption	14	13
11.	Tariff	1	3
12.	Shifting of distribution lines	2	3
13.	Load reduction	1	2
	Total	**195**	**174**

CHAPTER 4

A4: REVIEW OF MPSEB'S FINANCIAL PERFORMANCE

Background

4.1 The Licensee did not get the ARR for FY04 approved from the Commission and has thus committed a breach of the regulations. The estimates of revenues and expenses presented herein are based on the provisional accounts for FY03 and tentative accounts of the Licensee for FY04. In the absence of audited accounts for FY03 and FY04, the Commission has not looked at these and has confined itself to the consideration of issues relating to revenue requirement for FY05.The Commission has desisted from determining the controllable and non-controllable expenses for FY03 and FY04 in this order and has not taken any decision on the request for creation of regulatory asset. However, the same may be determined and awarded by the Commission at a later date, as and when the audited accounts are made available by the Licensee or its successor entities and the reason for not obtaining prior approval of the Commission for ARR are explained to the satisfaction of the Commission.

Consumer Category-wise Sales

4.2 The sales to different categories of consumers (except sale to agricultural/SLP connections, which are estimated figures) during FY03 and FY04 are based on the actual energy sold by the Licensee. The aggregate sales by MPSEB in FY03 are 15138 MUs and 15,996 MUs in FY04, which are 9.15% and 5.67 % higher than the sales in FY02 and FY03 respectively.

Agriculture Consumption

4.3 For agriculture consumers, sales have been estimated at 5342 MUs in FY04 for an aggregate 11,17,264 consumers with a connected load of 32,35,012 KW. This consumption implies a load factor of 18.85%, which is higher than the load factor of 16.25% assessed by the Licensee in FY03 on an estimated sale of 4825 MUs for 12,02,083 consumers with a connected load of 34,96,866 KW.

Single Light Point

4.4 For SLP consumers, the consumption assessment is based on supply of 25units/month/consumer. For FY04, the consumption assessed by the Licensee for a total of 8, 18,456 consumers is 242.96 Mus or 24.74 units per consumer per month. In FY03, the sale to 7,10,833 consumers has been estimated at 177.14 MUs with an average consumption of 20.75 units/month/consumer.

Total LT Consumption

4.5 All other LT categories, which are metered, the Licensee has submitted that the sales figures are based on the actual energy consumption recorded for FY04. Based on this and the assessments for unmetered consumption as described above, the total LT sales of the Licensee for FY04 are 10,282 MU which is 6.4% higher than the sales to LT category for FY03.

Total HT Consumption

4.6 For HT categories, the Licensee has reported provisional sales of 5,714.39 MU for FY04. This includes EHT industries, Railway Traction, HT Industrial and RE Societies and the sales to HT category is higher than the corresponding sales in FY03 by 4.3%

Table 59: MPSEB Sales to consumers **(MUs)**

Category		FY03 Tariff Order	FY03 Actual	FY04 Actual
L T CONSUMERS	Domestic	3,769	3,062	3,068
	Single Light Point	132	177	243
	Non-domestic	617	652	688
	Water Works	194	154	163
	Industrial	723	670	651
	Agricultural	4,773	4,825	5,342
	Street Lights	154	121	127
	TOTAL (LT)	10,362	9,661	10,282
H T CONSUMERS	Railway Traction	1,225	1256	1,267
	Coal Mines	524	511	542
	Mini Steel Plants	98	124	148
	Cement Factories	554	543	524
	HT Irrigation	11	9	5
	HT Water Works	299	281	300
	Other HT consumers	2,386	2323	2,487
	RE Co. Society	183	429	440
	Border Villages	17	3	3
	TOTAL (HT)	5,296	5478	5,714
TOTAL LT + HT		15,659	15,138	15,996

Own Generation

4.7 The actual net thermal generation of MPSEB's stations corresponding to MP share was 13,168 MUs, in FY04 which was better than the targets of MPSEB by about 402 MU. MPSEB had provided these estimates of generation and other efficiency parameters in its petition for determination of Annual Revenue Requirement for FY04 submitted in December 03. According to the Licensee, except ATPS Chachai and SGTPS Birsinghpur PH-1, all the stations have generated more than the target. The Licensee has claimed that this has also resulted in additional cost to the Licensee towards fuel.

4.8 Auxiliary Consumption during FY04 was at the level of 9.86% against target of 9.75%. The following Table summarises the actual own generation against what was achieved in FY03.

Table 60: Performance of Thermal Stations

Particulars	FY03 Actual			FY04 Actual		
	Generation (MUs)	PUF %	Aux Cons. %	Generation (MUs)	PUF %	Aux Cons. %
ATPS Chachai PH 1	199	51.8	12.38	184	41.93	14.48
ATPS Chachai PH 2	1091	57.8	10.24	986	46.78	11.53
ATPS Chachai	**1443**	**56.8**	**10.6**	**1170**	**45.94**	**11.99**
STPS Sarni PH 1	1198	80.3	9.15	2117	77.11	9.34
STPS Sarni PH 2	2475	75.5	8.74	2696	74.86	9.01
STPS Sarni PH 3	2724	81.0	8.57	2906	78.78	8.98
STPS Sarni	**7889**	**78.8**	**8.8**	**7719**	**76.92**	**9.09**
SGTPS Birsinghpur PH 1	2051	62.6	10.96	2315	62.74	11.43
SGTPS Birsinghpur PH 2	2628	79.5	10.15	2811	76.19	9.80
SGTPS Birsinghpur	**5228**	**71**	**10.5**	**5126**	**69.47**	**10.54**
Total	**14,560**	**73.1**	**9.6**	**14,015**	**70.21**	**9.86**

4.9 The Hydel generation in FY04 has also improved due to better monsoons and the net generation is higher by 897 MUs than the corresponding generation in FY03.

Table 61 Total Hydel Generation **(Total MUs)**

Particulars	FY03 Actual	FY04 Actual
Chambal Complex.*	33	288
Pench*	226	309
Bansagar Complex	967	1316
Birsinghpur	25	63

Particulars	FY03 Actual	FY04 Actual
Bargi	453	586
Rajghat*	34	71
Matatila*	32	31
Total	**1770**	**2664**
Aux. Consumption.	9	6
Net Hydel Gen.	**1761**	**2658**

* These stations are shared stations with Rajasthan/ UP as per agreements made between two states and the cost as well as generation is shared for which details are to be ascertained.

Annual Maintenance

4.10 For FY04, the Licensee has submitted that the maintenance activities planned for improvement of operational performance could not be taken up due to liquidity crunch and the pressing power demand in the State. Due to this, the Licensee could not achieve planned target of Heat Rate, Auxiliary consumption and specific oil consumption than in the past. It must be noted that the Commission had allowed a liberal sum in the ARR for FY03 but the Licensee failed to make use of this sum.

Power Purchase

4.11 As mentioned earlier, the Licensee did not obtain approval of the Commission for its ARR for FY04 and thus no approval was available for the quantum of power to be purchased from sources other than own generation. In this situation it is not possible to comment whether the Licensee exceeded or fell short of the power purchase authorization. The actual power purchase by the Licensee in FY04 has been 14,035 MU. This is 1,033 MUs more than the purchases in FY03. The Licensee has claimed that effect of increase in power purchase quantum has also reflected in increased sales to consumers and increased revenue from sale of power as compared to the previous year

Table 62: Summary of Power Purchased through various sources **(MUs)**

Particulars of Power Purchase			FY03 Tariff Order	FY03 Actual	FY04 Actual
1	CGS- Western Region	KTPS	3972	2918	2672
2		VSTPS – I	2276	2491	2572
3		VSTPS – II	1581	1963	1881
4		KGPS	1309	1063	1068
5		GGPS	1270	742	673
6		**Total**	**10408**	**9177**	**8866**
7	Inter Regional Power Purchase	Eastern Region	1894	2041	2205
8		Southern Region	27	9	0
9		Northern Region	181	215	221
10		**Total**	**2102**	**2264**	**2426**
11	**Bilateral Power Purchase**		**676**	**832**	**636**

Particulars of Power Purchase			FY03 Tariff Order	FY03 Actual	FY04 Actual
12	Other Sources	Wind / Captive	12	12	12
13		NHDC			193
14		PTC/TPC etc.		522	1722
15		UI		195	180
16		**Total**	**12**	**729**	**2107**
17	**Total Power Purchased**		**13197**	**13002**	**14035**

T & D Losses & Energy Balance

4.12 The total energy supplied to the grid has been 28,558.68 MU during FY04 of which 15,996 MU have been sold to various consumer categories. Thus, the Licensee has claimed that the actual losses in FY04 have been 43.99% as against 44.20% for a sale of 15138 MU in FY03 with an input of 27131 MUs. After excluding the external transmission losses on energy purchases outside the state, these losses are 42.59% in FY04. However, for the purpose of revenue determination the energy losses of 43.99% have been considered by the Licensee. The table below shows the voltage wise energy input and output and the losses at each voltage level.

Table 63 : T& D Losses and Energy Balance FY04

Particulars		Energy In	Sale In MU	Loss MU	Loss % w.r.t		Energy Out
					Input	Output	
1	Input to System	28559	2373	2320	8.12%	8.12%	23865
2	33 KV	23865	2875	1764	7.39%	6.18%	19226
3	11 KV	19226	479	1346	7.00%	4.71%	17400
4	LT	17400	10268	7132	40.98%	24.97%	0
5	Total	28559	15996	12563	43.99%	43.99%	0

Revenue from Charges

4.13 The Commission does not consider it necessary to examine at this stage the details of revenue or expenses for FY04, as it is not proposed that ex-post facto approval be accorded without looking at the audited accounts for FY03 and FY04. As has been stated earlier, this issue will be examined as and when the Licensee makes available the audited accounts and gives justification for committing a breach of the regulations for timely filing of the ARR and getting tariff rates approved by the Commission. The Commission may, at that stage, determine if the revenue actually earned by MPSEB during FY04 was sufficient to cover the expenses as may be approved on the basis of performance parameters and in the event of any shortfall in revenue may allow the gap to be treated as a regulatory asset or alternatively as a regulatory surplus if it is found that the utility had collected more revenue than was reasonable. The Commission strongly advises the utility to file the audited accounts for FY03 and FY04 before 31st March 2005 for FY03 and before 30th June, 2005 for FY04, failing which the Commission may consider initiating suo motu determination of ARR for FY04.

4.14 The revenue from sale of power to various categories of consumers is Rs.4845.80 Crores in FY04. This represented an increase of about 15% over the actual revenues in FY03 as shown below. The Licensee has submitted that this additional income is on account of increase in sales by about 858 MUs and also on account of the favourable change in consumption mix over the previous year.

(Rs. Crores)

Table 64: Revenue from Sale of Power

Categories	FY03 Tariff Order	FY03 Actual	FY04 Actual
L T CONSUMERS			
Domestic		714.00	889.10
Single Light Point		49.10	94.29
Non Domestic		366.35	424.83
LT Water Works		42.99	53.07
Industrial		300.36	340.30
Agricultural		416.55	531.21
Street Lights		34.27	39.59
Total LT		**1923.62**	**2,372**
H T CONSUMERS			
Railway Traction		604.02	599.32
Coal Mines		241.21	275.66
Mini Steel Plants		44.20	57.11
Cement Factories		242.52	257.44
Irrigation		6.43	5.41
Water works		78.32	84.30
Electro-Chemical/Thermal			6.18
Ferro Alloys (33kv)			12.21
General Purposes			239.83
Two Part Tariff		1059.03	830.97
Seasonal/Slab Tariff			25.16
RE Societies			79.16
Border Villages		0.69	0.66
Total HT		**2276.42**	**2,473**
LT+ HT Total	**4798.19 #**	**4200.04**	**4,845.80**

The revenue projections are based on revised tariffs applicable for the entire year 2002-03. The full impact of rise in tariff allowed by the Commission in its order of 30th November 2002 was thus visible

in FY04 and presumably this buoyancy in revenue prompted MPSEB to drag its feet in filing the Tariff Application for FY04 at the time it became due.

Other Income

4.15 This includes income from investments and other non-tariff income like miscellaneous charges from consumers, meter rents, delayed payment charges. The Licensee has received an incentive payment of Rs 211.7 crores on account of securitization of CPSU dues in FY04.

Table 65: Non Tariff Income **(Rs. Crores)**

Particulars	FY03 Tariff Order	FY03 Actual	FY04 Actual
Interest on Fixed Deposits /		11.42	10.85
Interest from Banks		2.43	1.74
Interest from Advances to Staff		2.24	1.87
Income from Trading		15.40	17.30
Delayed Payment Charges		274.16	365.40
Meter Rent *		56.60	27.76
Incentive due to Securitization of CPSU Dues		0.00	211.70
Misc. charges from consumers		136.59	145.10
Total	**303.9**	**498.83**	**781.73**

* The Schedule of Miscellaneous Charges is annexed at **Annexure - IV**

CHAPTER 5

A5: MPSEB'S COMPLIANCE TO COMMISSION'S DIRECTIVES

5.1 The Commission in its earlier Tariff Order had given several important directives to the licensee on improvements in operational and financial efficiency and customer service. The status of compliance of certain important directives given in the Commission's Tariff Order dated 30 November 2002 is discussed as below.

5.2 **Directive 2.5.6.2.iii / 8.2.3:** ***Specific Oil Consumption:*** The Licensee is directed to investigate into the causes of abnormally high specific oil consumption for smaller units no. 1 and 2 of Amarkantak Thermal Power Station for the year 2001-02. Remedial steps taken by the Licensee to be informed.

5.3 **Licensee's Compliance:** The high specific oil consumption was due to more forced outages (24.6 % in FY02) and partial losses (18.8% in FY02). Regarding remedial measures, the Board has submitted that these have been taken and forced outages have been reduced to 17% in FY03 and to 16.8 % in FY04. Partial losses have been at 23.9% in FY03 and 27.6% in FY04.

5.4 **Commission's Observation :** The specific oil consumption for Ph I units of Amarkantak remain high and the same is reported at 12.1ml/Kwh in FY03 and 27.7 ml/Kwh in FY04. The Board must make concerted efforts to reduce specific oil consumption. Further, the Commission would be willing to consider the investment requirements for Renovation and Modernisation in future revenue requirements of the generating company

5.5 **Directive 3.10 / 8.2.6:** ***Action to reduce transit and stacking losses:*** The Commission has directed the Licensee to make available the data for the whole year for coal dispatch and coal receipt regularly.

5.6 **Licensee's Compliance:** Motion Railway Weigh Bridges are being commissioned. For reduction in transit losses, liaisoning contract for STPS, Sarni has been awarded.

5.7 **Directive 3.12 / 8.2.8:** ***Procurement of power from any source:*** The Commission directed the Licensee to seek approval of the Commission before making an agreement.

5.8 **Licensee's Compliance:** The approval is being obtained.

5.9 **Commission's Observation:** The Board has been seeking post facto approval for short term power purchases. The Commission shall not consider the cost of power purchases in excess of what is allowed by the Commission in its Tariff Order for FY05.

5.10 **Directive 3.14.3 / 8.2.9:** ***Replacement of defective LT meters:*** The Licensee is directed to submit the comprehensive plan for replacement of LT Stopped / Defective Meters to bring the total percentage down to 3% and for cities to 1.5% by March 2003.

5.11 **Licensee's Compliance:** The Licensee has submitted the figures for Region wise stopped/defective meters. However the break up for rural and urban areas is not given.

5.12 **Commission's Obseration:** The Commission notes that for East and West Discom, the percentage of stopped and defective meters is 1.85% and 1.47% respectively. However for Central Discom, these figures continue to remain high and are at 5.45%**.** For non-compliance of the directions to replace meters in a time bound manner, the Commission shall enforce token penalty by way of disallowing a percentage of T&D losses.

5.13 **Directive 3.15.4 / 8.2.11:** ***Monitoring of consumption by HT Industries:*** The Licensee is directed to monitor the consumption of all HT consumers by installation of check meters for at least three months in a year and submit the findings quarterly to the Commission.

5.14 **Licensee's Compliance:** The MRI reports of HT consumers were submitted by all Discoms in which no aberrations have been reported.

5.15 **Commission's Observation**: The survey reports downloaded through MRI have not been a 100% foolproof tool to check any possible misuse of energy by Consumers. The Commission has directed the Board and Discoms to install the facility of Remote Metering atleast on all HT consumers for foolproof surveillance

5.16 **Directive 3.20 / 8.2.14:** ***Collection efficiency:*** The Licensee is directed to report every quarter the names of Circles where the collection efficiency is below 90%. The Commission has fixed the target for collection efficiency to be 96% during 2002-03 for current demand. The Licensee is also directed to collect at least 15% out of arrears as at the start of 2002-03.

5.17 **Licensee's Compliance:** The Licensee has submitted that the collection efficiency is varying from 79 % to 85 % during the year 2003-04. The Licensee has however not submitted the list of circles where collection efficiency is below 90 %. The Licensee could not meet out target fixed by the Commission.

5.18 **Commission's Observation:** The Commission does not find the Licensee's compliance to be satisfactory. The difference between target and achievement is generally met from increased working capital borrowings. The interest on such amount shall be disallowed

5.19 **Directive 6.8.1.1 / 8.2.17:** ***Performance of energy generation units:*** The Licensee is directed to file a report every six months by 30th April and 31st October every year on action taken on the following points:

(a) Implementation of scheduled annual overhauling / maintenance programme as per norms stipulated by the manufactures.

(b) Efforts taken towards refurbishment / renovation / modernization work of various units to improve there working life and performance.

(c) Availability of adequate funds to meet the regular maintenance needs of the generating units

(d) Training and refresher courses to the concerned employees from time to time on the operation and maintenance of various units.

(e) Matter to be taken up with Coal India Ltd. and Government of India towards supply of adequate quantity and of desired value of coal.

(f) Time bound programme for Energy audit of power station.

(g) Incentive Scheme for achieving highest possible generation and punitive measures in the event the actual performance is lower than the desired minimum.

5.20 **Licensee's Compliance:** The Licensee has undertaken the following activities:

(a) Annual overhauling of generating units is not being carried out as per norms stipulated by the manufacturer due to power shortage.

(b) Adequate funds are not available.

(c) Training and refresher courses are arranged from time to time.

(d) Matter regarding adequate supply of coal was taken up at State/Central Govt. level. By such efforts, coal linkage quantity of power stations has been increased.

(e) The energy audit of ATPS, Chachai through M/s ERADA is under process.

(f) Incentive schemes are in existence in respect of PLF and reduction in specific oil consumption. However, due to financial crunch, incentives are not being paid to employees regularly. No system of punitive measures is in practice.

5.21 **Commission's Observation:** The Commission does not find the Board's compliance to this directive to be adequate and satisfactory. The Commission has been approving the Revenue Requirement of MPSEB which include adequate provisions for Repairs and Maintenance of the generating stations and for employee cost. The reasons that there have been inadequate funds are entirely on account of poor financial management of the Board. Efforts on other tasks need to be expedited and sustained.

5.22 **Directive 6.8.1.8 / 8.2.18:** ***Coal consumption:*** The Licensee is directed to ensure that coal consumption for each power station is commensurate with station heat rate (SHR) as determined by the Commission.

5.23 **Licensee's Compliance:** The target of SHR fixed by the Commission had not been achieved by the Licensee due to following reasons :--

(a) Amarkantak units have completed their life and due for renovation.

(b) Inadequate fund for O&M

(c) Capital overhauling of generating units not carried out timely due to power crises.

5.24 **Commission's Observation:** The Licensee has not complied the directions satisfactorily. The Commission shall allow only on normative basis and the cost of extra Coal consumption shall be disallowed.

5.25 **Directive 6.8.8.3 / 8.2.19:** ***Assets Register:*** The Board is directed to maintain asset register properly and to be completed within six months of the tariff order dated 30.11.2002.

5.26 **Licensee's Compliance:** The Licensee has submitted difficulties being faced for maintaining asset register based on item wise instead of account head wise. The MPSEB had submitted a preliminary report of their consultant (DFID) according to which at least two years shall be required to maintain records in asset register as per requirements of the Commission.

5.27 **Commission's Observation:** The Commission feels that the Licensee has not complied with the directions satisfactorily and directs it to take immediate steps to maintain asset register properly and report compliance. In the event of sustained non compliance, the Commission shall be forced to disallow depreciation claims of the Board.

5.28 **Directive 6.8.8.2 / 8.2.21:** ***R & M Expenditure:*** The Licensee is directed to submit the details of projected expenditure towards routine maintenance and system strengthening and improvement works. A report on the impact of R&M works initiated on above parameters is to be submitted.

5.29 **Licensee's Compliance:** The Licensee had submitted the R&M expenses actually incurred during FY03, which are significantly lower against approved provisions of the tariff order dated 30.11.02.The Licensee stated that it was due to deferment of capital overhaul of generating units and maintenance activities.

5.30 **Directive 8.3.1:** ***Billing and Collection:*** The Licensee is directed to take action on the following points:

(a) The Licensee shall make arrangements with Banks to receive payment for energy bills and to receive payments between 9.00 A.M. to 4.00 P.M. on all working days.

(b) The Licensee shall make arrangements for responding over telephone / internet to meter reading and other bill related enquiries.

(c) The Licensee should display on its website the details such as name of consumer, connection no. original bill amount, revised bill amount, reasons, authorizing, authority etc. in case the billing amount of any consumer is revised by more than Rs. 10,000.

(d) The Licensee must introduce the system of spot billing in large cities.

(e) The Licensee is directed to provide meter reading card system and to introduce system of maintenance of Pass Book for every low voltage consumer in a phased manner starting with distribution centres of urban areas. The Licensee is directed to submit an action plan by 31.12.02.

(f) The Licensee is directed to disconnect the supply to consumer after due notice when the amount in default is more than Rs. 250 or three months have elapsed since the first payment due date, which ever is earlier. The disconnection measures are to be applied without any discrimination. In case of consumers defaulting more than once in a financial year, the Licensee should raise demand for doubling their security deposit. The Licensee should display the details of such consumers who are liable to be disconnected but have not been disconnected on its website.

5.31 **Licensee's Compliance:** Following is the status of compliances :--

(a) On arrangements made with the Banks, the licensee has not responded.

(b) The Board has set up call centres and is responding over telephone regarding meter reading and other bill related enquiries.

(c) The details suggested by the Commission are being displayed on the web site. However, the details are not being updated in a timely manner.

(d) No action has been taken by the licensee for spot billing to consumers.

(e) The requirement of pass book has now been withdrawn since the details of past six consecutive readings are now being provided on the consumer's bill itself. For this purpose the bill format has also been revised by the Commission.

(f) The details of defaulters of amounts over Rs 10,000 are being displayed.

5.32 **Directive 8.3.3:** ***Rural Electrification and Supply of Power:*** The Licensee is directed to come up with an action plan to achieve the objective in a time bound manner for rural electrification and improving supply of quality power to rural areas.

5.33 **Licensee's Compliance:** The Licensee has submitted an action plan amounting to Rs. 9450 Crores had been submitted to Energy Department, Govt. of M.P. and Central Electricity Authority, New Delhi on 5.12.2003

5.34 **Directive 8.3.4:** ***To reduce T&D Losses:*** The Licensee is directed to take following action:

(a) To study T&D Losses and find out its components.

(b) Intensive checking to be done to stop theft of energy.

(c) FIR to be lodged and culprits apprehended if theft / pilferage is found.

(d) 100% meter reading particularly of HT consumers be ensure. Area of meter readers should be changed monthly.

(e) The technical and commercial loss should be checked out in every region.

(f) To carry out sample study for load factor of agriculture consumers for every region by covering proportionate no. of consumers based on cropping pattern and no. of crops in proportion to total no. of agriculture consumers in the region.

5.35 **Licensee's Compliance:** The Licensee has submitted the following status of compliance:

(a) The Licensee has not submitted the segregation of T&D losses.

(b) Intensive checking is being done in all the regions.

(c) FIRs are being lodged in all the regions.

(d) Meter readings of all HT consumers are being done 100%. Meter readers are being rotated; however at an interval at 6 months due to scarcity of staff..

(e) The details of segregation of technical and commercial loss have not been submitted to the Commission.

(f) A concept paper on load factor of agricultural consumers was submitted but the sample size was too small.

5.36 **Commission's Observation:** The Commission feels that the Board has not complied with the directions satisfactorily and directs it to take immediate steps to reduce T&D losses as per target fixed by the Commission and report compliance. Though FIRs are being lodged, they are very few in number. Further there is no follow up from the Board to ensure prosecution against the cases of direct theft of energy. The Board has been asked to engage experts to assist in segregation of technical and commercial losses. The Commission has discussed its concerns over the lack of credible mechanisms to ascertain load factor of agriculture consumption in a subsequent section in this Tariff Order. The Commission is keen that detailed studies be undertaken immediately and the results submitted to the Commission.

5.37 **Directive 8.3.7: *Database Management and Management Information System:*** The Licensee is directed to submit regular information in the prescribed formats to the Commission on CD / Floppy discs.

5.38 **Licensee's Compliance:** The information submitted by some of the regions is not in soft copies as per Regulations. Information is many times submitted late and the same is found incomplete and/or erroneous.

5.39 **Commission's Observation:** The Commission notes that the Board has not complied with the directions satisfactorily. The submission of information has been delayed on several occasions. The Commission has issued the MIS Regulations for submission of information on the Board's operating performance only to strengthen compliance and timely submission.

5.40 **Directive 8.3.8:** ***Three phase supply to agriculture consumers*****:** The Licensee is directed to make the arrangement for providing power for longer duration to such agriculture consumers who are willing to pay additional amount for extra hours of supply provided at least 80% agriculture consumers on a particular feeder agree to above and not having any arrears.

5.41 **Licensee's Compliance:** The Licensee has not received consent from cultivators for such facility.

CHAPTER 6

A6: ANNUAL REVENUE REQUIREMENT FOR FY 05: LICENSEE'S PROPOSAL AND COMMISSION'S ANALYSIS/OBSERVATIONS

Summary of Sales Forecast

6.1 The total sale during FY05 is projected to about 16,724 MUs. The sales in LT category is projected as 10,701.87 MUs and in HT category as 6,022.31 MUs.

Table 66: Projected Sales of MPSEB for FY05

Sales (MU)		FY05
L T CONSUMERS	**Domestic**	3375.71
	Single Light Point	237.92
	Non-domestic	736.13
	Water Works	169.41
	Industrial	707.90
	Agricultural	5342.00
	Street Lights	132.80
	TOTAL (LT)	**10701.87**
H T CONSUMERS	**Railway Traction**	1352.87
	Coal Mines	563.51
	Mini Steel Plants	175.73
	Cement Factories	523.80
	HT Irrigation	4.59
	HT Water Works	310.92
	Other HT consumers	2637.03
	RE Co.Society	451.24
	Border Villages	2.62
	TOTAL (HT)	**6022.31**
TOTAL LT + HT		**16724.18**

Consumer Category-wise Demand Forecast

Projections of Consumers and Connected Load and Sales

Licensee's Proposal

6.2 The Licensee has projected the number of consumers, sales and connected load based on past trends. The overall growth rate in the number of consumers is projected to be 5.95% per annum although the 5 year CAGR shows 0.68% growth approximately. Connected load is projected to grow at an annual rate of 5.94% although the 5 year CAGR is 0.86%. The Licensee has claimed to have modified the projections taking into consideration recent developments such as Licensee's efforts to improve power supply quantity and quality, reduction in T&D losses, emerging legal frame work in light of recent enactments and other factors such as market forces, price elasticity, paying capacity and potential for consumption etc.

Commission's Observation

6.3 The sales in HT categories are a result of actual and unrestricted demand as MPSEB does not resort to load shedding for these categories. The sales in LT categories however, do not reflect the actual demand as the sale is restricted and dependent on the extent of load shedding and hours of supply provided to these categories.

6.4 The Commission, therefore, in approving the demand estimate for consumer categories of MPSEB has taken into consideration the expected growth in demand in terms of number of consumers, increase in connected load and also by the quality of supply in terms of supply hours that is likely to be maintained to LT categories during this year.

6.5 The Commission has also reviewed the MIS of the sales to consumers being maintained by the Licensee, for the period April 04 – Sept 04 and compared the same with the corresponding period for the previous year to assess the consumption growth in FY05. This comparison in presented in Table 1 below and the average growth in consumption of LT category by 12.5% in the first six months of FY05.

6.6 However, it may be pointed out the overall average growth in consumption by the LT consumers for the year may be lower due to the likely decline in consumption in the second half of the year owing to the load shedding measures announced in the beginning of December 2004.

Table 67 : Sales MIS of MPSEB based on R-15 forms for LT consumers

Category	Year	April	May	June	July	August	September	Total
Domestic	FY04	230.6	244.59	255.95	273.58	285.99	279.58	1570.29
	FY05	265.32	289.71	304.33	311.43	313.52	293.58	1777.89
	% incr/dec.	**15.06**	**18.45**	**18.90**	**13.84**	**9.63**	**5.01**	**13.2%**
SLP	FY04	18.6	18.77	18.55	18.58	18.97	19.31	112.78
	FY05	23.71	22.16	21.91	22.09	21.98	22.58	134.43
	% incr/dec.	**27.47**	**18.06**	**18.11**	**18.89**	**15.87**	**16.93**	**19.2%**
Non Domestic	FY04	50.73	54.44	56.81	60.72	61.42	62.49	346.61

Category	Year	April	May	June	July	August	September	Total
	FY05	67.41	69.73	71.86	70.61	69.82	68.76	418.19
	% incr/dec.	**32.88**	**28.09**	**26.49**	**16.29**	**13.68**	**10.03**	**20.7%**
Water works	FY04	12.19	12.83	13.4	13.99	13.95	14.06	80.42
	FY05	20.05	17.29	15.76	15.37	15.02	14.97	98.46
	% incr/dec.	**64.48**	**34.76**	**17.61**	**9.86**	**7.67**	**6.47**	**22.4%**
Industries	FY04	50.88	50.87	53.6	54.08	56.44	54.51	320.38
	FY05	58.59	57.15	56.37	55	53.5	53.28	333.89
	% incr/dec.	**15.15**	**12.35**	**5.17**	**1.70**	**-5.21**	**-2.26**	**4.2%**
Agricultural	FY04	371.25	341.57	295.02	238.53	251.6	240.16	1738.13
	FY05	423.43	359.17	297.97	269.64	249.49	333.34	1933.04
	% incr/dec.	**14.06**	**5.15**	**1.00**	**13.04**	**-0.84**	**38.80**	**11.2%**
Street light	FY04	10.76	10.08	8.2	8.38	10.53	11.45	59.4
	FY05	10.21	10.1	9.59	9.38	10.1	10.3	59.68
	% incr/dec.	**-5.11**	**0.20**	**16.95**	**11.93**	**-4.08**	**-10.04**	**0.5%**
Total LT	FY04	745.01	733.15	701.53	667.86	698.9	681.56	4228.01
	FY05	868.72	825.31	777.79	753.52	733.43	796.81	4755.58
	% incr/dec.	**16.61**	**12.57**	**10.87**	**12.83**	**4.94**	**16.91**	**12.5%**

6.7 The Commission has discussed below, the consumption estimates for each consumer category.

Domestic

Licensee's Proposal

6.8 Licensee plans to provide better supply during FY05 to the domestic consumers of urban and rural areas. Hence, a growth of 10.03% has been considered for projecting the sales for FY05. The projected sale works out to 3,376 MU. The increase in number of consumers has been considered at a growth rate of 7.58 % (5 years CAGR) over previous year.

Commission's Observation

6.9 The consumption growth of 13.2% has been observed in the first half of the year. However, this growth is unlikely to be sustained in the second half of the year due to decline in consumption and load shedding plans announced recently. Considering these, the Commission agrees with the Licensee's estimate of 10% consumption growth over the previous year and approves the consumption of 3375 MUs by the Domestic category.

Agriculture Consumption

6.10 The Licensee expects that the average number of consumers during FY05 will increase and reach the level of FY02 i.e. 12,02,083. Based on the seasonal fluctuations in the number of consumers and past trends, Licensee has projected the connected load in FY05 to grow at 7.50%. The Licensee expects better supply to this category in FY05 and conversion/addition of about 2,38,654 into metered category. Thus it has assumed the load factor in FY05 to be 17.54% (1146 U/HP/Year) and sales to remain at the same level of 5342 MU as in FY04.

Commission's Observation

6.11 The Licensee has stated that the hours of supply to agriculture have improved due to several measures initiated by the Licensee on its own and on the directions of the State Govt. The Licensee has estimated that as a result of these factors the load factor shall rise from 16.25% in FY03 to 17.5% in FY05.

Table 68 : Load factor assumption for agriculture consumers

Agriculture	FY02	FY03	FY04	FY05
	Actual	Actual	Prov.	Proj
Number of Consumers	1,202,083	1,128,838	1,098,558	1,202,083
Total connected load (kW)	3423810	3496866	3235012	3477522
Connected Load per Consumer (During the Year)	2.85	3.00	2.93	2.89
Sp. Consumption (Units per kW per Year)	1007.44	1423.25	1657.56	1537
Load Factor assumed by MPSEB	11.50%	16.25%	18.92%	17.5%

Source: MPSEB's Tariff Petition for FY04-05

6.12 The Commission has reviewed the data on change in number of consumers and connected load over the last three years as submitted by the Licensee in its petition. The analysis indicates a decline in both connected load and consumers. Though the Licensee attributes this to poor monsoon and disconnection efforts to improve recovery, the Commission finds it has not resulted in any significant increase in revenue. The explanation given by the Licensee in reduction in connected load on account of poor monsoon is not tenable as consumers, on the contrary, are likely to rely on ground water irrigation to a greater extent during periods of poor monsoon.

6.13 The Commission is disappointed to find that the Licensee has not undertaken any recent study based on scientific methods to arrive at a reliable estimate of load factor. The Commission has taken note of several statements emanating from the State Govt to the effect that ample supply shall be ensured at all costs for agriculture sector and for rural areas and on this basis the Commission has not reduced the quantum of energy estimated by the licensee for agriculture requirement. The Commission is hopeful that the licensee will take due care in checking these assumptions through field surveys but in the mean time, the Commission approves the Licensee's estimates of agricultural consumption at 5342 MU for FY05

6.14 The Commission has based the flat rate tariff for unmetered consumers on this higher load factor and the licensee must ensure that recovery of dues is made after ascertaining the subsidy to be provided by the State Govt.

6.15 The Commission reiterates that since changes have been claimed to have taken place in the load factor during the last two years which have a significant bearing on the agricultural consumption, the Commission directs the Licensee to immediately provide DTR level metering data to the Commission based on the already installed meters and to ensure that all Distribution Transformers supplying power predominantly to agriculture users are metered in the shortest time. The results of this exercise and any sample survey undertaken to assess agricultural consumption must be brought before the Commission well before the finalization of the next Tariff Order relating to FY 06.

6.16 The Commission would like to mention that the Licensee's record in respect of metering of the agricultural connections has been dismal and there is very little to instil confidence in the projected figures. It will be keenly watched how far and how fast the Licensee moves in this direction.

Single Light Point

Licensee's Proposal

6.17 There is a reduction in number of SLP consumers in previous years. Therefore a reduction of 4.14% (average of 2 years CAGR -6.21 % and - 2.08 %) has been considered for projecting the number of consumers at the end of FY05. Sales to this category have been assumed to be about 237.92 MU during FY05, on the assumption of 25 units of monthly consumption per consumer.

Commission's Observation

6.18 The Commission has repeatedly expressed its reservations about the assumption of consumption of 25units/consumer per month because the Licensee's own sample survey sometime ago had revealed that the average consumption is 46 units per month per consumer.

6.19 The Energy department, GoMP in its letter no 6369/13/2003 dated 8/10/03 had informed the Commission regarding the decision of the State Government for grant of subsidy to MPSEB for consumers categorized as Single Light Point (SLP). It has been stated in S.No. 2(h) of the above mentioned letter that the facility of free supply, limited to 25 units per month to SC/ ST SLP consumers, below poverty line, shall only be available to those consumers who get a meter installed in their premises or alternately provide a written undertaking to get a meter installed. The letter had also stated that the Government had directed the Board to install meters for all SLP as well as agricultural consumers by December 31, 2003.

6.20 This has also been reiterated by the Energy Department during the hearings conducted by the Commission on the subject of waiver of bills pertaining to agriculture and SLP consumers during the period Jan 2001 to December 2003.

6.21 The Licensee has failed to implement the above directions of the State Govt in recovering the charges for consumption in excess of 25 units of consumption from the consumers of this category and has also been negligent in providing meters in spite of being directed by the State Government and the Commission.

6.22 Sales figures to this category have been worked out on a more realistic basis by the Commission at 433 MUs for FY05 using the actually observed average consumption of 46units/consumer per month for this group of consumers in the state. The estimate of 46 units/ consumer/ month is based on a sample study to assess the consumption for this category. The study has been done at 132 divisions out of 135 divisions in the state. A sample of 10 consumers was chosen in each distribution center in these divisions and the consumption was assessed by metering. The Commission directs the Board to bill the consumers for the consumption in excess of units reimbursed by the State Government in accordance with the Govt announcement. This would ensure revenue recovery by the Board for atleast 46 units per consumer per month.

Non-Domestic

Licensee's Proposal

6.23 The CAGR for 5 years for number of non-domestic consumers is 3.45 % and the same has been considered for projecting number of consumers for FY05. The sales to this category has gone up by 3.17 % (5 years CAGR) in the same period, however, there was an increase of 5.58 % in sales of FY04 over sales of FY03 whereas the last 2 year's CAGR is 7.37%. Thus, a growth rate of 7 % has been considered for projecting sales of FY05. The growth in connected load has been considered at 7.62 % (5 years CAGR).

Commission's Observation

MPSEB has projected sales growth at a 2 year CAGR of 7% and has projected sale at 736.1 MU. The Commission has taken note of the fact that the 5 year CAGR of this category has been 3.2% while the 2 year CAGR has been 7.4%. This indicates a rapid growth in consumption by this category. The Commission is in agreement with the Board's estimate of consumption of 736 MUs for FY05.

Water Works

Licensee's Proposal

6.24 The number of consumers in Water Works has been increasing by 8.07 % (CAGR) in the last 5 years and growth based on 5 years CAGR has been considered for projecting the connected load (6.14%) and consequently the sales (3.74%) for FY05.

Commission's Observation

6.25 Supply to this category has been restricted in the previous years. However, in the current year, the consumption has been higher in the first six months as compared to the corresponding period in the previous year. The Commission accordingly, accepts the rationale for higher consumption compared to FY04 and approves the licensee's estimated consumption of 169.3 MUs by this category for FY05.

LT Industries

Licensee's Proposal

6.26 There has been a sudden decrease in the number of consumers by about 3.26 % in FY04 and consequently CAGR for past 5 years is only 0.95 %. The Licensee has assumed that there will be a growth in number of consumers in FY05. Therefore the numbers of LT industrial consumers has been projected at a growth rate of 1.38% over FY04.

6.27 At the same time 128 LT Industrial consumers (of the category having connected load more than 100 HP) have been considered for conversion into HT category. Therefore, their number, consumption and connected load have been deducted from the projected number of LT Industrial Consumers as on 31st March 05. Further, the licensee has submitted that since the conversion of category is an ongoing process during the year, the values of connected load and consumption corresponding to this conversion have been considered on an average basis for the purpose of revenue calculations for the year.

Commission's Observation

6.28 The Licensee has projected sales growth for this category at 11.5%. The reasons stated by the Licensee for the projection are that the growth in the LT industrial sales, especially upto 100 HP connected load category has been considered at 15% because the Licensee is making efforts to provide better power supply during FY05 and expects growth in this sector of economy on account of efforts being made by Government of Madhya Pradesh to attract industries in the state. In other categories (lower connected load LT industrial consumers) growth as per historical trend has been applied. This results in an overall growth of about 11.54% approximately in the sales over the sales of FY04.

6.29 The Commission accepts the licensee's consumption projection and approves the sales of 709 MUs considering a growth rate of 9% over the previous year.

Street light

Licensee's Proposal

6.30 The numbers of street light connections have shown consistent decrease in past 5 years. For FY05, Licensee has assumed that there will not be any further reduction in the number of consumers and the number of consumers in FY05 has been maintained at the level of FY04. The licensee has considered the same growth rate as FY04 for projecting sales of FY05.

Commission's Observations

6.31 The sales to this category have grown at 4.7% in FY04 over the last year. The Commission agrees with the estimated sale for this category and approves the consumption of 133 MU for this category.

HT Consumer Categories

Railway Traction

Licensee's Proposal

6.32 There are 32 traction connections for the Railways in the State and the Licensee does not expect any further increase in the number of connections during FY05. CAGR of the past 5 years of 5.28 % in the connected load and 6.75 % in sales has been considered for projecting the connected load and the sales for FY05.

Commission's Observations

6.33 The Licensee has submitted that it has considered a 5 Yr CAGR of 6.75% in sales for the purpose of sales estimation. The Commission has taken note of the sales trend which shows that the CAGRs for 5Yr, 2 Yr and 1 yr have been decreasing and are 6.75%, 5.32% and 0.92% respectively. Even if FY04 is considered to be an exceptional year, the sales growth has been showing a declining trend. The Commission has, therefore, considered sales growth in this category at 5.32%, which is the 2 year CAGR. Accordingly, the sales to this category is approved at 1335 MU.

Coal Mines

Licensee's Proposal

6.34 The Coal companies namely, SECL and WCL have 41 connections in the State. Even though in the last 2 years the connected load of Coal mines has practically remained the same, the CAGR of 5 years indicates a growth of 2.82% and the same has been considered in projecting connected load for FY05. The CAGR for sales for last 5 year is about 1.96 % as against the CAGR of previous 2 years of 2.07 %. However growth of sales in the previous year was 6.04%. Considering the present market condition an average growth rate of 4.05% (average of 2.07% and 6.04 %) has been assumed for projecting sales of FY05.

Commission's Observations

(a) The Licensee has submitted that there are 41 consumers in this category in the State. In the last 3 years there has been no growth in the number of consumers. The existing coal mines are depleting and both SECL and WCL are trying to expand their business by adding new sites. Assuming an addition of one consumption point, the number of consumers as on 31st March 05 has been projected as 42. Accordingly, the Licensee has projected a sales growth of 4.1% which gives a sale of 563.5 MU. The Commission agrees with the Licensee's projections.

Mini Steel Plants

Licensee's Proposal

6.35 The CAGR for connected load of the Mini Steel Plants is negative (-13.14% in last 5 years, and -16.77% in the last 2 years). However, the connected load increased from 29,989 kW as on 31st March 03 to 40,310 kW as on 31st March 04 in one year. Considering this, an average growth of 8.82 % has been applied to project the connected load of FY05. For projecting sales in FY05, growth rate equal to the CAGR for past 5 years (18.75 %) has been considered.

Commission's Observations

6.36 For this category of consumers, the Licensee has taken 5 year CAGR of 18.8% to project sales of 175.7 MU. The Commission approves the sales estimate of 175.7 MU.

Cement Factories

Licensee's Proposal

6.37 The Licensee has assumed that there will be no further reduction in the number of consumers during FY05. The connected load for cement factories has also shown a negative growth of 4.78% in the past 5 years but there is an increase of about 0.44 % in last 2 year's CAGR. In the previous year the growth was 0.83 %. Therefore, for projecting the connected load of FY05, a growth rate of 0.63 % (average of 0.44 % and 0.83 %) has been applied. Similarly the cement industries have shown consistent reduction in their sales in the past 5 years and 2 years of CAGR. The sales of last year have also shown a decline of about 19 Million Units (3.5 %) with respect to its previous years. Therefore the sales level of FY04 is maintained for FY05.

Commission's Observations

6.38 The Licensee has submitted that there has been a consistent reduction in the sales in the past 5 years and 2 years. The sales of last year have also shown a decline of about 19 Million Units (3.5 %) with respect to its previous years.

6.39 The connected load for cement factories has also shown a negative growth of 4.78% in the past 5 years but there is an increase of about 0.44 % in last 2 year's CAGR. In the previous year the growth was 0.83 %. Therefore, for projecting the connected load of FY05, a growth rate of 0.63 % (average of 0.44 % and 0.83 %) has been applied. As a result, Licensee has stated that sales for FY05 would remain unchanged at FY04 level. The Commission accepts Licensee's submission with regard to sales estimate for this category and approves the sales to cement factories at 523.8 MU.

HT Irrigation

Licensee's Proposal

6.40 CAGR of 5 years indicates an increase of 0.73 % in the connected load whereas the CAGR in 2 years indicate an increase of 3.75 %. The increase in connected load during FY04 was by 3.21 % with respect to its previous year. It is therefore assumed that addition in the connected load will have a growth of about 3.21% in FY05 also.

Commission's Observations

6.41 Although HT irrigation sales have shown a steep reduction over the last 5 years, the Commission estimates that the incentives that shall be provided to consumers opting for HT connection shall have a significant bearing and the sales shall not fall further in FY05. The Licensee has estimated the sales for FY05 at previous year's level of 4.6 MU. The Commission accepts the projection.

HT water works

Licensee's Proposal

6.42 The connected load has increased by 10.11 % in the FY04 as against the CAGR of 2.38 % for previous five years and 6.25 % for previous two years. Therefore a growth of 6.25 % has been considered for projecting the connected load for FY05. As regards sales, the CAGR of past 5 years is 0.79 % and for last 2 years is 0.84 %. The growth in sales during last year was 6.74 %. Therefore, an average growth of 3.79 % (average of 0.84 % and 6.74 %) has been considered for projecting sales for FY05.

Commission's Observations

6.43 The Licensee has submitted that as regards to the sales, the CAGR of past 5 years is 0.79 % and for last 2 years is 0.84 %. The growth in sales during last year was 6.74 %. The Licensee has therefore considered an average growth of 3.79 % (average of 0.84 % and 6.74 %) for projecting sales for FY05. The sales estimates as per these projections are 310.9 MU. The Commission approves the sales projections

Other HT consumers

Licensee's Proposal

6.44 The Licensee has considered the CAGR of number of consumers for last 5 years (8.07 %) for projecting the number for FY05. In addition to this, 128 consumers having connected load of more than 100 HP would be shifted from LT industrial consumers to HT consumers. A growth rate of 3.48 % (growth rate of previous year) has been applied for projecting the connected load for FY05. For projecting the sales, an average growth of rate of 4.93 % (average of 2 years CAGR 2.8 % and last year growth of 7.05 %) as against 5 years CAGR of 4.50 %, has been considered.

Commission's Observations

6.45 This category comprises the Electro Chemical/Thermal Industries, Ferro Alloy manufacturers, General Purpose, Two Part and Seasonal Tariff consumers. The Commission has accepted the Licensee's submission.

RE Societies

Licensee's Proposal

6.46 There are 6 number of RE societies as on 31st March 04 having connected load of 47,573 KW and sales of 440 MUs. No addition in the number of consumers and connected load has been considered whereas for projecting sales, a growth of 2.61 % (growth in sales during FY04 over sales of FY03), has been considered for FY05.

Commission's Observation

6.47 The Licensee has taken 1 year CAGR of 2.6% to project the sales at 451.24 MU. The Commission accepts this projection.

Border villages

Licensee's Proposal

6.48 No change in the status as on 31st March 04 has been considered for projecting the number of consumers, connected load and sales for FY05.

Commission's Observations

6.49 For Border villages, the sales has decreased in FY04 by 2.8% compared to the previous year's sales. However, the Licensee has projected no change in the consumption of border villages and the actual data and sales for FY04 have been considered for projecting the number of consumers, connected load and sales for FY05 at 2.6 MU. The Commission approves Licensee's estimates.

6.50 The Commission hereby directs that the Licensee must provide details of these villages and actual realisation made from this category failing which this category may be excluded from calculations in future years.

Summary of Sales Forecast

6.51 Based on the above analysis, the total sales forecast for FY05 works out to 16,885 MU as against the Licensee estimate of 16,724 MUs. The table below compares the Licensee's estimates with Commission analysis.

(Million Units)

Table 69: Sales Estimates for FY05

Categories	MPSEB estimates	Commission's estimates
Domestic	3375.7	3375.5
Single Light Point	237.9	433.2
Non-domestic	736.1	736.1
Water Works	169.4	169.3
Industrial	707.9	709.1
Agricultural	5342.0	5342.0
Street Lights	132.8	132.9
Sub-total LT	**10701.9**	**10,898.2**
Railway Traction	1352.9	1334.7
Coal Mines	563.5	563.5
Mini Steel Plants	175.7	175.7
Cement Factories	523.8	523.8
HT Irrigation	4.6	4.6
HT Water Works	310.9	310.9
Other HT consumers	2637.0	2619.8
RE Co.Society	451.2	451.2
Border Villages	2.6	2.6
Sub-total HT	**6022.3**	**5986.9**
Total	**16724.2**	**16,885**

Table 70: Summary FY05 Sales Estimates

Particulars	FY05 (MU)		FY05 (%)	
	Licensee's Estimate	Commission's Estimate	Licensee's Estimate	Commission's Estimate
LT Sales	10702	10,898.2	64%	64.5%
HT Sales	6022.3	5986.9	36%	35.5%
Total Sales	16724	16,885	100%	100%

T&D Losses and Energy Input

Licensee's submission

6.52 For FY05, the Licensee has proposed T&D loss target of 43% (lower by 0.99% than the level of FY04).

6.53 The loss levels as calculated by the Licensee for FY04 have turned out to be 43.99% as per their petition submitted in August 2004. The reasons stated by the Licensee for such high loss levels are that the actual energy input during FY04 was 28,559 MUs and particularly the power supply to the system during Rabi Season was much more as compared to the plan envisaged earlier. This resulted in increase of T&D loss on technical reasons. At the same time, due to cash crunch, the Licensee could not undertake some of the capital works as per the plan to reduce these losses. The Licensee has therefore, submitted before the Commission that the T&D loss for FY04 was 43.99% including external transmission loss and has requested the Commission to consider losses for FY05 at 43% at a composite level. The licensee has also pointed out that of this composite loss level, losses external to their system are 2.26%.

Commission's estimates

6.54 In the Tariff Petition for FY03, MPSEB had proposed the following program for loss reduction:

Table 71: T&D loss reduction targets proposed by MPSEB in Tariff Petition for FY03

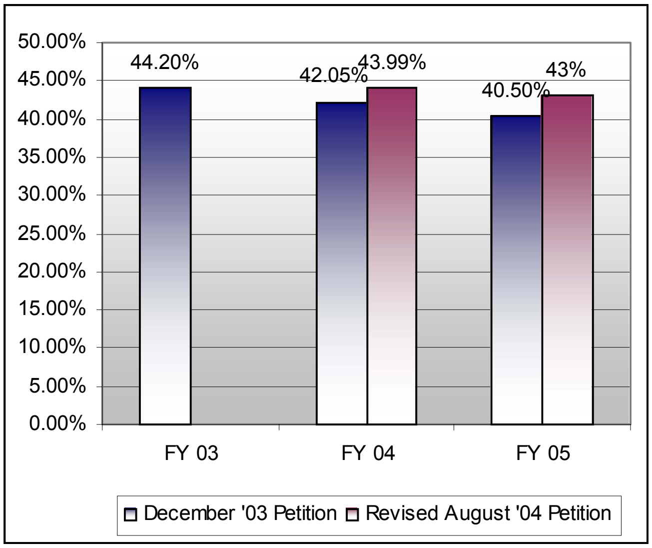
Year	Total Loss (%)	Reduction (%)
2000-01	51%	-
2001-02	49%	2%
2002-03	44%	5%
2003-04	40%	4%
2004-05	37%	3%
2005-06	34%	3%

6.55 Commission does not find the argument of the Licensee acceptable since even after the Licensee itself proposed a loss reduction time table in its petition in the year 2002, no serious measures have been adopted nor any significant initiatives taken by the Licensee to bring under control the menace of extremely high commercial losses on account of illegal abstraction/ under recording of consumption. The Licensee has also not made any significant improvement in the upkeep of the Distribution transformers for reduction of losses. The Commission has repeatedly exhorted the Licensee to take steps to install meters at Distribution Transformers and to enforce accountability on line staff. The Commission will not allow this burden of excessive T&D losses to be passed on to the honest and paying consumers.

6.56 In the ARR petition for FY04 and FY05 submitted by the Licensee in December 03, the Licensee had proposed a target of reduction in T&D losses from a level of 44.2%

in FY03 to a level of 42.05% during FY04. This was based on T&D loss reduction plan and 27,220 MUs of energy input in the MPSEB Grid during FY04. A further reduction of 1.5% in T&D losses from the expected level of 42.05% of FY04 had been proposed for FY05. This was based on T&D loss reduction plan and a total energy input of 27109 MUs to be fed in the MPSEB Grid during FY05. Thus, for FY05, the loss level projected by the Licensee was 40.5%. The loss reduction programme proposed by the Licensee is shown below.

Figure 1: Transmission and Distribution losses



6.57 The Commission is not happy with the way the licensee has been projecting the loss reduction programme from time to time and not adhering to it.

6.58 Licensee has stated that one reason for increase in losses has been that the energy drawn by the system was 28,559 MU in their August '04 petition as against 27,220 MU on which the loss estimates were based in December '03. Commission is of the opinion that 5% excess drawal would not put the system under tremendous pressure and the Licensee should have take into account such scenarios of excess drawal / underdrawal before making commitments.

6.59 The Licensee, in Commission's View, has taken no concrete steps in FY04 to tackle the problem of high loss levels. **The Commission therefore approves the loss level of 40.5% as stated by Licensee in its earlier petition for determination of Annual Revenue Requirement in December 2003.**

Table 72: T&D Loss & Energy Balance

Particulars			FY05 Projected	FY05 Approved
1	**Sales**		**16724**	**16885**
2	**T&D Loss**	MU	12616	11493
		%	**43.00%**	**40.50%**

Particulars			FY05 Projected	FY05 Approved
3	**Total Power**		**29341**	**28378**
4	**Own Generation**	Thermal	12129	12924
		Hydel	2048	2053
		Total	**14176**	**14976**
5	**Power purchase Required**		**15164**	**13401**

6.60 The Commission has also analyzed the transmission and distribution losses month wise for each distribution company. Some pertinent points that have emerged from this analysis are as follows:

Table 73 : Distribution Losses for FY04

Particulars	Loss Level (%)*
Discom (East)	37.84%
Discom (Central)	46.38%
Discom (West)	40.87%

*The loss levels stated exclude the losses in 400kV, 220kV and bulk of 132kV transmission system.

6.61 The consumer mix of Discom (Central) and Discom (West) are relatively similar apart from the fact that Discom (West) has a higher agricultural load. Discom (West), inspite of having bulk of agricultural consumers, has been able to maintain loss levels that are lower than those in the Discom (Central); which goes to show that the efforts to reduce losses indeed bear results. Discom (Central) needs to explain the reasons for its inability to reduce losses to reasonable levels.

6.62 The losses of Discom (East), at 37.84%, are the lowest among the three discoms. However, given the high HT/LT consumer sale mix that it enjoys viz 0.91 to 0.53 and 0.41 in Central and West Discom respectively, this loss level is quite high.

6.63 The Commission has also noted that losses in the first six months of the year 2004-05 are higher in comparison to the previous year as shown in the table below. This increase is especially high in case of Discom (East).

Table 74 : Distribution Losses for FY05

Particulars	First 6 months of FY04	First 6 months of FY05
Discom (East)	34.	38.
Discom (Central)	43.	44.
Discom (West)	32.	33.

6.64 The Commission is unable to appreciate the reasons why Eastern and Central Discoms are unable to reduce their loss levels like the Western Discom. These Discoms have failed to submit a concrete action plan for loss reduction and upon prodding, have stated that the losses are primarily on account of the poor state of distribution set-up and heavy investments shall be required to reduce losses. However, as has been shown by other distribution utilities in the country, even small but regular repairs and maintenance of distribution cables, transformers etc and focused drives to reduce commercial losses that do not involve significant capital expenditure have led to noteworthy reduction in losses.

6.65 The Commission appreciates the point of the Licensee that capital investments are required in the distribution set-up in a fair measure but the Commission firmly believes that there is scope for significant loss reduction through simple non-financial measures also. The Commission would like to reaffirm that under a multi-year tariff regime, the loss levels shall be fixed for a longer period after discussions with the utilities and the impact of the gains/ losses arising out of superior/ poor performance on this account shall be borne by the utilities. It is high time now for the utilities to pay serious attention towards the high loss levels and make sincere efforts to reduce the same.

Own Generation

Licensee's submission

Generation Quantity

6.66 For FY05, the Licensee has projected thermal generation of 13404 MU (gross). The Licensee has projected Hydel generation of 2048 MU during FY05. The net own generation during FY05 (net of auxiliary) is projected at 14176 MU (12129 thermal and 2048 hydel). This takes into account only MP's share in the shared power stations.

6.67 The Licensee has submitted that it was difficult for it to achieve the stipulated performance especially in respect of heat rate due to ageing factor of the generation units and stress due to system constraints. The table below gives the performance targets proposed by the licensee for the FY05.

Table 75: Thermal Generation Parameters and MU FY05

Particulars	Generation MU	PUF %	Aux Cons. %	CV of Coal K Cal/Kg	HR Kcal /KWHr	Sp Oil Cons. ml/KW Hr
ATPS Chachai PH 1	200	45.76%	12.00%	4567	4216	15.00
ATPS Chachai PH 2	1150	54.70%	10.50%	4518	3500	7.00
ATPS Chachai	**1350**	**53.15%**	**10.72%**	**4525**	**3606**	**8.19**
STPS Sarni PH 1	2050	74.87%	9.25%	3658	3296	4.27

STPS Sarni PH 2	2725	75.87%	8.80%	3517	2825	1.80
STPS Sarni PH 3	2750	74.73%	8.80%	3511	2825	1.60
STPS Sarni	**7524**	**75.18%**	**8.92%**	**3553**	**2953**	**2.40**
SGTPS Bir'pur PH 1	2600	70.66%	10.00%	3788	2850	2.00
SGTPS Bir'pur PH 2	2750	74.74%	10.00%	3804	2825	2.20
SGTPS Bir'pur	**5350**	**72.70%**	**10.00%**	**3796**	**2837**	**2.10**
Total	**14224**	**71.45%**	**9.50%**	**3737**	**2972**	**2.84**
M.P.S.E.B.'s Share	**13404**	**71.25%**	**9.51%**	**3742**	**2952**	**2.75**

Thermal stations overhaul programme

Amarkantak Thermal Power Station, Chachai

6.68 As per the overhauling schedule submitted by the Licensee, each unit of ATPS with an installed capacity of 290 MW shall be taken out for overhaul for a period of approximately 30 days.

Satpura Thermal Power Station, Sarni

6.69 The entire capacity of STPS which is 1142.5 MW has been planned to be taken out for overhauling for a weighted average period of 33 days as against 22 days in FY04.

Sanjay Gandhi Thermal Power Station, Birsinghpur

6.70 The entire capacity of SGTPS which is 840 MW has been planned to be taken out for overhaul for a weighted average period of 31 days as against 27 days in FY04.

Plant Utilisation Factor for the Thermal Generating Stations

6.71 The PUFs submitted by the Licensee for FY05 are better than the actual PUFs for FY04 as well as the five year average of PUFs. The historic PUFs are shown below. The PUF estimates submitted by the Licensee are lower than the corresponding actuals for FY03, however, FY03 being a supply constrained year, the Licensee could not take its stations for planned maintenance and as a result, the PUFs were exceptionally high and thus cannot be considered as achievable on a consistent basis.

Table 76: PUF of MPSEB Stations

Power Station	Plant Utilisation Factor (%)		
	FY04	Average 5 Years	Proposed by MPSEB for FY05
Amarkantak Ph-I	41.93%	45.76%	45.76%
Amarkantak Ph-II	46.78%	44.98%	54.70%
Amarkantak Comp	**45.94%**	**45.11%**	**53.37%**
Satpura Ph-I	77.11%	75.23%	74.87%
Satpura Ph-II	74.86%	74.36%	75.87%
Satpura Ph-III	78.78%	76.73%	74.73%

Satpura Comp	**76.92%**	**75.45%**	**75.22%**
SGTPS Ph-I	62.74%	59.80%	70.66%
SGTPS Ph-II	76.19%	77.77%	74.74%
SGTPS Comp	**69.47%**	**66.51%**	**72.76%**
Total Thermal	**70.21%**	**68.22%**	**71.25%**

Commission's Observation

6.72 Though the Licensee has provided for higher planned maintenance days in FY05, it has projected higher PUFs for the stations for FY05 than the actual PUFs for FY04. The Licensee expects to run the stations with lower forced outages and reduction in partial loading of units. The PUFs submitted by the Licensee appear reasonable and are accepted by the Commission.

6.73 The Commission believes that a sustained effort to improve the operating parameters of the station shall improve the efficiency of the stations further and directs the Licensee to set up Energy Efficiency cells in each power plant that monitor operating parameters such as SHR, auxiliary consumption, specific oil consumption etc on a regular basis, examine the reasons for deviations and suggest measures to improve the same.

Auxiliary Consumption

6.74 MPSEB has projected an auxiliary consumption of 9.51% for its stations. The Commission, in its Tariff order for FY03 had allowed an auxiliary consumption of 9.1%. The Commission has compared the auxiliary consumption of the generating stations of similar age in India with those of MPSEB stations as given below. The Commission is of the opinion that the auxiliary consumption levels allowed in the previous Tariff Order were quite reasonable and there is no reason to deviate from these. Accordingly, the Commission maintains the auxiliary consumption at the same levels as were allowed in the previous order. These are enumerated below.

Table 77: Comparison of Auxiliary Consumption of Thermal Power Stations of similar vintage

State	Station	MW	Age	Aux (Actuals FY04)
MP	SGTPS Bir'pur PH 2	420	5	10.00%
MP	SGTPS Bir'pur PH 1	420	11	10.00%
Del	Rajghat TPS	135	16	11.51%
UP	Tanda (CERC)	440	16	9.00%
UP	Paricha	220	20	16.40%
MP	STPS Sarni PH 3	420	21	8.80%
MP	STPS Sarni PH 2	410	25	8.80%
MP	ATPS Chachai PH 2	240	27	10.50%

State	Station	MW	Age	Aux (Actuals FY04)
UP	Panki	142	29	9.69%
TN	Ennore TPS (after R&M)	450	31	9.66%
Del	Indraprastha	247.5	36	8.30%
MP	STPS Sarni PH 1	312.5	36	9.25%
Maharashtra	Paras	62.5	37	10.28%
AP	Nellore TPS	30	39	9.00%
UP	Obra	1442	39	10.86%
MP	ATPS Chachai PH 1	50	39	12.00%
UP	Harduaganj	375	40	10.21%

Table 78: Auxiliary consumption of generating stations of MPSEB

Sl. no.	Name of the power station	FY05	
		Proposed by MPSEB (%)	Approved auxiliary consumption of generating stations (%)
1.	Amarkantak I	12	11
2.	Amarkantak II	10.5	9.81
3.	Amarkantak Complex	**10.72**	**10**
4.	Satpura I	9.25	9
5.	Satpura II	8.80	8.9
6.	Satpura III	8.80	8.88
7.	Satpura Complex	**8.92**	**8.88**
8.	SGTPS I	10	9.5
9.	SGTPS II	10	9
10.	SGTPS Complex	**10**	**9.2**
	Total Thermal	**9.50**	**9.11**

Station Heat Rate and Specific Oil Consumption

Table 79: Efficiency Parameters Submitted by MPSEB

Particulars MPSEB Projection for FY05	SHR	Sp Oil Consumption
	Kcal /KWHr	Ml/KWHr

Particulars MPSEB Projection for FY05	SHR	Sp Oil Consumption
	Kcal /KWHr	Ml/KWHr
ATPS Chachai PH 1	4216	15
ATPS Chachai PH 2	3500	7
ATPS Chachai	**3606**	**8.19**
STPS Sarni PH 1	3296	4.27
STPS Sarni PH 2	2825	1.8
STPS Sarni PH 3	2825	1.6
STPS Sarni	**2953**	**2.4**
SGTPS Bir'pur PH 1	2850	2
SGTPS Bir'pur PH 2	2825	2.2
SGTPS Bir'pur	**2837**	**2.1**
Total	**2972**	**2.84**
M.P.S.E.B.'s Share	**2952**	**2.75**

6.75 MPSEB has requested the Commission in the past to re-examine the Station Heat rates allowed by the Commission in the Tariff Order for FY03. Accordingly, the Commission decided to compare the SHRs allowed for MPSEB stations with the SHRs allowed for the stations of other utilities with similar vintage. The Commission is of the opinion that a slight relaxation in norms is in place as other Commissions have also acknowledged that age of the station is an important determinant in the SHR allowable to a station.

Table 80: Comparison of similar vintage stations' SHRs

State	Generating Station	Capacity (MW)	Age	SHR Approved by SERC (kcal/kWh)
MP	SGTPS Birsinghpur Ph 2	420	5	2689
MP	SGTPS Birsinghpur Ph 1	420	11	2689
Del	Rajghat TPS	Unit 1-67.5 MW	16	3200
Del	Rajghat TPS	Unit 2-67.5 MW	16	3200
UP	Tanda (CERC)	440 MW	16	3000
UP	Paricha	220 MW	20	3577
MP	STPS Sarni Ph 3	420	21	2689
UP	Obra B	1000 MW	22	2916
MP	STPS Sarni Ph 2	410	25	2689
AP	KTPS Stage C	Unit 8-110 MW	26	3130
UP	Panki 2	110 MW	27	3157

State	Generating Station	Capacity (MW)	Age	SHR Approved by SERC (kcal/kWh)
MP	ATPS Chachai Ph 2	240	27	2869
AP	KTPS Stage C	Unit 7-110 MW	27	3130
TN	Ennore TPS (after R&M)	Unit 5-110 MW	28	3257
AP	KTPS Stage B	Unit 6-105MW	29	3130
AP	KTPS Stage B	Unit 5-105 MW	30	3130
TN	Ennore TPS (after R&M)	Unit 4-110MW	31	3257
TN	Ennore TPS (after R&M)	Unit 3-110MW	31	3257
AP	Ramagundam TPS - B	62.5 MW	33	2820
TN	Ennore TPS (after R&M)	Unit 2-60MW	33	3257
TN	Ennore TPS (after R&M)	Unit 1-60MW	34	3257
Del	Indraprastha	Unit 2-62.5 MW	36	3235
Del	Indraprastha	Unit 3-62.5 MW	36	3235
Del	Indraprastha	Unit 4-62.5 MW	36	3235
Del	Indraprastha	Unit 5-60 MW	36	3235
UP	Panki 1	32 MW	36	3157
UP	Obra A	442 MW	36	3028
MP	STPS Sarni Ph 1	312.5	36	2689
AP	Kothagudem TPS Stage A	Unit 2-60MW	36	3130
AP	Kothagudem TPS Stage A	Unit 4-60MW	37	3130
AP	Kothagudem TPS Stage A	Unit 3-60MW	37	3130
Maharashtra	Paras	62.5 MW	37	3232
AP	Kothagudem TPS Stage A	Unit 1-60MW	38	3130
MP	ATPS Chachai Ph 1	50	39	2869
AP	Nellore TPS	30 MW	39	3770
UP	Harduaganj	375 MW	40	3480

6.76 Considering the above performance of thermal power stations of similar size and age, the Station Heat Rates allowed by the Commission for MPSEB stations for FY05 are as follows:

Table 81: Station Heat Rate approved by MPERC

Particulars	SHR (Kcal/kWh)
ATPS Chachai	3500
STPS Sarani	2910
SGTPS Birsinghpur	2825
Total	**2934**

Transit Losses

6.77 The transit losses in coal handling remain an area of concern. For FY05, the Licensee estimates transit losses to be 3% for each station and an additional stacking loss of 1%. The Licensee has submitted that it is making efforts to reduce these losses and the following steps have been taken in the previous year

a. Efforts have been made to resolve the disputes with coal companies and Fuel supply agreements are being executed shortly. This will help in better supply of coal quantity and quality.
b. Liaison agent has been appointed and the contract has been awarded with a clause of responsibility accounting on part of contractor at STPS Sarni and SGTPS Birsinghpur. This has helped in reduction of transit losses.
c. Coal measurement has been ensured at power station end by installation of in-motion rail / road weigh bridges at all thermal power stations.

6.78 While the Commission takes note of the good efforts of the Licensee, it expects further reduction in the transit and stacking losses. The Commission has also noted that the licensee had appointed a committee to look into the matters of high losses and shortage of coal stocks.

6.79 The Commission has also, through a suo-moto petition and hearings on the subject, discussed the issue at length with the Licensee officials who pointed out that after the installation of weightometer at each station, the losses measured and reported are significantly lower as compared to earlier period when the practice of measuring losses was based on deviation method. The Commission directs the Licensee to follow a uniform method for measuring coal losses at all stations on a consistent basis.

6.80 The desirable transit loss levels would be the levels allowed by the CERC to central sector stations. The Licensee has stated that it does not have facilities such as merry-go-round system, covered sheds etc which are available to the Central generating Stations. Considering these, the Commission has approved the transit losses only for FY05 and these shall be progressively reduced in future years to the normative levels of transit losses fixed by CERC.

6.81 The transit losses approved by the Commission for FY05 are shown below.

Table 82: Transit Losses

Particulars	Licensee's Estimates (%)	Commission's Approval for FY05 (%)
ATPS Chachai	3%(transit)+1%(stacking)	1.25%
STPS Sarani	3%(transit)+1%(stacking)	2.20%
SGTPS Birsinghpur	3%(transit)+1%(stacking)	3.00%
Total	**4.00%**	**2.41%**

6.82 The Commission directs the Licensee to submit an investment plan to reduce the transit and stacking losses based on which the future transit loss can be fixed by the Commission and brought down to the normative levels of transit loss approved by CERC for Central Generating stations. The Commission estimates that reduction of transit loss by 1% in case of Birsinghpur can result in savings of Rs 5 crores per annum in coal cost which is a significant saving.

Specific Oil Consumption

6.83 The Commission has taken note of the significant deviation in the specific oil consumption levels projected by the Licensee from the levels approved in the Tariff Order for FY03. MPSEB has not been able to provide sufficient justification to the Commission for the reasons for high specific oil consumption.

6.84 The Commission understands that ATPS Chachai Ph – I is a 40 yr old unit and in view of frequent outages and start ups or situations of low PUF, it requires higher specific oil consumption but the Commission is unable to understand the reasons for higher specific oil consumption by other units. Even in case of ATPS Chachai Ph – I, the Commission is of the opinion that specific oil consumption can be reduced significantly through adequate repairs and maintenance.

6.85 The Commission has therefore kept the sp oil consumption at the same levels as approved in the Tariff Order for FY03. The approved sp oil consumption levels are shown below.

Table 83: Specific Oil Consumption

Particulars	Licensee's Estimates (ml/Kwh)	Approved for FY05 (ml/Kwh)
ATPS-Chachai-PH1	15	8.5
ATPS-Chachai-PH2	7	2.6
ATPS Chachai	**8.19**	**3.48**
STPS-Sarani-PH1	4.27	3.5
STPS-Sarani-PH2	1.8	1.4
STPS-Sarani-PH3	1.6	1.4
STPS Sarani	**2.4**	**1.96**
SGTPS-Bir'pur-PH1	2	2.45
SGPTS-Bir'pur-PH2	2.2	2.45
SGTPS Birsinghpur	**2.1**	**2.45**
Total	**2.84**	**2.29**

MPSEB's Hydel Stations

6.86 The Commission has taken the average generation in the last 11 years of the hydel plants (including shared stations) to arrive at a fair estimate of generation from these stations for FY05, except for newer stations, for which the average has been taken for the number of years for which they have been functional. The estimate thus arrived at is presented below:

Table 84: Net Hydel Generation

Particulars	Commission's Estimates of Hydel generation in FY05 (MUs)
Gandhisagar	319.22
M.P. share from Pench	273.25
Bargi	519.68
Tons	616.54
Bansagar Devlone	117.65
Bansagar Silpara	90.77
Birsinghpur	44.54
M.P.share from Rajghat	39.77
Matatila	31.84
Marikhera	0.00
Total Hydel	**2053.26**

6.87 The Commission's estimate of hydel generation is thus about 5 MU higher than the estimates submitted by the Licensee.

6.88 At this point, the Commission would like the licensee and the State Govt to settle the outstanding issues with Uttar Pradesh in respect of Rihand and Rajghat and with Rajasthan in respect of Gandhi Sagar, Jawahar Sagar and Rana Pratap Sagar hydel projects. Similarly, the issues relating to Sarni Thermal Ph – I may also be got settled.

6.89 The total generation approved by the Commission for MPSEB's own generating stations is as follows:

Table 85: MPSEB Net Generation

Particulars	Net Generation * (MU)
Thermal	

Particulars	Net Generation * (MU)
ATPS-Chachai-PH1	178.38
ATPS-Chachai-PH2	1037.2
STPS-Sarani-PH1	1865.11
STPS-Sarani-PH2	2482.43
STPS-Sarani-PH3	2505.31
SGTPS-Bir'pur-PH1	2352.75
SGPTS-Bir'pur-PH2	2502.35
Thermal Total	**12923.52**
Hydel Total	**2053.25**
MPSEB Total	**14,976.77**

* The entire generation from STPS, Sarni-Ph1 and Gandhi Sagar HPS have been considered for the purpose of generation while the shares of Jawahar Sagar and Rana Pratap Sagar have not been considered. The reasons for these have been separately discussed and elaborated in the chapter on Functionwise Segregation of Annual Revenue Requirement.

Generation Expenses

Licensee's submission

Fuel and Related Expenses

6.90 The Licensee has submitted that the increase in the prices of various grades of coal by Coal India Limited (CIL) since 16th June, 04. It has calculated that the impact of this hike as explained below

Table 86: Impact of Coal Price Increase

Grade	SGTPS		ATPS Chachai		STPS Sarni			
	SECL w.r.t 18.08.02		SECL w.r.t 18.08.02		WCL w.r.t 18.08.02		WCL w.r.t 21.09.98	
	Hike (%)	Qty (%)	Hike (%)	Qty (%)	Hike (%)	Qty (%)	Hike (%)	Qty (%)
A	14.89		14.89		14.98		32.66	
B	20.19	5	20.19		15.42		33.48	
C	20.22	20	20.22		14.62		33.18	
D	19.48	15	19.48	85	15.06	25	34.64	25
E	32.11		32.11	15	21.13	75	31.10	75
F	14.63	60	14.63		14.52		24.13	
G	16.66		16.66		15.63		25.14	
Total	**16.75**		**21.37**		**19.61**		**31.99**	

* These are expected linkages and the actual arrivals may differ.

(a) 16.75% for SGTPS Birsinghpur (considering 5% Coal of grade "B", 20% of grade "C", 15% of grade "D" and 60% of grade "F" shall be received by the power station during FY05),

(b) 21.37% for ATPS Chachai (considering 85% Coal of grade "D" and 15% of grade "E" shall be received by the power station during FY05),

(c) 31.99% for STPS Sarni (considering 25% coal of grade "D" and 75% of grade "E" shall be received by the power station during FY05). Also, due to the pending resolution of the dispute regarding the price revisions by Western Coal Fields Ltd (WCL), Licensee has been making payment to the WCL on the rates applicable on Aug. 1998 plus 50% of the enhancement in rates, which came into effect in the month of Feb'01. Thus taking this impact into consideration, the total impact of an increase in the prices of WCL will be a 31.99% increase.

6.91 On account of this revision, the landed coal prices at the power station for FY05 is likely to be Rs. 1273 /MT as detailed below

Table 87: Ex-Yard Price of Coal

Rs/MT	Projected Price of Coal
ATPS Chachai	1128
STPS Sarni	1348
SGTPS Birsinghpur	1197
Weighted Average rate	**1273**

6.92 Based on this, the total variable cost of generation is Rs 1479.06 crores, the break-up of which is given in the following Table.

Table 88: Generation Expenses FY05

Projected Cost of Generation			Rs Crores
1	Fuel and Related Expenses	ATPS Chachai	134.76
		STPS Sarni	765.13
		SGTPS Bir'pur	497.77
		Total	**1397.66**
2	Transit Loss	ATPS Chachai	0.38
		STPS Sarni	5.71
		SGTPS Bir'pur	14.98
		Total	**21.07**
3	Cost of Water		11.18
4	Cost of Lubricating Oil, Consumable &		6.10
5	Station Supplies		0.20
6	Other Costs (like Octroi and Entry tax etc)		30.00
7	Electricity Duty and Cess on Auxiliary		12.85
8	**Total**		**1479.06**
9	Net Generation (MU)		14176.39

Projected Cost of Generation		Rs Crores
12	Cost per unit (paise/unit)	104

Commission's Estimates

Increase in Coal Price

6.93 The Commission realizes that increase in coal prices are beyond the control of MPSEB, and has considered its impact on total generation cost of MPSEB. For future, the Commission directs MPSEB to submit a petition based on the approved Variable Cost Adjustment (VCA) formula if required, at the end of every six months without waiting for adjustments at the time of tariff revision.

6.94 The Commission has examined in detail, the components of generation cost and based on the approved gross generation, efficiency norms of Plant Utilisation Factor, Auxiliary consumption, coal & oil consumption and coal prices, the total cost of generation has been worked out by the Commission. The estimates of coal and oil cost and a summary of the calculation of generation expenses is provided below.

Table 89: Coal Cost

Rs. Crores

MPSEB Thermal	SHR (kCal / kWh)	GCV of coal fired (kCal / kg)	Quantity of coal without losses (Lakh MT)	Transit losses of coal (%)	Transit loss of coal (Lakh MT)	Total quantity of coal (Lakh MT)	Coal Price (Rs / MT)	Total Coal Cost (Rs Crore)
ATPS-Chachai	3500	4512	10.3	1.3%	0.13	10.5	1138.80	119.21
STPS-Sarani	2910	3554	61.1	2.2%	1.34	62.5	1355.79	846.89
SGTPS-Bir'pur	2825	3791	39.5	3.0%	1.18	40.6	1209.73	491.57

Table 90: Oil cost

Rs. Crores

MPSEB Thermal	Specific Oil Consumption (ml/kWh)	Total quantity of Oil (kl)	Oil Cost (Rs/l)	Total Oil cost (Rs Crores)
ATPS-Chachai	4.6	6170.6	13.9	8.68
STPS-Sarani	2.4	18257.3	15.5	27.70
SGTPS-Bir'pur	3.0	15781.2	15.0	23.70

Table 91: Generation expenses **Rs. Crores**

Particulars		FY03	FY04	FY05	
		Actual	Provisional	Projected	Commission's estimates
Fuel and Related Expenses	ATPS Chachai	118.64	114.55	134.76	126.42
	STPS Sarni	587.59	649.64	765.13	856.35
	SGTPS Bir'pur	441.16	434.17	497.77	500.96
	Total	1147.39	1198.36	1397.66	1483.74
Transit Loss*	ATPS Chachai	0.03	0.3	0.38	1.47
	STPS Sarni	13.59	5.69	5.71	18.23
	SGTPS Bir'pur	21.72	13.5	14.98	14.32
	Total	35.34	19.49	21.07	34.02
Cost of Water		0.24	0.33	11.18	11.18
Cost of Lubricating Oil, Consumable & Chemicals		5.82	5.01	6.1	6.1
Station Supplies		0.18	0.19	0.2	0.2
Other Costs (Entry tax etc)		38.18	25.68	30	30
Cess on Auxiliary Consumption		12.76	13.02	12.85	13.1
Generation Cost		1239.91	1262.08	1479.06	1578.34
Net Generation (MU)		14126.58	14523.36	14176.39	14976.77
Cost per unit (paise)		88	87	104	105

* The transit losses originally projected by the Licensee in its petition for FY05 are Rs 21.07 Cr. The calculations made by the Licensee were revised to Rs 53 crores as they admitted having made a calculation mistake. Accordingly, the generation cost as submitted by the licensee works out to Rs 1511.45 crores. The Commission has pruned down the transit losses to Rs 34 Crores.

MPERC has considered the availability of the entire generation capacity of STPS- Sarni since the entire generation is used by MP and the energy account between Rajasthan and MP are reportedly not being settled and have been pending for several years. In view of this, the total generation cost approved by the Commission is also higher considering the additional fuel cost incurred for generation in STPS-Sarni. This has also resulted in higher assumption of own generation leading to reduced need for power purchase.

Power Purchase

Licensee's submission

Power Purchase Quantum and Expenses

Expense Details

6.95 The Licensee has projected a total power purchase expense of Rs.3039 crores for 15164 MU at an approximate average price of Rs.2. The Licensee has considered the following while making projections:

(a) The capacity charges have been considered, based on CERC orders, assuming 80 % availability of all CGS stations except Gandhar Gas power station. The availability of Gandhar GPS has been considered as 66.6 % (actual till June) and capacity charges available have been reduced accordingly.

(b) The NTPC has revised its rates for energy charges as per CERC revised norms with effect from 1st April 04. The revised energy charges have been considered.

(c) The CIL has increased its fuel prices with effect from 16th June 04. The effect of rise in FPA for coal based CGS stations has been considered for 9½ months, based on FPA formula for respective station.

(d) NTPC has also revised base price of energy in respect of Kawas and Gandhar Gas Stations. Accordingly, new rates have been considered for computation of energy charges. For projection of FPA, actual FPA of May 04 has been considered. Energy charges of Kawas Gas Power Station have gone up considerably- for FY04, the average rate across all the months was Rs.3.46/unit while for the first four months of FY05, this rate has gone up to Rs.4.49/unit.

Table 92: MPSEB'S Estimate of Power Purchase Expenses

Particulars			FY 05		
			MU	Rs Crores	Paise/Unit
1	CGS-Western Region	KTPS	2610	230.15	88
2		VSTPS – I	2776	396.47	143
3		VSTPS – II	1935	319.72	165
4		KGPS	860	421.52	490
5		GGPS	800	198.22	248
6		**Total**	**8981**	1566.08	**174**
7	Inter Regional Power Purchase	Eastern Region	2160	410.01	190
8		Southern Region	0		
9		Northern Region	709	203.48	287
10		**Total**	**2869**	613.49	**214**
11	**Bilateral Power Purchase***		**673**	**188.20**	280
12	Other Sources	Wind / Captive	12	2.70	225
13		NHDC	1384	187.91	136
14		PTC/TPC etc.	945	265.93	281
15		UI	300	76.32	254

16		**Total**	**2600**	**532.86**	**205**
17	**Cost of Power**		**15164**	**2900.63**	**191**
18	Transmission Charges		13079	138.10	10
19	**Total Cost of Power Purchased**		**15164**	**3038.73**	**200**

** This included the generation from Sarni Ph – I and other shared power stations.*

Commission's estimates

6.96 MPSEB purchases power from National Thermal Power Corporation (NTPC) stations are based on its allocated share.

Table 93 : Allocation from Central Generating Stations to MP

Western Region (CGS)	Installed Capacity (MW)	MPSEB Share (MW)
KSTPS	2100	400
VSTPS-I	1260	385
VSTPS-II	1000	273
KGPS	656.2	140
GGPS	657.4	117

6.97 It is also purchasing power, whenever available from NTPC stations located in Eastern Region and Northern Region. To make up the shortfall, MPSEB also makes short-term power purchases from other sources such as Power Trading Corporation, Tata Power Company Limited, NTPC Vidyut Vyapar Nigam Limited etc. The Commission has directed MPSEB to obtain Commission's approval for these short-term purchases in accordance with the provisions of the Electricity Act, 2003. The Commission has also specified under Section 86 (e) of the Electricity Act, 2003 that 0.5% of the total power purchase should be made from Wind Energy Producers of the state. There is also a standing arrangement with a private captive power producer namely Hindustan Electro-Graphites Ltd (HEG).

6.98 The following table shows MPSEB's power purchases from NTPC stations and other sources in FY 2002-03 and FY 2003-04 and also the details of MPSEB's estimate for the FY 2004-05:

Table 94: Power Purchase details submitted by MPSEB

Particulars			FY03 (Actual)			FY04 (Provisional)			FY05 (Proposed)		
			MU	Rs. Crs	P/U	MU	Rs. Crs	P/U	MU	Rs. Crs	P/U
1	CGS-Western Region	KTPS	2918	249.49	85	2672	213.02	80	2610	230.15	88
2		VSTPS - I	2491	349.57	140	2572	337.65	131	2776	396.47	143
3		VSTPS - II	1963	339.3	173	1881	291.91	155	1935	319.72	165

Particulars			FY03 (Actual)			FY04 (Provisional)			FY05 (Proposed)		
			MU	**Rs. Crs**	**P/U**	**MU**	**Rs. Crs**	**P/U**	**MU**	**Rs. Crs**	**P/U**
4		KGPS	1063	367.53	345	1068	369.14	346	860	421.52	490
5		GGPS	742	224.26	302	673	224.02	333	800	198.22	248
6		**Total**	**9177**	**1528.16**	**167**	**8866**	**1435.74**	**162**	**8981**	**1566.08**	**174**
7	Inter Regional Power Purchase	Eastern Region	2041	383.37	188	2205	388.88	176	2160	410.01	190
8		Southern Region	9	1.36	154	0			0		
9		Northern Region	215	31.95	149	221	62.54	282	709	203.48	287
10		**Total**	**2264**	**416.67**	**184**	**2426**	**451.42**	**186**	**2869**	613.49	**214**
11	**Bilateral Power Purchase**		**832**	**201.32**	**242**	**636**	**149.23**	**235**	**673**	**188.2**	280
12	Other Sources	Wind / Captive	12	2.7	225	12	2.7	225	12	2.7	225
13		NHDC				193	26.2	136	1384	187.91	136
14		PTC/TPC etc.	522	104.04	199	1722	392.68	228	945	265.93	281
15		UI	195	98.76	507	180	79.32	440	300	76.32	254
16		**Total**	**729**	**205.5**	**282**	**2107**	**500.9**	**238**	**2600**	**532.86**	**205**
17	**Cost of Power**		**13002**	**2351.65**	**181**	**14035**	**2537.29**	**181**	**15164**	**2900.63**	**191**
18	Transmission Charges		11258	166.74	15	11454	142.55	12	13079	138.1	10
19	**Total Cost of Power Purchased**		**13002**	**2518.4**	**194**	**14035**	**2679.84**	**191**	**15164**	**3038.73**	**200**

6.99 It may be noted that the power purchase (MUs) from central generating stations has declined from 10,873 in FY 2001-02 to 9177 MUs in FY03 and further to 8866 MUs in FY04. This decline is in view of implementation of Availability Based Tariff (ABT) regime introduced by the Central Electricity Regulatory Commission (CERC) from July 1, 2002 in the Western Region..

6.100 MPSEB is also required to pay the Powergrid Corporation of India Limited (PGCIL) for the usage of transmission network for evacuation of its quota of power from CGS for meeting the requirements of the state and for trading purposes. MPSEB's estimate of wheeling charges payable to PGCIL in the FY 2004-05 is Rs 138.10 Crores.

6.101 MPSEB has submitted that energy charges of Kawas Gas Power Station have gone up considerably, as highlighted in the following table.

Table 95: Monthly Charges of Kawas Station

Sl. No	Month	Unit MU	Fixed Charges Cr.Rs.	Energy Charges Cr.Rs.	Others Cr.Rs.	Income Tax Cr.Rs.	Total Cr.Rs.	Rate P/U
1	Apr-03	102.51	6.56	28.40	0.34		35.30	3.44
2	May-03	95.76	6.56	19.45	0.10		26.12	2.73
3	Jun-03	80.88	6.41	18.09	-		24.50	3.03
4	Jul-03	57.83	6.41	12.18	-		18.59	3.21
5	Aug-03	44.87	6.41	9.59	0.19		16.19	3.61
6	Sep-03	63.18	6.41	15.87	-		22.28	3.53
7	Oct-03	94.29	6.41	24.92	0.01		31.34	3.32
8	Nov-03	100.75	6.41	28.91	0.85		36.17	3.59
9	Dec-03	110.30	6.41	33.36	0.01		39.78	3.61
10	Jan-04	105.56	6.41	34.19	-		40.60	3.85
11	Feb-04	98.38	6.41	31.46	0.01		37.87	3.85
12	Mar-04	113.44	6.41	32.58	0.17		39.15	3.45
	Total	**1067.8**	**77.22**	**289.01**	**1.67**	**1.26**	**369.1**	**3.46**
1	Apr-04	103.37	6.07	31.00	-		37.07	3.59
2	May-04	88.87	6.03	35.20	0.02		41.25	4.64
3	Jun-04	42.88	5.92	18.15	0.04		24.11	5.62
4	Jul-04	59.69	6.08	23.88	-		29.95	5.02

Sl. No	Month	Unit MU	Fixed Charges Cr.Rs.	Energy Charges Cr.Rs.	Others Cr.Rs.	Income Tax Cr.Rs.	Total Cr.Rs.	Rate P/U
	Total	**294.80**	**24.10**	**108.22**	**0.06**		**132.38**	**4.49**

6.102 The Commission has taken note of the fact that the variable charges of power from Kawas Gas Power Station amount to 372 paise per unit. The Licensee has a firm allocation of power in this station. Even if the Licensee had paid its capacity charges and not drawn from Kawas station, by sourcing the same quantity of power from traders at around Rs 2.8 per unit, it would have saved around 90 paise per unit of power purchased.

Inter-regional Power Purchase

Eastern Region

6.103 With the revised share allocation of the Eastern Region, the MPSEB has received a share equivalent to 350 MW of power. Based on the past trend of the operation of the Farakka TPS, Kahalgaon TPS and Talcher TPS, the total energy available from ER to MPSEB has been projected at 2160 MU for FY05.

Northern Region

6.104 MPSEB does not have any firm allocation of the power from the NR however, to meet the power input requirements, MPSEB had envisaged a drawal of 709 MU from NR.

Southern Region

6.105 MPSEB does not have any firm allocation of the power from the SR and with the introduction of ABT regime in the Southern Region, infirm exchange of energy with SR is not envisaged. Hence, no purchase of power from SR has been projected for FY05.

Power Purchase through Bilateral arrangements

6.106 MPSEB has bilateral arrangements with various states as enumerated in the table below. MPSEB retains the power that is supposed to be exported from its share stations to Rajasthan and Uttar Pradesh. This is treated as deemed purchase after adjusting the quantity that is MPSEB's entitlement in the shared stations located in respective states. The cost of this power deemed to be purchased is based on a formula agreed between these states. (The Commission has separately advised the SEB to get this matter settled through negotiations so as to arrive at a simpler and clean arrangement.)

Table 96: Stations under bilateral arrangements

S. No.	Project Names	Partnership state
1	Chambal and Satpura complex : Thermal and Hydel project	Rajasthan
2	Rihand, Matatila and Rajghat hydel projects	Uttar Pradesh
3	Pench Hydel Project	Maharashtra

6.107 In case of the bilateral arrangement with Rajasthan, energy account of the Chambal-Satpura complex is prepared taking into consideration the drawal by both the constituents including their border villages from MPSEB/RVPNL network. The energy drawal by MPSEB and RVPNL are netted to the extent of their allocated share of power from the Chambal-Satpura complex. For any overdrawal of energy, the overdrawing SEB has to pay the partner SEB at a pre-agreed energy rate of NTPC's Badarpur Thermal Power Station (BTPS) for that month, plus 10%.

6.108 Commission has noted that MPSEB is netting power in MU between Satpura Thermal Power Station – I (STPS-I), Gandhi Sagar Hydel Power Station (GSHPS) located in Madhya Pradesh and Jawahar Sagar Hydel Power Station (JSHPS), Rana Pratap Sagar Hydel Power Station (RPSHPS) located in Rajasthan. As the generation costs of the complexes located in MP and Rajasthan are different by the virtue of the different thermal-hydel mixes in the two complexes, power cannot be netted off in MUs.

6.109 The Commission has estimated the net hydel generation by taking 11 yr average of hydel generation. Rajghat hydel station's net generation has been estimated at 79 MU. Out of this MPSEB's share is 39.5 MU. The remaining share is meant for UP as it has a 50% share in the project. The Licensee, however, has been retaining the share of UP for the past years. The reason stated by the Licensee for share retention is that the Govt of UP has not paid its full share of capital expenditure and the matter is being pursued by the Licensee.

6.110 Accordingly, the share that MPSEB would retain in FY05 and show as deemed purchase under bilateral power purchase should be 39.5 MU though the Licensee had not shown any such deemed purchase from Rajghat. The Commission has considered retention of 39.5 MU in case of Rajghat.

6.111 The Commission has followed the following process for verifying the calculation of projected power purchase costs for MPSEB:

- ascertaining the availability of energy with the generating stations supplying to MPSEB
- determining the fixed and variable charges for these stations
- apportioning the availability to meet the State's requirement
- determining cost of power purchase for State's requirement on merit order

6.112 Given the applicability of the ABT regime, the Commission emphasizes that MPSEB should create and enforce suitable mechanisms to ensure a strict adherence to the merit order process based on the declared day ahead availability schedule of the generating stations and its own determination of the scheduled requirement of energy to be supplied to consumers as there are significant financial implications of deviations from the availability schedule.

6.113 The Merit Order plan must be prepared for each month at least 15 days before the commencement of the month and display on the website for the current and previous 11 plans. Previous Plans for the last two years should be archived.

6.114 The sales estimate of 16,885 MU together with the approved transmission and distribution loss level of 40.5% would require energy input at 28,378 MU. At an estimated self-generation of 14,977 MU, the power purchase required shall be 13,401 MU. The Licensee has submitted a power purchase plan of 15164 MU. The power purchase plan would therefore require to be pruned to 13,401 MU.

6.115 Additionally, the Commission has considered the impact of retention of Rajasthan and UP's share of power and accordingly the power purchase quantum disallowed amounts to 1371 MU.

6.116 The Commission has taken a serious view of the fact that the Licensee officials did not take any measures to reduce power purchase from Kawas station and has disallowed the variable charges of power purchase amounting to 860 MU from Kawas station. Only the fixed charges and other charges amounting to Rs 82.2 Crore have been allowed for Kawas station.

6.117 The power purchase quantity and cost as proposed by MPSEB for FY 2004-05 as approved by the Commission is provided in the following table.

Table 97: Power Purchase Expense approved by MPERC

Particulars			FY05 (Commission's Estimates)		
			MU	**Cr.Rs.**	**P/U**
1	CGS-Western Region	KTPS	2610	230.15	88
2		VSTPS - I	2776	396.47	143
3		VSTPS - II	1935	319.72	165
4		KGPS	0.00	82.20	-
5		GGPS	800	198.22	248
6		Total	8121	1226.76	151
7	Inter Regional Power Purchase	Eastern Region	2160	410.01	190
8		Southern Region	0	0	0
9		Northern Region	709	203.48	287
10		Total	2869	613.49	214
11	Bilateral Power Purchase				
		RSEB	0	0.00	-
		UPSEB	39.5	0	-
		MSEB	8	2.14	267

Particulars			FY05 (Commission's Estimates)		
			MU	Cr.Rs.	P/U
		Total	47.5	2.14	280
12	Other Sources	Wind / Captive	12	2.7	225
13		NHDC	1384	187.91	136
14		PTC/TPC etc.	667.95	187.97	281
15		UI	300	76.32	254
16		Total	2363.95	454.90	192
17	Cost of Power		13401.45	2297.28	171
18	Transmission Charges		11957.95	126.11	11
19	Total Cost of Power Purchased		13401.45	2423.39	181

Repairs and Maintenance Expenses

Licensee's submission

6.118 Similar to FY04, the Licensee has projected its Repairs and Maintenance(R & M) expenses based on requirements of various user departments for FY05, necessary to achieve the performance targets proposed

6.119 The Licensee has submitted the following figures for R&M expenses:

Table 98: R&M Expenses FY05

FY05		Rs.Crores
1	Generation	191.97
2	Transmission	28.83
3	Distribution	170.99
4	**Total**	**391.79**

Commission's estimates

6.120 The following table shows MPSEB's Net Repairs and Maintenance (R&M) expenses in FY 2002-03 and FY 2003-04 and also the details of MPSEB's estimate for FY 2004-05.

Table 99: Proposed Repairs and Maintenance expenses **(Rs. Crores)**

	Particulars	FY02 Tariff Order	FY02 Actual	FY03 Tariff Order	FY03 Actual	FY04 Provisional	FY05 Proposed
1	Generation		108.11	188.71	98.48	98.41	191.97

<table>
<tr><td>2</td><td>Transmission</td><td rowspan="2"></td><td>13.87</td><td rowspan="2">159.94</td><td>11.17</td><td>13.63</td><td>28.83</td></tr>
<tr><td>3</td><td>Distribution</td><td>149.6</td><td>57.04</td><td>45.29</td><td>170.99</td></tr>
<tr><td>4</td><td>Total (Rs.Crore.)</td><td>197.99[1]</td><td>271.57</td><td>348.65[2]</td><td>166.69</td><td>157.33</td><td>391.79</td></tr>
</table>

6.121 During FY05, MPSEB has proposed to undertake the maintenance/overhaul activities of the generating stations in phases that were deferred earlier in addition to planned maintenance activities for the Stations that are due for capital maintenance. The R&M expenses during FY05 have been projected accordingly.

6.122 The R & M expenditure incurred by MPSEB for the past two years is below the level approved for FY03 by the Commission in its Tariff Order of November 30, 2002. The Commission had then allowed Rs 348 Crores corresponding to 4.0% of the gross block during the year. Against this, the Licensee spent only Rs 166.69 Crores which was 1.8% of the gross block. For FY04 also, the Licensee has spent Rs 157.33 Crore which was only 1.6% of the gross block.

Table 100: R&M Expenses incurred as % of Gross Block

Particulars	**FY02 (Actual)**		**FY03 (Provisional)**		**FY04 (Provisional)**		**FY05 (Proposed)**	
Gross Block during the Year	**Rs Crore**	**(%)**	**Rs Crore**	**(%)**	**Rs Crore**	**(%)**	**Rs Crore**	**(%)**
Generation	3729.34	42.4	4012.13	42.4	4316.10	42.9	4437.51	40.9
Transmission	1828.00	20.8	1965.39	20.8	2075.48	20.6	2404.76	22.2
Distribution	3236.81	36.8	3485.17	36.8	3680.99	36.5	4004.95	36.9
Total	8794.15	100.0	9462.69	100.0	10072.56	100.0	10847.22	100.0
Repairs and maintenance expenses	**Rs Crore**	**As % of function-wise gross block**	**Rs Crore**	**As % of function-wise gross block**	**Rs Crore**	**As % of function-wise gross block**	**Rs Crore**	**As % of function-wise gross block**
Generation	108.11	2.9	98.48	2.5	98.41	2.3	191.97	4.3
Transmission	13.87	0.8	11.17	0.6	13.63	0.7	28.83	1.2
Distribution	149.60	4.6	57.04	1.6	45.29	1.2	170.99	4.3
Total	271.57	3.1	166.69	1.8	157.33	1.6	391.79	3.6

[1] Commission had approved aggregate R&M cost for Generation, Transmission and Distribution as a single block.

[2] Commission had approved R&M expenses for Generation block and Transmission and Distribution as a single block.

6.123 The Commission, in order to analyze the reasonableness of the Repairs and Maintenance expenses allowed, has examined the expenses allowed by the other Commissions. These are presented below. The Commission notes that the expenses allowed range between 1% and 3% of the opening gross blocks.

(Rs. Crores)

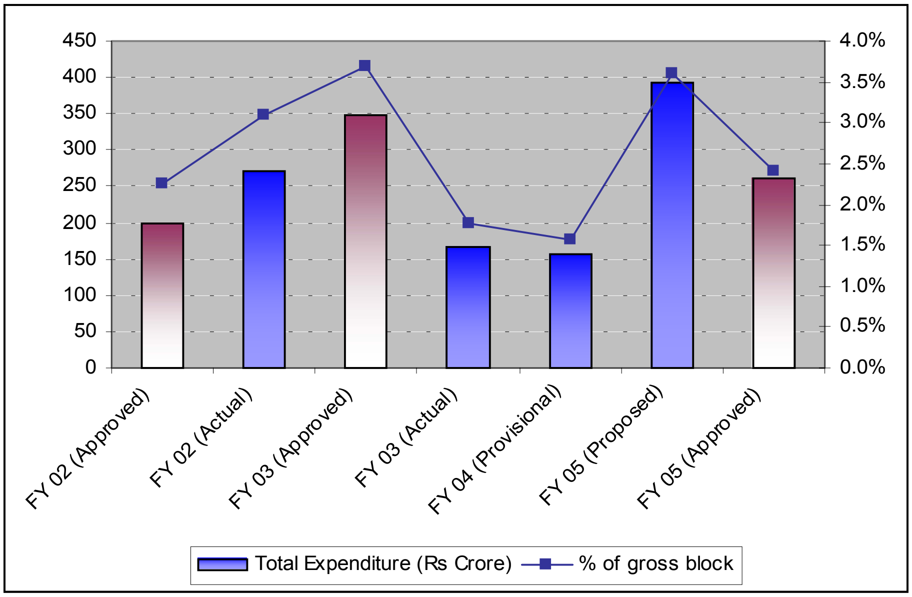
Table 101: Repairs and Maintenance expenses

Particulars	Gujarat		Maharashtra		Punjab		HP	Tamil Nadu	
	FY03	FY04	FY03	FY04	FY03	FY04	FY03	FY03	FY04
	Audited	Approved	Actual	Approved	Approved	Approved	Actual	Approved	Approved
Opening Gross Block	10769	11507	23727.08	24827.39	12548.93	13087.71	1757.79	12922	14219
Repairs and Maintenance expenses	193	207	640.46	737.11	206	236.16	22.71	132.8	152.7
Repairs and Maintenance expenses as % of opening gross block	1.79%	1.80%	2.70%	2.97%	1.64%	1.80%	1.29%	1.03%	1.07%

6.124 The Commission has noted that the Licensee has not incurred Repairs and Maintenance expenses to the extent allowed in the previous Tariff Order. The Commission cannot approve such expenses that are passed onto the consumers but are not incurred by the Licensee consistently. It is very obvious that the assets of the Licensee are in dire need of repairs and maintenance. The Commission has, over the years, repeatedly urged the Licensee to undertake timely repairs and maintenance. The Commission, as a penalty for poor performance on this front, has pruned the repairs and maintenance expenses for Generation block and T&D block by Rs 50 Crore and Rs 80 Crore respectively. As a result, the Commission is allowing repairs and maintenance expenses in FY05 for generation block at Rs 141.97 Crore and for transmission and distribution block at Rs 119.8 Crore.

6.125 The figure below shows the approved expenses and the expenses incurred by the Licensee over the past years. The approved R&M expenses account for 3.2% of the Generation Gross Block (as against 4.3% proposed by MPSEB) and 1.9% of the T&D gross block (as against 3.1% proposed by MPSEB).

Figure 2: Repairs and Maintenance expenses of MPSEB



6.126 The Commission believes that every expenditure incurred for improving the condition of the assets will result in savings realized through better operational performance over the next couple of years. These savings shall be of such a magnitude that they shall significantly outweigh the expenses incurred. As a result, the Commission is willing to take a very favourable view of the expenses incurred by the Licensee and shall true up the expenditure undertaken to the extent of 3% of the opening gross block i.e. Rs 311 Crores in its future tariff reviews including the associated financing costs based on actuals.

6.127 The R&M expenses proposed by the MPSEB for the functions of Generation, Transmission and Distribution along with the R&M expenses approved by the Commission are shown in the following table.

(Rs. Crores)

Table 102: R&M expenses approved by the Commission

Sl. No.	Particulars	FY05 (Proposed)	FY05 (Commission's estimates)
	Gross Block during the year		
1	Generation	4437.51	4437.51
2	Transmission	2404.76	2404.76
3	Distribution	4004.95	4004.95
4	**Total**	**10847.22**	**10847.22**
	R&M expenses (Rs. Cr.)		
1	Generation	191.97	141.97
2	Transmission	28.83	119.82
3	Distribution	170.99	
4	**Total**	**391.79**	**261.79**
	As % of Gross Block		

Sl. No.	Particulars	FY05 (Proposed)	FY05 (Commission's estimates)
1	Generation	4.33%	3.20%
2	Transmission	1.20%	1.9%
3	Distribution	4.27%	
4	**Total**	**3.61%**	**2.41%**

Employee Expenses

Licensee's submission

6.128 Based on the trends received in FY02, FY03 and FY04, projections of employee expenses for FY05 have been made and the net employee expenses have been worked out to Rs.1027 crores.

Table 103: Employee Expenses FY05

	Heads	Rs.Crores
1	Salaries	401.59
2	D.A.	289.06
3	Other Allowances and Relief	43.73
4	Additional Pay and C. Off	90.31
5	Provision for Wage Revision	123.70
6	Other Staff Cost	38.76
7	Terminal Benefits	107.09
8	Bonus / Exgratia payments	0.13
9	**Gross Employee Cost**	**1094.37**
10	Less Capitalization	-67.64
11	**Net Employee Cost**	**1026.73**

Commission's estimates

6.129 The following table shows MPSEB's employee expenses in FY03 and FY04 and also the details of MPSEB's estimate for the FY05.

Table 104 : Employee Cost for MPSEB

(Rs. Crores)

Sl. No.	Particulars	FY03 Actual	FY04 Provisional	FY05 Proposed
1	Salaries	375.46	388.52	401.59
2	D.A.	190.02	217.48	289.06
3	Other Allowances and	40.91	42.31	43.73

	Relief			
4	Additional Pay and C. Off Encashment	84.9	90.65	90.31
5	Provision for Wage Revision /Incentive	0	0	123.7
6	Other Staff Cost	35.16	35.83	38.76
7	Terminal Benefits	101.38	104.47	107.09
8	Bonus / Exgratia payments	0.12	0.13	0.13
9	**Gross Employee Cost**	**827.96**	**879.38**	**1094.37**
10	Less Capitalization	-58.86	-54.35	-67.64
11	**Net Employee Cost**	**769.1**	**825.03**	**1026.73**

6.130 MPSEB's projections for employee expenses in FY05 are 24.4% higher than the employee expenses for FY04 and have been estimated based on the following assumptions:

i. Around 1500 employees would retire in FY05 and the number of employees in service at the end of the year would be 57,656

ii. Salaries would increase at the rate of 6.23% on account of employee increments and promotions.

iii. DA would be paid @ 59% of basic salary and additional pay.

iv. Wage revision would result in 15% increase in basic pay

6.131 The Commission believes that in order to get a better picture of the gross employee expenses, it is judicious to compare the Licensee on (i) parameters that relate to the employee efficiency and (ii) the average expenses incurred per employee with other utilities.

6.132 The Commission has analyzed the reasonableness of the number of employees serving the Licensee on the basis of the number of employees per unit sale which is a fair measure of employee efficiency. These are shown in the following table.

Table 105 Employee Efficiency

Particulars	2001-02	2002-03	2003-04
Total Employees	63,324	61,626	60,028
Employees per unit sale	4.54	4.07	3.75

6.133 The Commission has also compared the number of employees per unit sale of the Licensee and cost of employees per unit sale with other utilities in India as shown in the table below.

Table 106: Number of Employees per unit sale

State	(Employees/Kwh) for FY02
Orissa SEB/(GRIDCO)	0.57
OHPC	0.72
OPGC	0
Total Orissa	1.29
Gujarat	1.46
Delhi(DVB)	2.35
Maharashtra	2.37
Kerala	2.38
Rajasthan SEB/(Transco.)	2.05
Rajasthan (Genco.)	0.46
Total Rajasthan	2.51
Tamil Nadu	2.57
APSEB/APTRANSCO	2.07
APGENCO	0.54
Total AP	2.61
Bihar	3.38
Punjab	3.65
UP SEB(Power corp.)	2.24
UP (TPG Corp.)	0.75
UP (JVNL)	0.74
Total UP	3.73
Madhya Pradesh	4.54
Haryana SEB/HVPN	3.29
HPGC	1.26
Total Haryana	4.55
Himachal Pradesh	4.93

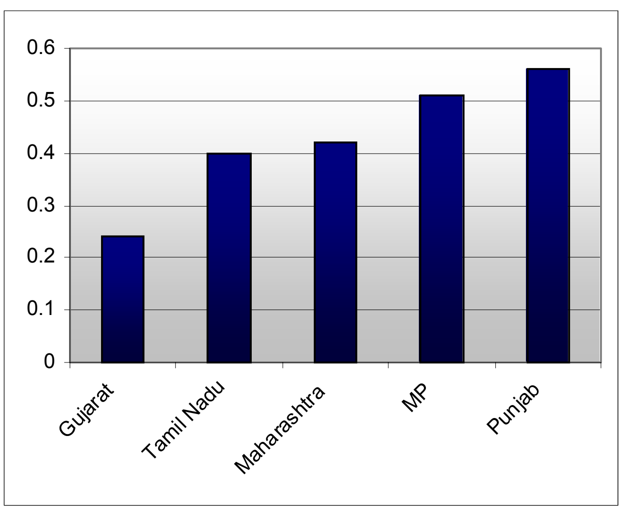
State	(Employees/Kwh) for FY02
Karnataka SEB/KPTCL	1.95
KPCL	3.12
Total Karnataka	5.07
Assam	8.8
Average	2.53

Source: Planning Commission report on the working of SEBs 2001-02

Table 107: Employee expenses per unit sold

Particulars	Gujarat		Maharashtra		Punjab		Assam		Tamil Nadu	
	FY03	FY04	FY03	FY04	FY03	FY04	FY04	FY05	FY03	FY04
	Audited	Approved	Actual	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Sale of Power (MU)	30917	32235	38066	39710	21876	22472	1907	2190	36826	39458
Employee expenses (Rs Cr)	746	783	1647.58	1654.98	1250.13	1250.13	284.9	298.09	1494.89	1593
Employee expenses per unit sale (Rs/U)	0.24	0.24	0.43	0.42	0.57	0.56	1.49	1.36	0.41	0.40

Figure 3: Approved employee expenses per unit sold in FY04



* Actual expenses in case of MP

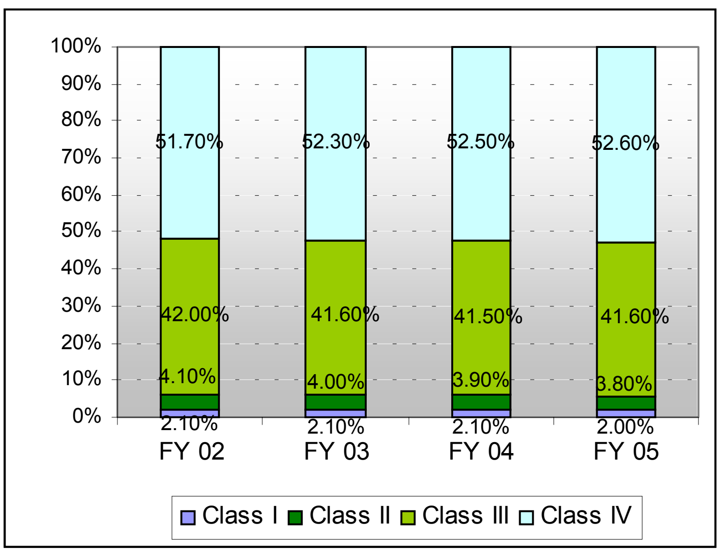
6.134 The figure above shows that MPSEB is overstaffed as compared to most other utilities in the country. In the past two years, however, the employees per unit sale have reduced at a CAGR of 9% which is a pointer towards improvement in productivity. Employee costs, however, have been unchanged at 51 paise per unit sold for MPSEB in FY03 and FY04. These expenses should ideally have fallen with a rise in sale. Expenses of this magnitude do not compare very favourably with similar expenses of other bundled utilities in India as can be seen from the figure above. The Commission believes that there still exists a significant scope for further improvement in employee efficiency.

6.135 The Commission has examined the number of employees in each grade (presented in the table below) and notes that the total number of employees in Class III and Class IV are more than 93% of total employees. Further, though Class I, II and III employees have decreased at rates of 3% or higher, Class IV employees have only decreased at the rate of approximately 2%. As a result, the employee structure is getting skewed towards class IV employees over the years.

Table 108: Class-wise Employee Details

Particulars	FY02		FY03		FY04		FY05		CAGR
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	(%)
Class I	1345	2.1	1293	2.1	1258	2.1	1194	2.0	-3.9
Class II	2608	4.1	2466	4.0	2354	3.9	2204	3.8	-5.5
Class III	26608	42.0	25661	41.6	24929	41.5	24311	41.6	-3.0
Class IV	32763	51.7	32206	52.3	31487	52.5	30697	52.6	-2.1
Total	63324	100.0	61626	100.0	60028	100.0	58406	100.0	-2.7

Figure 4: Employee mix of MPSEB



6.136 Given this imbalance in number of employees across the grades, the need for retraining and redeployment of employees needs little emphasis. The surplus staff in the Class III and Class IV grades can be retrained for field activities by which both such employees and the organisation as a whole benefits.

6.137 The Commission has also reviewed the expenses incurred by the Licensee on Training as submitted by the Licensee. The actual spending on training is far lower than desired and necessary to enhance the skills and productivity of employees. It has been observed that organizations allocate at least 1% of their employee cost for training purposes. Training and recruitment expenses are 1.42% of total employee expenses in case of NTPC.

(Rs lakhs)

Table 109: Employee Training expenses

Particulars	FY02	FY03	FY04
Tuition fees Reimbursement	13.34	31.67	63.27
Apprentice and other training expenses	19.86	50.78	24.76
Total Training expenses	33.20	82.45	88.03
Total employee cost	71429	76,910	82,502
Training expenses as a % of total employee cost	0.05%	0.11%	0.11%

6.138 In order to improve commercial orientation and achieve productivity gains and efficiency improvements, it is important to link employee benefits to the results they produce. Employees should be encouraged to earn more than what their fixed salaries offer by a suitable design of incentive scheme linked to efficiency improvements. This will also create a sense of competition amongst similarly placed employees who will strive to work harder for the benefit of the organization, thereby benefiting themselves to earn more than what their assured salaries offer. This aspect needs greater attention as the lack of monetary incentives often results in poor performance and indifferent attitude on the part of employees. MPSEB paid Rs 1.22 Crore as incentives in FY03 which is a mere 0.15% of the total employee expenses. In FY04, employee incentives have reduced to a paltry Rs 2 Lakhs.

6.139 Employees would be able to perform only when they are trained and sufficiently motivated. The Commission reemphasizes that the Licensee must design suitable training schemes and incentives to keep the employees motivated. The Commission would consider favourably, the expenses incurred for providing incentives to employees which are linked to efficiency improvements.

6.140 The Licensee has estimated 24.4% increase in employee expenses. Such a hike appears unreasonable especially when the viability of the Licensee is in question. The Commission has considered the actual employee expenses for FY03, which are not at significant variance to the Employee Cost approved in the Tariff Order for FY03 and has allowed for increase in salary in subsequent years on account of increments and promotions at the historic rate of increase observed which is 2.2%. Staff costs other than terminal benefits have been increased considering the inflation rates of 5% in FY04 and 7% in FY05.

i. DA rates applicable to MPSEB employees have been considered at 61% of Basic and Additional Pay for FY05. The rates have been considered in accordance with the Order of the Honourable High Court wherein it has directed that MPSEB employees be paid DA at 61% of basic and additional pay.

ii. Terminal benefits have been considered as estimated by the Licensee at actuals however, the Licensee shall have to submit evidence of having deposited the amount claimed in the petition on this account.

iii. Capitalization of employee expenses has been taken at 6.18% based on FY 2003-04 actuals

6.141 The Commission is of the view that any increase in pay in such a situation when the efficiency parameters, especially AT&C efficiency, have not shown any significant improvement and the viability of the MPSEB still remains in question, will have to be justified by increase in real employee productivity. The Commission will not be able to automatically pass on to the retail tariff any increase that may be agreed to by the MPSEB and the employees.

6.142 The Commission has allowed Rs 31 Crore in FY05 for rewarding employees for efficiency gains. The Commission expects that the Licensee shall devise a scheme for identifying employees who have contributed in efficiency gains and distribute the amount judiciously or else the Commission shall true-up these expenses next year.

6.143 The approved employee expenses are shown in Table 110 below.

Table 110: Employee expenses

Particulars	FY03 Actual	FY04 Provisional	FY05 Proposed	FY05 Approved
Salaries	375.46	388.52	401.59	392.16
Additional Pay	82.60	85.47	88.35	86.28
Compensatory-off encashment	2.30	5.18	1.96	2.59
Other Allowances and Relief	40.91	42.31	43.73	45.96
D.A.	190.02	217.48	289.06	291.85

Particulars	FY03 Actual	FY04 Provisional	FY05 Proposed	FY05 Approved
Provision for Wage Revision	0	0	123.7	0
Incentives for employee efficiency improvement	--	--	--	31
Other Staff Cost	35.16	35.83	38.76	38.50
Total	726.45	774.79	987.15	888.34
Terminal Benefits	101.38	104.47	107.09	107.09
Bonus / Exgratia payments	0.12	0.13	0.13	0.14
Gross Employee Cost	**827.95**	**879.39**	**1094.37**	**995.57**
Less Capitalization	-58.86	-54.35	-67.64	-61.86
Net Employee Cost	**769.1**	**825.0**	**1026.7**	**933.7**

Administration and General Expenses

Licensee’s submission

6.144 The Licensee has submitted the following figures for A&G expenses for FY05. The expenses for FY05 are projected, based on the historical trend and expected scenario in ensuing year.

Table 111: A&G Expenses FY05

Projected Expenses		Rs.Crores
1	Rent, Rates And Taxes	6.34
2	Insurance	31.32
3	Telephone, Postage, Telegram & Telex Charges	5.96
4	Consultancy Charges, Technical Fees etc	1.69
5	Conveyance And Travel	7.95
6	Other Administration Expenses	31.46
7	License Fee to MPERC	1.27
8	Fee and Other Subscriptions, Books etc	2.24
9	Printing And Stationery	7.78
10	Advertisement Expenses, Exhibitions etc.	1.99
11	Electricity Charges To Offices	9.01
12	Water Charges	0.57
13	Legal Charges	2.63
14	Material Related Expenses	-9.04
15	**Gross A&G Expenses**	**101.17**
16	Less Capitalized	-12.07
17	**Net A&G Expenses**	**89.10**

Commission's estimates

6.145 The details of Administration and General (A&G) expenses incurred by MPSEB in FY03 and FY04 and the estimates for FY05 as submitted by the Licensee is presented in the table below. The A&G expenses have been projected by MPSEB to increase by 10.1% in FY05 vis-à-vis FY04. The A&G expenses projected for FY05 is 101.17 Cr before capitalization and Rs 89.10 Cr after capitalization.

(Rs. Crores)

Table 112: Proposed Administrative and General expenses

Particulars		FY03 (Actual)	FY04 (Provisional)	FY05 (Proposed)
1	Rent, Rates And Taxes	15.23	6.14	6.34
2	Insurance	24.36	27.23	31.32
3	Telephone, Postage, Telegram & Telex Charges	3.97	5.18	5.96
4	Consultancy Charges, Technical Fees etc	1.4	1.58	1.69
5	Conveyance And Travel	4.97	6.92	7.95
6	Other Administration Expenses	18.57	25.79	31.46
7	License Fee to MPERC	0	1.21	1.27
8	Fee and Other Subscriptions, Books etc	0.44	1.86	2.24
9	Printing And Stationery	4.79	6.48	7.78
10	Advertisement Expenses, Exhibitions etc.	2.51	1.99	1.99
11	Electricity Charges To Offices	11.16	9.01	9.01
12	Water Charges	0.63	0.57	0.57
13	Legal Charges	3.25	2.63	2.63
14	Material Related Expenses	-11.48	-10.71	-9.04
15	**Gross A&G Expenses**	**79.81**	**85.9**	**101.17**
16	Less Capitalized	-11.7	-4.94	-12.07
17	**Net A&G Expenses**	**68.1**	**80.96**	**89.1**

6.146 The Licensee has submitted that the recent legislations and the formation of the successor entities has resulted in additional responsibilities and consequently, the administration and general expenses have increased.

6.147 The formation of successor companies and their functioning as agents of the Licensee under an Operations and Management Agreement has created the need for additional establishments and separate administration to some extent. On account of this reason, the Commission observes that the components and quantum of the administration and general expenses is changing and is likely to change over the next few years as the successor entities assume their full responsibilities as independent licensees and take more measures towards efficiency improvement.

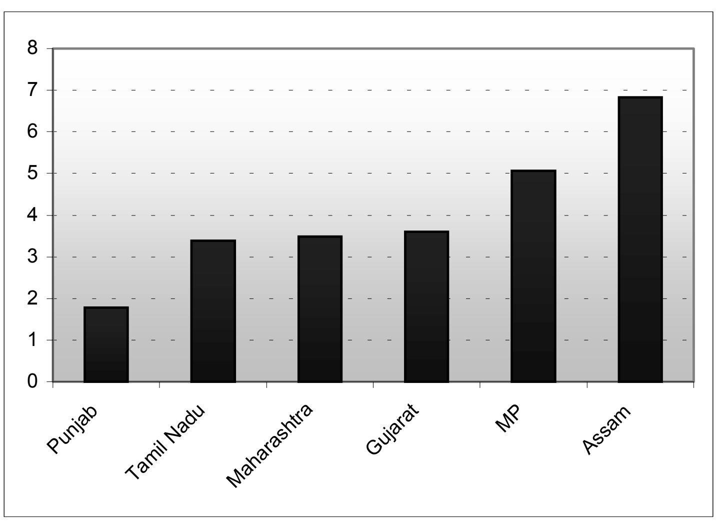
6.148 The Commission, in order to analyze the reasonableness of administrative and general expenses, has made a comparison of these expenses incurred per unit sale of power for the Licensee with other integrated utilities in the country. It is observed that the rates approved by various Commissions are normally between 3.4 paise per unit sale to 4.7 paise per unit sale. In comparison, the Licensee has incurred 4.50 paise as A&G expenses in FY03 which has increased to 5.06 paise per unit of sale in FY04.

(Paise /Kwh)

Table 113: Administrative & General expenses per unit sale

Particulars	Gujarat		Maharashtra		Punjab		Assam		Tamil Nadu	
	FY03	FY04	FY03	FY04	FY03	FY04	FY04	FY05	FY03	FY04
	Audited	Tariff Order	Actual	Tariff Order	Tariff Order	Tariff Order	Tariff Order	Tariff Order	Tariff Order	Tariff Order
Admin and general expenses per unit sale	3.56	3.60	3.71	3.49	1.69	1.78	6.83	6.25	3.48	3.38

Figure 5: Approved Administrative and general expenses for FY04



*Expenses per unit sale are as per provisional figures for MP

6.149 In its tariff order for FY03, the Commission had approved administrative and general expenses at Rs 70 Crore after capitalization. This expense results in an approved expense of 4.47 paise per unit sale in FY03. The Commission would like to maintain the same level of expenses but with adjustments for increase at the rates of inflation i.e. 5% for FY04 and 7% for FY05 over the expenses approved in FY03.

6.150 Accordingly, the expenses after capitalisation are estimated at Rs 78.65 Crore. These expenses shall be Rs 80.6 Crore on inclusion of the fees payable by the Licensee.

6.151 The following table provides the component-wise break up of A&G expenses as projected by MPSEB and as allowed by the Commission for FY05.

(Rs. Crores)

Table 114: Approved Administrative and general expenses

Particulars		FY03 Actual	FY04 Provisional	FY05 Proposed	FY05 Approved
1	**Gross A&G Expenses**	**79.81**	**85.9**	**101.17**	**87.11**
2	Less Capitalized	-11.7	-4.94	-12.07	-8.46
3	**Fees payable to MPERC**		**1.27**	**1.27**	**1.95**
4	**Net A&G Expenses**	**68.1**	**82.23**	**90.37**	**80.60**

Depreciation

Licensee's submission

Depreciation Claims in FY05

6.152 The Licensee has submitted that it has followed the norms issued under the Electricity (Supply) Act, 1948 for accounting purposes as well as for tariff purposes. Depreciation has been calculated as per the existing norms, which are in pursuance with "The Electricity (Supply) Annual Accounting Rules, 1985", which is for the integrated utility. Further, it has stated that it has not followed the CERC norms on depreciation as they are applicable for Generation and Transmission companies only while the Licensee also has the Distribution function.

Asset Addition in FY05

6.153 The Licensee has submitted that it has undertaken Asset addition of Rs.1042.58 crores during FY05. The rate of depreciation charged is 4.85% of the opening gross block of asset for the year.

6.154 The provision for depreciation accordingly has been worked out as under:

Table 115: Provision for Depreciation FY05

Particulars		Opening	Addition		Closing	
		Lakh Rs	Lakh Rs	% of Opn	Lakh Rs	% of Opn
1	Land & Land rights	256	27	0.39%	283	4.10%
2	Building & Civil works of Power Plant	25182	2923	4.29%	28105	41.21%
3	Hydraulic Works	23578	2526	2.43%	26104	25.15%
4	Other Civil Works	3378	374	3.00%	3752	30.02%
5	Plant & Machinery	252949	25718	5.42%	278667	58.70%
6	Lines Cable Networks etc.	197949	18475	5.13%	216424	60.07%
7	Vehicles	1405	12	0.70%	1417	84.71%
8	Furniture & fixtures	469	23	3.67%	492	79.24%
9	Office Equipments	2298	139	3.51%	2437	62.52%
10	**Total**	**507464**	**50218**	**4.85%**	**557682**	**53.84%**

Commission's estimates

6.155 The following table shows MPSEB's depreciation expenses in FY 2002-03 and FY 2003-04 and also the details of MPSEB's estimate for the FY 2004-05.

Table 116: Details of Depreciation and Asset Block

(Rs. Crores)

Particulars	FY03 (Approved)	FY03 (Actual)	FY04 (Provisional)	FY05 (Proposed)
Opening Asset Block	8512.84	9139.21	9852.2	10358.95
Asset Addition		712.99	506.74	1042.58
Closing Asset Block		**9852.2**	**10358.95**	**11401.53**
Opening Provision of Depreciation	4491.13	4113.73	4598.44	5074.64
Depreciation Chargeable	458.84	484.71	476.2	502.18
Closing Provision of Depreciation	**4949.97**	**4598.44**	**5074.64**	**5576.82**
Depreciation Chargeable as % Opening GB	**5.39%**	**5.30%**	**4.83%**	**4.85%**

6.156 MPSEB has projected a depreciation of Rs 502.18 Crore for FY 2004-05. The weighted average rate of depreciation for FY 2004-05 has been proposed by MPSEB at 4.8% based on actuals for FY04.

6.157 The Commission has utilized the services of an independent CA firm to verify the gross block and depreciation figures submitted by the Licensee in the Tariff petition with the corresponding figures in the trial balances maintained by the Licensee.

6.158 The CA firm has conducted the verification exercise at four RAOs viz Jabalpur, Indore, Birsinghpur and Sirmaur. The differences that they have found in the ARR and Trial balance figures of gross block addition of assets during FY04 are as follows:

Table 117: Gross Block Addition **(Rs. Lakhs)**

Particulars	Amount shown in ARR	Amount shown in Trial Balance	Difference
Total	50674.5	9399.68	41274.82

6.159 Subsequently the CA firm has issued a letter stating that based on Journal entries passed by the Licensee, the amount of addition to gross block is to be taken at Rs 1107.85 crores. Hence the Commission has decided to take the opening gross block for FY05 as stated in MPSEB's tariff petition of Rs 10,358.95 crores for the purpose of determination of depreciation.

6.160 In its report, the CA firm has commented that the management has explained that the accounts are under finalization and some entries are yet to be included and as a result, there is deviation between ARR and Trial Balance figures. The CA firm has mentioned that the books and accounts are not properly arranged, hence it was difficult for the Licensee to provide proper supporting documents. The Commission has also directed the Licensee, time and again, to create and maintain details of its gross block of assets in the form of fixed asset register in a manner that facilitates examination and investigation. In absence of proper evidence, the Commission shall be forced to take an adverse view regarding the existence of assets for which the depreciation is being claimed.

6.161 MPSEB is directed to prepare and maintain proper records for assets in a form where the age and physical location of assets are available and care should be taken to avoid anomalies such as depreciation being charged on the assets beyond 90% of its cost of acquisition.

6.162 The Commission, to arrive at the opening gross block for FY05, has taken the closing gross block for the FY02 as the latest audited statements are available for MPSEB only for that year. To this, the Commission has added the asset additions for the subsequent years and depreciation as submitted by the Licensee. These are shown in the table below.

Table 118 : Asset Addition of MPSEB **(Rs. Crore)**

Particulars	FY02	FY03	FY04	FY05
Opening Asset Block	8530.58	9139.2	9852.19	10358.93
Asset Addition	608.62	712.99	506.74	1042.58
Closing Asset Block	**9139.20**	**9852.19**	**10358.9**	**11401.5**
Opening Provision of Depreciation		4113.73	4598.108	5073.97

Depreciation Chargeable		484.38	475.86	502.41
Closing Provision of Depreciation		**4598.11**	**5073.97**	**5576.38**
		5.30%	**4.83%**	**4.85%**

6.163 The weighted average rate of 4.85% proposed for FY05 is in line with the historic trend of depreciation and seems reasonable.

6.164 The depreciation expenses proposed by the MPSEB along with the depreciation expenses allowed by the Commission are given in the following table.

Table 119: Approved Depreciation expenses

(Rs. Crores)

Sl.No.	Particulars	FY05 Proposed	FY05 Approved
1	Opening Asset Block	10358.95	10358.95
2	Asset Addition	1042.58	1042.58
3	Closing Asset Block	**11401.53**	**11401.53**
4	Opening Provision of Depreciation	5074.64	5074.64
5	Depreciation Chargeable	502.18	502.18
6	Closing Provision of Depreciation	**5576.82**	**5576.82**
7	**Depreciation Chargeable as % Opening GB**	**4.85%**	**4.85%**

Interest and Finance Charges

Licensee's submission

6.165 The Licensee has claimed to have made efforts for reducing its interest liability through refinancing and restructuring of loans as well as through GoMP takeover of REC liabilities. The Licensee has further claimed that the benefit accrued due to these settlements has fully been passed on to the consumers. The Licensee has given the following instances in which it has successfully achieved settlements.

PFC Loan

6.166 Till 13th May 04, MPSEB has borrowed about Rs.1318.30 Crores from PFC at a rate from 15 to 17 %. As per policy of PFC, the restructuring of loans maximum to 30% of the total balance loan as on date can be done within their policy framework. A total amount of about 395.49 Cr. (30% of 1318.30 Crores), against 28 schemes, has been restructured at a rate ranging from 8.25% to 8.5% w.e.f. 13.5.2004. The overall benefit to the Licensee is expected to be around Rs.38 Crores

6.167 Further, due to liquidity crunch, the Licensee could not pay the amount due to PFC against their instalments scheduled in April, 04, May, 04, June, 04 and July 04, total amounting to Rs.156.51 Crores This amount has also been rescheduled in 36 Equal Monthly Instalments payable from August, 04 at a rate of Rs.5.21 Crores Per month.

6.168 Due to these settlements, there will be a reduction in the interest and finance charges and accordingly, the interest liabilities payable to PFC during FY05 has been reduced by Rs.84.27 Crores

REC Loan

6.169 From the year 1970-71 till the year 2000-01, 5067 schemes of various categories were sanctioned for the purpose of village electrification, pump energisation, electrification of Harijan Bastis, Majra Tolas etc. from the REC. The total sanctioned amount of these schemes was Rs.2554.28 Crores. However, actual loan drawal was limited to Rs.1847.19 Crores. The Licensee has claimed that due to financial crisis, it could not make repayments against REC loans thereby liability on this account kept on getting accumulated. Finally, the matter was discussed in detail with REC and REC offered a package deal to MPSEB. In the meantime, the GoMP has shown intent to take over REC liability against various payables to MPSEB. As per the communication of the Energy Department dated 7.10.2004, GoMP proposes the following

(a) Responsibility of payment of Rs.1414.80 crores through issuing bonds in favour of REC

(b) The remaining amount of Rs.335.20 crores shall be frozen for the next 3 years (upto 31.3. 2007) and thereafter paid by MPSEB in 150 EMI with an interest @ 8% per annum. The Licensee therefore has proposed to withdraw the amount of interest, principal and penal interest considered in the ARR for FY05.

(c) REC has agreed to waive remaining liability of Rs. 773.65 crores.

Other Loans from Financial Institutions

6.170 Similarly the Licensee has also entered into agreement / settlements with LIC (HFL), HDFC and CAN Fin. Home Finance Ltd, which has resulted in benefit of Rs. 1.09 Cr, Rs. 0.83 Crores and Rs. 0.71 Crores respectively.

6.171 The net interest and finance charges for FY05 are projected at Rs.369.47 crores. This is a reduction of about Rs.270 crores from the net interest and finance expenses of FY04 (Rs.539.78 crores) .The reduction is attributed mainly to the reduction on account of REC loan considered as taken over by GoMP, restructuring and reschedulement of PFC loan, settlement with other FIs as detailed above. The breakup of interest and finance charges projected for FY05 is as under:

Table 120: Interest and Finance Charges FY05

(Rs. Crores)

Particulars			Actual
1	On Govt Borrowings		107.00
2	On Other Borrowings	PFC	126.23
3		REC	0.00
4		Others	351.23
5		Total	477.46
6	Finance and Bank Charges including Penal Charges		59.96
7	**Total**		**644.43**
8	Less Capitalization of Interest Charges		-274.96
9	**Net Interest and Finance Charges**		**369.47**

Commission's estimates

6.172 The following table shows MPSEB's interest and finance expenses in FY 2002-03, FY 2003-04 and also the details of MPSEB's estimate for the FY 2004-05.

Table 121: Interest and Finance charges proposed by MPSEB **(Rs. Crores)**

Particulars		FY03 (Actual)	FY04 (Provisional)	FY05 (Proposed)
On Govt Borrowings		45.97	61.79	107
On Other Borrowings	PFC	133.73	163.04	126.23
	REC	265.88	270.46	0
	Others	323.17	353.72	351.23
	Total	722.78	787.22	477.46
Finance and Bank Charges including Penal Charges		63.78	92.47	59.96
Total		**832.53**	**941.48**	**644.43**
Less Capitalisation of Interest Charges		-468.03	-401.7	-274.96
Net Interest and Finance Charges		**364.5**	**539.78**	**369.47**

6.173 Regarding REC debt, the Commission wishes to point out that the State Govt in a letter to REC dated 07/10/2004, has agreed to take over the responsibility of payment of Rs 1,414.80 crore and the remaining amount of Rs 335.2 Crore shall be frozen upto 31/03/2007 and thereafter shall be paid by MPSEB in equated instalments. Accordingly, the Licensee has not considered any principal and interest payment in FY05 on account of REC debt. The Commission agrees with the same.

6.174 The Commission has analysed the components of debt to verify the interest charges submitted by the Licensee. The table below provides a break-up of debt on the books of the Licensee into various components.

Table 122: Debt components as submitted by MPSEB

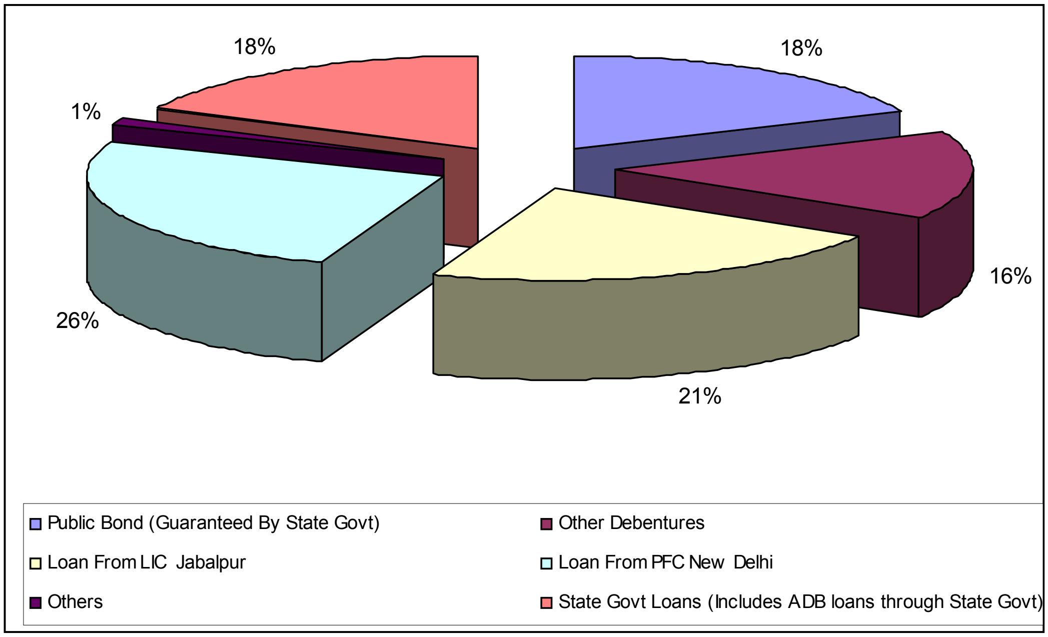
(Rs. Crores)

Particulars	Opening Balance At The Beginning Of FY05				Amount to be received during FY05	Principal Repayment		Interest		Closing Balance for FY05
	Balance Principal	Principal Over-due	Interest Over Due	Total		Due	To be Paid	Due	To be Paid	
Public Bond (Guaranteed By State Govt)	446.29	218.03	268.78	933.10	0.00	0.00	0.00	79.32	79.32	933.10
Other Debentures	366.61	154.20	285.91	806.72	0.00	74.28	74.28	76.09	76.09	732.45
Loan From LIC Jabalpur	426.80	215.88	456.77	1099.45	0.00	55.14	55.14	131.24	131.24	1044.31
Loan From PFC New Delhi	1318.29	0.00	0.00	1318.29	700.00	115.43	115.43	126.23	126.23	1902.86
Others	29.48	19.73	4.43	53.64	0.00	19.69	19.89	4.13	7.46	31.51
Sub-total	2587.48	607.83	1015.89	4211.20	700.00	264.54	264.74	417.01	420.34	4644.22
State Govt Loans (Includes	905.96	0.00	0.00	905.96	618.40	51.78	51.78	107.00	107.00	1472.58

ADB loans)										
Total	3493.44	607.83	1015.89	5117.17	1318.40	316.32	316.52	524.01	527.34	6116.81

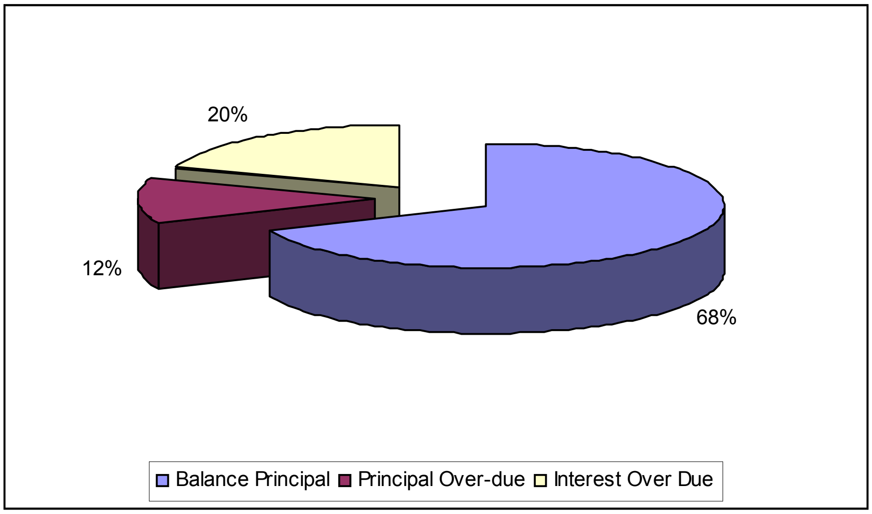
6.175 The figure below shows a segregation of debt in the books of MPSEB by the Financial institutions and the State Govt.

Figure 6: Segregation of Debt into FIs and State Govt components



6.176 The Commission has taken serious note of the fact that 32% of the debt on the books of the Licensee is on account of principal overdue and interest overdue. The Licensee has to pay a higher rate of interest on account of penalty clauses on overdue components in most loan schemes. The figure below shows a break-up of the debt into balance and overdue components.

Figure 7: Segregation of debt into balance and overdue components



6.177 The Licensee has not been able to pay its interest and principal on time as it did not make sufficient efforts to collect its dues from consumers. The consumers who have been paying their bills regularly should not suffer on account of this inefficiency of the Licensee. The Commission, has therefore, calculated the interest to be paid in FY05 on account of overdue components as Rs 124.65 Crores and disallowed this amount from the revenue requirement of MPSEB.

6.178 The Licensee had provided a schedule for disbursal of debt during FY05. The Commission has analysed the actual disbursal schedule against the proposed schedule and found that the actual disbursals have been delayed in case of PFC and State Govt Loans by 3.1 months and 2.3 months respectively. The impact of delay in disbursals shall be to the tune of Rs 26 Crore. The Commission has reduced the interest payable in FY05 to this extent. The Commission has also disallowed the formation of regulatory asset as the audited accounts for FY03 and FY04 are yet to be submitted. Accordingly, the interest on regulatory asset which amounts to Rs 49.5 Crore has not been approved but shall be considered as and when the Financial Restructuring Plan of the Licensee is approved and the Audited Accounts of the Licensee are submitted which enables the Commission to take a better view of the controllable and non controllable expenses.

6.179 The Commission has considered the capitalization at the same rates as those for FY 04.

6.180 The interest and Finance charges allowed by the Commission are shown in the table below.

Table 123 : Interest and Finance Charges allowed by the Commission

(Rs. Crores)

Particulars		FY03 (Actual)	FY04 (Provisional)	FY05 (Proposed)	FY05 (Approved)
On Govt Borrowings		45.97	61.79	107	93.08
On Other Borrowings	PFC	133.73	163.04	126.23	114.11
	REC	265.88	270.46	0	0
	Others	323.17	353.72	351.23	351.23
	Total	722.78	787.22	477.46	465.34
Interest disallowed on Overdue components and regulatory asset					174.00
Finance and Bank Charges including Penal Charges		63.78	92.47	59.96	59.96
Total		**832.53**	**941.48**	**644.43**	**444.38**
Less Capitalisation of Interest Charges		-468.03	-401.7	-274.96	-189.60
Net Interest and Finance Charges		**364.5**	**539.78**	**369.47**	**254.78**

Bad Debts and Other Expenses

Licensee's submission

6.181 Due to finalization of books of accounts for FY02, there is a variation in the total bad debts and other expenses compared to what was submitted in the earlier filing of the Licensee. As far as Bad debt is concerned, the Licensee has submitted that it has provisioned for 25% of incremental arrears towards bad debts as recommended by the AG report.

Table 124: Bad Debt & Other Expenses

Particulars (Rs. Crores)	FY05
Bad Debt Written Off/Provided For	175.00
Other	1.44
Net Prior Period Credit/Charges	-21.87
Total	**154.56**

Commission's estimates

6.182 Other expenses mainly consist of bad debt written off, miscellaneous expenses, and net prior period credits/debits. The following table shows MPSEB's other expenses in FY 2002-03 and FY 2003-04 and also the details of MPSEB's estimate for the FY 2004-05. MPSEB has proposed other expenses for the FY 2004-05 at Rs 154.56 Crores.

Table 125 : Other Expenses of MPSEB

Sl. No.	Particulars	FY03 (Actual)	FY04 (Provisional)	FY05 (Proposed)
1	Bad Debt Written Off/Provided For	94.72	301.18	175
2	Miscellaneous Losses and Write Off	2.69	1.44	1.44
3	Net Prior Period Credit/Charges	0.09	-21.87	-21.87
4	**Total**	**97.5**	**280.74**	**154.56**

6.183 The Commission advises MPSEB to scrutinise its unrealised dues that are more than one year's sales revenue and formulate a clear and transparent policy for writing off bad debts.

6.184 The Commission has taken serious note of the fact that the Licensee has claimed high amounts as provision for bad debt in the past. Miniscule amounts have been written off and the remaining amounts have not been written back. The Commission, therefore, allows Rs 20.5 Crore as provision for bad debt written off/ provided for based on the actual write-offs in the past years. The Licensee has considered net prior period credit/ charges as Rs 21.87 Crore which is the same as in FY04. The Commission, in absence of any historical trend, has not taken a view on net prior period credit/ charges and shall allow them in future revenue requirements upon receiving the actual figures.

Table 126: Other debits / Prior period charges **(Rs. Crores)**

Sl. No.	Particulars	FY05 Proposed	FY05 Approved
1	Bad Debt Written Off/Provided For	175	20.5
2	Miscellaneous Losses and Write Off	1.44	1.44
3	Net Prior Period Credit/Charges	-21.87	0
4	**Total**	**154.56**	**21.9**

Reasonable Rate of Return

Licensee's submission

6.185 The rate of return on net fixed assets for FY05 is shown below. The Licensee proposes to change the method of calculation of Rate of Return as a percentage of Net Fixed Assets to a return on Equity once independent companies file separate tariff petitions.

Table 127: Reasonable Returns

Particulars (Rs.Crores)		FY05
Fixed Assets at beginning of year	Original cost of Fixed Assets	10325.9
	Less: Aggregate of cumulative	5074.64
	Net Fixed Assets	**5251.29**

Particulars (Rs.Crores)		FY05
Consumer's Contribution	For Service Lines	457.52
	Subsidies/grants etc., for Service	312.91
	Total of Consumer's Contribution	**770.42**
Fixed assets in service at the beginning of the year		**4480.87**
Rate of Return (RoR) @ 3%		**134.43**

Commission's estimates

6.186 Reasonable Return has been computed by MPSEB using the methodology specified in Section 59 of the Electricity (Supply) Act, 1948. The reasonable return for MPSEB has been computed at 3% of the value of Net Fixed Assets at the beginning of the financial year less the consumer contribution and capital subsidies.

Table 128 : Return on Net Fixed Assets **(Rs. Crores)**

Particulars		2001-02	2002-03	2003-04	2004-05
		Actuals	Provisional	Tentative	Approved
Fixed Assets at the beginning of year	Original cost of Fixed Assets (including Consumers contribution)	8482.10	9106.20	9819.19	10325.94
	Less: cumulative depreciation	3580.08	4113.73	4598.44	5074.64
	Net Fixed Assets	**4902.02**	**4992.47**	**5220.75**	**5251.29**
Consumer's Contribution	For Service Lines	354.98	386.80	416.49	457.52
	Subsidies/grants etc., for Service Connections & lines	187.60	208.90	234.33	312.91
	Total	**542.58**	**595.71**	**650.83**	**770.42**
Fixed assets in service at the beginning of the year		**4359.44**	**4396.76**	**4569.92**	**4480.87**
3% Return on Net Fixed Assets in service at beginning of the year		130.78	131.90	137.10	134.43

Annual Revenue Requirement

Licensee's submission

6.187 The Annual Revenue Requirement of the Licensee, based on the expenses presented above is Rs.7186 Crores with a Revenue Gap of Rs.724.86 Crores

Table 129: Annual Revenue Requirement FY05 **(Rs. Crores)**

Particulars			FY05
1	Generation Expenses		1479.06
2	Power Purchase		3038.73
3	Repair & Maintenance	Generation	191.97
		T&D	199.82
		Total	391.79
4	Employee Expenses		1026.73
5	A&G Expenses		89.10
6	Depreciation		502.18
7	Interest & Finance Charges		369.47
8	Other Debits/Prior Period Charges		154.56
9	**Total Expenses**		**7051.62**
10	RoR @ 3%		134.43
11	**Total ARR**		**7186.05**

Commission's estimates

6.188 The following table shows MPSEB's annual revenue requirement (ARR) in FY 2002-03 and FY 2003-04 and also the details of MPSEB's estimate for the FY 2004-05.

Table 130: Annual Revenue Requirement

Particulars	FY03 Provisional	FY04 Provisional	FY05 Proposed	FY05 Approved
Generation Expenses	1239.9	1262.1	1479.1	1578.3
Power Purchase	2518.4	2679.8	3038.7	2423.4
Repair & Maintenance	166.7	157.3	391.8	261.8
Employee Expenses	764.8	820.4	1026.7	933.7
A&G Expenses	68.1	82.2	90.4	80.6
Depreciation	484.7	476.2	502.2	502.2
Interest & Finance Charges	364.5	539.8	369.5	254.8
Other Debits/Prior Period Charges	97.5	280.7	154.6	21.9
Customer services expenses				
Total Expenses	5704.6	6298.6	7052.9	6056.7
RoR @ 3%	131.9	137.1	134.4	134.4
Annual Revenue Requirement	**5836.5**	**6435.7**	**7187.3**	**6191.1**

6.189 MPSEB had applied for an Annual Revenue Requirement of Rs 7187.3 Crore for FY 2004-05. Based on the Commission's analysis and approval, the Commission approves the Annual Revenue Requirement at Rs 6191.1 Crore for financial year 2004-05.

Expected Revenue from Existing Charges

Licensee's submission

6.190 The Expected revenue from sale of power to various categories of consumers at the existing tariff rates is Rs.5094.81 Crores.

Table 131: Expected Revenue from Sale of Power at Existing Tariff

Particulars	Projection For FY05		
	MU	P/U	Rs.Crores
Domestic	3375.71	285	961.52
SLP Consumers	237.92	233	55.35
Non Domestic	736.13	613	451.04
Water Works	169.41	323	54.77
LT Industry	707.90	518	366.96
Agriculture	5342.00	105	561.17
Street Light	132.80	314	41.66
Total	**10701.87**	**233**	**2492.47**
Railway	1352.87	470	636.17
Coal Mine	563.51	508	286.31
Cement Factory	523.80	492	257.61
Mini St. Plant	175.73	391	68.63
Irrigation	4.59	1179	5.41
Water Works	310.92	280	87.15
Other HT Consumers	2637.03	447	1179.17
REC	451.24	180	81.22
BV	2.62	251	0.66
Total HT	**6022.31**	**432**	**2602.33**
Total LT +HT	**16724.18**	**305**	**5094.81**

Commission's estimates

6.191 The Commission has estimated that the Licensee's billing to the SLP consumers shall be Rs 15 Crore. The Licensee has also considered some part of the revenue to be collected as subsidy from the State Govt for supply to the SLP consumers under billing and as a result, the billing for SLP category has been shown Rs 55 Crore. The minor differences in billing of Railways and other categories are on account of the difference in MU sale estimated by the Commission to these categories.

6.192 Commission's estimate of revenue from existing tariff is presented in the table below.

Table 132: Revenue from sale of power at existing tariffs - Commission's estimates

Particulars	Commission's estimate For FY05		
	MU	P/U	Rs.Crores[1]
Domestic	3376	284.84	961.49
SLP Consumers	433	34.95	15.14
Non Domestic	736	612.71	451.04
Water Works	169	323.30	54.75
LT Industry	709	518.37	367.59
Agriculture	5342	105.05	561.17
Street Light	133	313.74	41.68
Total	10898	225.07	2452.86
Railway	1335	471.02	628.65
Coal Mine	564	508.08	286.31
Cement Factory	524	491.62	257.61
Mini St. Plant	176	389.94	68.63
Irrigation	5	1177.90	5.41
Water Works	311	280.29	87.15
Other HT	2620	447.50	1172.36
REC	451	179.99	81.22
BV	3	251.47	0.66
Total HT	5987	432.28	2588.01
Total LT +HT	16885	298.54	5040.86

[1] *The revenue estimates include charges on account of factors such as Time of day tariff, tariff minimum etc. These are shown by the Board under the head adjustments*

Expected Revenue from Charges

Licensee's submission

6.193 At the existing tariff, there is a shortfall of Rs. 724.83 Crores as compared to total Annual Revenue Requirement for FY05. The Licensee has proposed to realize additional revenue of Rs.724.83 Crores through proposed increases in the category wise tariff rates.

Table 133: Expected Revenue from Sale of Power at tariffs proposed by the Licensee

Particulars	At Proposed Tariff		
	MU	p/u	Rs. Crores
Domestic	3375.71	360	1214.89
SLP Consumers	237.92	276	65.66
Non Domestic	736.13	653	480.50
Water Works	169.41	378	64.07
LT Industry	707.90	549	388.41

Particulars	At Proposed Tariff		
	MU	p/u	Rs. Crores
Agriculture	5342.00	151	807.68
Street Light	132.80	358	47.51
Total	**10701.87**	**287**	**3068.71**
Railway	1352.8	484	655.11
Coal Mine	563.51	543	305.93
Cement Factory	523.80	508	266.11
Mini St. Plant	175.73	416	73.02
Irrigation	4.59	1204	5.53
Water Works	310.92	315	97.98
Other HT Consumers	2637.03	475	1251.74
REC	451.24	210	94.76
BV	2.62	286	0.75
Total HT	**6022.31**	**457**	**2750.93**
Total LT +HT	**16724.18**	**348**	**5819.64**

Commission's estimates

6.194 The Commission's estimate of the revenue from sale of power at proposed tariff from various consumer categories is presented in the table below.

Table 134: Revenue from sale of power at tariffs approved by the Commission - Commission's estimates

Particulars	At Approved Tariff		
	MU	p/u	Rs. Crores[1]
Domestic	3,809	314	1,195[2]
Non Domestic	736	585	431
Water Works	169	293	50
LT Industry	709	491	348
Agriculture	5,342	218	1,167
Street Light	133	342	45
Total	10,898	297	3,236
Railway	1,335	449	600
Coal Mine	564	514	290
Cement Factory	524	451	236
Power Intensive	231	368	85
Irrigation	5	686	3
Water Works	311	260	81
Other Industrial	1,947	470	915
General Purpose	567	461	262
Seasonal	50	531	27
REC	451	200	90
BV	3	252	1

Total HT	5,987	432	2,589
Total LT +HT	16,885	345	5,824

[1]The State Govt has indicated that the current pattern of subsidy shall continue till 31st March, 2005. Accordingly, part of the revenue shown above shall be recovered farom the State Govt. in the form of revenue subsidy and the rates to consumers of the categories that are currently being subsidised by the State Govt shall stand reduced.

[2] The erstwhile SLP consumers have been categorised under the 'Lifeline' slab of domestic category. Accordingly, the consumption of and revenue from the SLP category has been shown under domestic category

Other Income

Licensee's submission

6.195 This includes income from investments and other non-tariff income like miscellaneous charges from consumers, meter rents, delayed payment charges. The projections for FY05 are based on the audited accounts of FY02 and the tentative figures for FY03 and FY04.

Table 135: Non Tariff Income

Particulars	FY02	FY03 Tariff Order	FY03 Actual	FY04 Actual	FY05 Proposed
Interest on Fixed Deposits / Investments	18.23		11.42	10.85	9.77
Interest from Banks	0.03		2.43	1.74	1.57
Interest from Advances to Staff	2.75		2.24	1.87	1.56
Income from Trading	521.28		15.40	17.30	17.30
Delayed Payment Charges	131.38		274.16	365.40	274.16
Meter Rent	58.20		56.60	27.76	36.38
Incentive due to Securitization of	0.00		0.00	211.70	133.65
Misc. charges from consumers	286.99		136.59	145.10	156.01
Total	**1018.87**	**303.9**	**498.83**	**781.73**	**630.39**

Commission's estimates

6.196 The Commission is of the opinion that the charges billed to consumers which the Licensee is unable to collect should not be passed on, through the means of tariff, to those consumers who pay their dues. Accordingly, for the purpose of tariff determination, the Commission has not considered the collection efficiency of the Licensee and has considered that the entire revenue billed shall be collected by the Licensee.

6.197 Delayed payment charges are on account of delayed payment/ non-payment of dues by consumers. Since, the Commission has considered that the Licensee shall collect its dues in a timely manner; the Commission has not taken delayed payment charges for the purpose of tariff determination.

6.198 The meter rent rates have been modified by the Commission for various consumer categories under Section 45 (3) (b) of the Electricity Act, 2003. The Commission expects that these shall yield an additional amount of approximately Rs 11 Crore in the form of meter rent. The Commission has made modifications to other miscellaneous charges also however, as there is lesser certainty in the magnitude of additional recovery of these charges on account of some of these being payable on consumer request, the Commission has not made an estimate of these charges and shall true them up in a later order subsequent to the actual figures being available.

6.199 The non-tariff income approved by the Commission is as under:

Table 136: Approved Non-Tariff income

Particulars	FY05 Proposed	FY05 Approved
Interest on Fixed Deposits / Investments	9.77	9.77
Interest from Banks	1.57	1.57
Interest from Advances to Staff	1.56	1.56
Income from Trading	17.30	17.30
Delayed Payment Charges	274.16	0
Meter Rent	36.38	47.05
Incentive due to Securitization of CPSU Dues (Montek Singh Ahluwalia Comm.)	133.65	133.65
Misc. charges from consumers	156.01	156.01
Total	**630.39**	**366.9**

Revenue Deficit and Subsidy

Licensee's submission

6.200 The net revenue gap has is calculated after considering government subsidy of Rs.811 Crores, which the Licensee has claimed to have received from the GoMP.

Table 137 : Net Revenue Gap FY05

	Particulars (Rs.Crores)	FY05
1	Sale of Power	5094.79
2	Less included in Subsidy	75.00
3	Net Sale of Power	5019.79

4	Non Tariff Income	630.39
5	Subsidy	811.00
6	**Total Income**	**6461.18**
7	**Annual Revenue Requirement**	**7186.05**
8	**Net Revenue Gap**	**-724.86**

Commission's estimates

6.201 Based on the approved expenses and the expected realisation from existing tariff, the revenue deficit shall be as follows:

Table 138: Revenue Deficit

Particulars	FY05 Proposed	FY05 Approved
Revenue from Sale of Power	5094.8	5040.8
Non Tariff Income	630.4	366.9
Subsidy	811.0*	0.0
Total Income	6461.2	5407.7
Annual Revenue Requirement	7186.0	6191.1
Revenue Gap	-724.9	-783.4

* The Licensee had, based on its discussions with the State Govt, submitted a tentative figure of Rs 811 Crore as revenue subsidy from the State Govt.

6.202 Based on the Annual Revenue Requirement approved, the Commission has worked out the revenue gap considering the existing tariffs and availability of cross subsidy from the subsidizing consumers. The expected revenue gap of Rs 783.4 crores will need to be bridged by a tariff increase or by provision of subsidy in advance by the State Government.

6.203 The State Govt, vide letter no. 7266/13/2004 dated 10th December, 2004 has informed the Commission that *"the State Government intends to continue the current pattern of subsidy till 31st March, 2005."*

6.204 The impact of tariff increase and the availability of subsidy from the State Govt are expected to bridge the revenue gap of Rs 783.4 Crore however, as the revised tariff are expected to remain applicable for only three months of FY 05, the revenue gap may not be entirely bridged.

6.205 The Commission expects the licensee to bring the Application for determination of Tariff for FY 06 latest by 15th January 2005. The adherence to the time limit indicated above for bringing the Tariff Application for FY 06 is necessary in order that the gap, in revenue on account of this Tariff Order being in force for only a part of the year can also be covered through appropriate regulatory treatment in the next Tariff Order.

Treatment of Revenue Deficit

6.206 The Licensee has submitted before the Commission the following treatment for the Net Revenue gap:

(a) The revenue gap till FY02 is being considered under Financial Restructuring Plan (FRP), thus the revenue gap for the year shall be considered separately under FRP.

(b) Net Revenue Gap for year FY03 (Rs. 473.93 Cr.) and for FY04 (Rs. 75.53 Cr.) may be considered as "Regulatory Asset". It is further proposed to amortize this regulatory asset over a period of five years, starting from FY 07, if the hikes required during these years after including the 1/5th amount in respective years do not lead to a tariff shock. In case the hikes required due to inclusion of these expenses leads to a tariff shock, separate treatment shall be submitted by the Licensee at that time. Further, the Licensee has submitted that till this "Regulatory Asset" is fully amortized, interest on the same may be permitted as the Licensee will have to incur the expenses.

(c) In order to bridge the revenue gap for FY05, the Licensee has proposed a tariff revision. The average tariff revision across all categories is proposed to be 14.23%.

Cost of Supply

Average Cost of Supply

6.207 The average cost of supply for the FY 2004-05 for MPSEB based on proposed and approved revenue requirement and energy sales is as follows:

Table 139: Average cost of Supply

Sl. No.	Particulars	FY05 Proposed	FY05 Approved
1	Annual Revenue Requirement in Rs.Crores	7187.3	6191.1
2	Energy Sales in MU	16724	16885
3	Average Cost of Supply (Rs/Unit): (1)/(2)	**4.30**	**3.67**

6.208 The cost to supply shown above is the average cost of supply across all the consumer categories and all the voltage levels. The cost of supply is relatively much higher at lower voltages (covering residential, domestic, agricultural, LT industrial categories, etc) than in serving HT loads. The tariff structure contains a built in cross subsidy since the industrial and commercial categories are charged at a rate higher than the cost to supply and the agricultural and domestic categories are charged a rate lower than their cost to supply.

Category wise Cost of Supply

6.209 The Electricity Act, 2003 in section 61(g) prescribes that the tariff should progressively reflect the cost of supply of electricity and mandates reduction and elimination of cross subsidy within a period to be specified by the Commission. MPSEB has conducted studies to determine the cost of supply for different categories and across different voltage levels. Any programme for reduction of cross subsidy will now be based on detailed category wise Cost of Supply study.

6.210 The Commission notes that one of the basic principles that has been widely accepted in electricity sector regulation is that the tariffs for various categories of customers should be, as far as can be practicable, close to the costs imposed by that category of customers on the system.

6.211 The Licensee has attempted the determination of the Cost to Serve for each consumer category and has discussed them with the Commission. However, these initial results were not supported by adequate data and rationale. The Commission has in the last one year given several guidelines and suggestions for improving the methodology for determining a realistic level of Cost to Serve each consumer category. However, MPSEB has not yet submitted a formal proposal validated and authorised by its Licensee for the Commission's approval.

6.212 Given this limitation, the Commission has chosen to rely on the principles adopted by the Licensee for voltage-wise Cost estimation as presented in the petition for determination of Annual Revenue Requirement and tariffs for FY05. These principles have been applied on the approved ARR for FY05 to arrive at the CoS figures. A step-wise summary of these principles is presented below.

6.213 The Cost of Supply is calculated at various voltage levels starting from the EHV level and going down to the LT level. For calculation of the CoS at various levels, the expenses of the Board and the cost of power lost at the corresponding levels are considered.

6.214 Accordingly, for calculating the CoS at EHV level, the following costs are considered: i) the cost of power injected into the grid at EHV level (the cost of MPSEB's generation and the cost of power purchase), ii) Board's expenses at EHV level (As the expenses of the Board are not currently maintained in such a form that a break-up of voltage wise expenses is readily available, the overall expenses have been segregated into voltage-level wise expenses based on best estimates.) and iii) the cost of power lost at the EHV level.

6.215 For calculating the CoS at HT level, the following costs are considered: i) the cost of power that has been injected into HT level from EHV level, ii) Board's expenses at HT level and iii) the cost of power lost at HT level.

6.216 Similarly, for calculating the cost at LT level, the following costs are considered: i) the cost of power that has been injected into LT level from HT level, ii) Board's expenses at LT level and iii) the cost of power lost at LT level.

6.217 There are some categories which are entirely at a certain voltage level e.g. the LT categories such as domestic, LT industrial etc are supplied at LT level. Their CoS is therefore the same as the CoS at that voltage level. There are other categories, however, which are not entirely at the same voltage level e.g. consumers in Mini Steel plants category are being supplied at EHV level as well as at HT level. The CoS of categories like these is therefore a weighted average of the CoS of units consumed at various voltage levels.

6.218 The calculation of voltage-wise CoS and category-wise CoS are shown in Table 140 and Table 141 respectively.

Table 140: Voltage wise CoS

Particulars	FY04			
	Estimated			
	%	MU	Rs. Crore	Rs/Unit
Power Purchased		13401	2423	1.81
Own Generation		14977	2245	1.5
Total at EHV System of MPSEB		28378	4669	1.65
Direct And Indirect Expenses Chargeable To EHV Transmission			306	
Total Expenses Upto EHV System			4974	
EHV Transmission Losses	8.12%	2306		
Energy Available For Sale Of EHV S/S		26073	4974	1.91
Non-Tariff income per unit sale				0.22
CoS at EHV level				**1.69**
Energy (MU) Sale To HT Consumers At EHV Grid		2467	471	1.91
Direct And Indirect Expenses Chargeable To HV Transmission			395	
Total Expenses Upto HV System			4898	
HV Transmission Losses	10.89%	3091		
Energy Available For Sale Of HV S/S		20514	4898	2.39

Non-Tariff income per unit sale				0.22
CoS at HT level				**2.17**
Energy (MU) Sale To HT Consumers At HV Grid		3473	829	2.39
Direct And Indirect Expenses Chargeable To LT System			823	
Total Expenses Upto LT System			4892	
LT Distribution Losses	21.40%	6096		
Energy Available For Sale Of LT S/S		10945	4892	4.47
Non-Tariff income per unit sale				0.22
CoS at LT level				**4.25**
Total	**40.50%**		**6191**	

6.219 The Cost of Supply for the FY 2004-05 for MPSEB for different consumer categories based on proposed and approved revenue requirement and energy sales are as follows:

Table 141: Category-wise Cost of Supply (CoS)

Categories	CoS as submitted by the Licensee (Paise /unit)	CoS based on approved figures (Paise/unit)
LT		
Domestic	496.35	425.25
Single Light Point	496.35	425.25
Non-domestic	496.35	425.25
Water Works	496.35	425.25
Industrial	496.35	425.25
Agricultural	496.35	425.25
Street Lights	496.35	425.25
HT		
Railway Traction	174.92	169.06
Coal Mines	207.36	200.41
Mini Steel Plants	207.36	200.41
Cement Factories	228.99	217.04
HT Irrigation	228.99	217.04
HT Water Works	228.99	217.04
Other HT consumers	197.72	204.69
RE Co. Society	228.99	217.04
Border Villages	228.99	217.04

CHAPTER 7

A7: PUBLIC OBJECTIONS & COMMENTS ON THE LICENSEE'S PETITION

Public Hearing

7.1 The Commission directed MPSEB to make available copies of their ARR and Tariff proposal for FY05 to the general public. The petition was posted on the Commissions website and comments/objections on the same were invited through newspapers. The petition evoked response from nearly all consumer categories, and the objections raised were forwarded to MPSEB for responses. The Commission conducted public hearings on the 4th, 5th 6th & 8th November, 2004 at Bhopal where objectors put forth their comments and objections before the Commission.

General Issues

7.2 A large number of objectors felt that the Commission should not have deviated from its past trend of conducting public hearing in other cities of Madhya Pradesh, as this allows intensive participation from the consumers.

Commission's Views

7.3 The Commission has observed that participation of masses many times leads to rhetoric, which only results in serving the purpose of speakers who are interested in pleasing the target audience. Given the time constraints it was difficult to hold public hearings in other towns and cities. In this tariff hearing process, the Commission found it more effective to invite representatives from each category of consumers and appreciate the constraints faced by them.

7.4 A common objection that echoed from most of the respondent was regarding the tariff hike as proposed by the Board. Consumers commented that the proposed tariff hike was not justified as it was due to very high expenses and poor collections leading to huge deficit to the tune of Rs. 724 Crores.

7.5 Almost all the respondents expressed concern over the growing inefficiencies of the Board. Many consumers pointed out that the Board had not complied with the directives of the Commission given in its previous tariff order. The respondents pointed out to the following issues, which was responsible for increasing expenditures.

Issue No. 1: Transmission& Distribution Losses

7.6 Most of the respondents made strong objections in respect of the inability of the Board to arrest T&D Losses. Some of the common observations and suggestions with respect to T&D losses were that

7.7 T&D losses could not be controlled by the Board and thus were on the higher side.

7.8 It is not correct to pass on the burden of such high T&D losses to consumers.

7.9 HT consumers complained that despite receiving power supply at 132 KV where the actual losses incurred were lower, a burden of higher T&D Losses has been passed on to them.

7.10 It was suggested that a 3% loss reduction could increase the revenue to the tune of Rs 87.9 crores. Reduction in T &D losses would also reduce power purchase costs.

Board's Response

7.11 The Board pointed out that steps have been taken for reduction of T&D losses from 47.38% in the year FY02 to 43.99% in the year FY04 which is a reduction of 3.39 percentage points over a span of 2 years. Stringent measures have been taken by the Board to arrest T&D losses such as formation of flying squads for checking thefts, intensive measures by O&M staff, frequent meter readings etc. The above reduction has occurred despite increase in the power supply in the grid from 26530 MUs during FY02 to 28559 MUs during FY04, without any appreciable increase in the T&D infrastructure.

7.12 The Board stated that in the past they have inadvertently accounted for those of the T&D losses which are external to the grid and accruable to the PGCIL system. This error has been detailed in the Tariff Petition and it has been explained that if the power handled by the Board in its own infrastructure is considered, T&D loss during the year FY04 shall be 42.59% as against accounted as 43.99%. Also the targeted T&D loss for FY05 shall be 41.6% as against 43% as mentioned.

7.13 The Board agreed that it has failed to comply with the Commission's directives on reduction in T&D losses. However savings of Rs 87.9 crores by 3% reduction would still not be achieved. Further the Board pointed out that any reduction over and above 1.5% per year is wishful and ambitious.

Commission's View

7.14 The Commission accepts the point of view of the respondents that Board did not meet the T&D target stated in their own application for previous tariff. Implementation of Revenue Management System would also help in better planning and targeting for loss reduction. The Board has failed in its endeavour to expedite the process and circle wise analysis of T & D losses indicates that in certain circles the losses are more than 60%. The Board has failed to provide any concrete action plan on T & D loss reduction. The Commission in its previous order has given a target of 42% losses by the end of month of March 2003. The Board is far from its target and the loss level projected by the Board in its tariff petition for FY05 is 43%.

7.15 The Commission on hearing all the arguments takes a view that T & D loss level of 40.5 % should be achieved in the year FY05. The Commission hereby directs the utility to make a concrete action plan for reduction of losses particularly in areas and regions where losses are very high and fix accountability among officers and employees to arrest T & D losses.

Issue No. 2: Power Purchase

7.16 Consumers observed that power purchase costs were too high and the Board was not availing the advantage of low UI charges during high frequency period through intelligent load management measures.

Board's Response

7.17 The Board does not have any leeway in case of the cost of power purchased from the CGS station since it is determined by the CERC. Even the choice of source of power is limited and depends on the share in the capacity allocated by the Govt. of India and CGS Stations Board is purchasing power on pre-determined rates based on agreements, from other sources. MPSEB is availing maximum power from Western Grid under the present allocated capacity. Hence power from cheapest possible resource is being arranged, though UI Charges are to ensure grid discipline, the Board is responsive of availing the advantage of UI Charges.

Commission's View

7.18 The Commission fully agrees with the consumer's observations. It has approved the power purchase costs of the licensee only after a detailed examination of the expenses proposed and the merit order procurement principle. The Commission has disallowed the procurement plan from costlier stations. Further, it has proposed that the Board should be consistent in efficient scheduling and dispatch based on variable costs of power procurement. A case in point is procurement from Kawas Gas power station of NTPC. The Commission has disallowed the high variable cost of 4.90p/unit and has allowed only the fixed costs since these are not controllable by the Board.

Issue No. 3: Variable Cost Adjustment

7.19 The objectors felt that the major factors that lead to tariff increase are cost of power purchased and generation costs and these are included in VCA formula as approved by the Commission, Hence the expenditure increase should be passed on through the VCA rather than a tariff hike. This would also reduce the burden of increased electricity duty.

Board's Response

7.20 VCA charges only factor in rate variances of fuel, power purchase, however any escalation of costs due to increase in quantity is not provided for in the VCA formula.

7.21 In order to avoid the duty burden, the Board has taken abundant care while designing the tariff rates in the proposed petition, by increasing the fixed charges rather than increasing variable charges.

Commission's View

7.22 VCA charges are made applicable only if there is a change in fuel and other costs subsequent to the issue of tariff order. It is a common practice to merge VCA with regular tariff in every tariff order. The Commission is of the view that the current practice should be continued. As regards electricity duty, it is a subject matter of State Government and hence the Commission does not wish to comment on the issue.

Issue No. 4: Repair & Maintenance

7.23 The respondents felt that despite outdated technologies, the Board is not adequately spending on R&M. Since there has been no increase in operation & maintenance costs proposed tariff hike is not justified

Board's Response

7.24 The Board agrees that expenditure on R&M are necessary to ensure quality of service. However, due to resource constraints in previous years it could not spend adequately on R&M expenditures. For FY05, the proposed R&M expenditures have been worked out as per requirement plan of various departments. However the objection that tariff hike is not justified because O&M expenditures have not increased is not justified because expenditures other than O&M have increased.

Commission's View

7.25 The Commission has been allowing adequate expenses in the revenue requirement for the Repairs and Maintenance of MPSEB. However, it is observed that the utility is not utilizing the same to the required extent. Accordingly, the quantum of R&M expenses allowed have been scaled down in the Revenue Requirements for FY05.

Issue No. 5: Interest & Finance Charges

7.26 Objectors felt that the Board was not doing proper debt management and rescheduling of loans and the interest and finance charged were too high. Consumers demanded an explanation for taking ADB Loan at 12% when loan with lower rate of interest at 9% were available.

Board's Response

7.27 ADB Loan has a grant component; nearly 30% amount available is in form of grant attracting no interest. Further it is a soft loan in which no escrow mechanism or repayment guarantee is required. The rates have been scaled down from 12% to 10.5%, The Board has further requested the State Government to review the interest rate for that part of the loan received in 03-04 and bring it at par with loan drawn in 04-05. The Board would also like to intimate that the loan is long term having 5 years moratorium and 15 years repayment thereafter. This will ease out the liquidity position of the Board. The Board has made considerable efforts in restructuring / rescheduling of the loans the benefits of which have been passed on to consumers. The Board has not considered the interest charges on REC loan in its ARR as it is assumed that the state government will take over this loan.

Commission's View

7.28 The Commission has been consistently pursuing the reduction of interest costs of the utility. It has not allowed the interest cost on account of overdue debt in the Revenue Requirement of MPSEB for FY05.

Issue No. 6: Rate of Return

7.29 The rate of return at 3% is not justified because the Board is not making profits.

Board's Response

7.30 The Rate of Return is as per the provisions of Electricity Supply Act, 1948 & MPVSA 2000. The financial restructuring of the MPSEB is still in process, which the State Government has accepted in principle. Unless the process is completed, the actual equity component cannot be ascertained. Under the circumstances, the Board has made a submission to the Commission to follow the principle of return on net fixed assets criteria for the present filing.

Commission's View

7.31 Commission is of the view that any business including the electricity business should earn profits. Such profits may be used as a counterpart funding for various investments. It may also be noted that the Commission has made a prudent assessment of the Board's expenditure and in the process has rejected various expenses due to inefficiencies.

Issue No.7: Own Generation costs

7.32 The objections pertained to high own generation costs, the transit losses are understated at 3%, and the actual losses are to the tune of 15% and specific oil consumption is very high.

Board's Response

7.33 The increase in Generation costs was on account of increase in coal prices which has had an impact of Rs 250 crores. The Board does not agree with the views of the objector that the transit losses are as high as 15%. The specific oil consumption for some of the generation units is high like because they are old units and have outlived their life, but specific oil consumption of other units is not high and compares favourably with other states.

Commission's View

7.34 The Commission has considered the generation expenses based on efficiency norms approved by it. Further, it expects the Board to achieve the norms corresponding to the levels approved by CERC for Station Heat Rate, Auxiliary Consumption, Secondary Oil Consumption and Plant Utilisation Factor. However, since Board's generation plants are old, the Board must be given some time to achieve these norms.

Issue No. 8: Quality of Supply

7.35 The respondents complained of the poor maintenance, voltage fluctuations, and considerable time for repair of transformers, age-old supply lines, which disturb power supply and these problems, need to be addressed. Such voltage fluctuations leading to burnouts especially of agriculture consumers need to be compensated.

Board's Response

7.36 The Board agrees that there is a need for renovation and modernization, which would improve quality of supply. All this requires adequate amount of funds. Under the present financial constraints, the Board is serving a large consumer base of 60 lakh spread across the entire state. The Board is making its best efforts to provide power supply to its consumers.

7.37 Burnouts of motors of agriculture consumers can be attributed to poor quality of motors rather than voltage interruptions; hence compensation to agricultural farmers is not justified.

Commission's View

7.38 The Commission agrees that quality of power supply should improve significantly. Adequate funds are being provided for this purpose. The Commission has made a prudent assessment of the requirement of the funds and has approved the same in previous tariff order as well as in the current order. The Commission has issued a regulation under section 57 of Electricity Act 2003 on transmission and distribution performance standard that must be met by the utility. At the same time Commission is aware that utility needs some time to meet performance standards and hence the Commission shall levy the penalties on utilities for not meeting the standards from July 2005 onwards.

Issue No. 9: Recovery & Overdue

7.39 The objectors raised concern over to the failure to recover over-dues from big consumers and government departments. The objectors felt that the Board must state the amount of arrears from the government departments and other large consumers. The time frame for collection of overdues needs to be specified by the Board. It was felt that mounting deficits were on account of slackness and apathy of the Board in not recovering huge overdues.

Board's Response

7.40 The Board agreed to the above objection. The Board has initiated a programme to expedite its recovery of mounting arrears, by first focusing on large consumers having huge overdue and then on small consumers.

Commission's View:

7.41 The Commission concurs to the objections raised with respect to overdue recovery. The Commission hopes that efforts of the Board will bear results in a short span of time. Commission has ensured that any projected inefficiency in the matter of collection has not been passed on to the consumers in the current tariff order. The Commission has also brought this to the notice of the State Government during its recent meeting and has received an assurance from the State Government that the Government dues would be settled over a period of time and new arrangements would be put in place to ensuring timely payments of current electricity dues from Government undertakings.

Issue No. 10: Subsidy

7.42 The subsidy proposed for FY05 should be increased by the State Government. The subsidy provided by the neighbouring States is much higher.

Board's Response

7.43 The Board wishes to submit that it has considered the provision of subsidy as per the budgetary allocation by GoMP for FY05. Providing subsidy is within the jurisdiction of the State Govt. and in case additional subsidy is made by the State Govt. the commensurate reduction in tariff may be done.

Commission's View

7.44 Subsidy to the consumers is a subject matter of State Government. The Commission has interacted with State Government in this matter before approving the tariff order.

Issue No. 11: Cross Subsidy

7.45 The subsidising consumers, i.e. the High Tension consumers have expressed their views on the Cost of Supply and want that the tariffs should be aligned with the costs and the cross subsidy burden on them should be reduced.

Board's Response

7.46 In the tariff Proposal the increase in HT has been proposed at the bare minimum. This is unlike what has been proposed for LT category tariffs. The cross subsidies can be reduced only over a period of time to avoid the tariff shock to subsidised consumers.

Commission's View

7.47 The Commission agrees with the point of view of the Board that the process of tariff rationalisation and reduction of cross subsidy has to be achieved in a gradual manner. In previous tariff orders also, efforts have been made to align tariffs to cost of supply. In the tariff order dated 30 November 2002, the average tariff increase of HT has been 3% while that of LT has been 29%. In the current tariff order, the tariff of most of the subsidizing categories has been maintained at the same level and in some cases reduced, while that of the subsidized category has been increased.

Issue No. 12: Employee Expenses

7.48 The objectors felt that there was no need for higher expenditure given the unbundling of the Board. The wage revision proposed by the Board should not be permitted. Consumers also objected to the free electricity supplied to the MPSEB employees which places a burden on the rest of the consumers to the tune of Rs. 42 crores.

Board's Response

7.49 The Board contented that it had earmarked a provision for wage revision, which is long overdue from 1.4.99. It is incorrect to state that wage revision has been the main reason for tariff hike, Other than employee expenses various other expenses have also increased and proposed tariff hike cannot be attributed just to wage revision proposed.

Commission's View

7.50 The Commission has considered the views of the consumers and has suggested that employee expenses be linked to productivity gains. It has allowed increase in employee expenses only to accommodate the increase in DA and increments which are on the basis of agreements with Employee Unions. In addition, it has allowed a provision of Rs. 31 crores which could be used as incentive to motivate employees to achieve better performance levels.

Issue No. 13: Regulatory Asset

7.51 A large number of objectors were against treatment of Boards revenue deficit as regulatory assets. Some stated that 50% of the hike requested by the Board in the tariff should be converted into regulatory assets. The old regulatory assets should not be considered since they have emerged due to the inefficiency of the Board.

Board's Response

7.52 Regulatory assets for FY03 and FY04 are on account of increase in costs beyond the control of the Board and cannot be attributed to inefficiencies of the Board. Further there was allocation of more liabilities than provisional allocation. Inadequate provision of regulatory asset would have an adverse effect on the liquidity and performance by the Board.

Commission's View

7.53 The Commission has not determined the quantum of regulatory asset of the Board for FY03 and FY04 in view of the non-availability of audited accounts for these years.

Issue No. 14: Agricultural Tariff

7.54 The representatives of the agricultural consumers felt that agriculture tariff proposed by the Board is not justified. Tariff rates for agriculture in Madhya Pradesh are higher than other States. Such high tariffs go against the principle of capacity to pay as highlighted in the Electricity Act 2003. Given the poor capacity of farmers to pay higher tariff rates the objectors have submitted that

(a) The flat rate tariff of FY 00-01 should be permitted.

(b) For metered consumption, 25 paise per unit should be charged.

(c) Lower tariff rate for lift irrigation on account of the frictional losses of long pipe-lines.

(d) Option of flat rate or metered supply.

(e) Consumers also pointed out that if six-hour supply is not provided to consumers then charges should be prorated

(f) One of objectors stated that it is not correct to assume that farmers with high power pumps have a higher paying capacity. Higher capacity pump, is a function of the depth of water and the distance from which it is being drawn (e.g. in case of the Narmada belt region).

Board's Response

7.55 The agricultural consumers would still avail subsidies even after the proposed revision. In pursuance to the provisions of the Electricity Act, 2003, the tariff should reflect the cost of supply and cross subsidy should be gradually reduced. Hence, tariff hike is inevitable. While the Board agrees that the consumer shall be required to bear the frictional losses in case of lift irrigation schemes, it would also have to provide more electricity for such schemes. It is beyond the purview of the Board to offer any concessional power supply for lift irrigation scheme. Consumer may request the State Government to provide such subvention, if considered appropriate.

Commission's View

7.56 The Commission has reviewed the tariff structure of agriculture consumers and desires that agriculture consumers should be classified on basis of sources of water supply, viz., dug wells and other water sources. It has directed the utility to provide information in this regard. The Commission has to meet the objective of fixing tariff at least to the extent of 75% of the CoS as per the requirement under the MP Vidyut Sudhar Adhiniyam, 2000. The Commission has made an attempt to strike a balance between the interests of consumers and that of the Board. The Commission agrees with the view that it is not correct to assume that farmers with higher pump capacities will have higher paying capacity and has therefore approved a uniform tariff across all the pump capacities upto 10 HP. The Commission also directs the utility to ensure that it adheres to provide the committed number of hours of supply.

Issue No. 15: Mini Steel Plants Tariffs

7.57 The representatives of Mini Steel Plant (MSP) group suggested that there should be no increase in tariff for this category.. The practice of charging at 150 units/month/kva from April to October in the case of arc furnace should be discontinued and a tariff minimum of Rs.100/u/m/kva round the year should be allowed. The objectors also submitted that their tariff should be lower than the two part tariff. Besides, they also requested for certain concessions and incentives like

(a) load factor concession to be increased from current levels

(b) the power factor incentive should start from 90% as against 95%

Board's Response

7.58 The Board has said that the tariff minimum charged is in order and in fact it has extended the facility of levying a lower charge i.e., 100 u/m/kva from November to

March since agriculture in any case requires more power during that period. The Board stated that the concessions and incentives extended to mini steel plant category are the best possible that can be worked out. In case of load factor rebate any further review will require adjustments in basic rates that would have a bearing on revenue. The power factor incentive have been provided keeping a band of 90-95% as a reasonable limit of operation whereby the Board provides an incentive above 95% and imposes a penalty below 90%.

Commission's View

7.59 The Commission has considered the views of the consumers and has not enhanced the average tariff of Mini Steel Plant. The load factor incentives has been provided as 5% rebate between 50% and 60%, 10% rebate between 60% and 70% and 15% rebate for load factor above 70%. Further the Commission also proposes to provide incentive for PF above 90%.

Issue No. 16: Ferro Alloy Industry Tariffs:

7.60 The representatives from Ferro Alloy industry felt that their tariffs are highest in comparison to the other States. They have opposed a tariff hike and have said that since they are bulk consumers, they should be given incentive by providing a load factor concession and bulk consumption discount as is given in Maharashtra.

Board's Response

7.61 The Boards contends that above objection is not valid, if we consider 60% load factor, then MP tariffs for this category are the sixth highest in the country.

Commission's View

7.62 The Commissions endeavour has been to align the tariff with the cost of supply, and reduce cross subsidy. Therefore, the Commission has not increased the tariff for Ferro Alloy consumers.

Issue No. 17: Textile Processing Industry Tariff

7.63 The objector drew attention to the fact that it is an ancillary unit to the power loom and should be charged tariff at par to the power loom industry. The increase in tariff from Rs.2 to Rs. 25 is not justified.

Board's Response

7.64 The Electricity Act mandates that tariff rates should gradually align with cost of supply. If the increase in tariff for this category is compared with its cost of supply, there has been only a marginal increase from 72% of CoS to 76% of CoS. This category is subsidized and the tariff hike is justified.

Commission's View

7.65 The Commission agrees with the point of view of the Board and opines that the tariff should be aligned with cost of supply in keeping with the tariff philosophy of the Commission.

Issue No. 18: Railway Traction Tariff

7.66 The representatives from Railway Traction group objected that the tariff for Railways is higher than tariffs charged to any other HT category and submitted that there should be a reduction in railway tariff such that it reflects the cost of supply. Railways also requested for certain rebates, exemptions, compensations. They made the following submissions

(a) Separate bulk tariff rate of Rs.2.30 per KVAH

(b) To make Railway Tariff single part instead of two part.

(c) Rebate on achieving 30% or higher load factor

(d) Exempting railways from penalty charges for exceeding maximum demand from contract demand. Integration for recording more demand from 15 to 30 minutes to be allowed.

(e) MD surcharge to be levied when total sum of MD for contagious substations exceeds the total sum of CD for these substations

(f) Leading power factor penalty to be ignored while calculating low power factor penalty

(g) Compensation for grid failure and poor quality

Board's Response

7.67 High tariff to railway traction is on account of various reasons like low load factor of railway traction, two phase load that causes unbalancing of power system. For 45% load factor, the Board compared the tariff rates with other utilites like GEB, DVB, UP, Tamil Nadu, Punjab and found that the tariff is much lower. With regard to the railway tariff being two part, this is in accordance with the legal provisions contained in the Electricity Act with the objective of recovering fixed and variable charges and hence cannot be made single part tariff. The rebate for operating at load factor of 30% is not justified because traction substation where operations are carried out at load factor of 30% or higher are not required to pay any tariff minimum charge (TMC).

7.68 Penalties are levied because any excess drawl of power overburdens the supply lines, transformers, equipments and causes inconvenience to the entire system. Railway should plan their requirement in advance and obtain a prior approval. Hence they cannot be exempted from penalty charges in case of over drawls. The time period adopted as integration period (15 minutes or 30 minutes) for recording demand of HT consumers depends on the nature of load; greater is the fluctuation in the load, lesser is the integration period. Since traction load is highly fluctuating, 15 minutes integration period is adopted using the sliding window principle in accordance to the clause no. 18 of the agreement entered into by the Railways. The leading power factor penalty cannot be ignored since leading and lagging power factor leads to increased losses in the system.

Commission's View

7.69 The Commission has considered the views of Railways and makes the following observations

(a) The Commission has not increased the tariff for Railways in the current tariff order

(b) The Commission agrees with the licensee's request for continuing two part tariff and has accordingly maintained the same

(c) The Commission has approved a uniform load factor incentive across all HT categories which shall be applicable on Railways as well.

(d) The Commission does not agree with the point of view expressed by the Railways and continues with the penal charges for exceeding contract demand.

(e) The Commission does not agree as of now with the proposal of measuring integrated demand.

(f) The Commission has agreed with the proposal of the objectors for abolishing the leading power factor penalty. In addition the Commission has also approved the incentive for power factor above 0.9.

(g) The regulations on Standards of Performance of Licensee have been approved and issued by MPERC. The regulation is expected to help address concerns on supply quality.

Issue No. 20: Rural Electricity Societies

7.70 The representatives of the Rural Electricity Societies suggested that the tariff of the societies should not be at par with normal tariffs, as revenue from the society consumers is a function of the consumer mix. The societies also submitted that they would be submitting the audited statements to the Commission regularly. They also suggested that a tariff of around Rs.1.56 would be appropriate for the societies.

Board's Response

7.71 As per the proposed tariff petition for FY05, the voltage level cost of supply in respect of REC Societies is 229 paise/unit and average cost of supply is 392 paise/unit. Thus, the proposed tariff for REC Societies is about 92% of the voltage level cost of supply and about 54% of average cost of supply. It is pertinent to mention that during the hearing on tariff petition No. 264/02, for 02-03, full opportunity was given to the REC Society to substantiate their claim, however, they did not come forward with relevant documentary evidence to prove the authenticity of their claim for reduction in tariff proposed for them.

Commission's View

7.72 The Commission is of the view that the Rural Electricity Cooperative Societies should be provided power at the Cost of Supply of the licensee. This is being attempted in a gradual manner. The Commission would also like to emphasise that the societies should pay their bills to the utility in a timely manner.

Issue No. 21: Domestic tariff

7.73 During the public hearing, representatives of domestic category of consumers requested for rebate in case of one-time payment of bills. An objector stated that discount for prompt payment may be based on its previous year's payment history. One of the consumer stated that the delayed payment surcharge could be made as high as 20%.

7.74 Some objectors complained that the utility is not providing any interest on security deposit, which is against the Act and the Electricity Supply Code.

Commission's View

7.75 The Commission has approved advance payment facility by consumers which shall enable them to ensure timely payment and earn interest on the advance amount outstanding.

7.76 The Commission has also introduced higher delayed payment surcharge to discourage late payment of electricity dues.

7.77 The Commission has approved the Regulations on Security Deposit which provides for payment of interest on security deposit on a monthly basis.

Issues related to tariff structure and design

Issue No. 22: TOD tariff

7.78 A large number of objectors from HT consumer category felt that TOD tariff has hurt HT consumers. It has increased tariffs by 6% for the consumers and TOD tariff as prevalent as in Chhattisgarh should be applied. To compensate for this, the objectors suggested that peak rates could be charged off peak rebates could be offered. It was also submitted that TOD surcharge on high consumption industries with a high load factor should be withdrawn.

Board's Response

7.79 The Board has makes best efforts not to over draw to avoid UI charges and in order to restrict consumer from using power during evening peak hours, it charges a TOD tariff. At the same time energy charges are kept at 40% of normal rate during the evening peak load. Further the two states M.P. and Chhattisgarh cannot be compared in applicability of TOD tariff and the power to decide tariff rates is vested with the Commission. The Board does not agree to the claim that TOD has led to a 6% rise in tariffs.

Commission's View

7.80 The Commission proposes Uniform TOD surcharge of 15% for most of the HT consumers and a Uniform rebate of 5% has also been approved in the off peak hours.

Issue No. 23: Fixed and Minimum Charge

7.81 Some objectors recommended abolition of fixed charges and minimum charges. It has been proposed by LT consumers that the minimum charge should either be abolished or reduced. In case of HT consumers and LT two part consumers, the minimum charge could be fixed on 75% of demand charges. The objectors of SSI industry were against having both fixed and minimum charges for 45 units BHP at Rs.180 HP per month and felt that the practice should be discontinued. Some objectors also suggested that for rolling mills attached to MSP, minimum charge should be equivalent to 10% load factor.

Board's Response

7.82 The Board does not agree with the view that minimum charges should either be removed or reduced since minimum charges cannot be abolished unless adequate fixed revenue is generated by way of gradual increase of fixed charges. The minimum charge for rolling mills attached to MSP should be levied at 15% load factor only.

Commission's View

7.83 The Commission during the hearings has drawn the attention of the objectors to the provision of section 45(2) of the Electricity Act, 2003 and fixed charges existing in other states. It agreed with the Board and stated that there is a need to retain the fixed charges as it caters to interest payments, depreciation etc. which are fixed costs of the Board.

Issue No. 25: Excess supply charges

7.84 The HT consumers suggested that excess supply charges should be rationalized.

Board's Response

7.85 As per the Hon'ble Commissions tariff order dated 30.11.2002, the demand in excess of contract demand and corresponding units of energy is to be treated as power supplied and availed separately for billing purposes. The excess supply so available in any month is to be charged at twice the normal rate applicable to the consumer. Infact this has been done to restrict the consumers' actual demand within the contract demand so that grid discipline is maintained. Therefore, the Board in its tariff proposal for FY05 has proposed to continue this penalty clause.

Commission's View

7.86 The Commission in this tariff order has approved excess demand to be charged only on demand at penal rates. No additional charge in terms of units shall be applicable.

Issue No. 26: Rebate on 132 KV supplies

7.87 Consumers suggested that a higher rebate should be given on 132 KV supplies.

Board's Response

7.88 The Board has designed its tariff with the existing level of rebates and the revenue has been calculated accordingly. In case any adjustment in the rebates is done, a commensurate adjustment in the basic rate need be made.

7.89 The Board is of the opinion that existing level of rebate are adequate and does not propose to amend them. Further the existing economics of the Board also does not permit the same.

7.90 The Board has submitted to the Commission to consider the rebate structure as proposed in the tariff petition.

Commission's View

7.91 The Commission has proposed a uniform reduction of 4% on both fixed and energy charges for supply at 132 KV as compared to the corresponding tariff at 33 KV.

Issue No. 29: Rebates on use of energy saving devices

7.92 A submission was made to provide incentives in tariff to those customers who had adopted solarizers and solar water heaters which were electricity saving device. Such benefits in tariff were available in other states like Rajasthan and Karnataka.

Board's Response

7.93 The Board agrees that the use of non-conventional renewable energy should be promoted. However, such promotions are policy issues and within purview of GoMP. In case GoMP offers any policy directives, the Board will honour the same.

Commission's View

7.94 The Commission is in agreement with the proposal for encouraging use of non conventional sources of energy and promoting energy saving equipment. It has already issued an order on minimum procurement of energy from wind energy sources. Further, it has also provided incentives for use of energy efficient devices for agriculture pumps which aid in Demand Side Management. The Commission shall favourably consider in future, any proposal by the Board for incentives on use of solarizers.

Issue No. 28: Comments related to Employee issues

7.95 The employee representatives pointed out the issue of reduction in manpower and increase in average age of the employees (47 years). They insisted that the increase in employee cost should be seen as an investment in manpower and not as an expense.

7.96 The employees stressed on the need of formation of a pension fund with immediate effect on the lines of the RERC order.

Commission's View

7.97 The Commission may consider, in future, the provision for creating a Pension Fund in the Annual Revenue Requirement of the utilities. However, a proposal from the utilities with appropriate valuation of liabilities and justification should be submitted to the Commission.

CHAPTER 8

A8: TARIFF DESIGN

Legal Position

The Electricity Act 2003 (Act No. 36 of 2003)

8.1 Section 61 of the Electricity Act 2003 (36 of 2003) states as under:

" The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-

(a) the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;

(b) the generation, transmission, distribution and supply of electricity are conducted on commercial principles;

(c) the factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;

(d) safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner

(e) the principles rewarding efficiency in performance;

(f) multi year tariff principles;

(g) that the tariff progressively reflects the cost of supply of electricity and also, reduces and eliminates cross-subsidies within the period to be specified by the Appropriate Commission;

(h) the promotion of co-generation and generation of electricity from renewable sources of energy;

(i) the National Electricity Policy and tariff policy.

8.2 The Commission considered the provisions of the Electricity Act as stated above and examined the issues and came to the point wise conclusions as stated hereunder:

(a) As the tariff petition for FY 05 had been submitted by the licensee viz. MPSEB in a consolidated manner since they have been permitted to continue as a bundled utility till 31st December, 2004 by the State Government, however the Commission had decided to follow the Central Commission's principles and methodologies in respect of generating companies and transmission licensees from the next financial year when the unbundled utilities are expected to start independent operations completely. However, the Commission had followed the methodologies of the CERC in respect of determination of the generating cost included in the consolidated petition.

(b) While determining the generation cost based on the norms like Station Heat Rate (SHR), auxiliary consumption etc. and while determining the transmission and distribution losses and procurement of power for the FY 05, the Commission had tried to adopt commercial principles thereby encouraging efficiency, economical use of resources etc.

(c) As above

(d) While fixing the norms on various operating parameters, the Commission had tried to safeguard the consumers' interest and at the same time ensured the recovery of the cost of electricity in a reasonable manner.

(e) The licensee is permitted to retain any benefit derived by the licensee due to better performance than the stipulated norms as an incentive for better efficiency.

(f) As the multi year tariff principles are to be applied in respect of Generation, Transmission and Distribution Companies, the Commission had drafted the multi year tariff principles applicable from 1st April, 2005 and the same shall be notified after consultation with the stakeholders in due course.

(g) The Commission is to specify the period within which the cross subsidies are to be reduced and eliminated. However, as a first step, the Commission wishes to proceed as per clause 26 (5)(b) of the MP Vidyut Sudhar Adhiniyam, 2000, viz. the tariff to any class of consumers should reflect a minimum of 75% of licensees' average cost of supply of electricity to that class by March, 2006 (the period of five years stipulated in this clause ends by February, 2006). The Commission has decided that the total elimination of cross subsidies could be taken up later in a phased manner.

(h) The Commission vide its order dated 10.6.2004, had decided that 0.5% of power purchase by the licensee should be from the Wind Energy Generators in the first instance, in order to promote co-generation and generation of electricity from the renewable sources.

(i) The Commission will be guided by the National Electricity Policy and Tariff Policy as and when these are notified by the Central Government.

8.3 Section 62 of the Electricity Act, 2003 stipulates as under:

"Determination of Tariff: -- (1) The Appropriate Commission shall determine the tariff in accordance with the provisions of this Act for –

(a) supply of electricity by a generating company to a distribution licensee:

Provided that the Appropriate Commission may, in case of shortage of supply of electricity, fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in pursuance of an agreement, entered into between a generating company and a licensee or between licensees, for a period not exceeding one year to ensure reasonable prices of electricity;

(b) transmission of electricity;

(c) wheeling of electricity;

(d) retail sale of electricity:

Provided that in case of distribution of electricity in the same area by two or more distribution licensees, the Appropriate Commission may, for promoting competition among distribution licensees, fix only maximum ceiling of tariff for retail sale of electricity.

(2) The Appropriate Commission may require a licensee or a generating company to furnish separate details, as may be specified in respect of generation, transmission and distribution for determination of tariff.

(3) The Appropriate Commission shall not, while determining the tariff under this Act, show undue preference to any consumer of electricity but may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.

(4) No tariff or part of any tariff may ordinarily be amended, more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified.

(5) The Commission may require a licensee or a generating company to comply with such procedure as may be specified for calculating the expected revenues from the tariff and charges which he or it is permitted to recover.

(6) If any licensee or a generating company recovers a price or charge exceeding the tariff determined under this section, the excess amount shall be recoverable by the person who has paid such price or charge along with interest equivalent to the bank rate without prejudice to any other liability incurred by the licensee."

8.4 In respect of the above provisions, the Commission would like to explain its point wise consideration of the provisions as under:

(1) (a) Since the licensee had submitted the tariff petition for the FY 05 in a consolidated manner, the Commission had arrived at the provisional generation cost based on information provided by the licensee in respect of its generation activities. Plant wise generation tariff will be determined as and when the generating company makes such information available to the Commission. As the unbundled utilities are expected to be operative from January 1, 2005 onward,

plant wise generation tariff will be determined from FY 06 based on the multi year tariff principles, which are under finalisation.

(1) (b),(c) & (d): Similarly the tariff for transmission, wheeling and retail sale of electricity in respect of the unbundled utilities will be determined by the Commission from the next financial year when the unbundled utilities submit information in respect of their operations.

(2) The licensee, on being directed by the Commission, provided details segregated in generation, transmission and distribution of electricity, which have been considered by the Commission while determining the tariff.

(3) While determining the tariff for various categories of consumers, the Commission has considered load factor, power factor, voltage of supply etc. and purpose for which the supply is required, as differentiating factor.

(4) The Commission had followed the provisions of this subsection while determining the tariff.

(5) The Commission had framed a regulation on " Details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making an application" and have accordingly considered the information provided by the licensee while determining the tariff.

(6) The Commission will follow the provisions of this subsection as and when necessary.

8.5 Section 45 of the Electricity Act, 2003 stipulates as under:

“Power to recover charges” ---

(1) Subject to the provisions of this section, the prices to be charged by a distribution licensee for the supply of electricity by him in pursuance of section 43 shall be in accordance with such tariffs fixed from time to time and conditions of his licence.

(2) The charges for electricity supplied by a distribution licensee shall be—

(a) fixed in accordance with the methods and principles as may be specified by the concerned State Commission;

(b) published in such manner so as to give adequate publicity for suchcharges and prices.

(3) The charges for electricity supplied by a distribution licensee may include—

(a) a fixed charge in addition to the charge for the actual electricity supplied;

(b) a rent or other charges in respect of any electric meter or electrical plant provided by the distribution licensee.

(4) Subject to the provisions of section 62, in fixing charges under this section a distribution licensee shall not show undue preference to any person or class of persons or discrimination against any person or class of persons.

(5) The charges fixed by the distribution licensee shall be in accordance with the provisions of this Act and the regulations made in this behalf by the concerned State Commission."

In line with the provisions of this section, the Commission has decided to determine the prices to be charged by the distribution licensee by means of a fixed charge based on the consumer's category, infrastructure created for effecting supply, hours of supply, load factor, voltage at which the supply is effected etc. in addition to the charges for the actual electricity supplied. The Commission has also determined the prices to be charged by the distribution licensee in respect of meter rent and rent applicable for other electrical plant provided by the licensee and also other miscellaneous charges applicable for various types of services rendered by the licensee to its customers through a separate order issued on 9.12.2004. The rate schedule for Miscellaneous Charges has been included in this order.

Tariff Structure

8.6 Prime consideration has been given to 'Cost of Supply' while designing tariff structure for consumer category. In the absence of adequate information and cost details with respect to individual consumer classes, the Commission has adopted the 'Cost of Supply' for specific consumer categories and voltage levels as determined by the Licensee, adjusted to the respective cost details under the Annual Revenue Requirements as approved by the Commission in the foregoing chapters. The Commission will analyse the appropriateness of the allocation factors for determining 'Cost of Supply' as and when the Licensee makes the relevant data available. The Cost of Supply as per the principles of the licensee is as follows

Category	**Generation**	**Transmission**	**Distribution**	**Losses**	**Non-Tariff income**	**CoS**	**Realisation**	**Cross-subsidy received**	**Total Cost of Supply**
	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)
LT	(1)	(2)	(3)	(4)	(5)	(6) = (1)+(2)+(3)+(4)-(5)	(7)	(8)	(9) = (7)+(8)
Domestic	165	11	65	207	22	425	311	114	425
Single Light Point	165	11	65	207	22	425	336	90	425
Non-domestic	165	11	65	207	22	425	586	-160	425
Water Works	165	11	65	207	22	425	294	132	425
Industrial	165	11	65	207	22	425	491	-66	425
Agricultural	165	11	65	207	22	425	218	207	425

Category	Generation	Transmission	Distribution	Losses	Non-Tariff income	CoS	Realisation	Cross-subsidy received	Total Cost of Supply
	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)
Street Lights	165	11	65	207	22	425	342	83	425
HT									
Railway Traction	165	11	0	16	22	169	449	-280	169
Coal Mines	165	11	11	36	22	200	514	-313	200
Mini Steel Plants	165	11	11	36	22	200	355	-155	200
Cement Factories	165	11	17	47	22	217	451	-234	217
HT Irrigation	165	11	17	47	22	217	687	-470	217
HT Water Works	165	11	17	47	22	217	260	-43	217
Other HT consumers	165	11	12	39	22	205	468	-263	205
RE Co.Society	165	11	17	47	22	217	200	17	217
Border Villages	165	11	17	47	22	217	250	-33	217

8.7 The Commission on considering the wide implication in aligning the tariff structure in completely with the aforesaid 'Cost of Supply', endeavours to take a balanced view between the objectives stated in the Madhya Pradesh Vidyut Sudhar Adhiniyam 2000 (4 of 2001) (MPVSA), The Electricity Act 2003 (36 of 2003), the philosophy stated in the Tariff Philosophy paper of the Commission and the objections/ concerns raised by the objectors during the current tariff determination process.

8.8 The other important consideration of the Commission is to strike a balance between the affordability of the consumers and the reasonable recovery by the licensee.

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Tariff Philosophy

8.9 The Commission has published a paper on its tariff philosophy during December 2003 which it maintains in its website till date. Selective extracts of the philosophy paper are provided hereunder as ready reference.

(a) The Commission feels that a review of the tariff structure of the utility in the state is a must in order to address concerns of such consumers and to provide them appropriate incentives wherever possible. Some of the concerns that have been raised are:

(i) Industrial tariffs should not be increased beyond a certain level to avoid migration from grid power. This would lead to proliferation of self-generation, which not only adversely affects the licensee's revenues but also reduces the possibility to cross-subsidise other consumers whose tariffs can be increased only in a gradual manner.

(ii) Proper pricing is gaining importance in an era of liberalisation when industry is increasingly moving towards competition and driven by market forces. Higher tariffs not in line with the cost of supply can make the utility uncompetitive and further increase its losses.

(iii) On the other hand, low and subsidised tariffs encourage inefficient use of electricity and leads to high demand for power, which puts pressure on the system capacity and the quality of service. Thus, a balance has to be reached.

(b) The critical parameters for designing the tariff are as follow:

(i) It should gradually reflect the 'Cost of Supply' for all consumer categories and should do away with the cross subsidy in a phased manner.

(ii) Tariff should be rationalized in such time and manner that the financial burden on the cross subsidizing categories is gradually brought down and that tariff for all consumers is competitive and commensurate with their needs.

(iii) The tariff structure i.e. the categories and the slabs within those categories, should be designed so as to have a clear distinction between different categories of consumers and charge them as per the pattern of their usage.

(iv) The structure should be simple yet comprehensive. It should be easy to understand for the consumers of electricity in the state.

(c)Tariff to reflect season dependent cost of power

(v) During certain months (for instance between November to Feb), the demand is significantly higher than other months of the year due to which the Licensee has to resort to higher quantum of purchase or over drawl from the allocated sources of central sector stations. It is also likely that the Licensee does not have adequate availability from hydel sources for some months which, when available, help in optimising the overall costs. The Commission feels that if there is a distinct trend in incidence of higher power purchase costs in certain months, the additional cost should be reflected in the tariff by charging a higher rate to those categories, which contribute to additional demand during these months.

(d)Incentives for metered consumption

To promote meterisation and in turn to facilitate revenue collection commensurate to the electricity consumption, the Commission proposes to incentivise metering at both individual consumption points and for groups for such consumers who are currently unmetered. Tariff for consumers opting for metering or group metering would be lower as compared to the individual unmetered consumers. If the metering point for the groups is at distribution transformer level, the tariffs would reflect the cost to serve at HT and hence would be lower than tariffs at individual metering points of LT supply. This would motivate more and more unmetered consumers to opt for group metering.

(e) Reliability and Continuity of energy supply

While it is necessary that the consumers make full and timely payment for the energy they consume, it is also necessary that the utility ensure all measures to provide uninterrupted supply to them.

(f)Encouragement for HT and Bulk Supply

The Commission believes that this will be beneficial to both the licensee and the consumers. . The licensee will be supplying power to such user groups at a rate higher than his cost of supply. At the same time, this provision will go a long way in loss reduction because of HT supply to a larger number of domestic consumers. The consumers will benefit by paying a lesser tariff as compared to what they pay at present as part of General Purpose tariff. The presence of user group would ensure a better service quality also.

8.10 Reference clause 8.9 (a) (i): The Commission has given due consideration to the HT consumers and, except for seasonal industries, has tried to provide a revenue neutral tariff to them. The calculations of revenue neutrality are based on the load factor data provided by the Licensee.

8.11 Reference clause 8.9 (a) (ii): While the Commission has focussed on keeping the average tariff same as that of the previous tariff, consumers using more electricity will be benefited in two ways:

(a) In general the fixed charges have been increased and the energy charges have been reduced. This will result in reduction of average tariff as the quantum of energy consumed increases.

(b) In addition load factor rebate has been provided for usage of energy beyond 50% load factor. This load factor benefit, which is applicable on energy charges, will reduce the net tariff further.

8.12 Reference clause 8.9 (a) (iii): The average tariff of LT categories has increased more than the tariff of the HT category. For example the existing tariff of LT agriculture consumers up to 3 HP was covering only 43% of the 'Cost of Supply', which has been increased by about 20% so as to cover 52% of the cost of supply.

8.13 Reference clause 8.9 (b) (i & ii): The tariff of the consumers below the 'Cost of Supply' has been increased by a greater extent compared to that of consumers above the 'Cost of Supply' to reduce the cross subsidy. In fact the tariff of some of the subsidising categories like Mini Steel Plant, Ferro Alloys and General Purpose (primarily residential) who are paying much above the 'Cost of Supply' have been reduced and at the same time the tariff of some of the categories like non-lifeline domestic, agriculture (upto 10 HP) and LT industries upto 10HP have been increased.

8.14 Reference clause 8.9 (b) (iii), (c): The Commission has recategorised the slabs in the domestic category and has introduced a lifeline sub-category. Similarly the tariff of the HT consumers has been rationalised.

Further, in the months of November to February the licensee has to purchase additional power due to the onset of 'Rabi' season (in agriculture). The Commission has therefore approved additional charges for usage of power by the seasonal industries in these months.

8.15 Reference clause 8.9 (b) (iv): In this tariff order, in number of cases the tariff structure has been simplified e.g. the in non-domestic category one single tariff has been proposed against entire consumption. Similarly in the HT category uniform principles have been adopted for load factor rebate, power factor incentive, minimum charges etc.

8.16 Reference clause 8.9 (d): The tariff design duly considers the requirement of providing incentives for metered connections. Accordingly the tariff of unmetered agriculture has been approved at a higher level. The Commission has also approved a attractive tariff for exemptees under section 13 of the Electricity Act 2003.

8.17 Reference clause 8.9 (e): A large number of consumers, in their objections filed with the Commission, have complained about poor quality and limited hours of supply that result in under utilization of their installed load. They have also protested against recovery of full fixed cost under such circumstances. In order to address this concern and to send the right signals to the utility for improving the quality of supply, the Commission in this tariff order, is introducing graded fixed charges pegged to the actual consumption for certain consumer categories. The details are provided under the relevant portions of the tariff schedule.

8.18 Reference clause 8.9 (f): As stated earlier, in order to encourage bulk and HT supply, the Commission is introducing, a tariff for consumers who will fall under the category defined under section 13 of the Electricity Act 2003 (Power to Exempt).

8.19 Higher demand during evening hours is a characteristic of MP's load curve. Demand is typically met through short-term purchases, which are generally more expensive as compared to the non-peak hour supplies. In order to reflect the higher cost of supply during the peak load hours it is necessary to have a surcharge and rebate according to the time of day (TOD) in which energy is being consumed which would provide correct signals to the consumers and also help the utility in maintaining a better system profile. In this tariff order the Commission has introduced off-peak hour rebate in addition to peak hour surcharge. .

8.20 It is important for the utility to retain its consumers who pay higher than the cost of supply. Broadly there are two issues that are important for these consumers – the quality of supply and the tariff. Since it is not possible to bring down the tariff of the subsidising set of consumers to the cost of supply, incentives based on load factor shall be extended to such consumer categories, reflecting a relative decline in their average tariff.

8.21 A provision of advance payment has been introduced whereby an interest of 0.5 % per month shall be given to consumer on the amount balance with the licensee after adjusting any amount payable to the licensee. This provision will benefit the consumers in terms of timely payment of bills and gain of interest. The licensee in turn will be benefited by a more streamlined collections and savings on interest on working capital.

8.22 In most of the HT categories tariff is being approved for all the four voltage levels – 220 kV, 132 kV, 33kV and 11kV. Tariff has been differentiated on the basis of intra-voltage loss levels reported by the licensee. The base tariff is fixed at 33 kV and tariff conversion percentage adopted for various voltage levels are as follows:

(a) Between 132 kV and 220 kV – On 220 kV 1.5% lower than 132 kV

(b) Between 33 kV and 132 kV – On 132 kV 4% lower than 33 kV

(c) Between 11 kV and 33 kV – On 11 kV 6% higher than 33 kV

Tariff Categories

8.23 After careful consideration of all the issues mentioned above and the objections filed by the consumers, the Commission is approving the following categories in this tariff order.

LT categories

1 Domestic light fan and Power

(a) Lifeline (upto 30 units pm)

(b) Low tariff users (Above 30 units and up to100 units pm)

(c) Medium tariff users (above 100 and up to 300 units pm)

(d) Standard tariff users (above 300 units pm)

(e) Unmetered

2 Non-domestic light fan and power

3 Water works and crematorium

(a) Municipal Corporation/ Cantonment Licensee

(b) Municipality / Nagar Panchayat

(c) Gram Panchayat

4 LT Industrial consumers

(a) Flour mills, Hullers and Powerlooms upto 10 HP

(b) Other LT Industries including Flour mills, Hullers and Powerlooms above 10HP and upto 25 HP

(c) Other LT Industries including Flour mills, Hullers and Powerlooms above 25HP and upto 100HP

(d) Other LT Industries including Flour mills, Hullers and Powerlooms above 100HP and upto 150 HP

(e) Demand based tariff

5 Power for agricultural installations

(a) Metered

(b) Unmetered

(c) Temporary

6 Public purpose lighting

(a) Municipal Corporation/ Cantonment Licensee

(b) Municipality / Nagar Panchayat

(c) Gram Panchayat

7 Temporary supply

HT categories

8 Railway Traction

9 Coal Mines

10 Cement factories

11 Power intensive industries

12 Other industrial power

13 Seasonal

14 HT Irrigation and Public Water Works

15 General Purposes (Non-Industrial)

(a) Primarily Residential

(b) Others

16 Rural Electric Co-operative Societies

17 Border Villages

18 Bulk rate for exemptees (u/s 13 of the Electricity Act)

19 Temporary Supply

Category explanation

LT Categories

Domestic

8.24 The domestic category has now been classified into five sub-groups, primarily, on the basis of their level of consumption. Consumers consuming 30 units or below in a month have been classified as 'Lifeline consumers', while the consumers consuming more than 30 units and up to100 units a month have been classified as 'Low Tariff Consumers', and consumers consuming more than 100 units and up to 300 units a month have been classified as 'Medium Tariff Consumers' and consumers consuming above 300 units a month have been classified as 'Standard Tariff Consumers'.

8.25 With a view to further simplify the tariff structure applicable, the Commission has withdrawn the prevailing telescopic tariffs and introduces non-telescopic tariff structure to the domestic and non-domestic consumer category. This means that a domestic consumer shall pay uniform rate against the entire consumption.

8.26 In order to factor in the affordability of the consumers as a vital link, the Commission has structured the tariffs reflecting the consumption practices of the various consumer classes. Especially the lower consumer segment, consuming up to 30 units a month have been identified a 'Lifeline Consumers'. The Commission intends to keep low tariff for such consumers based on their capacity to pay. However the tariff for lifeline consumer category is limited to metered connection only.

8.27 The consumer category 'Licensee Employees' have also been merged with the 'Domestic Consumer Category', with a view to simplify the tariff structure and provide equal treatment to consumers of similar nature.

8.28 The Commission, in its effort to reduce the discrepancy due to differential treatment of consumers in supply conditions, has introduced consumption-linked/ unit-linked fixed charge in contrast to the prevailing practice. The fixed charges applicable to a consumer during the financial year, is determined based on the slab under which the consumer's average monthly consumption during the previous calendar year falls and for energy consumption he shall be charged on the units consumed in the months of current financial year

8.29 The energy charges payable shall be linked to the number of units consumed by the consumers in the particular billing month, and the respective slab.

8.30 The Commission has approved a higher delayed payment surcharge to encourage discipline in timely payment of electricity dues.

8.31 The tariff proposed by the licensee are as follows:

Particulars	Basis of Fixed charges	Fixed charge Units	Fixed Charges	Slabs	Energy Charges (P/U)
Domestic					
Metered	1 ph	Rs./M	100	First 50	160
Urban	3 ph	Rs./M	200	51 to 300	330
		Rs./M		Above 300	380
Metered	1ph	Rs./M	75	First 50	140
Rural	3ph	Rs./M	125	51 to 300	310
		Rs./M		Above 300	360
Maximum Demand Based (Rs./KW /M)		Rs./M	225		380
Un-metered	Urban	Rs./M	210	First 50	160
		Rs./M		51 to 300	330
		Rs./M		Above 300	380
	Rural	Rs./M	210	First 50	140

Particulars	Basis of Fixed charges	Fixed charge Units	Fixed Charges	Slabs	Energy Charges (P/U)
		Rs./M		51 to 300	310
		Rs./M		Above 300	360
Temporary	1ph	Rs./M	150		495
	3ph	Rs./M	300		495
Departmental Employees and Pensioners					
Working	1 ph	Rs./M	100	First 50	80
	3 ph	Rs./M	200	51 to 300	165
		Rs./M		Above 300	190
Retired	1ph	Rs./M	100	First 50	120
	3ph	Rs./M	200	51 to 300	250
		Rs./M		Above 300	285

8.32 The tariff approved by the Commission are as follows:

LV -I A--Domestic consumers with meters

(a) Fixed Charges: These charges shall be based on average monthly consumption during the previous calendar year as under

	Sub category of consumers	Range of average monthly consumption	Fixed Charges Per month per unit for all units
1.1	Life line tariff users (metered only)	0 to 30 units	NIL

	Sub category of consumers	Range of average monthly consumption	Fixed Charges Per month per unit for all units
1.2	Low tariff users	31 to 100 units	80 paise
1.3	Medium tariff users	101 to 300 units	120 paise
1.4	Standard tariff users	More than 300 units	140 paise

(b) Energy Charges: These charges are based on current month's consumption on all units as per following table:

	Range of monthly consumption	Energy CHARGES per unit for all units
1.1	0 to 30 units	210 paise
1.2	31 to 100 units	210 paise
1.3	101 to 300 units	220 paise
1.4	More than 300 units	225 paise

Fixed charges, as explained above, shall be charged on the basis of the average of the previous calendar year's consumption. This means that the fixed charges for a consumer would be independent of the current year's consumption. For example,

Case 1: If the average consumption of a domestic consumer was 32 units in the previous calendar year, the consumer would pay the fixed charges calculated for 32 units @ 80 paise per unit i.e Rs.25.60 for all the months in the following financial year. That is, if the consumer consumes even

150 units in a month during the current year he will pay for fixed charges of Rs. 25.60 per month but for the energy consumed during the month he shall pay @ Rs. 2.20 and not @ Rs. 2.10 which is the rate for consumption upto 100 units.

Case 2: Similarly if a consumer, in the previous calendar year, had consumed 500 units as an average he will have to pay fixed charges @ 140 paise per unit for 500 units i.e. Rs. 700 for each month in the current financial year. If he actually consume only 120 units in any month during the current year he shall pay energy charges for 120 units @ Rs.2.20 per unit but shall pay fixed charges on the calculation made on his average consumption of preceding calendar year.

LV -I B - Domestic consumers without meter

Consumers classified under this sub-category are required to limit their use only for lighting purpose. A lumpsum charge of Rs. 170/- in urban areas and Rs. 160/- in rural areas will be recoverable per month from each consumer. These charges shall, however, increase by Rs 10/- every quarter. The Commission intends to encourage the consumers to convert to metered connection.

Non-domestic

8.33 With an effort to simplify the tariff structure, and encourage equalised treatment to the consumers, the Commission has eliminated the slab-structures under this category and also withdrawn the telescopic nature of the energy charge treatment. This means that a non-domestic consumer shall pay the same rate against the entire consumption.

8.34 The fixed charges specified under this category shall be applied on similar principles as detailed in the previous sections under the 'Domestic Category'.

8.35 A sub-category 'Temporary enhanced load to existing connection' has been introduced in the non-domestic category. This will help establishments like marriage gardens to acquire additional power at a rate lower than the rate of temporary connections but at a rate higher than the normal non-domestic rate.

8.36 The Commission has approved a higher delayed payment surcharge to encourage discipline in timely payment of electricity dues.

8.37 The tariff proposed by the licensee are as follows:

Particulars	Fixed charge Units	Fixed Charges	Slabs	Energy Charges (P/U)
Non-Domestic Light and fan and Power				
Single Phase	Rs/M	120	First 100	400
Three Phase	Rs/kW/M	200	> 100	440
MD Base Tariff	Rs./KW/M	215		465
Temporary :1 Phase	Rs/M	180		600
Temporary :3 Phase	Rs/kW/M	300		
X- Ray Plants 1 Phase	Rs/M	675	100	400
3 Phase	Rs/M	1000	>100	440

8.38 The tariff approved by the Commission are as follows:

(a) Fixed Charges: These charges shall be based on average monthly consumption during the previous calendar year as under

	Range of average monthly consumption	Fixed Charges Per month per unit for all units
	LV-2	
2.0	Non Domestic Consumer	
2.1 (a)	For entire consumption	200 paise per unit

(b) Energy Charges: These charges are based on current month's consumption on all units as per following table:

	Range of average monthly consumption	Energy Charges per unit for all units
2.1 (b)	For entire consumption	380 paise per unit

(c)

	Category of Consumers	Fixed Charges per month	Energy Charges paise per unit
2.2	Demand based tariff	Rs 100 per kVA of billing demand*	400
2.3	Temporary enhanced load to existing connections	250 paise per unit	475

* The maximum demand of the consumer in each month shall be four times the largest amount of kilowatt hours delivered at the point of supply of the consumer during any consecutive fifteen minutes in that month. Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Water Works and Crematorium

8.39 The existing tariff classification shall continue to be applicable in case of water supply. Electricity supply to crematorium shall also be treated as part of this category.

8.40 With the incidence of fixed expenses of the Licensee not being met by the existing tariff structure, a fixed component per kW has been introduced under this category, without impacting drastically the overall tariff applicable.

8.41 The tariff proposed by the licensee are as follows:

Particulars	Fixed charge Units	Fixed Charges	Energy Charges (P/U)
Water Works			
Municipal Corporation / Cantonment Licensee	Rs/kW/M	25	330
Municipality / Nagar Panchayat	Rs/kW/M	25	300
Gram Panchayat	Rs/kW/M	25	280
Temporary	Rs/kW/M	40	415

8.42 The tariff approved by the Commission are as follows:

	Category of consumers	Fixed Charges per month per kW	Energy Charges paise per unit
	LV-3		
3.0	Water Works etc.:		
3.1	Municipal Corporation/ Cantonment licensees	Rs. 60/-	280
3.2	Municipality/ Nagar Panchayat	Rs. 50/-	255
3.3	Gram Panchayat	Rs. 40/-	220

LT Industrial consumers

8.43 The Commission has rationalised the applicability of this category and has included toy making industry in this category.

8.44 Demand based tariff has been introduced in this category where billing demand has been defined as the actual maximum kVA demand of the consumer during the month or 75% of the contract demand whichever is higher. The tariff designed for this category is attractive and beneficial to the consumers.

8.45 The tariff proposed by the licensee are as follows:

Particulars	Basis of Fixed charges	Fixed charge Units	Fixed Charges	Energy Charges (P/U)
Industrial – LT				
Flour mills / Hullers	Non Seasonal	Rs/M	25	300
(Upto 10 HP)	Seasonal	Rs/M	25	306
Power Looms (Upto 10 HP)		Rs/M	25	300
Other LT Industrial	Non Seasonal	Rs/M	25	390
(Upto 25 HP)	Two Part Tariff	Rs/kW/M	145	364
	Seasonal	Rs/M	25	410
Other LT Industrial	Non Seasonal	Rs/M	25	525
(25 to 100 HP)	Two Part Tariff	Rs/kW/M	190	479
	Seasonal	Rs/M	25	550
Other LT Industries		Rs/KVA/M	206	405
(11 KV Rate)(Above 100 to 150 HP)				
Temporary				
Upto 25 HP				640
Above 25 HP				830

8.46 The tariff approved by the Commission are as follows:

	Category of consumers	Fixed Charges Per month per HP of contract demand	Energy Charges paise per unit
	LV 4		
4.0	LT Industrial consumers		
4.1 a	Flour mills, Hullers and Powerlooms upto 10 HP	Rs. 50/-	320
	Other LT Industries including Flour mills, Hullers and Powerlooms above 10HP		
4.1 b	Upto 25 HP	Rs. 60/-	330
4.1 c	More than 25 HP & upto 100 HP	Rs. 125/-	390
4.1 d	More than 100 HP & upto 150HP	Rs. 175/-	450
4.1	Demand based tariff	Rs. 300/- per kVA per month of billing demand*	350

Power for agricultural installations

8.47 The Commission has introduced two groups for agriculture in this tariff order – metered (consumers who have a metered supply) and unmetered (consumers who are being supplied energy without a meter).

8.48 The Commission intends to consider tariff for the unmetered consumers of the agricultural category on the basis of sources of water like dug-well and others. For this the Commission needs information on the number of the mentioned sources of water, their connected load and usage pattern. The Commission hereby directs the licensee to submit such information to the Commission..

8.49 In this tariff order the Commission has approved a higher tariff for consumers connected without an energy meter. In fact the tariff of metered consumers have been reduced. The Commission hopes that this measure will help in enhancing the metered agricultural connections.

8.50 The Commission has also approved a separate temporary connection in this category for which the applicable charges are 20% higher than the permanent connections. This is a reduction over the existing charges which are 50% higher than the normal tariff. The Commission expects that such a move will encourage the consumers to avail registered connections.

8.51 Incentives have been approved for installation of energy saving devices in agricultural connections, as follows:

S.No.	Particulars	For metered connections	For supply without meter
1.	For installation of ISI motors for pump sets	10 paise per unit	Rs. 10/- per HP per month
2.	For installation of ISI motors for pump sets and use of frictionless PVC pipes and foot valve	20 paise per unit	Rs. 20/- per HP per month
3.	For installation of ISI motors for pump sets and use of frictionless PVC pipes and foot valves along with installation of shunt capacitor of appropriate rating	30 paise per unit	Rs. 30/- per HP per month

8.52 The tariff proposed by the licensee are as follows:

Particulars	Basis of Fixed charges	Fixed charge Units	Fixed Charges	Energy Charges (P/U)
Agriculture (Full Rate) (50% reduction at a subsidy of Rs 736 Crore)				
Metered Supply			Nil	170
Flat Rate	Up to 3 HP	Rs/HP/M	135	Nil
	Above 3 HP Upto 5 HP	Rs/HP/M	160	Nil
	Above 5 HP Upto 10 HP	Rs/HP/M	165	Nil

Particulars	Basis of Fixed charges	Fixed charge Units	Fixed Charges	Energy Charges (P/U)
	Above 10 HP Upto 20 HP	Rs/HP/M	190	Nil
Temporary			Nil	255

8.53 The tariff approved by the Commission are as follows:

	Category of consumers	Fixed Charges per month per HP	Energy Charges paise per unit
	LV – 5		
5.0	Agricultural consumers		
5.1	Metered supply	Nil	220
5.2	Supply without meter		
	Upto 10 HP	Rs. 230/-	NIL
	Above 10 HP	Rs. 250/-	NIL
5.3	Temporary		
	Metered	Nil	265
	Supply without meter upto 10HP	Rs. 275/-	Nil
	Supply without meter above 10HP	Rs. 300/-	Nil

Public purpose lighting

8.54 The Public Street Light has been redefined to include traffic signals and public places including parks and monuments, public libraries etc.

8.55 While the rates have been increased for Municipal Corporation and Nagar Palika areas, but looking at the paying capacity of the Gram Panchayats and the reported quality of supply in such areas, their rates have been decreased. The Commission also hopes that the payment record of these categories will improve.

8.56 Tariff proposed by the licensee are as follows:

Particulars	Fixed charge Units	Fixed Charges	Energy Charges (P/U)
Public Street Lighting			
Municipal Corporation / Cantonment Licensee	Rs/kW/M	125	330
Nagar Palika / Nagar Panchayat	Rs/kW/M	100	300
Gram Panchayat	Rs/kW/M	75	280

8.57 Tariff approved by the comission are as follows

		Fixed Charges Per month per kW	Energy Charges paise per unit
	LV-6		
6.0	Public Purpose Lighting		
	Consumers in the following areas:		
6.1	Municipal Corporation/ Cantonment	Rs. 100/-	310
6.2	Nagar Palika/ Nagar Panchayat	Rs. 85/-	300
6.3	Gram Panchayat	Rs. 45/-	260

Temporary Supply

8.58 The facility of Tatkal Service was introduced by the Commission while approving the Madhya Pradesh Electricity Supply Code, 2004. Under this scheme, connections shall be provided within 24 hours against payment of additional charges as provided in the schedule of miscellaneous charges.

8.59 Temporary supply to any category (excluding for agriculture and for enhanced load in non-domestic category) will be provided at one and a half times the rate of normal charges.

8.60 The Commission has approved fixed charge and energy charges to be billed at 1.5 times the normal tariff as applicable to the corresponding categories if temporary supply is availed.

HT Categories

1. Railway Traction

The Commission does not agree with the proposal of the Licensee to raise the energy charges of this consumer category by 3%. The Licensee itself in its submission as stated that at 45% load factor the existing charge is higher than the charge being paid by Railways in the neighbouring States of Andhra Pradesh, Rajasthan, Maharashtra Orissa and Bihar. In FY04, this consumer category paid 319% of the COS. The Commission, as indicated earlier is committed to reduce the cross subsidy over a period of time. Considering the fact that the charge is already higher than COS the Commission has therefore decided to retain the existing tariff rate and structure.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
Railway Traction on 220/132 KV	150.00	405.00	150.00	391.00	265

Minimum Charges

Presently the minimum charges are being levied at a load factor of 28% of the contract demand. The Licensee has proposed to reduce the load factor from 28% to 20% of the contract demand for the purpose of determination of minimum charges. According to the consumer due to the nature of its operation, it is impossible to achieve high load factor. The Commission agrees with the proposal of the Licensee and reduces the load factor to 20% for the purpose of computation of minimum charges.

Determination of demand

In the present method of determination of demand the consecutive interval of 15 minutes is considered in order to align it with the ABT regime presently applicable to the State in which a time block of 15 minutes interval is considered for the purpose of calculation of UI charges and scheduling.

Power factor rebate/incentive

Railways are provided with incentive @ of 1% of the total amount billed under demand and energy charge if the average monthly power factor exceeded 95%. No incentive was payable if the average monthly power factor recorded was between 90% and 95%. Penalty at the rate of 1% of the total billed amount under demand and energy charge was levied if the average monthly power factor lay between 90% and 85%. The rate is doubled if the average power factor ranges between 85% and 90%. MPSEB had the right to disconnect if the average monthly power factor fell below 70%. The Commission has decided to restructure this. The average monthly power factor that would attract penalty has been reduced from 90% to 85% but no incentive would be payable if the power factor lies in the range 85% to 90%. This facility is being provided to Railways only to accommodate their nature of load and shall not be provided to other consumers of MPSEB. The consumer has contented that the average monthly power factor gets reduced due to the reactive power delivered by it to MPSEB. According to the consumer this helps MPSEB in maintaining voltage profile at its connected substation.

Earlier no power factor rebate was provided if the average monthly power factor lay in the band of 90% to 95%. Most of the HT consumers have power factor in this range, these consumers have little incentive to further improve their power factor. In order to incentivise such consumers to improve their power factor a rebate of 0.5% of the total amount billed under the fixed and energy charges is being introduced. The Commission expects that the improvement in the average power factor of such consumers would benefit MPSEB in terms of reduced technical losses.

MPSEB has the right to disconnect the consumer's installation if the power factor falls below 70%. However this facility is now being withdrawn because the Commission feels that as Railways provide services of national importance the disconnection will not be in the National interest. The Supply Code shall be accordingly amended. This provision shall be applicable only in the case of

Railways. However in such case MPSEB would be eligible to charge at a higher rate of 2% of the total billed amount under fixed and energy charges as low power factor penalty.

Power Factor	Incentive/Rebate
Above 95%	Incentive of 1.0% of the total amount of bill under the heads of fixed and energy charge
Above 90% and upto 95%	Incentive of 0.5% of the total amount of bill under the heads of fixed and energy charge
Below 90% and upto 85%	No charge
Below 85% and upto 70%	Penalty of 1.0% of the total amount of bill under the heads of fixed and energy charge
Below 70%	Penalty of 2.0% of the total amount of bill under the heads of fixed and energy charge

Penalty for excess Demand

Presently the consumer has to pay penal charges at twice the applicable normal tariff rate both for demand in excess of the contract demand and energy consumed corresponding to this excess portion of demand. The Commission has decided to simplify these penalty charges. The Commission has decided to reduce the penal charge from twice to 1.5 times the normal rate. Further, the penal charges on the energy consumed corresponding to the excess portion of the demand is being done away. This would bring this charge in line with that prevalent in other states. The real intention behind the implementation of these charges was to charge the consumer for the violation of the agreed contract demand. Further the fixed charges for other HT consumer categories have been significantly increased. Thus the penal charges only on excess demand would be sufficient disincentive for contract demand violation.

The expected demand and energy charges from the approved tariff rate as against the 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
Railways	13%	87%

HV-2 Coal Mines

The Licensee had proposed a tariff hike of 6.9% at the average load factor for this consumer category. MPSEB in its tariff submission has stated that the existing tariff of this consumer category is amongst the highest in India. The average tariff in FY04 was 286% of COS. The Commission does not agree with the proposal and no rise has been approved. However the Commission has decided to rationalize the fixed and variable charges.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
220 KV			397.00	388	
132 KV	164.00	460	403.00	394	234
33 KV	168.00	472	420.00	410	243
11 KV	174.00	486	445.00	435	258

The expected fixed and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
Coal Mines	19.8%	81.2%

Tariff Rate for 220 KV

The Commission has reworked the energy and fixed charges on the basis of the principle that charges at lower voltage level should be higher than the charges at higher voltage levels to account for higher cumulative energy losses and the cost of assets of lower voltage level. The charges at at

220 KVare lower by 1.5% over 132 KV charges. The Commission using this principle has introduced a tariff for 220KV for consumers desirous of availing supply at this voltage level.

Minimum Charges

The minimum charge for the 132 KV consumers is being levied at a load factor of 40% of the contract demand. . The Commission considers the load factor of 40% high when the average load factor at 132 KV is 48%. The Commission feels the need to align this minimum load factor with the minimum load factor prescribed for other HT categories and therefore the minimum load factor for the purpose of determination of minimum charges has been reduced to 30%. For other consumer categories the minimum charges remain unchanged.

Determination of demand

In the present method of determination of demand the consecutive interval of 30 minutes is considered. The Commission for this tariff order reduces this interval of 30 minutes to 15 minutes in order to align it with the ABT regime presently applicable to the State in which a time block of 15 minutes interval is considered for the purpose of calculation of UI charges and scheduling.

Power factor rebate/incentive

Presently no power factor incentive is being provided if the average monthly power factor lies in the band 90% to 95%. Most of the HT consumers have power factor in this range, these consumers have no incentive to further improve their power factor. In order to incentivise such consumers to improve their power factor a rebate of 0.5% of the total amount billed under the fixed and energy charges is being introduced. The Commission expects that the improvement in the average power factor of such consumers would benefit MPSEB in terms of reduced technical losses. Other terms and conditions of the power factor rebate/incentive remain the same.

Power factor rebate/penalty

Power Factor	Incentive/Rebate
Above 95%	Incentive of 1.0% of the total amount of bill under the heads of fixed and energy charge
Above 90% and upto 95%	Incentive of 0.5% of the total amount of bill under the heads of fixed and energy charge
Below 90% and upto 85%	Penalty of 1.0% of the total amount of bill under the heads of fixed and energy charge
Below 85% and upto 70%	Penalty of 2.0% of the total amount of bill under the heads of fixed and energy charge
Below 70%	MPSEB reserves the right to disconnect the supply

Penalty for excess Demand

The approved changes and the rationale for introducing them have been discussed in the section under Railways.

Load factor Rebate

Presently no load factor rebate is being provided to this consumer category although it is currently applicable to some other consumer categories. The Commission has decided to uniformly provide this rebate to all HT consumers except for Rural Cooperative Societies, Border Villages and Exemptees as their tariff is nearly equal to the COS. Further the Commission has reduced the lower limit for load factor rebate from 60% to 50% so as to give the consumers a realistic chance of earning this rebate. The existing average load factor of this consumer category is lower than 50%. The Commission expects that this would incentivise the consumers to use more intensively the existing network. MPSEB is likely to gain from this subsiding category, as increased consumption would result in marginal surplus.

Advance payment

The Commission from the date of the applicability of this order directs MPSEB to introduce the facility of advance payment for all consumers. An interest of 0.5% per month on the amount balance(excluding security deposit) with the licensee after adjusting any amount payable to the licensee shall be provided to the consumers.

Service Charge for Dishonoured cheques

The Commission in order to penalize consumers whose cheques get dishonoured is introducing a service charge at the rate of Rs. 150 per cheque or 1% of the amount of the dishonoured cheque which ever is higher.

HV-3 Cement Factories

The Licensee had proposed a tariff hike of 3.3% at the average load factor for this consumer category. The average tariff in FY04 was 248% of COS. The Commission does not agree with the proposal and no rise has been approved. However the Commission has decided to rationalize the fixed and variable charges.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
220 KV			407.00	307	

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
132 KV	196.00	399	413.00	312	202
33 KV	200.00	410	430.00	325	210
11 KV	206.00	422	456.00	345	

The expected fixed and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
Cementfactories	28.9%	71.1%

Time of Day tariff

In the existing schedule TOD tariff was optional for the consumers. The consumers opting for TOD tariff had to pay 130% of the normal charge for energy consumed during the peak hours (from 5 PM to 10 PM). There was no rebate for off peak consumption. Similarly consumers not opting for TOD tariff had to pay 160% of the normal rate for the energy consumed during peak hours and 90 % of the normal rate for the energy consumed during off-peak load period (10 PM to 6 AM next day) The Commission has now made it mandatory for all the consumers to opt for TOD tariff at single TOD tariff . The surcharge for consumption during the peak hours has been reduced from 30% to 15% because the energy charges of this consumer category are higher than the costliest variable energy purchase allowed by the Commission. A rebate of 5% of the energy charge is being given for consumption during the off peak hours in order to incentivise consumers to shift their demand during these hours.

The other charges that have been introduced in the rate schedule applicable to this consumer category relate to the following:

a) Tariff Rate for 220 KV

b) Minimum Charges

c) Determination of demand

d) Power factor rebate/incentive

e) Penalty for excess Demand

f) Load factor Rebate

g) Advance payment

h) Service Charge for Dishonoured cheques

The rationale for the change introduced has been discussed in the sections above.

HV-4 Power Intensive Industries

A new consumer category has been created by merging existing consumers of HV-4 applicable to Mini Steel Plants, HV-5 applicable to Electro Chemical and 132 kV Ferro Alloys Industries and HV-6 applicable to 33 kV Ferro Alloy Manufactures. These consumer categories use similar processes for carrying out their manufacturing activities consequently their load factors are about similar and around 45%. The Commission as per its stated policy of reducing tariff categories and simplifying the tariff structure has decided to merge these consumer categories.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
MSP					
220 KV			416.00	236	
132 KV	Nil	430	422.00	240	
33 KV	Nil	440	440.00	250	177
Electro Chem/Therm					
220 KV	196.00	366	416.00	236	
132 KV	200.00	375	422.00	240	

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
33 KV	206.00	387	440.00	250	251
Ferro Alloys					
220 KV			416.00	236	
132 KV			422.00	240	
33 KV	200.00	350	440.00	250	177

The Licensee had proposed a rise between 6% and 6.5% for these consumer categories. In FY04 the average revenue from this consumer category was around 200% of COS. The Commission of its stated policy of reducing cross subsidy has decided and has reduced the average tariff by around 11 %. The Commission has also decided to rationalize fixed and variable charges. The expected fixed and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
MSP	29.6%	70.4%
Electro Chem	51.5%	48.5%
Ferro Alloys	31.1%	68.9%
Total	32.1%	67.9%

The other charges as discussed above introduced in the existing rate schedule for consumers of these categories are:

a) TOD tariff

b) Tariff Rate for 220 KV

c) Minimum Charges

d) Determination of demand

e) Power factor rebate/incentive

f) Penalty for excess Demand

g) Load factor Rebate

h) Advance payment

i) Service Charge for Dishonoured cheques

The rationale for introducing these charges has been explained in the above paragraphs.

HV-5 Other Industrial Power

The Licensee had proposed a tariff hike of 6.2% for this consumer category. The average tariff in FY04 was 252% of COS. The Commission rationalized the fixed and variable charges, which resulted in a tariff rise of 4.7% inclusive of ED payable.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
220 KV			407.00	294	
132 KV	196.00	386	413.00	298	217
33 KV	200.00	395	430.00	310	225
11 KV	206.00	405	456.00	329	239

The expected fixed and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy

Other Industrial power	33%	67%

The other changes as discussed above introduced in the existing rate schedule for consumers of these categories are:

a) TOD tariff

b) Tariff Rate for 220 KV

c) Minimum Charges

d) Determination of demand

e) Power factor rebate/incentive

f) Penalty for excess Demand

g) Load factor Rebate

h) Advance payment

i) Service Charge for Dishonoured cheques

The rationale for introducing these charges has been explained in the above paragraphs.

HV-6: Seasonal

This tariff category is applicable to seasonal industries requiring energy for a minimum period of four months and a maximum period of eight months. The Licensee has proposed a tariff hike of 5% for this consumer category. In FY04 the average tariff was 265% of COS. The Commission for this consumer category has imposed fixed charges as per its stated stand that every consumer category must pay fixed charges to compensate utility for its fixed cost.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**

Category		Proposed tariff rate		**Approved tariff Rate**		
		Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
		Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
33 KV	First 25000 u/m	Nil	492	100.00	460	253
	Next 75000 u/m	Nil	480	100.00	460	253
	Over 100000 u/m	Nil	462	100.00	460	253
11 KV	First 25000 u/m	Nil	506	106.00	488	268
	Next 75000 u/m	Nil	495	106.00	488	268
	Over 100000 u/m	Nil	476	106.00	488	268

These industries shall not be allowed to operate during the months from November to February. The Consumers opting for such tariff category have infirm demand. The network of MPSEB is over stressed due to Rabi season agricultural demand and also the power purchase cost is high. The Commission would like to discourage such consumers during this period from operating however if these consumers consume power during these forbidden months they would be required to pay 25% extra of the normal tariff.

The expected fixed and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
Seasonal	11.3%	88.7%

Minimum Charges

The existing minimum charge has been revised from 900 units per KVA to 1500 units per KVA. The increase in the minimum charges has been done in view of the existing average annual load factor of this category to compensate MPSEB for lower fixed charge per month. The approved fixed charges are much lower than the fixed cost of MPSEB.

The other charges as discussed above introduced in the existing rate schedule for consumers of these categories are:

a) TOD tariff

b) Determination of demand

c) Power factor rebate/incentive

d) Penalty for excess Demand

e) Load factor Rebate

f) Advance payment

g) Service Charge for Dishonoured cheques

The rationale for introducing these charges has been explained in the above paragraphs.

HV-7 HT Irrigation and Public Water Works

The Commission has created this tariff category by clubbing the existing HV-9 and HV-10 tariff categories. This tariff schedule is now applicable to both Irrigation and Public Water work consumers. The Commission is of the opinion that the load characteristic of the two consumer categories is similar and therefore these categories can be combined to create one consumer category. The Licensee had proposed a tariff rise of 2.1% for Irrigation consumers and a rise of 12.4% for Water Works consumer category. In FY04 these categories together were 117% of COS. The Commission has rationalized the fixed and the energy charges for these consumers and the effective tariff rise is only 5%.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
Irrigation					

Category	Proposed tariff rate		Approved tariff Rate		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
220 KV			95.00	218	
132 KV			96.00	221	
33 KV	10.00	125	100.00	230	
11 KV	15.00	138	100.00	244	
Water Works					
220 KV			95.00	218	
132 KV	49.00	268	96.00	221	
33 KV	50.00	275	100.00	230	116
11 KV	52.00	284	100.00	244	122

The expected demand and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
Irrigation and Water Works	10.5%	89.5%

The other charges as discussed above introduced in the existing rate schedule for consumers of these categories are:

a) Determination of demand

b) Power factor rebate/incentive

c) Penalty for excess Demand

d) Load factor Rebate

e) Advance payment

f) Service Charge for Dishonoured cheques

The rationale for introducing these charges has been explained in the above paragraphs.

HV-8 General Purpose Non-Industrial

The existing HV-7 General Purpose category has been renamed. However two-sub part of this category have been created one for primarily residential consumers and the other for remaining consumers falling in this tariff category. This has been done to attract industries with residential colonies to opt for bulk purchase by reducing the existing rates. The Licensee has proposed a tariff hike of 6.0% for this tariff category. The Commission has approved an overall reduction of 2.1% for this category. In FY04 rates were 225% of COS, which for residential consumers is likely to reduce to 170%.

Category		Proposed tariff rate		**Approved tariff Rate**		
		Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
		Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
Primarily Residential						
132 KV				240.00	230	
33 KV	First 25000 u/m	200.00	420	250.00	240	
	Next 50000 u/m		400			
	Next 50000 u/m		387			
11 KV	First 25000 u/m	206.00	432	265.00	254	
	Next 50000 u/m		412			

	Next 50000 u/m		399			
Others						
132 KV				336.00	312	
33 KV		Same as above		350.00	325	
11 KV				371.00	345	

The expected fixed and energy charges from the approved tariff rate as against 48% fixed and 52% variable cost of MPSEB are likely to be in the ratio given in the table below:

Category	Revenue at approved tariff rate	
	Fixed	Energy
General purpose Non Industrial	10.5%	89.5%

The other charges as discussed above introduced in the existing rate schedule for consumers of these categories are:

a) TOD tariff

b) Determination of demand

c) Power factor rebate/incentive

d) Penalty for excess Demand

e) Load factor Rebate

f) Advance payment

g) Service Charge for Dishonoured cheques

The rationale for introducing these charges has been explained in the above paragraphs.

HV-9 Rural Electric Co-operative Societies and HV-10 Border Villages

MPSEB had proposed a hike of 16.9% for RE Co-operative Societies and 13.9% for Border Villages. The Commission has restricted the rise for RE societies to only 20 paise per unit and for Border villages no increase has been approved. RE Societies are paying below the COS and with this rise the tariff is expected to be 92% of COS. The Commission intends to gradually bring the tariff rates equal to COS in the near future. The Commission has not approved any rise for the Border Village consumers as these are governed by bilateral agreements with the neighbouring States and their average tariff is above COS. MPSEB should explore the possibility of transferring these villages to their respective States.

Category	Proposed tariff rate		**Approved tariff Rate**		
	Demand Charges	**Energy Charges**	**Fixed Charges**	**Energy Charges**	**% Cos**
	Rs./KVA/M	**P/U**	**Rs./KVA/M**	**P/U**	**%**
RE Cooperative Societies	Nil	210	Nil	200	92
Border Villages	Nil	285	Nil	250	115

Further conditions for delayed payment surcharge, surcharge for dishonoured cheques and interest on advance amount to be paid by MPSEB are being introduced. These conditions are in line with the conditions applicable to other HT consumers.

HV-11 Bulk Supply to exemptees

The Commission is introducing a new tariff category for consumer categories who have been or will be exempted under section 13 of the EA 2003 from the requirement of obtaining licensee for distributing electricity to their consumers.

HV-12 Temporary Supply

No change is proposed in terms and conditions for availing supply under this tariff category. Only the rate of delayed payment surcharge has been reduced from 2- 2.5 % per month to 1.5% per month as has been done for all other consumer categories.

CHAPTER 9

A9: FUNCTION-WISE SEGREGATION OF ANNUAL REVENUE REQUIREMENT

9.1 The Commission had directed the Licensee to provide a tentative segregation of its Annual revenue Requirement into various functions viz Generation, Transmission and Distribution during the technical validation sessions. The Licensee has submitted the information based on its Trial Balances. However, for some of the Licensee's expenses where function-wise segregation was not readily available and the Licensee has provided segregation based on its best estimates.

9.2 As the segregation of expenses has been made on the basis of best estimates and the Annual Accounts for FY03 and FY04 are not yet audited and finalised, the segregated cost of generation, transmission and distribution presented herein are indicative and are subject to change as and when information with greater detail and accuracy is available or when the opening Balance Sheets of respective successor entities are notified through a Transfer Scheme approved by GoMP.

9.3 The purpose of presenting this information now is to give a better idea of the magnitude and components of costs involved that contribute to the retail tariff applicable to end consumers and enhance the transparency on the Licensee's functioning especially with regard to the costs of generation, transmission and distribution. This exercise has also helped in identifying the inadequacies in the submissions of segregated expenses and the Commission has made comments wherever necessary, seeking explanations in the future filings by the successor entities.

9.4 The Commission maintains that it is presenting the information as received and shall publish the modified figures as and when greater information is available.

Generation expenses

9.5 The generation cost from each thermal and hydel stations of MPSEB are presented below.

Table 142: Thermal Stations' expenses

Particulars			Thermal Generation			
			ATPS Chachai	STPS Sarni	SGTPS Bir'pur	Total Thermal
Capacity		MW	290.0	1142.5[1]	840.0	2147.5
Net Generation		MU	1216	6853	4855	12924
Variable	Coal Cost	Cr.Rs.	119.21	846.89	491.57	1457.67

Particulars			Thermal Generation			
			ATPS Chachai	STPS Sarni	SGTPS Bir'pur	Total Thermal
Cost	Oil Cost	Cr.Rs.	8.68	27.70	23.70	60.09
	Water Cost	Cr.Rs.	0.05	0.20	0.10	0.35
	Cess	Cr.Rs.	1.35	7.56	4.94	13.85
	Other Operating Cost	Cr.Rs.	2.87	15.97	11.36	30.20
	Total	**Cr.Rs.**	**132.16**	**898.32**	**531.67**	**1562.16**
	Rate	**P/U**	**109**	**131**	**110**	**121**
Fixed Cost	Lub Oil Cost	Cr.Rs.	2.00	3.00	0.80	5.80
	R&M Expenses	Cr.Rs.	26.81	53.10	53.70	133.62[2]
	Employee Cost	Cr.Rs.	23.17	44.07	25.61	92.85
	A&G Cost	Cr.Rs.	0.37	2.75	4.77	7.88
	Depreciation	Cr.Rs.	3.98	16.08	142.27	162.32
	Intt. & Fin. Charges	Cr.Rs.	2.10	2.14	92.27	96.51
	RoR	Cr.Rs.	1.22	4.83	39.44	45.49
	Total	**Cr.Rs.**	**59.66**	**125.96**	**358.86**	**544.48**
	Rate	**P/U**	**49**	**18**	**74**	**42**
Total Cost of Generation		**Cr.Rs.**	**191.82**	**1024.28**	**890.53**	**2106.64**
		P/U	**158**	**149**	**183**	**163**

[1] *The total capacity of STPS, Sarni is 1142.5 MW out of which 125 MW is allocated to Rajasthan. For the purpose of tariff determination, the Commission has considered 100% share of Sarni as available to MP for generation as the entire share is retained by the State..*

[2] *Originally, the R&M expenses were estimated at a much higher level but taking into account the actual expenditure in the first half of the year, the total R&M expenses have been kept at Rs 132.71 Crore for FY05 for thermal plants (provisional expenditure during FY04 was Rs 94.90 Crore).*

Table 143: Hydel Stations' expenses

Particulars			Hydel Generation						
			Gandhi Sagar	Bir'pur	Pench	Ban-sagar (Tons + Bansagar)	Bargi	Rajghat	Total Hydel
Capacity*		MW	115.0	20.0	106.7	425.0	90.0	45.0	937.2
Net Generation		MU	319	45	273	825	520	40	2021.41
Variable Cost	Water Cost	Cr.Rs.	1.64	0.00	0.00	2.01	6.50	0.67	10.82
	Cess	Cr.Rs.	0.00	0.00	0.00	0.00	0.03	0.10	0.13
	Total	**Cr.Rs.**	**1.64**	**0.00**	**0.00**	**2.01**	**6.53**	**0.77**	**10.95**
	Rate	**P/U**	**5**	**0**	**0**	**2**	**13**	**19**	**5**
Fixed Cost	Lub Oil Cost	Cr.Rs.	0.01	0.01	0.00	0.10	0.05	0.03	0.20
	R&M Expenses	Cr.Rs.	1.44	0.15	1.52	1.50	1.63	0.45	6.69
	Employee Cost	Cr.Rs.	1.05	0.39	0.95	10.67	1.42	0.70	15.17
	A&G Cost	Cr.Rs.	0.03	0.06	0.08	1.21	0.15	0.07	1.60
	Depreciation	Cr.Rs.	0.10	2.01	1.55	33.15	2.66	3.21	42.68
	Intt. & Fin. Charges	Cr.Rs.	0.00	0.00	0.27	21.23	0.00	1.08	22.58
	RoR	Cr.Rs.	0.08	1.02	0.97	31.25	1.20	2.08	36.60
	Total	**Cr.Rs.**	**2.71**	**3.64**	**5.35**	**99.12**	**7.10**	**7.61**	**125.52**
	Rate	**P/U**	**8**	**82**	**20**	**120**	**14**	**191**	**62**
Total Cost of Generation		**Cr.Rs.**	**4.35**	**3.64**	**5.35**	**101.13**	**13.63**	**8.38**	**136.47**
		P/U	**14**	**82**	**20**	**123**	**26**	**211**	**68**

**MPSEB has 50% share in Gandhisagar, Rana Pratap Sagar, Jawahar Sagar and Rajghat stations and 66.67% share in Pench HPS. For the purpose of tariff determination, the Commission has considered 100% share in Gandhi Sagar and Rajghat for generation and no share in Rana Pratap Sagar and Jawahar Sagar as the power from these shares are being retained by the respective states.*

9.6 Variable costs of the thermal stations comprise Coal cost, oil cost, other fuel related expenses and water cost. These have been calculated based on the generation parameters approved by the Commission in this order.

9.7 Lubricating oil cost and cess to be paid on auxiliary consumption have been considered as per Licensee’s estimates.

9.8 Other operating costs comprise of costs such as entry tax, payment to railways etc. These costs being directly proportional to the quantum of generation have been allocated to the stations in the ratio of their gross generation.

9.9 The Commission has discussed the Licensee’s estimates of repairs and maintenance expenses with the Licensee’s officials and the agreed figures based on discussions have been incorporated.

9.10 The Licensee has submitted employee expense and administrative and general expense details for FY04 for each thermal and hydel station. On these, the Commission has used the rate of increase in these expenses, as approved for FY05 to determine the station-wise employee and administrative and general expenses for FY05.

9.11 Depreciation has been considered by the Commission as per Licensee’s estimates of the provision for depreciation for each station during FY05. The Licensee has also submitted details of gross fixed assets for each generating station.

9.12 The Licensee has submitted details of interest and finance charges payable in FY05 amounting to Rs 369.47 Crores. Of this total amount, Rs 151.1 crores can be identified for generation purposes based on segregation of loans in the ratio of opening gross blocks of generation, transmission and distribution. The interest cost corresponding to interest overdue on loans has been disallowed and consequently, the interest and finance charges approved for generation function in FY05 is Rs 119.09 Crores.

9.13 The Commission has considered 3% Return on the Net fixed assets of each station for FY05 as Rate of Return as per Electricity Supply Act (1948) pending the unbundling of MPSEB and consequent allocation of equity to successor entities.

9.14 The station-wise determination of costs has helped in a better understanding of the performance of the generation function and this has also brought to fore certain key issues that require a detailed and careful consideration at the State Govt level and by the concerned SEBs. These issues are summarized and discussed below.

Water Cess

9.15 One point relates to the recovery of water usage charge from the hydel stations at Bargi and Rajghat. This is being done in pursuance of a Govt decision notified vide an amendment in the Madhya Pradesh Irrigation Rules, 1974 dated December 14th, 2001 which provides for a charge of “10 paise per unit of electricity (KWH) generated and escalation charges at the rate of 0.50 paise per unit of electricity per year.” for the purpose of “recovery of water after use from Government source (e.g. Hydel Power project).”

9.16 The Commission has found it difficult to understand as to why the consumer of electricity in the state is being burdened with this extra cost for each unit of electricity generated when another recovery is made in the name of electricity duty for the same energy consumed. It could be understood if the water was consumed by the hydel station in the process of generation like it is consumed in the thermal station. In the case of hydel station, all that happens is that the water is being diverted to rotate the turbines and is released into the system for any other use as per design of the project. In this situation, it is worth examining whether the levy of water cess is not leading to an avoidable burden on the consumer by pushing up the cost of each unit thus generated.

9.17 The Commission would like to recommend to the State Govt to consider the fact that the hydel generating stations neither consume water nor do they pollute water and the imposition of cess merely adds to the cost of power being paid for by the consumers. It would however be appropriate for the State Govt to levy a reasonable charge for maintenance and upkeep of the dam or reservoir maintained by the State Government. These charges too, must be based on the volume of water diverted rather than the number of units generated.

Partnership Projects of Madhya Pradesh

9.18 The second important point relates to the complex system of settling accounts of shared stations with neighbouring states viz Rajasthan and Uttar Pradesh.

Shared Stations with Uttar Pradesh

9.19 Madhya Pradesh has the following hydel projects in partnership with the state of Uttar Pradesh:

Table 144: Stations shared with Uttar Pradesh

Location and operational control	Plant	Installed Capacity in MW	Share of MP	
			%	MW
MP	Rajghat Hydel Power Station	45.0	50%	22.50
UP	Rihand Hydel Power Station	250.0	15%	37.50
	Matatila Hydel Power Station	30.0	33%	10.00

9.20 It is understood that no formal agreement has yet been signed for Rajghat hydel power station and the Commission directs the MPSEB to finalize and file a copy of the formal agreement soon with the Commission. The sharing of power and cost in respect of the other two stations is reportedly done in pursuance of discussions held between the representatives of MPEB and UPSEB in 1977 wherein it has been agreed that for overdrawal of power by any of the two states from Matatila and Rihand, the overdrawing state shall compensate the other state @ 110% of the rate of Rajasthan Atomic Power Plant (RAPP). The Commission has received a copy of these minutes from the MPSEB in response to Commission's requests. The energy drawals from these shared stations for the last three years and the payments due from UP to MP is presented in the Table below:

Table 145: Energy drawal from stations shared with Uttar Pradesh

Generation by Plants	2001-02	2002-03	2003-04
Rihand Hydel Power Station (MU)	929	866	800
Matatila Hydel Power Station (MU)	137	112	72

Generation by Plants	2001-02	2002-03	2003-04
Share of MP in above Power (MU)	185	167	144
Actual Drawal by MP (MU)	48	31	25
Net Over / Under (-) Drawal by MP (MU)	**-136**	**-136**	**-119**
Average Rate of Compensation (Rs/Unit)	2.53	2.53	2.53
Cost to be Paid by UP to MPSEB (Rs. Crores)	**34.49**	**34.41**	**30.12**

9.21 The Commission recommends to the State Govt that this matter must be negotiated and settled with the concerned State Govt so that the successor companies of the MPSEB do not have to carry this legacy of this long pending issue and the accounts can be started on a clean slate.

9.22 The fixed cost for Rajghat hydel station is very high as compared to other stations. This is primarily due to very low level of generation from the hydel plant. This has been the trend in the last few years as well with PUF being as low as 17.5% in FY03 and 20.3% in FY04. The Licensee has mentioned the problem of inadequate availability of water as the reason for low PUF. The Commission directs the Licensee to find a solution to ensure generation of design energy and to report to the commission in the next application.

Shared projects with Rajasthan

9.23 The following are the shared power stations:

Table 146: Shared Power Stations

Location	Plant	Installed Capacity in MW	Share of MP	
			%	MW
MP	Satpura Thermal Power Station	312.5	60%	187.50
	Gandhi Sagar Hydel Power Station	115.0	50%	57.50
Rajasthan	Jawahar Sagar Hydel Power Station	99.0	50%	49.50
	Rana Pratap Sagar Hydel Power Station	172.0	50%	86.00

9.24 The sharing of power and cost is done in pursuance with the agreement in the meeting held between the Chief Secretaries of the two States where in it was decided that:

- Share of O&M Charges of STPS Sarni PH 1 shall be paid by RSEB to MPSEB on monthly basis.
- MPSEB shall ensure supply of share of power to RSEB on regular basis.
- For Over drawal by any State, rate for Over-drawn power shall be charged at 110% of prevailing rate of Badarpur Thermal Power Station.

9.25 The Licensee has calculated the settlement amounts for the last three years based on the units overdrawn by MP, after necessary adjustment of O&M / Capital charges receivable. The amounts are shown below.

Table 147: Settlement Amounts for Energy Overdrawn

Generation by Plants	Units	FY02	FY03	FY04
Satpura Thermal Power Station	MU	1808	1997	1919
Gandhi Sagar Hydel Power Station	MU	114	39	143
Jawahar Sagar Hydel Power Station	MU	199	16	193
Rana Pratap Sagar Hydel Power Station	MU	259	10	240
Share of MP in above Power	MU	1371	1230	1439
Actual Drawal by MP	MU	1953	1987	1998
Net Over Drawal by MP	MU	**582**	**757**	**558**
Average Rate of Compensation	Rs/Unit	2.54	2.54	2.54
Cost to be Paid by MP to Rajasthan	Rs. Cr.	147.78	192.18	141.85
O&M Charges (Provisional) by Rajasthan to MP	Rs. Cr.	93.45	113.37	137.54
Net Amount Payable by MP to Rajasthan	Rs. Cr.	**54.33**	**78.81**	**4.31**

9.26 As the entire shares of the stations are being retained by the states in which the stations are located, the Commission does not find merit in carrying on with the current agreement between the states and recommends to the State Govt that this matter must be negotiated and the agreement must be renewed in a more practicable manner with the concerned State Govt. Until this is settled, the Commission has considered the entire generation from Satpura TPS and Gandhisagar HGS as MP share and accordingly approved the generation cost and revenue requirement of the Licensee.

Other issues

9.27 In addition to the above, the Commission has analyzed the segregated costs as presented below and has discussed certain relevant issues. The Licensee has been directed to follow-up on these issues and submit its response to the Commission.

9.28 The Commission believes that by conducting such an exercise even while the Licensee is functioning as a bundled utility and the successor entities are yet to function independently, the Commission shall be able to point out the issues that require Licensee’s attention and by identifying data insufficiencies or inconsistencies, the quality of filings that will be made subsequently by successor entities shall improve.

9.29 The issues pointed out to the Licensee by the Commission are as follows:

9.30 The Licensee has been directed to submit details of opening gross blocks, provisions for depreciation and asset additions for each station. The Licensee has also been asked to verify whether it is including in its depreciation claims only those generation assets which have been put to use and have not been depreciated beyond 90%.

9.31 The reservoirs of some hydel stations are being maintained by the State Govt. The Licensee has been directed to check and confirm that they have not taken the cost of such assets that are being maintained by the State Govt in their books of accounts and are not claiming depreciation on the same.

9.32 Licensee has also been asked to confirm whether the Govt of UP has paid its share of capital investment in Rajghat station and in case the share has not been paid Licensee shall be required to submit a statement of proceedings that the Licensee has initiated to recover the share.

9.33 The Licensee has stated that the PUF of Bansagar is low as gates have not been installed at all places. The Commission has directed the Licensee to provide a statement showing the progress, the problems being faced in the project by the Licensee and the assistance that it requires from the State Govt/ MPERC for speedy installation of gates and other supporting set-up.

Employee Cost: Generation function

9.34 The Commission has analysed the employee strength of the Licensee at the generating stations and would like to make the following observations:

Table 148: Employee Strength of Generation function

Station	Number of employees sanctioned			Actual number of employees			% of sanctioned			Employee/MW capacity		
	Tech	Non-tech	Total	Tech	Non-tech	Total	Tech	Non-tech	Total	Capacity	Sanctioned	Actual
Amarkantak	1419	438	1857	895	277	1172	63	63	63	290	6.4	4.0
Satpura	3166	726	3892	2491	581	3072	79	80	79	1142	3.4	2.7
Birsinghpur	1603	648	2251	998	335	1333	62	52	59	840	2.7	1.6
Hydel Stations	729	261	972	506	206	712	69	79	73	857	1.1	0.8
HO Staff	278	296	574	218	269	485	78	91	84			
Total Generation	7195	2369	9564	5108	1668	6776	71	70	71	3004	3.2	2.3

Station	Number of employees sanctioned			Actual number of employees			% of sanctioned			Employee/MW capacity		
	Tech	Non-tech	Total	Tech	Non-tech	Total	Tech	Non-tech	Total	Capacity	Sanctioned	Actual
Plants												

9.35 The Licensee does not seem to be following uniform staffing norms across generating stations as the ratio of Employees/MW of capacity is differing across the thermal stations. While there can be differences to some extent due to number of units at a particular station or the age of the station the differences observed as shown in table above between Amarkantak station and Birsinghpur is significant.

9.36 Secondly the extent of staffing against the sanctioned strength also differs across stations. and it is observed that the HO has 85% of the sanctioned strength while Birsinghpur has only 59% of sanction strength.

9.37 The Licensee must undertake a work study and redesign the work-force according to manpower output norms. This exercise must be completed in 6 months and the work-force be rationalized based on the study.

9.38 MP is planning to increase its generation capacity of which a higher share shall come from hydel stations. The Commission recommends to the State Govt to set up a separate entity such as MP Jal Vidyut Utpadan Nigam Limited to take proper care of hydel stations which have remained in a neglected state over the years.

Transmission expenses

9.39 The Licensee has considered best estimates for calculating expenses for transmission function in the absence of availability of information in a segregated form. The basis on which Licensee has segregated expenses is summarized below.

9.40 Repairs and maintenance expenses were estimated by the Licensee for transmission function separately.

9.41 Employee costs have been considered in the salary ratio for various functions as detailed in the actuarial report.

9.42 Administrative and general expenses have been considered in the salary ratio for various functions as detailed in the actuarial report.

9.43 Depreciation has been considered in the ratio of opening gross blocks of various functions for FY05.

9.44 Interest charges and other debits have been considered in the ratio of opening gross blocks of various functions for FY05.

9.45 Returns have been considered in the ratio of Opening Gross Block for various functions for FY05.

9.46 Transmission expenses calculated as detailed above are presented in the following Table.

Table 149: Transmission expenses **(Rs. Crores)**

Particulars	Apportionment Basis	Transmission
R&M Expenses		17.3
Employee Costs	Salary Ratio in Actuarial Report	81.4
Administration and General Expenses	Salary Ratio in Actuarial Report	7.0
Depreciation & Related Debits	Opening Gross Block for FY05	111.3
Interest charges on loans	Opening Gross Block for FY05	56.5
Other Debits	Opening Gross Block for FY05	0
Sub-Total		273.5
Net Prior Period Charges	Opening Gross Block for FY05	0
Total		273.5
RoR	Capital Base for FY05	32.2
Total		**305.7**

9.47 The Commission has approved 14,976 MU from self-generation and 13,793 MU from Power Purchase for FY05. Excluding the losses external to MPSEB, the total power transmitted by MPSEB would work out to be 28,457 MU. The rate of power wheeled turns out to be about 11 P/U. However, as stated earlier in this section, this rate does not take into consideration all expenses to be incurred by the Transco and will be updated when greater information becomes available or the transfer scheme is approved by the State Govt.

Distribution expenses

9.48 The Licensee has considered best estimates for calculating expenses for distribution function in the absence of availability of information in a segregated form. The basis on which Licensee has segregated expenses is summarized below.

9.49 Repairs and maintenance expenses were estimated by the Licensee for HV/ LV distributions function separately.

9.50 Employee costs have been arrived at by deducting the Employee cost for the Generation and Transmission functions from the Total employee cost of the Licensee.

9.51 Administrative and general expenses, depreciation and interest and finance charges have been arrived at by deducting the corresponding costs for the Generation and transmission functions from the total costs.

9.52 The expenses on account of bad debts written off have been added to distribution expenses.

9.53 Returns have been considered in the ratio of capital bases for various functions for FY05.

9.54 The details of distribution expenses are presented are presented the Table below.

(Rs. Crores)

Table 150: Distribution expenses

Particulars	HV & LT Distribution System		
	HV	LT	Total
Purchase of Power			2423
R&M Expenses	30	73	103
Employee Costs	242	502	744
Administration and General Expenses	21	43	64
Depreciation & Related Debits	62	124	185
Interest charges on loans	26	53	79
Other Debits / Prior Period charges	7	15	22
Sub-Total	388	810	3621
Net Prior Period Charges	0	0	0
Total	388	810	3621
RoR	7	13	20
Total	394	823	3641

9.55 The Commission has compared the debt drawals over the past three years with the capital expenditure during the same period. These are shown in Table 151 below.

(Rs. Crores)

Table 151: Capital expenditure vis-à-vis Debt drawal

Particulars	FY02	FY03	FY04*	Total
Capital Expenditure during the year				

Particulars	FY02	FY03	FY04*	Total
Generation	24.8	17.65	304.2	346.65
Transmission and Distribution	29.41	74.05	445.48	548.94
Total	**54.21**	**91.7**	**749.68**	**895.59**
Debt taken during the year from FIs	187.17	125.87	482.44	795.48
Debt taken during the year from State Govt	224.47	197.8	318.87	741.14
Total	**411.64**	**323.67**	**801.31**	**1536.62**
Excess of debt over capital expenditure	357.43	231.97	51.63	**641.03**
Arrears during the year	1667.5	1785	2384	
Increase in arrears		117.5	599	**716.5**

** The capital expenditure details in FY04 are as anticipated by the Licensee for FY04 in the ARR petition filed in December, 2003.*

9.56 The Commission had asked the Licensee to identify the loan schemes against the purposes for which these loans had been taken by the Licensee. In response, the Licensee has been able to identify only a few LIC and PFC schemes against generation projects. The Licensee has not been able to provide scheme-wise usage details for loans taken for transmission and distribution functions.

9.57 As is evident from the table above the capital expenditure has fallen short of debt drawal in the past three years by Rs 641 Crores. In the same period the arrears have gone up by Rs 716.5 Crore. The Commission, in absence of any details from the Licensee, is inclined to believe that the excess debt drawal has been utilized for the purpose of deficit financing. The primary reason for this deficit has been the Licensee’s inability to collect its dues from consumers and the cost of financing this deficit should, therefore, not be loaded onto the consumer.

9.58 The Commission strongly discourages this practice and expects that from hereon the Licensee shall make sincere efforts to recover its dues as henceforth the Commission shall not allow interest on loans against which the Licensee is not able to provide evidence of proper utilization.

9.59 The Commission is in the process of finalizing the regulations to be framed u/s 61 which require the terms and conditions of tariff to be specified. The Commission shall be allowing costs in the revenue requirement based on efficiency norms of performance, approved capital expenditure programs and on the basis of expenses which are justified and incurred prudently. If the loans are not identified to approved capital expenditure programmes or to working capital requirements within normative limits of borrowing, it shall not allow the excess borrowings in future revenue requirements of the licensees.

Operations and Maintenance cost

9.60 The Commission has compared the operations and maintenance cost approved for distribution function of the Licensee with the O&M costs approved for other distribution utilities as shown in Table below.

Table 152: O&M costs incurred for distribution **(Paise / Unit)**

Particulars	FY05				FY05	FY04	FY05
	EPDCL (AP)	CPDCL (AP)	NPDCL (AP)	SPDCL (AP)	BRPL (Delhi)	KESCO (UP)	MP
Employee Cost	20.8	44.2	19.3	22.6	28.2	31.4	43.3
A&G Cost	4.0	8.0	2.4	3.1	3.5	1.5	3.7
R&M Costs	2.6	21.1	6.8	5.0	10.7	8.7	6.0
Operations and Maintenance Costs	27.4	73.3	28.5	30.7	42.4	41.6	53.0

9.61 The table above shows that the operations and maintenance cost incurred for distribution function by the Licensee is high when compared with other distribution utilities in UP, Delhi, AP etc. The costs are high in MP primarily on account of the employee costs that are on the higher side when compared with other utilities. The Commission has noted that the employee mix is getting skewed towards class- IV employees. The Commission is therefore inclined to believe that there are excess class – IV employees in the distribution function.

9.62 The Commission has, in this order, directed the Licensee to undertake a work study and redesign the work-force according to manpower output norms. The Commission expects the Licensee to come up with credible and practicable suggestions regarding the retraining and rationalization of its workforce.

CHAPTER 10

A10: DIRECTIVES TO MPSEB

Directives of earlier Tariff Orders not complied with

10.1 The Commission has given various directives in the earlier Tariff Orders which have not been complied to the satisfaction of the Commission. The Directives highlight the weak areas in the licensee's performance and the Commission expects the utilities to focus on them to ensure that consumers receive better supply and service at the optimal costs.

10.2 The Commission has reproduced below some of the directives from the earlier Tariff Order dt 30 November 2002 which have not been complied with till date

10.3 **Directive 1 : Performance of energy generation units**: The Board is directed to file a report every six months by 30th April and 31st October every year on action taken on the following points:

a. Implementation of scheduled annual overhauling / maintenance programme as per norms stipulated by the manufactures.

b. Efforts taken towards refurbishment / renovation / modernization work of various units to improve there working life and performance.

c. Availability of adequate funds to meet the regular maintenance needs of the generating units

d. Training and refresher courses to the concerned employees from time to time on the operation and maintenance of various units.

e. Matter to be taken up with Coal India Ltd. and Government of India towards supply of adequate quantity and of desired value of coal.

f. Time bound programme for Energy audit of power station.

g. Incentive Scheme for achieving highest possible generation and punitive measures in the event the actual performance is lower than the desired minimum.

10.4 **Directive 2: Asset Registers** The Commission directs that asset registers be maintained properly and the same should be completed within six months by fixing responsibility on the concerned officers.

10.5 Commission has engaged an independent CA firm for verification of the claims pertaining to Depreciation. In its report, the CA firm has commented that the management has explained that the accounts are under finalization and some entries are yet to be included and as a result, there is deviation between ARR and Trial Balance figures. The CA firm has mentioned that the books and accounts are not properly arranged, hence it was difficult for the Board to provide proper supporting documents. The Commission has also directed the Board, time and again, to create and maintain details of its gross block of assets in the form of fixed asset register in a manner that facilitates examination and investigation. The Commission observed that despite issue of directions to the Board in Tariff Order dated 30th November 2002, the Board could not maintain asset registers properly.

10.6 The Commission directs that asset registers be maintained properly within six months of this order i.e. by 30th June 2005 in a form where the age and physical location of assets are available and care is taken to avoid anomalies such as depreciation being charged on the assets beyond 90% of its cost of acquisition.

10.7 **Directive 3 : To reduce T&D Losses:** The Board is directed to take following action:

a. To study T&D Losses and find out its components.

b. Intensive checking to be done to stop theft of energy.

c. FIR to be lodged and culprits apprehended if theft / pilferage is found.

d. 100% meter reading particularly of HT consumers be ensure. Area of meter readers should be changed monthly.

e. The technical and commercial loss should be checked out in every region.

f. To carry out sample study for load factor of agriculture consumers for every region by covering proportionate no. of consumers based on cropping pattern and no. of crops in proportion to total no. of agriculture consumers in the region.

10.8 The Commission will allow T&D losses only at 37% for FY 06.

10.9 **Directive 4 : Database Management and Management Information System**: The Board is directed to submit regular information in the prescribed formats to the Commission on CD / Floppy discs.

Directives in this Tariff Order

10.10 **Directive 5 : Estimation of Agriculture category consumption**

10.11 The Commission reiterates that changes have taken place in the last two years that are likely to have a significant bearing on the agricultural consumption and consequently the tariffs to this category. The Commission directs the Board to install meters on Distribution Transformers for atleast 30% of the predominantly agricultural feeders before 31 December 2005. The data available from such metering shall be considered by the Commission for estimating the consumption of agriculture consumers while fixing the tariffs for FY 07.

10.12 Presently the Commission is not making any distinction on the basis of sources of water such as dug well, tube well etc. The Board is directed to undertake field study and collect data for presentation before the Commission regarding consumption pattern within three months of date of issue of this tariff order.

10.13 **Directive 6 : Creation of Stationwise Efficiency cells**

10.14 The Commission believes that a sustained effort to improve the operating parameters of the station shall improve the efficiency of the stations further and directs the Board to set up energy efficiency cells in each power plant that monitor operating parameters such as SHR, auxiliary consumption, specific oil consumption etc on a regular basis, examine the reasons for deviations and suggest measures to improve the same.

10.15 **Directive 7 : Biannual Submission of VCA Petition**

10.16 The Commission realizes that increase in coal prices are beyond the control of MPSEB, and has considered its impact on total generation cost of MPSEB. For future, the Commission directs MPSEB to submit a petition based on the approved Variable Cost Adjustment (VCA) formula if required, at the end of every six months without waiting for adjustments at the time of tariff revision.

10.17 **Directive 8 : Weightometers**

10.18 Measurement of losses in coal regularly, reliably and uniformly at all the stations needs to be given greater importance The Commission has also through a suo-moto petition and hearings on the subject, discussed the issue at length with the Board officials. The Board officials have pointed out that after the installation of weightometer at each station, the losses measured and reported are significantly lower as compared to earlier practice of measuring losses based on deviation method. The Commission accordingly directs the Board to follow a uniform method for measuring coal losses at all stations on a consistent basis.

10.19 The Commission directs the Board to submit an investment plan to reduce the transit and stacking losses based on which the future transit loss can be fixed by the Commission and brought down to the normative levels of transit loss approved by CERC for Central Generating stations. Reduction of transit loss by 1% in case of Birsinghpur can result in savings of coal cost of Rs 5 crores per annum which is a significant saving.

10.20 **Directive 9: Approval of Power Purchases by the Commission.**

10.21 MPSEB makes short-term power purchases from sources other than NTPC located Eastern and Northern Region such as Power Trading Corporation, Tata Power Company Limited, NTPC Vidyut Vyapar Nigam Limited etc. Commission's approval for these short-term purchases in accordance with the provisions of the Electricity Act, 2003 is necessary and is a legal requirement. Commission directs the Board to ensure that there is no default in seeking the approval of the commission. failing which the commission will be constrained to disallow the expenditured incurred on the same.

10.22 **Directive 10 : Cost of Hydel Assets**

10.23 The reservoirs of some hydel stations are being maintained by the State Govt. The Board is directed to check and confirm that they have not taken the cost of such assets that are being maintained by the State Govt in their books of accounts and are not claiming depreciation on the same.

10.24 **Directive 11 : Border Villages being supplied by MPSEB**

10.25 The Commission plans to discontinue the category of Border Villages in future. The Commission also directs the utility to explore the possibility of transferring the consumers to the respective states, in consultation with the concerned utilities in the respective states. The Board must make efforts, in the meantime to recover the dues from the respective utilities.

10.26 **Directive 12 : Partnership Projects**

10.27 It is understood that no formal agreement has yet been signed for Rajghat hydel power station and the Commission directs the MPSEB to finalize and file a copy of the formal agreement soon with the Commission. The sharing of power and cost in respect of the other two stations is reportedly done in pursuance of discussions held between the representatives of MPEB and UPSEB in 1977 wherein it has been agreed that for overdrawal of power by any of the two states from Matatila and Rihand, the overdrawing state shall compensate the other state @ 110% of the rate of Rajasthan Atomic Power Plant (RAPP). The Commission has received a copy of these minutes from the MPSEB in response to Commission's requests.

10.28 The fixed cost per unit of energy generation for Rajghat hydel station is very high as compared to other stations. This is primarily due to very low level of generation from this hydel plant. This has been the trend in the last few years as well. PUF is as low as 17.5% in FY 03 and 20.3% in FY 04. The Board has mentioned the problem of inadequate availability of water as the reason for low PUF. The Commission directs the Board to find a solution to ensure generation of design energy and to report to the commission in the next application. The commission also directs to finalise the agreement and enter into the same at the earliest.

10.29 Board has been asked to confirm whether the Govt of UP has paid its share of capital investment in Rajghat station and in case the share has not been paid Board shall be required to submit a statement of proceedings that the Board has initiated to recover the share. The Commission also directs to finalise the agreement and enter into the same at the earliest.

10.30 **Directive 13 : Installation work of the Gates of Bansagar Hydel Project**

10.31 The Board has stated that the PUF of Bansagar is low as gates have not been installed at all places. The Commission has directed the Board to provide a statement showing the progress, the problems being faced in the project by the Board and the assistance that it requires from the State Govt/ MPERC for speedy installation of gates and other supporting set-up.

10.32 **Directive 14 : Manpower Planning:**

10.33 The Commission directs the Board to undertake a work study and redesign the work-force according to manpower output norms. The Commission expects the Board to come up with credible and practicable suggestions regarding the retraining and rationalization of its workforce.

10.34 The Commission shall consider the O&M expenses (R&M expenses + Employee expenses + A&G expenses) in the licensee's revenue on a normative basis from the next year onwards. The Board should benchmark their O&M costs with better performing utilities and identify areas of improvement and cost reductions.

10.35 **Directive 15 : Directives on Consumer Care**

10.36 The Commission has noted that the consumers have to wait for long hours for payment of the electricity bills, corrections in the bills etc. and there is no facility provided for the consumers. The Commission therefore directs that the Board should provide the following facilities like sitting area with chairs, drinking water, fan, toilet, token display system in proper covered enclosures. This should be of a basic design which shall be developed by the Board and shown to the Commission before implementation. The time table for developing this facility will be implemented in such a way that 200 such consumers waiting areas are developed during the current financial year. The Board shall provide additional collection windows to ensure that ratio of 7000 consumers to one collection window is achieved within next two years and half of this in this financial year only.

10.37 The Commission directs the Board to provide a system whereby a consumer is able to pay his bill by giving instructions to his bank. The Board must make the above system operational by the end of March 2005.

10.38 The Commission directs the licensee Board to make arrangements to supply at their own cost a copy of Electricity Supply Code, 2004 (Abridged version) to each consumer and the cost shall be a pass through in the Annual Revenue Requirement.

10.39 The Board should make arrangements to provide separate counters for collection and bill correction so that the time of cashier who is collecting the money is saved.

10.40 The Board should make arrangements to display on its website the status of payment of bills of individual consumers. To start with, the Board should make arrangements in Bhopal, Indore, Jabalpur, Gwalior, Rewa, Sagar and Ujjain city during this financial year only.

10.41 **Directive 16: Modification of R-15 formats**: R-15 formats should be modified so as to incorporate the new categories and sub-categories approved in this tariff order.

Other Directives to MPSEB on Efficiency Improvement

10.42 The Executive Engineer of the concerned divisions should report on a monthly basis to the company's headquarter/ Director (Engineering) in the Commission, the status of over loaded distribution transformers by categorizing into those loaded less than the rated capacity, full rated capacity, upto 120% of rated capacity and more than 120% of rated capacity.

10.43 The failure of distribution transformers and consequently disruption of power supply to farmers has become a common feature during the Rabi Season. MPSEB has not been able to replace the transformers timely and there has been a huge expenditure involved in replacement/ repair of the transformers. In view of this, a scheme in the name of "Own Your Transformer Scheme" be drawn by the Board/ Distribution Companies and the same may be implemented as soon as possible. All groups of farmers who express their willingness for the scheme may invest for the transformers and take responsibility for the maintenance of the same. The Board along with this scheme, can also propose a concessional tariff for such group of consumers. The Commission therefore directs that the Distribution Licensee formulates a viable "Own Your Transformer Scheme" and approach the Commission for approval.

10.44 The Board should recover 95% of current bills and 50% of arrears over six months old. Any short fall for each 2% in this target will lead the Commission to infer that the Board can do without this additional revenue and tariff can be reduced by equivalent to 1% of Tariff.

10.45 The Board shall submit all the loans categorized into project related and working capital related. In case of non-submission of details by the Board all loans shall be considered as working capital related loans. This procedure shall be adopted from FY 05-06.

10.46 The Board should provide metering on distribution transformers and Jhuggi Jhopadi clusters by March 2006. The monthly progress be submitted to the Commission promptly.

Recommendation to the State Government

10.47 The Commission recommends to the State Government to revisit the electricity duty structure so as to make the duty specific to various categories of consumers.

ANNEXURE 1

A11: INITIATIVES BY MPERC- REGULATIONS

11.1 A key development in the year 2003 has been the enactment of the Electricity Act, 2003 (36 of 2003), notified on 10 June 2003. This legislation repealed the then existing legislations namely the Electricity Act 1910, the Electricity (Supply) Act 1948 and the Electricity Regulatory Commissions Act 1998. The state legislations, such as the MP Vidyut Sudhar Adhiniyam, 2000 (4 of 2001) are, however, retained but to the extent they are not inconsistent with the national Act. Restructuring of MPSEB by unbundling the businesses of generation, transmission and distribution is also mandated under the new Act.

11.2 MPERC has therefore notified draft/ final 23 regulations for reflecting the fundamental changes in the regulatory framework brought about by the Electricity Act, 2003 (36 of 2003).

Regulations, Codes and Orders specified by MPERC

Electricity Supply Code

11.3 This document specifies the conditions of electricity supply by licensees, and obligations of both, the licensees and the consumers. The regulations provide for recovery of electricity charges, intervals for billing of electricity charges disconnection of supply of electricity for non-payment thereof; restoration of supply of electricity; tampering, distress or damage to electrical plant, electric lines or meter, entry of distribution licensee or any person acting on his behalf for disconnecting supply and removing the meter; entry for replacing, altering or maintaining electric lines or electrical plant or meter. The document thus minimises opportunities for malpractices by consumers and protects consumers' interest. The regulations also bring greater accountability and responsibility on licensees.

Conduct of Business Regulation

11.4 These regulations of MPERC were first drafted in 1999 based on the Electricity (Regulatory Commissions) Act, 1998. The Commission has now modified the regulations considering the subsequently enacted State Reform Act, the MP Vidyut Sudhar Adhiniyam 2000 and Electricity Act, 2003 (36 of 2003).

M.P. Electricity Grid Code

11.5 This code was formulated pursuant to Section 86 (1) (h)of the Electricity Act 2003. It specifies the operating procedures applicable to those connected to Transmission and Distribution System.

Transmission Performance Standards

11.6 The regulation specifies performance standards applicable to transmission licensees. It helps bring improved focus and accountability in the working of transmission licensee. The regulations will provide the basis for improved quality supply and customer service.

Distribution Performance Standards

11.7 The regulation specifies performance standards applicable to distribution licensees. It helps bring improved focus and accountability in the working of the distribution licensees. It will provide the basis for improved quality supply and customer service.

Other Business of Transmission Licensee

11.8 These regulations specify the proportion of revenues from other businesses that should be applied to subsidise transmission, wheeling, retail tariff or other charges of the licensees.

Conditions of Transmission License

11.9 These regulations provide the terms and conditions applicable on the Transmission licensee. The license conditions were initially prepared considering the provisions of the MP Vidyut Sudhar Adhiniyam but had to be changed in view of several new provisions in the Electricity Act, 2003.

Conditions of Distribution License

11.10 These regulations provide the terms and conditions applicable on the Distribution licensee. The license conditions were initially prepared considering the provisions of the MP Vidyut Sudhar Adhiniyam but had to be changed in view of several new provisions in the Electricity Act, 2003.

Establishment of Forum and Electricity Ombudsman

11.11 Section 42 (5) of the Act requires a distribution licensee to establish a forum for redressal of consumer grievance in accordance with the guidelines as may be specified by the Commission. The regulations notified by the Commission cover necessary details about procedure, functions before the forum, qualification and experience of Chairman and members of the forum for redressal of Consumer grievances to be established by the distribution licensee.

Details to be furnished by Generating Companies and Licensees for Determination of Tariff

11.12 The regulation specified under sections 62(2) and 64 (1) provides the formats for application for tariff revision by licensees. The regulation also specifies the time line to be followed by the licensee and by the Commission and the process of determination of tariff.

Procedure for application for License

11.13 These regulations specified under section 15 of the Electricity Act 2003 (36 of 2003) provide clarity to prospective licensees (including second licensees) on license application procedures. After the notification of the Electricity Act 2003 (36 of 2003) the application procedure for the trading licensees has also been added to the regulations.

Constitution of State Advisory Committee and its functioning

11.14 The regulation specified under section 87 of the Electricity Act 2003 (36 of 2003) has re-established the State Advisory Committee with effect from the date of publication of notification, viz., 13th August, 2004. Vide notification published separately on 2nd July, 2004, the Commission has defined the requisite conditions for constitution and functioning of State Advisory Committee.

MIS Regulation

11.15 These regulations specified under section 55 (2) (f) of the Madhya Pradesh Vidyut Sudhar Adhiniyam, 2000 (No.4 of year 2001) and section 62 (2) of the Electricity Act 2003 (36 of 2003) provides the details of the periodic information to be submitted by transmission & distribution licensees and the generators.

Appointment of Consultants

11.16 The Commission has issued the regulations on 'Appointment of Consultants', under section 181 and 91 of Electricity Act 2003 for engagement of consultants for execution of specific specialised tasks.

Procedure for Filing Appeal before Appellate Authority

11.17 The regulation specified under section 127 of the Electricity Act 2003 (36 of 2003) defines the procedure for appeal against the final assessment order of the assessment officer. Fees to be paid by the appellant have also been specified.

Levy and Collection of Fee and Charges by SLDC

11.18 The regulation specified under section 32(3) of the Electricity Act 2003 (36 of 2003) specifies fees and charges to be collected by State Load Despatch Centre.

Security Deposit Regulation

11.19 The regulation specified under section 47 of the Electricity Act 2003 (36 of 2003) specifies the conditions applicable on taking security deposit from consumers and interest payable on the same.

Eligible Criteria and Grant of trading license, the duties & the terms and condition of trading license

11.20 The regulation specified under section 16 and 52 of the Electricity Act 2003 (36 of 2003) specifies the requirements to obtain trading license, the duties of a trading licensee and their compliance conditions.

Manner of Service and Publication of Notice Regulation

11.21 The regulations specified under section 130 of the Electricity Act 2003 (36 of 2003) lay down the procedure according to which the Commission shall serve notices when the licensee is contravening, or is likely to contravene any of the conditions mentioned in his licence. These procedures apply also in the case of any generating company that has contravened or is likely to contravene any of the provisions of the Central Act or the State Act. The Commission finalised the draft regulation and sent for pre-publication in the Official Gazette.

Open Access in Transmission and Distribution

11.22 Provision of non-discriminatory open access to consumers of electricity is one of the new requirements under the Electricity Act 2003. MPERC has drafted the regulations on open access as required under sections 39 (2) (d), 40 (c), 42 (2, 3), 86 (1) (c) read with Section 181 (1) of the Electricity Act, 2003. The regulation specifies conditions for users for availing open access in transmission and distribution system. The regulations have been pre-published in the official gazette of GoMP.

Methods and Principles for fixation of charges recoverable by distribution licensee for supply of electricity

11.23 MPERC (methods and principles for fixation of charges and schedule of miscellaneous charges recoverable by distribution licensee) Regulations 2004 have been drafted under section 45 (2) of the Electricity Act 2003. The regulations provide the methods and principles for determination of charges including determination of miscellaneous charges of the utility. This has been pre-published as draft in the gazette.

Power Purchase and Procurement Regulations

11.24 The regulations specified under section 130 of 86(1)(b) and 86(1)(g) Electricity Act 2003 (36 of 2003) define the mechanism for power procurement from long-term and short-term sources. It institutionalises the process of power procurement on competitive basis and improves transparency and encourages efficiency. The regulations have been finalised and pre-published in the official gazette.

Regulation on Minimum information to be maintained (under preparation)

11.25 These regulations, which are mandated under Section 128 of the Electricity Act, is aimed at effective supervision of the generating companies/ licensees. The regulations prescribe the minimum level of information to be maintained by a licensee or a generating company and the manner in which such information is to be maintained.

Regulation on Terms and Conditions of Tariff

11.26 MPERC drafted the regulations on Terms and Conditions of Tariff as required under section 181 (2) (zd) read with section 61 of the Electricity Act 2003 (36 of 2003). This regulation is very important in determining the Multi-year-tariff framework. The regulation specifies principles/ norms/ benchmarks for determination of various costs and other relevant parameters for Generation, Transmission and Distribution.

11.27 The terms and conditions are based on multi year tariff principles applicable for each year of the control period specified for generating company (5 years), transmission licensee (5 years) and distribution licensee (3 years). While drafting the regulation MPERC has taken into consideration the following principles: (i) Methods and principles used by CERC in framing regulations for Central Sector generating companies and Central sector transmission licensees, (ii) promotion of competition, efficient working of the utilities and consumers' interest, (iii) that the tariff progressively reflects the cost of supply (iv) promotion of generation from renewable resources.

ANNEXURE II

MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION

TARIFF SCHEDULES FOR LOW TENSION CONSUMERS

Table of Contents

Sr No	Particulars	Page
1	Tariff Schedule - LV-1 Domestic light & fan and power	221
2	Tariff Schedule – LV – 2 Non-domestic light & fan and power	224
3	Tariff Schedule – LV – 3 Water works and Crematorium	228
4	Tariff Schedule – LV – 4 LT Industrial consumers	231
5	Tariff Schedule – LV – 5 Power for agricultural installations	235
6	Tariff Schedule – LV – 6 Public purpose lighting	238
7	Tariff Schedule – LV – 7 Temporary Supply	240

TARIFF SCHEDULES

Schedules for Low Tension Consumers

Rate Schedule-- LV-1

DOMESTIC LIGHT & FAN AND POWER :

1 Applicability:

This tariff is applicable only for residential use for lighting purpose and domestic appliances. Dharamshalas, Student Hostels, Ashrams, Mosques, Temples, Churches, Religious and Spiritual Institutions, Water Works and street light in private colony/ Co-operative Societies, residential premises of Advocates and lawyer's chambers shall also be covered under domestic tariff. The lawyer's chambers, even outside their residence, shall also be covered under domestic tariff in view of MP High Court decision in Shiv Narain & another v/s MPEB and others (AIR 1999 Madhya Pradesh 246). The Tariff under this category shall also be applicable to all serving as well as retired employees of MPSEB posted/ residing within the State of Madhya Pradesh, who own electricity connection in their own name for their own use for light, fan and power for domestic appliances,

Note: The consumers using more than 10% of total connected load for any professional activity will not fall under this category and shall be charged at appropriate non-domestic tariff.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

LV -I A--Domestic consumers with meters

(a) Fixed Charges: These charges shall be based on average monthly consumption during the previous calendar year as under

	Sub category of consumers	Range of average monthly consumption	Fixed Charges Per month per unit for all consumed units
1.1	**Life line tariff users (metered only)**	0 to 30 units	NIL
1.2	**Low tariff users**	31 to 100 units	80 paise
1.3	**Medium tariff users**	101 to 300 units	120 paise
1.4	**Standard tariff users**	More than 300 units	140 paise

(b) Energy Charges: These charges are based on current month's consumption on all units as per following table:

	Sub category of consumers	Energy Charges Per month per unit for all consumed units
1.1	**Life line tariff users (metered only)**	210 paise
1.2	**Low tariff users**	210 paise
1.3	**Medium tariff users**	220 paise
1.4	**Standard tariff users**	225 paise

LV -I B - Domestic consumers without meter

Consumers classified under this sub-category are required to limit their use only for lightingpurpose. A lumpsum charge of Rs. 170/- in urban areas and Rs. 160/- in rural areas will be recoverable per month from each consumer. These charges shall, however, increase by Rs 10/- every quarter. Quarter shall mean the periods of April to June, July to September, October to December and January to March. The Commission intends to encourage the consumers to convert to metered connection.

Important Note:

(a) The tariff for life line consumer category is limited to metered connection only.

(b) The fixed charges shall not be varied during the financial year and will be based on the average monthly consumption during the previous calendar year. For calculation of average monthly consumption, 1/12 of full annual consumption of the previous calendar year shall be reckoned. For new connections and for such existing connections for which average monthly consumption for previous calendar year is not available, the fixed charges shall be computed on the basis of 150 units per month and any over/ under recovery on account of fixed charges shall be adjusted in the next financial year.

(c) The licensee shall ensure installation of meters on the premises of such consumers opting for metered supply immediately. The responsibility of installation of meters will lie with the licensee.

(d) Delayed payment Surcharge: Surcharge will be recoverable at Rs. 10/- per day or 1.5 % of the outstanding amount whichever is higher. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected.

4 Rounding off

All bills will be rounded off to the nearest rupee.

5 Other Terms and Conditions

a) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

b) **Meter Rent** – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

c) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

d) Other charges as stated in Miscellaneous charges shall be applicable.

e) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final and binding.

f) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

g) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Tariff Schedule – LV - 2

NON-DOMESTIC LIGHT & FAN AND POWER :

1 Applicability:

This tariff is applicable for light & fan and power to Shops/showrooms, business houses, **guest houses** ,**X-ray plant,** offices, educational institutions (except ITIs, recognized Small Scale Service Institutes, workshop & laboratories of Engineering Colleges / Polytechnics to which L.T. industrial tariff shall be applicable), public buildings, town halls, golf clubs and grounds, clubs, restaurants, eating establishments, meeting halls, places of public entertainment, circus shows, hotels, cinemas, Railway stations, private clinics, nursing homes, farm houses, marriage gardens, printing press, milk chilling centers, welding transformers and lathe machines for repair works and services, carpenter and furniture maker, mixies used for juice and lassi including sugar-cane crushers for juice, advertisement services, typing institutions, nickel/electro plating on small scale, book binder, petrol pumps and service stations, tailoring shops, laundries, grinder for grinding masalas (in a shop), photographers, , air compressor for filling air in automobiles, cycle shops, plantations, lifts and other appliances in the shopping centers and offices, STD/ISD/PCO booths, internet cafes, FAX/photocopy shops.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

(a) Fixed Charges: These charges shall be based on average monthly consumption during the previous calendar year as under

	Range of average monthly consumption	**Fixed Charges Per month per unit for all units**
	LV-2	
2.0	Non Domestic Consumer	
2.1 (a)	For entire consumption	200 paise per unit

(b) Energy Charges: These charges are based on current month's consumption on all units as per following table:

	Range of average monthly consumption	Energy Charges Per month per unit for all units
2.1 (b)	For entire consumption	380 paise per unit

(c)

	Category of Consumers	Fixed Charges per month	Energy Charges paise per unit
2.2	Demand based tariff	Rs 100 per kVA of billing demand*	400
2.3	Temporary enhanced load to existing connections	250 paise per unit	475

* The maximum demand of the consumer in each month shall be four times the largest amount of kilovolt ampere hours delivered at the point of supply of the consumer during any consecutive fifteen minutes in that month. Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

The fixed charges shall not be varied during the financial year and will be based on the average monthly consumption during the previous calendar year. For calculation of average monthly consumption, 1/12 of full annual consumption of the previous calendar year shall be reckoned. For new connections and for such existing connections for which average monthly consumption for previous calendar year is not available, the fixed charges shall be computed on the basis of 250 units per month and any over/ under recovery on account of fixed charges shall be adjusted in the next financial year.

The consumer who wants to shift to demand based tariff has to execute a new agreement with the licensee for the contract demand. The connected load may be more than contract demand subject to a maximum of 75kW only.

Delayed payment Surcharge: Surcharge will be recoverable at Rs. 10/- per day or 1.5 % of the outstanding amount whichever is higher. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected..

4 Additional Charge

4.1. (a) The consumers availing supply at Tariff 2.2 should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the said tariff shall apply only to the extent of the contract demand. The demand in excess of contract demand (hereinafter referred to as "Excess Demand") shall be treated as power supplied and availed of separately for billing purposes. The excess demand so availed, if any, in any month shall be charged at 1.5 times normal rates prescribed for the fixed charge to the consumer.

The "Excess Demand" availed in any month shall be charged along- with the monthly bill and shall be payable by the consumer therewith.

(b) The above excess billing at 1.5 times the normal tariff, applicable to consumers is without prejudice to the licensee's right to discontinue the supply in accordance with the provisions contained in the Madhya Pradesh Electricity Supply Code, 2004.

4.2 The foregoing tariffs 2.1 and 2.3 are applicable to the extent of the contract demand for which the agreement subsists between the licensee and the consumer. In case the connected load in the consumer's premises is at any time found in excess of what has been agreed to between the consumer and the licensee, the consumer shall have to pay in respect of units corresponding to the excess load at 1.5 times the normal energy charges (inclusive of Fuel/Variable Cost Adjustment Charge, if any), for previous six months immediately preceding the date of inspection, unless the onus is rebutted by the consumer.

5 Rounding off

All bills will be rounded off to the nearest rupee.

6 Other Terms and Conditions

a) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

b) **Meter Rent** – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing

c) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

d) Welding surcharge is applicable to installations with welding transformers, where the connected load of welding transformers exceeds 25% of the total connected load and where capacitors of prescribed capacity have not been installed.

e) For purposes of computing the connected load in kW of the welding transformers, a power factor of 0.6 shall be applied to the maximum current or kVA rating of such welding transformers.

f) Welding Surcharge of 75 (seventy five) paise per unit shall be levied for the consumption of the entire installation during the month in respect of all LT installations with welding transformers in the connected load unless suitable capacitors are installed so as to ensure power factor of not less than 0.8 lagging.

g) Existing LT power consumer shall have to ensure that LT capacitor of specified rating as per Madhya Pradesh Electricity Supply Code, 2004 is provided. In case of failure of any of the above criteria the consumer shall be liable to pay power factor surcharge of 26 (twenty six) paise per unit in respect of consumption of the entire installation during the month.

h) Levy of welding/ power factor surcharges as indicated herein shall be without prejudice to the rights of the licensee to disconnect the consumer's installation, if steps are not taken to improve the power factor by installing suitable shunt capacitors.

i) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final and binding.

j) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

k) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Tariff Schedule – LV - 3

Water works and Crematorium:

1 Applicability

This tariff is applicable for Public Utility Water Supply Schemes, sewage treatment plants, Sewage Pumping Installations run by P.H.E. Department, Local Bodies and Gram Panchayats or any organization made responsible by the Government to supply/ maintain public water works / Sewerage Installations and also electric crematorium maintained by local bodies.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

	Category of consumers	Fixed Charges per month per kW	Energy Charges paise per unit
	LV-3		
3.0	**Water Works and Crematorium.:**		
3.1	Municipal Corporation/ Cantonment board	Rs. 60/-	280
3.2	Municipality/ Nagar Panchayat	Rs. 50/-	255
3.3	Gram Panchayat	Rs. 40/-	220

4 Minimum Charge:

Charges equivalent to 40 unit per month per kW or part thereof of the contract demand shall be payable by consumers.

5 Rounding off

All bills will be rounded off to the nearest rupee.

6 Other Terms and Conditions

a) **Delayed payment Surcharge:** If the bills are not paid by the consumers within the period (due date) prescribed, a surcharge of 1.5% per month of the total amount of monthly bill (including outstanding arrears) will be payable in addition. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected.

b) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

c) **Meter Rent** – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

d) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

e) Any existing LT power consumer shall have to ensure that LT capacitor of specified rating as per Madhya Pradesh Electricity Supply Code, 2004 is provided. In case of failure of any of the above criteria the consumer shall be liable to pay power factor surcharge of 26 (twenty six) paise per unit in respect of consumption of the entire installation during the month.

f) Levy of power factor surcharges as indicated herein shall be without prejudice to the rights of the licensee to disconnect the consumer's installation, if steps are not taken to improve the power factor by installing suitable shunt capacitors.

g) The foregoing tariffs are applicable to the extent of the contract demand for which the agreement subsists between the licensee and the consumer. In case the connected load in the consumer's premises is at any time found in excess of what has been agreed to between the consumer and the licensee, the consumer shall have to pay the fixed charge (including minimum charge) corresponding to the excess load at 1.5 times the normal tariff rate (inclusive of Fuel/ Variable Cost Adjustment Charge, if any), for previous six months immediately preceding the date of inspection.

h) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final and binding.

i) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

j) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Tariff Schedule – LV - 4

LT INDUSTRIAL CONSUMERS:

1 Applicability:

These tariffs are applicable to light and fan and power for operating equipment used by flour mills, hullers, khandsari units, ginning and pressing units, sugar cane crushers, power looms, dal mills, besan mills, cold storage plants, grinders for grinding masalas (except in shops), ice factories, toy making industry, other industrial establishments and workshops (where any processing or manufacturing takes place), tyre retrading, ITIs, recognized Small Scale Service Institutes, workshop & laboratories of Engineering Colleges and Polytechnics.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

	Category of consumers	**Fixed Charges Per month per HP of contract demand**	**Energy Charges paise per unit**
	LV 4		
4.0	**LT Industrial consumers**		
4.1 a	Flour mills, Hullers and Powerlooms upto 10 HP	Rs. 50/-	320
	Other LT Industries including Flour mills, Hullers and Powerlooms above 10HP		
4.1 b	Upto 25 HP	Rs. 60/-	330
4.1 c	More than 25 HP & upto 100 HP	Rs. 125/-	390
4.1 d	More than 100 HP & upto 150HP	Rs. 175/-	450
4.2	Demand based tariff	Rs. 300/- per kVA per month of billing demand*	350

* Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand whichever is higher. The billing demand shall

be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

4 Minimum Charge:

There will be no minimum charges but all equipments found in the premises shall be reckoned for the purpose of fixed charges. For Demand based tariff, the monthly minimum charges would be charged equivalent to demand charges on contract demand.

5 Additional Charge

5.1. (a) The foregoing tariffs mentioned in clause 4.1 is applicable to the extent of the connected load for which the agreement subsists between the licensee and the consumer. In case the total horse power of equipments in the consumer's premises is at any time found in excess of what has been agreed to between the consumer and the licensee, the consumer shall have to pay enhanced fixed charges at 1.5 times the normal tariff rate by taking into account the total HP of equipment found on the premises. This shall not apply to equipment brought for repair or kept for sale at the premises of a recognized workshop or dealer. This shall be applicable for previous six months immediately preceding the date of inspection.

b) The consumers availing supply at Tariff 4.2 should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the said tariff shall apply only to the extent of the contract demand. The demand in excess of contract demand (hereinafter referred to as "Excess Demand") shall be treated as power supplied and availed of separately for billing purposes. The excess demand so availed, if any, in any month shall be charged at 1.5 times fixed charges prescribed in the tariff applicable to the consumer and while doing so, the other terms and conditions (viz. fixed charges, charges for low power factor, etc.) of tariff shall also be applicable on the said excess demand.

(c) The above excess billing at 1.5 times the normal tariff, applicable to consumers is without prejudice to the licensee's right to discontinue the supply in accordance with the provisions contained in the Madhya Pradesh Electricity Supply Code, 2004.

6 Rounding off

All bills will be rounded off to the nearest rupee.

7 Other Terms and Conditions

a) Delayed payment Surcharge: If the bills are not paid by the consumers within the period (due date) prescribed, a surcharge of 1.5% per month of the total amount of monthly bill (including outstanding arrears) will be payable in addition.. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected.

b) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee..

c) Meter Rent – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

d) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

e) Welding surcharge is applicable to installations with welding transformers, where the connected load of welding transformers exceeds 25% of the total connected load and where capacitors of prescribed capacity have not been installed.

f) For purposes of computing the connected load in KW of the welding transformers, a power factor of 0.6 shall be applied to the maximum current or KVA rating of such welding transformers.

g) Welding Surcharge of 75 (seventy five) paise per unit shall be levied in respect of all LT installations with welding transformers in the connected load unless suitable capacitors are installed so as to ensure power factor of not less than 0.8 lagging.

h) Any existing LT power consumer shall have to ensure that LT capacitor of specified rating as per Madhya Pradesh Electricity Supply Code, 2004 is provided. In case of failure the consumer shall be liable to pay power factor surcharge of 26 (twenty six) paise per unit.

i) The power factor/ welding surcharge shall be applicable to the entire monthly consumption of the installation

j) Levy of welding/ power factor surcharges as indicated herein shall be without prejudice to the rights of the licensee to disconnect the consumer's installation, if steps are not taken to improve the power factor by installing suitable shunt capacitors.

k) For the purpose of Tariff mentioned in 4.2, the maximum demand of the consumer in each month shall be four times the largest amount of kilovolt ampere hours delivered at the point of supply of the consumer during any consecutive fifteen minutes in that month.

l) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final and binding.

m) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

n) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Tariff Schedule – LV - 5

POWER FOR AGRICULTURAL INSTALLATIONS

1 Applicability:

These tariffs are applicable to agricultural pump connections, chaff cutters, thrashers, winnowing machines, irrigation pumps of lift irrigation schemes, nurseries growing flowers/ plants/ saplings/ fruits, water drawn by agriculture pumps used by agriculture labour or cattle, fisheries ponds, aquaculture, sericulture, dairy, hatcheries, poultry farms, cattle breeding farms, grasslands and mushroom growing farms.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

	Category of consumers	Fixed Charges per month per HP	Energy Charges paise per unit
	LV - 5		
5.0	**Agricultural consumers**		
5.1	**Metered supply**	Nil	**220**
5.2	**Supply without meter**		
	Upto 10 HP	Rs. 230/-	NIL
	Above 10 HP	Rs. 250/-	NIL
5.3	Temporary		
	Metered	Nil	265
	Supply without meter upto 10HP	Rs. 275/-	Nil
	Supply without meter above 10HP	Rs. 300/-	Nil

Note:

(a) Consumers opting for temporary supply under clause 5.3 shall have to pay the charges in advance for three months subject to replenishment from time to time for extended period and adjustment as per final bill after disconnection.

(b) Following incentive shall be given to the agricultural consumers on installation of energy saving devices:--

S.No.	Particulars	For metered connections	For supply without meter
1.	For installation of ISI motors for pump sets	10 paise per unit	Rs. 10/- per HP per month
2.	For installation of ISI motors for pump sets and use of frictionless PVC pipes and foot valve	20 paise per unit	Rs. 20/- per HP per month
3.	For installation of ISI motors for pump sets and use of frictionless PVC pipes and foot valves along with installation of shunt capacitor of appropriate rating	30 paise per unit	Rs. 30/- per HP per month

Notes :

i) One 40 W lamp is permitted at or near the pump in the power circuit.

ii) The use of agriculture pump by installing external device during the period the supply is available on single phase, shall be treated as illegal extraction of energy and the action as per the prevailing rules and regulations shall be taken against the defaulting consumer.

iii) Presently Commission is not making any distinction on the basis of sources of water such as dug well, tube well etc. The licensee is being directed to undertake field study and collect data for presentation before the Commission regarding consumption pattern within three months of date of issue of this tariff order.

4 Minimum Charge:

Charges equivalent to 180 unit per annum per HP or part thereof of the connected load shall be payable by Consumers under Tariff 5.1 (metered supply) and 5.3 (metered).

5 Rounding off

All bills will be rounded off to the nearest rupee.

6 Other Terms and Conditions

a) Delayed payment Surcharge: If the bills are not paid by the consumers within the period (due date) prescribed, a surcharge of 1.5% per month of the total amount of monthly bill (including outstanding arrears) will be payable in addition.. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected.

b) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

c) Meter Rent – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing

d) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

e) The foregoing tariff is applicable to the extent of the connected load for which the agreement subsists between the licensee and the consumer. In case the connected load in the consumer's premises is at any time found in excess of what has been agreed to between the consumer and the licensee, the consumer shall have to pay in respect of the excess load at 1.5 times the normal tariff rate for previous three months immediately preceding the date of inspection.

f) In case of any dispute on applicability of tariff on a particular LT category , the decision of the Commission shall be final and binding.

g) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

h) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Tariff Schedule – LV - 6

PUBLIC PURPOSE LIGHTING :

1 Applicability:

This tariff is applicable to traffic signals and lighting of public streets or public places including parks and monuments when requisition for supply is made by the local body or the Government or any organization maintaining Public Street Lights, public toilets, public libraries and reading rooms.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

		Fixed Charges Per month per kW	Energy Charges paise per unit
	LV-6		
6.0	**Public Purpose Lighting**		
	Consumers in the following areas:		
6.1	Municipal Corporation/ Cantonment	Rs. 100/-	310
6.2	Nagar Palika/ Nagar Panchayat	Rs. 85/-	300
6.3	Gram Panchayat	Rs. 45/-	260

4 Rounding off

All bills will be rounded off to the nearest rupee.

5 Other Terms and Conditions

a) Delayed payment Surcharge: If the bills are not paid by the consumers within the period (due date) prescribed, a surcharge of 1.5% per month of the total amount of monthly bill (including outstanding arrears) will be payable in addition.. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected.

b) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee..

c) Meter Rent – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing

d) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

e) In case of any dispute on applicability of tariff on a particular LT category , the decision of the Commission shall be final and binding.

f) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

g) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Tariff Schedule – LV - 7

Temporary Supply

1 Applicability:

This tariff is for connections of temporary nature. The applicability shall be as given in respective category rate schedule.

Temporary supply can not be demanded by a prospective consumer as a matter of right but will normally be arranged by the licensee when a requisition giving due notice is made. However service under Tatkal Scheme shall be made available within 24 hours according to the charges specified in the Schedule of Miscellaneous Charges.

2 Character of service:

The Character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

3 Tariff:

Fixed Charge and energy charges to be billed at 1.5 times the normal tariff as applicable to the corresponding categories.

Notes

a) Temporary connection for agricultural purposes has been mentioned under tariff schedule LV-5. Similarly additional temporary connection for the purposes of marriage gardens has been mentioned under LV-2.

b) **Advance payment** - Estimated energy consumption charges are payable in advance before serving the temporary connections subject to replenishment from time to time and adjustment as per final bill after disconnection.

4 Rounding off

All bills will be rounded off to the nearest rupee.

5 Other Terms and Conditions

a) This schedule is subject to the application of such corresponding provisions as may be applicable as per the relevant category Rate Schedule.

b) No rebates/ concessions under any head would be applicable to connections under this category.

c) **Delayed payment Surcharge:** If the bills are not paid by the consumers within the period (due date) prescribed, a surcharge of 1.5% per month of the total amount of monthly bill (including outstanding arrears) will be payable in addition. The delayed payment surcharge will not be applicable after a consumer is permanently disconnected.

d) **Meter Rent** – Meter Rent shall be charged as per the Schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

e) In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

f) For demand based tariff the billing demand shall be the demand requisitioned by the consumer or the highest monthly maximum demand during the period of supply commencing from the month of connection ending with the billing month which ever is higher.

g) The month for the purpose of temporary supply shall mean 30 days from date of connection or further part thereof.

h) Any expenditure for line extension up to point of supply shall be paid by the consumer as per prescribed procedure.

i) Connection and Disconnection Charges shall be paid separately.

j) In case of any dispute on applicability of tariff on a particular LT category, the decision of the Commission shall be final and binding.

k) The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

l) For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

m) All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

ANNEXURE II

MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION

TARIFF SCHEDULES FOR HIGH TENSION CONSUMERS

Table of Contents

Sr No	Particulars	Page
1	Tariff Schedule – HV – 1 Railway Traction	245
2	Tariff Schedule – HV – 2 Coal Mines	250
3	Tariff Schedule – HV – 3 Cement Factories	256
4	Tariff Schedule – HV – 4 Power Intensive Industries	262
5	Tariff Schedule – HV – 5 Other Industrial Power	268
6	Tariff Schedule – HV – 6 Seasonal	274
7	Tariff Schedule – HV – 7 HT Irrigation and Public Water works	280
8	Tariff Schedule – HV – 8 General Purpose Non-Industrial	286
9	Tariff Schedule – HV – 9 Rural Electric Co-operative Societies	292

10	Tariff Schedule – HV – 10 Border Villages	294
11	Tariff Schedule – HV – 11 Bulk Supply to Exemptees under section 13	296
12	Tariff Schedule – HV – 12 Temporary Supply	298

Schedules for High Tension Consumers

Rate Schedule – HV – 1

Railway Traction

Applicability

1.1 This Tariff shall apply to the Railways for Traction loads only. The contract demand shall be expressed in whole number only.

Character of service

1.2 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.3 The supply at each sub-station shall be separately metered and charged.

Tariff:

	Category of Consumer	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
1.0	**Railway Traction on 220kV / 132kV**	150	391

Minimum Charge

1.4 The consumer will guarantee a minimum monthly payment of the energy charges of the units (kWH) equivalent to 20% load factor of the contract demand plus the Fixed Charges on the billing demand for the month irrespective of whether any energy is consumed or not during the month. An average power factor of 0.85 will be applied for the calculation of corresponding units at 20% load factor on contract demand.

Billing Demand

1.5 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher.The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.6 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

1.7 Provided that if as a result of an emergency in the consumer's installation or in the transmission lines supplying energy to the said traction sub-station, extra load is taken by the consumer, the period of such emergency shall not be taken into account for the purpose of working out the maximum demand.

1.8 Provided further that if as a result of the emergency in the traction substation, or in the transmission line supplying load or part thereof is transferred to an adjacent traction substation, the M.D. for the month shall not be taken less than the average of M.D. for previous three months during which no emergency had occurred.

Incentives and Penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(a) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(b) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(c) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.9 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

Power Factor Penalty

1.10 If the average monthly power factor of the consumer falls below 85 percent, penalty will be payable for each one percent by which the average monthly power factor falls below 85 percent, at the rate of 1% (one percent) on total amount of bill under the heads of "Fixed Charge" and "Energy Charge". For the determination of power factor only lag logic shall be used and no power factor penalty shall be levied if leading power factor is recorded.

1.11 Should the power factor fall below 70%, the Licensee will have the right to levy a higher level of penalty charges calculated at 2 % for low power factor below 70 %.

1.12 For this purpose, the "average monthly power factor" is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.13 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 85% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 85% subject to following condition:

a. This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 85%.

b. In all cases, the consumer will be billed penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 85%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

c. The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 85% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 85%, shall be payable as by any other consumer.

Additional Charge

For Excess Demand

1.14 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as "excess demand") shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed, if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.15 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

For Delayed Payment

1.16 Surcharge at 1.5% per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed till the date of permanent disconnection.

For Advance Payment

1.17 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.18 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.19 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.20 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum lContract Demand	Maximum load
132 kV	2500 kVA	40000 kVA
220 kV	Above 40000 kVA	

1.21 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Licensee on merits and any aggrieved consumer may approach the Commission.

1.22 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing

1.23 An average power factor of 0.85 will be applied for calculation of corresponding units at different load factors on contract demand.

1.24 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.25 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 2

Coal Mines

Applicability

1.26 This Tariff shall apply to the Coal Mines for power, ventilation, lights, fans, coolers etc. which shall mean and include all energy consumed for coal mines and lighting in the offices, stores, canteen, compound lighting etc and the consumption for residential use therein. The contract demand shall be expressed in whole number only.

Character of service

1.27 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.28 The power will be supplied to the consumers ordinarily at a single point for the entire premises. The power may, however, be supplied on the request of the consumer, subject to technical feasibility, at more points than one, but in such a case, metering and billing will be done for each point of supply separately.

Tariff

	Category of consumers	**Fixed Charges (Rs./ kVA of billing demand /month)**	**Energy Charges (Paise per unit)**
2.0	**Coal Mines**		
	220 kV supply	397	388
	132 kV supply	403	394
	33 kV supply	420	410
	11 kV supply	445	435

Minimum Charge

For 220 kV/132 kV Supply

1.29 The consumer will guarantee a minimum monthly payment of the charges of the units (kWH) equivalent to 30 % load factor on the contract demand plus the Fixed Charges on the billing demand for the month, irrespective of whether any energy is consumed or not during the month.

For 33 kV/ 11 kV Supply

1.30 The Fixed Charge on the contract demand is a monthly minimum charge whether any energy is consumed or not during the month.

Billing Demand

1.31 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.32 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession

Supply voltage	Load Factor	Concession
At all voltage level	(d) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(e) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(f) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and

		above 70% LF.

Power Factor Incentive

1.33 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

Power Factor Penalty

1.34 If the average monthly power factor of the consumer falls below 90 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

1.35 If the average monthly power factor of the consumer falls below 85 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads "Fixed Charge" and "Energy Charge"..

1.36 Should the power factor fall below 70%, the licensee will have the right to levy of penalty charges for low power factor.

1.37 For this purpose, the "average monthly power factor" is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.38 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Additional Charge

For Excess Demand

1.39 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as “excess demand”) shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.40 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.41 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board’s right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.42 Surcharge at 1.5% per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.43 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.44 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.45 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.46 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum Contract Demand	Maximum Contract Demand
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA
220 kV	Above 40000 kVA	

1.47 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.48 The existing 33kV consumers with contract demand exceeding 10000 kVA who want to continue to avail supply at 33kV, shall be required to pay additional charge at 3% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month

1.49 The existing 132kV consumers with contract demand exceeding 40000 kVA who want to continue to avail supply at 132kV, shall be required to pay additional charge at 2% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month

1.50 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.51 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.52 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.53 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 3

Cement Factories

Applicability

1.54 This tariff shall apply to the Cement Factories for power light and fan etc. which shall mean and include all energy consumed for factory and lighting in the offices, main factory building, stores, canteen, compound lighting etc. and the consumption for residential use therein. The contract demand shall be expressed in whole number only.

Character of service

1.55 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.56 The power will be supplied to the consumers ordinarily at a single point for the entire premises.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
3.0	**Cement**		
	220 kV supply	407	307
	132 kV supply	413	312
	33 kV supply	430	325
	11 kV supply	456	345

Minimum Charge

For 220 kV/132 kV Supply

1.57 The consumer will guarantee a minimum monthly payment of the charges of the units (kWH) equivalent to 30 % load factor on the contract demand plus the Fixed Charges on the billing demand for the month, irrespective of whether any energy is consumed or not during the month.

For 33 kV / 11 kV Supply

1.58 The Fixed Charge on the contract demand is a monthly minimum charge whether any energy is consumed or not during the month.

Billing Demand

1.59 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.60 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(g) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(h) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(i) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.61 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

Power Factor Penalty

1.62 If the average monthly power factor of the consumer falls below 90 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

1.63 If the average monthly power factor of the consumer falls below 85 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads "Fixed Charge" and "Energy Charge".

1.64 Should the power factor fall below 70%, the Board reserves the right to disconnect the consumer's installation till steps are taken to improve the same to the satisfaction of the Board; this is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.

1.65 For this purpose, the "average monthly power factor" is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.66 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Time of Day Surcharge / Rebate

1.67 This condition is applicable for different periods of the day i.e. normal period, peak load and off-peak load period. The maximum demand and the consumption recorded in different periods shall be billed according to the rates below:

TOD Surcharge / Rebate:

	Fixed Charges	Normal rate of Fixed Charge
	PLUS	
	Energy Charge	**Rate (Paise per unit)**
	Period of Energy Consumption	
(i)	Normal period (6.00 AM to 6 PM)	Normal Rate of Energy Charges
(ii)	Evening peak load period (6PM to 10 PM)	15% of Normal rate of Energy Charge as Surcharge
(iii)	Off peak load period (10 PM to 6 AM next day)	5 % of Normal rate of Energy Charge as Rebate

Additional Charge

For Excess Demand

1.68 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as "excess demand") shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.69 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.70 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board's right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.71 Surcharge at 1.5% per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.72 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.73 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.74 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.75 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum Contract Demand	Maximum Contract Demand
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA
220 kV	40000 kVA	

1.76 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.77 The existing 33kV consumers with contract demand exceeding 10000 kVA who want to continue to avail supply at 33kV, shall be required to pay additional charge at 3% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.78 The existing 132kV consumers with contract demand exceeding 40000 kVA who want to continue to avail supply at 132kV, shall be required to pay additional charge at 2% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.79 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.80 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.81 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.82 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 4

Power Intensive Industries

Applicability

1.83 This tariff shall apply to Mini Steel Plants (MSP) or MSP with rolling mills/ sponge iron plants in the same premises, electro chemical/ electro thermal, ferro alloy industries for power lights, fans etc. which shall mean and include all energy consumed for factory and lighting in the offices, main factory building, stores, canteen, compound lighting etc. and the consumption for residential use therein. The contract demand shall be expressed in whole number only.

Character of service

1.84 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
4.0	**Power Intensive**		
	220 kV supply	416	236
	132 kV supply	422	240
	33 kV supply	440	250

Minimum Charge

For 220 kV/132 kV Supply

1.85 The consumer will guarantee a minimum monthly payment of the charges of the units (kWh) equivalent to 30 % load factor on the contract demand plus the Fixed Charges on the billing demand for the month, irrespective of whether any energy is consumed or not during the month.

For 33 kV Supply

1.86 The Fixed Charge on the contract demand is a monthly minimum charge whether any energy is consumed or not during the month.

Billing Demand

1.87 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.88 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(a) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(b) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(c) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.89 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.

Power Factor Penalty

1.90 If the average monthly power factor of the consumer falls below 90 percent,the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.

1.91 If the average monthly power factor of the consumer falls below 85 percent,the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads “Fixed Charge” and “Energy Charge”.

1.92 Should the power factor fall below 70%, the Board reserves the right to disconnect the consumer’s installation till steps are taken to improve the same to the satisfaction of the Board; this is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.

1.93 For this purpose, the “average monthly power factor” is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.94 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Time of Day Surcharge / Rebate

1.95 This condition is applicable for different periods of the day i.e. normal period, peak load and off-peak load period. The maximum demand and the consumption recorded different periods shall be billed according to the rates below:

TOD surcharge/ rebate:

	Fixed Charges	Normal rate of Fixed Charge
	PLUS	
	Energy Charge	**Rate (Paise per unit)**
	Period of Energy Consumption	
(i)	Normal period (6.00 AM to 6 PM)	Normal Rate of Energy Charges
(ii)	Evening peak load period (6PM to 10 PM)	15% of Normal rate of Energy Charge as Surcharge
(iii)	Off peak load period (10 PM to 6 AM next day)	5 % of Normal rate of Energy Charge as Rebate

Additional Charge

For Excess Demand

1.96 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as "excess demand") shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.97 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.98 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board's right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.99 Surcharge at 1.5% per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.100 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.101 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.102 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.103 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum Contract Demand	Maximum Contract Demand
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA
220 kV	40000 kVA	

1.104 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.105 The existing 33kV consumers with contract demand exceeding 10000 kVA who want to continue to avail supply at 33kV, shall be required to pay additional charge at 3% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.106 The existing 132kV consumers with contract demand exceeding 40000 kVA who want to continue to avail supply at 132kV, shall be required to pay additional charge at 2% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.107 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.108 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.109 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.110 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 5

Other Industrial Power

Applicability

1.111 This tariff shall apply to other industrial consumers which are not covered under cement factories, power intensive industries and seasonal industries which shall mean and include all energy consumed for factory and lighting in the offices, main factory building, stores, canteen, compound lighting etc. and the consumption for residential use therein. The contract demand shall be expressed in whole number only.

Character of service

1.112 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
5.0	**Other Industrial Power**		
	220 kV supply	407	294
	132 kV supply	413	298
	33 kV supply	430	310
	11 kV supply	456	329

Minimum Charge

For 220 kV/132 kV Supply

1.113 The consumer will guarantee a minimum monthly payment of the charges of the units (kWh) equivalent to 30 % load factor on the contract demand plus the Fixed Charges on the billing demand for the month, irrespective of whether any energy is consumed or not during the month.

For 33 kV / 11 kV Supply

1.114 The Fixed Charge on the contract demand is a monthly minimum charge whether any energy is consumed or not during the month.

Billing Demand

1.115 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.116 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(a) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(b) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(c) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.117 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

Power Factor Penalty

1.118 If the average monthly power factor of the consumer falls below 90 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

1.119 If the average monthly power factor of the consumer falls below 85 percent,the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads "Fixed Charge" and "Energy Charge".

1.120 Should the power factor fall below 70%, the Board reserves the right to disconnect the consumer's installation till steps are taken to improve the same to the satisfaction of the Board; this is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.

1.121 For this purpose, the "average monthly power factor" is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.122 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Time of Day Surcharge / Rebate

1.123 This condition is applicable to all HV users for different periods of the day i.e. normal period, peak load and off-peak load period. The maximum demand and the consumption recorded in different periods shall be billed according to the rates below.

TOD surcharge/ rebate:

	Fixed Charges	Normal rate of Fixed Charge
	PLUS	
	Energy Charge	**Rate (Paise per unit)**
	Period of Energy Consumption	
(i)	Normal period (6.00 AM to 6 PM)	Normal Rate of Energy Charges
(ii)	Evening peak load period (6PM to 10 PM)	15% of Normal rate of Energy Charge as Surcharge
(iii)	Off peak load period (10 PM to 6 AM next day)	5 % of Normal rate of Energy Charge as Rebate

Additional Charge

For Excess Demand

1.124 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as “excess demand”) shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.125 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.126 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board’s right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.127 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the HT bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.128 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.129 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.130 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.131 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum load	Maximum load
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA
220 kV	40000 kVA	

1.132 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.133 The existing 33kV consumers with contract demand exceeding 10000 kVA who want to continue to avail supply at 33kV, shall be required to pay additional charge at 3% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.134 The existing 132kV consumers with contract demand exceeding 40000 kVA who want to continue to avail supply at 132kV, shall be required to pay additional charge at 2% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.135 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.136 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.137 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.138 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 6

Seasonal

(except Nov. to Feb.)

Applicability

1.139 This tariff will be applicable to such seasonal industries / consumers requiring energy for a minimum period of four months and a maximum period of eight months (excluding the four months period of November to February) in a year.

1.140 Normally rice mills, sugar mills, oil mills based on agricultural seeds, ice factories, cold storage, ginning and pressing factories are entitled for this category. However the Board may allow this tariff to any other industry in consultation with the Commission. The contract demand shall be expressed in whole number only.

Character of service

1.141 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.142 The power will be supplied to the consumers ordinarily at a single point for the entire premises. The power may, however, be supplied on the request of the consumer, subject to technical feasibility, at more points than one, but in such a case, metering and billing will be done for each point of supply separately.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
6.0	**Seasonal**		
	33 kV supply	100	460
	11 kV supply	106	488

This tariff is applicable for the months of March to October and if a consumer records any consumption during November to February the tariff at the rate of 1.25 times the normal rate shall be charged.

Note: *The consumer has to declare months of season and off-season for the financial year by 31st March of the preceding financial year failing which the connection shall be treated under HV-5 (Other industrial power).*

Minimum Charge

1.143 The tariff is subjected to payment of energy charges for a minimum annual consumption of 1500 units per kVA of contract demand.

Billing Demand

1.144 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.145 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(d) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(e) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(f) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.146 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

Power Factor Penalty

1.147 If the average monthly power factor of the consumer falls below 90 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of "Fixed Charge" and "Energy Charge".

1.148 If the average monthly power factor of the consumer falls below 85 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads "Fixed Charge" and "Energy Charge".

1.149 Should the power factor fall below 70%, the Board reserves the right to disconnect the consumer's installation till steps are taken to improve the same to the satisfaction of the Board; this is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.

1.150 For this purpose, the "average monthly power factor" is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.151 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Time of Day Surcharge / Rebate

1.152 This condition is applicable to all HV users for different periods of the day i.e. normal period, peak load and off-peak load period. The maximum demand and the consumption recorded in different periods shall be billed according to the rates below.

TOD surcharge/ rebate:

	Fixed Charges	Normal rate of Fixed Charge
	PLUS	
	Energy Charge	**Rate (Paise per unit)**
	Period of Energy Consumption	
(i)	Normal period (6.00 AM to 6 PM)	Normal Rate of Energy Charges
(ii)	Evening peak load period (6PM to 10 PM)	15% of Normal rate of Energy Charge as Surcharge
(iii)	Off peak load period (10 PM to 6 AM next day)	5 % of Normal rate of Energy Charge as Rebate

Additional Charge

For Excess Demand

1.153 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as "excess demand") shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.154 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.155 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board's right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.156 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the HT bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.157 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.158 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.159 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.160 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum load	Maximum load
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA
220 kV	40000 kVA	

1.161 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.162 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.163 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.164 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.165 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 7

HT Irrigation and Public Water Works

Applicability

1.166 This Tariff shall apply to agricultural pump connections, irrigation pumps of lift irrigation schemes of the State Govt. or its agencies including energy used for lighting Pump house and for Public Utility Water Supply Schemes, sewage treatment plants and Sewage Pumping Installations run by P.H.E. Department, Local Bodies and Gram Panchayats or any organization made responsible by the Government to supply/ maintain public water works / Sewerage Installations. The contract demand shall be expressed in whole number only.

Character of service

1.167 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.168 The power will be supplied to the consumers ordinarily at a single point for the entire premises.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
7.0	**HT Irrigation and Public Water Works**		
	220 kV supply	95	218
	132 kV supply	96	221
	33 kV supply	100	230
	11 kV supply	100	244

Minimum Charge

1.169 The tariff is subject to payment for a minimum annual consumption of 720 units per kVA of the highest Maximum Demand recorded during the year or the contract demand, whichever is higher.

Billing Demand

1.170 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.171 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(g) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(h) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.
	(i) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.172 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.

Power Factor Penalty

1.173 If the average monthly power factor of the consumer falls below 90 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.

1.174 If the average monthly power factor of the consumer falls below 85 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads “Fixed Charge” and “Energy Charge”.

1.175 Should the power factor fall below 70%, the Board reserves the right to disconnect the consumer’s installation till steps are taken to improve the same to the satisfaction of the Board; this is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.

1.176 For this purpose, the “average monthly power factor” is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.177 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Additional Charge

For Excess Demand

1.178 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as "excess demand") shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.179 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.180 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board's right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.181 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the HT bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.182 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.183 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.184 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.185 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum load	Maximum load
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA
220 kV	40000 kVA	

1.186 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.187 The existing 33kV consumers with contract demand exceeding 10000 kVA who want to continue to avail supply at 33kV, shall be required to pay additional charge at 3% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.188 The existing 132kV consumers with contract demand exceeding 40000 kVA who want to continue to avail supply at 132kV, shall be required to pay additional charge at 2% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.189 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.190 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.191 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.192 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 8

General Purpose Non-Industrial

Applicability

1.193 This Tariff shall apply to:

(a) Primarily residential: This tariff is applicable for supply to town ships including townships of industries, hospitals, MES when such supply is computed separately outside their premises having mixed load.

(b) Others: This tariff is applicable for supply to establishment like Railway Stations, Offices, Hotels and Institutions, etc. having mixed load. The contract demand shall be expressed in whole number only.

Character of service

1.194 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.195 The power will be supplied to the consumers ordinarily at a single point for the entire premises.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
8.0	**Non-Industrial General Purpose**		
8.1	**Primary Residential**		
	132 kV supply	240	230.00
	33 kV supply	250	240.00
	11 kV supply	265	254.00
8.1	**Others**		
	132 kV supply	336	312.00
	33 kV supply	350	325.00

	11 kV supply	371.00	345.00

Minimum Charge

1.196 For 33/11 KV, the Fixed Charge on the contract demand is a monthly minimum charge whether any energy is consumed or not during the month. For 132 KV the consumer will guarantee a minimum monthly payment of the charges of the units (kWh) equivalent to 30 % load factor on the contract demand plus the Fixed Charges on the billing demand for the month, irrespective of whether any energy is consumed or not during the month.

Billing Demand

1.197 The Billing demand for the month shall be the actual maximum kVA demand of the consumer during the month or 75% of the contract demand, whichever is higher. The billing demand shall be rounded off to the nearest integral figure, the fraction of 0.5 or above will be rounded to next higher figure and the fraction of less than 0.5 shall be ignored.

Determination of the Demand

1.198 The maximum demand of the supply in each month shall be four times the largest number of kilovolt ampere hours delivered at the point of supply during any consecutive 15 minutes during the month as per sliding window principle of measurement of demand.

Rebate / penalties

Load Factor Concession:

Supply voltage	Load Factor	Concession
At all voltage level	(a) Consumption over 50% and up to 60% load factor on contract demand	5% concession on the normal energy charges of additional energy consumption over and above 50% LF.
	(b) Consumption over 60% and up to 70 % load factor on contract demand	10% concession on the normal energy charges of additional energy consumption over and above 60% LF.

	(c) Consumption over 70 % load factor on contract demand	15 % concession on the normal energy charges of additional energy consumption over and above 70% LF.

Power Factor Incentive

1.199 If the average monthly power factor of the consumer increases above 90%, incentive shall be payable for each one percent increase by which the average monthly power factor is above 90% as follows:

Power Factor	Incentive payable
Above 90% and upto 95%	0.5% (one half of one percent) on the total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.
Above 95% and upto 100%	1.0% (one percent) on the total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.

Power Factor Penalty

1.200 If the average monthly power factor of the consumer falls below 90 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 90 percent, in addition pay 1% (one percent) on total amount of bill under the heads of “Fixed Charge” and “Energy Charge”.

1.201 If the average monthly power factor of the consumer falls below 85 percent, the consumer shall, for each one percent by which his average monthly power factor falls below 85 percent, in addition pay 2% (two percent) on total amount of bill under the heads “Fixed Charge” and “Energy Charge”.

1.202 Should the power factor fall below 70%, the Board reserves the right to disconnect the consumer’s installation till steps are taken to improve the same to the satisfaction of the Board; this is, however, without prejudice to the levy of penalty charges for low power factor in the event of supply not being disconnected.

1.203 For this purpose, the “average monthly power factor” is defined as the ratio of total Kilo Watt hours to the total kilo volt Ampere-hours recorded during the month. This ratio will be rounded off to two figures, 5 or above in the third place of decimal being rounded off to the next higher figure in the second place of decimal.

1.204 Notwithstanding what has been stated above, if the average power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, the consumer shall be entitled to a maximum period of six months to improve it to not less than 90% subject to following conditions:

(a) This period of six months shall be reckoned from the date on which the average power factor was found for the first time to be less than 90%.

(b) In all cases, the consumer will be billed the penal charges for low power factor, but in case the consumer maintains the average power factor in subsequent three months (thus in all four months) to not less than 90%, the charges on account of low power factor billed during the said six months period, shall be withdrawn and credited in next monthly bills.

(c) The facility, as mentioned herein, shall be available not more than once to new consumers whose average power factor is less than 90% at any time during 6 months from the date of connection. Thereafter, the charges on account of low average power factor, if found less than 90%, shall be payable as by any other consumer.

Time of Day Surcharge / Rebate

1.205 This condition is applicable to all HV users for different periods of the day i.e. normal period, peak load and off-peak load period. The maximum demand and the consumption recorded in different periods shall be billed according to the rates below.

TOD surcharge/ rebate:

	Fixed Charges	Normal rate of Fixed Charge
	PLUS	
	Energy Charge	**Rate (Paise per unit)**
	Period of Energy Consumption	
(i)	Normal period (6.00 AM to 6 PM)	Normal Rate of Energy Charges
(ii)	Evening peak load period (6PM to 10 PM)	15% of Normal rate of Energy Charge as Surcharge
(iii)	Off peak load period (10 PM to 6 AM next day)	5 % of Normal rate of Energy Charge as Rebate

Additional Charge

For Excess Demand

1.206 The consumers should at all times restrict their actual maximum demand within the contract demand. In case the actual maximum demand in any month exceeds the contract demand, the foregoing tariffs shall apply to the extent of the contract demand only. The demand in excess of contract demand (hereinafter referred to as “excess demand”) shall be treated as power supplied and computed separately for billing purposes. The excess demand so computed , if any, in any month shall be charged at one and a half times the normal tariff applicable to the consumer and while doing so other provisions of electricity tariff (such as tariff minimum charge, power factor, etc.) will also be applicable on aforesaid excess demand, unless otherwise provided specifically.

1.207 The excess demand computed in any month shall be charged along- with the monthly bill and shall be payable by the consumer.

1.208 The billing of excess demand at one and a half times the normal tariff applicable to consumer is without prejudice to the Board’s right to discontinue the supply in accordance with the provisions contained in the Electricity Supply Code.

For Delayed Payment

1.209 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the HT bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.210 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.211 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.212 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.213 The foregoing tariffs for different supply voltages are applicable for loads with contract demand as below:

Supply Voltage	Minimum load	Maximum load
11 kV	60 kVA	300 kVA
33 kV	300 kVA	10000 kVA
132 kV	2500 kVA	40000 kVA

1.214 The deviation, if any, in respect of above provisions on account of technical reasons may be permitted /sanctioned by the Board on merits and any aggrieved consumer may approach the Commission.

1.215 The existing 33kV consumers with contract demand exceeding 10000 kVA who want to continue to avail supply at 33kV, shall be required to pay additional charge at 3% on the total amount of fixed charges, energy charges and VCA charges, if any billed in the month.

1.216 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.217 An average power factor of 0.9 will be applied for calculation of corresponding units at different load factors on contract demand in kVA.

1.218 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.219 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 9

Rural Electric Co-operative Societies

Applicability

1.220 This Tariff shall apply to Rural Electric Co-operative Societies of the State. The contract demand shall be expressed in whole number only.

Character of service

1.221 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.222 The power will be supplied to the consumers ordinarily at a single point for the entire premises. The power may, however, be supplied on the request of the consumer, subject to technical feasibility, at more points than one, but in such a case, metering and billing will be done for each point of supply separately.

Tariff

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
9.0	**Rural Electric Co-operative Societies**	NIL	200

Additional Charge

For Delayed Payment

1.223 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.224 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.225 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Rounding off

1.226 All bills will be rounded off to the nearest rupee.

Other Terms and Conditions

1.227 Meter rent shall be charged as per schedule of Miscellaneous Charges. Part of a month will be reckoned as full month for purpose of billing.

1.228 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.229 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 10

Border Villages

Applicability

1.230 This Tariff shall apply to the border villages of neighbouring states of Madhya Pradesh. The contract demand shall be expressed in whole number only.

Character of service

1.231 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.232 The power will be supplied to the consumers ordinarily at a single point. The power may, however, be supplied on the request of the consumer, subject to technical feasibility, at more points than one, but in such a case, metering and billing will be done for each point of supply separately.

Tariff:

	Category of consumers	**Fixed Charges (Rs./ kVA of billing demand/month)**	**Energy Charges (Paise per unit)**
10.0	**Border Villages**	NIL	250

Additional Charge

Rounding off

1.233 All bills will be rounded off to the nearest rupee.

For Delayed Payment

1.234 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.235 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.236 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Other Terms and Conditions

1.237 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.238 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 11

Bulk Supply to Exemptees

Applicability

1.239 This Tariff shall apply to the exemptees under section 13 of the Electricity Act 2003 (36 of 2003). The contract demand shall be expressed in whole number only.

Character of service

1.240 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.241 The power will be supplied to the consumers ordinarily at a single point. The power may, however, be supplied on the request of the consumer, subject to technical feasibility, at more points than one, but in such a case, metering and billing will be done for each point of supply separately.

Tariff:

	Category of consumers	Fixed Charges (Rs./ kVA of billing demand/month)	Energy Charges (Paise per unit)
11.0	**Bulk Supply to Exemptees under Section 13**		
	Urban Areas	NIL	220
	Rural Areas	NIL	200

Additional Charge

Rounding off

1.242 All bills will be rounded off to the nearest rupee.

For Delayed Payment

1.243 Surcharge at 1.5 % per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

For Advance Payment

1.244 For advance payment, an interest of 0.5 % per month shall be credited to the advance account of the consumer on the amount balance (excluding security deposit) at the end of calendar month with the licensee after adjusting any amount payable to the licensee.

Service Charge for Dishonored Cheques

1.245 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Other Terms and Conditions

1.246 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.247 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.

Rate Schedule – HV - 12

Temporary Supply

Applicability

1.248 This Tariff shall apply to connections of temporary nature. The contract demand shall be expressed in whole number only.

Character of service

1.249 The character of service shall be as per Madhya Pradesh Electricity Supply Code, 2004.

Point of Supply

1.250 The power will be supplied to the consumers ordinarily at a single point for the entire premises.

Tariff:

	Category of consumers	Fixed Charges (Rs./kVA/month)	Energy Charges (Paise per unit)
12.0	**Temporary Connections**		
	132 kV supply	1.5 times the standard HT Tariff applicable for that Category with FCA/VCA Charges, if any	
	33 kV supply		
	11 kV supply		

Notes

1.251 The prevailing FCA/VCA charges, if any, at the time of availing the Supply shall not be further adjusted.

1.252 The billing demand shall be the demand requisitioned by the consumer or the highest monthly maximum demand during the period of supply commencing from the month of connection ending with the billing month, whichever is higher.

1.253 The month for the purpose of temporary supply shall mean 30 days from date of connection or for further part thereof.

1.254 The consumer shall pay the estimated charges in advance, before serving the Temporary Connection subject to replenishment from time to time and adjustment as per final bill after disconnection.

1.255 Any expenditure up to point of supply shall be paid by the consumer as per prescribed procedure.

1.256 The consumer shall pay rental for the metering system.

1.257 In case of any dispute on applicability of tariff on a particular category of HT Industry/H.T. consumer, the decision of the Commission shall be final and binding.

1.258 Notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the Licensee, all conditions prescribed herein shall be applicable to the consumer.

1.259 Connection and Disconnection Charges shall be paid separately.

1.260 Surcharge at 1.5% per month on the outstanding amount of the bill will be payable in addition from the date of bill, if the bills are not paid by the consumer within the period prescribed.

1.261 All other terms and conditions of the relevant category of Tariff shall also be applicable.

1.262 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

Rounding off

1.263 All bills will be rounded off to the nearest rupee

Service Charge for Dishonored Cheques

1.264 In case the cheque presented by the consumer is dishonoured a service charge at the rate of Rs 150 per cheque or 1% of the amount of the dishonoured cheque whichever is higher shall be levied.

Other Terms and Conditions

1.265 The tariff does not include any tax or duty, etc. on electrical energy that may be payable at any time in accordance with any law then in force. Such charges, if any, shall be payable by the consumer in addition to the tariff charges.

1.266 All conditions prescribed herein shall be applicable to the consumer notwithstanding the provisions, if any, contrary to the agreement entered into by the consumer with the licensee.