

**MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION**

5<sup>th</sup> Floor, "Metro Plaza", Bittan Market, Bhopal - 462 016



**Petition No.59 of 2012**

**PRESENT:**

**Rakesh Sahni, Chairman**

**A. B. Bajpai, Member**

**IN THE MATTER OF:**

**Approval of final Generation Tariff for Unit 1&2 (09.09.2006 to 31.03.2009), Unit 3 (18.08.2007 to 31.03.2009) and the Complex (from 01.04.2009 to 31.03.2012) in respect of Madhikheda Hydel Power Station Phase I&II (3X20 MW).**

**M.P. Power Generating Company Ltd, Rampur, Jabalpur : PETITIONER**

**Vs.**

- 1. M.P. Power Management Company Ltd., Rampur, Jabalpur**
  - 2. M.P. Poorv Kshetra Vidyut Vitaran Company Ltd., Jabalpur**
  - 3. M.P. Madhya Kshetra Vidyut Vitaran Company Ltd., Bhopal**
  - 4. M.P. Paschim Kshetra Vidyut Vitaran Company Ltd., Indore**
  - 5. M.P. Power Transmission Company Ltd., Jabalpur**
- RESPONDENTS**

**ORDER**

(Passed on this day of 31<sup>st</sup> January, 2013)

1. M.P. Power Generating Company Ltd. (MPPGCL) filed the subject petition on 27<sup>st</sup> July, 2012 for determination of final generation tariff for Unit 1&2 (09.09.2006 to 31.03.2009), Unit 3 (18.08.2007 to 31.03.2009) and combined for Unit 1,2&3 (from 01.04.2009 to 31.03.2012) in respect of Madhikheda Hydrel Power Station phase I&II (3X20 MW) based on the MPERC (Terms and Conditions for determination of Generation tariff ) Regulations, 2005 (hereinafter referred to as “the regulations, 2005”) and MPERC (Terms and Conditions for determination of Generation tariff ) Regulations, 2009 (Revision-I) (hereinafter referred to as “the regulations 2009 ”). The subject petition has been registered as petition No.59/2012.

**Back ground of the petition:**

2. Madhikheda Hydrel Power Project is a part of Sindh River Project, Phase – II (Multi-purpose Scheme) located in District Shivpuri, Madhya Pradesh. The Project consists of two phases. The first phase consists of two units having capacity of 20 MW i.e. 2 x 20 MW. Further, in order to avoid under utilization of available water, an additional unit of 20 MW was considered under phase-II.
3. Vide letter No. 302/25/93-HPA.I/389 dated 12.05.1993 the Central Electricity Authority accorded Techno-Economic Clearance (TEC) for the Madhikheda Hydro Power Project with an installation of two units of 20MW each with a provision of one more unit of 20MW at a later stage at an estimated cost of Rs.106.94 Cr. The investment approval for Rs.177.38 Cr. including the cost of transmission line and IDC was accorded by the GoMP on 11.05.2001.
4. Vide GoMP letter No.6526/13/2004 dated 08.11.2004, the revised administrative approval was accorded by GoMP for construction of Madhikheda Hydro Power project (3x20=60MW) to erstwhile MPSEB at an estimated cost of Rs. 225.07 Crores. The GoMP also provided the break-up of capital cost for phase-I and Phase-II as Rs.177.38 Cr. and Rs.47.69 Cr. respectively.
5. The environmental clearance and diversion of Forest land (3106 ha.) for Madhikheda Hydro Power Project was made available by Ministry of Environment and Forest on 24<sup>th</sup> December, 1985. The date of commercial operation of Unit 1,2&3 was achieved as follows:

| Unit-1                        | Unit-2                          | Unit-3                        |
|-------------------------------|---------------------------------|-------------------------------|
| 28 <sup>th</sup> August, 2006 | 9 <sup>th</sup> September, 2006 | 18 <sup>th</sup> August, 2007 |

6. GoMP vide its notification dated 3<sup>rd</sup> Jun 2006 provided that the Petitioner will sell entire power generated by the Madhikheda Hydel Power Station to the MP Power Trading Company Ltd. (now M.P. Power Management Company Ltd.), Respondent 1, at a rate determined by the Commission. A Power Purchase Agreement to this effect was executed between MPPGCL and MP Tradeco on 29<sup>th</sup> November, 2006.
7. MPPGCL filed a petition, No.102/2006 dated 10/10/2006 with the Commission for determination of Provisional generation Tariff for Madhikheda unit-1&2 (2x20MW). Another, petition (No.45/2009) was also filed on 20<sup>th</sup> August, 2009 for determination of Provisional generation Tariff of Madhikheda unit-3 (1x20MW), in accordance with the MPERC Regulations, 2005 (G-26 of 2005).
8. Vide Order dated 18/01/2008, the Commission determined provisional tariff for Madhikheda unit 1&2 (2x20MW) from 09/09/2006 to 31/03/2009 considering the provisional capital cost of Rs.142.99 Cr. Further, vide Order dated 05/01/2010, the Commission determined provisional tariff for Madhikheda unit 3 (1x20MW) from 18/08/2007 to 31/03/2009 considering the provisional capital cost of Rs.32.25Cr. The annual capacity (fixed) charges provisionally determined by the Commission in aforesaid orders were subject to retrospective adjustment on determination of final tariff.
9. Based on the above Capital Cost admitted in the provisional tariff, the following Annual capacity (Fixed) charges were approved by the Commission in aforementioned provisional orders as given below:

**Provisional Annual Capacity (Fixed) Charges for Madhikheda unit 1&2 (PH-I):**  
**Amount in Rs. Cr.**

| Sr. No.                              | Particular                   | Phase-I (2X20MW)      |              |              |
|--------------------------------------|------------------------------|-----------------------|--------------|--------------|
|                                      |                              | FY06-07<br>(7-months) | FY07-08      | FY08-09      |
| 1                                    | Depreciation                 | 2.14                  | 3.67         | 3.67         |
| 2                                    | Interest on loan             | 3.81                  | 7.04         | 6.27         |
| 3                                    | Return on equity             | 3.11                  | 5.33         | 5.33         |
| 4                                    | Advance Against Depreciation | 3.10                  | 6.82         | 6.82         |
| 5                                    | Interest on working capital  | 0.26                  | 0.84         | 0.82         |
| 6                                    | Other Charges                | 0.0023                | 0.004        | 0.004        |
| 7                                    | O&M Expenses                 | 1.25                  | 2.26         | 2.37         |
| <b>Total Annual Capacity Charges</b> |                              | <b>13.68</b>          | <b>25.99</b> | <b>25.31</b> |

**Provisional annual fixed charges for Madhikheda unit-3 (PH-II):**

**Amount in Rs. Lakhs**

| <b>Sr. No.</b> | <b>Particular</b>                            | <b>FY07-08</b> | <b>FY08-09</b> |
|----------------|--|----------------|----------------|
| 1              | Return on equity                             | 72.24          | 72.24          |
| 2              | Depreciation                                 | 82.88          | 82.88          |
| 3              | O&M Charges                                  | 48.38          | 51.28          |
| 4              | Interest and finance charges                 | 290.03         | 328.66         |
| 5              | Advance against depreciation                 | 83.90          | 160.93         |
| 6              | Interest on working capital                  | 17.96          | 20.67          |
| 7              | Annual fixed charges                         | 595.39         | 716.65         |
| 8              | Annual fixed charges for 227 days in FY07-08 | <b>370.28</b>  | <b>716.65</b>  |

10. Vide MYT Order dated 3<sup>rd</sup> March, 2010, the Commission approved the annual capacity charges for Madhikheda hydro power station (complete complex including Phase-I & II) for the period FY 2009-10 to FY 2011-12 considering the same capital cost and other components as provisionally admitted by the Commission in the Provisional Tariff Orders dated 18/01/2008 for Phase-I and dated 05/01/2010 for Phase-II passed by the Commission. The Commission in the aforesaid MYT order for Madhikheda Complex (3x20 MW) allowed the recovery to the extent of 95% of full provisional Annual Capacity Charges subject to retrospective adjustment on determination of final tariff. The break-up of Annual Capacity Charges approved in MYT order for Madhikheda HPS is given as below:

**Amount in Rs. Cr.**

| <b>Sr. No.</b>                       | <b>Particular</b>           | <b>Complex (3X20 MW)</b> |                |                |
|--------------------------------------|-----------------------------|--------------------------|----------------|----------------|
|                                      |                             | <b>FY09-10</b>           | <b>FY10-11</b> | <b>FY11-12</b> |
| 1                                    | Return on equity            | 6.70                     | 6.70           | 6.70           |
| 2                                    | Interest on loan            | 8.43                     | 7.63           | 6.84           |
| 3                                    | Depreciation                | 9.13                     | 9.13           | 9.13           |
| 4                                    | AAD                         | 0.00                     | 0.00           | 0.00           |
| 5                                    | O&M Expenses                | 3.58                     | 3.79           | 4.01           |
| 6                                    | Interest on working capital | 0.68                     | 0.68           | 0.67           |
| <b>Total Annual Capacity Charges</b> |                             | <b>28.52</b>             | <b>27.93</b>   | <b>27.35</b>   |

11. The petitioner has broadly submitted the following in the subject petition :

- (i) "The Petitioner has filed this petition for approval of final tariff of Madhikheda (2x20MW) + (1X20MW). The actual Capital expenditure incurred on the project

as on CoD based on the item wise invoices of orders as detailed in respective Form 5B & 5C are given below:

| <b>Particulars</b> | <b>Amount in Rs Crores</b>     |                                 |
|--------------------|--------------------------------|---------------------------------|
|                    | <b>(2x20MW)<br/>CoD 9/9/06</b> | <b>(1x20MW)<br/>CoD 18/8/07</b> |
| Civil Works        | 61.15                          | 3.05                            |
| E&M Works          | 70.28                          | 37.02                           |
| IDC                | 17.42                          | 3.35                            |
| <b>Total</b>       | <b>148.85</b>                  | <b>43.42</b>                    |

- (ii) The instant petition has been prepared for the period FY07, FY08 and FY09 based on the Regulations notified by the Hon'ble Commission vide MPERC (Terms And Conditions For Determination of Generation Tariff) Regulations, 2005, {G-26 of 2005} and for the period FY10 to FY12 based on the Regulations notified by the Commission vide MPERC (Terms And Conditions For Determination of Generation Tariff) Regulations, 2009, {RG-26(I) of 2009}. Necessary formats to be filed with the petition have been filled in and enclosed with this petition. It is submitted that the Petitioner has furnished the information/details as required under the aforesaid formats to the extent the same is available with the Petitioner. However, the Petitioner submits that where the data/information has not been submitted as per the format due to its non-availability / non-applicability with the petition, the same has been marked accordingly
- (iii) The instant petition is filed based on amount of Capital expenditure capitalized as per books of Accounts of FY 07 & FY 08. The Asset-cum-Depreciation register indicating the same has been submitted before Commission in Jan'2012. The Additional capital expenditure subsequent to CoD and upto 31/03/2011, has been filed as per audited books of accounts.
- (iv) The additional Capital Expenditure till completion of the Project is within the original scope of work of Madhikheda HPS is in accordance with the Regulation 19 of MPERC Tariff Regulations, 2005.
- (v) It is further submitted that levies, taxes, duties, service tax, water charges, etc, levied by the various authorities on the Petitioner in accordance with law has been billed to beneficiaries additionally on actuals. **MPPGCL has not considered any tax liability for FY07, FY08, FY09, FY10 and FY11.** In case, due to any change in Government policy or otherwise, if any liability of tax and duties arises for any Year of the control period, the same shall be charged extra.”

12. Based on the above, the petitioner has claimed the following year-wise Annual Capacity (fixed) charges at normative capacity index/availability for the period from 09.09.2006 to 31.03.2012 :

**Amount in Rs Crores**

| Particulars                    | FY 06-07    | FY 07-08     |             | FY 08-09     | FY 09-10     | FY 10-11     | FY 11-12 (Prov.) |
|--------------------------------|-------------|--------------|-------------|--------------|--------------|--------------|------------------|
|                                | (2x20 MW)   | (2x20 MW)    | (1x20 MW)   | Complex      | Complex      | Complex      | Complex          |
| O&M Expenses                   | 1.27        | 2.37         | 0.41        | 3.2          | 3.58         | 3.79         | 4.01             |
| Depreciation                   | 1.65        | 3.08         | 0.95        | 4.75         | 11.21        | 11.22        | 11.22            |
| Interest & finance charges     | 3.88        | 10.79        | 1.25        | 13.81        | 9.39         | 8.45         | 7.52             |
| Return on Equity               | 1.82        | 5.64         | 0.86        | 9.82         | 10.82        | 10.82        | 10.83            |
| Interest on Working Capital    | 0.5         | 0.74         | 0.20        | 1.09         | 0.84         | 0.81         | 0.83             |
| Other Expenses                 | 0.19        | 0.41         | 0.13        | 2.0          | 0.55         | 0.77         | 0.77             |
| <b>Annual Capacity Charges</b> | <b>9.30</b> | <b>23.03</b> | <b>3.79</b> | <b>34.67</b> | <b>36.37</b> | <b>35.84</b> | <b>35.16</b>     |

13. With regard to the recovery of aforesaid Annual Capacity (fixed) charges the petitioner in para 10.2 of the petition submitted the following;

*“The Madhikheda dam comes under multipurpose project for irrigation, drinking water & power generation. The Release of water for generation is being regulated by WRD Govt. of MP. It is evident that there is no control of MPPGCL on authorities of WRD, Govt. of M.P. who decides water releases from this reservoir resulting under recovery of capacity charges from FY-10 onwards from Madhikheda HPS despite of availability of machines. Therefore it is requested to kindly permit full recovery of annual capacity charges considering the restrictions imposed by WRD on MPPGCL.”*

14. The petitioner prayed the following in the subject petition :

- a. *Approve the Annual Capacity (Fixed) Charges of Madhikheda (2x20MW + 1x20MW) HPS, as given in para 22 of the petition for the period 09/09/2006 to 31/03/2011 on actual basis and for FY 12 on provisional basis which shall be trued-up separately after finalization of Audited accounts of FY 12.*
- b. *Allow the Petitioner to raise Arrear Bills for the recovery of Annual Capacity (fixed) charges in accordance with applicable tariff Regulations.*

- c. *Permit additional recovery on account of Water Charges, Cess, Rent Rates and Taxes, Duties and Levies, MPERC Fee as and when paid to the Hon'ble Commission, Common expenses, publication expenses, Entry Tax on R&M, admissible Income tax as per "MPERC (Terms and Conditions of Generation Tariff) Regulations, 2009 {RG-26 (I) of 2009}", fringe benefit tax and any other tax, if payable, etc. on actual basis, over and above the fixed charges.*

**Procedural History:**

15. The case was fixed for motion hearing on 21<sup>st</sup> August, 2012. Vide Commission's order dated 22<sup>nd</sup> August, 2012, the petition was admitted and the petitioner was directed to submit some additional information along with supporting data/documents by 25<sup>th</sup> September, 2012. The petitioner was also directed to serve the copy of the petition on all the respondents in the matter.
16. Vide letter No.7-12/CS-MPPGCL/MPERC/MK/59 of 2012/940 dated 19<sup>th</sup> September, 2012, the petitioner filed its response on the issues raised by the Commission. On perusal of the response filed by the petitioner the Commission observed that the MPPGCL's audited accounts is for the company as a whole and assets capitalized in Madhikheda HPS are not separately indicated in the audited accounts.
17. For more clarity in respect to assets capitalized as on CoD and additional capitalization in the subsequent years, the petitioner vide Commissioner's order dated 25<sup>th</sup> September, 2012 was asked to file the detailed break-up of all components related to the subject 3X20 MW units in the consolidated audited accounts of the company as a whole for the period relevant to the subject petition. The petitioner was also directed to publish the public notice in newspapers for inviting comments/suggestions from the stakeholders.
18. By affidavit dated 18<sup>th</sup> October, 2012 the petitioner filed the station wise break-up of Gross Block of MPPGCL as per audited books of accounts indicating the assets addition for Madhikheda hydro power project since FY 2006-07 to FY 2010-11.

**Public Hearing:**

19. The public notice on the subject petition was published on 10<sup>th</sup> November, 2012 for inviting comments/suggestions from various stakeholders in the following newspapers:
  - a) Nav Bharat, Bhopal (Hindi)
  - b) Nai Dunia, Jabalpur (Hindi)
  - c) Swadesh, Gwalior (Hindi)
  - d) Chautha Sansaar, Indore (Hindi)
  - e) Hindustan Times, Bhopal (English)
  
20. No comments from any stakeholder were received in the matter. The public hearing in the subject petition was held on 19<sup>th</sup> December, 2012 wherein only the representative of the petitioner appeared.



## Analysis of the petition

### Capital Cost

#### Petitioner's submission:

21. The petitioner submitted in para 17 of the petition that the actual Capital expenditure incurred as on CoD based on the item wise invoices of orders for phase-I & II of Madhikheda project is Rs.148.85 Cr. and Rs.43.42 Cr. respectively. The break-up of capital expenditure as on CoD is filed by the petitioner as given below:

in Rs Crores

| Particulars  | (2x20MW)<br>CoD 9/9/06 | (1x20MW)<br>CoD 18/8/07 |
|--------------|------------------------|-------------------------|
| Civil Works  | 61.15                  | 3.05                    |
| E&M Works    | 70.28                  | 37.02                   |
| IDC          | 17.42                  | 3.35                    |
| <b>Total</b> | <b>148.85</b>          | <b>43.42</b>            |

22. The petitioner has further submitted in para 19 of the petition that the capital expenditure as on CoD capitalized as per books of accounts is Rs.129.59 Cr. for Phase-I (2X20MW) and Rs.43.42 Cr. for phase-II (1X20MW) of Madhikheda hydro power project and the Assets-cum-depreciation register is also indicating the same amount for phase-I&II.

#### Provision in the Regulation:

23. With regard to the capital cost, clause 18 of the Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2005 (G-26 of 2005) provides that,

*“Subject to prudence check by the commission, the actual expenditure incurred on completion of the project shall form the basis for determination of tariff. The tariff shall be determined based on the admitted capital expenditure actually incurred upto the date of commercial operation of the Generating units/station and shall include capitalized initial spares subject to ceiling norms as stipulated hereunder.*

- i) upto 2.5% of original capital cost in case of coal based generating stations,*
- ii) upto 4.0% of original capital cost in case of gas turbine/ combined cycle generating stations, and*

iii) upto 1.5% of original capital cost in case of hydro-generating stations

*Scrutiny of the cost estimates by the Commission shall be with regard to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology, and such other matters for determination of tariff and the Commission may obtain expert advice as deemed necessary.*

*Where power purchase agreement provides for a ceiling of capital cost, the capital cost to be considered shall not exceed such ceiling.*

*Restructuring of capital cost in terms of relative share of equity and loan shall be permitted during the tariff period provided it does not affect tariff adversely. Any benefit from such restructuring shall be passed on to persons sharing the capacity charge in a ratio as may be specified by the Commission”.*

#### Commission’s analysis:

24. Before finalizing the capital cost of the Madhikheda hydro power project, some background related to capital cost of this project is discussed as under :

- (i) The detailed project report of the Madhikheda hydro power station (2X20MW + 1X20MW) was made in August, 1992 (incorporating the cost analysis of all cost components) showing the estimated cost of the project based on 1992 price level is Rs.87.24 Cr. The capital cost of the project was further revised through revised DPR made in April, 1998 (at present price level) to Rs.123.05 Cr. The break-up of the capital cost as indicated in both the aforesaid DPRs are given below:

| Sr. No. | Particular               | Unit           | Capital Cost as per DPR of August, 1992 | Revised capital cost as per DPR of April, 1998 |
|---------|--------------------------|----------------|---|--|
| 1       | Capacity                 | MW             | (2X20 MW + 1X20 MW)                     |  |
| 2       | Civil Works              | Rs. Cr.        | 31.92                                   | 45.10  |
| 3       | E&M Works                | Rs. Cr.        | 51.06                                   | 72.55  |
| 4       | 132 KV Transmission Line | Rs. Cr.        | 4.26                                    | 5.40   |
| 5       | IDC                      | Rs. Cr.        | Inclusive above                         |  |
|         | <b>Total</b>             | <b>Rs. Cr.</b> | <b>87.24</b>                            | <b>123.05</b>                                  |

- (ii) Vide official memorandum dated 12.05.1993, CEA accorded Techno-Economic Clearance (TEC) for the project at a total estimated cost of Rs.106.94 Cr. Based on this, the investment approval for Rs.177.38 Cr. including the cost of transmission line was accorded by the GoMP on 11.05.2001. After deleting the cost of transmission line, the cost of project is worked out to Rs.169.36 Cr.
- (iii) The capital cost of the project was further revised through DPR prepared for unit No.3 in March, 2003 as given below:

| Sr. No. | Particular               | Unit           | Capital Cost estimate as per DPR as on March, 2003 |              |
|---------|--------------------------|----------------|--|--------------|
|         |                          |                | 2X20 MW  | 1X20 MW      |
| 1       | Capacity                 | MW             | 2X20 MW  | 1X20 MW      |
| 2       | Civil Works              | Rs. Cr.        | 48.08  | 4.53         |
| 3       | E&M Works                | Rs. Cr.        | 83.11  | 37.24        |
| 4       | 132 KV Transmission Line | Rs. Cr.        | 8.02   | 5.92         |
| 5       | IDC                      | Rs. Cr.        | Inclusive above                                    |              |
|         | <b>Total</b>             | <b>Rs. Cr.</b> | <b>139.21</b>                                      | <b>47.69</b> |

- (iv) Based on the above estimate, revised Administrative approval of GoMP for Rs.225.07 Crores was accorded for construction of Madhikheda Hydro Power project (3x20=60MW) vide GoMP letter dated 08.11.2004. The break-up of revised capital cost approved by the GoMP is given below:

| Sr. No. | Particular        | Unit           | Capital Cost as per revised approval issued by GoMP dt. 08/11/2004 | Phase wise break-up of Capital Cost excluding cost of Transmission line as per revised approval issued by GoMP dt. 08/11/2004 |              |
|---------|-------------------|----------------|--|---|--------------|
|         |                   |                |  | 2X20 MW   | 1X20 MW      |
| 1       | Capacity          | MW             | 3X20 MW  | 2X20 MW   | 1X20 MW      |
| 2       | Civil Works       | Rs. Cr.        | 58.40  | 53.87   | 4.53         |
| 3       | E&M Works         | Rs. Cr.        | 121.31   | 84.07   | 37.24        |
| 4       | Transmission Line | Rs. Cr.        | 13.94  | 8.02  | 5.92         |
| 5       | IDC               | Rs. Cr.        | 31.42  | 31.42   | Inclusive    |
|         | <b>Total</b>      | <b>Rs. Cr.</b> | <b>225.07</b>  | <b>177.38</b>   | <b>47.69</b> |

- (v) The Commission issued provisional tariff order dated 18/01/2008 for Madhikheda unit 1&2 (2x20MW) (from 09/09/2006 to 31/03/2009) considering the provisional capital cost of Rs.142.99 Cr based on the available details and documents filed by the petitioner. Further vide order dated 05/01/2010, the Commission determined provisional tariff for Madhikheda unit 3 (1x20MW) also (from 18/08/2007 to 31/03/2009) considering the provisional capital cost of Rs.32.25 Cr. Details of the capital cost considered by the Commission as on the date of commercial operation of the generating station through aforesaid provisional orders are given below :

| Provisional Actual Expenditure up to CoD approved by the Commission |                    |         |                   |                 |
|---|--------------------|---------|-------------------|-----------------|
| Sr. No.   | Particular         | Unit    | Unit 1&2 (2X20MW) | Unit 3 (1X20MW) |
| 1   | Civil Work         | Rs. Cr. | 64.82             | 2.85            |
| 2   | E& M Works         | Rs. Cr. | 61.89             | 26.00           |
| 3   | IDC                | Rs. Cr. | 16.28             | 3.40            |
| 4   | Total Capital cost | Rs. Cr. | <b>142.99</b>     | <b>32.25</b>    |

25. It was mentioned in para 2.14 of the provisional tariff order dated 18/01/2008 (for unit 1&2) that “*the finalization of the capital cost will be done at the time of the determination of the final tariff by the Commission on the basis of the availability of the audited figures for this project*”. Similarly, in para 3.1.11 of provisional order dated 05/01/2010 (for unit 3), it was mentioned that “*The Commission hereby decides to provisionally consider the capital cost of Rs.32.25 Cr. for unit-3. and directs the petitioner to file the petition for determination of final tariff for complete Madhikheda project (3X20MW) along with audited expenditure up to CoD and after CoD of the project.*”
26. Regarding scheduled CoD of the project, vide Commission’s order dated 22.08.2012, the petitioner was asked to inform the scheduled CoD of phase-I&II of the project along with supporting documents. By affidavit dated 19.09.2012, the petitioner submitted the following:

*“As per DPR, works of Madhikheda Phase-I were to be completed with the completion of Madhikheda dam(upto crest level) by July/August 2004 (please refer page 3 of DPR for 1X20 MW Madhikheda Phase-II) **Annexure-3** and completion of Phase –II by 20-22 months from placement of order (Page -20 of DPR for 1X20 MW Madhikheda Phase-II).The order to M/s BHEL was placed on 12.05.2005 as regards to Scheduled CoD of project, since it was*

linked with the completion of Madhikheda dam, it may be concluded that scheduled completion of the Madhikheda HEP Phase-I (2X20 MW) was July 2006 commensurate with the completion of Madhikheda dam upto crest level in June 2006.”

27. Based on the above, the details of the scheduled CoD and actual CoD of the Madhikheda hydro power project is observed as given below :

| Generating Units    | Scheduled CoD | Actual CoD      |
|---------------------|---------------|-----------------|
| Phase-I (Units 1&2) | August, 2004  | September, 2006 |
| Phase-II (Unit 3)   | March, 2007   | August, 2007    |

28. With regard to delay in commissioning of Madhikheda hydro power project, the petitioner in para 1.7 to 1.10 of the petition submitted the following justification:

“The project was to be constructed and fed from the water to be discharged from Madhikheda dam which is being constructed by Water Resources Department of Government of MP (WRD). In the meantime there was a shuffle in the national policy for power generation and participation of Independent Private Investors was envisaged with best possible spirit. The construction of **Madhikheda Dam also got delayed due to various reasons at WRD end.** The dam work could be accelerated by the WRD in the year Oct’2000 only when the Government of India approved financing of construction of Madhikheda dam through AIBP (Accelerated Irrigation Benefit Programme) in next five years i.e. by 2005.

The Chief Engineer, BODHI, Water Resources Department, Bhopal vide letter No. 1499/Gate/217/CE/BODHI/2001 dated 05 Mar 2001 intimated that the construction of masonry and Earth Dam on the project has started in the month of Oct 2000 and due to this likely flood water level expected during monsoon of 2001 shall be 302 M. In view of this progress, it was essential to construct the Intake structure (300 M) of the Hydro power station immediately to match with the construction activities of the masonry dam.

Accordingly a meeting was held on 17<sup>th</sup> March 2001 at Jabalpur between Principle Secretary (Energy) GoMP, Bhopal, Chairman-MPSEB, Member (Dist.) and Member (F&RM). It was decided to take up Madhikheda Hydrel Project on priority and all statutory clearance were to be obtained and target

for issue of work order was June 2001. The MPSEB immediately started the work with full steam ahead.

*Due to further delay in construction of the dam, the activities of construction works at power station were slowed down and the commissioning was rescheduled for 2005. The HEP was almost complete in 2005 commensurate to the projected completion schedule of Madhikheda dam by WRD (June 2005). However, due to delay in Madhikheda dam works at WRD end and due to non availability of water, the generation could not be commenced.”*

29. Further, vide Commission’s order dated 22<sup>nd</sup> August, 2012, the petitioner was asked to submit the following regarding delay in commissioning the project :

- (i) *What were the reasons for delay in commissioning of the project?*
- (ii) *What were the reasons attributable to the contractor in case the delay was from the contractor’s end?*
- (iii) *A copy of all correspondence between the contractor and the petitioner regarding delay in project execution be furnished.*
- (iv) *What were the reasons for inordinate delay in filing the subject petition?*
- (v) *With regard to delay in project, the petitioner is required to submit complete details of LD recovered if any in this regard.*

30. In response to the above, by affidavit dated 19<sup>th</sup> September, 2012, the petitioner submitted the following:

- i. *“Madhikheda is multipurpose project used for irrigation & power generation. The Project is on Sindh River. The project envisages construction of dam & installation of 3 units of 20 MW (2X20 MW + 1X20 MW).The construction of dam was carried out by WRD of GoMP, where as the Power house work was taken up by MPSEB/MPPGCL. The GoMP Energy Department vide its letter dated 11.05.2001(**Annexure-1**) directed that the activities for construction of Power House should be pari-passu with the construction of dam so that by the time the reservoir was created, the units should be ready to utilize the water for generation of electricity.*

*The construction of dam (upto crest level) was completed by WRD in June 2006 and the impounding of water in the dam was started from August 2006*



*pari-passu with this construction work, unit -1 was commissioned on 28.8.2006 and unit-2 was commissioned on 09.09.2006.*

- ii. Due to delay in completion of Dam, work of Madhikheda Hydro power station got slowed down but same was completed in April 2006 well before readiness of Madhikheda Dam being constructed by State WRD.*
  - iii. In view of noting under Para (b) above, no documents are required.*
  - iv. Regarding filing of petition for determination of Final Generation Tariff for Madhikheda HPS, it is to submit that the Madhikheda Hydel Power Project was being constructed by erstwhile MPSEB and all the records / information pertaining to this project was being kept by R.A.O (Guna). Subsequently on formation of MPPGCL and its Regional Accounts Office (COG&HS) these records were later on transferred from R.A.O (Guna) to R.A.O (COG&HS). Accordingly the matter was taken up by MPPGCL to firm up the Final Project Cost and accordingly the CA/ Audit Firm was appointed for certifying the Final Project Cost of new project. Subsequently in the similar matter (ATPS 210MW - New thermal project), MPERC has directed for reconciliation of Certified Final Project Cost with the figures captured in the Audited Books of Accounts. Thus the delay in submission of petition for Final Generation Tariff has been on account of delay in the process of certification of Final Project Cost by CA Firm and its reconciliation with information/ details captured in Books of Accounts of MPPGCL. MPPGCL humbly requests Hon'ble Commission to kindly condone delay in filing the petition.*
  - v. Since the contractor was not responsible for delay in commissioning of units, hence no liquidated damages (LD) were recovered from the vendors."*
31. It is observed from the justification submitted above that the delay in commissioning of the project was for reasons not attributable to the petitioner and the reasons were beyond its control. It is also observed that the contractor was not responsible for delay in commissioning of units, hence no "liquidated damage" was recovered from the vendors.
32. It is further observed that the combined capital cost for unit 1,2 and unit 3 as claimed by the petitioner as on CoD of the Units of the generating station is within the capital cost approved by the GoMP. It is also observed that the actual IDC as on CoD of the units is within the limit of IDC approved for the project. Therefore, the actual IDC (as on CoD) capitalized in the books of accounts is admitted in this order.

33. While going through the audited accounts of MPPGCL and its break-up of assets capitalized during the year, it is observed that the total assets of Rs.129.59 Cr. have been capitalized during FY 2006-07 in respect of unit 1&2 of Madhikheda hydro power project. It is further observed that the assets of Rs.43.42 Cr. have been capitalized during FY 2007-08 in respect of unit 3 of the project. This status has also been verified from the assets-cum-depreciation register of Madhikheda HPS submitted by the petitioner. The capital cost of Rs.129.59 Cr. and Rs.43.42 Cr. for PH-I&II respectively as on CoD as capitalized in the books of accounts is admitted in this order.
34. The petitioner in para 19 of the petition also mentioned that the assets capitalized as on CoD of unit 1&2 and unit 3 as per books of accounts are Rs.129.59 and Rs.43.42 Cr. respectively. The transmission line being the asset of transmission licensee is not included in the capital cost. Therefore, it is not considered as the part of the capital cost in this order. The break-up of capital cost as on CoD as admitted by the Commission in this order is given below:

| Sr. No. | Particular               | Unit           | Capital Cost as on CoD approved in this final tariff order |              |
|---------|--------------------------|----------------|--|--------------|
|         |                          |                | 2X20 MW  | 1X20 MW      |
| 1       | Capacity                 | MW             | 2X20 MW  | 1X20 MW      |
| 2       | Civil Works              | Rs. Cr.        | 58.79  | 3.05         |
| 3       | E&M Works                | Rs. Cr.        | 53.39  | 37.02        |
| 4       | 132 KV Transmission Line | Rs. Cr.        | 0.00   | 0.00         |
| 5       | IDC                      | Rs. Cr.        | 17.41  | 3.35         |
|         | <b>Total</b>             | <b>Rs. Cr.</b> | <b>129.59</b>  | <b>43.42</b> |

### Additional Capitalization:

#### Petitioner's submission:

35. The petitioner in para 2.4 of the petition submitted that as per MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2005 (G-26 of 2005), additional capital expenditure actually incurred after the date of commercial operation and duly audited may be considered by the Commission, subject to prudence check. Details of the year-wise additional capital expenditure subsequent to COD up to 31/03/2011 filed by the petitioner as per audited books of accounts is are given below:



(in Cr. Rs.)

| Particulars            | 2x20 MW<br>Phase-1 | 1x20 MW<br>Phase-2 |
|------------------------|--------------------|--------------------|
| Date of CoD            | 09/09/2006         | 18/08/2007         |
| As on CoD(Capitalized) | 129.59             | 43.42              |
| For FY 07              | 0.00               | -----              |
| For FY 08              | 39.73              | -----              |
| For FY 09              | 1.93               |                    |
| For FY 10              | 0.04               |                    |
| For FY 11              | 0.22               |                    |

**Provision under Regulation:**

36. Regarding Additional Capitalization, Clause 20 of the Regulations, 2005 provided that,

*“The following capital expenditure, actually incurred after the date of commercial operation and duly audited, may be considered by the Commission, subject to prudence check*

- (a) *due to deferred liabilities within the original scope of work,*
- (b) *on works within the original scope of work, deferred for execution*
- (c) *to meet award of arbitration or satisfaction of order or decree of a court arising out of original scope of works,*
- (d) *on account of change in law,*
- (e) *on procurement of initial spares included in the original project costs subject to the ceiling norm laid down in regulation 18.*
- (f) *any additional works/ services, which have become necessary for efficient and successful operation of a generating station or a transmission or a distribution system but not included in the original capital cost.*

*Provided that original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff.*

*Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the generating station.”*

**Commission's analysis:**

37. The additional capitalization from FY 2007-08 to FY 2010-11 as claimed by the petitioner as per books of accounts are as under:

In Rs. Cr.

| <b>Unit 1&amp;2</b> | <b>Complex</b> |         |         |
|---------------------|----------------|---------|---------|
| FY07-08             | FY08-09        | FY09-10 | FY10-11 |
| 39.73               | 1.93           | 0.04    | 0.22    |

38. The petitioner in para 20 of the petition mentioned that the additional Capital Expenditures till completion of the Project are within the original scope of work of Madhikheda HPS and in accordance with the Regulation 19 of MPERC Tariff Regulations, 2005. The petitioner also filed the year-wise and category-wise break-up of works under additional capitalization of the project in form 9 of the petition as given below:

**Amount in Rs. Cr.**

| S. No.       | A/C Code | Particulars                     | Madhikheda 2x20MW   |                        | Madhikheda Complex     |                        |                       | Total Addl. Cap. |
|--------------|----------|---------------------------------|---------------------|------------------------|------------------------|------------------------|-----------------------|------------------|
|              |          |                                 | From CoD to 31-3-07 | Additions during FY 08 | Additions during FY 09 | Additions during FY 10 | Addition during FY 11 |                  |
| 1            | 10.100   | Land And Land Rights            | 0.00                | 0.00                   | 0.00                   | 0.00                   | 0.00                  | 0.00             |
| 2            | 10.200   | Buildings Containing Gen. Plant | 0.00                | -1.62                  | 0.00                   | 0.00                   | 0.00                  | -1.62            |
| 3            | 10.300   | Hydraulic Works                 | 0.00                | 35.54                  | 0.03                   | 0.00                   | 0.00                  | 35.57            |
| 4            | 10.400   | Other Civil Works               | 0.00                | 0.19                   | 0.00                   | 0.00                   | 0.00                  | 0.19             |
| 5            | 10.500   | Plant And Machinery             | 0.00                | 5.59                   | 1.89                   | 0.00                   | 0.22                  | 7.70             |
| 6            | 10.600   | Lines,Cable Network Etc.        | 0.00                | 0.00                   | 0.00                   | 0.00                   | 0.00                  | 0.00             |
| 7            | 10.700   | Vehicles                        | 0.00                | 0.00                   | 0.00                   | 0.00                   | 0.00                  | 0.00             |
| 8            | 10.800   | Furniture And Fixtures          | 0.00                | 0.00                   | 0.00                   | 0.04                   | 0.00                  | 0.05             |
| 9            | 10.900   | Office Equipments               | 0.00                | 0.01                   | 0.02                   | 0.00                   | 0.00                  | 0.03             |
| 10           | 10.990   | Unclassified Fixed Assets       | 0.00                | 0.00                   | 0.00                   | 0.00                   | 0.00                  | 0.00             |
| <b>Total</b> |          |                                 | <b>0.00</b>         | <b>39.73</b>           | <b>1.93</b>            | <b>0.04</b>            | <b>0.22</b>           | <b>41.91</b>     |

39. The petitioner has claimed an amount of Rs.41.92 crores as additional capital expenditure up to the FY 2010-11. This additional capitalization mainly pertains to the Hydraulic works of Rs.35.57 Cr. and works of plant and Machinery package of Rs.7.70 Cr. and works related to other packages for Rs.0.27 Cr. deferred for execution but within the original scope of work. The petitioner also adjusted the amount of Rs.1.62 Cr. during FY 2007-08 against “Building Containing Gen. Plant” in respect of Unit 1&2 of the project.
40. Vide Commission’s order dated 22<sup>nd</sup> August, 2012, the petitioner was asked to submit the following details :
- a) *Whether the asset added is new or replacement of some old asset?*
  - b) *Approval, if any, accorded by any competent authority for additional capitalization.*
  - c) *Whether the addition of asset is on account of (a) to (f) of the reasons in clause 19 of the Regulation?*
41. In response, the petitioner by affidavit dated 19<sup>th</sup> September, 2012 submitted as under :
- a) *All the Assets added against additional capitalization are new.*
  - b) *Since the assets added under Additional Capitalization were as per original scope of work and the expenditure is well within administratively approved amount, hence no separate approval was obtained.*
  - c) *The assets added under Additional Capitalization were as per original scope of work covered under clause 19 of MPERC Regulation, 2005.*
42. The deferred works are the left over works in different packages within the original scope of approved project cost and which have been completed by the petitioner. The year wise assets capitalized by the petitioner on account of additional capitalization are verified with the audited books of accounts and assets cum depreciation registers of Madhikheda HPS for the respective years. It is observed that these works have been capitalized in audited accounts and were essential for the generating station and hence, allowed under clause 2.9(b) of Regulations, 2005 in this order.
43. Based on the discussions in the preceding paragraphs, the year-wise details of capital cost as on CoD and additional capital expenditure as on 31.03.2011 allowed in this order are summarized as under:

**Capital Cost and Additional Capitalization allowed in this order**

| Sr. No. | Particular                          | Unit           | Phase-I<br>2X20 MW | Phase-II<br>1X20 MW |
|---------|-------------------------------------|----------------|--------------------|---------------------|
| 1       | <b>Date of Commercial Operation</b> |                | <b>9/9/2006</b>    | <b>18/08/2007</b>   |
| 2       | As on CoD (Capitalized)             | Rs. Cr.        | 129.59             | 43.42               |
| 3       | FY2006-07                           | Rs. Cr.        | 0.0                | 0.0                 |
| 4       | FY 2007-08                          | Rs. Cr.        | 39.73              | -                   |
| 5       | FY2008-09                           | Rs. Cr.        | 1.93               |                     |
| 6       | FY2009-10                           | Rs. Cr.        | 0.04               |                     |
| 7       | FY2010-11                           | Rs. Cr.        | 0.22               |                     |
|         | <b>Total</b>                        | <b>Rs. Cr.</b> | <b>214.93</b>      |                     |

**Initial Spares:**

44. The petitioner has not capitalized initial spares as on CoD and during subsequent years of tariff period. Therefore, these are not considered in this order accordingly.

**Debt-Equity Ratio and Project Funding:**

**Petitioner's submission:**

45. The petitioner filed the following details of project funding till CoD and FY07-08 for Madhikheda (2X20MW) Phase-I and (1X20MW) Phase-II :

**Details of Project Funding for Madhikheda (2x20MW) : Amount in Cr. Rs.**

| S. No. | Particulars                    | PFC Loan<br>20102007 | Internal<br>Resources | Total         |
|--------|--------------------------------|----------------------|-----------------------|---------------|
| 1      | During FY 03                   | 8.32                 |                       |               |
| 2      | During FY 04                   | 30.41                |                       |               |
| 3      | During FY 05                   | 47.66                |                       |               |
| 4      | During FY 06                   | 17.92                |                       |               |
| 5      | During FY 07 (Upto CoD)        | 2.38                 |                       |               |
| 6      | <b>Total Upto CoD</b>          | <b>106.69</b>        | 22.91                 | 129.59        |
| 7      | From CoD to 31-3-2007          | 2.26                 | 0                     | 2.26          |
| 8      | <b>Funding till 31/03/2007</b> | <b>108.95</b>        | <b>22.91</b>          | <b>131.86</b> |
| 9      | During FY 08                   | 2.47                 | 34.99                 | 37.46         |
| 10     | <b>Funding till 31/03/2008</b> | <b>111.42</b>        | <b>57.9</b>           | <b>169.32</b> |

**Details of Project Funding for Madhikheda (1x20MW) : Amount in Cr. Rs.**

| S. No. | Particulars             | PFC Loan 20102009 | PFC Loan 20102010 | GoMP Loan   | Internal Resources | Total |
|--------|-------------------------|-------------------|-------------------|-------------|--------------------|-------|
| 1      | During FY 06            | 16.93             | 0.00              | 0.00        | 9.86               | 43.42 |
| 2      | During FY 07            | 8.27              | 1.24              | 0.00        |                    |       |
| 3      | During FY 08 (Upto CoD) | 0.49              | 0.18              | 0.00        |                    |       |
| 4      | <b>Total Upto CoD</b>   | <b>25.68</b>      | <b>1.41</b>       | <b>0.00</b> |                    |       |
| 5      | From CoD to 31-3-2008   | 0.00              | 3.85              | 2.63        |                    |       |
| 6      | <b>Till 31-3-2008</b>   | <b>25.68</b>      | <b>5.26</b>       | <b>2.63</b> |                    |       |

46. For the period from 01.04.2008 onwards, the Cumulative project funding is shown for Madhikheda complex as a whole by the petitioner as given below :

| Cumulative Project Funding: |                                | Amount in Cr. Rs |              |               |
|-----------------------------|--------------------------------|------------------|--------------|---------------|
| Madhikheda Complex          |                                |                  |              |               |
| S. No.                      | Particulars                    | Loan             | Equity       | Total         |
| 1                           | <b>As on 1-4-2008</b>          | 144.99           | 67.75        | 212.74        |
| 2                           | During FY 09                   | 0                | 1.93         | 1.93          |
| 3                           | <b>Funding till 31/03/2009</b> | <b>144.99</b>    | <b>69.68</b> | <b>214.67</b> |
| 4                           | During FY 10                   | 0                | 0.042        | 0.042         |
| 5                           | <b>Funding till 31/03/2010</b> | <b>144.99</b>    | <b>69.72</b> | <b>214.71</b> |
| 6                           | During FY 11                   | 0                | 0.22         | 0.22          |
| 7                           | <b>Funding till 31/03/2011</b> | <b>144.99</b>    | <b>69.94</b> | <b>214.93</b> |

**Provision in the Regulation:**

47. With regard to debt-equity ratio, clause 20 of the Regulations, 2005 provides that,

*“For the purpose of determination of tariff, debt-equity ratio as on the date of commercial operation in case of new generating station or capacity expansion shall be 70:30. The debt-equity amount arrived in accordance with this shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.*

*Where equity employed is in excess of 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as loan. The interest rate applicable on the equity in excess of 30% treated as loan has been specified in regulation 22. Where actual equity employed is less than 30%, the actual equity shall be considered.”*

**Commission's analysis:**

48. The actual debt-equity ratio as on CoD is worked out to 82:18 and 73:23 for Unit-1&2 and Unit-3 respectively which is within the limits of normative debt equity ratio of 70:30. Hence, in terms of the above regulation, the actual debt equity ratio of 82:18 and 73:23 as on CoD is considered for the purpose of tariff. Accordingly, the actual debt and equity of the generating station as on the date of commercial operation of each power house on account of capitalization approved as above is worked out as under :

**Amount in Cr. Rs.**

| <b>Particular</b> | <b>As on CoD for Unit 1&amp;2</b> | <b>As on CoD for Unit 3</b> |
|-------------------|-----------------------------------|-----------------------------|
| Debt              | 106.69                            | 33.56                       |
| Equity            | 22.91                             | 9.86                        |
| Total             | 129.60                            | 43.42                       |

49. With regard to the funding of Additional Capitalization, the following is observed by the Commission :
- (i) The petitioner has drawn loan amount of Rs.2.26 Cr. for Unit-1 & 2 during the period from CoD to 31.03.2007 but no asset has been capitalized during this period in these units.
  - (ii) In unit 1&2, the loan amount drawn during FY07-08 is Rs. 2.47 Cr. and equity infusion is shown as Rs.34.99 Cr. whereas total assets created during FY 2007-08 is Rs.39.73 Cr. with the total funding of Rs.37.46 Cr. (Rs.2.47 crores to Rs.34.99 crores).
  - (iii) No asset was created out of the loan amount drawn during CoD to 31.03.2007. Therefore, the loan amount of Rs.2.26 Cr. drawn before 31.03.2007 is considered for funding of assets created during FY 2007-08.
  - (iv) During FY 2008-09 to FY 2010-11, the assets were created through equity/internal resources only and no loan component has been utilized during this period.
  - (v) Normative debt-equity ratio is also considered in additional capitalization. The equity amount over and above the normative equity treated as excess equity/normative loan.

50. Based on the above, the following funding as on CoD and upto 31.03.2011 is admitted as given below:

**Project Funding for Madhikheda Hydro Power Station:**

| Sr. No.  | Particular                           | Unit           | Phase-I (2X20 MW)  |              |               |                |
|----------|--------------------------------------|----------------|--------------------|--------------|---------------|----------------|
|          |                                      |                | Loan               | Equity       | Total         | Asset addition |
| 1        | As on CoD (09.09.2006)               | Rs. Cr.        | 106.69             | 22.91        | 129.60        | 129.59         |
| 2        | *From CoD to 31.03.2007              | Rs. Cr.        | 2.26               | 0.00         | 2.26          | 0.00           |
| 3        | During FY07-08                       | Rs. Cr.        | 2.47               | 34.99        | 37.46         | 39.73          |
| <b>4</b> | <b>Till 31.03.2008</b>               | <b>Rs. Cr.</b> | <b>111.42</b>      | <b>57.90</b> | <b>169.32</b> | <b>169.32</b>  |
|          |                                      |                | Phase-II (1X20 MW) |              |               |                |
| 5        | As on CoD (18.08.2007)               | Rs. Cr.        | 27.09              | 9.86         | 36.95         | 43.42          |
| 6        | From CoD to 31.03.2008               | Rs. Cr.        | 6.47               | 0.00         | 6.47          |                |
| <b>7</b> | <b>Till 31.03.2008</b>               | <b>Rs. Cr.</b> | <b>33.56</b>       | <b>9.86</b>  | <b>43.42</b>  | <b>43.42</b>   |
|          |                                      |                | Madhikheda Complex |              |               |                |
| 8        | As on 01.04.2008                     | Rs. Cr.        | 144.98             | 67.76        | 212.74        | 212.74         |
| 9        | During FY08-09                       | Rs. Cr.        | 0.00               | 1.93         | 1.93          | 1.93           |
| 10       | During FY09-10                       | Rs. Cr.        | 0.00               | 0.042        | 0.042         | 0.04           |
| 11       | During FY10-11                       | Rs. Cr.        | 0.00               | 0.22         | 0.22          | 0.22           |
|          | <b>Total Funding Till 31.03.2011</b> | <b>Rs. Cr.</b> | <b>144.98</b>      | <b>69.95</b> | <b>214.93</b> | <b>214.93</b>  |

\*No assets created during FY07 after CoD in Phase-I. Therefore, the loan amount of Rs.2.26 Cr. drawn during CoD to 31/03/2007 is considered for creating asset during next year which is FY 2008.

**Annual Capacity (fixed) Charges:**

51. The Tariff for supply of electricity from Madhikheda hydro power generating station shall comprise of annual capacity (fixed) charges determined for the period from FY 2006-07 to FY 2008-09 separately for phase-I&II based on the MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2005 and for the period from FY 2009-10 to FY 2011-12 for the complete complex based on MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2009. The annual capacity (fixed) charges of hydro power generating station consists of :

- (a) Return on Equity;
- (b) Interest and Financing Charges on Loan Capital;
- (c) Depreciation;
- (d) Operation and Maintenance Expenses;
- (e) Interest Charges on Working Capital;

**(a) Return on Equity:**

52. The Return on equity for Madhikheda hydro power station is worked out considering the following:

- (i) The opening balance of equity as on CoD and for the subsequent years is considered as worked out in **para 50** of this order. The petitioner has submitted the copy of letters issued by GoMP in respect of equity infusion in the project
- (ii) It is observed that the equity infusion in the project as on CoD is within the normative equity whereas in additional capitalization, the equity infusion is more than 90% of the total funding.
- (iii) The equity amount over and above normative equity is considered as normative loan and scheduled repayment for the excess equity up to 31.03.2009 is considered as per the repayment schedule of actual loan portfolio. For the balance period from 01.04.2009 onwards, the repayment of excess equity is considered as per Regulations, 2009.
- (iv) Rate of return @ 14% is considered since CoD to 31.03.2009 as per applicable Regulations, 2005. For the period FY09-10 to FY11-12, the rate of return is considered @ 15.5% based on Regulations, 2009. The petitioner has not filed any tax liability. Therefore, grossing up is not applied on the base rate of return.
- (v) Details of the equity infusion in the project as on CoD and up to FY 2010-11 as considered in this order is given below:

| Sr. No. | Particular                           | Unit           | Phase-I (2X20MW) |              |             | Phase-II (1X20 MW) |             |
|---------|--------------------------------------|----------------|------------------|--------------|-------------|--------------------|-------------|
|         |                                      |                | As on CoD        | FY07-08      | FY08-09     | As on CoD          | FY08-09     |
| 1       | Opening Gross Block                  | Rs. Cr.        | 129.59           | 129.59       | 169.32      | 43.42              | 43.42       |
| 2       | Asset addition during the year       | Rs. Cr.        | 0.00             | 39.73        | 1.93        | 0.00               | 0.00        |
| 3       | Equity Component                     | Rs. Cr.        | 22.91            | 34.99        | 1.93        | 9.86               | 0.00        |
| 4       | Normative Equity eligible for return | Rs. Cr.        | 22.91            | 11.92        | 0.58        | 9.86               | 0.00        |
| 5       | <b>Excess Equity</b>                 | <b>Rs. Cr.</b> | <b>0.00</b>      | <b>23.07</b> | <b>1.35</b> | <b>0.00</b>        | <b>0.00</b> |



53. The Return on Equity is worked out separately for Madhikheda Phase-I (2X20 MW) and Phase-II (1X20 MW) from CoD to 31.03.2009 based on the Regulations, 2005 as given below:

| Sr. No.  | Particular                                | Unit           | Phase-I (2X20MW) |             |             | Phase-II (1X20 MW) |             |
|----------|---|----------------|------------------|-------------|-------------|--------------------|-------------|
|          |   |                | FY06-07          | FY07-08     | FY08-09     | FY07-08            | FY08-09     |
| 1        | Opening normative equity                  | Rs. Cr.        | 22.91            | 22.91       | 34.83       | 9.86               | 9.86        |
| 2        | Normative equity addition during the year | Rs. Cr.        | 0.00             | 11.92       | 0.58        | 0.00               | 0.00        |
| 3        | Closing normative equity                  | Rs. Cr.        | 22.91            | 34.83       | 35.41       | 9.86               | 9.86        |
| 4        | Average equity                            | Rs. Cr.        | 22.91            | 28.87       | 35.12       | 9.86               | 9.86        |
| 5        | Base rate of Return on Equity             | %              | 14               | 14          | 14          | 14                 | 14          |
| 6        | Rate of return on equity                  | %              | 14               | 14          | 14          | 14                 | 14          |
| <b>7</b> | <b>Return on equity</b>                   | <b>Rs. Cr.</b> | <b>3.21</b>      | <b>4.04</b> | <b>4.92</b> | <b>1.38</b>        | <b>1.38</b> |

54. The Return on Equity for Madhikheda Complex (Unit-1, 2 & 3) for the period from FY 2009-10 to FY 2011-12 worked out based on the Regulations, 2009 as given below:

| Sr. No.  | Particular                                | Unit           | Complex     |             |             |
|----------|---|----------------|-------------|-------------|-------------|
|          |   |                | FY09-10     | FY10-11     | FY11-12     |
| 1        | Opening normative equity                  | Rs. Cr.        | 45.27       | 45.28       | 45.35       |
| 2        | Normative equity addition during the year | Rs. Cr.        | 0.012       | 0.066       | 0.00        |
| 3        | Closing normative equity                  | Rs. Cr.        | 45.28       | 45.35       | 45.35       |
| 4        | Average equity                            | Rs. Cr.        | 45.27       | 45.31       | 45.35       |
| 5        | Base rate of Return on Equity             | %              | 15.50       | 15.50       | 15.50       |
| 6        | Rate of return on equity                  | %              | 15.50       | 15.50       | 15.50       |
| <b>7</b> | <b>Return on equity</b>                   | <b>Rs. Cr.</b> | <b>7.02</b> | <b>7.02</b> | <b>7.03</b> |

**(b) Interest and Financing Charges on Loan Capital:**

55. The petitioner has taken loan from PFC for funding the Madhikheda project phase-I (unit-1&2). For funding phase-II (unit 3), loan was availed from PFC and GoMP. The loan details for phase-I&II as filed by the petitioner as per loan agreement is given below :

**Loan details for phase-I (Unit 1&2):**

| Sr. No. | Particular                        | PFC          |
|---------|-----------------------------------|--------------|
| 1       | Loan No.                          | 20102007     |
| 2       | Sanctioned amount                 | Rs. 119 Cr.  |
| 3       | Sanctioned Date                   | 25.10.2002   |
| 4       | Number of installments            | 40 Quarterly |
| 5       | Repayment period                  | 10 years     |
| 6       | Wt. average rate of interest      | 7.50%        |
| 7       | Loan Repayment Commencement date. | 16.04.2007   |

**Loan details for phase-II (Unit 3):**

| Sr. No. | Particular                       | PFC             | PFC                 | GoMP        |
|---------|----------------------------------|-----------------|---------------------|-------------|
| 1       | Loan No.                         | 20102009        | 20102010            | ----        |
| 2       | Sanctioned amount                | Rs.25.68 Cr.    | Rs.5.26 Cr.         | Rs.2.63 Cr. |
| 3       | Sanctioned Date                  | 19.01.2005      | 23.12.2005          | 20.03.2008  |
| 4       | Number of installments           | 40 Quarterly    | 40 Quarterly        | 40 Yearly   |
| 5       | Repayment period                 | 10 years        | 10 years            | 10 years    |
| 6       | Wt. average rate of interest     | 8.25%(Floating) | 9.00%<br>(Floating) | 10.50%      |
| 7       | Loan Repayment Commencement date | 15.10.2007      | 15.10.2007          | 1.04.2008   |

56. The petitioner in para 3.3 of the petition confirmed that as no other loan was availed for the project of Madhikheda HPS. The balance expenditure was considered to be met from the internal resources of MPPGCL.

57. Interest and Financing Charges on Loan for Madhikheda hydro power station is worked out considering the following:

- (i) The opening gross loan balances as on CoD and as on 01.04.2009 are given in **para 50** of this order considering the scheduled repayment based on the loan agreement in accordance with Regulation, 2005.

- (ii) The interest on excess equity since CoD to 31.03.2003 worked out by considering the schedule repayment as per actual loan portfolio and year-wise weighted average rate of interest is applied for calculating the interest as follows :

**Interest charges on excess equity considered as normative loan:**

| Sr. No.  | Particular                              | Unit           | Phase-I (2X20MW) |             |             | Phase-II (1X20 MW) |             |
|----------|---|----------------|------------------|-------------|-------------|--------------------|-------------|
|          |   |                | FY06-07          | FY07-08     | FY08-09     | FY07-08            | FY08-09     |
| 1        | Opening balance of excess equity        | Rs. Cr.        | 0.00             | 0.00        | 21.92       | 0.00               | 0.00        |
| 2        | Addition during the year                | Rs. Cr.        | 0.00             | 23.07       | 1.35        | 0.00               | 0.00        |
| 3        | Repayment considered during the year    | Rs. Cr.        | 0.00             | 1.15        | 2.31        | 0.00               | 0.00        |
| 4        | Closing Balance of excess equity        | Rs. Cr.        | 0.00             | 21.92       | 20.96       | 0.00               | 0.00        |
| 5        | Average for the year                    | Rs. Cr.        | 0.00             | 10.96       | 21.44       | 0.00               | 0.00        |
| 6        | Applicable wt. average rate of interest | %              | 7.65             | 7.74        | 7.82        | 11.90              | 11.94       |
| <b>7</b> | <b>Interest amount on excess equity</b> | <b>Rs. Cr.</b> | <b>0.00</b>      | <b>0.85</b> | <b>1.68</b> | <b>0.00</b>        | <b>0.00</b> |

- (iii) The balance amount of excess equity as on 01.04.2009 added in the balance loan as on 01.04.2009 and repayment and interest has been calculated as per Regulations, 2009.
- (iv) The weighted average rate of interest has been worked out by the petitioner on the basis of the actual loan portfolio of respective year applicable to the project. Same weighted average rate of interest is considered.
- (v) The repayment for the year of the tariff period 2009-12 are considered equal to the depreciation allowed for that year as per Regulations, 2009.

58. Accordingly, the Interest and Financing Charges on Loan for Phase-I (2X20 MW) and Phase-II (1X20 MW) from CoD to FY 2008-09 (based on the Regulations, 2005) are worked out as given below:

| Sr. No.  | Particular  | Unit           | Phase-I (2X20MW) |             |             | Phase-II (1X20 MW) |             |
|----------|---|----------------|------------------|-------------|-------------|--------------------|-------------|
|          |   |                | FY06-07          | FY07-08     | FY08-09     | FY07-08            | FY08-09     |
| 1        | Opening Loan  | Rs. Cr.        | 106.69           | 101.36      | 95.30       | 27.09              | 31.88       |
| 2        | Loan addition during the year                       | Rs. Cr.        | 0.00             | 4.73        | 0.00        | 6.47               | 0.00        |
| 3        | Repayment during the year                           | Rs. Cr.        | 5.34             | 10.79       | 11.03       | 1.68               | 3.36        |
| 4        | Closing Loan  | Rs. Cr.        | 101.36           | 95.30       | 84.28       | 31.88              | 28.52       |
| 5        | Average Loan  | Rs. Cr.        | 104.02           | 98.33       | 89.79       | 29.49              | 30.20       |
| 6        | Weighted average rate of interest                   | %              | 7.65             | 7.74        | 7.82        | 11.90              | 11.94       |
| <b>7</b> | <b>Interest amount on Loan</b>                      | <b>Rs. Cr.</b> | <b>7.96</b>      | <b>7.61</b> | <b>7.02</b> | <b>3.51</b>        | <b>3.61</b> |
| 8        | Interest amount including interest on excess equity | Rs. Cr.        | 7.96             | 8.46        | 8.71        | 3.51               | 3.61        |

59. Similarly, the Interest and financing Charges on loan (including interest on excess equity) for Madhikheda Complex from FY 2009-10 to FY 2011-12 (based on the Regulations, 2009) are worked out as given below:

| Sr. No.  | Particular   | Unit           | Complex      |             |             |
|----------|--|----------------|--------------|-------------|-------------|
|          |  |                | FY09-10      | FY10-11     | FY11-12     |
| 1        | Opening Loan (including balance excess equity from FY10 to FY12)   | Rs. Cr.        | 133.76       | 122.58      | 111.52      |
| 2        | Loan addition during the year                                      | Rs. Cr.        | 0.03         | 0.154       | 0.00        |
| 3        | Repayment during the year  | Rs. Cr.        | 11.21        | 11.21       | 11.22       |
| 4        | Closing Loan   | Rs. Cr.        | 122.58       | 111.52      | 100.30      |
| 5        | Average Loan   | Rs. Cr.        | 128.17       | 117.05      | 105.91      |
| 6        | Weighted average rate of interest                                  | %              | 8.36         | 8.36        | 8.36        |
| <b>7</b> | <b>Interest amount on Loan including interest on excess equity</b> | <b>Rs. Cr.</b> | <b>10.71</b> | <b>9.79</b> | <b>8.85</b> |

**(c) Depreciation:**

60. The depreciation for Madhikheda hydro power station is worked out in this order considering the following:

- (i) Depreciation is worked out since CoD to 31.03.2009 separately for phase-I and phase-II of Madhikheda project in accordance with clause 23 of MPERC Regulations, 2005. The Depreciation for the period FY 2009-10 to FY 2011-12 is worked out for Madhikheda hydro power project as whole as per clause 24 of the MPERC Regulations, 2009
- (ii) Gross Fixed Assets as on CoD and assets added in subsequent years under additional capitalization (actually capitalized as per books of accounts and admitted in **para 43** of this order) shall be the basis for determination of depreciation amount.
- (iii) Rate of depreciation is considered as per depreciation schedule of the applicable Regulations. The weighted average rate of depreciation as filed by the petitioner has also been verified from the assets-cum-depreciation register for the respective year for Madhikheda project and same has been applied for determination of year-wise depreciation amount for the project.
- (iv) Depreciation on the assets capitalized shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.

61. The depreciation for Madhikheda for Phase-I (2X20 MW) and Phase-II (1X20 MW) from CoD to FY 2008-09 (based on the Regulations, 2005) is worked out as given below:

| Sr. No.  | Particular                              | Unit           | Phase-I (2X20MW) |             |             | Phase-II (1X20 MW) |             |
|----------|---|----------------|------------------|-------------|-------------|--------------------|-------------|
|          |   |                | FY06-07          | FY07-08     | FY08-09     | FY07-08            | FY08-09     |
| 1        | Opening Gross Block                     | Rs. Cr.        | 129.59           | 129.59      | 169.32      | 43.42              | 43.42       |
| 2        | Gross Block addition during the year    | Rs. Cr.        | 0.00             | 39.73       | 1.93        | 0.00               | 0.00        |
| 3        | Closing Gross Block                     | Rs. Cr.        | 129.59           | 169.32      | 171.25      | 43.42              | 43.42       |
| 4        | Average Gross Block                     | Rs. Cr.        | 129.59           | 149.46      | 170.29      | 43.42              | 43.42       |
| 5        | Annual Wt. average rate of depreciation | %              | 1.27             | 2.20        | 2.21        | 1.41               | 2.21        |
| 6        | Depreciation amount                     | Rs. Cr.        | 1.65             | 3.29        | 3.76        | 0.61               | 0.96        |
| <b>7</b> | <b>Annual depreciation amount</b>       | <b>Rs. Cr.</b> | <b>2.96</b>      | <b>3.29</b> | <b>3.76</b> | <b>1.00</b>        | <b>0.96</b> |
| 8        | Cumulative Depreciation                 | Rs. Cr.        | 1.65             | 4.93        | 8.70        | 0.61               | 1.57        |

62. The depreciation for Madhikheda Complex from FY 2009-10 to FY 2011-12 (based on the Regulations, 2009) is worked out as given below:

| Sr. No. | Particular                              | Unit           | Complex      |              |              |
|---------|---|----------------|--------------|--------------|--------------|
|         |   |                | FY09-10      | FY10-11      | FY11-12      |
| 1       | Opening Gross Block                     | Rs. Cr.        | 214.67       | 214.71       | 214.93       |
| 2       | Gross Block addition during the year    | Rs. Cr.        | 0.04         | 0.22         | 0.00         |
| 3       | Closing Gross Block                     | Rs. Cr.        | 214.71       | 214.93       | 214.93       |
| 4       | Average Gross Block                     | Rs. Cr.        | 214.69       | 214.82       | 214.93       |
| 5       | Annual Wt. average rate of depreciation | %              | 5.22         | 5.22         | 5.22         |
| 6       | Depreciation amount                     | Rs. Cr.        | 11.21        | 11.21        | 11.22        |
| 7       | <b>Annual depreciation amount</b>       | <b>Rs. Cr.</b> | <b>11.21</b> | <b>11.21</b> | <b>11.22</b> |
| 8       | Cumulative Depreciation                 | Rs. Cr.        | 21.48        | 32.69        | 43.91        |

**(d) Advance Against Depreciation:**

63. The petitioner has not claimed Advance Against Depreciation. Hence, no Advance Against Depreciation is allowed in this order.

**(e) Operation and Maintenance Expenses:**

64. Operation and Maintenance Expenses for Madhikheda hydro power station is worked out considering the following:

- (i) Operation and Maintenance Expenses is worked out from CoD to 31.03.2009 separately for phase-I and phase-II in accordance with clause 3.33 of MPERC Regulations, 2005 which provides that,

*“In case of the hydro electric generating stations declared under commercial operation on or after 1.4.2006, the base operation and maintenance expenses shall be fixed at 1.5% of the actual capital cost as admitted by the Commission, in the year of commissioning and shall be subject to an annual escalation as per the provisions of clause 2.27 for the subsequent years.”*

- (ii) As per clause 2.27 of Regulations, 2005 inflation on O&M expenses had been allowed @ 6%.
- (iii) The Operation and Maintenance Expenses for the period FY 2009-10 to FY 2011-12 is worked out for Madhikheda hydro power project as whole as per clause 47.1 of the MPERC Regulations, 2009 which provides that,

“The Operation and Maintenance Expenses admissible to existing Hydro power stations comprise of employee cost, Repair & Maintenance (R&M) cost and Administrative and General (A&G) cost . These norms exclude pension, terminal benefits and incentives to be paid to employees, taxes payable to the Government, MPSEB expenses and fees payable to MPERC. The Generating Company shall claim the taxes payable to the Government and fees to be paid to MPERC separately as actuals. The claim of Pension and Terminal Benefits shall be dealt as per Regulation 26.”

**O&M Norms for Hydel Power Stations**

| Year     | O&M Expenses in Rs. in lakh/MW |
|----------|--------------------------------|
| FY 9-10  | 5.96                           |
| FY 10-11 | 6.31                           |
| FY 11-12 | 6.68                           |

65. Operation and Maintenance Expenses for Madhikheda for Phase-I (2X20 MW) and Phase-II (1X20 MW) from CoD to FY 2008-09 (based on the Regulations, 2005) is worked out as given below:

| Sr. No.  | Particular                      | Unit           | Phase-I (2X20MW) |             |             | Phase-II (1X20 MW) |             |
|----------|---------------------------------|----------------|------------------|-------------|-------------|--------------------|-------------|
|          |                                 |                | FY06-07          | FY07-08     | FY08-09     | FY07-08            | FY08-09     |
| 1        | Installed Capacity              | MW             | 40               | 40          | 40          | 20                 | 20          |
| 2        | Capital Cost as on CoD admitted | Rs. Cr.        | 129.59           | 129.59      | 129.59      | 43.42              | 43.42       |
| 3        | Base rate                       | %              | 1.50             | 1.50        | 1.50        | 1.50               | 1.50        |
| 4        | Escalation Rate                 | %              | -                | 6           | 6           | -                  | 6           |
| 5        | Escalated base rate             | %              | 1.50             | 1.59        | 1.69        | 1.50               | 1.59        |
| <b>6</b> | <b>Total O&amp;M expenses</b>   | <b>Rs. Cr.</b> | <b>1.94</b>      | <b>2.06</b> | <b>2.18</b> | <b>0.65</b>        | <b>0.69</b> |

66. Operation and Maintenance Expenses for Madhikheda Complex from FY 2009-10 to FY 2011-12 (based on the Regulations, 2009) is worked out as given below:

| Sr. No.  | Particular                    | Unit           | Complex     |             |             |
|----------|-------------------------------|----------------|-------------|-------------|-------------|
|          |                               |                | FY09-10     | FY10-11     | FY11-12     |
| 1        | Installed Capacity            | MW             | 60          | 60          | 60          |
| 2        | Norms for O&M expenses        | L/MW           | 5.96        | 6.31        | 6.68        |
| <b>3</b> | <b>Total O&amp;M expenses</b> | <b>Rs. Cr.</b> | <b>3.58</b> | <b>3.79</b> | <b>4.01</b> |

**(f) Interest Charges on Working Capital:**

67. Interest Charges on Working Capital for Madhikheda hydro power station is worked out considering the following:

- (i) Interest on working capital is worked out separately for phase-I and phase-II since CoD to 31.03.2009 based on clause 3.34 of MPERC Regulations, 2005 which provides that,

*“The Working Capital shall cover:*

- (a) Operation and Maintenance expenses for one month;*
- (b) Maintenance spares @ 1% of the historical cost escalated @ 4% per annum from the date of commercial operation; and*
- (c) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.”*

- (ii) The interest on working capital for the period FY 2009-10 to FY 2011-12 is worked out for Madhikheda hydro power project as whole as per clause 48.1 of the MPERC Regulations, 2009 which provides that,

*“The Working Capital shall cover:*

- (a) Maintenance spares @ 15% of normative O&M expenses;*
- (b) Receivables equivalent to two months of fixed cost; and*
- (c) Operation and Maintenance Expenses for one month.”*

- (iii) The rate of interest on working capital up to 31.03.2009 is considered as per clause 2.30 of the Regulations, 2005 which provides that it shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on April 1 of the relevant year plus 1%.

- (iv) The rate of interest on working capital for the period FY 2009-10 to FY 2011-12 considered based on clause 27.1 of Regulations, 2009 and its amendment notified on 3<sup>rd</sup> December, 2010 which provides that,

*“Rate of interest on working capital to be computed as provided subsequently in these Regulations shall be on normative basis and shall be equal to the State Bank Base Rate as on 1st of April of that year plus 4.00%. The interest on working capital shall be payable on*



*normative basis notwithstanding that the Generating Company has not taken working capital loan from any outside agency or has exceeded the working capital loan compared to the working capital required on the normative basis.”*

- (v) Maintenance spares for working capital are worked out based on the capital cost of the project capitalized as on CoD as per books of accounts.

68. The Interest Charges on Working Capital for Madhikheda for Phase-I (2X20 MW) and Phase-II (1X20 MW) from CoD to FY 2008-09 (based on the Regulations, 2005) is worked out as given below:

| Sr. No.  | Particular  | Unit           | Phase-I (2X20MW) |             |             | Phase-II (1X20 MW) |             |
|----------|---|----------------|------------------|-------------|-------------|--------------------|-------------|
|          |   |                | FY06-07          | FY07-08     | FY08-09     | FY07-08            | FY08-09     |
| 1        | O&M Charges for one month                                       | Rs. Cr.        | 0.16             | 0.17        | 0.18        | 0.05               | 0.06        |
| 2        | Maint. Spares @ 1% of historical cost with 4% annual escalation | Rs. Cr.        | 1.30             | 1.35        | 1.40        | 0.43               | 0.45        |
| 3        | Receivables for two months                                      | Rs. Cr.        | 2.76             | 3.08        | 3.37        | 1.13               | 1.14        |
| 4        | Total working capital   | Rs. Cr.        | 4.21             | 4.60        | 4.95        | 1.61               | 1.65        |
| 5        | Applicable rate of interest                                     | %              | 11.25            | 13.25       | 13.25       | 13.25              | 13.25       |
| <b>6</b> | <b>Interest on working capital</b>                              | <b>Rs. Cr.</b> | <b>0.47</b>      | <b>0.61</b> | <b>0.66</b> | <b>0.21</b>        | <b>0.22</b> |

69. The Interest on working capital for Madhikheda Complex from FY 2009-10 to FY 2011-12 (based on the Regulations, 2009) is worked out as given below:

| Sr. No.  | Particular                             | Complex     |             |             |
|----------|--|-------------|-------------|-------------|
|          |  | FY09-10     | FY10-11     | FY11-12     |
| 1        | O&M Charges for one month              | 0.30        | 0.32        | 0.33        |
| 2        | Maint. Spares @ 15% of the O&M charges | 0.54        | 0.57        | 0.60        |
| 3        | Receivables for two months             | 5.55        | 5.42        | 5.31        |
| 4        | Total working capital                  | 6.38        | 6.31        | 6.25        |
| 5        | Applicable rate of interest            | 12.25       | 11.75       | 12.25       |
| <b>6</b> | <b>Interest on working capital</b>     | <b>0.78</b> | <b>0.74</b> | <b>0.77</b> |

## Summery annual Capacity Charges:

70. Annual Capacity (fixed) Charges for Madhikheda for Phase-I (2X20 MW) and Phase-II (1X20 MW) from CoD to FY 2008-09 based on the Regulations, 2005 are worked out as given below:

| Sr. No.  | Particular   | Unit           | Phase-I (2X20MW) |              |              | Phase-II (1X20 MW) |             |
|----------|--|----------------|------------------|--------------|--------------|--------------------|-------------|
|          |  |                | FY06-07          | FY07-08      | FY08-09      | FY07-08            | FY08-09     |
| 1        | Return on equity   | Rs Cr.         | 3.21             | 4.04         | 4.92         | 1.38               | 1.38        |
| 2        | Interest charges on loan (including interest on excess equity)                 | Rs. Cr.        | 7.96             | 8.46         | 8.70         | 3.51               | 3.61        |
| 3        | Depreciation   | Rs. Cr.        | 2.96             | 3.29         | 3.76         | 1.00               | 0.96        |
| 4        | Operation & Maintenance expenses   | Rs. Cr.        | 1.94             | 2.06         | 2.18         | 0.65               | 0.69        |
| 5        | Interest on working capital  | Rs. Cr.        | 0.47             | 0.61         | 0.66         | 0.21               | 0.22        |
| <b>6</b> | <b>Annual capacity (fixed) charges</b>   | <b>Rs. Cr.</b> | <b>16.54</b>     | <b>18.46</b> | <b>20.22</b> | <b>6.75</b>        | <b>6.86</b> |
| 7        | AFC for 203 days for PH-I during FY 2007 and 227 days for PH-II during FY 2008 | Rs. Cr.        | <b>9.20</b>      | <b>18.46</b> | <b>20.22</b> | <b>4.20</b>        | <b>6.86</b> |

71. Annual Capacity (fixed) Charges for Madhikheda Complex from FY 2009-10 to FY 2011-12 based on the Regulations, 2009 are worked out as given below:

| Sr. No.  | Particular   | Unit           | Complex (3X20 MW) |              |              |
|----------|--|----------------|-------------------|--------------|--------------|
|          |  |                | FY09-10           | FY10-11      | FY11-12      |
| 1        | Return on equity   | Rs Cr.         | 7.02              | 7.02         | 7.03         |
| 2        | Interest charges on loan (including interest on excess equity) | Rs. Cr.        | 10.71             | 9.79         | 8.85         |
| 3        | Depreciation   | Rs. Cr.        | 11.21             | 11.21        | 11.22        |
| 4        | Operation & Maintenance expenses                               | Rs. Cr.        | 3.58              | 3.79         | 4.01         |
| 5        | Interest on working capital                                    | Rs. Cr.        | 0.78              | 0.74         | 0.77         |
| <b>6</b> | <b>Annual capacity (fixed) charges</b>                         | <b>Rs. Cr.</b> | <b>33.30</b>      | <b>32.55</b> | <b>31.88</b> |

72. The annual capacity charges allowed in this order shall be subject to retrospective adjustment with the charges already allowed in provisional orders dated 18<sup>th</sup> January, 2008 for phase-I, dated 5<sup>th</sup> January, 2010 for phase-II and MYT order dated 3<sup>rd</sup> March, 2010 for Madhikheda complex. The aforesaid annual capacity charges are at normative Capacity Index/Availability and shall be pro-rated at actual Capacity Index/Availability. The details of the excess/deficit annual capacity charges at normative Capacity Index/Availability is as given below :

**Amount in Rs. Cr.**

| Sr. No. | Particular   | Unit    | Phase-I (2X20MW) |          |          | Phase-II (1X20 MW) |          | Complex (3X20 MW) |          |          | Total  |
|---------|--|---------|------------------|----------|----------|--------------------|----------|-------------------|----------|----------|--------|
|         |  |         | FY06 -07         | FY07 -08 | FY08 -09 | FY07 -08           | FY08 -09 | FY09 -10          | FY10 -11 | FY11 -12 |        |
| 1       | AFC already allowed at normative Capacity Index/PAF in earlier provisional tariff orders | Rs. Cr. | 13.67            | 25.96    | 25.29    | 3.70               | 7.17     | 28.52             | 27.93    | 27.35    | 159.59 |
| 2       | AFC already allowed at normative Capacity Index/PAF in this final tariff order           | Rs. Cr. | 9.20             | 18.46    | 20.22    | 4.20               | 6.86     | 33.30             | 32.55    | 31.88    | 156.65 |
| 3       | Difference payable/recoverable at normative Capacity Index/PAF                           | Rs. Cr. | -4.47            | -7.51    | -5.07    | 0.50               | -0.31    | 4.78              | 4.62     | 4.53     | -2.94  |

### **Normative Capacity Index/Plant Availability Factor:**

73. For the period FY 2007 to FY 2009, the normative capacity indices for recovery of the full capacity charges for both the projects shall be as defined in clause 3.28 of the MPERC (Terms and Conditions for determination of the Generation Tariff) Regulations, 2005. The recovery of the capacity charges, primary and secondary energy charges and incentive for the period FY 2007 to FY 2009 will be done in accordance with the relevant provisions in the Regulations, 2005.
74. For the control period FY 2010 to FY 2012, the normative Plant Availability Factor of the Hydro Power Stations shall be as defined in clause

46.1 (3) of the MPERC (Terms and Conditions for determination of the Generation Tariff) Regulations, 2009.

75. The aforesaid annual capacity (fixed) charges allowed in this order are on normative Capacity Index / Plant Availability Factor of hydel power stations as per applicable Regulations. The recovery of annual capacity (fixed) charges shall be made by the petitioner from CoD to 31.03.2009 in accordance with the clause 58 of the Regulations, 2005 and from FY 2009-10 to FY 2011-12 in accordance with the clause 50 of Regulations, 2009 and prorated with respect to actual capacity index/plant availability factor achieved during the year. The other conditions shall remain same as per the provisional orders dated 18.01.2008 and 05.01.2010 for phase-I and phase-II respectively.

## **Other Charges:**

### **Petitioner's submission:**

76. With regard to the other charges, the petitioner submitted the following:
- ❖ *The other expenses comprise of Common Expenses, Cess on Auxiliary Consumption, Rent Rates and Taxes, MPERC Fee, Entry Tax on O&M and Water Charges.*
  - ❖ *Water charges and Cess which are payable to government have been paid based on rates specified by GoMP. Common expenses are expenditure incurred in management of cash flow, etc., and have been paid to MPSEB in accordance to GoMP notification dated 03/06/2006. Rent, Rates and Taxes for Madhikheda HPS has been taken on actual basis. MPERC fee has been calculated based on the rates specified by the Hon'ble Commission.*
  - ❖ Rent Rates and Taxes, Entry Tax on O&M ,Common Expenses, Water charges & Cess indicated in the books of accounts of MPPGCL for Madhikheda HPS, are consolidated expenditure figures for the complete station (2x20 MW+1x20 MW). Thus Expenses for FY 2008 for Madhikheda (2x20 MW) & Madhikheda (1x20MW) have been worked out on pro-rata MW-Days basis and for FY 2009 on MW pro-rata basis. Further from FY 2010 onwards Other Expenses are claimed for Madhikheda complex.

### **Commission's Analysis:**

77. The petitioner has claimed water charges, Cess on Auxiliary Consumption, rent,

- rates and taxes, duties and levies, filing fee, common expenses, publication expenses, entry tax on R&M, Lubricants & Consumables, if payable etc. on actual basis, over and above the annual capacity (fixed) charges.
78. The petitioner is allowed to recover the fee paid by the petitioner to MPERC for determination of generation tariff, cess and ED as applicable and water charges and cess on usage of water levied by the Statutory Authorities from the beneficiaries on pro-rata basis. The Commission had not allowed the MPSEB common expenses in previous tariff orders. Therefore, these expenses are not allowed in this order also.
79. In addition to the other charges as approved above, the petitioner is entitled to recover the taxes in accordance with Regulation, 2009 on pro-rata basis paid to the Government and levied by Statutory Authorities as actual.
80. This order is for the final generation tariff Order for Madhikheda hydro power project from CoD to 31.03. 2011. The figures for FY2011-12 are provisional and shall be trued-up subsequent as per the audited accounts. The petitioner must take 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 and its amendments and recalculate its bills for the energy supplied to Distribution Companies of the State/ M.P. Power Management Company Ltd. since CoD to 31.03.2012. The petitioner must also provide information to the Commission in support of having complied with this Order. The deficit/surplus amount as a result of this order shall be recovered or passed on to the three Distribution Companies of the state in terms of applicable Regulation in the ratio of energy supplied to them in equal monthly installments during FY 2013-14.
81. With the above directions, this petition stands disposed of.

Ordered accordingly.

**sd/-**  
**(A. B. Bajpai)**  
**Member**

**sd/-**  
**(Rakesh Sahni)**  
**Chairman**

**Date: 31<sup>st</sup> January, 2013**  
**Place: Bhopal**