**BEFORE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION, MUMBAI**

Objections/Comments/Suggestions on

# ARR and Tariff Application by Maharashtra State Power Generation Co Ltd for 2005-06 and 2006-07

By

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11th June 2006

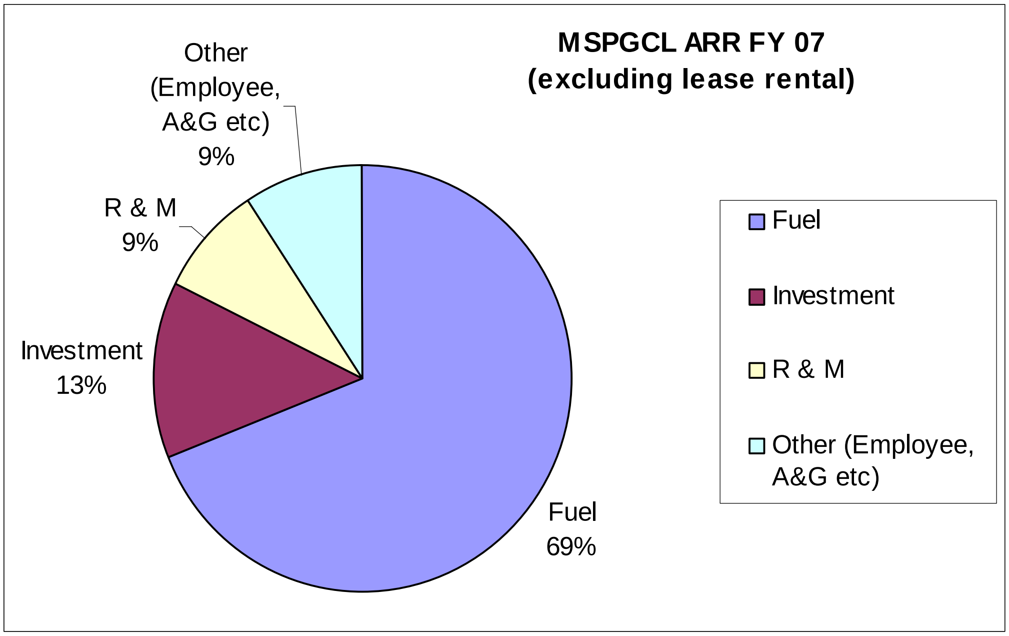
## 1. Background and Introduction

1.1. We consider ARR and tariff determination process for FY 2007 to be extremely critical for two reasons - (i) It puts MERC Tariff Regulations, 2005 on test for the very first time and (ii) this process would be a valuable input while going towards first Multi Year Tariff (MYT) framework in the state from FY 2007-08.

1.2. Maharashtra State Power Generation Company Ltd (MSPGCL) filed its Annual Revenue Requirement (ARR) and Tariff Revision application for 2006-07 on 18th May 2006. The Commission held a technical validation session on this issue on 7th April 2006 for identifying critical data gaps in the ARR application. Prayas participated in the technical validation session and requested some additional data to facilitate further analysis of the ARR. In response to the public notice dated 19th May 2006, we are submitting our comments on MSPGCL's ARR application. Our comments mainly deal with the important techo-economic issues and some gaps and inconsistencies we observed in the ARR application.

## 2. Major cost components of MSPGCL's ARR 2006-07

2.1. Figure below shows the break up of MSPGCL ARR for 2006-07 into major components without considering lease rental charges for hydel stations, as these charges are separately determined.




Investment related costs in the above figure include costs that depend on the capital investment done by the utility. These include depreciation, interest on long-term debt and Return on Equity (RoE).

It is clear from the figure that

(i) Fuel expenses constitute about 69% of MSPGCL's ARR.

(ii) Investment related expenses share about 13% of the ARR and

(iii) Repairs and Maintenance (R&M) of generation stations constitute for 9% of the ARR

In short, fuel, R&M and investment related costs constitute to 91% of MSPGCL's ARR. Therefore, we request the Commission to carefully examine the Fuel, R&M and investment related costs of MSPGCL.

2.2. MSPGCL has projected an ARR of Rs 8476 Cr for FY 07. Out of this, about 5581 Cr are fuel charges while about 2802 Cr constitute for the fixed cost of generation (including Hydro). Following table indicates the proposed Bulk Supply Tariff (BST) payable by the licensee (MSEDCL) for FY06 and FY 07.

| | FY 06 | FY 07 |
|---|---|---|
| **Thermal Generation** | | |
| Total Ex-bus Thermal Generation (MU) | 40995 | 42622 |
| Fuel Cost of Generation (Rs Cr) | 4989 | 5581 |
| Average Variable Charge (Thermal, Rs/kWh) | 1.22 | 1.31 |
| Fixed Cost (Thermal, Rs Cr) | 2020 | 2439 |
| Average Fixed Charge (Thermal, Rs/kWh) | 0.49 | 0.57 |
| Average Thermal Generation Tariff (Rs/kWh) | **1.71** | **1.88** |
| **Hydel Generation** | | |
| Ex-bus Hydel Generation (MU) | 5464 | 3931 |
| Fixed Cost (Hydel, Rs Cr) | 456 | 453 |
| Average Hydro Tariff (Rs/kWh) | **0.83** | **1.15** |
| **Total MSPGCL** | | |
| Total Ex-bus Net Generation (MU) | 46459 | 46553 |
| Total Generation Cost (Rs Cr) | 7465 | 8476 |
| **Average Generation Tariff (Rs/kWh)** | **1.61** | **1.82** |

It is clear from the table that, for FY07, average generation tariff for MSPGCL thermal generation is 1.88 Rs/kWh, whereas average tariff including hydro is 1.82 Rs/kWh. This translates to an effective hike of **10%** in thermal generation tariff and **13%** in total generation tariff including hydro as compared to FY 06 values. Main drivers of this hike being increased fuel cost, R&M expenses and fixed cost for Paras and Parli expansion projects.

## 3. Coal cost and transit loss

3.1. It is essential to have a careful look at the fuel / coal costs of MSPGCL as they form 68% of the total ARR. Following table compares the break up of projected coal costs and its calorific value for FY 07 amongst different stations of MSPGCL.

| | Bhusawal | Paras | Parli | Chandrapur | Koradi | Nashik |
|---|---|---|---|---|---|---|
| Basic Coal Cost (Rs/MT) | 1087 | 1301 | 1113 | 983 | 798 | 1342 |
| Freight + Handling (Rs/MT) | 395 | 283 | ***613*** | 133 | 508 | 729 |
| Duty + Taxes + Other (Rs/MT) | 178 | | | 103 | 69 | 190 |
| Transit Loss (%) | 2.0% | ***2.1%*** | ***3.2%*** | 1.0% | 0.8% | 1.0% |
| Total Coal Cost (Rs/MT) | 1693 | 1617 | 1782 | 1231 | 1386 | 2284 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Calorific value (kCal/kg) | 3650 | 3943 | 3834 | 3530 | 3917 | 4023 |
| **Rs/1000 kCal delivered** | **0.46** | **0.41** | **0.46** | **0.35** | **0.35** | **0.57** |

It is interesting to see freight charges and transit loss in MSPGCL's different stations. It is clear from the above table that transit loss in coal is the highest at Paras and Parli stations where MSPGCL is planning to commission the expansion and new units. Therefore, it is imperative that transit loss at these stations be reduced on priority.

3.2. Moreover, the table also indicates that freight charges at Parli are way higher than other stations. Therefore, it is essential to explore if it is possible to reduce freight charges.. This is important especially in the light of new and expansion projects being planned at this sight. We request the Commission to direct MSPGCL to explore measures for efficient procurement and transportation of coal so as to reduce high freight charges and excessive transit loss.

4. **Depreciation expenses for FY 07**

MSPPGCL has projected total depreciation expenses of about Rs 468 Cr in FY07. However, the depreciation rates used for calculation are different from those specified in MERC Tariff Regulations. This has increased the ARR by about **100 Cr**. Therefore, we request the Commission to estimate the depreciation expenses for FY 07 according to MERC Tariff Regulations 2005.

5. **Capital investment for new projects by MSPGCL**

5.1. MSPGCL has proposed to add about 4500 MW of base load capacity in the state (excluding gas-based power plants) at a total cost of about 25000 Cr (i.e. 5.5 Cr/MW). The capital cost of these projects appears higher given the fact that project of about 3000 MW are expansion projects. Therefore, MERC should take a cautious approach while approving these costs and passing them to consumers - to be paid in future years.

5.2. MSPGCL's base load capacity augmentation of 4500 MW is in addition to new Central quota of about 2000 MW (essentially base load) and Ultra-Mega power project of 4000 MW being set up in the state. In effect, making addition of 12000 MW of base load capacity in the state. In fact, Capacity addition should go hand in hand with scientific demand forecast. In this context, we urge the Commission to consider new projects of MSPGCL through a separate public process. The Commission should present the adequate background information and its preliminary analysis to the public. As mentioned in our submissions in the context of MSEDCL's application seeking MERC approval for power purchase through competitive bidding, we urge MERC not to approve any other power purchase or power generation project without thorough evaluation of the project cost as well as demand supply scenario and total capacity addition plan. Only such an approach will enable the commission to ensure that optimum capacity addition is made (in terms of project cost as well as base / intermediate/ peak load plants and demand-supply gap)

## 6. R&M expenses and plant performance

6.1. MSPGCL has proposed R&M expenses of 448 Cr and 642 Cr on its coal plants in FY 06 and FY 07 respectively. This translates to R&M expense of 7 Lakh/MW and 10 Lakh/MW in FY 06 and FY 07. These expenses are almost double the normative values. Moreover, it has proposed a total CapEx of about 558 Cr on Life Extension and Renovation & Modernization of its units. We understand the importance of R&M activities especially for MSPGCL's plants which are in service for a long time. However, any R&M activity of such a large quantum consecutively for two years (FY 06 and FY 07) should lead to substantial improvement in performance. Though MSPGCL has projected improvement in plant performance in FY 07, such improvement should be linked to R&M expense. Therefore, we request the Commission to do a detailed scrutiny of this expenditure (CapEx and normal expenses) and establish a rational link between R&M and plant performance.

6.2. MSPGCL has presented actual monthly performance of various units in the additional data. However, there are a few diversions in the actual plant performance figures for FY 05 and FY 06 mentioned in additional data and main ARR document. They should be reconciled.

## 7. Lease Rental Charges for Hydro Stations

Till FY 05, MSEB was paying GoM a lease rent for hydro stations at 85 Cr/yr on adhoc basis. Recently, MSPGCL and GoM have reached an "in-principle" agreement for increasing these lease rent charges based on the report of the consultant. Increased charges now stand at 373 Cr (increase of 290 Cr). However, the consultants report deals with much larger and fundamental questions such as principles to be adopted for hydro power station tariff and involves several assumptions as well as observations / comments of consultant. Therefore, the issue of charges payable for hydro power stations should be dealt with through a separate process and, we request the Commission to consider lease rent for FY 06 and FY 07 at the old rate of 85 Cr/yr. If lease rent is to be revised MSPGCL may approach the Commission with a separate petition.

## 8. Miscellaneous Issues

### 8.1. Determination of reasonable return – FY 06

MERC order dated 13th April 2006 clearly directs the utilities to estimate ARR for FY 06 based on the previous tariff order principles. MSPGCL has proposed a Reasonable return of 332 Cr for FY 06. While determining Reasonable Return for FY 06, MSPGCL has used a rate of 4.5% on NFA between March and June 05. For the period of June 05 to March 06, it has used RoE of 14% on equity. This has increased the ARR by about **170 Cr**. Therefore, we request the Commission to estimate the reasonable return for FY 06 in conformity with the previous tariff order principles.

### 8.2. Interest on working capital for FY 06

MSPGCL has projected total interest on working capital expenses for FY 06 as 178 Cr. However, it has estimated these expenses based on the norms determined by the MERC Tariff Regulations. This is not correct. These expenses should be estimated according to previous tariff order principles.

### 8.3. Non-Tariff income

MSPGCL has not included any non-tariff income during FY 06 and FY 07. The Commission should ascertain that such income is considered and its benefit is passed on to consumers.

## 9. Cash flow of MSPGCL

For ensuring cash flow situation of MSPGCL remains smooth, regular revenue from MSEDCL should be continued. Therefore, we request the Commission to direct MSPGCL to report to the Commission every occurrence of non-payment of its generation charges by MSEDCL for more than two consecutive months. MSEDCL should also be directed accordingly.

## 10. Prayers

In light of the analysis presented above, we request the Commission to:

10.1. To direct MSPGCL to explore measures for efficient procurement and transportation of coal so as to reduce high freight charges and excessive transit loss.,

10.2. To do a scrutiny of R&M expenditure (CapEx + normal expenses) and establish a rational link between R&M and plant performance

10.3. To consider new projects of MSPGCL through a separate public process. The Commission should present the adequate background information and its preliminary analysis to the public. No such project should be considered for approval unless a comprehensive demand forecast is undertaken and a total capacity addition plan is evaluated.

10.4. Revision in lease rent of hydro stations involves many fundamental questions and should be dealt with through a separate process. Therefore, for FY 07 MERC should allow a lease rent at the old rate of 85 Cr/yr. and MSPGCL should be directed to submit separate petition for consideration of fixing hydropower tariff.

10.5. Allow only those costs (depreciation, reasonable return and interest on working capital), which are in conformity with MERC Tariff Regulations and / or previous Tariff Order principles. Also, pass the benefit of non-tariff income to consumers.

10.6. To direct MSPGCL to report to the Commission every occurrence of non-payment of its generation charges by MSEDCL for more than two consecutive months.

10.7. Allow us to make a presentation during public hearing dated 13$^{th}$ June 2006, and to make additional comments/suggestions regarding MSPGCL ARR FY06-07, if any.

10.8. In the interest of transparency, we urge MERC to provide detailed calculations and analysis carried out during this tariff revision process in the tariff order and to make soft copies of the same (spreadsheet version) available on its website (including formulae).

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