

The Chairman,
 Maharashtra State Electricity Board,
 Prakashgad, Bandra (East),
 Mumbai 400 051.

Subject: **FOCA charges for the period from October 2001 to November 2002**

Reference: 1. MSEB letter NO.CS/TRC/FOCA/2/43791 dated 21.12.2002
 2. MERC letter No. MERC/Case 15 of 2000/0145 dated 13.2.2003
 3. MERC letter No. MERC/Case 15 of 2000/0163 dated 20.2.2003
 4. MSEB letter No. CE/TRC/FOCA/5640 dated 25.02.03
 5. MSEB letter No. CE/TRC/FOCA/4710 dated 15.02.03
 6. MSEB letter No. CE/TRC/FOCA/6838 dated 07.03.03
 7. MSEB letter No. CE/TRC/FOCA/8869 dated 27.03.03.

Sir,

I am directed to refer to the correspondence cited above, and to state as follows:

1. The Commission has issued an Order in the matter of FOCA in July, 2001. The second Tariff Order in respect of MSEB for 2001-02 was issued in January, 2002 and the Clarificatory Order passed in April 2002 set out the FOCA norms in detail.

2. The principle of the FOCA was to pass on the effect of the increased costs per unit beyond the control of the Board, or the reduced cost per unit, as the case may be, from month to month. However MSEB submitted its composite FOCA proposal for the period from October 2001 to September 2002 only at the end of December, 2002 (i.e. after a delay of 14 months in respect of their claim for the month of October 2001). Scrutiny of the proposal indicated that, for most months, the total change in cost was negative, and that the Board failed to pass on the benefit of reduced cost to its consumers in time as was envisaged.

3. With regard to FOCA for the period from October 2001 to November 2002, the Commission now approves the **net amount of FOCA recovery to the extent of Rs. 86.41 Crore as follows:**

Net FOCA Recoverable (Rs Crores)

| Period | MERC (approved) | MSEB (claim) |
|---------------|-----------------|---------------|
| Oct'01-Mar'02 | (-) 93.94 | (-) 161.89 |
| Apr'02-Nov'02 | 180.35 | 290.94 |
| Total | 86.41 | 129.06 |

Thus the approved FOCA charges, for **recovery over a period of two months** starting with the billing month of May 2003, are as follows:

| Category | Unit | FOCA charges (per month for 2 months) |
|--------------------------------------|--------------------|---------------------------------------|
| Metered | Paise per unit | 12 |
| Unmetered | | |
| Agricultural – LT | Rs/HP/month | 9 |
| Agricultural – HT | Rs/HP/month | 27 |
| Powerloom | Rs/Loom (HP)/month | 22 |
| Water-works Gram Panchayat | Rs/HP/month | 25 |
| Water-works ‘C’ Class Municipalities | Rs/HP/month | 31 |

4. The details of the calculation and analysis, including the flat rate of FOCA charges recoverable from the unmetered consumers, are contained in the Appendix (9+1 pages) enclosed. The difference between the charges estimated by MSEB and those now approved is mainly on account of the following:

- (a) The computation of changes in cost by MSEB has been done on the basis of total costs and not against the unit costs as would have been appropriate. It may be pointed out that such incorrect computation by MSEB is a departure from the submissions made on the earlier two occasions.
- (b) The computation of variation in per unit variable cost of power purchase on weighted average basis.
- (c) The computation of Income tax paid/ payable to the CGS is done on a monthly basis with respect to approved amount on pro rata basis.
- (d) The UI charges, MOPA charges, past adjustments have been allowed under the factor ‘Z’ due to recent introduction of ABT tariff. Such UI charges would have to be justified in future.

5. MSEB are required to furnish the required information on FOCA pass through from month to month. The Commission has observed that MSEB have not put up the FOCA proposals on their website (with reference to directive XVI of the FOCA order). This may be done in future. MSEB should also comply with the FOCA Order directives XIV (on submission of cost audit report) and XVII (on information dissemination to consumers).

6. This letter, along with enclosures, may also be hosted on MSEB’s website.

With regards,

Yours faithfully,

Sd/-

(A.M. Khan)

Secretary, MERC

Encl: - 1. Appendix (9 + 3 pages)

Cc: The Technical Director (EHVP. EA.TR.).
MSEB, Mumbai 400 051.

Cc: The Chief Engineer (TRC) MSEB, Mumbai 400 051

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Appendix

ANALYSIS OF FOCA PROPOSALS SUBMITTED BY MSEB, RATIONALE AND COMPUTATION OF FOCA CHARGES (FOR THE PERIOD OCT'01 TO NOV'02)

- 1 The Commission issued a Clarificatory Order and Corrigendum to the Tariff Order on April 11, 2002. The Clarificatory Order clearly spelt out the station-wise fuel costs, heat rate and auxiliary consumption as well as the source-wise fixed and variable power purchase costs considered by the Commission in determining the revenue requirement of the MSEB for FY 2001-02. Further, the Commission also clarified that in its Tariff Order, it had considered the actual fuel and power purchase costs for the period April to September 2001, and projected the expenses for the period October 2001 to March 2002. The MSEB was directed to approach the Commission for approval of the FOCA for the period October 2001 onwards, as there was no question of granting FOCA for the period April 2001 to September 2001.

However, the MSEB delayed the submission of the FOCA proposal for the period starting October 2001. The MSEB submitted the application for approval of FOCA for the period October 2001 to September 2002 in December 2002, and subsequently submitted the details of FOCA applicable for the month of October 2002 and November 2002.

2 SALIENT FEATURES

- 1) The Commission has computed the FOCA separately for the period from October 2001 to March 2002 and the period from April 2002 to November 2002.
- 2) The Commission has computed the FOCA for the period October 2001 to November 2002 in comparison with the efficiency norms established in the Tariff Order for 2001-02.
- 3) Performance Norms: The Commission has considered the heat rate approved in the Tariff Order for 2001-02 for each station on monthly basis for computing the variation in cost of generation. The allowable T &D loss has been considered as 26.87%. The Commission has considered the station-wise auxiliary consumption approved in the Tariff Order for computing the variation in variable costs of generation.
- 4) The Commission has considered working capital interest on the FOCA amount for the period October 2001 to March 2002 to be payable from May 2002 till December 2002 (as MSEB finally submitted the FOCA proposal in December 2002), as the Clarificatory Order was issued in April 2002, and the MSEB could have approached the Commission for approval of FOCA by May 2002. The Commission has computed the cumulative FOCA amount considering the positive as well as negative FOCA amount for each month for the period April 2002 to November 2002 and computed the working capital interest on the cumulative FOCA amount for each month in accordance with the prescribed formula.
- 5) In the FOCA Application, the MSEB has computed the change in the absolute generation cost to be passed through FOCA as the difference between the total generation cost approved by the Commission and that incurred by the MSEB, which is incorrect. The

FOCA Formula provides for pass through of the change in per unit generation costs, rather than the absolute cost of generation. This method takes into account the quantum of units generated as also the quantum of sales by the MSEB. The Commission has hence computed the change in the generation cost on a per unit basis on the basis of the heat rate norms approved by the Commission for each station, which has resulted in a major difference in the amount of FOCA claimed by the MSEB and that allowed by the Commission.

- 6) Similarly, the Commission has computed the change in per unit variable cost of power purchase on a weighted average basis, as compared to the MSEB's approach of computing the change in the absolute power purchase cost to be passed through FOCA as the difference between the total power purchase cost approved by the Commission and that incurred by the MSEB. This has also resulted in a major difference in the amount of FOCA claimed by the MSEB and that allowed by the Commission.
- 7) The Availability Based Tariff (ABT) mechanism was implemented in the Western Region from July 1, 2002. The Commission has hence computed the change in the fixed cost of power purchase on a per unit basis for the period October 2001 to June 2002 (pre-ABT period), and on the basis of total fixed cost per month from July 2002 onwards (post-ABT period).
- 8) MSEB does not have any control on incentive billed by Central Sector Generating Stations (CGS) stations, and therefore, the Commission has allowed the difference between total incentive paid by MSEB and the incentive amount considered by the Commission in the Tariff Order to be recovered through FOCA.
- 9) The MSEB has opined that the change in income tax should be considered only after the full year settlement of income tax and not on monthly basis. The basic principle of allowing the change in other costs in FOCA is to pass through the variation in costs on monthly basis in order to avoid large variations arising at the end of the year. The Commission has hence computed the change in the income tax paid/payable to the CGS on a monthly basis.
- 10) The Commission has computed the variation in transmission charges payable to M/S Power Grid Corporation India Ltd. (PGCIL) on per unit basis as these are payable on per unit basis in proportion to the energy drawn. The Commission has considered the difference in the income tax payable and the Foreign Exchange Rate Variation (FERV) payable to Power Grid for transmission on a pro-rata basis. The component of the O & M charges payable to the Western Region load Despatch Centre (WRLDC) is a new component and has been allowed, as it is an uncontrollable cost and has not been considered in the Tariff Order.
- 11) 'Z' Factor: As the Monthly Operating Pattern Adjustments (MOPA) charges and other past adjustments billed by Central Generating Stations are uncontrollable costs for the

MSEB, they have been allowed under FOCA. The Commission has permitted the amount claimed under Unscheduled Interconnection (UI) charges under the 'Z' factor in the FOCA Formula, as it has not been considered in the Tariff Order. However this permission is restricted only for 2002 – 03, since the ABT based tariff have recently been introduced and require time to adjust. In future such UI charges incurred has to be justified before passing on through the 'Z' factor.

12) The Commission has observed that the variable cost of generation at Bhusawal Station has increased substantially as compared to the other Power Stations. MSEB need to explain and justify such variation. This increase, prima facie, is due to increase in coal costs with respect to coal cost approved in the Order. The Commission had earlier directed the MSEB to submit the half yearly cost audit reports for all the generating stations vide its Order on July 2001. MSEB has not complied with this direction of the Commission and failed to submit the cost audit reports. The Commission expects the MSEB to submit the half yearly cost audit reports for all the generating stations at regular intervals as directed. Adjustment if any, will be carried out after receipt of cost audit reports. The Commission will not entertain subsequent FOCA Proposals without cost audits.

13) The Commission has noted with concern that the MSEB's FOCA proposals are not consistent in Format, and certain essential data is not submitted regularly as a part of the Proposal. For instance, in the proposals:

- The detailed coal costs have not been submitted for the four months of May 2002 to August 2002;
- Details of the monthly sales to metered categories have not been submitted by the MSEB alongwith the proposal;
- Station-wise, Month-wise auxiliary consumption achieved at thermal stations have not been submitted by MSEB for Thermal Stations
- Computational errors have been noticed in the audited monthly power purchase cost statements submitted by MSEB. For instance, the amount on account of heavy water charges paid for KAPP has been reported as Rs. 30.67 in October 2001, whereas in the remaining months, this cost has been reported around Rs. 5 to 6 crore. On detailed analysis, the Commission found that the cost on this account reported in October 2001 was actually 30.67 paise/unit and not Rs. 30.67.

The Commission may be compelled to penalise MSEB for such lapses in future.

14) The MSEB should submit the soft copy of the proposal, including the coal cost statements and monthly power purchase statements, etc. in future.

15) The Commission has also noted that the MSEB has not complied with the Commission's instructions to put up the FOCA Proposal on its website. Henceforth, the MSEB should put up the FOCA Proposals, as proposed for automatic pass through, on its website (with a distinct section/feature in the homepage linking to further details) or as soon as it is filed with the Commission. Further, the MSEB should also put up this letter issued by the Commission alongwith the Annexures, on its website.

3 COMPUTATION OF CHANGE IN COSTS

3.1 Change in Variable Cost of Generation ($A_{vc, gen}$)

The summary of change in variable cost of generation as computed by the MSEB and the Commission is shown in following table:

| Description | Oct 2001 to Mar 2002 | | April 2002 to Nov 2002 | |
|--|----------------------|------------|------------------------|------------|
| | MSEB | Commission | MSEB | Commission |
| Change in Variable Cost of Generation (Rs Crore) | 48.10 | (-) 35.01 | 48.86 | 74.16 |

The detailed computation for change in variable cost of generation is enclosed as Annexure-1.

3.2 Change in Variable Cost of Power Purchase ($A_{vc, pp}$)

The summary of change in variable cost of power purchase as computed by MSEB and the Commission is shown in following table:

| Description | Oct 2001 to Mar 2002 | | April 2002 to Nov 2002 | |
|--|----------------------|------------|------------------------|------------|
| | MSEB | Commission | MSEB | Commission |
| Change in Variable Cost of Power Purchase (Rs Crore) | (-) 226.58 | (-) 67.74 | 268.97 | 23.16 |

The detailed computation for change in variable cost of power purchase is enclosed as Annexure-2.

3.3 Change in Fixed Cost of Power Purchase ($A_{fc,pp}$)

The change in fixed cost as computed by the Commission works out to **Rs –19.50 Crore** for the period Oct 2001 to March 2002 and **Rs –29.88 Crore** for the period April to November 2002.

3.4 Change in other Costs of Power Purchase

The summary of change in other costs of power purchase as computed by the Commission is given in following table:

Change in Other Costs of Power Purchase (Rs Crore)

| S.No | Description | Oct 2001 – Mar 2002 | April-Nov 2002 |
|------|---|---------------------|----------------|
| 1 | Incentive | 7.21 | (-) 1.01 |
| 2 | Income Tax-NTPC | 12.64 | (-) 43.85 |
| 3 | PGCIL-other charges and WRLDC O&M Charges | 1.78 | 10.99 |
| 4 | Other past Adjustments | 0.53 | 29.29 |
| 5 | UI Charges & Reactive Energy | 0 | 107.24 |
| | Total | 22.16 | 102.66 |

4 FOCA COMPUTATIONS

4.1 Total Amount to be adjusted under FOCA for the period Oct 01 to Mar 02

$$\text{Increase in Cost 'C'} = A_{vc, gen} + A_{vc, pp} + A_{fc, pp} + A_{oth}$$

$$A_{vc, gen} = \text{Rs. (35.01) crore}$$

(subject to Commission's decision on merit order dispatch)

$$A_{vc, pp} = \text{Rs. (67.74) crore}$$

$$A_{fc, pp} = \text{Rs. (19.50) crore}$$

$$A_{oth} = \text{Rs 22.16 crore}$$

$$C = (35.01) + (67.74) + (19.50) + 22.16 = \text{(100.10) Crore}$$

FOCA already billed to consumers

MSEB has submitted that it has already passed through the benefit of reduction in costs under FOCA during the period October 2001 – March 2002 to the extent of Rs 16.60 Crore. The MSEB has requested to adjust the FOCA amount already passed on to consumers. Accordingly, the Commission has adjusted the amount of **Rs 16.60 Crore** already passed on to consumers while computing the FOCA.

Interest

As elaborated in earlier sections, it has been considered that the MSEB has got the benefit of extra working capital due to delay in submission of data and therefore the working capital interest @ 12.5% for 12 months (May 2002 to April 2003) has been considered for adjustments on the FOCA amount for the period Oct 2001 to March 2002. The working capital interest works out to **Rs (10.44) Crore.** (as enclosed in Annexure – 3)

$$\text{FOCA} = (100.10) - (16.60) + (10.44) = \text{Rs. (93.94) crore}$$

Thus the total FOCA adjustable for the period October 2001 to March 2002 is Rs. (93.94) crore.

The Summary of FOCA amount proposed by MSEB and as computed by ICRA for the period October 2001 to March 2002 is as follows:

FOCA for the period October 2001-March 2002

| S.No | Description | Amount (Rs Crore) | |
|------|---|-------------------|-------------------|
| | | ICRA | MSEB |
| 1 | Variable cost of Generation | (-) 35.01 | 48.1 |
| 2 | Power Purchase | | |
| | - Variable Cost | (-) 67.74 | (-) 226.58 |
| | - Fixed Cost | (-) 19.50 | Incl in Var. cost |
| | - Incentive | 7.21 | Incl in Var. cost |
| | - Income Tax-NTPC | 12.64 | |
| | - PGCIL- Other Costs | 1.78 | Incl in Var. cost |
| | - Other Adjustments | 0.528 | Incl in Var. cost |
| | sub-total | (-) 65.09 | (-) 226.58 |
| | Total | (-) 100.10 | (-) 178.48 |
| | FOCA already passed to consumers | 16.60 | 16.6 |
| | Net FOCA to be passed | (-) 83.50 | (-) 161.88 |
| | Interest to be passed on in FOCA | | |
| | Working Capital Interest for 8 months i.e. May-Dec 2002 | (-) 10.44 | |
| | Net FOCA Amount | (-) 93.94 | (-) 161.88 |

Note: Computation of working capital interest has been detailed in Annexure 3

4.2 Total Amount to be adjusted under FOCA for the period Apr 02 to Nov 02

$$\text{Increase in Cost 'C'} = A_{vc, gen} + A_{vc, pp} + A_{fc, pp} + A_{oth}$$

$A_{vc, gen} = \text{Rs. 74.16 crore}$

(subject to Commission's decision on merit order dispatch)

$A_{vc, pp} = \text{Rs. 23.16 crore}$

$A_{fc, pp} = \text{Rs. (29.88) crore}$

$A_{oth} = \text{Rs 102.66 crore}$

$$C = 74.16 + 23.16 + (29.88) + 102.66 = \text{170.09 Crore}$$

Interest

The working capital interest on the cumulative amount during the period April to Nov 2002 on monthly basis works out to Rs. 10.26 Crores. (as enclosed in Annexure – 3)

$\text{FOCA} = 170.09 + 10.26 = \text{Rs. 180.35 crore}$

Thus the total FOCA adjustable for the period April 2002 to Nov 2002 is Rs. 180.35 Crore.

The Summary of FOCA amount proposed by MSEB and as computed by ICRA for the period October 2001 to March 2002 is as follows:

FOCA for the period October 2001-March 2002

| S.No | Description | Amount (Rs Crore) | |
|------|---|-------------------|------------------|
| | | ICRA | MSEB |
| 1 | Variable cost of Generation | 74.16 | 48.86 |
| 2 | Power Purchase | | |
| | - Variable Cost | 23.16 | 268.97 |
| | - Fixed Cost | (-) 29.88 | (-) 8.72 |
| | - Incentive | (-) 1.01 | Incl in Var. Cht |
| | - Income Tax-NTPC | (-) 43.85 | (-) 18.17 |
| | - PGCIL- Other Costs | 10.99 | Incl in Var. Ch |
| | - Other Adjustments | 29.28 | Incl in Var. Ch |
| | - UI Charges | 107.24 | Incl in Var. Ch |
| | sub-total | 95.94 | 242.08 |
| | Total | 170.09 | 290.94 |
| | Interest to be passed on in FOCA | | |
| | Working Capital Interest | 10.26 | 0 |
| | Net FOCA Amount | 180.35 | 290.94 |

Note: Computation of working capital interest has been detailed in Annexure 3

4.3 Net FOCA Amount to be recovered

The net FOCA amount to be recovered for the period October 2001 to November 2002 is Rs. 86.41 Crore, as given in following table:

Net FOCA Recoverable (Rs Crore)

| Period | MERC | MSEB |
|---------------|--------------|---------------|
| Oct'01-Mar'02 | (-) 93.94 | (-) 161.89 |
| Apr'02-Nov'02 | 180.35 | 290.94 |
| Total | 86.41 | 129.06 |

4.4 Computation of FOCA per unit for recovery

Considering the total amount recoverable under FOCA, ICRA is of the opinion that the FOCA should be recovered over a two-month period and has computed the FOCA_{kwh} chargeable accordingly. The FOCA_{kwh} computation is detailed below.

$$\text{FOCA}_{\text{kwh}} = \frac{(\text{Total FOCA in Rs. Crore}) * 10}{\text{Energy Sales}_m + \text{Estimated Consumption}_{\text{um}} + \text{Excess T \& D loss}}$$

Average metered **Energy Sales_m** for two months = **4892.34 MU**

(based on the monthly average sales between September to November 2002)

$$\begin{aligned} \text{Estimated unmetered Consumption}_{\text{um}} &= \text{EC}_{\text{um, agri}} + \text{EC}_{\text{um, powerloom}} + \text{EC}_{\text{um, waterworks}} \\ &= \mathbf{1538 MU} \end{aligned}$$

(Consumption norm of 1250 hrs/HP/year for LT agriculture, 3600 hrs/HP/year for HT agricultural, 2920 hrs/Loom (HP)/year for power loom, 3332 hrs/HP/year for Water works Gram Panchayat and 4132 hrs/HP/year for Water works 'C' Class municipals)

Average Energy Input (EI) for two months = 10313 MU

(based on the monthly average energy input between September to November 2002)

$$\text{T\&D}_{\text{app}} = 26.87\%$$

$$\begin{aligned} \text{Excess T \& D loss} &= \text{EI} - \text{ES}_m - \text{ES}_{\text{um}} - (\text{T \& D}_{\text{app}} * \text{EI}) \\ &= 10313 - 4892 - 1538 - (26.87 * 10313) \\ &= \mathbf{1112 MU} \end{aligned}$$

$$\text{FOCA}_{\text{kWh}} = 898.9 / (4892+1538+1112)$$

$$= 0.1192 \text{ Rs/kWh} = 11.92 \text{ paise/kwh}$$

$$\text{FOCA for metered consumers} = 0.1192 \text{ Rs/kWh}$$

FOCA for unmetered consumers

$$\text{Agricultural LT} = 0.1192 * 0.746 * 1600 / 12 = 11.86 \text{ Rs/HP/month}$$

$$\text{Agricultural HT} = 0.1192 * 0.746 * 3600 / 12 = 26.68 \text{ Rs/HP/month}$$

$$\text{Power loom} = 0.1192 * 0.746 * 2920 / 12 = 21.64 \text{ Rs/HP/month}$$

$$\text{Water Works – Gram Pan.} = 0.1192 * 0.746 * 3332 / 12 = 24.69 \text{ Rs/HP/month}$$

$$\text{Water Works – C Class} = 0.1192 * 0.746 * 4132 / 12 = 30.62 \text{ Rs/HP/month}$$

Thus the FOCA to be charged for the two month period for recovery of change in fuel and other cost adjustments to metered consumers and un-metered consumers is summarised below:

FOCA Rates (rounded off)

| Category | FOCA |
|--|-------|
| Metered Consumers (Paise/kwh) | 12.00 |
| Unmetered Consumers | |
| Agricultural – LT (Rs/HP/month) | 9.00 |
| Agricultural – HT (Rs/HP/month) | 27.00 |
| Powerloom (Rs/Loom (HP)/month) | 22.00 |
| Water-works Gram Panchayat (Rs/HP/month) | 25.00 |
| Water-works ‘C’ Class Municipalities (Rs/HP/month) | 31.00 |

Further it is expected that MSEB will follow the FOCA tariff order dated 31.7.2001 and its directives from time to time and accordingly calculate the recoverable FOCA amount based on the prevailing norms which currently is as per the prevailing tariff order and the clarificatory order dated 11.4.2002.

MSEB should ensure that the cost changes are worked out and adjusted on a monthly basis as per the approved formula and prevailing norms thereby avoiding unnecessary delay in either recovering the increased cost or passing the benefit to the consumer due to decreased cost. MSEB must adhere to the directive No.17 (XVII) of the FOCA order dated 31.7.2001.

| Annexure 1 : Change in Cost of Generation | | | | | | | | |
|--|----------------------|-------------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Change in Cost of Generation for the period April 2002-Nov 2002 | | | | | | | | |
| A. Thermal Stations | K'kheda | Paras | B'wal | Nasik | Parli | Koradi | C'pur | Total |
| Gross Generation (MU) | 4085 | 145 | 1942 | 3125 | 3013 | 3954 | 9575 | 25839 |
| Net Generation (MU) | 3738 | 131 | 1748 | 2844 | 2721 | 3567 | 8847 | 23595 |
| Aux. Consumption | 8.50% | 9.70% | 10.00% | 9.00% | 9.70% | 9.80% | 7.60% | 8.69% |
| Actual Variable Cost (Rs/kwh) | 0.9752 | 1.2008 | 1.0764 | 1.2780 | 1.1880 | 1.0423 | 0.7859 | |
| Base Variable Cost (Rs/kwh) | 0.9351 | 1.2241 | 0.9294 | 1.2849 | 1.2241 | 1.0284 | 0.7361 | |
| Change in Costs (Rs Cr) | 15.00 | -0.05 | 25.70 | -1.97 | -9.83 | 4.97 | 44.08 | 78 |
| Actual Heat Rate (kCal/kwh) | 2702 | 3619 | 2747 | 2674 | 2694 | 2985 | 2585 | |
| Heat Rate Norm (Kcal/kwh) | 2753 | 3232 | 2763 | 2690 | 2676 | 3026 | 2527 | |
| Adjustment for heat rate(Rs Cr) | 6.79 | -1.69 | 1.18 | 2.22 | -2.15 | 5.57 | -15.24 | -3 |
| Net Change in Generation Cost (Rs Cr) | 21.79 | -1.75 | 26.88 | 0.25 | -11.98 | 10.54 | 28.84 | 74.57 |
| Change in Cost of Generation for the period Oct 2001-Mar 2002 | | | | | | | | |
| A. Thermal Stations | K'kheda | Paras | B'wal | Nasik | Parli | Koradi | C'pur | Total |
| Gross Generation (MU) | 2912 | 173 | 1706 | 2757 | 2429 | 3208 | 8945 | 22130 |
| Net Generation (MU) | 2664 | 156 | 1535 | 2509 | 2193 | 2894 | 8265 | 20217 |
| Aux. Consumption | 8.50% | 9.70% | 10.00% | 9.00% | 9.70% | 9.80% | 7.60% | 8.64% |
| Actual Variable Cost (Rs/kwh) | 0.9380 | 1.3436 | 1.0370 | 1.2640 | 1.1698 | 0.9753 | 0.7745 | |
| Base Variable Cost (Rs/kwh) | 0.9351 | 1.2241 | 0.9294 | 1.2849 | 1.2241 | 1.0284 | 0.7361 | |
| Change in Costs (Rs Cr) | 0.76 | 1.87 | 16.52 | -5.23 | -11.92 | -15.36 | 31.73 | 18 |
| Actual Heat Rate (kCal/kwh) | 2746 | 3766 | 2844 | 2660 | 2675 | 3016 | 2702 | |
| Heat Rate Norm (Kcal/kwh) | 2753 | 3232 | 2763 | 2690 | 2676 | 3026 | 2527 | |
| Adjustment for heat rate(Rs Cr) | 1.02 | -3.62 | -4.89 | 3.67 | -0.27 | 1.14 | -49.87 | -53 |
| Net Change in Generation Cost (Rs Cr) | 1.78 | -1.75 | 11.62 | -1.57 | -12.19 | -14.23 | -18.14 | -34.46 |
| Change in Cost of Generation for Gas Station | | | | | | | | |
| | Oct 01-Mar 02 | Apr-Nov 02 | | | | | | |
| Gross Generation (MU) | 1850 | 2552 | | | | | | |
| Net Generation (MU) | 1806 | 2493 | | | | | | |
| Auxiliary Consumption (%) | 2.43% | 2.29% | | | | | | |
| Actual Variable Cost (Rs/kwh) | 0.670 | 0.658 | | | | | | |
| Base Variable Cost (Rs/kwh) | 0.655 | 0.655 | | | | | | |
| Change in Costs (Rs Cr) | 2.69 | 0.614 | | | | | | |
| Actual Heat Rate (kCal/kwh) | 2020 | 1978 | | | | | | |
| Heat Rate Norm (Kcal/kwh) | 1966 | 1966 | | | | | | |
| Adjustment for heat rate(Rs Cr) | -3.23 | -1.02 | | | | | | |
| Net Change in Generation Cost (Rs Cr) | -0.54 | -0.41 | | | | | | |
| Change in Total Cost of Generation | | | | | | | | |
| | Oct 01-Mar 02 | Apr-Nov 02 | | | | | | |
| Thermal | -34.46 | 74.57 | | | | | | |
| Gas | -0.54 | -0.41 | | | | | | |
| Total | -35.01 | 74.16 | | | | | | |

| Annexure 2 : Change in Variable Cost of Power Purchase | | | | | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|
| Change in Variable Cost of Power Purchase for the period April 2002-Nov 2002 | | | | | | | | | |
| | Total | Apr-02 | May-02 | Jun-02 | Jul-02 | Aug-02 | Sept-02 | Oct-02 | Nov-02 |
| Net Units Purchased (MU) | 10790 | 1296 | 1270 | 1196 | 1208 | 1327 | 1389 | 1557 | 1548 |
| Actual Variable Cost (Rs Cr) | 1271 | 140 | 143 | 126 | 133 | 154 | 175 | 205 | 195 |
| Actual Variable Cost (Rs /kwh) | 1.18 | 1.08 | 1.12 | 1.06 | 1.10 | 1.16 | 1.26 | 1.31 | 1.26 |
| Wt. Avg Base Variable Cost (Rs/kwh) | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 |
| Change in Cost (Rs/kwh) | 0.02 | -0.08 | -0.03 | -0.10 | -0.05 | 0.01 | 0.11 | 0.16 | 0.10 |
| Change in Cost (Rs Cr) | 23.14 | -10.06 | -4.03 | -11.97 | -6.61 | 0.88 | 14.67 | 24.50 | 15.76 |
| Change in Transmission Charges (Rs Cr) | 0.018 | 0.003 | 0.010 | 0.010 | 0.012 | 0.004 | 0.006 | -0.012 | -0.014 |
| Total Change in Variable cost (Rs Cr) | 23.16 | -10.06 | -4.02 | -11.96 | -6.59 | 0.88 | 14.68 | 24.49 | 15.74 |
| Change in Variable Cost of Power Purchase for the period Oct 2001-Mar 2002 | | | | | | | | | |
| | Total | Oct-01 | Nov-01 | Dec-01 | Jan-02 | Feb-02 | Mar-02 | | |
| Net Units Purchased (MU) | 7632 | 934 | 1352 | 1353 | 1299 | 1242 | 1452 | | |
| Actual Variable Cost (Rs Cr) | 815 | 104 | 153 | 149 | 137 | 130 | 141 | | |
| Actual Variable Cost (Rs /kwh) | 1.07 | 1.12 | 1.14 | 1.10 | 1.05 | 1.05 | 0.97 | | |
| Wt. Avg Base Variable Cost (Rs/kwh) | 1.1563 | 1.1563 | 1.1563 | 1.1563 | 1.1563 | 1.1563 | 1.1563 | | |
| Change in Cost (Rs/kwh) | -0.09 | -0.04 | -0.02 | -0.05 | -0.10 | -0.11 | -0.19 | | |
| Change in Cost (Rs Cr) | -67.76 | -3.70 | -2.80 | -7.06 | -13.36 | -13.49 | -27.35 | | |
| Change in Transmission Charges (Rs Cr) | 0.013 | 0.013 | 0.000 | -0.010 | 0.001 | 0.016 | -0.007 | | |
| Total Change in Variable cost (Rs Cr) | -67.74 | -3.69 | -2.80 | -7.07 | -13.36 | -13.47 | -27.35 | | |

Annexure - 3: Working Capital Interest Computations

| Period | Working Capital | Period in months | Interest @ |
|--|----------------------|------------------|-----------------|
| October 2001 to March 2002 | (-) 83.50 | 12 | (-)10.44 |
| | | | |
| April 2002 to November 2002 | Cumulative Amount | | |
| April 2002 | (-) 14.39 | 1 | (-) 0.15 |
| May 2002 | (-) 34.36 | 1 | (-) 0.36 |
| June 2002 | (-) 5.89 | 1 | (-) 0.06 |
| July 2002 | 4.93 | 1 | 0.05 |
| August 2002 | 9.10 | 1 | 0.09 |
| September 2002 | 50.02 | 1 | 0.52 |
| October 2002 | 124.62 | 1 | 1.30 |
| November 2002 | 170.09 | 5 | 8.86 |
| Total For April 2002 to November 2002 | | | 10.26 |

Note: Interest for the cumulative amount at the End of November 2002 has been computed for a period of 5 months, as the FOCA allowed by the Commission will be billed from May 2003 onwards.