

December 21, 1999

**BEFORE THE MAHARHTRA ELECTRICITY REGULATORY
COMMISSION
MUMBAI**

FILING NO:

CASE NO:
(To be filled by the Office)

IN THE MATTER OF

PETITION REQUESTING THE MAHARHTRA ELECTRICITY REGULATORY
COMMISSION (MERC)

1. To formulate regulations governing conduct of its business or at least regulations for governing the conduct of this tariff case.
2. To direct MSEB to resubmit the retail tariff proposal, by removing inconsistencies and deficiencies in the existing proposal, by providing adequate data, information, and justifications necessary for proper evaluation of the proposal in terms of "efficiency and economy" of MSEB's operations.
3. To reschedule the proposed public hearings and the last date of submitting the objections / comments on the said proposal, until one month after MSEB submits a revised proposal, it is made available to the public, and the necessary regulations are framed.

Names and full addresses of the petitioner

Prayas
Amrita Clinic, Athawale Corner,
Karve Road Corner, Deccan Gymkhana,
Pune - 411004, **India**.
Tel. 020 544 1230 , Telefax 020 542 0337

Represented by:

Mr. Girish Sant, Trustee, Prayas
Amrita Clinic, Athawale Corner,
Karve Road Corner, Deccan Gymkhana,
Pune - 411004, **India**.
Tel. 020 544 1230, Telefax 020 542 0337

And

Names and full addresses of the respondents

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

Affidavit Verifying the Petition

I, Girish Sant, son of Shrikant Sant, aged 35, residing at 9, Avanti Apartment, Ganagote Path, Near Kamala Nehru Park, Erandavane, Pune 411004 do solemnly affirm and say as follows:

The First Tariff....., Prayas, 1999

1. I am a Trustee of Prayas, the petitioner in the above matter and am duly authorised by the said petitioner to make this affidavit.

2. The statement made in the all paragraphs in Sections 1 to 7 of the petition are true to my knowledge and information and I believe them to be true.

Solemnly affirm at Pune on this 20th day of December 1999 that the contents of the above affidavit are true to my knowledge, no part of this is false and nothing material has been concealed therefrom.

Girish Sant
Trustee, Prayas

December 21, 1999

PETITION TO MAHARHTRA ELECTRICITY REGULATORY COMMISSION MUMBAI

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1. Background

- 1.1 The power sector in India in general, and the government-owned State Electricity Boards in particular are currently facing severe financial crisis. Major reasons for this crisis are—mounting burden of cross-subsidies, increasing input and operational costs, and inadequate recovery of costs from consumers of electricity. On this background, in July 1998, the central government enacted ‘The Electricity Regulatory Commissions Act 1998’, (ERC Act 98) in order to establish regulatory commissions at the central and state level, *‘for rationalization of electricity tariff, transparent policies regarding subsidies and promotion of efficient and environmentally benign policies..’*
- 1.2 In September 1999, the Government of Maharashtra (GoM) established the Maharashtra Electricity Regulatory Commission (MERC) under the ERC Act 98. As per this Act and the GoM notification, the MERC has been entrusted with the

authority to ‘*determine the tariff for electricity, to regulate the power purchase and procurement process, and, to promote competition, efficiency and economy in the activities of the electricity industry*’.

- 1.3 In November 1999, the Maharashtra State Electricity Board (MSEB) approached the MERC to seek its approval for increase in electricity tariff charged by MSEB to its customers. Subsequent to this, the MERC sought comments / objections from public on the MSEB's proposal through a "Notice of Inquiry" in newspapers. The notice mentioned that the copies of the MSEB's proposal would be available through all offices of the Executive Engineers' (Operation and Maintenance) of MSEB on payment of a fee. The notice also directed all interested persons to submit comments / objections, if any, on the MSEB's proposal to the MERC before December 23, 1999.
- 1.4 Based on this "Notice of Inquiry", the petitioner obtained a copy of the proposal from MSEB's Pune (Rasta Peth) office with an intent to comment on the proposal and analyze the reasonableness of the tariff increase sought by the proposal.
- 1.5 On the preliminary inspection of the proposal, the petitioner felt that the data and justifications provided by MSEB for seeking revenue increase of Rs. 1219 crores (on annualized basis) is grossly inadequate to evaluate or establish the ‘reasonableness’ of the estimated revenue expenditure for the year 1999-2000. In order to be able to analyze the reasonableness of the tariff increase proposal, the petitioner sought additional data from MSEB through a letter dated November 29, 1999. A copy of the same letter was also sent to the MERC on the same day. A copy of the letter is attached as Annexure 1.
- 1.6 MERC acknowledged the receipt of the letter and directed MSEB through a letter dated December 2, 1999, that the data requested by the petitioner may be given to it and if, in case, it is not possible to give the information, then the same should also be communicated to the petitioner. In spite of this direction from the MERC, MSEB has neither provided the necessary data nor has it communicated to the petitioner its inability to make the data and information available, as on today, i.e., 20th December 1999. As a result, this petition requesting resubmission of the proposal could not be submitted before.
- 1.7 It is on this background that the petitioner is making this petition to bring to the notice of the MERC the inadequate information, data, and justifications provided by MSEB in the proposal and the importance of additional data and information, without which the public will not have a fair opportunity to judge the ‘reasonableness’ of the MSEB's proposal and to comment on the same. Further, a preliminary analysis presented in Section 2 of this petition, shows that, because adequate data and information is not given in the proposal, checking accuracy of the exact figures of the costs claimed by MSEB becomes difficult during the revalidation exercise undertaken by petitioner. The magnitude of uncertainty in the estimation of the reasonable costs (that can be recovered from the consumers) could be as high as Rs. 1900 crores. This, when compared with the revenue increase of

Rs. 1219 crores requested by MSEB, makes it impossible to judge the reasonableness of the costs indicated by the MSEB in its proposal.

- 1.8 As discussed in Section 3, the understated revenue only because of the two mistakes in the proposal account for nearly Rs. 210 crores, i.e., 17% of the revenue proposed or 40% of the claimed clear profits!
- 1.9 The need to seek additional justifications and data as well as the need to undertake detailed scrutiny of the MSEB's cost estimates cannot be overemphasized in the light of (a) uncertainty in the estimated costs to the tune of Rs. 1900 crores (as established in Section 2) and (b) blatant mistakes and blunders resulting in understating of the revenue to the tune of 17% of the proposed increase (as discussed in Section 3).
- 1.10 Also as shown in Section 4, huge opportunities for increase in revenue without increase in tariff are available. For example, just by reduction in commercial losses, it might be possible to raise nearly Rs. 500 crores, i.e. nearly 40 % of the proposed tariff increase, without increase in tariff. MSEB's proposal does not provide any information about the efforts being done by MSEB to realise such potential.

2. Inadequate Justification of Costs and It's Implications

- 2.1 As indicated below, the MSEB's proposal has severe and several shortcomings. In the following sections, we will point out lack of critical data and that how, in the absence of such data, it will be impossible to evaluate the reasonableness of the costs claimed by MSEB.
- 2.2 MSEB's proposal has given the following break-up of costs for the year 1999-2000 (presented in the Annexure A of the proposal)

Sr. No.	Particulars	Amount (Rs. in crores).
1	Fuel	3501
2	Purchase of power	4541
3	Operation and Maintenance	746
4	Estt. And Admin	1509
5	Depreciation	1290
6	Lease Rent	80
7	Bad debts written off	175
8	Others	288
9	Interest	1194
	TOTAL	13324

2.3 MSEB's proposal gives no details for any of the items of costs mentioned in the table above except the item of 'Purchase of Power.' This means that, for nearly 65 % of the total cost proposed, MSEB has not provided any justification or details whatsoever. The only break up or details of the costs given in MSEB's proposal are attached as Annexure 2 to this petition.

2.4 *Fuel Costs*

The items of data required to properly assess the fuel costs, but which are not presented in the MSEB's proposal are shown in Annexure 3. The fuel cost accounts for nearly 26% of the total cost. Apart from the per unit cost of fuel, which MSEB may not be able to reduce in the short term, there are several areas within the control of MSEB to reduce the overall fuel costs. For example, in **1997-98 the transit loss of coal was nearly Rs. 100 crores** (MSEB's 'Annual Statement of Accounts, 1997-98', Pages 32-33 enclosed with this petition in Annexure 4). It is essential to know whether MSEB has assumed it to increase or decrease in the year 1999-2000 and what actions MSEB is taking in order to reduce this loss. Further, reasons for such colossal loss need to be analyzed and the responsibility for the same needs to be fixed. MERC need not force consumers to bare such loss at least unless it asks MSEB to furnish all relevant details and to outline a procedure / system to reduce the losses.

2.5 *Power Purchase Cost*

2.5.1 As per the figures furnished by MSEB, 'Power Purchase' is the single largest cost component, accounting for nearly 35% of the cost. As per MSEB's projections presented in the proposal, MSEB expects that compared with the first 5 months in the year, the quantity of power purchased will increase by 15.5 % per month in the last 7 months of the year. Further, MSEB also projects that the per unit cost of power purchased from different suppliers (except the NTPC) will be substantially higher than that in the first five months as shown below.

Name of Supplier	Change in Power Purchase Tariff (between first 5 and last 7 months)	Change in Quantity of Power Purchased (between first 5 and last 7 months)	Average Annual Power Purchase Tariff (Rs./unit)
DPC	12%	50%	3.69
TATA	6%	40%	3.16
NPC	20%	-39%	2.11
Others	4%	7%	1.53
NTPC	-2%	3%	1.41

2.5.2 It is essential to note the following important points in this regard:

- a) Even though the power purchase tariff for Tata and DPC are higher, MSEB proposes substantial increase in the quantity of power purchased from these suppliers.
- b) As against this, even though power purchase tariff for NTPC reduces, the increase in the quantity of power purchased from NTPC is very low.
- c) With the increase in quantity of power purchased, the tariff (or per unit cost of) power purchased is expected to decline, especially in the case of DPC. This is because the capital cost component, which is fixed for a month, is spread over a larger quantity of power purchased. However, the MSEB proposal indicates exactly opposite trends.

2.5.3 It is essential to evaluate in detail the reasons for such increase in tariff and in quantum of power purchased from each supplier, before passing on these costs to consumers as "reasonable costs". MSEB must have conducted "Least Cost Power Purchase Studies" and the "Merit Order Dispatch Plans". These studies and plans, along with the following data, are needed be known in order to establish "efficiency and economy" of MSEB's operations in this regard.

- a) Hourly generation from different MSEB plants, and hourly power-purchase from suppliers since the beginning of the year and projection of the same for remaining period of the year
- b) Hourly load on the system, from beginning of the year as well as projection for the remaining year
- c) Fixed (Rs./ year) and variable (Rs. /kWh) costs of power purchase from different suppliers, with all the assumptions made (such as \$ - Rs. rate, oil cost) in every case spelled out,
- d) The estimated maximum and minimum power that can be purchased from these suppliers on hourly or daily basis

2.5.4 The increase in power purchase cost in the last seven months as compared to the first five months, itself is nearly Rs. 708 crores, i.e. 63 % of the revenue shortfall that MSEB seeks to fulfil through the proposed tariff hike. This portion of costs remains unjustified.

2.5.5 Here, it is essential to note that the Orissa Electricity Regulatory Commission (OERC) evaluated the power purchase cost and quantum from different sources proposed by GRIDCO (the restructured utility in Orissa) in first-ever regulatory tariff increase case in 1997. The cost of power purchase approved finally by the OERC was less than the costs proposed by GRIDCO by nearly 30 %. (Orissa

Electricity Regulatory Commission, Order no. 009 dated 12th March 1997, please refer to the extracts from this order attached as Annexure 5).

2.6 Operation & Maintenance, Estt. & Admin, Depreciation, and Interest Costs

2.6.1 As mentioned in paragraph 2.3 above, MSEB has given no justification for costs for these four items. The table below shows the comparison of yearly growth rates for these cost components for the 3-year's period between 1994-95 to 1997-98 as well as the yearly growth rate implied in MSEB's proposal. For calculating this implied growth rate, the year 1997-98 is considered as the base year, as this is the latest year for which MSEB's annual financial statements are available.

	Percent Growth p.a. for 94-95 to 97-98	Percent Growth p.a. Implied in the Proposal (based on 97- 98)
O & M	16	14
Estt. and Admin	10	18
Depreciation	11	16
Int. & Fin	10	16

2.6.2 It can be seen that as per MSEB proposal, the costs on the three items, viz., Estt. and Admin; Depreciation; and Interest and Finance are expected to rise at a much faster rate than in the preceding 3 years. Had these costs grown at the same rate as in the previous three year's period, the total cost for the year 1999-2000 would have been less by nearly Rs. 630 crores. Thus, unless MSEB provides justification for such increase in these costs, it will not be justifiable to pass on these costs to consumers. Hence, these cost estimates need to be investigated in-depth. Thus, it will not be prudent to allow MSEB to recover these costs without in-depth evaluation.

2.7 Written-Off Bad Debts

As shown in the table below, MSEB has already written off dues from certain consumers of over Rs. 800 crores in the four year's period between 1994-95 to 1997-98, while data for 1998-99 is not available. In the year 1999-2000, MSEB proposes to write off another Rs. 175 crores. It is the legal duty of MSEB to ensure that the dues are collected. Hence, it is highly unjustified that honest consumers are continuously burdened with this avoidable burden for years together, apparently due to MSEB's inefficiency. If MSEB were making sincere efforts, the write-off level should have progressively reduced. In order to justify this write-off of Rs. 175 crores, MSEB's performance in this regard has to be evaluated. This requires full disclosure of the list of consumers whose dues have been or are proposed to be written-off, along with their age-wise and category-wise classification. Further, MSEB should also elaborate on the efforts that have been or being taken by MSEB

to ensure that the quantum of debt write-off remains low and is progressively reduced.

Year	Amount Written Off (in crores of Rs.)
1994-95	200
1995-96	165
1996-97	314
1997-98	125
1998-99	- NA -
1999-2000	175 (Proposed)

2.7 *Other Costs*

It is indeed surprising to note that the MSEB proposes to recover over Rs. 288 crores from consumers under the cost category "Other Costs" without giving any indication of what these costs could be. It is essential to know what these costs are, and whether they are one-time costs or recurring costs in order to ascertain their 'reasonableness'.

2.8 *Combined Effect of Inadequate Justifications*

It can be seen that, in the absence of adequate data provided by MSEB, it will be impossible to evaluate 'reasonableness' of MSEB's costs or to ascertain that whether MSEB achieves adequate level of efficiency in its operations. The costs of various items discussed in this section, the reasonableness of which cannot be ascertained due to lack of data and remain unjustified, total to Rs. 1900 crores. As against this, tariff increase sought by MSEB is for raising the additional revenue of Rs. 1219 crores. In view of this large volume of costs that have not been justified, the rationality or 'reasonableness' of tariff increase proposal is highly questionable.

2.9 Most of the data mentioned above should be available with and easily accessible to MSEB, as it forms the basis of estimation of its costs. We are aware that hourly generation and load data would be available in electronic form with the 'Load Dispatch Center'. Further, as per the 'Electricity Supply Act, 1948' (Sec. 61), MSEB has to submit to the state government in every February its 'Annual Financial Statement'. This statement gives the expected expenditure (budget) by MSEB on different items. This statement also contains vital information such as:

- Scheme-wise details of capital expenditure on generation, transmission and distribution
- Circle/division-wise revenue from sale of power and expenditure for O & M and Estt.
- Generation-station-wise cost of fuel (coal / gas) and fuel oil
- Financing pattern of capital expenditure for the ensuing year
- Outstanding loans and repayment estimates, and estimated borrowings

- Details regarding manpower cost such as number of posts as well as details of expenditure on salaries, LTC and other allowances, etc.

MSEB must have submitted this 'Annual Financial Statement' (outlining the expected expenditure for 1999-2000) to the state government in February 1999 itself. As such MSEB should have disclosed the details given in this statement, as part of the tariff hike proposal.

3. Inaccuracy and Understating of Revenue Estimates

3.1 Apart from these issues which have significant bearing on the ability of the public (as well as that of the MERC) to evaluate the 'reasonableness' of the estimated costs of MSEB, there are several slips, mistakes, and blunders in the proposal which raise serious questions about the accuracy of the MSEB's estimates of costs. The following paragraphs present some of these mistakes and blunders only as illustrations.

3.1.1 The proposal has calculated the revenue from fixed charges from LT industrial consumers (LTP – G) on the basis of load of only 23000 HP. The figure is simply wrong. (This is because if it were correct, then in order to have an annual consumption of 1989 MU, the industry should run at full load for 317 Hrs. / day!). The figure for the LT industrial load should be at least 100 times that of the figure indicated in MSEB proposal. But this is not simply a typographical error as the same incorrect figure has been used by MSEB in the subsequent calculations. As a result of this mistake, **the MSEB will get additional revenue to the tune of Rs. 100 crores /yr., which is not reflected in the proposal.**

3.1.2 MSEB proposal mentions that, apart from the revenue from sale of power, its 'Miscellaneous Income' will be to the tune of Rs. 299 crores. As per the para 3.4 of the proposal, this is expected to be the income from consumers on account of delayed-payment charges, interest, power-factor penalty, etc. However, in MSEB's 'Annual Statement of Accounts' for the year 1997-98, this is shown under the category of 'Other Income', and the amount is Rs. 282 crores. But, in the same report, in addition to this category of "Other Income," MSEB reports an income of Rs. 44.44 crores, and Rs. 45.57 crores on account of meter-rent / service-line rental and wheeling charges, apart from the actual revenue from sale of power (please refer to pg. 24 of the Annual Statement of Accounts of MSEB for the year the 1997-98, attached as Annexure 6). As against this, MSEB's tariff proposal indicates only the revenue from sale of power, but the figures for income due to meter-rent, wheeling charges and other above-mentioned charges are not provided in the proposal. Considering that the meter rent for over 0.8 crores domestic consumers has increased substantially, and assuming that wheeling charges will remain at the same level, MSEB's proposal has understated the revenue to the tune of Rs. 110 crores p.a.

3.1.3 The understated revenue only on these two accounts is nearly Rs. 210 crores, i.e. 17% of the revenue proposed or 40% of the claimed clear profits!

3.2 The need to seek additional justifications and data as well as the need to undertake detailed scrutiny of the MSEB's cost estimates cannot be overemphasized in the light of (a) uncertainty in the estimated costs to the tune of Rs. 1900 crores (as established in Section 2) and (b) blatant mistakes and blunders resulting in understating of the revenue to the tune of 17% of the proposed increase.

4. Inadequate Exploration of Opportunities for Increasing Revenue without Increasing Tariff

4.1 In addition to the inadequate data and justifications provided in the MSEB proposal while estimating the costs, the proposal is totally silent on the possibilities of increasing revenue without increasing the tariff. Here, we elaborate on only two such possibilities, though many other possibilities do exist.

4.2 *Reduction in T & D (Technical and Commercial) Loss*

4.2.1 As has been pointed out time and again, over 45 % of energy available for sale to MSEB is utilized without metering. Often, it is suspected that that actual T & D losses (technical as well as commercial) would be far higher than what is claimed by MSEB (around 18 %). The Rajadhyaksha Committee also pointed out that, out of the inspected meters (by MSEB), meters of 17 % of the industrial and 21% of commercial consumers were found to be defective. Further, according to the same report, the T & D loss levels in some of the urban centers were as high as 59 % (in Bhiwandi) and 27 % (in Latur). This clearly indicates possibilities of higher level of T & D losses than what is claimed by MSEB.

4.2.2 In Orissa as well as Andhra Pradesh (AP), where regulatory commissions have started functioning, the utilities have accepted that the real T & D losses were much higher than what were claimed earlier, even before submitting their first tariff proposal. In the case of Orissa the real level of T & D losses was accepted to be around 45% , instead of around 23 %, which was the earlier claim. In the case of AP, now it has been officially accepted that about one-third of the consumption that was being attributed to agricultural sector earlier (worth Rs. 600 crores) was, in fact, due to commercial losses. (APSEB : Reforms to Power the Future, 1998, enclosed as Annexure 7).

4.2.3 In the backdrop of these experiences, it is essential that MSEB's proposal should clearly indicate what it believes to be the correct level of T & D losses (both technical and commercial) and the basis for the same. A brief exercise will be helpful to illustrate the importance of this issue. Even if we assume that, out of the currently claimed agricultural consumption, just 10% is wrongly attributed to agriculture and is due to commercial losses (which can be and should be prevented), then the increase in revenue would be close to Rs. 500 crores, at the average rate

proposed by MSEB. This amount itself becomes over 40% of the revenue increase requested by MSEB. Though these losses cannot be reduced overnight, a beginning has to be made and for that it is essential to at least make public the current basis on which the un-metered portion of generation is distributed to different categories. In this backdrop, it is indeed sad that the MSEB proposal does not even mention the estimated / assumed level of T & D losses in correct manner.

- 4.3 Apart from the reduction in commercial losses, many other avenues for increase in revenue (such as interstate sales) are available. The potential of such avenues needs to be thoroughly evaluated in order to avoid excessive burden on consumers.
- 4.4 Thus, it can be argued that many possibilities with substantial potential for revenue increase without increasing tariff do exist, and the magnitude of such increase could be as high as 50% of the total revenue sought by MSEB through tariff increase.

5. Other Inconsistencies and Deficiencies in the Proposal

- 5.1 Apart from the major issues mentioned above, which need to be analyzed in detail and for which MSEB has not provided any data, there are several in-consistencies and deficiencies in the proposal. Only some of these are listed below :
 - a) The copies of the proposal made available by MSEB are often not legible and clear.
 - b) There are several inconsistencies in the proposal. For example, first, in the para 5.6, line 15, the number of agricultural connections with connected load above 10 HP is missing. Second, it is mentioned in the para 4.10 that the tariff revision will be effective for FIVE months of this financial year, but in para 5.3 while calculating the increase in overall annual tariff for this year it is said that the tariff will be applicable only for FOUR months of the year.
 - c) The proposal does not indicate the tariff chargeable for (i) interstate sales by MSEB (ii) sales to 'Mula Pravara Distribution Co-operative Society' (iii) new connections or re-connection.
- 5.2 Such in-consistencies and deficiencies, in a proposal seeking to raise additional Rs. 1219 crores from the consumers are highly deplorable and need to be corrected immediately.

6. Non-Formulation of Regulations

- 6.1 The MERC has not yet formulated its "Conduct of Business Regulations" (CBR) as well as 'Procedure for Public / Tariff Hearing'. As per section 29 (2) of the ERC Act 1998, the state commission has to determine the terms and conditions for the fixation of tariff by regulations. The MERC has not formulated such regulations also.

- 6.2 Thus, in the absence of regulations, public neither knows about the procedure that will be adopted by the MERC nor it will be possible for the public to comment on the proposal, as public does not know whether and to what extent the principles and provisions of section 46, 57, and 57 A, and schedule VI will be applicable and on what basis the MERC will evaluate the proposal.

7. Prayer before the MERC

- 7.1 In the light of the discussion on the critical issues mentioned in sections 2, 3, and 4 of this petition, we request the MERC as follows :
- a) MERC should expeditiously formulate the regulations governing both the procedural as well as substantive (tariff-related) aspects of MERC's authority and functioning.
 - b) MERC should direct MSEB to resubmit the proposal that is free from inconsistencies and discrepancies and that contains adequate data; proper and full justifications of costs; details of efforts made in order to increase operational efficiency; and potential of various possibilities of revenue increase without increasing tariff and details of efforts made to utilize this potential. Further, this revised and full proposal, along with all the relevant data, should be made available to public at reasonable cost and in a clear and legible form.
 - c) The proposed last date for submission of comments / objections and the public hearing should be postponed so as to give at least one month's period for review of proposal after submission of revised proposal and formulation of regulations as mentioned above.
 - d) MERC should expeditiously take a decision on this petition, as the future course of action (i.e. whether the petitioners should submit comments / objections on the present proposal, based on their own judgement and limited data availability) depends on the MERC's decision on this petition.
 - e) The petitioner wishes to be heard in person, before MERC takes any decision on this petition.
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List of Annexures

- Annexure 1: Copy of a letter requesting additional data from MSEB
- Annexure 2: Details of costs from MSEB proposal
- Annexure 3: Data required for evaluating the fuel costs
- Annexure 4: Extract from MSEB's annual statement of accounts (97-98) indicating transit loss of coal
- Annexure 5: Extract from OERC order no. 009 of March 97 indicating reduction in power purchase cost
- Annexure 6: Extract from MSEB's annual statement of accounts (97-98) indicating income from meter / service line rental, wheeling charges etc.
- Annexure 7: Extract from an APSEB publication indicating commercial loss of Rs. 600 crores.

Annexure 2

Data required for proper assessment of fuel costs

- Plant wise data of :
 - Generation expected in 1999-2000,
 - Type of fuel used - Primary as well as secondary
 - Source of fuels (Imported or indigenous, name of the mine, supplier etc.)
 - Expected Calorific value of the fuel
 - Gross heat rate for the plant
 - Auxiliary consumption
 - Fuel cost at the source
 - Fuel transportation and other costs
 - Fuel loss in transportation
 - Other fuel quality related loss, if any
-