

**Submission before the Maharashtra Electricity Regulatory Commission
(MERC) Mumbai
Case 1/ 99**

Comments on the Revised Tariff Revision Proposal of MSEB

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I] Introduction

Following the interim order of the MERC dated 28th February 2000, MSEB submitted a revised tariff proposal to MERC on 6th March 2000. It must be mentioned that the revised proposal put forth by MSEB, though not a flawless work, is an adequately detailed and comprehensive document to act as a starting point for the regulatory process. In addition to various flaws in the proposal, there are many issues and areas where MERC and MSEB will have to focus in order to make MSEB clean, efficient, and consumer-responsive.

This submission mainly deals with some of the flaws and lacunae in the revised proposal and also focuses on some measures and actions that act remedy the current lacunae in performance of the MSEB as well as gaps in the data availability on MSEB's operations. It needs to be mentioned that, discussion in this submission needs to be seen as an addition to what had been discussed in our earlier submissions to the Commission in Case 1 of 1999.

II] The Hidden Revenue and Double Counting of Expenses

In our earlier submissions, we have indicated various mistakes and lapses in calculations of expenditures and revenues, which together result in inflation of the figures of revenue required and tariff. Even this revised proposal is not free of such mistakes. Following are examples of some of such lapses and mistakes.

1. On page 219 of the proposal, MSEB has presented its estimates for “Other Income”. In this estimation, MSEB has not taken into consideration the income from the category of ‘Wheeling Charges’. As per MSEB’s “Annual Statement of Accounts” for the respective years (pg. 22), MSEB earned Rs. 52.43 Cr. (i.e. crores of Rupees) and Rs. 44.44 Cr. in the years 1998-99 and 1997-98 respectively on account of ‘Wheeling Charges Recovery’. Considering normal growth rates, this income would be at least Rs. 60 Cr. in the year 2000-01. Thus, by not considering this income for the year 2000-01, MSEB has inflated revenue requirement through increase in tariff by Rs. 60 Cr.

2. While estimating the revenue requirement, MSEB has proposed a provision of Rs. 175 Cr. and Rs. 200 Cr. for bad debt ‘write-off’s in the years 1999-00 and 2000-01 respectively. This category is justified on the basis of a rule that allows SEBs to earmark certain percentages of the revenue for the ‘write-off.’ However, once this category is created, MSEB should bring all its ‘bad-debts’ or the ‘unrealized incomes/dues’ under this category. But as pointed below, MSEB has overestimated the revenue increase required by Rs. 144 Cr. either by including certain items in expenditure or by showing reduced income, instead of bringing all such items under the ‘write-off’ provision.

- a) In the revised proposal (page 219), under the category “Other Income,” MSEB has assumed a recovery ratio of 50 % and 75% for estimating income from ‘Delayed Payment Charges’ (DPC) and ‘Interest from Consumers’ respectively. As a result of this, the income on these accounts is estimated to be far lower than the actual income for year 1998-99 (which is as per the audited statement of accounts, tabled in the assembly). When MSEB has already included an amount of Rs. 200 Cr. as write off provision in the revenue requirement, there is no need to understate the income from Delayed payment charges, and Interest from consumers on account of poor recovery ratio. As argued before, any shortfall in income as compared to the bills raised should be treated as a ‘write-off’, for which the provision already made should be utilized. Thus, income under the headings of ‘Delayed Payment Charges’ and ‘Interest from Consumers’ should be estimated based on 100% recovery ratio. Assuming this 100 % recovery ratio, the MSEB has understated the ‘Other Income’ from these two sub-categories alone by Rs.104 Cr.
- b) Similarly, in the proposal (page 218), MSEB has estimated a cost of Rs. 40 Cr. for year 2000-01 under the heading “Recovery Cost of Ag. Consumers”. This is again a concession granted to the agricultural consumers, and should be provided for from the ‘write-off’ provisions made by MSEB.
- c) Apart from these two cases where the inflation of revenue requirement could be estimated, MSEB is also indirectly waiving consumer arrears / dues in the form of adjustments through a procedure called ‘B- 80’. This is a procedure through which abnormal bills issued to the consumers are corrected. Though we had asked for the amount of B-80 adjustments during the technical session (10-11 March 2000), MSEB has not provided the details of the same till now. As we understand, it is as high as 20% to 25% of the additional revenue requirement requested by MSEB in this proposal.

MSEB has achieved nearly 100% computerization of its billing procedure and the billing software should and has provisions for identifying and segregating abnormally high bills. These abnormal bills could then be corrected in the next billing cycle, while the consumer is requested to pay the average bill as a provisional arrangement, subject to correction in the next billing cycle. Thus, actually, MSEB can establish procedures to minimize the need for such adjustment and losses suffered due to this adjustment. At least, MSEB should not be allowed to force consumers to pay heavy price for its own mistakes in billing procedures even after computerization is implemented.

Hence, we urge the Commission to carefully scrutinize the B-80 adjustments. MERC can undertake a simple exercise of comparing assessment and net assessment through 'B-80' procedure with the last six or three readings. If the net assessment is found to be substantially different from the average of the last 3 or 6 readings, then such 'B-80' adjustments should be disallowed as these adjustments practically amount to 'write-off'.

Thus, from the above discussion in Section II, it can be seen that (a) MSEB has understated revenue by Rs. 60 Cr. ('Wheeling Charges'); (b) the required revenue increase has been inflated by Rs. 144 Cr. (due to double counting of concessions and waivers). **Considering these issues, the proposed tariff increase should be reduced by Rs. 204 Cr.**

III] MSEB's Inefficient Operations and Its Cost (over Rs. 2,500 Cr.)

In this part we would like to point out several inefficiencies in the operations of MSEB and establish that how, as a result of these inefficiencies, the consumers are forced to make an excess payment of over Rs. 2,500 Cr. in the form of unjustifiable tariff.

(i) Estimation of Agricultural Consumption:

During the earlier submissions, Prayas repeatedly argued that MSEB has been hiding excessive losses by claiming these to be part of agricultural consumption. During Prayas' presentations on 22nd December 1999, 20th and 21st January 2000, 5th February 2000, and 21st February 2000, Prayas demonstrated that: (a) the assumptions used by MSEB for estimating agricultural consumption are baseless; (b) MSEB has been hiding massive data (regarding feeder level metering of agricultural consumption) so as to avoid a realistic estimation of agricultural consumption; (c) there are several inconsistencies and irrationalities in the agricultural consumption claimed by MSEB; (d) the agricultural consumption is not around 27 % as claimed by MSEB but only 16-20 %, implying T & D losses in the range of 28% to 33% as against 17% claimed by MSEB till now (all figures in % of energy available for sale).

It is surprising that a week after MERC's interim order on 28th February 2000 MSEB has come out with enormous data on agricultural consumption. First, MSEB has accepted that

it has been monitoring the feeder (or dedicated transformers) level consumption of agricultural consumers for 1,582 feeders for varying periods of one to four years. Second, MSEB found that out of these data, data from 192 feeders are prima-facie consistent and reliable. Third, for many of these feeders, the data is available for the full year period. This is in stark contrast to the consistent claims made by MSEB during proceedings before the interim order that MSEB simply does not have any data on agricultural consumption that is acceptable and reliable. For example, in the written reply to Prayas on 28/01/2000, MSEB stated that “ . . . annual data for agricultural feeders is not available with us and hence not forwarded to you. ” It needs to be noted that the Commission in its order on Case 2 of 1999 has specifically directed MSEB to submit all the data requested by Prayas. We urge the Commission to take appropriate action against MSEB officials for this highly objectionable act so as to prevent flagrant flouting of the Commission’s directions.

We wish to point out that, according to the revised proposal wherein MSEB has estimated agricultural consumption using data from these 192 feeders, the real T & D loss is nearly 30 %. This vindicates Prayas’ arguments that MSEB has been using agricultural consumption to hide its own inefficiencies and excessive T & D losses.

However, it needs to be noted that even in the revised proposal there are serious shortcomings in the estimation of agricultural consumption and hence there is an urgent need for scientific survey.

In the revised proposal, MSEB has first calculated average hours of pump operation using the data of these 192 feeders, which comes out to 1516 hrs / year. Then this norm is increased to 1652 hours by way of correction on account of lack of representation of ‘high-consumption’ districts like Pune and Satara in the above 192 feeders. Further, MSEB has increased this norm from 1652 hrs. /yr. to 1750 hrs. /yr. on account of various new factors emerging in the last 3 to 4 years such as increase in irrigation potential and increase in groundwater availability.

We wish to point two factors, which MSEB has failed to take into account while increasing this norm from 1561 hrs. / yr. to 1750 hrs. /yr. i.e. by 15 %. In the first step of correction, MSEB has made correction for omission of Pune and Satara zones, however, it has not made any correction for omission of data from Nagpur zone in the sample of 192 feeders. In the second step of the correction, MSEB argues for correction on the basis of the new factors introduced in the recent years, suggesting data used for calculating the initial figure of 1561 hrs. / yr. is based on old data. However, for most of the 192 feeders data is available up to March or September 1999 – i.e. until the beginning of FY 1999-2000. Further, MSEB has not provided any data to support its claims of increased water availability in the recent years.

Hence, we urge the Commission to revise the agricultural consumption norm assumed by MSEB in light of the shortcomings pointed above. In order to arrive at more realistic estimate of agricultural consumption, we urge the Commission to direct MSEB to select sample feeders based on more scientific methodology, i.e., considerations of factors such

as agro-climatic zones in the state, water sources, crop patterns, and land sizes. The Commission should review the revised sampling plan prepared by MSEB along with the supporting data and this should be made available to public. This is especially important in the context of hiding of data by MSEB in the past.

(ii) Excessive T & D Losses and Its Burden on Consumers:

Coming to the T & D losses in the MSEB system, MSEB itself agrees that the technical losses in the system should be in the range of 8.5 % to 15.5 % as per the CEA guidelines, whereas actual technical losses in the system are stated by MSEB to be 21.2 %, i.e., 5.7 % point over and above the ceiling of the CEA norm. Further, as the 'Total T & D Losses' are estimated by MSEB to be 27.7 % for the year 2000-01, MSEB has indirectly accepted that, in this year, the commercial losses, i.e., theft and pilferage are also 6.5 % points. Thus, the T & D losses are 12.2 % points higher than the highest limit as per the CEA norms. These excessive losses are result of inadequate / improper investments in the T & D system, poor performance in metering operations, and theft of electricity. All this is resulting in massive and unjustifiable burden on paying consumers. As shown in the table below, if MSEB were able to meet the CEA guidelines for T & D loss, it would be able to get an additional revenue to the tune of Rs. 2500 Cr., which is far more than the tariff increase proposed by MSEB.

Table 1: Revenue Loss due to Unjustified T & D Losses

Reasonable Technical T & D Losses	# 15.5 %	9,167 MU
Actual T & D loss claimed by MSEB	# 27.7 %	16,382 MU
Excessive T & D Loss in the MSEB system	# 12.2 %	7,215 MU
Revenue Lost on the Account of Excessive T & D Losses	Rs. 3.5 /u	Rs. 2,540 Cr.
Tariff Increase Proposed		Rs. 2,018 Cr.
Surplus Claimed (Profit) by MSEB		Rs. 422 Cr.
Tariff Increase as % of Revenue Lost due to Excessive T & D Losses		79%
Profit as % of Revenue Lost due to Excessive T & D Losses		17%

Notes: The sign '#' indicates % of MU available

Revenue lost is calculated assuming present (i.e. 1999-2000) average realization from paying consumers (i.e. domestic, commercial and industrial), considering that the pilferage would be in these categories as they are paying consumers. Further, it is assumed that increased supply due to reduction in losses would go to these consumers, as MSEB is claiming power shortage of the order of 800 to 1000 MW per day.

(iii) Poor Metering and Billing

Another area of high levels of inefficiency in MSEB's operations that come out from the data submitted by MSEB is 'metering and billing'. The following table depicts certain facts and figures related to metering operations that throw enough light on the levels of inefficiency in metering operations.

Figures in % consumers (in that category)

Billed at	Residential	Commercial	Industrial
Minimum	23	37	0
Average	11	15	11
Faulty meter	16	10	5

From the above table, it can be seen that nearly 25% of the commercial consumers and 16% of the industrial consumers, which come from the two highest paying categories, are not billed on the basis of actual meter reading (i.e. average + faulty meter).

MSEB's inefficiency in the metering and billing does not end at a high percentage of bills being issued on the average or faulty meter bases. There seems to be ample inefficiency even in preparing the bills based on actual readings. During the public hearings on the earlier proposal, many applicants have pointed out several shortcomings in the metering and billing operations of MSEB. Without repeating these observations, we would like to point out one concrete case of objectionable inefficiency of MSEB's billing operations.

Annexure 1 contains photocopies of two consecutive bills issued to a residential consumer by MSEB. The two bills when seen together indicate that the consumption has decreased from 240 units per month to 200 units per month. Despite this decreased consumption and the consumer falling in the lower slab, the energy charges (for two months) in the second bill are higher by Rs. 40/- than those in the first bill ! Upon analysis it was found that the calculation of energy charges in the first bill is incorrect. It has led to a loss of about Rs 400 to MSEB. (All adjustments including the FCA, electricity duty, prior adjustments are excluded from this analysis, as all these charges are added on after calculating energy charge.) This seems to be a clear mistake in calculation. As the calculations are done by the computer software, the mistake should be in the computer model used for billing. One is left to wonder that how many such wrong bills are being printed by MSEB due to a faulty computer software and what is the scale of loss to MSEB due to lack of essential checks to avoid such trivial mistakes. We request the Commission to investigate this issue in-depth. Such loss of revenue due to errors in billing software should be entirely attributed due to MSEB's inefficiency and its burden should not be put on consumers.

(iv) Negative Sales and Negative Losses

Data submitted by MSEB regarding category-wise sales for metered L.T. consumers on pages 245 and 246 show severe inconsistencies in the computerized records maintained by MSEB. This report has a category called PD Consumers (presumably ‘Permanently Disconnected’ consumers). Surprisingly, the report shows negative sales to this category and that too for all months. This involves the quantities in the range of 3 to 17 MUs per month ! Clearly an absurd report. Simple checks at various stages (such as meter reading, entering the values in the computer, or even by the person printing out the values) to identify negative values and separate or reject them seem to be absent. It is most surprising that the computer software did not point out the faulty values or even accepted the negative values!

Similarly, the energy accounting reports of EHV consumers submitted by MSEB indicate negative losses. (Refer pg. No. 489,491,493,495,497, 499, 501 of MSEB’s proposal). The negative losses are not just for a month or two but are for over a year in some cases. This indicates gross inefficiency even in the case of proper metering of electricity at EHV levels in urban centers !

(v) Poor Service Quality and Indifferent Attitude towards Safety Norms

Poor service quality is another lacuna in the operations of MSEB. It is a well-accepted principle in the utility industry that the power supply should be continuous and of acceptable quality. It is commonly observed that these supply standards are hardly met by MSEB. In fact, MSEB should have included statistics regarding the supply quality and continuity as well as other service quality aspects in the proposal for tariff increase as service quality and tariff are and have to be inter-linked. Table 1 shows the monthly power break-down frequency for HT consumers in an urban industrial areas in the city of Pune.

Table 1. Number of Power Break-Downs at HT level in an Urban Industrial Area in Pune

	1998	1999
January	20	6
February	7	11
March	19	36
April	22	13
May	25	23
June	12	43
July	48	23
August	34	44
September	20	17

Source: Actual monitoring of power supply in Mukundnagar industrial area in Pune city

The interruptions data shown above are just an example, and it needs to be remembered that the above data is from an urban industrial area. If the quality of supply in urban areas is so bad then there is no doubt that quality in rural areas would be much worse.

Many consumers (domestic as well as commercial) are forced to make investments (worth few thousand rupees for each customer) in alternative, back up power supply and quality control systems such as stabilizers, UPS and emergency lamps. Effectively, this is the additional cost of MSEB's inefficiency for the consumers over and above the excessive tariff.

Similarly, MSEB has often demonstrated its callous attitude towards safety aspects of its installations. We are in possession of photographs of a few distribution junction boxes, which do not have cover. (These photographs could be submitted to the Commission if desired.) Such open junction boxes are a hazard for public safety and moreover become easy route for high-volume power theft. In fact, as per rules, these boxes are expected to be sealed !

In conclusion, it could be said that that MSEB's operations are inefficient at various levels including internal accounting system, metering and billing, and consumer service. Further, as mentioned in Section III, the high costs of and lost revenue on account of MSEB's own inefficiency is much higher than the tariff increase requested by MSEB. Hence, any tariff increase would actually mean an unreasonable and unjustifiable burden on consumers forcing paying consumers to subsidize the inefficiency of MSEB.

IV] Suggestions for Proper Performance Evaluation Systems

Until this date consumers have been paying cost of various inefficiencies in MSEB's operations mentioned in Section III. Due to the transparent regulatory process, these facts have at last come to the light. But the real challenge now is to compel MSEB to eliminate these inefficiencies and avoid burdening the consumers with the costs of these inefficiencies. We also understand that these inefficiencies cannot be eliminated overnight, but we urge the Commission to ensure that MSEB puts in place adequate mechanisms and procedures to remove these inefficiencies. In Annexure 2, we have outlined, in brief, some measures which can be useful in identifying various inefficiencies and shortcomings in MSEB's operations and will allow MERC as well as general public to properly scrutinize the reasonability and justifiability of MSEB's revenue requirement in future. In order to fulfill the legal mandate of ensuring **“adequate and improving levels of efficiency”**, we feel that it is imperative on the part of the Commission that such elaborate systems for performance monitoring are established.

Annexure 2 contains the following five categories of suggested measures:

- § Power Plant Performance and Merit Order Dispatch Evaluation System
- § Metering and Billing Performance Evaluation System
- § Performance of Flying Squads
- § Energy Flow Accounting
- § Material Purchase and Contracting Evaluation System:

Feasibility and Advantages of Such Systems

The commission must have noticed several times during the process of tariff revision that MSEB has been hiding massive and crucial data which would have enabled the Commission and the public to undertake proper and reasonable scrutiny of the MSEB's claims of revenue requirement. In order to avoid such hiding of data in future it is essential that elaborate data collection and compilation procedures are established. Five such systems outlined in the Annexure 2 cover a wide span of MSEB's operations and are in-fact the systems MSEB itself should have put in place to identify weak areas and to take corrective actions. Though the systems outlined in the annexure appear to be very comprehensive and detailed, in reality, these systems can be put in place by simple changes in the MSEB's existing systems and would not cause substantial increase in work load on MSEB.

V] Summary

This submission is divided in three parts. In the first part we demonstrate that MSEB has understated the revenue to the tune of Rs. 60 Cr., and further it has overestimated the revenue requirement to the tune of Rs. 144 Cr. on account of double counting of certain expenditure. These two factors alone require that the proposed tariff increase should be reduced by Rs. 204 Cr.

In the second part of the submission we demonstrate high inefficiency in MSEB's operations and it's service quality. And hence we urge the MERC to disallow profits (Rs. 422 Cr.) and direct MSEB to recover the profits by reducing its inefficiency (which is otherwise likely to cost consumers over Rs. 2500 Cr. in the year 2000-01).

In the third part of the submission, we urge the commission to include strict conditionalities in the tariff order. These conditions should be such that they will force the MSEB to be transparent about their key operating parameters and will allow the public as well as MERC to better judge the reasonability of MSEB claims in the future.

VI] Prayers

In the light of the above submission we have following specific prayers before the commission:

1. Considering the hidden revenue (Rs. 60 Cr.) and double-counting of expenditure (Rs. 144 Cr.) mentioned in Section II above, the required revenue increase through tariff increase should be reduced by Rs. 204 Cr. This reduction should be in addition to the B-80 assessments found unreasonable through the cross-check as mentioned in Section II (Point 2 (c)).
2. As mentioned in Section III, on account of highly inefficient operations of MSEB, consumers are being burdened to the tune of Rs. 2,500 Cr. Hence, MSEB should be directed to recover the reasonable return through increase in efficiency of its operations including theft reduction. The consumers should not be asked to bear the

- burden of this. As such the required revenue increase through tariff hike should be reduced by Rs. 422 Cr. in addition to Rs. 204 Cr. mentioned above.
3. In order to ensure proper scrutiny and reasonability of the revenue demands of MSEB, the conditionalities mentioned in Section IV and Annexure 2 should be imposed on MSEB as part of the tariff order. It is also requested that the Commission should establish a system for quarterly reviews of the work on these conditionalities.
 4. In addition to this submission and prayers, we have made separate prayers in the submissions during the proceedings of the Case 1 of 1999 on 22nd December 1999, 20th and 21st January 2000, 5th February 2000, and 21st February 2000. We request the Commission to also consider these prayers, while delivering the final order on Case 1 of 1999.

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Annexure 2: Proper Performance Evaluation Systems

A. Power Plant Performance and Merit Order Dispatch Evaluation System

In order to enable the regulatory commission to scrutinize the power plant performance and reasonableness of the merit order dispatch following data would be needed:

1. Unit wise hourly data of MSEB's plants: (i) Availability; (ii) Actual generation; (iii) Reasons for the difference in availability and generation¹
2. Hourly availability and generation by DPC
3. Hourly purchase from and sales to: i) TEC; ii) NTPC /NPC; iii) Other states

B. Metering and Billing Performance Evaluation System

§ The data / information according to **tariff-categories and tariff-slabs** (i.e. Domestic slab 0-50, 50-100 etc. for all categories and slabs as per revenue calculation tables, pg. 16-21 of the proposal) on the following parameters should be provided on **monthly basis.**

- i) No. of bills issued
- ii) Consumption in Units
- iii) Billed demand, Contract Demand, Maximum Demand (for HT consumers)
- iv) Connected load (for LT category)
- v) Energy Charge (Rs.)
- vi) Demand Charge (Rs.)
- vii) Fixed Charge (Rs.)
- viii) FCA (Rs.)
- ix) Delayed Payment Charges (Rs.)
- x) Other Charges (Rs.)
- xi) Adjustments relating to past billing
- xii) Actual amount received each month
- xiii) B – 80 Original assessment
- xiv) B – 80 Net Assessment

This data is to be submitted separately for each of the following categories:

- § For each billing unit (i.e. for 20 EDP centers) and
- § For bills issued on the basis of actual meter reading and
- § For bills not issued on the basis of actual meter reading –

Additional data for bills not issued on the basis of actual meter reading

¹ These reasons should be categorized in simple groups such as non-availability and poor quality of coal, problems within plant, problem related to transmission lines, and grid-related problems (such as poor voltage, frequency, power factor, load dispatch instructions). Each group could be given a code for easy data entry and analysis.

- § Reasons for bills not issued on the basis of meter reading
- § Number of bills not issued on the basis of meter reading for each of the following reasons: (a) Unmetered Tariff Category; (b) Meter could not be read; (c) Faulty meter.
- § Separately indicate the no of consumers in each category whose bills are not based on actual meter readings for more than 3 months in a year of account of following parameters: (a) Meter could not be read; (b) Faulty meter.

C. Performance of Flying Squads

The following data by consumer categories for each Flying Squad should be submitted:

- § Number of raids carried out by each Flying Squad,
- § Number of cases involving increased revenue assessment
- § Total Assessment
- § Actual revenue received from these cases
- § No. of pending cases
- § Number of staff in the flying squad.

D. Energy Flow Accounting

The following data should be submitted for each of the 20 billing (EDP) units.

Voltage Level	Energy Received in the unit	Energy Converted to Lower Voltage (specify voltages)	Energy Sent out to another circle
440 KV			
132 KV			
66 KV			
33 KV			
11 KV			
> 11 KV to > 440 V			
440 V			

A similar consolidated table for all twenty billing units should be given as shown below:

Voltage Level	Energy Received	Energy Converted to lower voltage (specify voltages)
440 KV		
132 KV		
66 KV		
33 KV		
11 KV		
> 11 KV to > 440 V		
440 V		

Conversion losses (transformation losses) can be considered either at higher voltage side or at lower voltage side. But this should be consistent for all voltage levels and across all billing circles.

E. Material Purchase and Contracting Evaluation System:

The expenditure on R&M or of ‘capital expenditure’ nature should be reported in the following format. The report should include all expenditure of more than Rs 1 crore in the case of R&M expenditure and Rs 5 crore in the case of capital expenditure.

Following information should be supplied in each instance.

Item / Work	Item XYZ 1	Item XYZ 2
Category (R&M / Capital)		
Sector (Gen/Trans/Distribution)		
Brief Description of Item		
Date of sanctioning item		
Estimated Amount (Rs Crore)		
Date of Tender Advertisement		
Tender Closing Date		
Number of valid bids received		
Lowest Valid Bid (Rs Crore)		
Contract awarded to the lowest bidder (Y/N)		
Reasons for the same if answer is “No”		
Post of Authority Accepting the Bid		
Contract award / Purchase order (PO) date		
Contract / PO amount (Rs. Crore)		
Details if any changes in closing date/ scope / specifications from the original tender notice		
Actual Amount Paid (Rs Crore)		

For all expenditure above Rs 5 crore in the case of R&M expenditure and Rs 15 Crore in case of capital expenditure following information should also be provided.

1. Detailed (1 page) description of the work,
2. Cost benefit, need / justification of the expenditure,
3. Make or Buy analysis
4. Measures taken to ensure quality of work / material

Feasibility and Advantages of Such Systems

The commission must have noticed several times during the process of tariff revision that MSEB has been hiding massive and crucial data which would have enabled the Commission and the public to undertake proper and reasonable scrutiny of the MSEB’s claims of revenue requirement. In order to avoid such hiding of data in future it is essential that elaborate data collection and compilation procedures are established. Five such systems outlined in this annexure cover a wide span of MSEB’s operations and are in-fact the systems MSEB itself should have put in place to identify weak areas and to take corrective actions. Though the systems outlined in the annexure appear to be very comprehensive and detailed, in reality, these systems can be put in place by

simple changes in the MSEB's existing systems and would not cause substantial increase in work load on MSEB.

For example, take the case of metering and billing system mentioned above. MSEB has achieved nearly 100 % computerization. In fact as mentioned by MSEB several times during the technical sessions it has just shifted to a more advanced billing system. With such computerization level, the systems for data collection, entry, validation and processing are already in place. Most of the parameters mentioned in the metering and billing system in this annexure are already available in these formats. In order to generate reports in the desired formats, some changes in the software program might be needed, which would not be a difficult task.

Similarly, in the case of power plant performance and merit order dispatch system, most parameters such as unit wise hourly availability, generation and purchase data is already being logged on and stored in the electronic form. The only addition required is to develop a proper system of coding for maintaining the data regarding reasons for difference in availability and actual generation. Since this is a crucial data required for evaluation of reasonability of merit order dispatch it should be possible for MSEB to institute this system in a short time.

For instituting a system for energy flow accounting mentioned above, some investment by MSEB might be required. For collecting valid data of energy flow for each billing unit, it is essential that the physical boundaries of billing units match with the electrical boundaries. In other words, transmission and distribution lines running from one circle to other circle should have meters. But, the investment needed for additional meters would be negligible as there are only 20 billing units in MSEB system. Further, lack of metering facility should not be a constraint for providing the above mentioned energy flow account as most of the data to be collected is at substation level where meters are already installed. Further, MERC may specifically direct MSEB to make provision for the additional expenditure for such meters and which could be considered in the revenue requirement (over and above the revenue requirement submitted by MSEB).

With regards to the system of flying squads and material purchase and contracts, it would not be possible to institute any automatic systems. But considering that there are only 25 flying squads in MSEB and for material purchase / contracts only transactions above Rs. 1 Cr. or Rs. 5 Cr. are required to be reported it is expected that such data can be complied manually as the number of transactions would be limited.

Data compilation and presentation in the above format will have substantial advantages. For example, based on metering data it would be possible to judge the performance of MSEB in terms of repairing / maintaining meters. Further, this data when integrated with the energy flow data will help identify the real transmission and distribution losses. The data regarding the material / contracting will allow the RC and the public to judge the processes adopted by MSEB to ensure that its purchases are reasonable and cost effective.

Most importantly, the Commission should direct MSEB to submit internally consistent information in the above formats every quarter. The Commission may not comment on this information every time, but this will give the Commission an opportunity to ask pointed questions and demand further information / data well in advance of the next tariff revision process.