

Before the
Maharashtra Electricity Regulatory Commission

Comments, Suggestions and Objections on the draft
Maharashtra Electricity Regulatory Commission (Multi-
Year Tariff) Regulations, 2015

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Table of Contents

<u>I: Aims and objectives of Multi Year Tariff (MYT)</u>	<u>3</u>
<u>II: PEG comments on the changes proposed under the new regulations.....</u>	<u>6</u>
<u>III: Supply and service quality concerns</u>	<u>14</u>
<u>IV: Potential flux and possibility of further losses.....</u>	<u>16</u>
<u>Annexure I: Proposed format for Capital Expenditure (Capex) related data</u>	<u>22</u>
<u>Annexure II: Proposed format for information to be provided by generating stations.....</u>	<u>23</u>

I: Aims and objectives of Multi Year Tariff (MYT)

Past MYT experience: The Maharashtra Electricity regulatory Commission (MERC) has released the draft of its Multi-Year Tariff (MYT) Regulations, 2015. The motivation behind introducing a MYT process can be detailed as follows:

- Provide regulatory certainty to consumers, utilities and investors
- To minimise perception of regulatory risk
- Facilitate sound planning practices and processes
- Address risk sharing mechanism between utility and consumers based on controllable and uncontrollable factors
- Improve operational efficiency and reduce tariff in the long run

Therefore, for any MYT exercise to be successful, there needs to be:

- Reliable baseline data for making future projections
- Rigorous and scientific demand forecast
- Long term power purchase and capital expenditure plans which should be followed with necessary coordination between different utilities and generators
- Continuous monitoring and evaluation of trajectories for various performance parameters.
- *Co-relating MYT exercise with supply and service quality and financial performance of the utility, benefits of which should accrue to consumers in the form of predictable costs and reliable service.*

The MYT regulations 2011 mandated the regulated utilities to file business plans for a five-year control period with detail forecast regarding sales, power purchase, capital expenditure and operational costs. If implemented properly, this would have helped to identify certain important areas of concern as well as improvement. However, in case of MSEDCL, after much delay, the MYT petition was filed in the last financial year of the control period and was based on actual performance data and with little or no relevance to the approved Business plan. While MSEDCL certainly did not show any eagerness to implement the MYT, the Commission, which is empowered under the various provisions of the Electricity Act 2003 and its Tariff Regulations, also chose not to act. Further, though the MYT was not implemented in any meaningful way, MSEDCL tariff was revised several times during the last control period, defeating the first and foremost objective of the MYT process. The table 1 below lists the MERC orders under which MSEDCL tariff was revised in the last control period.

Given this background, there is already a large trust deficit and the commission will have to take strong proactive steps to bridge this gap. This perhaps is the biggest challenge before the Commission today. Recent regulatory experiences such as, the suo-motu tariff increase without any public process (case no 95 of 2013), public hearing only in Mumbai without a technical validation process and with a tariff hike being given on the next working day of the said hearing (case no 38 of 2014), wilful delay in implementing the past MYT process, continued neglect of non-compliance by licensees of CGRF and Ombudsman orders, etc. have severely eroded public faith in the regulatory institution.

Table 1: Revenue gaps allowed to MSEDCL since August 2012 for MSEDCL

Sr no	Order	Date	Comments	Tariff increase	
				MSEDCL demanded	MERC approved
1	Case no 19 of 2012	16-Aug-12	Consolidated revenue gap for the 3 years, FY 2010-11, FY 2011-12 and FY 2012-13, and the impact of other claims	7,623	6,921
2	Case No. 95 of 2013	5-Sep-13	Suo-motu determination of supplemental charges of MSEDCL	-	5,432
3	Case no 38 of 2014	3-Mar-14	Interim Order for approval of truing up for FY 2011-12 and FY 2012-13, and other costs.	6,984	5,022
4	Case no 38 of 2014	11-Jun-14	Final order in the above matter. Regulatory asset of Rs. 1639 Cr was created	9,312	6,661
			Total	14,607	19,041

Without a credible and effective regulatory institution that is committed to transparency and public participation, it is impossible to deal with the multifaceted challenges that the sector is currently facing. One of the crucial steps in this direction would be to put in place mechanisms and processes that **demonstrate a strong commitment to transparency, accountability and public participation** in the proposed MYT regulations. In this regard, we suggest the following:

- 1. Process as per Section 64 for the Mid-Term Review:** The draft 2015 regulations do away with Annual Reviews, and leave only Mid-Term Reviews of the past MYT. Thus, in order to secure adequate public participation and afford an opportunity for all stakeholders to participate, it is essential that it be explicitly and unambiguously stated in the 2015 regulations that the Mid-Term Review will take place as per the provisions of Section 64, along with due public process.
- 2. Technical Validation Session to be made a part of tariff revision process:** The technical validation session, which is undertaken in presence of the authorised consumer representatives and, which examines the data adequacies of crucial petitions, is a unique process followed by MERC. In the past, this process has greatly helped in improving the quality of information as well as public discourse on the crucial aspect of electricity tariffs. To ensure such good process becomes a part of the tariff review, the regulations should specifically mandate this process and allow time for this purpose.
- 3. Statement of Reasons:** As a next step to inviting public comments on its regulations, the MERC should issue a statement of reasons along with final publication of the regulations. This statement should provide reasons for accepting certain comments/suggestions and not accepting certain others.

Further, the MERC (MYT) Regulations, 2015, once notified, will be applicable for a period of four years and its provisions will be binding on all the generating stations, licensees and the MERC as well. This offers a unique opportunity to the Commission to institute and mandate changes in the manner of information dissemination. In this regard, we suggest the following measures to be introduced:

1. All online data published by the commission and licensees should be in text searchable format and all numbers, charts, etc. should be in excel format. The licensees should not be permitted to put up large size files of scanned PDF, as they do not allow any further analysis of the information shared.
2. Mandate compliance with Uniform Recording, Maintenance and Reporting of Information Regulations, 2009. These are very detailed regulations, which capture all crucial aspects of the regulated business. Instead of reinventing the wheel every time, the Commission can simply mandate all the licensees to submit data as per these regulations, subject to modification that may be necessary to include certain additional information. Such data should be available at all times on both, the commission as well as licensee's website in easily searchable and downloadable formats.
3. Circle wise and division wise energy audit reports of all distribution licensees should be available online in excel format on quarterly and annual basis, and should include the following:
 - Consumer category-wise, slab-wise: consumer numbers, sales, connected load, revenue billed and collected
 - Input energy
 - Collection efficiency and AT&C losses
 - Consumer category-wise slab-wise metering data (zero, faulty, avg)
4. Hourly load data published by licensees and SLDC should be in excel format. Further, SLDC should be required to publish generation source wise, unit wise, hourly generation and load data. The present daily generation report format lumps all generation pertaining to one type of source such as thermal, hydro, etc. Similarly, load shedding and load management needs to be clearly defined and separately identified in the daily load report of SLDC.
5. Data regarding open access: given the flux in the sector, increasing role of open access and its serious implications for the licensees, the following information pertaining to open access should be part of the MYT process and the mid-term review:
 - Consumer category-wise, slab-wise: no of open access consumers, sales to such consumers prior to open access, connected load, type of open access (short term, long term) source of generation to be availed by the open access consumer (renewable / conventional), cross subsidy surcharge applicable etc.
 - Similar information regarding captive consumers should also be presented on annual basis.
6. Capital expenditure and related costs (depreciation, interest on long term loan and return on equity) forms a substantial part of distribution cost and has long term tariff impact. Unfortunately, there is very little information available about the actual implementation and benefits of this large-scale expenditure. Further, the in-principle approval of capex happens on DPR basis whereas, for the purpose of tariff determination, project wise data is submitted. Thus, looking at the tariff petition, neither the commission nor the consumers can easily identify

under which DPR a given project was approved and what is its current status vis-à-vis that approval. In order to bridge this information asymmetry and bring in a rational process for capex approval, licensees should provide necessary data as per format specified in **Annexure I** for all the schemes for which it is claiming capitalization under the MYT. Such format will also help the commission identify under which DPR a given project was approved and what is the actual performance vis-à-vis the DPR and in-principle clearance, so as to evaluate its prudence.

Apart from these measures, another essential aspect of bridging the trust deficit would be to hold the licensees accountable for supply and service quality. Our further submission focuses on these aspects, while also providing comments on the proposed regulations.

II: PEG comments on the changes proposed under the new regulations

1. Power Purchase:

- A. Uncontrollable Factor: Cost of power purchase amounts to approximately 70-75% of the total cost of supply and yet it has remained as an uncontrollable parameter in all past MERC regulations. Regulation 9 of the draft 2015 regulations continues to classify it as an “uncontrollable factor”. With proper power purchase planning and procurement undertaken as per contractual provisions that have norms for availability and loading, there seems to be no reason why this cost cannot be controlled. Z_{FAC} already allows for uncontrollable variation in fuel cost, wherever it is eligible for pass through as per the Power Purchase Agreements (PPA). With the exception of Z_{FAC} , cost and quantum of all firm and planned power purchase should be treated as controllable parameter, as it is also contractually guaranteed. Therefore, any gains or losses arising on account of deviation in power purchase cost or quantum, beyond what is permitted as per the PPA, must be shared with consumers in the same manner as losses due to “controllable factors”.
- B. Accountability for capacity addition plans: In addition to treating firm power purchase cost and quantum as controllable parameter, it is equally important to hold the distribution and generation companies accountable for their capacity addition plans. To give an example, in the business plan of MSEDCL approved by MERC vide its order dated 26 August 2013 in case no 134 of 2012, the following was assumed by MERC: “...the Commission noticed that MSEDCL is expected to surplus availability of energy to the tune of 15,795 MU and 23,046 MU for FY 2014-15 and FY 2015-16 respectively. ... Accordingly, the Commission has estimated MSEDCL’s revenue from sale of surplus energy in FY 2014-15 and FY 2015-16”

Table 2 shows the capacity that was considered to be available while approving the business plan in August 2013. As can be seen, most of the said capacity was assumed to come online during the last control period, though most of it has still not achieved commercial operation till date. More importantly, the Commission had projected revenue to the tune of Rs. 6,193 Cr for FY 14-15 and Rs. 9,457 Cr for FY 15-16 for MSEDCL based on availability of surplus power, which in turn was based on the above capacity being available.

Table 2: MSPGCL capacity addition plan status

Unit	MW	MYT business plan Scheduled Completion date	Present estimate for commissioning as per MSPGCL website	Current Status
Parli U 8	250	Sep 2013	Expected by Apr 2015	Not yet commissioned
Chandrapur U 8	500	Nov 2013	Expected by Mar 2015	Not yet commissioned
Koradi U 8	660	Dec 2013	Expected by Mar 2015	Not yet commissioned
Chandrapur U 9	500	Jul 2014	Expected by Jun 2015	-
Koradi U 9	660	Jun 2014	Expected by Aug 2015	-
Koradi U 10	660	Jun 2014	Expected by December 2015	-

Two years later, while deciding MSEDCL MYT tariff in the last year of the last control period, the commission followed an entirely different approach. The changed methodology adopted by the Commission also relied on the above capacity coming online, but instead of assuming revenue from sale of surplus, this time the Commission disallowed 18,000 odd MUs of high cost power purchase and reduced variable cost to the tune of Rs. 3,829 Cr. Since these costs are estimated and subject to true-up, the final impact on tariff is yet to be known. Thus, the fact that the said capacity did not come online and that MSEDCL could not generate revenue from surplus power, which was assumed while planning the power purchase, was entirely ignored. Further, in this case there is no accountability for the Commission's actions as well. It is not clear why the approach followed at the time of tariff determination was not followed while approving the business plan or vice versa.

Similarly, in the last control period, the Commission has allowed competitively discovered tariff to be revised. These decisions of the Commission are presently being challenged before the Appellate Tribunal, but if allowed they will impose an additional tariff burden of more than Rs. 2,000 Cr per year on MSEDCL's consumers.

The above examples demonstrate how the current as well as proposed MYT regulations provide no safeguard against failure in capacity addition planning. In addition to this, the provision of allowing variation in Z_{FAC} , including variation in fixed cost of generation, takes away all accountability for responsible power purchase planning for the licensees, but on consumer side, it creates a possibility of varying tariffs on monthly basis to accommodate variations in power purchase cost and quantum. To correct this crucial flaw concerning the most important cost component of tariff, which is power purchase, we suggest that the following measures be put in place:

- (i) Z_{FAC} should only be concerned with variable cost of generation and not with fixed cost.

- (ii) Any variation in fixed cost on account of any ruling from higher court should be dealt with using Z_{OUC}
- (iii) In the event that Z-factors exceed the 20% ceiling limit, the same should not be allowed as pass-through without due regulatory process in presence of the consumer representatives.
- (iv) To allow some certainty in tariff at consumer end, Z_{FAC} and Z_{OUC} should be revised on six monthly basis and not on monthly basis.

To hold the licensee accountable for capacity addition planning following measures need to be put in place:

- (i) Rolling power purchase plan should be prepared for the entire control period.
- (ii) For the purpose of power purchase cost estimation, only firm capacity consisting of projects that are generating and have achieved commercial operation should be considered. Projects, which are highly likely to be commissioned before the mid term review can also be included.
- (iii) No capacity with scheduled date of commercial operation higher than mid term review period should be considered for calculating power purchase expenses for the MYT tariff purpose.
- (iv) Any infirm, pre-commercial operation period generation should be adjusted using Z_{FAC} , as it should not involve fixed costs.
- (v) At the time of mid term review, the commission should take stock of the power purchase plan along with changes in demand, etc and allow costs and quantum accordingly.
- (vi) To better track and monitor the power purchase planning and capacity addition process, the commission should undertake half yearly review of the power purchase plan in presence of all the authorised consumer representatives and detail findings of the review should be made public along with all the relevant data.

C. Energy Charge computation: Regulation 48.5 of the 2015 draft Regulations proposes to use the GCV of fuel on “as received” basis instead of “as fired” basis for generating stations. While power purchase cost accounts for more than 70% of the revenue requirement of the distribution business, fuel cost accounts for a similarly high proportion (70% or more) of the generation cost. Naturally, it becomes a crucial parameter to regulate for promoting efficiency and economy. This is necessary, not merely from the point of view of controlling electricity tariffs, but also from the larger social and environmental angle, as thermal generation imposes severe costs in terms of human displacement, use of scarce natural resources such as fossil fuels, land, water, forests, etc. Given this fact, it is extremely crucial for the Commission to take every step to ensure accountability in this regard. However, review of the past performance of regulated stations of MSPGCL reveals following recurring issues:

- Failure to comply with stipulated performance norms and hence a sharp decline in load factor, availability and net generation
- Steep increase in station heat rates, auxiliary consumption and hence overall fuel cost
- Loss of generation on account of poor quality and inadequate availability of domestic coal

In spite of this repeated failure, there has been no systematic analysis undertaken by the commission to evaluate how much part of the increase in energy charge is on account of:

- Variation in the landed cost of coal, if any
- Variation in coal mix, quantum or cost of imports
- Variation in calorific value of coal received, if any
- Operational issues such as equipment failure, forced outages/backing down etc

Thus, under the current scheme of things, there is no accountability regarding fuel procurement and planning, as well as ensuring compliance with fuel supply contracts. As a principle, any costs arising out of inability of the generator to enforce its commercial contracts with coal companies or washeries, should not be passed through to consumers. This point becomes even more important in light of the legal remedies available to the generators to demand fair terms for fuel contracts, as well as the decision of the Competition Commission of India¹, which has mandated coal companies to comply with necessary policy norms and to allow for joint sampling of coal quality.

Given this situation, we suggest the following measures for computing energy charge:

- i. For the purpose of energy charge calculation, GCV value assured in the Fuel Supply Agreement (FSA) for the concerned generating unit should be considered.
- ii. Shortfall, to the extent allowed under the FSA, should be considered for computing the quantum of imported coal or procurement through e-auction. The total quantum of coal should be corresponding to normative availability.
- iii. To arrive at the energy charge, the commission should use normative value for auxiliary consumption and design station heat rate, after accounting for factors such as unit size, make, vintage, technology, cooling systems, etc.

This approach, while ensuring accountability of the generator towards rational fuel procurement, will also significantly lower the burden on the commission to micro manage fuel supply, a factor that it can neither monitor, nor control.

However, in the event that the MERC chooses not to adopt the proposed approach, then in order to ensure prudence of the fuel cost, quantum and quality, the Commission will have to analyse and make available all the information listed in **Annexure II** (in the specified format) from all the regulated generating stations. This information should be available

¹ CCI order dated 9th December, 2013 in Case nos. 03, 11 and 59 of 2012, <http://www.cci.gov.in/May2011/OrderOfCommission/27/592012.pdf>

both, on the websites of MERC and the generating company. In absence of such crucial performance data, it is not possible to make any decisions regarding issues pertaining to coal quantity and quality and hence the energy charge. In any case, the costs arising out of the inability of the generators to enforce commercial contracts with fuel suppliers must not be passed through to consumers and this should be the underlying principle on which the energy charge calculation must be done.

- D. Competitive bidding under section 62: Regulation 20.5 of the 2015 draft regulations lists the various factors to be considered by the Commission while considering the Petition for approval of PPA. The draft Regulations speak of allowing competitive bidding other than under Section 63. Regulation 20.5 of the draft 2015 Regulations is quoted below:

“20.5: The Commission shall consider a Petition for approval of power procurement agreement or arrangement having regard to the approved power procurement plan of the Distribution Licensee and the following factors:

(a)...(d) Competitiveness of the Tariff vis-a-vis the Tariff prevalent in the market and/or Tariff discovered through competitive bidding under Section 63 of the Act or otherwise:

Provided that the Distribution Licensee may seek prior approval of the bidding documents for competitive bidding proposed to be undertaken other than under Section 63 of the Act:

Provided further that the Commission may prescribe guidelines for such bidding process”

- i) The term “competitiveness” has not defined in the 2015 draft Regulations. This could result in arbitrary reliance on tariffs from other rounds of bidding. Also, for how long would a discovered tariff be considered ‘competitive’ would be an important question. This is relevant in context of comparison of the tariff discovered vis-à-vis other competitive tariffs. Further, the process of establishing such competitiveness is also not clear.
- ii) The discussion paper with the draft rules states that since Section 62 is the substantive provision and Section 63 is the exception, competitive bidding under Section 62 is a possibility. However, a competitively discovered tariff under Section 62 will still have to withstand the scrutiny of the Commission, since under Section 62 the tariff is to be “determined” by the Commission. Thus, the onus of ensuring no excess profits are earned cannot be left to the market under section 62.
- iii) Further, regulation 20.5(d) of the 2015 draft regulations, which speaks of competitiveness of tariff and bidding under Section 62, is vaguely worded and does not clarify the exact process to be followed. Particularly, it states that the Distribution Licensee “may” seek prior approval of the bidding documents for such a competitive bidding, and that the Commission “may” prescribe guidelines for such bidding. Given the experience with bidding under section 63, it is not appropriate to leave such important governance issues at the procurer’s discretion, and the same must be mandated. Thus, it should be mandatory for the procurer to take prior permission and it should be mandatory for the Commission to issue guidelines for the same.

- iv) If the intention behind introducing this provision is to *discover* tariffs that are economical, as would have been the case had the procurer undertaken bidding as per Section 63, then the Commission can simply direct all Distribution Companies to procure new capacity as per Section 63. The Appellate Tribunal for Electricity (ATE), in its judgment in Appeal no. 106 & 107 of 2009 on the question of whether competitive bidding was the only route available to distribution companies, held as under:

*“The **State Commissions have been given discretionary powers** either to choose Section 62, 62(1)(a) to give approval for the PPA or to direct the distribution licensee to resort to the Competitive Bidding Process as per clause 5.1 of the NTP read with Section 63 of the Act.” (Emphasis added)*

So the discretion is with the Commission and it can hence exercise its choice. Further, even if section 63 is an exception, the commission under section 62 is required to ensure economy and efficiency. Based on these considerations, the commission can decide that all future power procurement should be undertaken under section 63. This would in fact be in accordance with the National Tariff Policy and this is indeed a path that the scheme of things under the present Act should follow. Thus, the commission need not reinvent the wheel and can simply rely on the process under section 63.

- v) If this measure of bidding under section 62 is to be implemented, the commission must undertake the following steps:
1. The procurer must be bound to seek regulatory approval for the process and the Commission must notify guidelines and standard bidding documents, which shall be used by the procurer.
 2. Ideally, draft bidding guidelines and standard bidding documents should have been a part of the proposed draft regulations. The commission should first publish such draft documents and a separate discussion paper, which brings details all the objectives and concerns. These documents should clearly spell out the process and mechanism for such procurement and comments from public should be sought on the same. It is important to note that Power Ministry follows a similar process for bidding under section 63.
 3. Further, since electricity is pan India market, the Commission will need to follow approach similar to that being adopted by the central government for bidding under section 63. In this context, it would be relevant to quote what the current framework for bidding under section 63 states regarding variable charge:

“Since the risk of variation in fuel price cannot normally be managed by the Supplier, it must be passed on to the Utility, which, in turn, will have to reflect it in the distribution tariff. Since pass through of Variable Charge affords full protection to the Supplier against potential losses on account of a rise in fuel prices, it follows that the benefit of reduced fuel prices cannot be retained by the Supplier. As a result, Variable Charge cannot be a profit centre for the Supplier and the principles for determination of Variable Charge must ensure that costs are recovered on the basis of actuals, assuming that the Supplier would function with the efficiency expected of a prudent and diligent operator. The framework contained in the MAPP provides alternative

formulations for determination of fuel costs depending on the source and pricing of fuel supplies. Each category of supply is, therefore, covered through its respective formulation. In case where fuel is to be procured from domestic market the cost of fuel shall be linked to the monthly average of a Fuel Price Index as may be mutually agreed upon.”

4. This can be easily achieved by following the normative approach for energy charge calculation suggested by Prayas in the earlier section of this submission. While approving any new tariff under section 62, the commission must direct the generators to submit all the relevant details pertaining to make, technology, design and fuel arrangements. Based on these details, normative parameters for heat rate, auxiliary consumption, etc. will need to be specified. The annual energy charge calculation can then take place as per the decided procedures.
 5. In case the generator faces any challenges in procuring the required quality or quantity of fuel, it should follow the procedure under the FSA or seek appropriate legal recourse.
 6. This approach will achieve the twin objectives of ensuring competitiveness for energy charge, while also reducing regulatory burden regarding scrutinising prudence of costs that the electricity regulator can neither monitor nor control.
- E. Purchase of Renewable Energy: The proviso to Regulation 20.1 states that the purchase of renewable energy at generic/preferential tariff for the purpose of meeting RPO requirements would not require prior approval of the Commission. Regulation 20.1 of the draft 2015 regulations, states as follows:

“20.1: Every agreement or arrangement for power procurement, including on a Standby basis, by a Distribution Licensee from a Generation Entity or Licensee or from other source of supply, any change to an existing agreement or arrangement for power procurement, shall come into effect only with the prior approval of the Commission:

Provided that the prior approval of the Commission shall not be required for purchase of power from Renewable Energy sources at generic/preferential tariff determined by the Commission, for meeting its RPO.”

In this regard, we submit as follows:

- i) There has always been a lag between the generic tariffs and discovered tariff. Further, considering the rapidly reducing costs of solar, generic tariffs cannot be considered reliable benchmark. Therefore, in order to ensure least cost power procurement for the fulfilment of RPO, the Commission must mandate all the licensees to procure renewable power, especially wind and solar, through tariff based bidding.
- ii) In addition, if the quantum of renewable energy procured exceeds the RPO, then it is no longer an obligation but a power purchase decision comparable to other power procurement and must be subject to similar checks and balances. Given the variability in renewable generation and the rapidly changing demand patterns of the licensees, it becomes extremely crucial to regulate power purchase planning. In this context, it would be

highly inappropriate to allow the licensees take such purchase decisions without consulting the commission and the consumers. Therefore, if the licensee is procuring renewable power in excess of its RPO, the Commission must review the quantum and cost of such purchase, with due regard to demand, load shape and variability. Subject to such scrutiny and regulatory approval, such purchase should be allowed.

2. Operation and Maintenance Expenses (O&M) for Coal-Based Generation: Regulation 45 of the draft 2015 regulations specifies the O&M expenses principles and norms for Old and New Thermal Generation Stations, respectively.

- A. The Commission has used the actual O&M values and an escalation rate of 5.72% to estimate the base value for the O&M expenses for new stations. Thus, the Commission has made actual O&M expenses pass through and effectively admitted inefficiencies into the new baseline values for O&M. In light of this, it is important to question the rationale for O&M norms and the resolve of the Commission in implementing them.
- B. For old generating stations, the following methodology has been given in regulation 45.1:

“45.1: Generating Stations/Units that achieved COD before August 26, 2005

a)...b) The Operation and Maintenance expenses excluding water charges and including insurance shall be derived on the basis of the average of the actual Operation and Maintenance expenses for the three Years ending March 31, 2015, based on the audited financial statements, excluding abnormal Operation and Maintenance expenses, if any, subject to prudence check by the Commission.

c) The average of such Operation and Maintenance expenses shall be considered as Operation and Maintenance expenses for the Year ended March 31, 2014, and shall be escalated at the escalation rate of 5.72% to arrive at the Operation and Maintenance expenses for the base year commencing April 1, 2015.

d) The O&M expenses for each subsequent year shall be determined by escalating the base expenses determined above for FY 2015-16, at the escalation rate of 5% to arrive at permissible O&M expenses for each year of the Control Period...”

The calculation for the base value and norms for new power plants with 200/210/250 MW sets is given below from the Discussion Paper:

“The following approach has been considered for norms for new Coal based Generating station with 200/210/250 MW sets:

- (vii) The actual O&M expenses, including the impact of wage revision in case of MSPGCL Stations, of Paras Unit 3 & 4, Parli Unit 6 & 7 and TPC-G Unit-8, subject to prudence check of the Commission, have been considered for FY 2011-12 to FY 2013-14 for analysis purposes. The three-year average of actual O&M expenses norms achieved on per MW basis for these new plants has been computed and considered as norms for FY 2012-13.
- (viii) Average of actual O&M expense norm considered for FY 2012-13, have been escalated at the escalation factor of 5.72% till the end of Second Control Period.
- (ix) Further, the norms derived for the end of second Control Period have been escalated at escalation rate of 5.00% for each year of the third Control Period.”

For some reason not explained in the Discussion Paper or the regulations, different methodologies have been used to calculate the O&M for old and new stations with 200/210/250 MW sets. In addition, the rationale for giving a 5% annual escalation during the third Control Period is also not clear.

C. For the O&M norms for new coal-based generating stations in 200/210/250 MW sets, the O&M norms for 2016-17 are Rs 23.8 lakh/MW, which is a 29% increase in the baseline from the norms for 2015-16. This is due to the methodology adopted by the Commission, which takes actual O&M for last year as its baseline values. This point assumes even more significance if one considers the generating capacity under the 200/210/250 MW sets:

- 4980 MW or 44% of MSEDCL’s total capacity (thermal + hydel) falls under the 200/210/250 MW set.
- 100% of RInfra-G’s capacity and 250 MW or 13% of TPC-G’s capacity falls under this set

The following Table shows this step jump in O&M expenses for 200/210/250 MW sets:

Table 3: Norms for O&M expenses for new coal-based generating stations (Rs. Lakh/MW)

Particulars	200/210/2 50 MW sets	300/330/3 50 MW Sets	500 MW Sets	600 MW Sets and above	% Change for 200/210/2 50 MW sets	% Change 300/330/3 50 MW Sets	% Change for 500 MW Sets	% Change for 600 MW Sets and above
FY 2011-12	14.81		13.32					
FY 2012-13	15.66		14.08		6%		6%	
FY 2013-14	16.55		14.89		6%		6%	
FY 2014-15	17.5		15.74		6%		6%	
FY 2015-16	18.5		16.64		6%		6%	
FY 2016-17	23.8	19.7	15.59	14.03	29%		-6%	
FY 2017-18	24.99	20.68	16.37	14.73	5%	5.0%	5%	5.0%
FY 2018-19	26.24	21.71	17.19	15.47	5%	5.0%	5%	5.0%
FY 2019-20	27.55	22.8	18.05	16.24	5%	5.0%	5%	5.0%

PEG Suggestion:

Instead of following the above approach, we feel it is more appropriate to follow (inflation – ‘x’) approach for all O&M (generation, distribution and transmission) costs. Such approach will ensure some efficiency improvements, which is not possible under the proposed approach, as it makes the last financial year actuals as the new baseline and allows further escalation at the rate of 5%, which considering the present level of inflation is quite high. Hence, the ‘x’ factor to begin with could be just 1% or 1.5% and based on the efficiency gains achieved by the licensees it can be further calibrated.

III: Supply and service quality concerns

No linking of operational, technical and financial performance to supply and service quality: Tariff revision process for a licensee should be an appropriate forum to evaluate its performance on not just financial and operational norms, but also from the most important yardstick of supply and

service quality. It is disappointing that the proposed regulations do not propose any accountability towards this crucial aspect of the licensee's performance, which directly affects the consumers. To overcome this crucial lacuna, we propose the following points to be introduced in the MYT regulations:

1. **Compliance with standards of performance reporting along with mid-term review:** Since the last couple of years, some preliminary data is being published in this regard by MERC, but without any analysis or directions for improvement. Further, recently there has been a steep increase in the number of cases filed before the MERC regarding non-compliance of CGRF and Ombudsman orders. It is understood that any CRGF or Ombudsman order in favor of consumer is challenged by the discom before the High Court. Even in absence of any stay from the High Court, implementation is postponed. Consumers are thus forced to approach the Commission with a non-compliance petition, defeating the purpose of setting up locally accessible institutions such as the CGRF. To overcome these issues, following needs to be done:
 - i. Detail formats for publishing data regarding compliance with standards of performance should be an integral part of the MYT and mid term review process. Commission should seek public comments on the proposed formats as well.
 - ii. Benchmarking of reliability indices should be undertaken through the MYT process and compliance and performance should be reviewed accordingly.
 - iii. The regulations should introduce and mandate a rigorous third party independent evaluation of compliance with the SoP norms and the same should be a part of the MYT and mid term review process.
2. **Active monitoring of supply quality:** MSEDCL has undertaken 100% feeder separation and is supplying its agriculture consumers only 8-10 hours a day. There is a load shedding protocol based on which MSEDCL is supposed to distribute shortages and undertake load management. However, since 2012 there has been no public process to evaluate compliance with this protocol. Earlier, this process was linked with the tariff revision process, but that practice has been stopped. There has been no independent evaluation or analysis by the Commission regarding utility's compliance with the protocol and/or reconciliation of load management with agriculture sales and load shedding. Prayas (Energy Group) has started an independent initiative to track supply quality at consumer end under a project called 'Electricity Supply Monitoring Initiative'². Through the said initiative data from Pune district shows wide variation in supply quality between urban, peri-urban and rural areas, as shown in Figure 1 below. The indicative data shown in the chart makes a strong case for the Commission to independently and actively track the supply hours and quality of supply across the State. Hence, analysis of the 11 kV feeder data with regard to load shedding, load management, supply hours and time of supply to agriculture and various other consumer

² <http://prayaspune.org/peg/publications/item/61-electricity-supply-monitoring-initiative.html>
<http://watchyourpower.org/>

categories, based on geography, etc. needs to be undertaken by the commission and should be a part of the MYT and mid term review process.

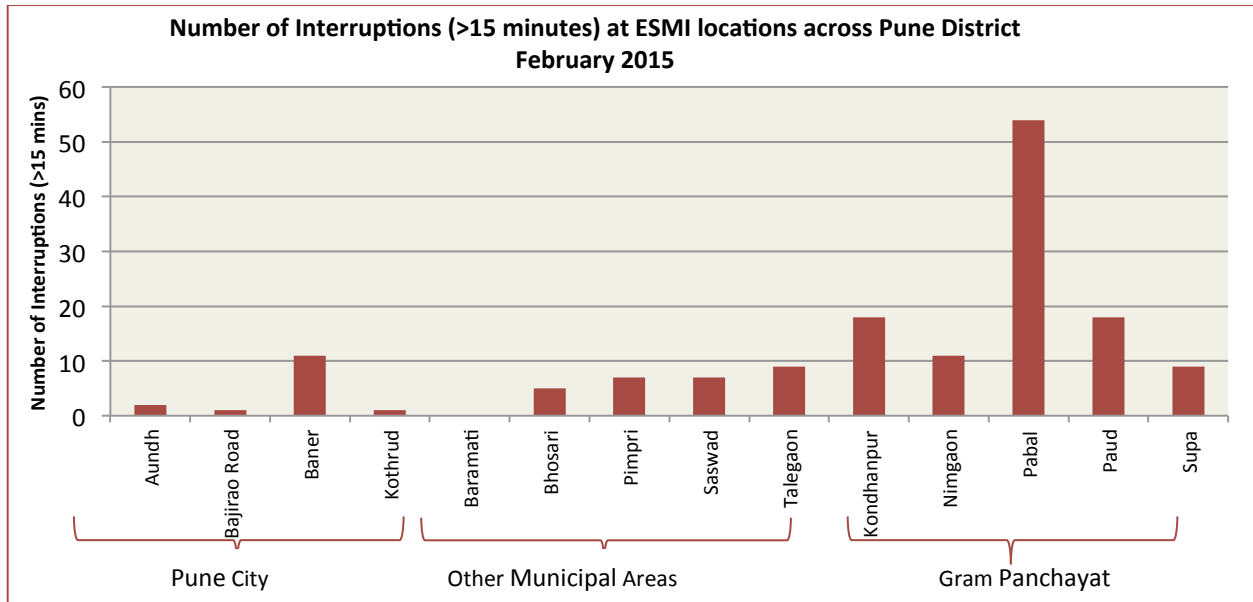


Figure 1: Indicative data regarding supply quality

Average hours lost due to interruption at ESMI locations across Pune District, February 2015

Pune City : 4 hours
 Other Municipal Areas : 6 hours
 Gram Panchayat : 30 hours

IV: Potential flux and possibility of further losses

Impact of potential developments in the sector

Several changes are taking place in the sector, which can impact the sales and consequently the revenue received by licensees. Such changes include proposed amendment of the electricity act 2003, which will separate carriage and content and introduce competition at retail level, proposed open access regulations of MERC, which will have similar implications, option of net metering coupled with rapidly reducing prices of renewables and storage technologies, and so on. While a detail modelling exercise would be necessary to exactly estimate impacts of each of these under various demand and supply scenarios, it is important to realise how the potential impacts of these changes are likely to impact the regulated and the 'non-contestable' small consumers. Some analysis in this regard is presented below based on MSEDCL's ARR for FY 14-15 and FY 15-16:

- A. Shift to Open Access:** Even a modest³ shift of 11% of sales from HT Industrial Category⁴, 13% of sales HT Commercial consumers and 1% of sales from other HT categories in FY16 to open access from non-renewable generation sources, will lead to a significant revenue loss. Thus, with increased open access, MSEDCL is bound to make a net revenue loss, despite the imposition of various charges, even if higher wheeling and cross-subsidy surcharge, as was proposed by MSEDCL during its last tariff revision process, is imposed.
- B. Increased demand for renewables:** With increasing viability of renewable energy options, consumers can choose to obtain supply via open access with a reduced cross subsidy surcharge or via roof top systems through net metering. With reducing prices of solar and option of net metering, solar roof top prices will act as effective ceiling for tariff increase for these high paying consumers.
- C. Increased switching to captive sources:** If licensees resort to increasing cross-subsidy surcharge as a way of preventing revenue loss, more and more consumers may opt for captive generation, including renewable energy based captive sources.
- D. Management of Surplus:** The possibility of surplus largely depends on the performance of conventional generation sector. This is currently in a state of flux largely due to the issues in the fuel sector policy and governance and also on account of inability to address gross inefficiencies. Additionally, given the delays in past MSPGCL capacity addition, it is quite possible that many of the new units will not be able to keep pace with the changing demand and thus, create the problem of high cost surplus capacity. Given the lack of clarity regarding potential demand and supply from conventional generation, there could be large variation in surplus after plausible migration of sales as mentioned before.

All the above factors are likely to lead to the following outcomes:

1. Massive and potentially unsustainable tariff increase in the near future: With the failure to implement past MYT in a manner that would have improved efficiency, the state will have to face a massive tariff increase in near future. Migration of cross-subsidising consumers, inefficiencies of licensees, revision of competitively discovered tariffs and the rising distribution cost will all lead to a sharp increase in the MSEDCL's revenue requirement. Except for agriculture and small domestic consumers, the tariff of the rest is already very high and hence there is very little room for expanding cross-subsidy. This is certainly not a sustainable model for the state government or the power sector, and may lead to serious political and/or governance issues.
2. Uncertainty of capacity addition and possibility of load-shedding: As highlighted elsewhere, almost all the capacity contracted through bidding under section 63 is presently under litigation, raising serious concerns regarding both its availability and affordability. Secondly, delays in capacity addition may lead to peak shortages in the near future, and surplus in the medium and long term, based on how rapidly demand changes. Such surplus would be

³ This is modest in the light of rising tariffs, past trends in shifting to open access and the mandate of the proposed Electricity Act Amendment, 2003 to shift all +1MW consumers to shift to Open Access.

available at high fixed costs making it difficult to either back down such capacity or sell this power in the market at high enough rates to offset the costs.

3. Poor and small consumers will be impacted most: As the tariff continues to increase, the big consumers will try to avail alternative lower cost solutions. For example, the tariff of many of these consumers is already much higher than the discovered rates of rooftop solar. Since the solar cycle matches most of the commercial demand, this may turn out to be a lucrative option for these consumers and is also perhaps desirable from an environmental and social point of view. While this will help the big consumers, loss of such high paying consumers will further cripple the MSEDCL's finances and the burden of the regulatory asset as well as inefficiency will have to be borne by the small and agricultural consumers. These consumers often do not have the necessary political influence or the wherewithal to challenge the regulatory decisions that are not considerate of their interest, thereby leaving them at the mercy of the state policy and the regulatory commission.

Given the scale of the problem, the relevance of the proposed MYT framework becomes even starker. As the MYT process is meant to hold the utility accountable for performance, assist in medium term planning and provide certainty in tariff increase, one can conclude that the implementation of the 2nd MYT exercise was a missed opportunity, which could have prevented the escalation of the crisis. However, the Commission and the utility must start taking actions that will arrest this downward spiral. In this context, the MERC should consider the proposed MYT process as a first step towards the larger changes that are needed to be brought in, to address many of the issues highlighted above. To begin with, it is important to clearly understand the nature and extent of the financial problem based on reliable data and sound analysis. Commissioning a study to thoroughly review MSEDCL's operations and performance considering the following aspects could be the first step in this regard:

- a. Demand estimation: Undertake a proper scientific exercise based on macroeconomic indicators, progress of government development programs, environmental/resource factors (e.g.-power required by agricultural sector to access water etc.), historic trends of sales, elasticity of sales to tariffs, historic trends of migration of consumers to open access and renewable options, change in appliance usage and load patterns etc.
- b. Scenario building exercises to assess impact on future demand and utility finances on account of increase in open access, number of captive consumers, advances in renewable technology and its uptake, energy efficiency schemes and the proposed electricity act amendment, etc.
- c. Estimation to assess impact of costs and power shortage due to delay in commissioning of plants in pipeline and deferment due to not getting environmental clearances.
- d. Exploration of options to tackle accumulating losses in the transition period via market borrowings, changes in tariff design and State Government support etc.
- e. Exploring opportunities for curtailing inefficiency by undertaking a thorough review of operation and maintenance related costs and capital expenditure related costs of both MSPGCL and MSEDCL

- f. Institutionalising process for third party independent audits of post facto cost benefit analysis of capital expenditure schemes as well as compliance with standards of performance
- g. A thorough review of supply and service quality related issues and institutionalising processes for supply quality monitoring, as proposed earlier

The scenarios and outcomes deliberated through such a study must be published as a white paper, which can be used to debate the options available to all the stakeholders. Such a white paper must be available on the commission's website and should be widely publicised. The commission should also ensure consultations via public hearings across the state in order to debate the options available to MSEDCL and its small consumers. In light of these lessons, insights and challenges and based on our understanding of the state's power sector, we suggest the following measures going forward.

1. **Certainty of tariff revision for small consumers:** The real challenge for managing power purchase and distribution costs is to have some credible mechanism to increase tariff periodically, to at least adjust for inflation. However, the politicisation of this issue and the lack of credibility of regulatory commissions has made this task daunting. In this context, it would be desirable, for both consumers and discoms, if the tariffs were revised periodically but in a rational and reasonable manner. As the past MYT failed to achieve this objective, a different approach needs to be devised this time. One way of doing this could be to create a separate 'LT General' tariff category by combining LT domestic and non-domestic consumers (presently their tariffs are the same for MSEDCL). As far as possible, cross-subsidy for these consumers should be managed with intra-category cross-subsidy keeping the discom revenue neutral on account of this change. The BPL tariff category should also continue within this category. Once formed, the tariff for this category (and for all slabs within it) should be indexed to say inflation minus 1 or 2%, i.e. the tariff of this category should automatically be revised on 1st April every year based on last year's inflation index.

This will ensure periodic and timely tariff revision of this important segment while requiring the discom to ensure efficiency improvements. Additionally, it will also have the benefits of safeguarding small consumers running commercial operations from their houses from the potential harassment on account of 'unauthorised usage'.

While this measure by itself will not be sufficient to tackle the larger issue of overall revenue requirement, it will help in two ways:

- a) Reduce politicisation of tariff will ensure certainty of revenue increase, while not imposing tariff shocks on small consumers and
- b) As tariff for small LT consumers will be frozen, additional revenue will have to be recovered from industries and bigger consumers and hence they will demand and negotiate better efficiency from the discom.

Further, this measure will have to be coupled with the model for open access suggested below to realise its full benefit.

2. **Segregation of 1 MW+ consumers:** The Electricity Act envisaged open access as an important tool for realising benefits of competition. The MERC is also further accelerating this process by introducing new regulations, which will facilitate more consumers to choose their supplier. One more way of achieving this objective could be to **mandatorily separate all the 1 MW plus** or in other words, open access eligible consumers from the other discom consumers. All such open access eligible consumers should be required to **arrange for their own supply within a specified timeframe** (say, this control period). During this period, if they choose to stay with the discom, they should be bound to sign a contract for at least two years and should be charged a sufficiently high tariff to discourage such a choice. **Short-term open access should be strongly discouraged** and should only be provided in the case of emergency or force majeure events. The 1 MW+ consumers who leave the discom should be charged a **reasonable cross-subsidy surcharge, which should be fixed in absolute terms for the control period, and should taper over this period**⁵. This is essential to wean off the licensee from its heavy reliance on cross-subsidies. However, to ensure a fair deal for discoms and regulated consumers, **least-cost generation sources out of the total contracted capacity of the discom should be reserved for the regulated consumers.**

Once the demand of the regulated consumers is met, the utility should be allowed to sell its surplus in market. In order to reduce the gaming possibilities and associated regulatory burden of monitoring discom contracts with open access consumers, the utility should be mandated to sell the surplus through exchanges (on weekly, monthly, quarterly or yearly contract basis). Under this scheme, the MSEDCL will not need to contract any additional power, unless of course it is needed to meet the demand of its regulated consumers. To ensure fair market operation and to reduce information asymmetries, highest standards of transparency should be ensured for all intra-state trade, and the exchanges should be authorised to allow longer term trading of power (up to a year or more). Such an approach, coupled with the above-mentioned mechanism of separate LT general tariff category, will have the following advantages:

- a. A time-bound plan to reduce cross-subsidy surcharge will enable easy transition of open access consumers from the discom to the market.
- b. A large number of open access consumers contracting power will deepen and broaden the power markets and enable efficient tariff discovery.
- c. Having a smaller consumer base allows discoms and regulators to focus more on improving planning, efficiency, and supply and service quality.

As the least, cost generation in the suggested approach would be reserved for regulated consumers. The discom's overall need for cross-subsidy would reduce, though it may not entirely disappear. Therefore, there may be a need for financial support during the transition period to the proposed approach.

⁵ Please refer to Prayas (Energy Group)'s submission to the MERC for more details regarding this approach:
<http://prayaspune.org/peg/publications/item/179.html>

3. **Managing the agriculture supply challenge:** Agriculture contributes almost 20-30% of total sales of the MSEDCL, though it hardly generates any revenue, leaving the discom heavily dependent on subsidies and cross-subsidies. The above measures by themselves do not help in solving this problem, but they will certainly help to bring the issue of agriculture sales estimation, supply and tariff to the forefront. Measures such as feeder separation have helped the MSEDCL to manage its agriculture demand, but this by itself is not sufficient. Some of the essential measures such as monitoring actual supply hours to agriculture have been consistently neglected by the Commission. To address the issue of agriculture, along with the use of efficient pump-sets, following approaches can be tried:
- a. A pilot project to test the possibility of providing meter based supply and charging tariff in accordance with consumption can be tried in some areas (where farmers have shown willingness to be metered⁶) for a few agricultural feeders.
 - b. Solar pumping should be considered for catering to agriculture demand, as it entails only a one-time capital subsidy and would provide supply during the work hours on the farm. This can be implemented in the following ways:
 - i. In areas where the water table is reasonably high and new connections are being sought, the thrust should be on providing solar pumps instead of traditional electric ones.
 - ii. Even for areas where the water table is not high or where feeder separation has already happened, the feeder level small MW scale solar plants should be set-up to cater to the agricultural demand.

For any of the above suggestions to be effective, the commission will have to demonstrate a strong commitment towards each of these issues. Mere tokenism can only make matters worse. Further, the highest standards of transparency and participation will have to be followed in order to really make a difference and regain credibility of the institution.

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⁶ MERC order dated 26th August, 2013 in Case no. 55 of 2012
<http://mercindia.org.in/pdf/Order%2058%2042/Final%20Order%20Case%20No%2055%20of%202013.pdf>

Annexure I: Proposed format for Capital Expenditure (Capex) related data

1. The following simple table should be submitted for DPR schemes:

DPR name / number	As per DPR			Approved as per in-principle clearance			Actual status as of date**		
	Amount proposed Rs. Cr	Item/equipment specifications	Expected benefits	Amount approved Rs. Cr	Item/equipment specifications approved	Expected benefits	Amount spent Rs. Cr	Details of actual equipment installed	Expected / achieved benefits

** In case the DPR itself has been changed/modified and re-approved, separate details of the change and reason for it should be provided.

2. Similarly for non-DPR schemes a simple table like the one shown below should be submitted

Project / scheme Details	Purpose	Amount in Rs. Cr	Equipment/ details	Expected benefit in Rs. Cr

Annexure II: Proposed format for information to be provided by generating stations

Static information:

1. Unit wise details of FSA. This should include following information:

Station	Unit name	Capacity in MW	Name of CIL subsidiary	Date of signing the FSA	Quantum tied up as per FSA	Quality of coal as per FSA	FSA term in years

2. Details of ongoing coal import contracts:

Name of the supplier	Location of mine/source of the coal	Port/destination of delivery	Inland transportation distance in KM	Inland transportation cost Rs Cr	Landed cost of coal in Rs/ton	GCV of contracted coal	Term of the contract	Start date

3. Similarly, capacity addition plan approved by MERC. Should include following details:

Station	Unit name/No	Capacity in MW	Fuel source	Type	Status of clearance	Land acquisition status	FSA/LoA	MERC approval	PPA status and link to the PPA
				Green field / brown field	EC /FC, other clearances	50%		Yes/no If yes, order details	

Six monthly report regarding:

- Unit wise capacity under construction, its current status, planned date of commissioning, revised/expected date of commissioning, major mile stones achieved, capital expense till date

Information to be published on monthly basis:

- Unit-wise and source-wise (i.e. CIL subsidiary, captive mine, e-auction and/or imports) quantity and cost (separating out cost of fuel and transportation and other costs) of coal procured.
- Unit-wise performance in terms of net and gross generation, auxiliary fuel consumption, heat rate, load factor, availability along with fixed and variable costs
- Unit-wise MUs backed down in that month
- Unit wise forced and planned outages