

● PRAYAS

Initiatives in Health, Energy,
Learning and Parenthood



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BEFORE THE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION, MUMBAI

14th April 2003

In the matter of Approval of EPA and EWA for Wind Energy Projects
Suggestions / Objections in response to MERC Public Notice dt. 10.3. 2003 and 29.3.2003

By
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1. Electricity generation using fossil fuels such as coal and oil is often associated with several adverse social and environmental impacts. In order to avoid these adverse impacts and to ensure energy security in the long term, it is essential to move towards an energy strategy with significant contribution of renewable energy sources and emphasis on energy conservation and demand side management. In this light, Prayas fully supports the development of Wind power projects.
2. One of the significant hurdles in large-scale adoption of such renewable energy technologies is the high capital and generation cost for most technologies. The high cost results from a number of factors such as lack of scale of economy and developing nature of technology. But, even in present scenario, many technologies and energy conservation measures are economically attractive when considered in terms of 'Life Cycle Cost' after taking into consideration factors such as reduction in T&D losses and very low operating cost.
3. Considering the benefits of renewable technologies in the long term, many governments support these technologies in the initial stages by providing concessions such as subsidies and tax benefits. One of the fundamental objectives of these concessions is to ensure that such projects become economically viable (i.e. to compete with conventional projects).
4. The Government of India and the Government of Maharashtra have also provided substantial subsidies (mainly in the form of tax concessions) to wind projects, to make such projects viable. Wind projects in Maharashtra (before March 03) get accelerated depreciation benefit and sales tax benefit. For 397 MW of wind capacity (before March 03) the tax benefits amount to over Rs. 2000 Cr.. Even considering time value of money (NPV), this implies that over 80% of the capital cost of these project is born by tax payers in the form of depreciation and sales tax incentives.
5. Considering these substantial incentives provided to the wind projects in Maharashtra, it is a rational, fair and just expectation that the cost of power generation from these projects would be much less and these projects should not put any additional burden on consumers in Maharashtra. In this light, the tariff demanded by the wind promoters (over Rs. 3 per unit and with steep increase every year) is very high.
6. MERC is expected to consider efficiency and economy while determining tariff. Hence, it is imperative for the MERC to consider various incentives / concessions provided to wind projects while arriving at a rational tariff. MERC needs to ensure that the project promoters do not get excessive profits and that consumers are not forced to pay un-necessarily high tariff.

7. The data and calculations submitted by wind project promoters, to justify demand for high tariff, have several lacunas and shortcomings. Unfortunately, the consultant's report made available by MERC also fails to present rational assumptions, calculations and true, unbiased picture of the economic aspects of wind projects. Some of the lacunas and mistakes in consultants report are highlighted in the subsequent section.
- 8. Examples of shortcomings and lacunas in the MERC's consultant's report.**
- a. *Inadequate basis for crucial assumptions:* Capital cost and O & M cost are two crucial components for arriving at cost of generation. The report fails to provide adequate justification for these two assumptions. In fact, even though the data for capital cost has been obtained from two associations, no analysis of the same has been presented. Similarly, for O & M cost, which has been assumed as over Rs. 0.55 / unit (with substantial escalation) no concrete basis is provided.
 - b. *Shorter duration of loan repayment:* Though most of the projects have availed IREDA loan and for that the loan repayment is over a 10 year period, the consultant has assumed repayment in only 6 years (for projects before March 03). This assumption, on one hand is not in tune with actual load repayment period and agreement with IREDA and on the other hand un-necessarily increases the cost of generation in the initial years.
 - c. *Only partial consideration of Sales tax benefits:* As per the government of Maharashtra policy (as well as information available in the affidavits submitted by associations and DPRs) sales tax benefits to the extent of 100% capital cost of the project is available. But, the consultant has assumed only 60% sales tax benefits. No sufficient justification for the same has been given. This also has the impact of inflating the cost of generation.
 - d. *De-rating considered is 10% but mentioned as 5%:* At several places the report mentions that a de-rating of 5% has been assumed after 10 years. Unfortunately, the basis and reasonability of such assumption is not justified in the report. But more serious is assumption actually made in the cash-flow statement. Cash-flow statement (for projects beyond March 2003), indicates that actually a de-rating of 10% has been considered. Considering that such de-rating has significant impact on the tariff, it is very unfortunate that the report fails to mention this assumption explicitly.
 - e. *Faulty calculation of thermal generation cost:* Apart from shortcomings in calculations regarding wind projects mentioned above there are also several shortcomings in the calculation of thermal generation cost worked out by the consultant. Some of these (apart from general lack of adequate justification for assumptions) are listed below.
 - i. *Failure to segregate capital repayment and fuel cost:* Consultant's report simply extrapolates the first year thermal generation cost by 7% per year, and fails to take cognizance of the fact that tariff consists of two major components – capital cost recovery and fuel cost. The capital recovery component usually remains constant (on increases to the extent of foreign exchange component) during the first few years and reduces substantially thereafter. This results in lower levelised cost.
 - ii. *Excessive adjustment for transmission cost:* Another shortcoming in the calculation is excessive adjustment for transmission losses and related cost. The report has simply considered an 8% T & D loss and certain PGCIL charges (total amounting to about 33 paise / unit) and has increased the same at 7% escalation for next 20 years. This appears to be substantially high compared to the cost considered in MERC's tariff order (January 2002) while determining merit order dispatch. In the said order (pg. 138) the commission has considered transmission losses ranging from 1% to 4% for arriving at variable cost at load center. Thus,

the generation center cost was increased by about 1 paise / unit to 13 paise / unit, which is substantially less than the cost assumed in the consultant's report.

9. Several of the shortcomings and lacunas (which result in presenting a distorted economic analysis) in the consultant's (some of which are mentioned-above) report needs to be removed and a fresh, rational, un-biased economic analysis should be carried out. If such an analysis is carried out, it would be amply clear that, after considering various incentives given for wind projects, the cost of generation would be substantially lower than the tariff demanded by project promoters. Such cost, even after ensuring a reasonable return to promoters, would be more in line with the cost of generation projected in the submission by Shri. Hogade. It would even be negative in some early years.
10. In this context we also wish to draw MERC's attention to some important remarks made by Shri. Ajit Gupta of MNES. *'The kind of IRR that the projects are getting is generally in the range of 25% to 35% for projects in Maharashtra.'* (record of technical validation session dt. 6.1.03). *'The Ministry did not recommend any sales tax relief or sales tax incentives, which may be purely a decision of the state government. The ministry does not recommend setting up a wind power project, which is unviable.'* (record of technical validation session held on 14.8.2002). Thus, from these remarks, it is amply clear that in the opinion of MNES, even in Maharashtra, wind projects would be viable without sales tax incentives. And, when sales tax incentive to the extent of 100 % of the capital cost is given, the cost of generation for such projects ought to be substantially less than MNES guidelines.
11. The tariff worked out on the basis of cost of generation, would only apply in cases where energy is sold to MSEB. Here we also wish to bring to the notice of the commission that only projects which already have a valid NOC for 'sale to MSEB' and where the promoters have already chosen option of sale to MSEB, should be allowed to sell energy to MSEB (at the rate and other terms to be determined by MERC). Cases in which either the NOC does not permit 'sale to MSEB' or where the promoters have already chosen option of sale to third party or self use, such projects / promoters should not be allowed to revert back to 'sale to MSEB' option. This would tantamount to change of NOC and allowing promoters 'best of both world' - i.e. allowing them to choose best option at the time and dumping losses arising out such decision on MSEB / consumers.
12. In cases where, NOC is for either 'self use' or 'third party sale' the issue of transmission charges and wheeling charges become critical. MSEB has proposed charging at the rate of 2% to 6%, where as promoters have argued for a much lower charge. Earlier, MERC has decided to charge a 'Transmission and Distribution Loss' charge to all consumers of MSEB, including smallest and poorest consumer. The TDL charge is to account for excessive transmission and distribution losses in MSEB's grid. As such, any entity, using the MSEB grid for power transmission should be required to bear such charge, in addition to actual transmission losses and related MSEB costs. Hence, we urge the commission to stipulate a transmission and wheeling charge of around 15% for all projects using MSEB grid for 'sale to third party' or 'self use'.
13. Prayers: In light of above submission, we pray for following relief.
 - a. Re-calculate the actual cost of generation from wind projects in Maharashtra in a scientific, rational and un-biased manner. In such calculations, all incentives / benefits given to the project (without any discounting to account for further transfer etc.) should be considered. Based on such fair calculation, the rate of sale to MSEB should be decided so as to give the promoters only a reasonable return. Further, there should also be a provision that, in future if the project receives any other concessions / benefits (e.g.

carbon credits), the same should be shared equally with MSEB/ consumers and the promoter.

- b. Projects which are already commissioned, and have not chosen the option of sale to MSEB should not be allowed to 'migrate' and sale energy to MSEB.
- c. For projects engaged in 'sale to third party' and 'self use', wheeling and transmission charges should be fixed at 15% (irrespective of distance).
- d. Unlike cogeneration PPAs, wind PPAs should be for at least 20 years, to ensure that consumers / MSEB benefit from lower cost in the later years (after loan is repaid, which incidentally is one of the significant advantage of wind power claimed by promoters.) To ensure that projects remain in good condition in later years, option of allowing MSEB charge on machines or a similar security arrangement should be ensured.
- e. Grant us an opportunity for personal hearing and additional submission.

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