

**BEFORE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION,
MUMBAI**

**Comments / Suggestions on Rate of power purchase from Bhandardara II power
station**

23rd September 2005

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1. This submission is in response to the public notice by the Commission dated 25th August 2005 inviting comments on rate of power purchase, etc., from Bhandardara Hydro Project (Phase-II). The submission mainly deals with the lacunae and flaws we observed in the MSEDCL's and M/s DLHPPL's tariff proposal.
2. High tariff
The power from the project is extremely expensive. Levelised cost of about Rs 4.34/kWh even for peaking power for a term of 30 years is very high.
3. Exorbitant R&M costs
Bhandardara Hydro Electric Project (BHEP) II was commissioned in 1999 and according to GoMWRD, even today the plant is under satisfactory operation. The promoter, M/s DLHPPL has proposed R&M activities of Rs 10 Cr (nearly 17% of the upfront capital payment of Rs 60 Cr). Such a high R&M cost is not at all justified especially for a plant that is in operation. As it has been made clear by GoMWRD also that this R&M cost is not justified, the Commission should disallow this cost.
4. Comparison with alternatives: mass CFL drive
 - i. After construction of Nilwande dam, the project is supposed to be primarily a peaking project. Therefore, while testing viability of the project, it should be weighed against an option providing peaking power or peak relief. Therefore, we compare the project output and economics with CFLs, which provide significant peak relief. The following table compares these two options over the entire life span of the project:

Year	BHEP II Generation MU	Tariff Rs/kWh (Option II)	Total Yearly Cost Rs Cr	CFL Cost per piece Rs	CFL Saving Watt/piece	Peak Energy relief MU	Cumulative energy saved (at consumer end) MU
1	34	3.1	10.54	50	33.75	104	104
2	34	3.26	11.07	50	33.75	109	213
3	41	3.42	14.01	50	33.75	138	351
4	41	3.59	14.71	50	33.75	145	392
5	41	3.77	15.45	50	33.75	152	435
6	41	3.96	16.22	50	33.75	160	457
7	41	4.15	17.03	50	33.75	168	480
8	36	4.36	15.70	50	33.75	155	482
9	36	4.58	16.49	50	33.75	162	485

10	36	4.81	17.31	50	33.75	171	488
11	36	5.05	18.18	50	33.75	179	512
12	36	5.30	19.09	50	33.75	188	538
13	36	5.30	19.09	50	33.75	188	555
14	36	5.30	19.09	50	33.75	188	564
15	36	5.30	19.09	50	33.75	188	564
16	36	5.30	19.09	50	33.75	188	564
17	36	5.30	19.09	50	33.75	188	564
18	36	5.38	19.37	50	33.75	191	567
19	36	5.46	19.66	50	33.75	194	573
20	36	5.54	19.96	50	33.75	197	581
21	36	5.63	20.26	50	33.75	200	590
22	36	5.71	20.56	50	33.75	203	599
23	36	5.80	20.87	50	33.75	206	608
24	36	5.88	21.18	50	33.75	209	617
25	36	5.97	21.50	50	33.75	212	626
26	36	6.06	21.82	50	33.75	215	636
27	36	6.15	22.15	50	33.75	218	645
28	36	6.25	22.48	50	33.75	222	655
29	36	6.34	22.82	50	33.75	225	665
30	36	6.43	23.16	50	33.75	228	675

Assumptions:

Each CFL operates for 4 hours per day and saves 45 watts. Peak co-occurrence factor 0.75
Life of a CFL is 3 years (4400 hrs). Cumulative energy saved shown in the last column is addition saving only due to CFLs installed in last three years. The actual savings at the generation bus-bar will be still higher owing to reduction in T&D losses. The cost of CFL has been assumed to be Rs. 50, which is eminently feasible in case of such large quantity purchase, further no consumer contribution has been assumed i.e. free distribution of CFLs has been considered.

- ii. If the same rigor and efforts we are putting in for BHEP II were put in promotion and distribution of CFLs, mass installation of CFLs is easily possible. With such a mass scale drive, cost of Rs 50 per CFL would be achievable without any trouble. We are assuming the entire cost of CFLs to be borne by the utility i.e. free of cost distribution to consumers. Even if we could source the CFL at higher cost (say 80Rs), the utility could continue paying 50 Rs and the rest could be collected from consumers in the form of monthly installments. Moreover, energy conservation through measures such as CFLs is also an environmentally benign option.
- iii. It is clear from the above table that by using CFLs, at the end of the 30th year, we save about 18 times more energy than what BHEP II generates without any additional investment! In other words, ***at the current proposal BHEP II power is 18 times costlier than alternate options which are also environmentally benign!***

- iv. In the coming years, with the advent of solid-state lighting the cost of the lighting equipments would reduce and their efficiency is expected to improve further. Therefore, savings would be much more than what are calculated here, making the proposed BHEP II power purchase rate still exorbitant.
5. No obligation on MSEB to purchase power:
- i. It has been clearly mentioned in the Government of Maharashtra's bid document that MSEB or its successor entity is under no obligation to purchase the power from BHEP II. Therefore, it should not be made mandatory for MSEB to procure this power. With the Electricity Act 2003 in place, M/s DLHPPL is free to sell this power to a trader or directly to any consumer under open access.
6. Prayers

In light of the above, we have following prayers to the commission:

1. As submitted by GoMWRD, the plant is satisfactorily in operational even today. Therefore, proposed R&M cost of Rs 10 Cr should be disallowed by the commission.
2. If the cost of power from BHEP II is compared with a simple CFL economics, the BHEP II power turns out to be 18 times costlier. Therefore, rather than investing efforts in BHEP II, the Commission may direct to take up a mass CFL drive on war footing.
3. According to the bid documents, MSEB or the successor entity is under no obligation to purchase this costly power. Therefore, the same should not be made mandatory for MSEB.
4. **The cost of power from BHEP II is extremely high and MSEB should not be allowed to enter into any PPA or power purchase arrangement with M/S. DLHPPL**
5. We request the Commission to hear us in person during the public hearing on 27th September 2005 and allow us to make additional submission, if any.

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